SEGA®

THE HOUSE OF THE DEAD 4

OWNER'S MANUAL



STOP
IMPORTANT

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

SEGA CORPORATION

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

This manual is intended to provide detailed descriptions together with all the necessary information covering the general operation of electronic assemblies, electro-mechanicals, servicing control, spare parts, etc. for the product, "**The House of the Dead 4**."

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.

In the unlikely event that the product does not function correctly, DO NOT allow anyone other than a technician to touch the internal system. Turn off the power to the machine, making sure to unplug the electrical cord from the outlet, and contact the office listed below or the point-of-purchase for this product.

Use of this product is unlikely to cause physical injuries or damage to property. However, points that require special attention are indicated by thick underlining, the word "IMPORTANT" and the symbol below.



Indicates important information that, if ignored, may result in the mishandling of the product and cause faulty operation or damage to the product.

SEGA AMUSEMENTS U.S.A., INC./CUSTOMER SERVICE
45133 Industrial Drive, Fremont, California 94538, U.S.A.

Phone: (415) 701-6580
Facsimile: (415) 701-6594

SPECIFICATIONS

Installation space:	1,503 mm (59.2 in.) [Width]× 1,874 mm (73.8 in.) [Depth]
Height:	2,226 mm (87.6 in.)
Weight:	320 kg (705.5 lbs.)
Power, maximum current:	540 W, 5.18 A (AC 120 V, 60 Hz Area) 490 W, 2.51 A (AC 220 V, 50 Hz Area) 530 W, 2.79 A (AC 220 V, 60 Hz Area) 520 W, 2.61 A (AC 230 V, 50 Hz Area) 550 W, 2.64 A (AC 240 V, 50 Hz Area)
Power, current:	533 W, 5.6 A, (Max.) (AC 110 V, 60 Hz; Taiwan) 398 W, 4.1 A, (Min.) (AC 110 V, 60 Hz; Taiwan)
Monitor:	62 Type Wide DLP Projector

Use of GPL/LGPL software

This product can use GPL/LGPL software, which is open source software. This means that customers who purchase this product can freely obtain, alter and pass-on the source code for this software (hereafter referred to as "the source code").
Downloading this software is an indication of the customer's agreement to the GPL/LGPL contract of use and thus the download and all subsequent use of the source code is the full responsibility of the customer.
Furthermore this source code and the download service is provided totally as-is, with no guarantees of effectiveness, completeness, usefulness or reliability, and our company offers no support concerning this source code.
Customers using this product who with to obtain this source code should enter the following password on the website below to download it.

URL: http://amproduct-softlicense.sega.jp/
ID: amsoftwebdl
Password: segaamhd1

GPL/LGPL Contract Site
URL: http://www.fsf.org/licenses/gpl.html
URL: http://www.fsf.org/licenses/lgpl.html

Definition of "Site Maintenance Personnel" or "Other Qualified Professionals"

WARNING

Procedures not described in this manual or marked as "to be carried out by site maintenance personnel or other qualified professionals" should not be carried out by personnel without the necessary skill or technology. Work carried out by unqualified persons may cause serious accidents, including electrocution.

Parts replacement, maintenance inspections and troubleshooting should be carried out by site maintenance personnel or other qualified professionals. This manual includes directions that potentially dangerous procedures should only be carried out by professionals with the appropriate specialized knowledge.

The "site maintenance personnel or other qualified professionals" mentioned in this manual are defined as follows:

Site maintenance personnel:
Individuals with experience in maintaining amusement equipment, vending machines, etc., working under the supervision of the owner/operator of this product to maintain machines within amusement facilities or similar premises by carrying out everyday procedures such as assembly, maintenance inspections, and replacement of units/expendable parts.

Activities to be carried out by site maintenance personnel:
Amusement equipment/vending machine assembly, maintenance inspection and replacement of units/expendable parts.

Other qualified professionals:
Persons employed by amusement equipment manufacturers, or involved in design, production, testing or maintenance of amusement equipment. The individual should have either graduated from technical school or hold similar qualifications in electrician/electronics/mechanical engineering.

Activities to be carried out by other qualified professionals:
Amusement equipment/vending machine assembly, repair/adjustment of electrical/electronic/mechanical parts.

1. HANDLING PRECAUTIONS

When installing or inspecting the machine, be very careful of the following points and pay attention to ensure that the player can enjoy the game safely.
Non-compliance with the following points or inappropriate handling running counter to the cautionary matters herein stated can cause personal injury or damage to the machine.



- Before performing work, be sure to turn the power off. Performing work without turning the power off can cause electric shocks or short circuits. In the case that work should be performed with the power on, this will be clearly stated in the manual.
- To avoid electric shocks and short circuits, do not plug in or unplug the machine quickly.
- To avoid electric shocks, do not plug in or unplug the machine with wet hands.
- Do not leave power cords and earth wires exposed 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 shocks or short circuits.
- To avoid causing a fire or electric shock, do not put things on or damage power cords.
- During or after installation of 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 from the point-of-purchase or the office herein stated. Using a damaged cord can cause a fire, electric shock or leakage.
- Be sure to perform grounding appropriately. Inappropriate grounding can cause electric shocks.
- Be sure to use fuses meeting the specified rating. Using fuses exceeding the specified rating can cause a fire or electric shock.
- Ensure that connectors for IC board and others are properly inserted. Insufficient insertion can cause an electric shock.
- Specification changes, removal of equipment, conversion and/or additions not designated by SEGA are not permitted.
  - Failure to observe this may cause a fire or electric shock. Non-compliance with this instruction can have a negative effect upon the physical condition of the players or the onlookers, or result in injury during play.
  - SEGA shall not be held responsible for damage or compensation for damage to a third party, caused by specification changes not designated by SEGA.
- Be sure to perform the 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 the section "Projector."
- Do not turn the power on and off continuously. Repeatedly turning the power on and off may cause product malfunction or parts damage.
- Some parts are not specifically designed and manufactured 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 the damaged game machine, whether or not the warranty period has expired.

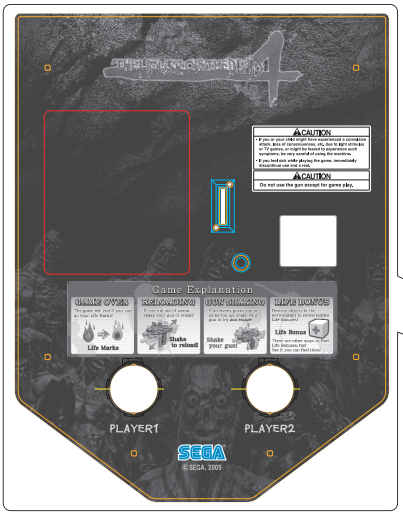
CONCERNING THE STICKER DISPLAY

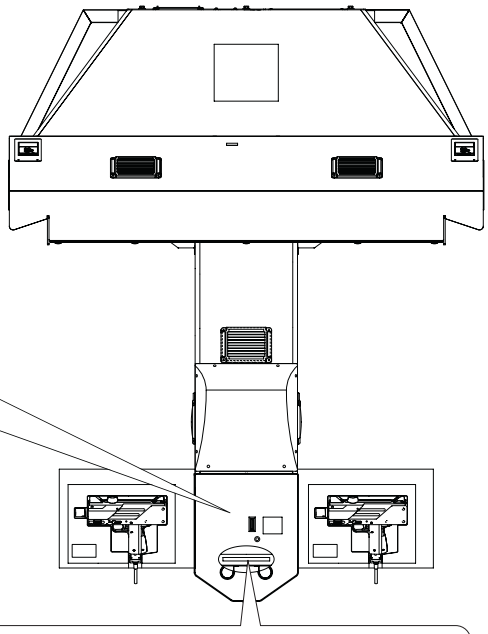
This SEGA product has stickers attached describing the product manufacture No. (Serial No.) and Electrical Specifications. It also has a Sticker describing where to contact for repair and for purchasing parts.
When inquiring about or asking for repairs, mention the Serial No. and Name of Machine indicated on the Sticker. The Serial Number indicates the product register. Identical machines could have different parts depending on the date of production. Also, improvements and modifications might have been made after the publication of this manual. In order to ensure you order the correct parts, mention the Serial No. when contacting the applicable places.

CONCERNING WARNING DISPLAYS

This SEGA product has warning displays on stickers, labels and/or printed instructions adhered/attached to or incorporated in the places where a potentially hazardous situation could arise. The warning displays are intended for accident prevention for customers and for avoiding hazardous situations relating to maintenance and servicing work. Some portions of the cabinet contain high voltage and may cause accidents if touched. When performing maintenance, be very careful of the warning displays. It is especially important that any complex repair and replacement work not mentioned herein should be performed by those technical personnel who have knowledge of electricity and technical expertise. In order to prevent accidents, caution any customer ignoring the warnings to stop immediately.

HDF-2002-01





440-CS0297-EG

⚠CAUTION Be careful not to trap your fingers when opening or closing the control panel.

440-WS0002XEG

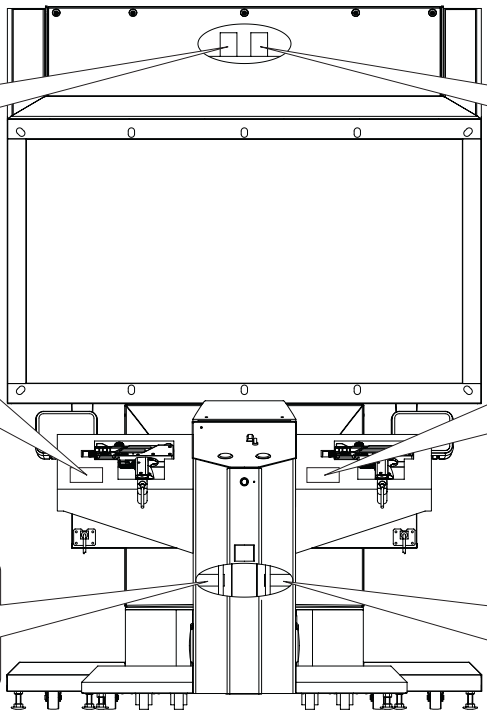
⚠WARNING

High voltage can cause an electric shock.
Turn off power before servicing.

440-WS0012XEG

⚠WARNING

Hot light bulbs can cause burn.
Be very careful when replacing then.



440-CP0307-EG

⚠CAUTION

This game requires sharp, sudden movements of the gun controller, so persons with hand or wrist ailments should refrain from playing. Additionaly, if you feel pain or discomfort in your hand or wrists during play, stop playing and take a rest.

440-CP0307-EG

⚠CAUTION

This game requires sharp, sudden movements of the gun controller, so persons with hand or wrist ailments should refrain from playing. Additionaly, if you feel pain or discomfort in your hand or wrists during play, stop playing and take a rest.

440-WS0165-EG

⚠WARNING

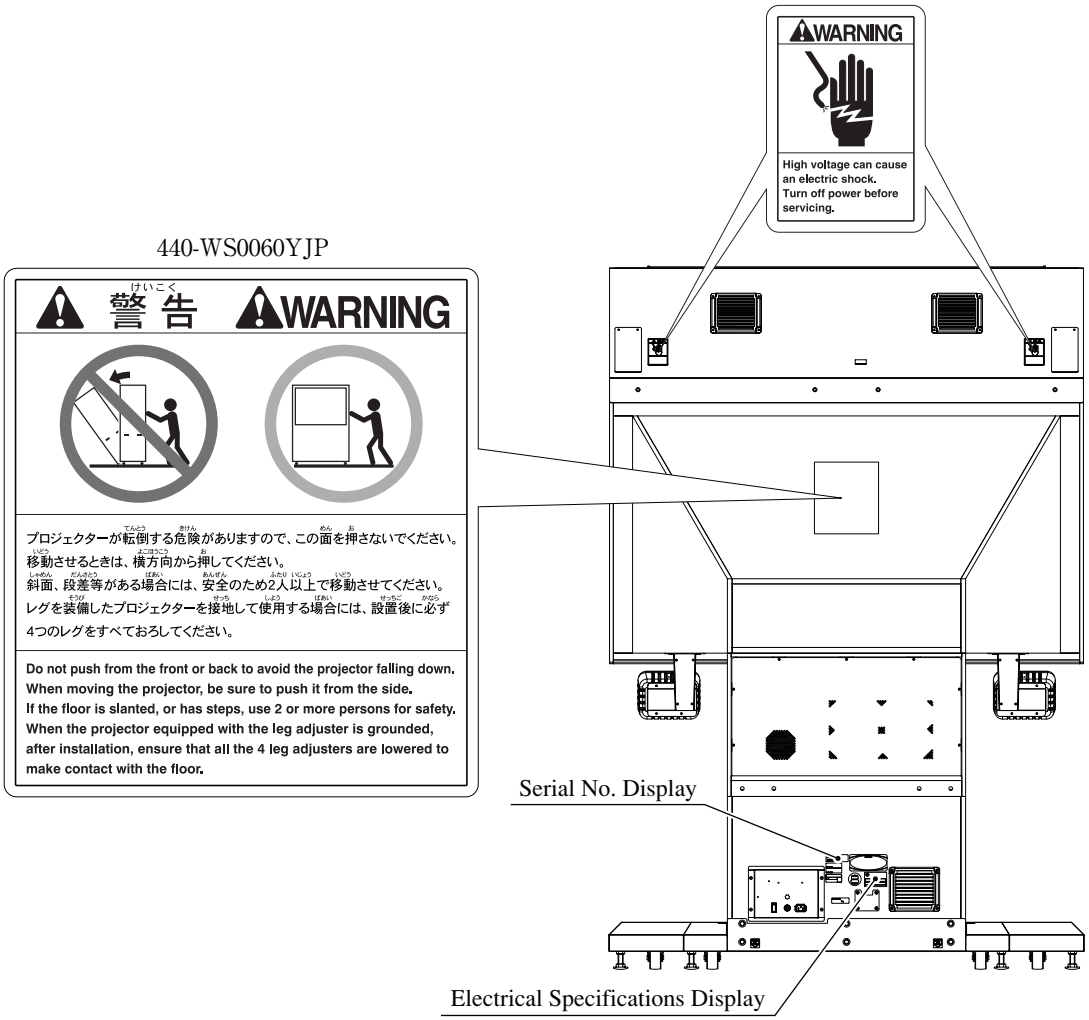
Hazardous voltage can cause an electric shock and damage the Printed Circuit Board. Be sure to turn power off before starting work.

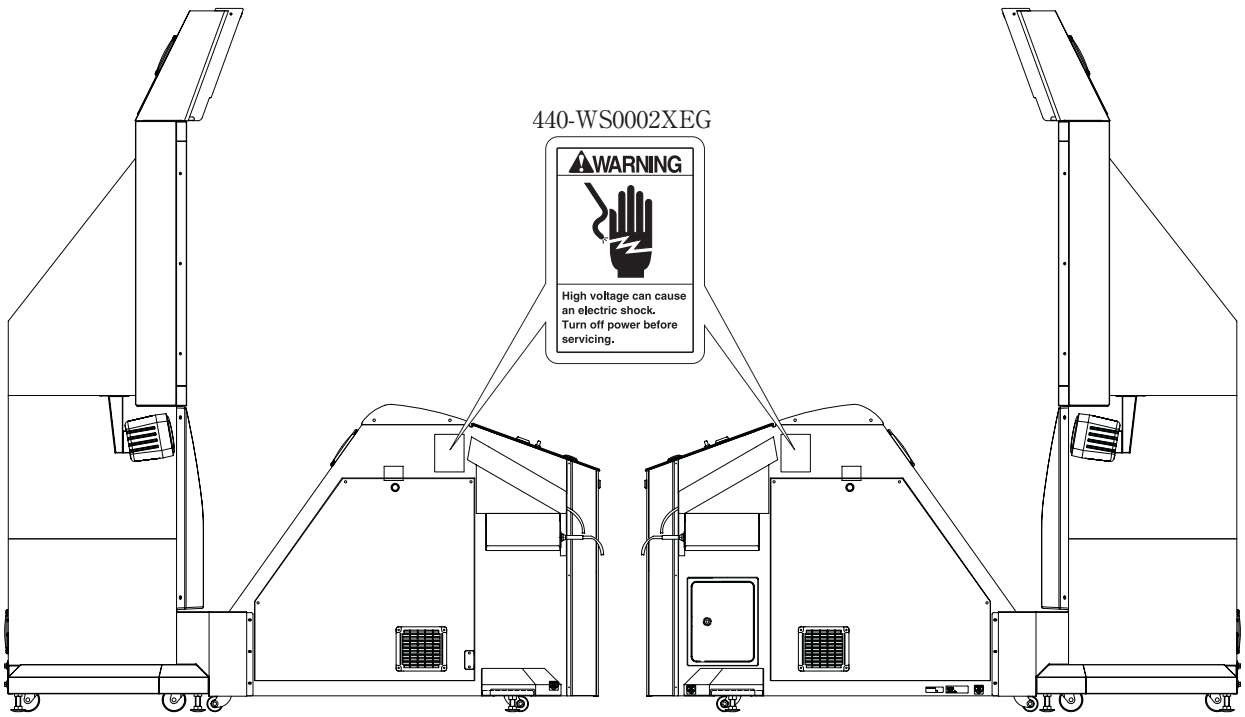
440-WS0165-EG

⚠WARNING

Hazardous voltage can cause an electric shock and damage the Printed Circuit Board. Be sure to turn power off before starting work.

440-WS0002XEG





2. PRECAUTIONS REGARDING 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 malfunction.

- 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℃.

2 — 1 LIMITATIONS OF USAGE

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 a breaker and earth mechanism as part of the location facilities. Using the product without these can cause a fire and electric shock.
- Ensure that the indoor wiring for the power supply is rated at 15A or higher (AC single phase 100V˜120V area), and 7A or higher (AC 220V ～ 240V area). Non-compliance with the Electrical Specifications can cause a fire and electric shock.
- Be sure to use an independent power supply equipped with a surge-suppressor. Using a power supply without a surge-suppressor can cause an outbreak of fire if a power surge occurs.
- Putting many loads on one electrical outlet can cause generation of heat and a fire resulting from overload.
- When using an extension cord, ensure that the cord is rated at 15A or higher (AC 100V˜120V area) and 7A or higher (AC 220V ～ 240V area) . Using a cord rated lower than the specified rating can cause a fire and electric shock.

2 — 2 OPERATION AREA

WARNING

- For the operation of this machine, secure a minimum area of 2.6m (8.5ft) (W) x 3.0m (9.8ft) (D). In order to prevent injury resulting from falls/accidents during game play, be sure to secure the minimum area for operation.
- Be sure to provide sufficient space (20cm minimum) so as to allow this product's ventilation fan to function efficiently. To avoid machine malfunctions or fires, do not place any obstacles near the ventilation opening.
- Do not allow objects to block the ventilation ports. It can cause generation of heat and a fire.
- SEGA shall not be held responsible for damage or compensation for damage to a third party, resulting from the failure to observe this instruction.

IMPORTANT

In order to transport the machine into a building, the minimum necessary dimensions of the opening (of doors, etc.) are 1.3m (4.3ft) [W] and 1.9m (6.2ft) [H].

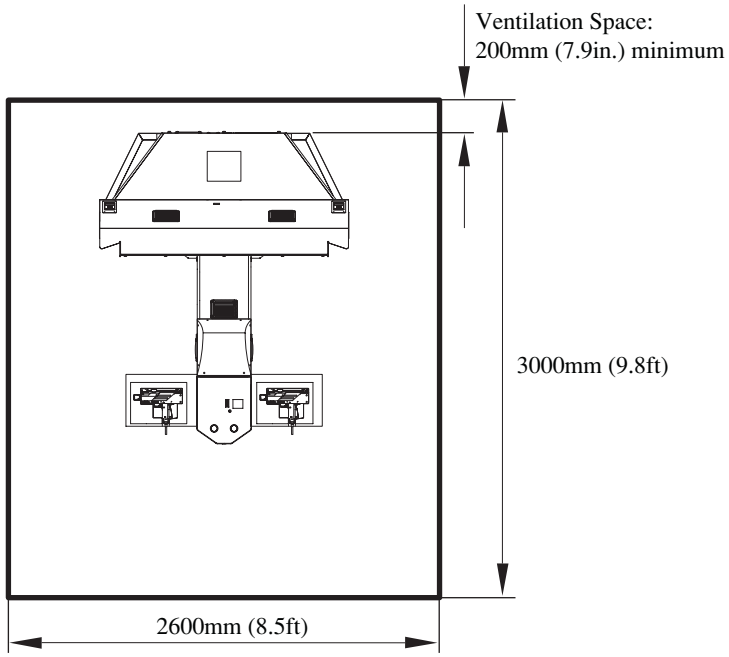


FIG. 2

Electricity Consumption:
MAX. 5.18A (AC 120V, 60Hz)
MAX. 2.51A (AC 220V, 50Hz)
MAX. 2.79A (AC 220V, 60Hz)
MAX. 2.61A (AC 230V, 50Hz)
MAX. 2.64A (AC 240V, 50Hz)
MAX. 5.6A (AC 110V, 60Hz) <TAIWAN>

3. PRECAUTIONS REGARDING PRODUCT OPERATION

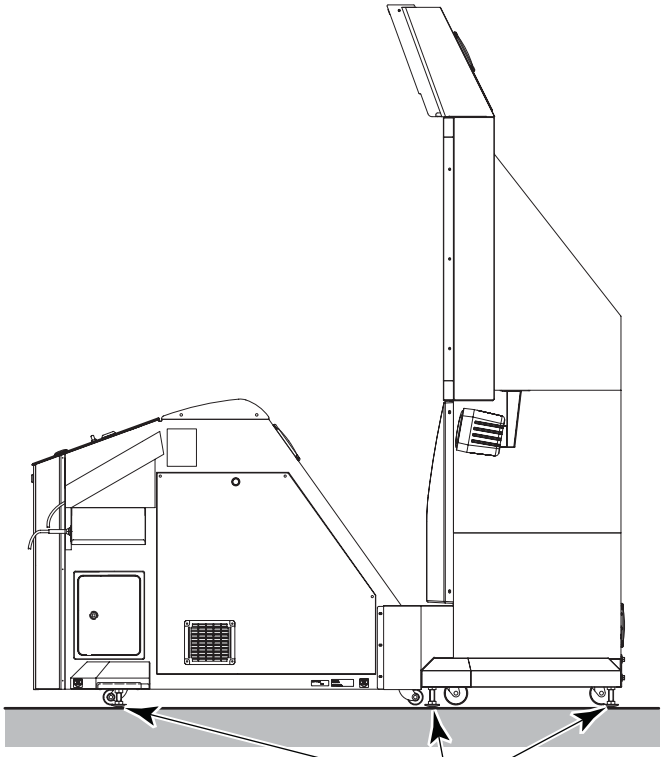
3 — 1 BEFORE OPERATION

To avoid injury and trouble, be sure to pay attention to the behavior of 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 players to bump into each other, causing trouble between customers.
- Be sure to perform appropriate adjustment of the monitor (projector). Do not leave the machine operating with monitor flickering or malfunctioning. Failure to observe this can have a bad influence upon the players' or the customers' physical condition.
- It is suggested to ensure a space for 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.



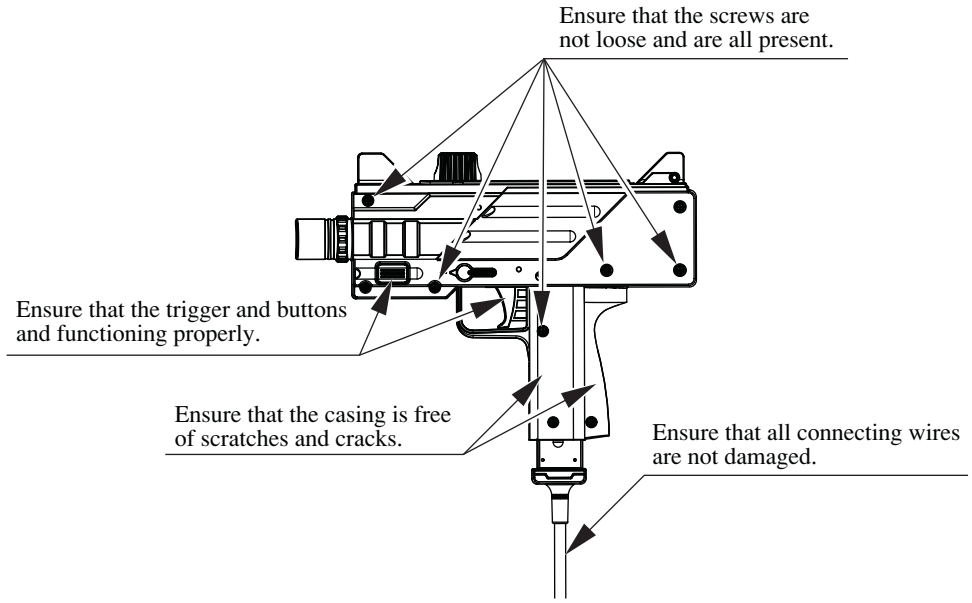
Ensure that all the adjusters are in contact with the floor.

WARNING

- Do not put any heavy items on this product. Placing heavy items on the product can cause accidents or parts damage.
- Do not climb on the product. Climbing on the product can cause accidents. To check the top portion of the product, use a step.
- To avoid electric shock, check that no door & cover parts are damaged or missing.
- 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 or water.

CAUTION

- To avoid injury, be sure to provide sufficient space by considering the crowd situation at the installation location. Insufficient installation space can cause customers to bump into each other, causing trouble.
- Every day when cleaning the Control Unit (Gun), inspect the gun and make sure that there are no scratches or cracks in the surface, and that the fastening screws are not loose. If the game is played with scratches, cracks or loose screws it can cause injuries to the player or to people nearby.



STOP

IMPORTANT

Players directly hold the controller with their bare hands so it is recommended that the wet towels (paper towels) be provided.

3 — 2 DURING OPERATION (PAYING ATTENTION TO CUSTOMERS)

To avoid injury and trouble, be sure to pay attention to the behavior of visitors and players.

WARNING

- To avoid injury and accidents, those who fall under the following categories should refrain from playing 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 games, etc.
  - Those who have neck or spinal cord problems.
  - * Intoxicated persons.
  - * Pregnant women or those who could be pregnant.
  - * Persons susceptible to motion sickness.
  - * Persons who disregard the product's warning displays.
- Even players who have never been adversely affected by light stimulus might experience dizziness or headache depending on their physical condition when playing the game. Small children are especially likely to experience these symptoms. Caution guardians of small children to keep watch on their children during play.
- It is suggested to provide a space for players who feel sick while playing the game to take a rest.
- Instruct those who feel sick during play to have a medical examination.
- To avoid injury from falls and electric shocks due to spilled drinks, instruct the player not to place heavy items or drinks on the product.
- To avoid electric shocks and short circuits, 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 falls and resulting injury, immediately stop the customer from leaning against or climbing on the product, etc.
- To avoid electric shocks and short circuits, do not allow customers to unplug the power plug.
- Be sure to instruct the adult responsible for their children to watch them. Children cannot sense danger. Approaching the player during play may result in accidental contact, collisions or falls. If the gun is pulled from the gun holder and dropped on the head, it may cause injury.
- Caution the player not to wrap the gun cord around his/her wrist or neck, as this can lead to serious injury.

CAUTION

- Immediately stop such violent acts as hitting and kicking the product. Such violent acts can cause parts damage or cause the cabinet to fall over, resulting in injury.
- Immediately stop users from leaning or sitting on the gun holder. Such acts can lead to injury or damage to parts or the shape of the cabinet.
- Immediately stop users from swinging or reloading the Control Unit (Gun) in a violent manner. Such acts may hurt the user or other people around them.
- Playing too close to the cabinet may cause the Control Unit (Gun) to hit the cabinet and cause damage. Make sure that players understand to play at a safe distance from the cabinet.
- Make sure that players understand not to stand too close together when playing a two player game. Swinging the Control Unit (Gun) could lead to a player getting hit and may cause injury.
- Make sure that players understand to hold the Control Unit (Gun) firmly during play. Dropping the Control Unit (Gun) could cause damage to it or injure the player.
- Larger rings and other such accessories may lead to injury to fingers during play. Make sure that players understand to remove any accessories prior to playing the game that may cause such accidents.
- Make sure that players understand that more than one person is not allowed to play with a single Control Unit (Gun). Such play could lead to various injuries.

STOP

IMPORTANT

- Make sure to avoid disturbing customers when moving/removing the machine from its current location.
- The Control Units (Guns) for use on 1P side (left side) and 2P side (right side) are different. Ensure that players do not confuse the right and left side guns when starting play.

4. PART DESCRIPTIONS

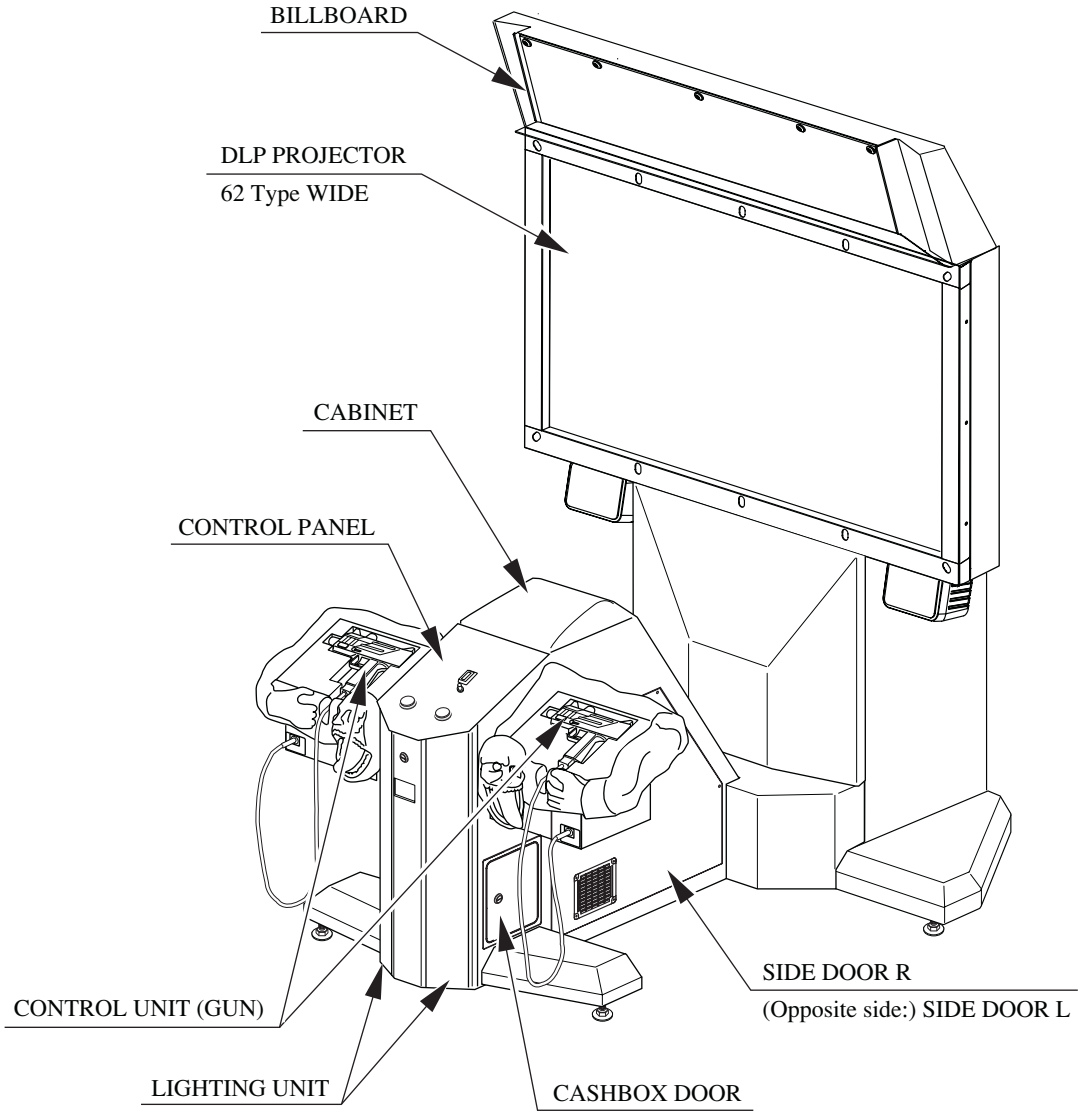


FIG. 4a OVERALL VIEW

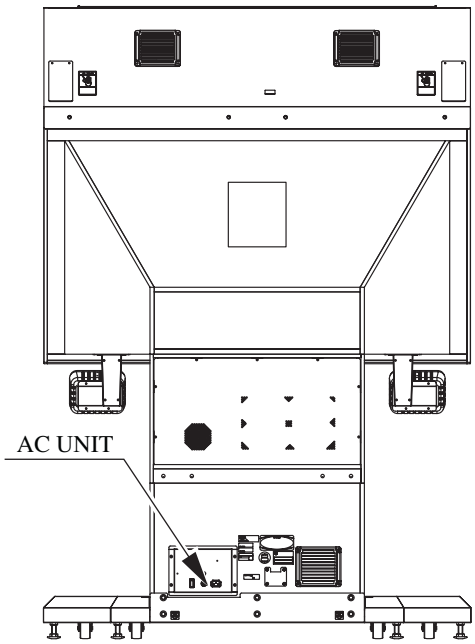


FIG. 4b BACK VIEW

TABLE 4

	Width × Depth × Height	Weight
DLP + DLP BASE	1,503mm × 635mm × 1,869mm	177kg
BILLBOARD	1,500mm × 342mm × 355mm	23kg
MAIN CABINET	1,264mm × 1,341mm × 973mm	113kg
When assembled	1,503mm × 1,874mm × 2,226mm	320kg

5. ACCESSORIES

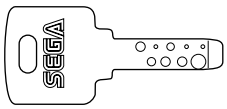
Confirm that the accessories listed in the table below are present when setting up the product. Accessories marked "Spare" in the note column are consumable items but included as spares.

TABLE 5a ACCESSORIES

DESCRIPTION: OWNER'S MANUAL
Part No. (Qty.): 420-6908-01 (1)
Note: This manual
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.

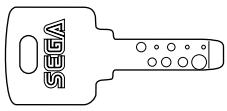
KEY MASTER
220-5576 (2)

For operating/closing the doors



KEY (2)

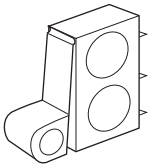
For the cashbox door



The keys are inside the control panel at the time of shipment from the factory.

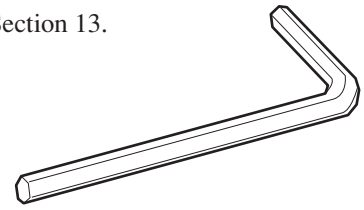
SW MICRO TYPE
509-5080 (2)

Spare, see Section 10.



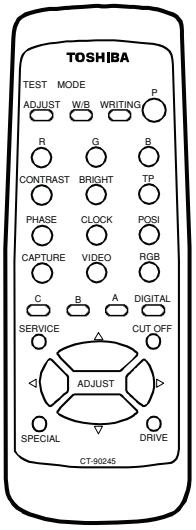
L-WRENCH
540-0043-91 (1)

Tool, see Section 13.



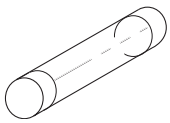
PROJECTOR REMOTE CONTROL
200-6023 (1)

Used for adjusting, see Section 11.



FUSE 0.2 A
514-5143-200 or 514-5146-200 (2)

Spare, see Section 15-3.



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.

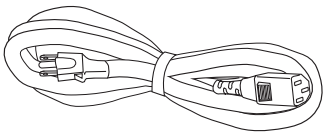
STOP
IMPORTANT

Keep the DVD software kit, DVD drive and DVD wire in a safe place after completing the software installation. If you exchange the game board the exact same software installation must be performed, which will require these parts again. They will also be used when performing a software upgrade.

TABLE 5b ACCESSORIES

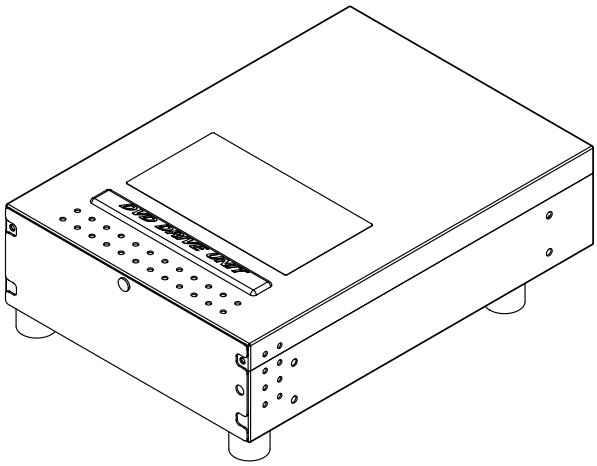
AC CABLE (POWER CORD)
600-6729-01 (1) <TAIWAN>
600-6619-02 (1) <HONG KONG>
600-6618-01 (1) <OTHERS>

Used for installation, see Section 6.



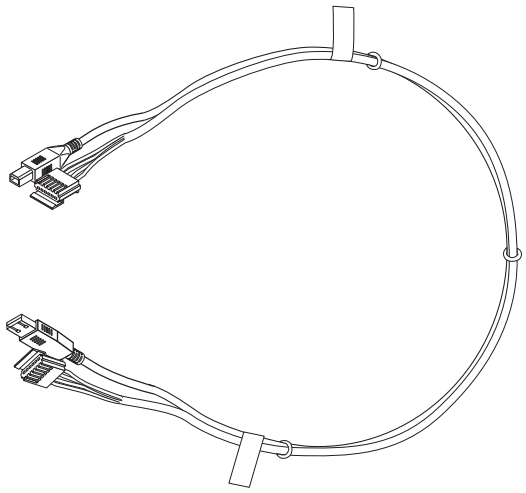
DVD DRIVE
610-0719-01 (1)

Used for software installation, see Section 6, 6 .



DVD WIRE
HDF-6002 (1)

Used for software installation, see Section 6, 6 .

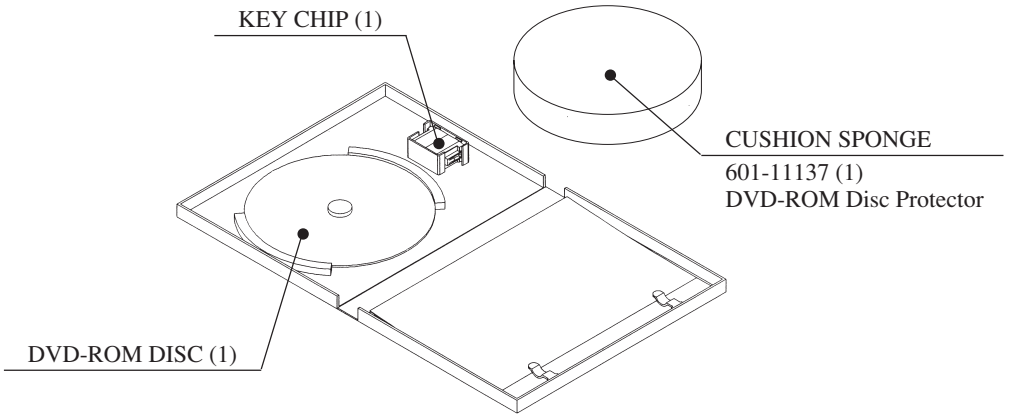


STICKER
443-4002D-02 (1)

Game board no. sticker, see Section 6, 7 .

844－0002D－02

DVD SOFTWARE KIT (1)



NOTE: When you order the DVD-ROM disc only, specify the part number 610-0726-0003 (DVD SOFT HDF).

6. ASSEMBLY AND INSTALLATION

WARNING

- Perform assembly work by following the procedure herein stated. Failure to comply with the instructions can cause electric shock.
- Perform assembling as per this manual. Since this is a complex machine, incorrect assembling can cause an electric shock, machine damage and/or improper 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.
- Be careful not to damage the wires. Damaged wires may cause electric shock or short circuit or present a risk of fire.
- Do not carelessly push the projector. Pushing the projector carelessly can cause the projector to fall down.
- This work should be carried out by the site maintenance personnel or other qualified professionals. 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. Assembling in places that are narrow or have a low ceiling may cause difficulty to perform the work and can cause an accident.
- To perform work safely and avoid serious accidents such as the cabinet falling down, do not perform work in places where elevation differs, a ditch, or slope exist.
- Do not use this product with connectors other than those that were connected and used with the Game Board at the time of shipping. Do not carelessly connect wires to connectors that were not used at the time of shipping, as this may cause overheating, smoke or fire damage.

CAUTION

- Handle molded parts with care. Excessive weight or pressure may cause them to break and the broken pieces may cause injury.
- To perform work safely and securely, be sure to prepare a stepladder which is in a secure and stable condition. Performing work without using the stepladder can cause accidents such as falling down.
- Check the tags on the wire carefully before connecting the DVD wire connectors. Once you have the correct connector be sure to insert it in the correct direction and angle. Attempting to force the incorrect connectors together or connecting them at the incorrect angle may damage the connectors and create a fire risk or risk of burns.

STOP

IMPORTANT

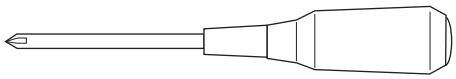
Be very careful when handling the projector screen. The screen is easily damaged but cannot be repaired. If damaged the entire screen must be replaced.

When carrying out the assembling and installation, follow the following 8-item sequence.

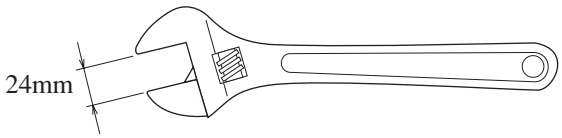
1. INSTALLING THE BILLBOARD
2. ASSEMBLING THE CABINET
3. INSTALLING THE JOINT COVER AND THE FRONT PANEL
4. SECURING IN PLACE
5. POWER SUPPLY AND EARTH CONNECTION
6. CONNECTING THE DVD DRIVE (SOFTWARE INSTALL PREPARATION)
7. POWERING ON (SOFTWARE INSTALL)
8. ASSEMBLY CHECK

Tools and Implements Required for the Work

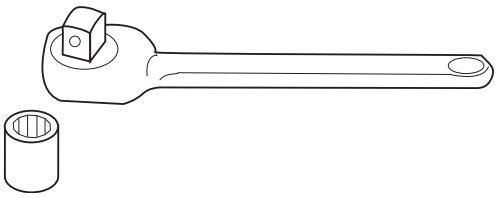
- Phillips screwdriver (for M4 screws)



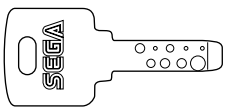
- Wrench (Spanner) with a jaw width of 24 mm (for M16 hexagon bolts)



- Socket wrench (for M8 hexagon bolts)



- Master key



1 INSTALLING THE BILLBOARD

① Lift the billboard up with two people and place it atop the DLP projector. Lift it up from the rear of the cabinet.

② Place the billboard so that the three upper mask brackets match with the three holes on the bottom of the billboard. Then slide the billboard in the direction of the DLP screen. This will lock the bottom of the billboard into the upper mask brackets and fix the billboard in place.

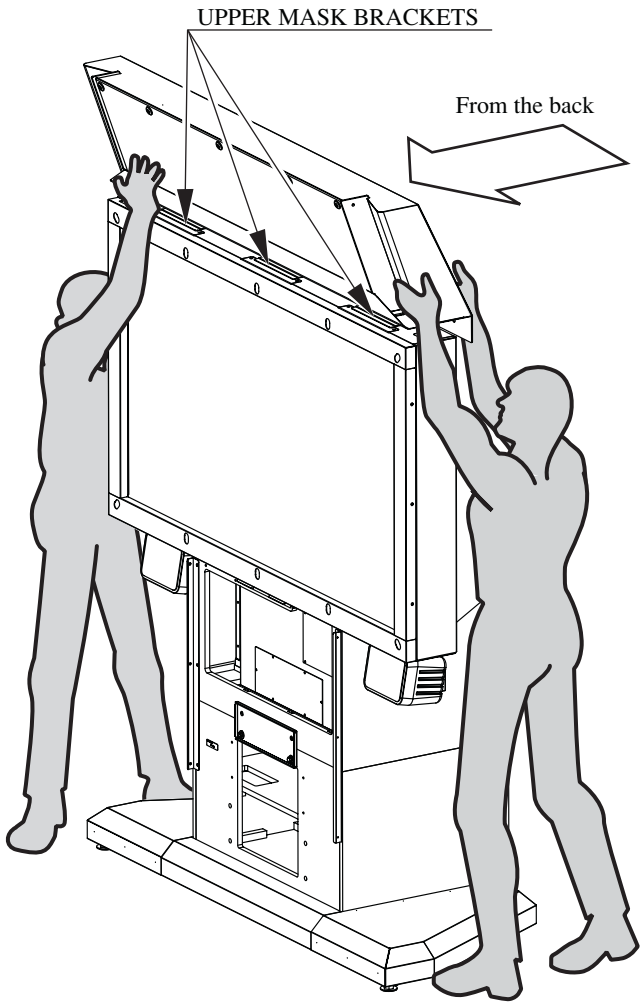


FIG. 6. 1 Work with 2 people

③ Fix the back of the billboard with the four hexagon bolts.

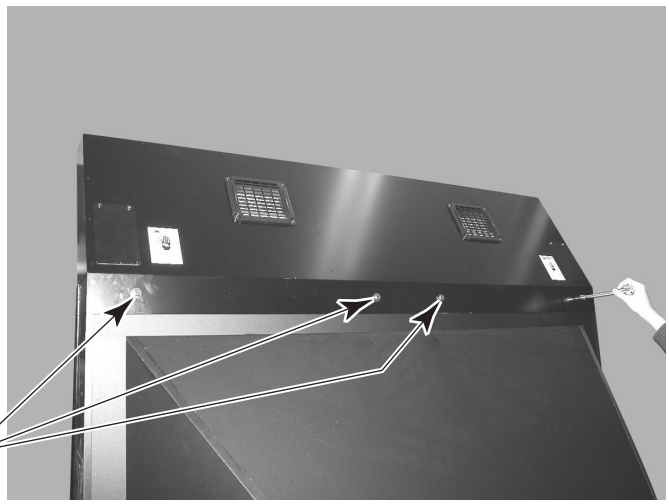


PHOTO 6. 1 a

④ Remove the billboard back plate from the LEFT side on the back of the billboard. This requires the removal of two truss screws.

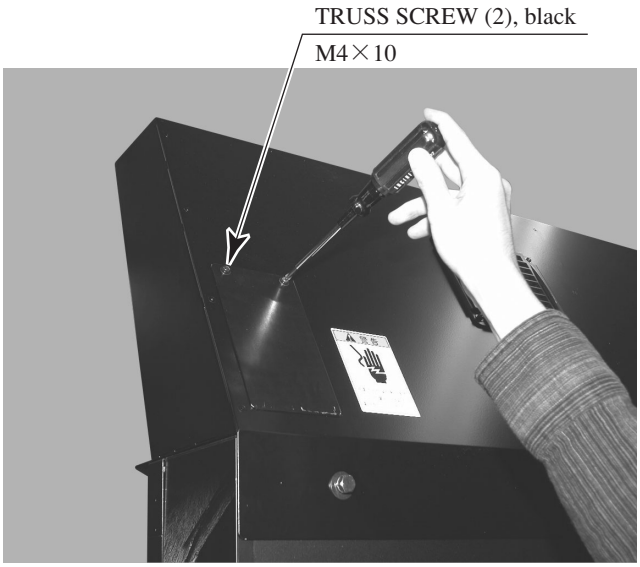


PHOTO 6. 1 b

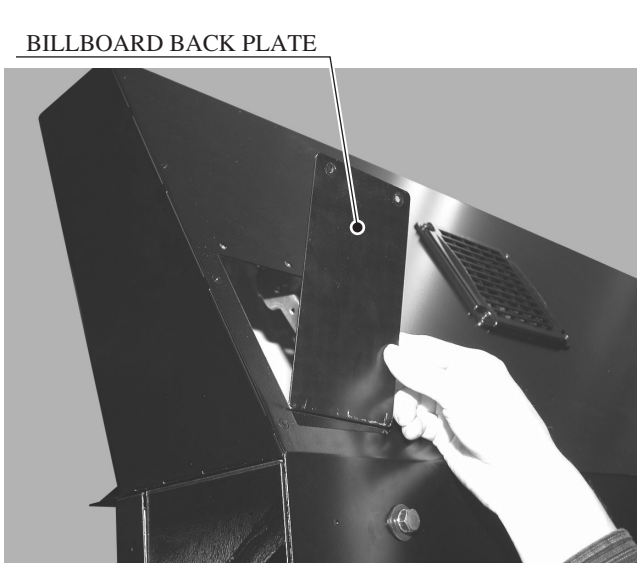


PHOTO 6. 1 c

⑤ Connect the connectors inside the billboard with the connectors on the DLP ceiling.

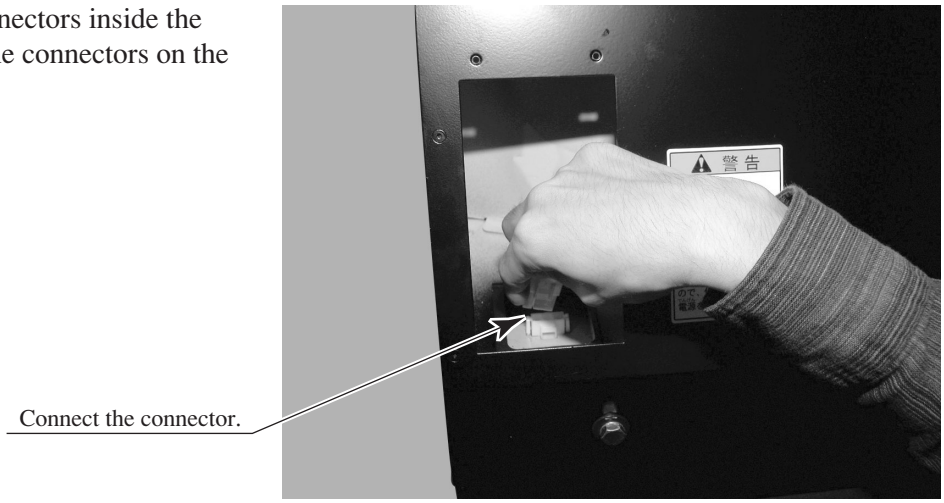


PHOTO 6. 1 d

⑥ Reattach the billboard back plate using the two truss screws.

2 ASSEMBLING THE CABINET

① Place the cabinet close to the ASSY DLP.

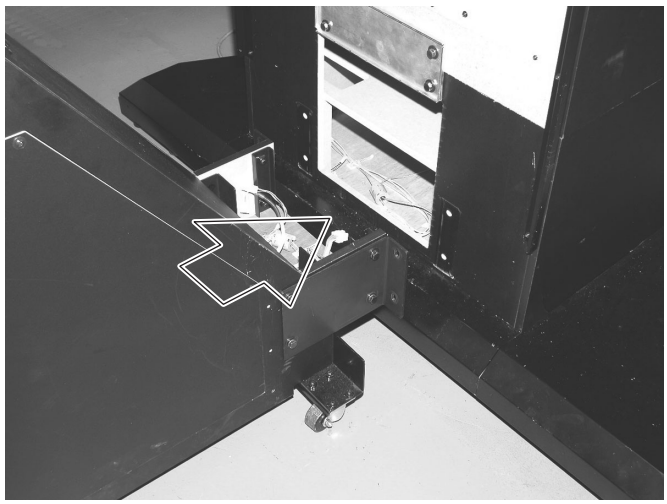


PHOTO 6. 2 a

② Connect the wires between the cabinet and the DLP. A total of three connectors need to be connected.

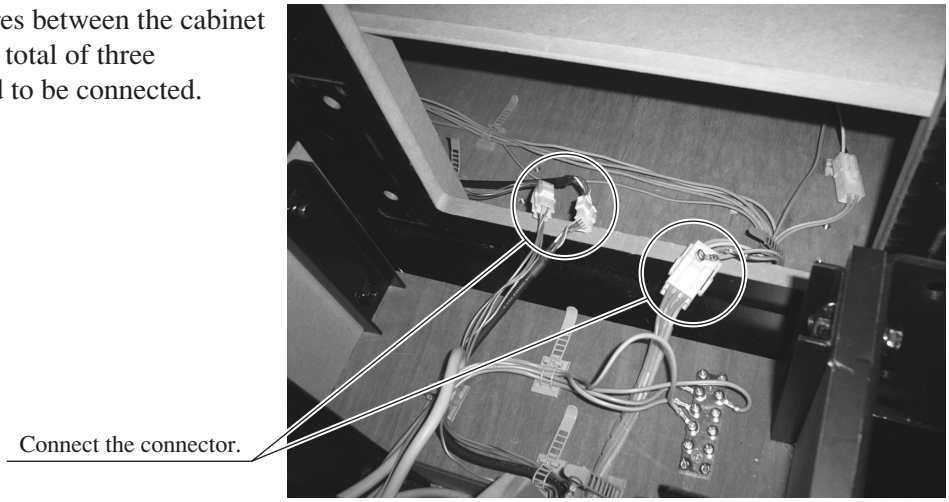
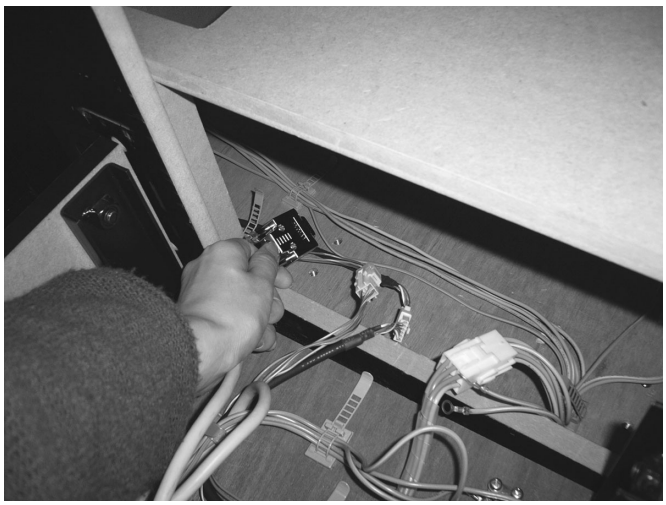


PHOTO 6. 2 b

③ Pass the gold connector (D-SUB) through the hole inside the ASSY DLP and connect it to the DLP front connector. After connecting it loosely screw in the holding screws on each connector.



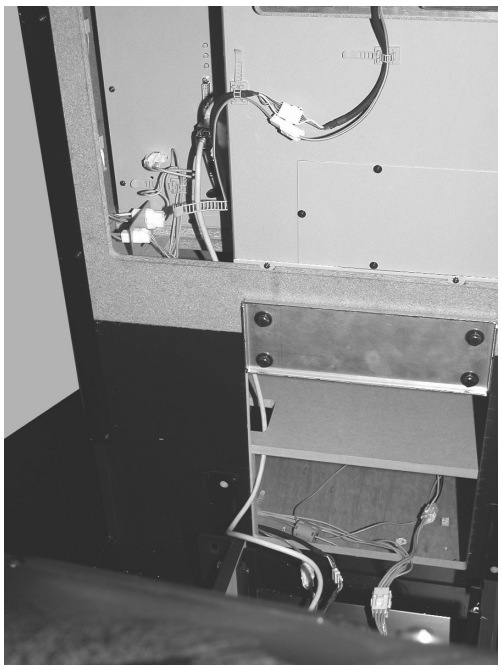


PHOTO 6. 2 c

④ Fix the D-SUB connector wire in place using a cord clamp.

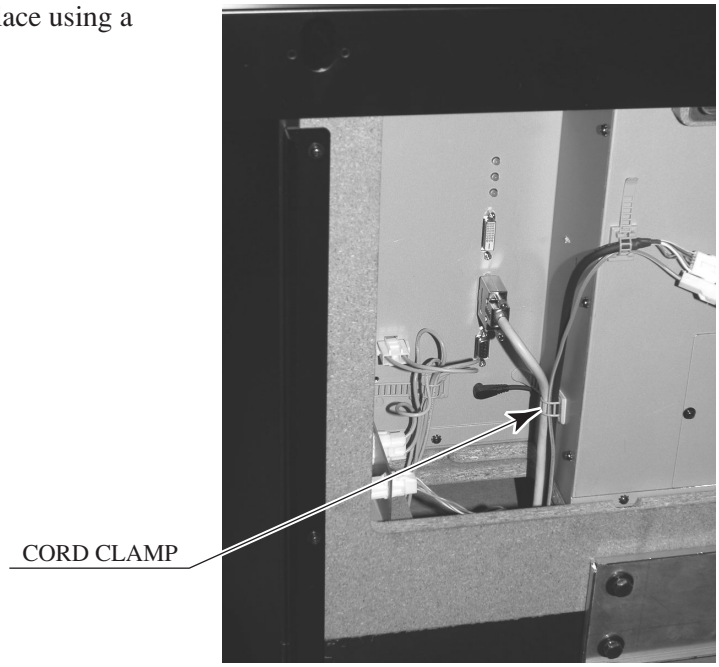
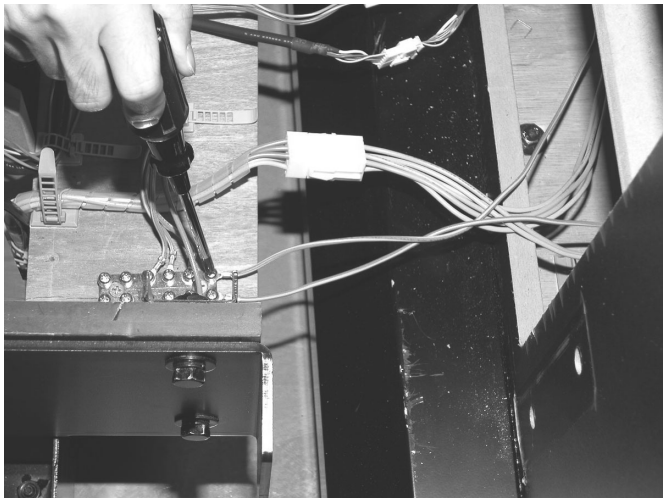


PHOTO 6. 2 d

⑤ Attach the 2 earth wire terminals from the ASSY DLP to the circular earth terminals in the cabinet. First remove the screws from the terminal and then use them to fix each earth terminal independently in place.



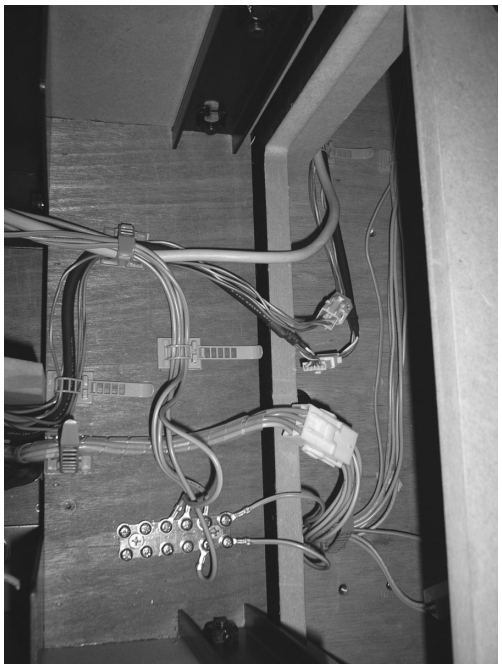


PHOTO 6. 2 e

⑥ Use the cord clamp found inside the ASSY DLP to fix the wires in place.

⑦ Place the cabinet and the ASSY DLP together. Be careful not to trap any of the connecting wires when doing so.

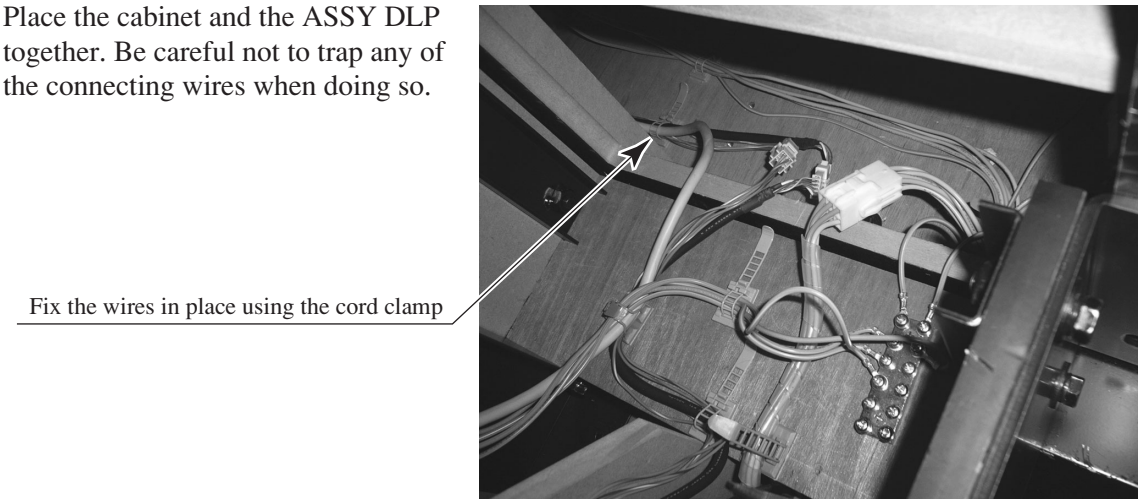


PHOTO 6. 2 f

⑧ Fix the cabinet and ASSY DLP together using the 4 hexagon bolts.

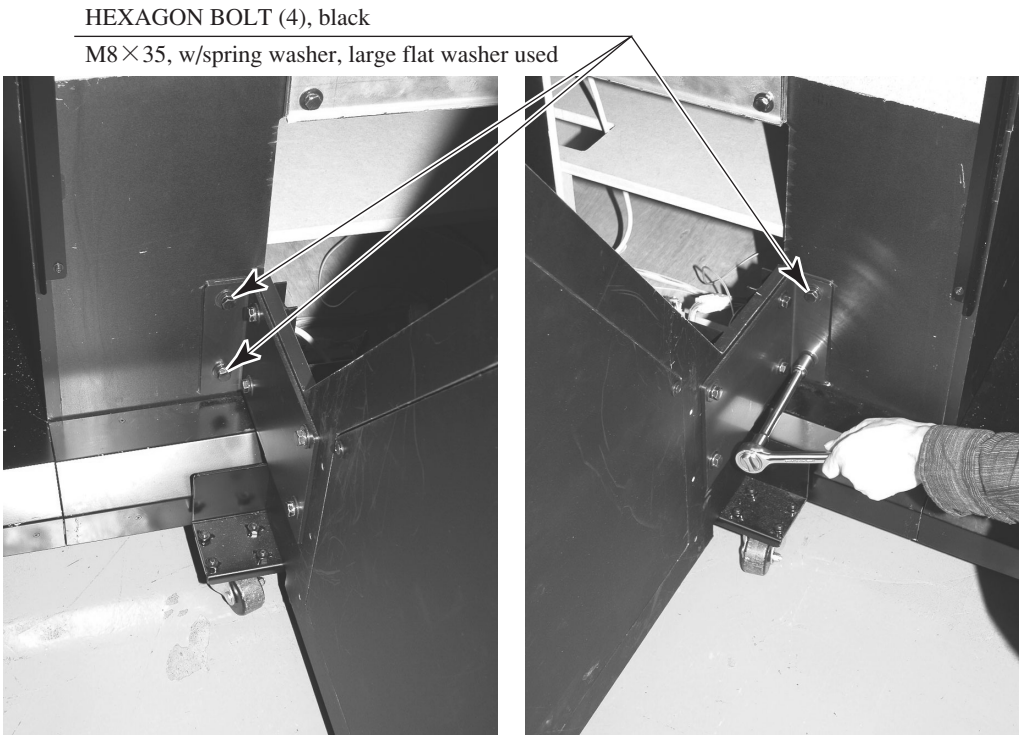


PHOTO 6. 2 g

3 INSTALLING THE JOINT COVER AND THE FRONT PANEL

① Place the joint cover over the joint between the cabinet and the ASSY DLP.

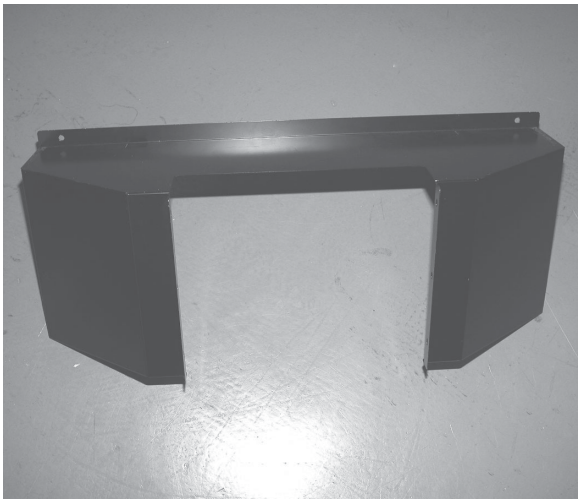


PHOTO 6. 3 a JOINT COVER



PHOTO 6. 3 b

② Fix the joint cover to the cabinet using the 6 truss screws.

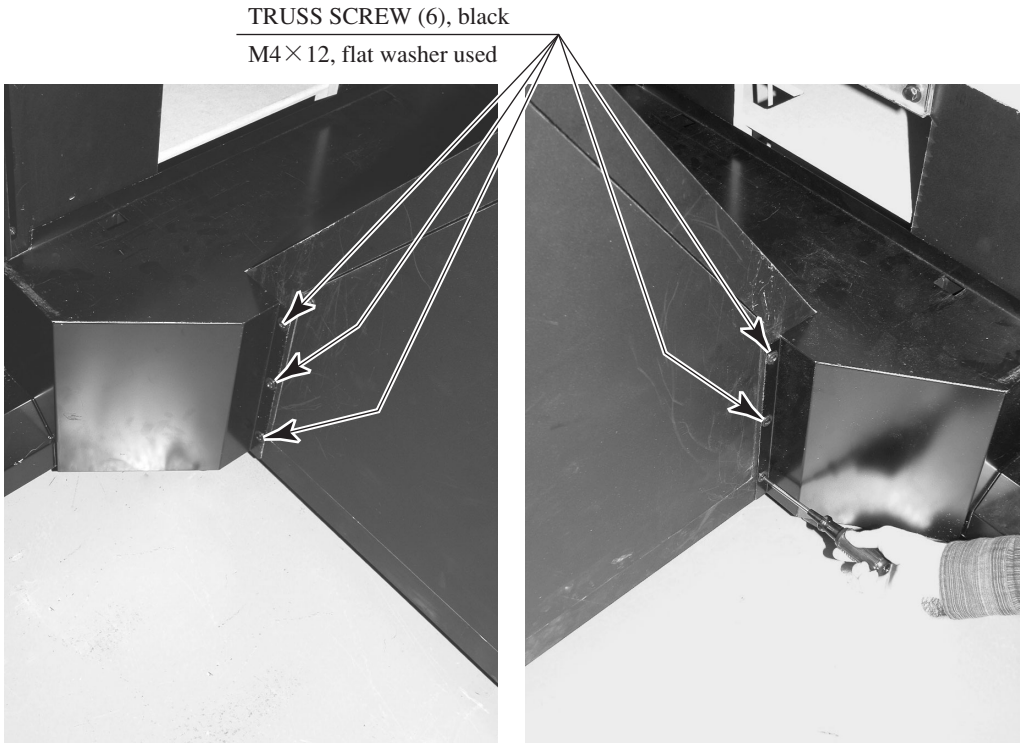


PHOTO 6. 3 c

③ Attach the front panel. Insert the tabs on the top of the front panel into the sheet part under the mask.



PHOTO 6. 3 d



PHOTO 6. 3 e

④ Fix the front panel in place using the 4 truss screws.

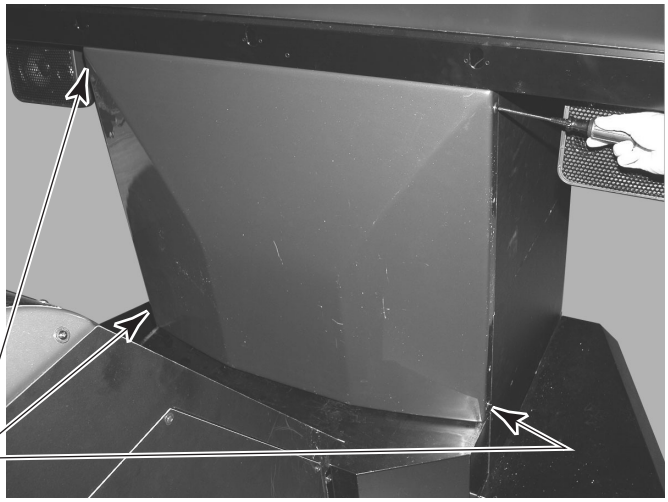


PHOTO 6. 3 f

4 SECURING IN PLACE

WARNING

- Make sure that all the adjusters are resting on the floor. The cabinet may move and cause an accident if the adjusters are not laid out properly.
- Leave at least 20cm of space behind the projector for air exchange. The air vent is on the back of the machine. This air vent must never be blocked by anything. If it is blocked heat may build up creating the risk of fire. It may also speed up damage and deterioration of parts.

The cabinet is equipped with 8 casters (4 for DLP Base and 4 for Cabinet) and 6 adjusters (4 for DLP Base and 2 for Cabinet).
After deciding on a location, bring the adjusters into direct contact with the ground and adjust the cabinet so that it is completely level. If the floor is level, the machine should be level with the casters about 5 millimeters from the floor.

① Move the cabinet to the desired location. Make sure there is space in the back for air to flow.

② Bring the adjusters into direct contact with the floor. Use a wrench to align the height of the adjusters until the cabinet is perfectly level.

③ After making the final adjustments, fix the adjuster height by tightening up the adjuster nuts.

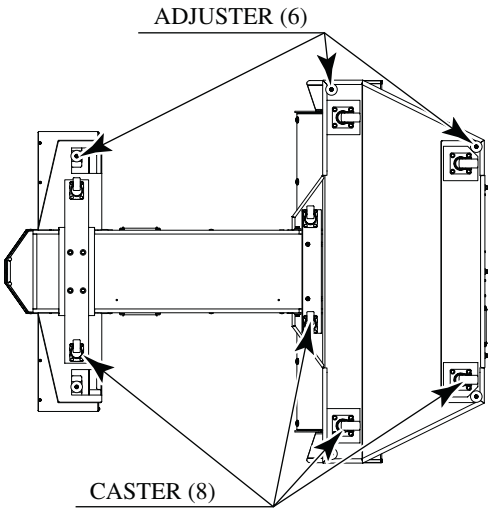


FIG. 6. 4 a Bottom View

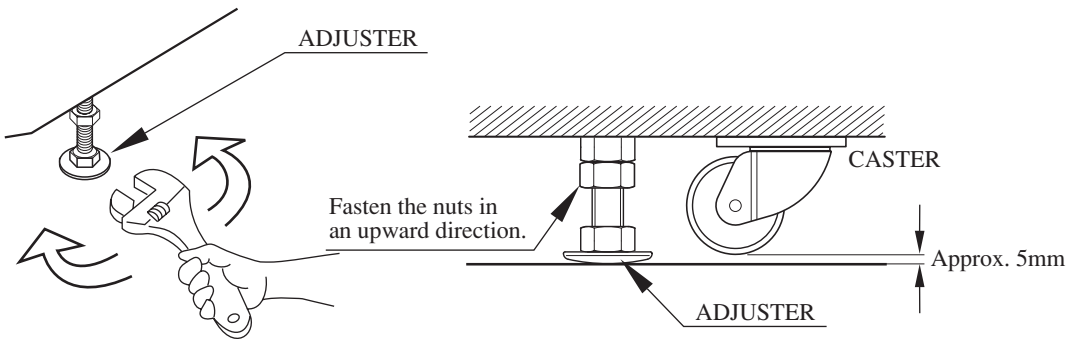


FIG. 6. 4 b Aligning the Adjusters

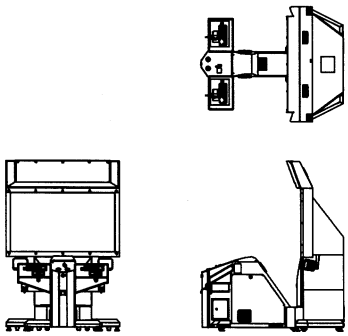


FIG. 6. 4 c
(Scale: 1/100) See the layout for the positioning location.

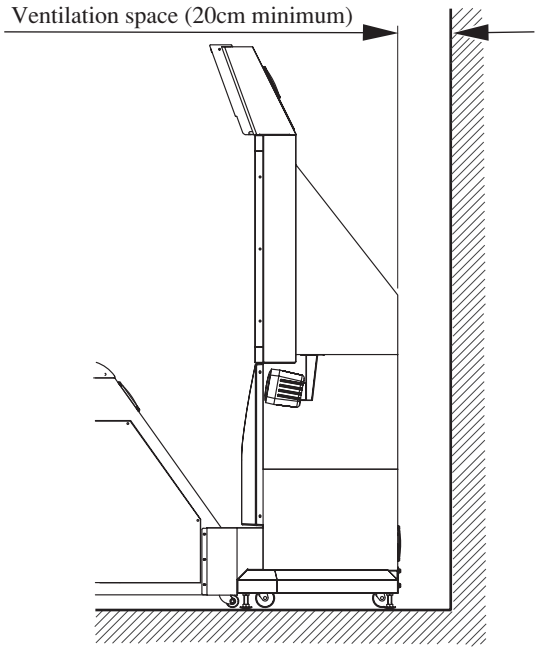
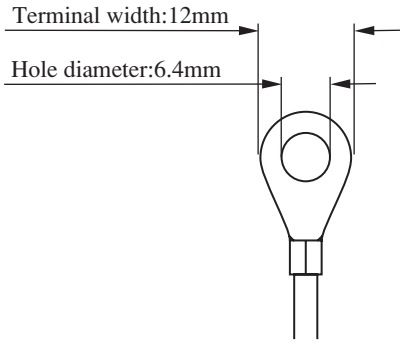


FIG. 6. 4 d Ensuring Ventilation Space
Provide ventilation space for the ventilation opening.

5 POWER SUPPLY AND EARTH CONNECTION

WARNING

- Be sure to independently use the power supply socket outlet equipped with an Surge Suppressor. Using a power supply without a Surge Suppressor 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). If the grounding work is not performed appropriately, customers can be subjected to an electric shock, and the product may not function properly.
- 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 wire is not in the customer's way and that the wiring has protective insulation.
- After wiring the power cord on the floor, be sure to protect the power cord. An exposed power cord is susceptible to damage and may cause an electric shock.
- When using the earth terminal from the AC unit for the product, always use an earth wire with a round earth terminal as shown in the diagram and be sure to connect it correctly. Never use simply stripped wires or any other form of inappropriate connection method.



The AC unit is located at the base of the back of the DLP. The AC unit has the following switches/connectors.
- The main switch
- An inlet for the power cable.
- An earth terminal.
- A circuit protector.

The power cable included with the product has an earth wire inside. Connect the AC unit to the power cable and then plug it into a socket that has an earth terminal. If you do not have access to a socket with an earth terminal you must earth the product in another way, e.g. by connecting the AC unit's earth terminal and an earth device via a separate earth cable. If you are using a commercial conversion adaptor to provide the power you must connect the adaptor's earth terminal to an earth terminal that is definitely earthed safely.

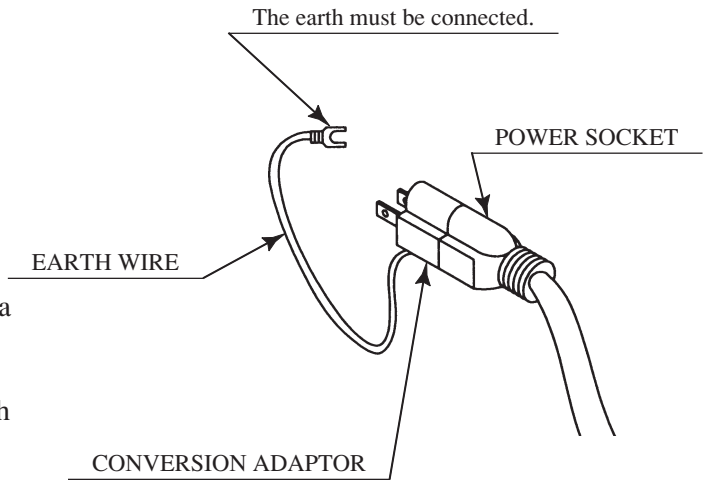


FIG. 6. 5 a

① Ensure that the main switch is OFF.

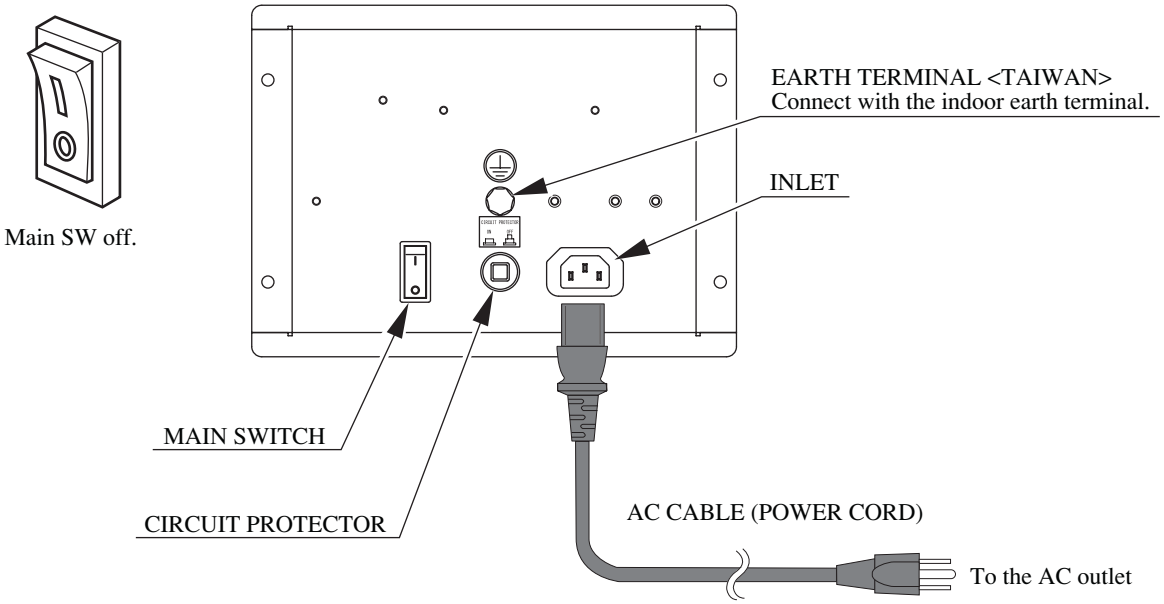


FIG. 6. 5 b AC Unit

② Insert the connector on the non-power plug end of the power cord into the AC unit's inlet. Pass the connector through the hole in the base of the satellite and insert it firmly into the AC unit's inlet.

③ Insert the power plug firmly into a power socket.

④ If you are using a separate earth cable connect one end of the earth to the earth terminal on the AC unit and the other end to your in-store earth terminal.
The AC Unit earth terminal has a Bolt and Nut combination. Take off the Nut, pass the earth wire through the Bolt, and fasten the nut. <For Taiwan>

*Note that the earth wire is incorporated in the power cord for the Areas of AC 120V (USA) and AC 220 ~ 240V, and therefore, this procedure is not necessary.

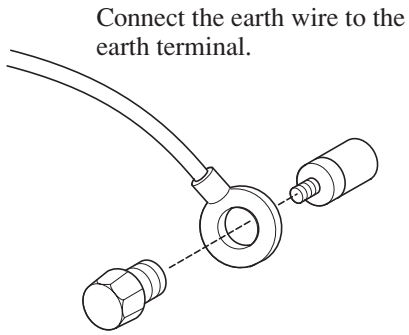


FIG. 6. 5 c *Earth Wire Connection

⑤ Firmly insert the power plug into the socket outlet. Insert the opposite side of the power cord plug to the AC Unit's connector ("INLET").
Perform wiring for the power cord and earth wire. Install protective insulation for the power cord and earth wire.
If you are using a separate earth to earth the product make sure you install protective insulation for this also.

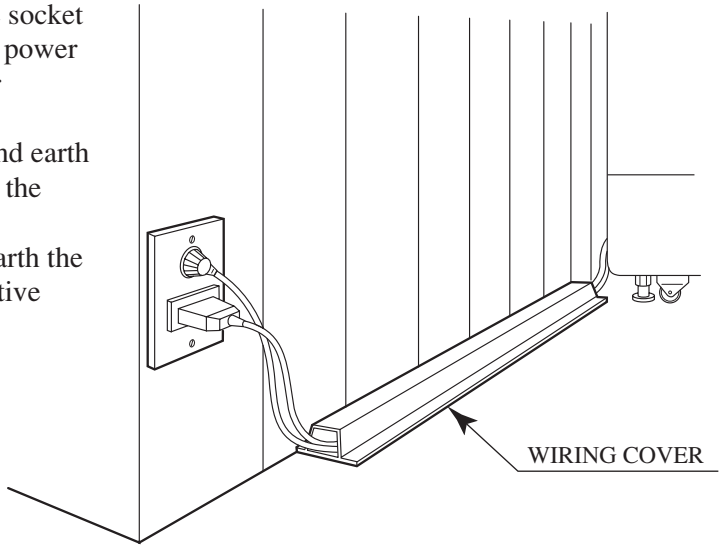


FIG. 6. 5 d Connecting the Power Cord and Earth Wire

6 CONNECTING THE DVD DRIVE (SOFTWARE INSTALL PREPARATION)

For safety's sake, prepare to perform the software install prior to turning on the power. You will need the included DVD Drive, DVD wire and DVF software kit.

① Connect the end of the DVD wire with the "DVD" tag on it to the two connectors on the DVD DRIVE.

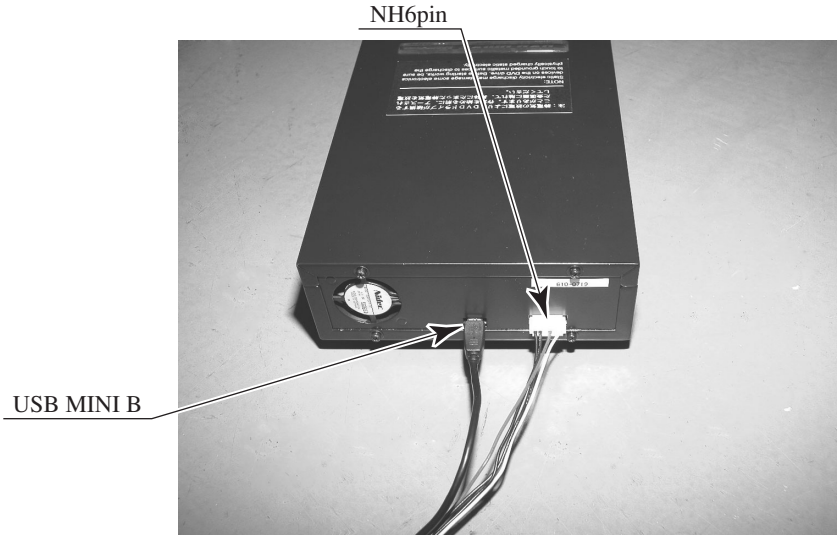


PHOTO 6. 6 a

② Remove side door L. The door on the left side of the cabinet what facing the projector screen is side door L. Remove the three truss screws and unlock the door.

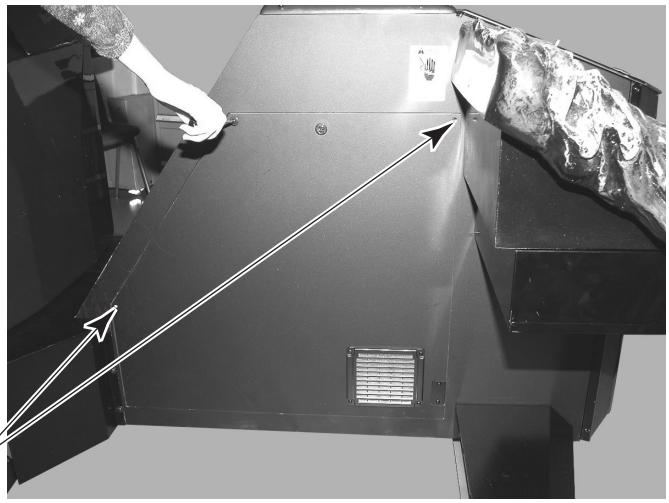


PHOTO 6. 6 b

③ Insert the keychip from the DVD software kit into the LINDBERGH board. Make sure you insert in the correct direction.



PHOTO 6. 6 c

④ Connect the end of the DVD wire with the "LINDBERGH" tag on it to the two connectors on the LINDBERGH board. There are 4 USB connectors on the LINDBERGH board, any of which may be used.

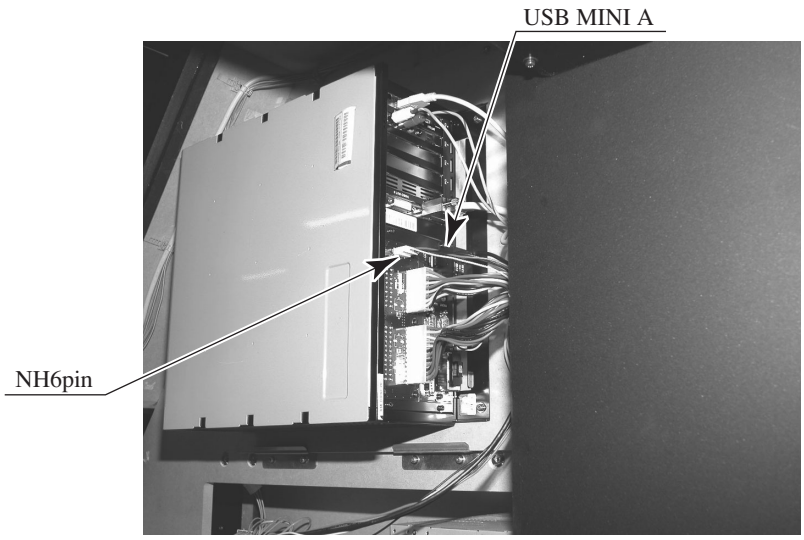


PHOTO 6. 6 d

⑤ Hold the DVD wire in place with the two cabinet cord clamps. This will help prevent the wire from getting trapped when replacing the door.

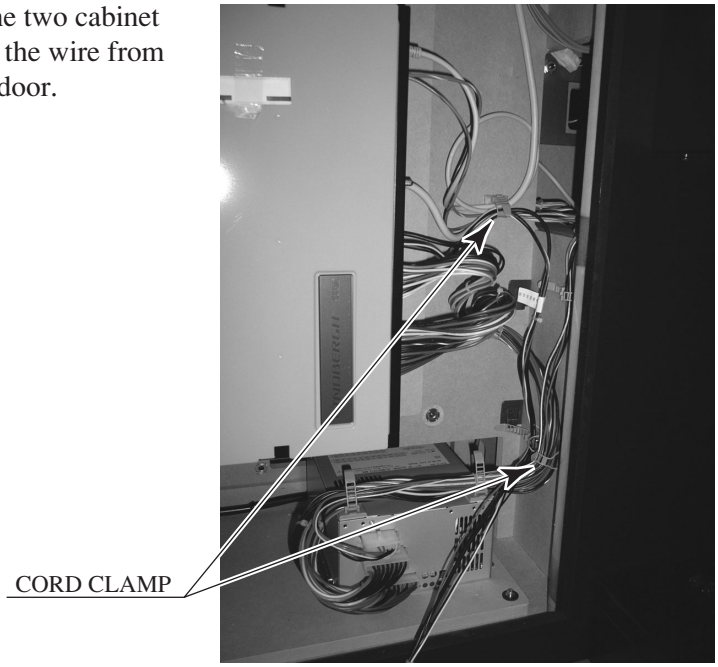


PHOTO 6. 6 e

⑥ Remove the two truss screws and remove the plate DVD from side door L. The plate DVD and two truss screws will be returned to their original positions once the install is complete.

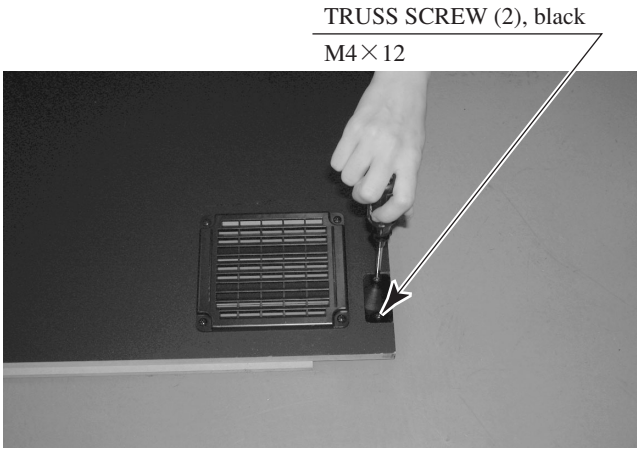


PHOTO 6. 6 f



PHOTO 6. 6 g

⑦ Pass the DVD wire through the place from where you removed the plate DVD, replace side door L and lock it. Be careful not to trap the DVD wire.



PHOTO 6. 6 h

7 POWERING ON (SOFTWARE INSTALL)

Caution when using the DVD Drive

WARNING

- Looking directly into the internal laser in the DVD drive may damage your vision. Never look into the interior of the DVD drive.
- When connecting the DVD wire connectors be sure to insert them in the correct direction and angle. There is only one correct way to connect them. Attempting to force the connectors together incorrectly or connecting them at the incorrect angle may damage the connectors or their pins and create a fire risk or a short circuit.
- Be very careful not to trap or damage the DVD wire. This could cause a short circuit or a fire risk.

STOP
IMPORTANT

- Do not use or store the DVD drive or DVD wire in any of the following locations, as this may lead result in serious damage.

  [Do not use or store in these locations]
  - Anywhere which may vibrate or shock the equipment
  - In direct sunlight
  - In damp or dusty placed
  - In places with a sharp change in temperature
  - Close to anything that gives off heat (a heater, etc.)
  - Close to anything with a strong magnetic field (magnets, monitor, speakers, radio, etc.)
  - Anyway that is likely to get wet (kitchen, etc.)
  - Anywhere sloping
  - Anywhere with corrosive gas in the air (chlorine, hydrogen sulfide, ammonia, sulfur dioxide, etc.)
  - Anywhere with strong static electricity

  [Do not use in these locations]
  - Close to anything that is highly retentive of heat (carpet, sponge, cardboard, etc.)
  - Anywhere that blocks the DVD drive air vent.

- The DVD drive is a delicate piece of equipment. Avoid the following.
  - Dropping or shaking it violently.
  - Getting water or other liquids on it, or placing small items on top of it.
  - Placing large or heavy items on top of it.
  - Drinking or smoking close to the DVD drive.
- Do not turn off the power to the DVD drive when its access lamp is on or flashing, as this could cause damage to the device.
- Do not allow any foreign materials, such as liquids, metals or smoke inside the DVD drive.

STOP
IMPORTANT

- Use a soft, dry cloth to wipe off any dirt or marks on the DVD drive.
  - If you need to use a cleaning agent, always use a "neutral" agent diluted in water.
  - Never use products or cleaning agents containing benzene, alcohol, thinners, etc.
- Do not touch the lens inside the DVD drive. Doing so may prevent it from reading accurately.
- The chip components on IC boards can be damaged by electrostatic discharge from the human body. Before handling an IC board, always neutralize any static charge in the body by touching a grounded metal surface.

Handling the DVD-ROM Disc

STOP
IMPORTANT

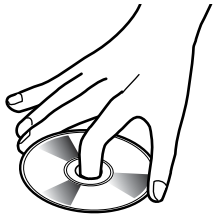
- Do not use a DVD-ROM with a damaged front. This may cause a malfunction.
- Insert the DVD-ROM into the DVD drive with the label facing upwards.
- Do not get fingerprints or dust particles on the disc. Contaminated discs may lower audio and video quality, and may result in read malfunctions.
- When cleaning the disc, do not use volatile chemicals (benzene, thinner, etc.), cleaning sprays, or antistatic agents.
- Do not use a cracked, warped, or damaged disc. Do not attach papers or seals onto the disc to avoid scratching it. Do not use a disc with signs of peeled seals, tape, etc. If such a disc is placed in the DVD-ROM drive, malfunctions, such as the inability to remove the disc from the drive, may result.
- When cleaning a heavily contaminated disc, use a clean cloth that has been soaked in water and squeezed. After wiping, remove any remaining moisture with a clean, dry cloth.

How to Hold a Disc
When handling a disc, be careful not to contaminate it with your fingerprints.

With both hands:
Put your thumbs and forefingers on 4 opposite sides of the disc.



With one hand:
Insert your forefinger into the center hole, while placing your thumb and middle finger on opposite sides of the disc.



Caution - Software Installation

STOP
IMPORTANT

- The product does not come with software installed, so simply turning on the power and leaving the cabinet alone will cause an error. If such an error occurs set the DVD disc into the DVD drive and restart the machine. Installation will take place.
- Due to initialization of the DVD drive, the tray will not come out even if the button is pressed for about 30 seconds after turning on the power.
- Always open the DVD drive's tray and insert/remove DVDs with the power switched on. The tray will not open with the power off.
- Keep the DVD software kit, DVD drive and DVD wire safe even after the software installation is complete.
- If for any reason the installation is not possible, an error will be displayed. See chapter 15 of this manual for help on dealing with this problem.

Prepared the attached DVD software kit and sticker "844-0002D-02."
The process as described below features numerous time-consuming steps, such as restarting the power and taking side door L on and off. Each of these steps is required to avoid electric shocks and the operation should be performed exactly as detailed below.

① Turn the AC unit's main switch ON to supply power. The florescent lights in the billboard and the cold-cathode tube inside the lighting should come on.

② Remove the 1 plastic-head screw and remove the DVD drive case lid.

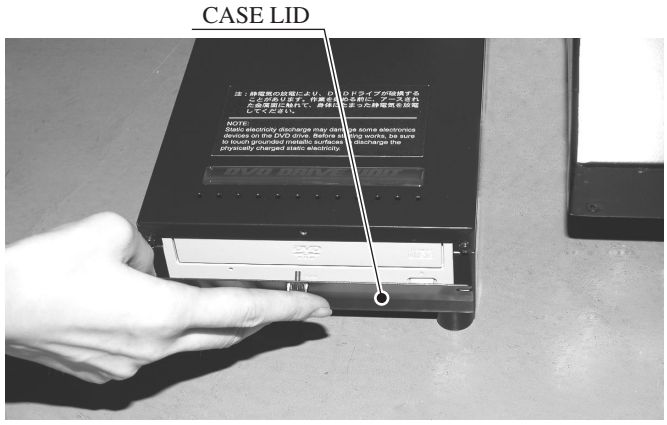


PHOTO 6. 7 a

③ Wait approximately 30 seconds after turning on the power and then press the switch on the DVD drive. The tray will come out. Insert the DVD from the DVD software kit. Make sure that the label side is facing upwards.

④ Press the switch on the DVD drive. The tray will close.

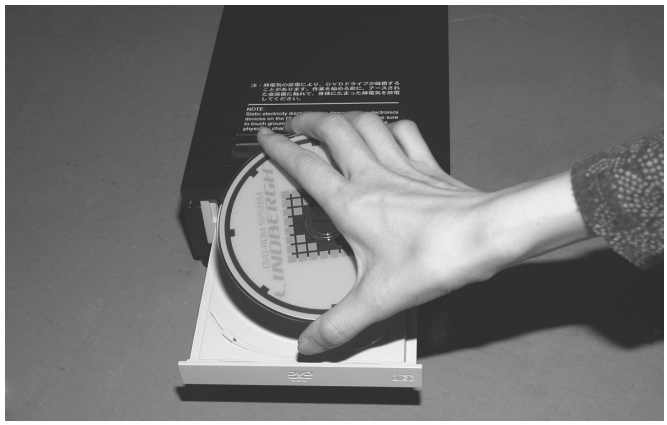


PHOTO 6. 7 b

⑤ The software will install automatically from the DVD. The message "Check Release Image ・・・ XX.XX%" will be displayed on the screen.

⑥ Once the install finishes, the game screen will be displayed. The install takes about five minutes. Once it is finished remove the DVD. Press the switch on the DVD drive and the tray will open. Take the DVD out.

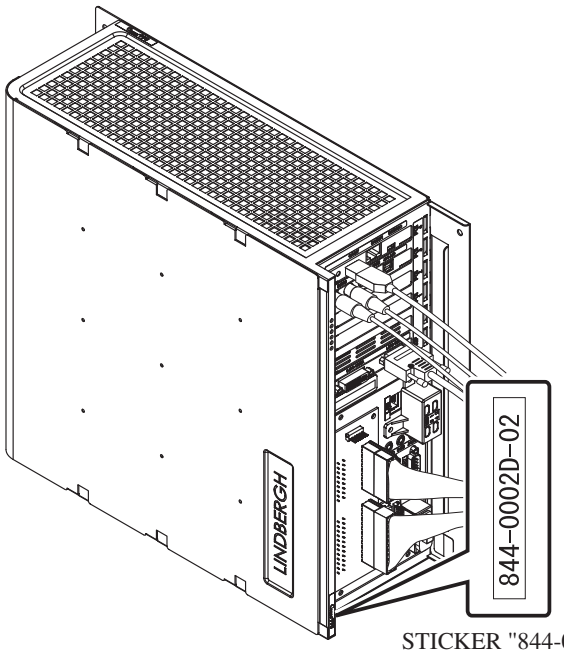
⑦ Press the switch on the DVD drive and close the tray again. The tray will not move once the power is off so be sure to do this before turning off the power.

⑧ Turn the main switch on the AC unit OFF.

⑨ Remove side door L.

⑩ Undo the two cord clamps holding the DVD wire in place and disconnect the DVD wire connectors attached to the LINDBERGH board. Leave the keychip inserted.

⑪ Stick the sticker "844-0002D-02" onto the LINDBERGH board. The LINDBERGH board initially has a sticker "844-0001D-02" on it. Place the new sticker over this old one.



STICKER "844-0002D-02 "

FIG. 6. 7 a

⑫ Place the plate DVD back into side door L and fix it in place with the two truss screws.

⑬ Replace side door L on the cabinet and lock it.

⑭ Fix side door L in place with the three truss screws.

⑮ Replace the DVD drive's case lid and fix it in place with the plastic-head screw.

⑯ Store the DVD drive, DVD wire and DVD software kit in a place free from dust and cigarette smoke.

Turning on Power after Software Install

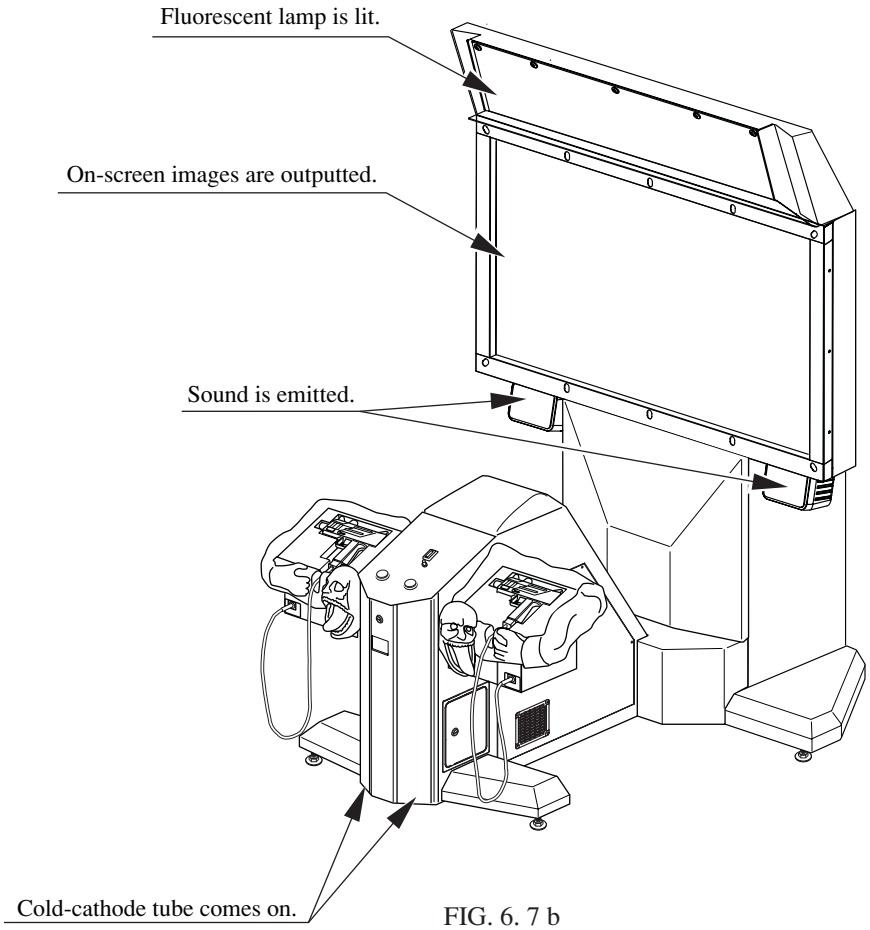


FIG. 6. 7 b

Turn the main switch on the AC unit ON to supply power.
As soon as the power is supplied the fluorescent lamps inside the billboard and the cold-cathode tubes inside the lighting unit will come on. A few seconds later the LINDBERGH start-up screen will be displayed and then the Advertisement Mode (Attract Mode) will start, which displays a demo of the game and score rankings.

It takes approximately 3 minutes to reach the Attract Mode.

During Attract Mode sound will be emitted from the left and right speakers beneath the projector. However if sound during Attract Mode is turned off in TEST Mode, no sound will be emitted.

Even if the product's power is turned off the number of credits played, ranking data, game difficulty and other settings and bookkeeping data will all be saved. The number of incomplete credits (coins inserted that did not equal a credit) and the bonus adder count data will not be saved.

8 ASSEMBLY CHECK

Use Test Mode to check that the product has been assembled correctly and that the game board, other connected boards and all output devices are working correctly.

Perform this test in Test Mode as follows.
See "9-2 System Test Mode" for tests (1) to (4) below and "9-3 Game Test Mode" for test (5) to (7).

(1) Information Display Screen
Selecting SYSTEM INFORMATION, STORAGE INFORMATION or JVS TEST from the SYSTEM TEST Mode menu screen will displayed system information, game information and information concerning the JVS I/O board attached to the LINDBERGH board.
If all information is displayed correctly then the LINDBERGH board is running smoothly.

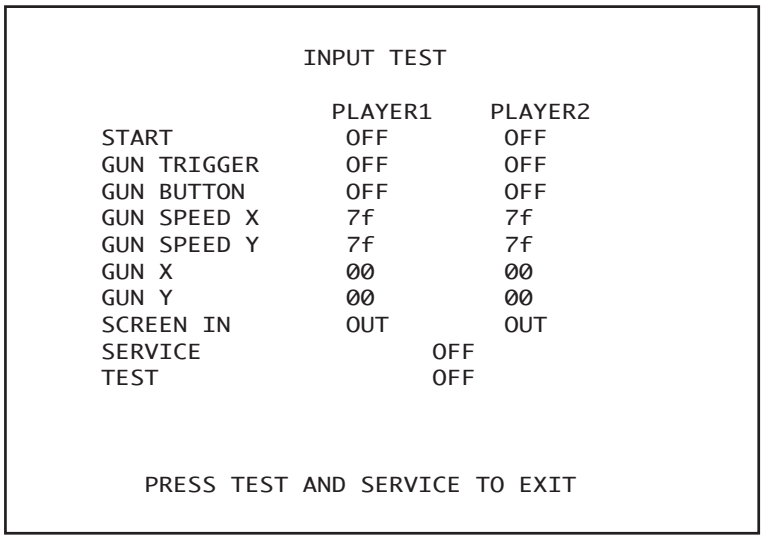
(2) JVS Input Test Screen
Selecting INPUT TEST on the JVS TEST Screen will display input data for the JVS I/O board. For this product this is the screen to test the coin switches. Insert a coin to perform a test.
If the display nest to the switch changes the switch and connections are working correctly.

(3) Monitor Test Screen
Selecting MONITOR TEST on the SYSTEM TEST Mode menu screen will display a screen that allows the monitor output to be tested.
The projector comes adjusted from the factory but still use this TEST Screen to make sure that further adjustment is not required. If required, see chapter 11 for information on adjusting the projector.

(4) Speaker Test Screen
Selecting SPEAKER TEST from the SYSTEM TEST Mode menu screen will display a screen that allows the speaker output to be tested.
The speakers attached to the machine will output a test sound. Use this to check that all speakers are outputting correctly.

(5) Input Test
Selecting INPUT TEST from the GAME TEST Mode menu screen will display a screen that allows input devices to be tested.
Press each switch to check that each is working. If the display next to the input device changes to on "ON" or the values displayed change smoothly then that input device and all connections with it are working correctly.

INPUT TEST Screen

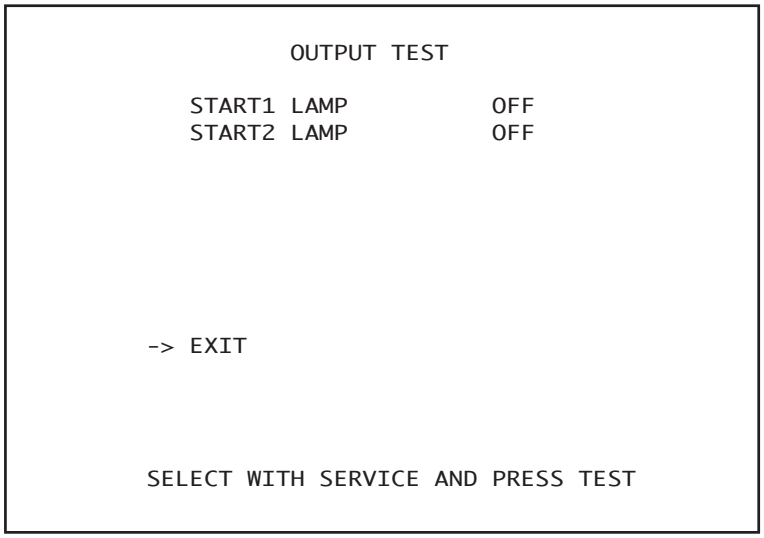


(6) Output Test

Selecting OUTPUT TEST from the GAME TEST Mode menu screen will display a screen that allows output devices to be tested.

Operate the lamps and other output devices and check that they are all working correctly.

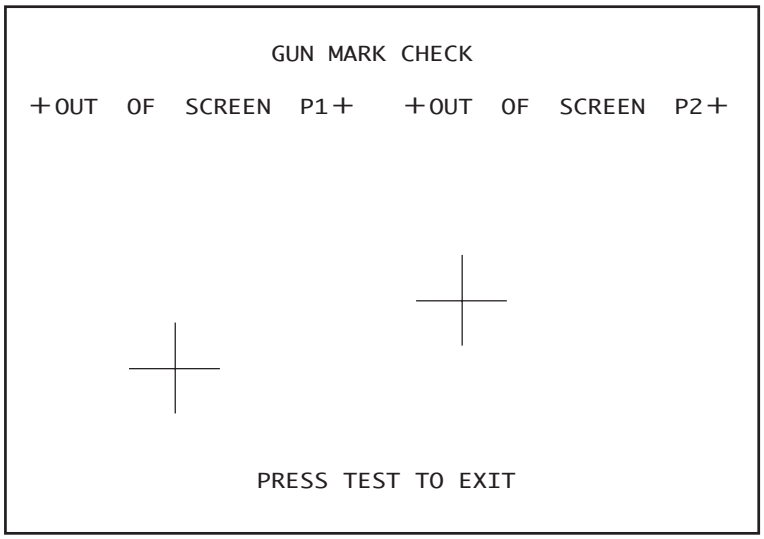
OUTPUT TEST Screen



(7) Calibration Check and Speed Check

Prior to letting customers use the game you must play a game and make sure that everything is operating correctly. Although adjusted prior to leaving the factory incidents in transit may have affected these settings and so check to make sure that adjustment is not required.

GUN MARK CHECK Screen



You should perform the above checks once a month. However (7) should be performed at least once a week.

Interference Prevention Wiring

WARNING

- In order to prevent electric shock and short circuit hazards, be sure to turn power off before performing work.
- Be careful not to damage the wires. Damaged wires may cause electric shock or short circuit or present a fire risk.
- Do not expose the IC board, etc. unless absolutely necessary. Failure to observe this can cause electric shock hazard or malfunctioning.
- This work should be performed by the site maintenance personnel or other qualified professionals. Performing work by non-technical personnel can cause a severe accident such as electric shock.

When the game machines of a same or similar type are installed side by side, their sensors may interfere with each other. To reject the interference, follow the procedure below.

The following game machines employ a same or similar type of sensor. If interference happens to the sensors, operation of the games may be mutually disturbed.

- THE HOUSE OF THE DEAD 2, U/R type, DX type and Super DX type
- DEATH CRIMSON, U/R type and DX type
- THE LOST WORLD, U/R type, DX type and Super DX type
- BRAVE FIRE FIGHTERS
- SAMBA DE AMIGO
- CONFIDENTIAL MISSION, U/R type and DX type
- SHAKATTO TAMBOURINE
- LUPIN THE 3RD THE SHOOTING, U/R type and DX type
- THE MAZE OF THE KINGS, U/R type and DX type
- THE HOUSE OF THE DEAD 3, U/R type and DX type
- VIRTUA COP 3, U/R type and DX type
- GHOST SQUAD, U/R type and DX type
- THE HOUSE OF THE DEAD 4

① Turn the power off.

② Undo the 3 truss screws and remove the side door R from the cabinet.



PHOTO 6. 9 a

③ The interference prevention wire is connected to the IC board inside the cabinet.
If multiple units of the same game are installed side by side, make sure that the game units that are connected to the interference prevention wires are arranged so that they alternate with the units that are not connected.

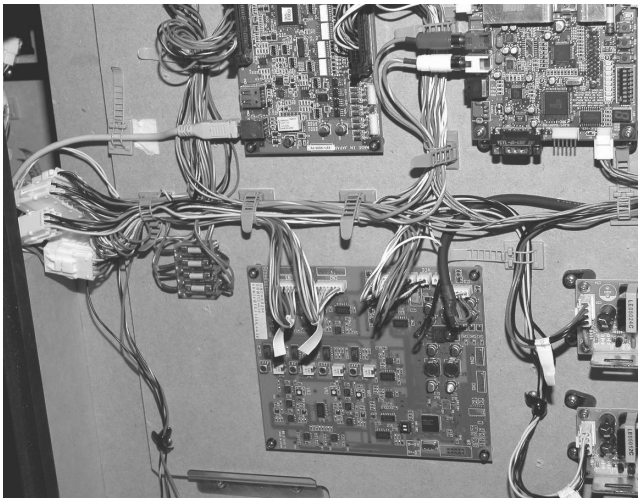


PHOTO 6. 9 b

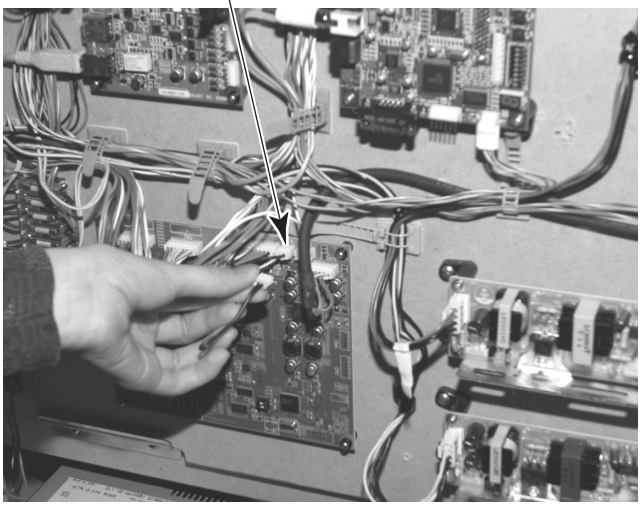


PHOTO 6. 9 c

7. PRECAUTIONS WHEN MOVING THE MACHINE

WARNING

- When moving the machine, be sure to pull out the plug from the power supply. Moving the machine with the plug still inserted can cause the power cord to be damaged, resulting in a fire and/or electric shock.
- When moving the machine on the floor, retract the adjusters, and ensure that the casters make contact with the floor. Pay careful attention so that the casters do not run over power cords and earth wires. Damaging the power cords can cause an electric shock and/or short circuit.
- When moving across an area with a sharp difference in height first separate the cabinet and ASSY DIP. Tilting them whilst the two are still joined together may damage the connectors and could cause injury.
- When lifting the cabinet, be sure to hold the handles and the bottom part. Lifting the cabinet by holding other portions may damage parts and installation portions due to the empty weight of the cabinet, and may cause personal injury.
- When moving the ASSY DLP, do not push it from the rear side. Push it from sideways. Pushing the ASSY DLP from the rear side can have the ASSY DLP 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.
- When the cabinet and ASSY DIP are not connected the cabinet is unstable on its own. Pushing it may cause it to fall over. When detached always keep the cabinet on a level surface and make sure it does not start to lean to the left or right whilst working on it.

CAUTION

Do not hold or press the plastic parts as indicated by the Figure. Failure to observe this instruction may break the parts, and eventually the broken pieces may cause a personal injury.

STOP

IMPORTANT

- When moving the cabinet do not hold or push the gun holders. This could deform their shape or cause damage to them.
- Never push on the projector's screen. The screen is easily damaged but cannot be repaired. If damaged the entire screen must be replaced.

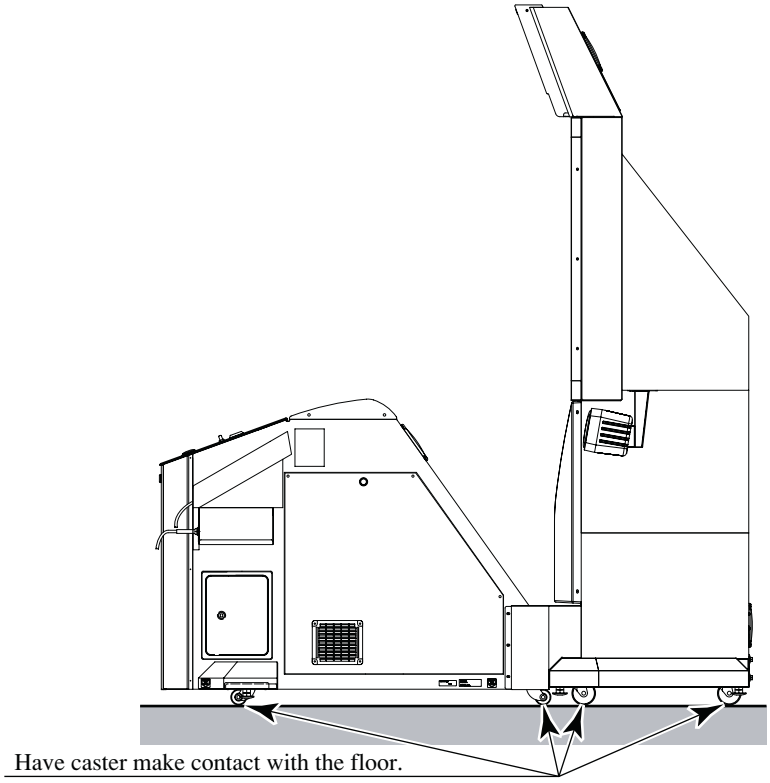
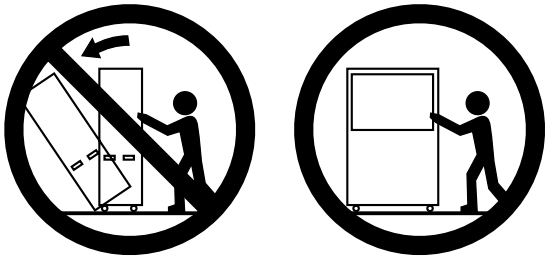


FIG. 7 a

Pushing the ASSY DLP from the back may make it fall over. Always push it from the side.



Separate the cabinet and ASSY DLP when moving over a slope or up/down steps.

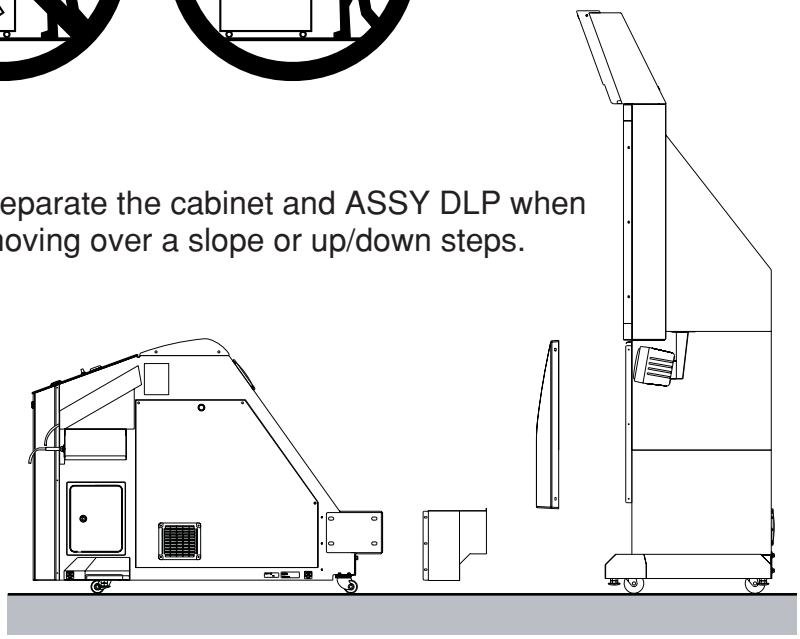


FIG. 7 b

8. GAME DESCRIPTION

The following explanations apply to the product when functioning properly. If the product operates differently from the following contents, a fault may have occurred. Immediately look into and eliminate the cause of the fault to ensure proper operation.

The fluorescent light in the billboard and the cold-cathode tube in the lighting unit are always on whenever the power is turned on. Demo movies and game rankings are displayed on the screen. Audio may also be played from speakers on the left and right sides of the projector. However, it is possible to select whether sound is output or not during Attract Mode through Test Mode settings.

Both the right and left START buttons are integrated with a light. The light flashes when sufficient coins are inserted for play. The light goes out when the START button is pressed to start the game.

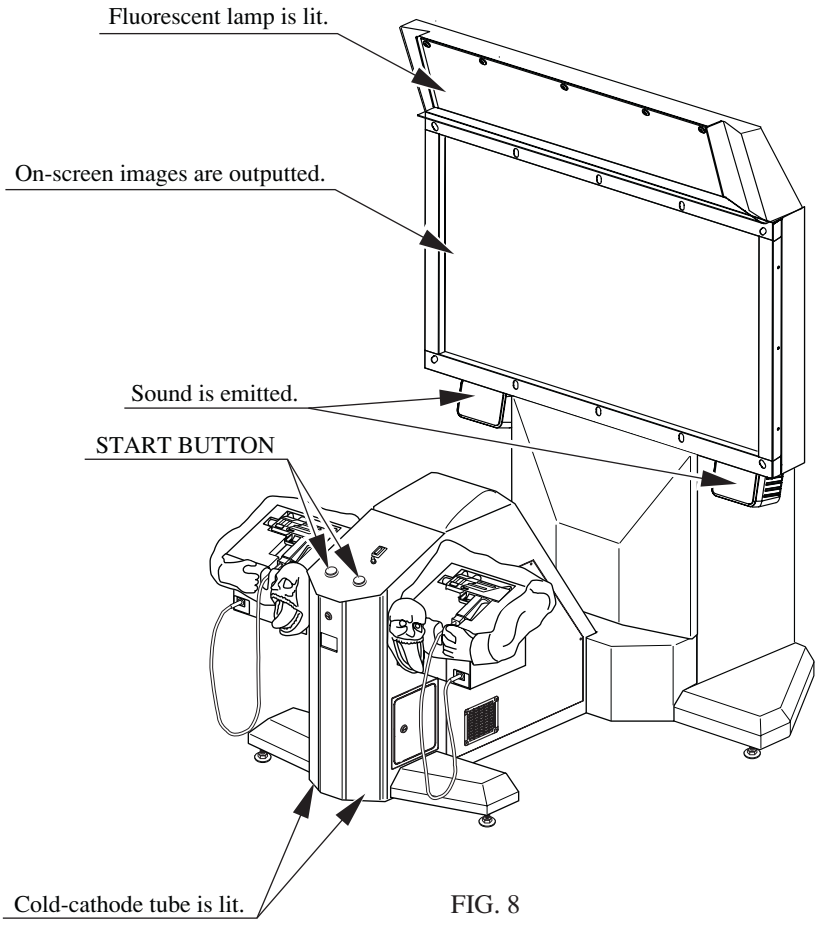


FIG. 8

Game Outline

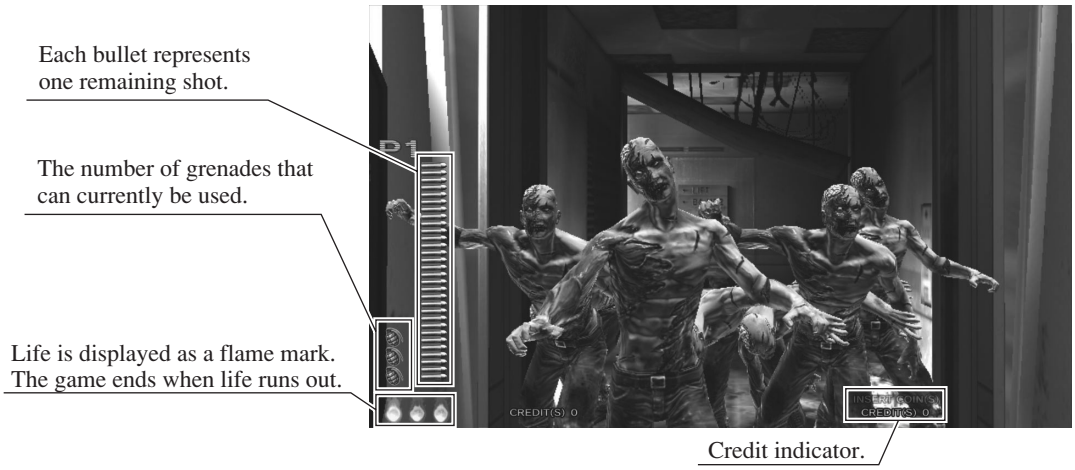
① Insert a coin and a credit will be added to the credit indicator below the screen. When enough coins have been entered for one play, the "INSERT COIN(S)" message below the screen will change to "PRESS START BUTTON," and both START buttons will flash.

NOTE: The maximum number of credits that can be counted at once is "24." Any coins inserted after 24 credits have been counted will not be counted as credits, nor will they be refunded. However, they will be counted as inserted coins on the data display and by the coin meter.

② A player plays on the left (Player 1) or the right (Player 2) by pressing the START button on that side. Pressing the START button begins the game.

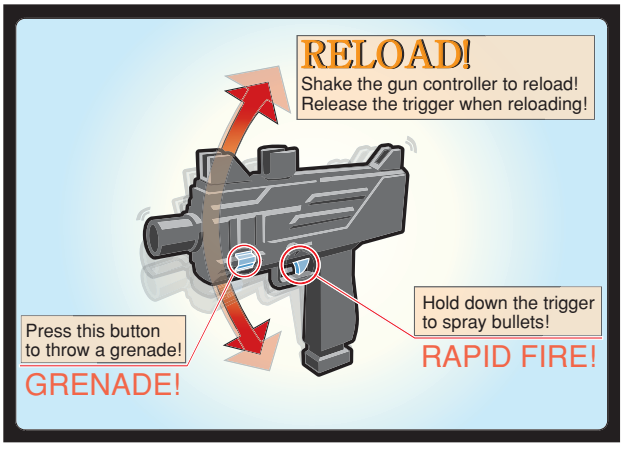
③ When the game starts, a demo plays and the stage title is displayed before switching over to game play.

- Life, loaded bullets remaining and grenades are shown at the bottom left of the screen for the player on the left (Player 1). Life, loaded bullets remaining and grenades are shown at the bottom right of the screen for the player on the right (Player 2).



- The gun holds 30 shots. When empty, the message "RELOAD" will appear on the screen. The player can reload the gun by gently shaking it or by pointing it outside of the screen. The gun can be reloaded by gently shaking it or pointing it outside of the screen even if bullets remain in the gun.

- Only the displayed number of grenades may be used. This number may be increase by collecting grenades during each stage. A maximum of 5 grenades may be held at once. Also, if only 2 or less grenades remain upon clearing a stage, the player will automatically start the next stage with 3 grenades.

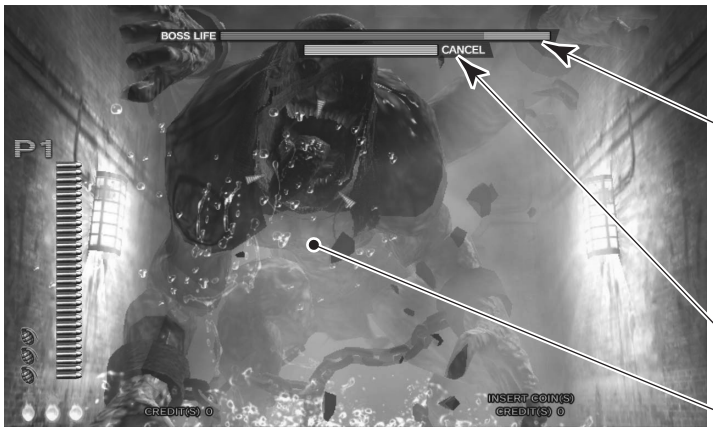


- Players can defend themselves against oil drums, rocks and axes thrown by enemies by shooting them.

- Shooting the background will sometimes cause items to appear. Players grab them by shooting them. Grabbing items will increase a player's score or restore life.

- When life reaches zero the game ends.

- A unique boss awaits the players at each stage. The bosses appear different on each stage. Players defeat a boss by reducing its Life Meter to zero.
  In addition, when a boss begins to attack the Cancel Meter appears. Players can stop the boss's attack by reducing this meter to zero.



This is the boss's life meter.
Defeat the boss by reducing it to zero.

This is the boss's cancel meter.
Stop the boss's attack by reducing it to zero.

Boss

- As the game progresses, players will be faced with enemies grabbing them and attempting to push them over. To survive this danger, the player must shake the gun controller to fill up the on-screen meter within the time limit. If the player fails to do so they will take damage, reducing their number of lives, and risk being pushed over and taking further damage.

Shaking the gun controller fills up the on-screen meter.

Filling the meter up within the time limit will shake the enemy off.



The gun cannot be fired and grenades cannot be used when grabbing an enemy.

Being grabbed by an enemy.

④ A player can join a game in progress at any time by inserting coins and pressing the START button. In addition, the START button on the side where no one is playing will continue to flash if enough credits remain. A second player can join the game by pressing the flashing START button.

⑤ "CONTINUE" is displayed when life drops to zero. A player may continue by inserting sufficient coins and pressing the START button.

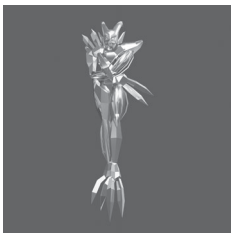
⑥ If upon clearing every stage in the game the player's score is better than the current top 10, they may enter their name.

Items

Other items can also be found during the game.



"Medical Kit"
Increases life by one.



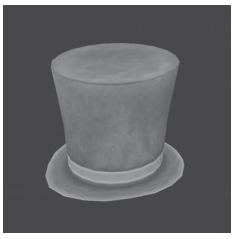
"Mini Magician"
Increases a player's score.



"Gold Coin"
Increases a player's score.



"Golden Frog"
Increases a player's score.



"Silk Hat"
Increases a player's score.



"Toy's Bus"
Increases a player's score.

Play Hints

● Aim for the head!

Enemies in every stage, aside from boss characters, will lose the most life when shot in the head. Therefore, shooting enemies accurately in the head is the fastest way to defeat them.

● Choose your favorite route!

Each stage has a number of branching paths. Some branching paths can be simply chosen and some depend upon certain actions. The key to improving play is to find the route that suits you best!

● Use recovery items to regain lost lives!

Although being attacked by enemies will reduce your remaining lives, each stage also contains items that will increase remaining lives. Also, upon clearing a stage your performance may award extra lives. Repeated play and knowledge of the levels will aid in gathering extra lives.

● Use grenades effectively!

As well as the gun, you have grenades in your arsenal. These can cause massive damage to enemies, and are best used when there are a large number of enemies on screen or at sections you find difficult. Your number of remaining grenades can be increased by collecting items, and if a stage is cleared with less than 2 grenades remaining you will start the next stage with 3.

● Aim for the boss' weak spot!

Every stage boss has a weak spot. Shooting this weak spot accurately will help you to avoid boss' attacks. However, practice will be required to hit the weak spot accurately whilst the boss is moving.

9. EXPLANATION OF TEST AND DATA DISPLAY

Periodically use the TEST Button and SERVICE Buttons inside the cabinet to perform operation tests and check data. When first installing the game, when collecting takings from it and if the game is not working properly follow the guidelines in this chapter to check it.

The chart below tells you which test screen to use under what kind of circumstances. This product uses the LINDBERGH game board and the DVD drive. This system allows a different game to be used by changing the DVD disk in the DVD drive.

Therefore this product has two TEST Modes. The SYSTEM TEST Mode is for testing system functions such as coin settings that are common no matter the software being used. The GAME TEST Mode has input tests specifically for the software being used, game difficulty settings etc.

TABLE 9 TEST Modes

ITEM	DESCRIPTION	REFERENCE SECTION
INSTALLATION OF MACHINE	When first installing the machine you must perform the following. 1. Check the Information Display screen is displayed correctly. 2. Test all input devices on the Input Test screen. 3. Test all output devices on the Output Test screen.	9-2a, b, c 9-2c, 9-3a, d, e 9-2d, 9-3b
PERIODICAL CHECK	Perform the following checks periodically. 1. A check of all settings. 2. Test all input devices on the Input Test screen. 3. Test all output devices on the Output Test screen.	9-2f, 9-3c 9-2c, 9-3a, d, e 9-2d, 9-3b
CONTROL PROBLEM	1. Test all input devices on the Input Test screen. 2. Adjust or exchange the input devices. 3. If the problem remains check the mechanical functions of each input device.	9-2c, 9-3a, d, e 9-3d, e Section 10
MONITOR	Use the Monitor Adjustment screen to check that the monitor (projector) is adjusted correctly.	9-2d, Section 11
IC BOARD	1. Information display screen 2. Speaker Test	9-2a, b, c 9-2e
DATA CHECK	Check such data as game play time and histogram to adjust the difficulty level, etc.	9-3f

9 — 1 SWITCH UNIT AND COIN METER

WARNING

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

CAUTION

Make sure that the prop is firmly in place before starting any work. If the prop comes loose the control panel may close causing an accident.

IMPORTANT

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

SWITCH UNIT

① Unlock and open the control panel. Make sure the prop is firmly in place.

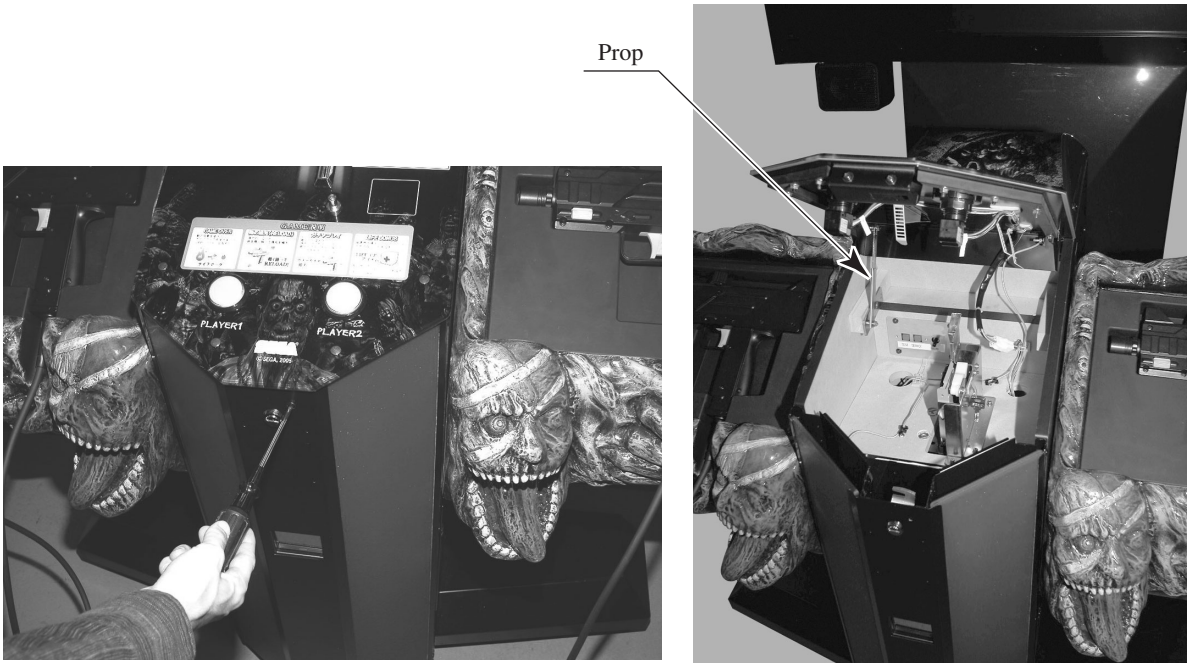


PHOTO 9. 1 a

② Opening the control panel will expose the switch unit.

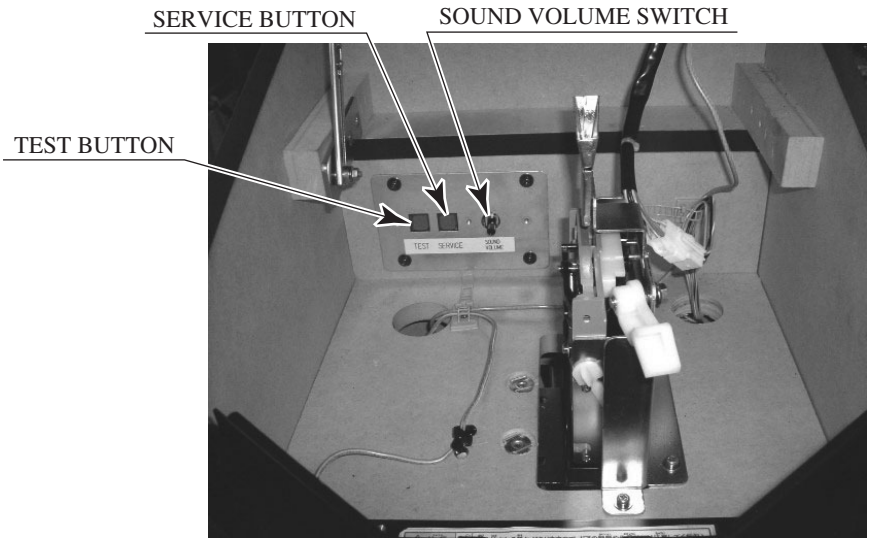


PHOTO 9. 1 b SWITCH UNIT

TEST Button (TEST):
Enter TEST Mode. Once in TEST Mode this button becomes the confirm button.

SERVICE Button (SERVICE):
Used to award service (free) credits without opening the coin meter. Once in TEST Mode this button becomes the select button.

SOUND VOLUME Switch (SOUND VOLUME):
Used to adjust the volume. Turn to the right to increase the volume.

COIN METER

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

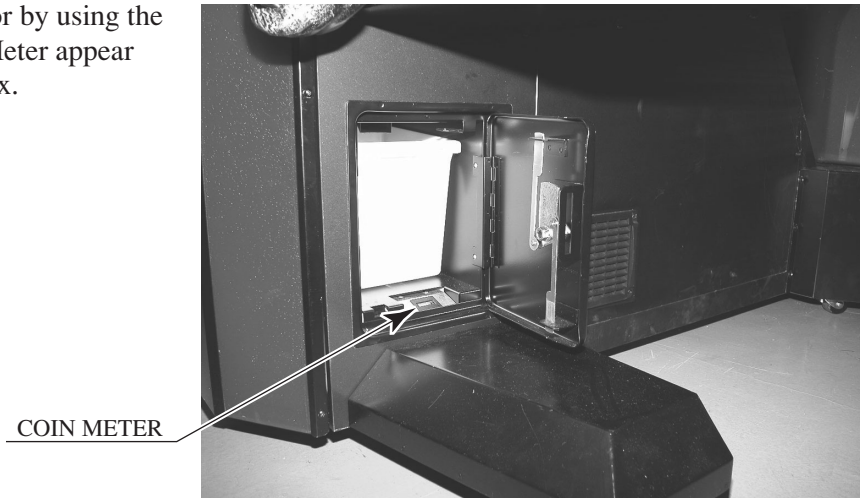


PHOTO 9. 1 c

CAUTION

- Make sure that the control panel support is fixed firmly in place before performing any operations. Closing the control panel with the support loose may lead to accidents.
- Be careful not to trap your fingers when closing the control panel.

STOP

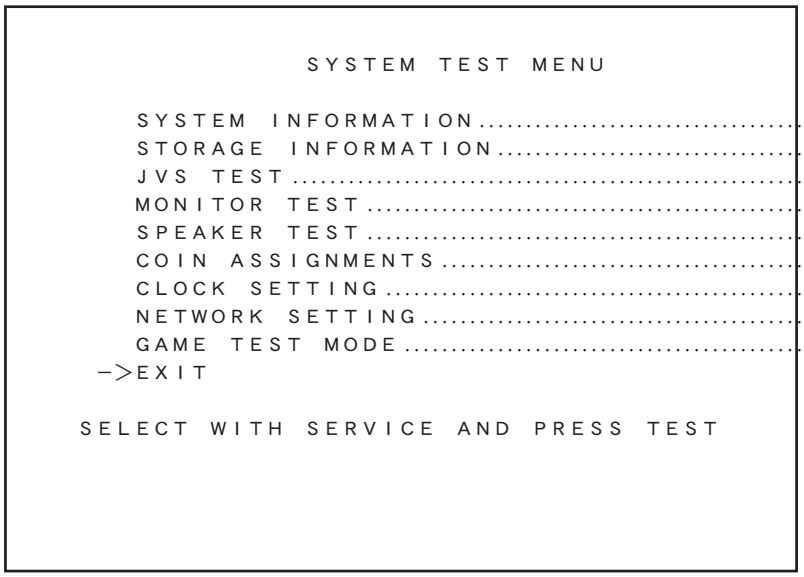
IMPORTANT

- The details of changes to Test Mode settings are saved when you exit from Test Mode by selecting EXIT from the SYSTEM TEST MENU. Be careful because if the power is turned off before that point, changes to the settings will be lost.
- Use with the specified settings. If settings other than those specified are used, inappropriate operations or malfunction may occur.

System Test Menu

System Test Mode can be used to check the information or the operation of the LINDBERGH board, adjust Monitor color, and perform coin/credit settings.

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



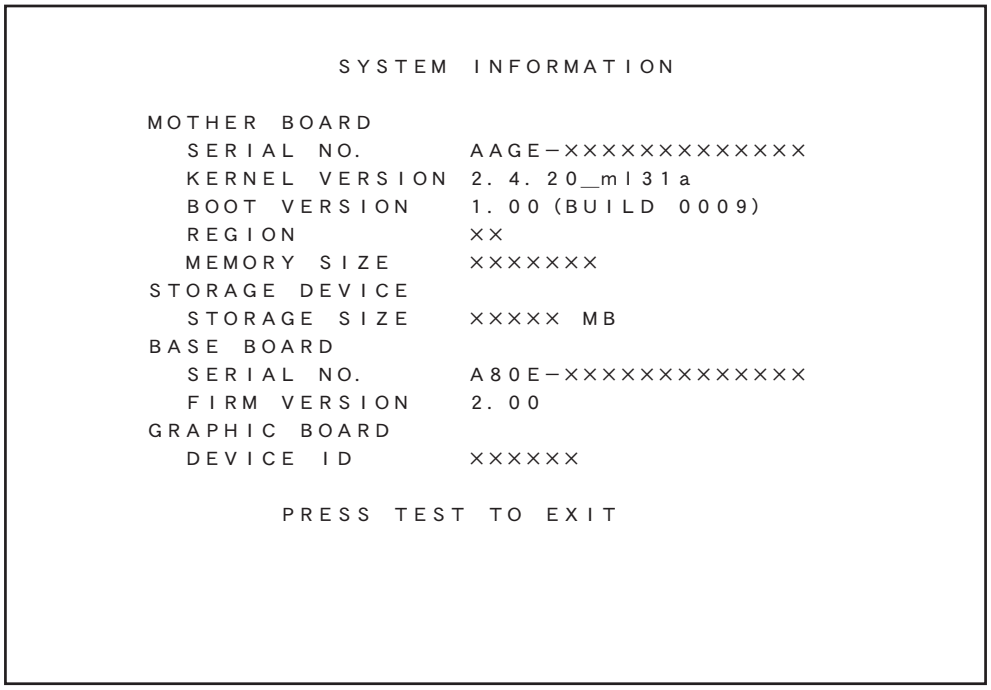
Use the SERVICE Button to move the cursor to the desired test item. Press the TEST Button to enter the selected item.

Press the TEST Button when GAME TEST MODE is selected to change to the Test Menu specific to this game.
Refer to the section "9-3 GAME TEST MODE."

After the test is complete, move the cursor to EXIT and press the TEST Button to return to the Game Advertisement screen.

a. SYSTEM INFORMATION

The SYSTEM INFORMATION screen displays system information.



The following information is displayed on this screen.

● MOTHER BOARD
- SERIAL NO.: The serial number of the game board.
- KERNEL VERSION: The system's OS version.
- BOOT VERSION: The boot program version.
- REGION: The region setting.
- MEMORY SIZE: The onboard memory size.

● STORAGE DEVICE: The total capacity of the program installer device.
- STORAGE SIZE: The total capacity of the program installer device.

● BASE BOARD
- SERIAL NO.: The serial number.
- FIRM VERSION: The firmware version.

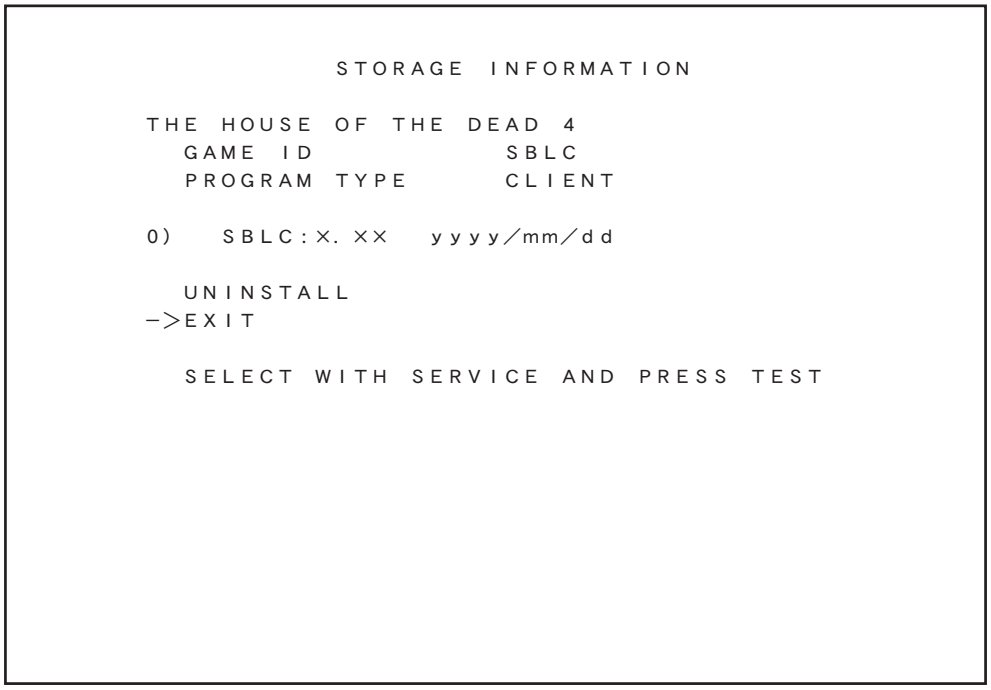
● GRAPHIC BOARD
DEVICE ID: The graphic board's ID.

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

b. STORAGE INFORMATION

The STORAGE INFORMATION screen displays information on the game contained within the program installer device. This screen is also used when uninstalling the game contained within the program installer device.

Until preparations to launch the game are complete, a "now checking" screen will be displayed and uninstall cannot be performed. If the program installer device does not contain any game data, the game information will be displayed in grey and uninstall cannot be performed.



The following information is displayed on this screen.

- GAME TITLE
- GAME ID
- PROGRAM TYPE
- INSTALLED IMAGE LIST
  - IMAGE NUMBER
  - GAME ID
  - VERSION
  - DATE OF RELEASE

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

c. JVS TEST

The JVS TEST screen displays information on the connected JVS I/O boards.

Select INPUT TEST to display input data for the currently displayed JVS I/O board. (See "c-1 JVS INPUT TEST")

Select NEXT NODE to display information on the next NODE.

If no JVS I/O boards are connected, the message "NO JVS NODE" will be displayed.

```
                    JVS TEST

    INPUT TEST
    NEXT NODE
  ->EXIT
    NODE            1/1
    NAME            SEGA ENTERPRISES,LTD.
                    I/O BD JVS
                    837-13551
                    Ver1.00
    CMD VER         1.1
    JVS VER         2.0
    COM VER         1.0
    SWITCH          2 PLAYER(S) 13 BITS
    COIN            2 SLOT(S)
    ANALOG          8 CH
    ROTARY          0 CH
    KEYCODE         0
    SCREEN          X:0 Y:0 CH:0
    CARD            0 SLOT(S)
    HOPPER OUT      0 CH
    DRIVER OUT      6 CH
    ANALOG OUT      0 CH
    CHARACTER       CHARA:0 LINE:0
    BACKUP          0

    SELECT WITH SERVICE AND PRESS TEST
```

The following information is displayed on this screen.

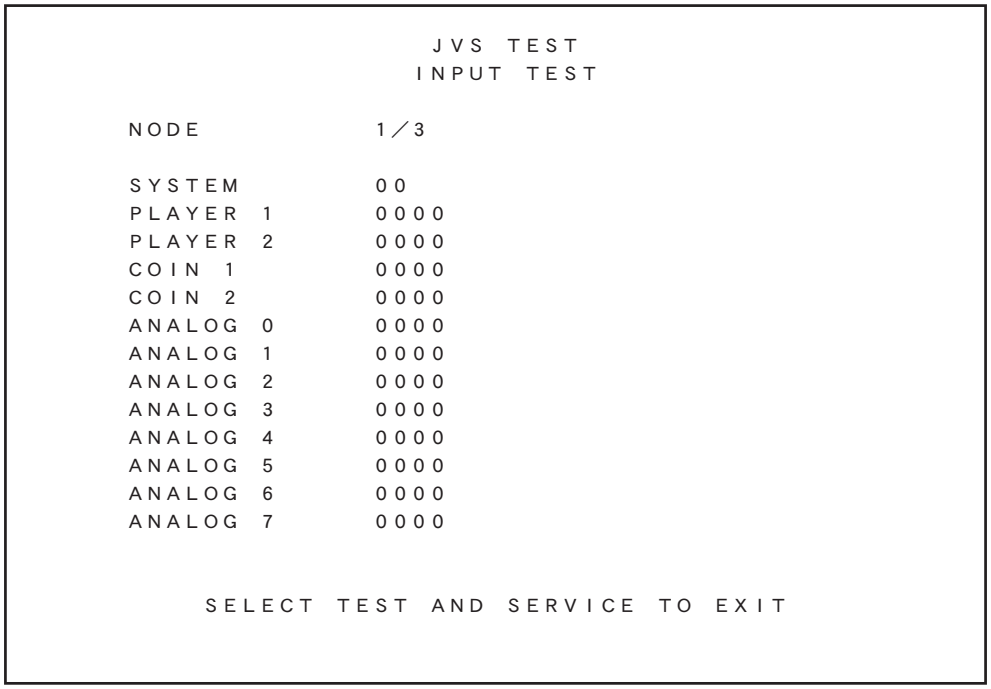
- ● NODE: The currently displayed NODE number and the total number of connected NODEs
- ● NAME: ID Code
- ● CMD VER: Command format version
- ● JVS VER: JVS standard version
- ● COM VER: Communication version
- ● SWITCH: Number of players and number of 1P switches
- ● COIN: Number of coin slots
- ● ANALOG: Number of analog channels
- ● ROTARY: Number of encoders
- ● KEYCODE: Keycode input active/inactive
- ● SCREEN: Screen position input (X axis, Y axis, number of channels)
- ● CARD: Number of card slots
- ● HOPPER OUT: Number of hoppers
- ● DRIVER OUT: Number of standard output drivers
- ● ANALOG OUT: Number of analog output channels
- ● CHARACTER: Number of characters/lines displayed
- ● BACKUP: Backup present/absent

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

c-1. JVS INPUT TEST

Use the JVS INPUT TEST to test the JVS input.

The hexadecimal input information from the JVS I/O board will be displayed in real time.



The following information is displayed on this screen.

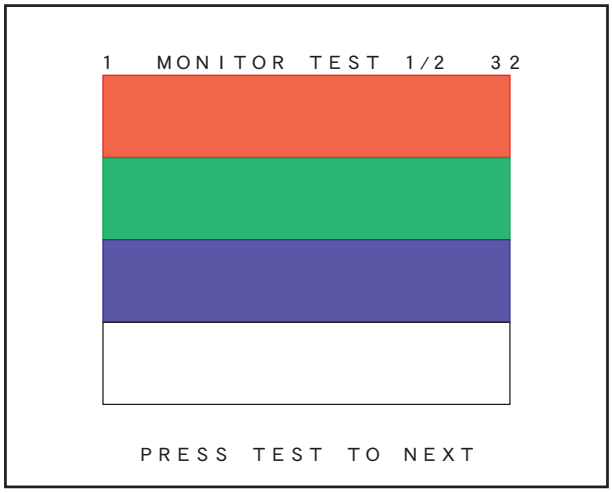
- SYSTEM: System switch input data
- PLAYER: Player number and player switch input data
- COIN: Slot number and coin input data
- ANALOG: Channel number and analog input data

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

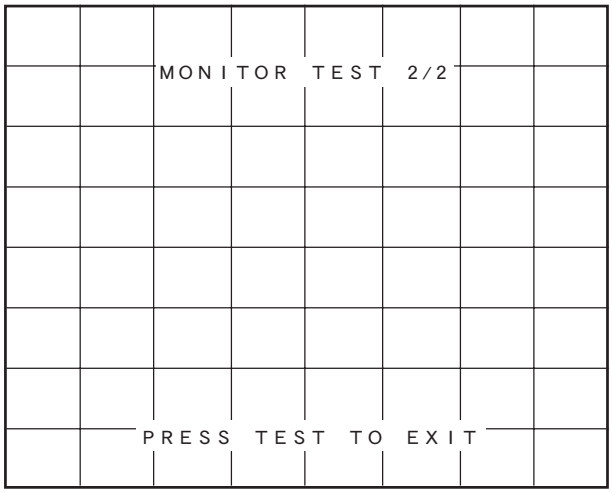
d. MONITOR TEST

Use MONITOR TEST to check the output of the monitor.

Enter MONITOR TEST and the following color bars will be displayed.



Press the TEST Button and the screen will change to the following cross-hatch screen.

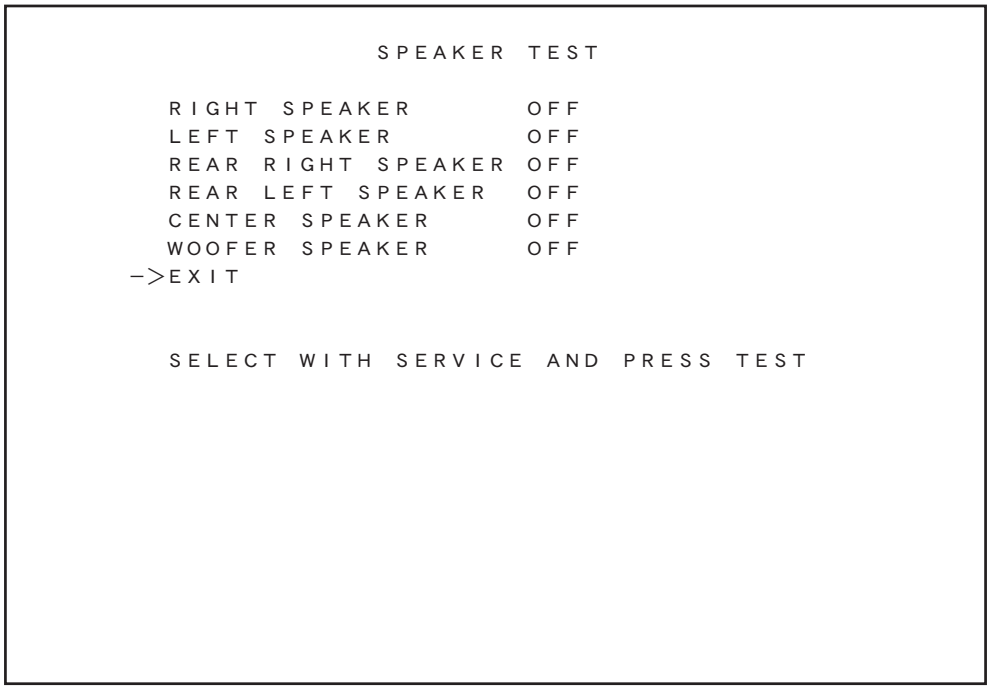


Press the TEST Button to return to the System Test Menu screen.

e. SPEAKER TEST

Use SPEAKER TEST to check the output of each speaker by having them each emit a test sound.

Select each speaker with the cursor and press the TEST Button to turn that speaker ON or OFF. When set to ON a test sound will be emitted from that speaker.
It is possible to set multiple speakers to emit the test sound at the same time.



The speakers available to test are as follows.

- RIGHT SPEAKER
- LEFT SPEAKER
- REAR RIGHT SPEAKER
- REAR LEFT SPEAKER
- CENTER SPEAKER
- WOOFER SPEAKER

} It is not available for this product.
Sound is not emitted even if the setting is ON.

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

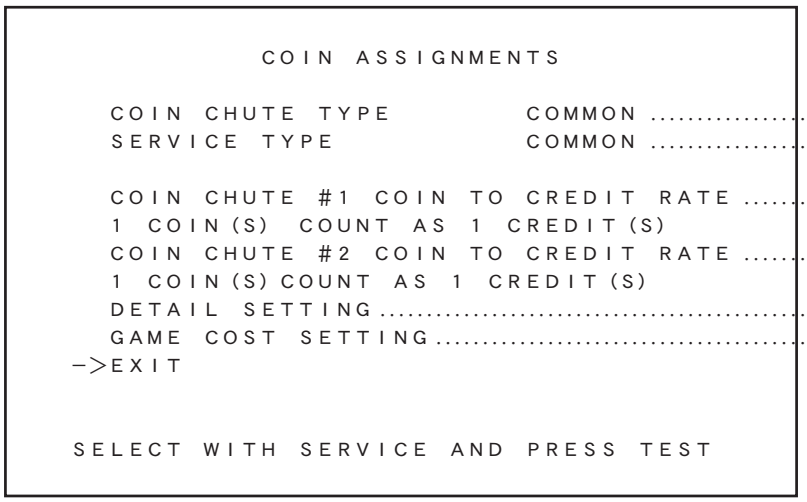
f. COIN ASSIGNMENTS

Use COIN ASSIGNMENTS to alter the credit settings.

The game will award players the number of credits determined here. Settings will only be saved if they have been changed.
Changing the credit settings will also clear the current inserted coins value.

The following settings must be set as shown below for this product.

- COIN CHUTE TYPE: COMMON
- SERVICE TYPE: COMMON



The following information is displayed on this screen.

f-1. COIN CHUTE TYPE

COMMON	Allow all credits to be used by all players.
INDIVIDUAL	Treat each player's credits individually.

f-2. SERVICE TYPE (Service Button Type)

COMMON	When the COIN CHUTE TYPE is set to COMMON, the number of credits available to all players will increase by 1.
	When the COIN CHUTE TYPE is set to INDIVIDUAL, each player's credits will increase by 1.
INDIVIDUAL	When the COIN CHUTE TYPE is set to COMMON, the number of credits available to all players will increase by 1.
	When the COIN CHUTE TYPE is set to INDIVIDUAL, the player corresponding to the SERVICE Button's credits will increase by 1.

f-3. COIN CHUTE #1 COIN TO CREDIT RATE (Coin and credit conversion rate 1)

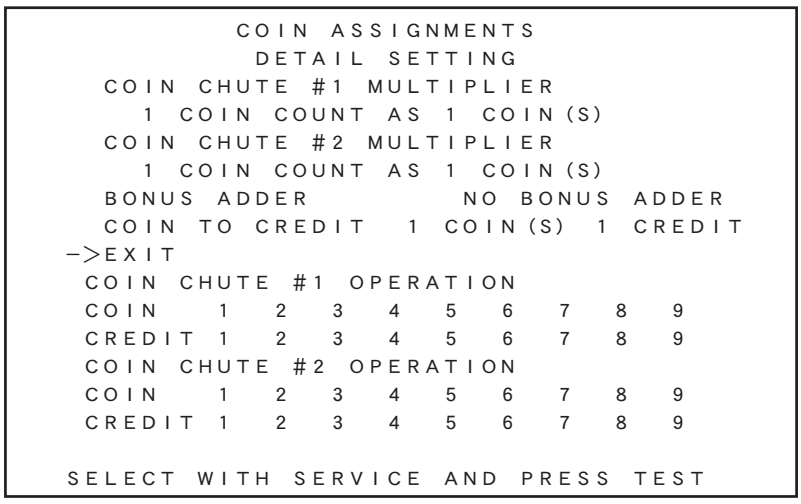
1 COIN(S) COUNT AS 1 CREDIT(S)	1 coin counts as 1 credit
2 COIN(S) COUNT AS 1 CREDIT(S)	2 coins count as 1 credit
3 COIN(S) COUNT AS 1 CREDIT(S)	3 coins count as 1 credit
4 COIN(S) COUNT AS 1 CREDIT(S)	4 coins count as 1 credit
5 COIN(S) COUNT AS 1 CREDIT(S)	5 coins count as 1 credit
1 COIN(S) COUNT AS 2 CREDIT(S)	1 coin counts as 2 credits
1 COIN(S) COUNT AS 3 CREDIT(S)	1 coin counts as 3 credits
1 COIN(S) COUNT AS 4 CREDIT(S)	1 coin counts as 4 credits
1 COIN(S) COUNT AS 5 CREDIT(S)	1 coin counts as 5 credits
FREE PLAY	Free play (no coins required)
DETAIL SETTING	More detailed settings

f-4. COIN CHUTE #2 COIN TO CREDIT RATE (Coin and credit conversion rate 2)

(Can only be set when the COIN CHUTE TYPE is set to COMMON and the COIN setting for the COIN CHUTE #1 COIN TO CREDIT RATE is set to "1")

f-5. DETAIL SETTING

The COIN ASSIGNMENTS DETAIL SETTING screen allows more detailed settings that cannot be performed on the Coin Setting screen to be performed.



The following information is displayed on this screen.

● COIN CHUTE #1 MULTIPLIER: Coin conversion rate for #1 (How many coins 1 inserted coin counts for)

● COIN CHUTE #2 MULTIPLIER: Coin conversion rate for #2 (How many coins 1 inserted coin counts for)

● BONUS ADDER: Use of a bonus coin

NO BONUS ADDER	No bonus coin given
2 COINS GIVE 1 EXTRA COIN	2 coins inserted successively award 1 bonus coin
3 COINS GIVE 1 EXTRA COIN	3 coins inserted successively award 1 bonus coin
4 COINS GIVE 1 EXTRA COIN	4 coins inserted successively award 1 bonus coin
5 COINS GIVE 1 EXTRA COIN	5 coins inserted successively award 1 bonus coin
6 COINS GIVE 1 EXTRA COIN	6 coins inserted successively award 1 bonus coin
7 COINS GIVE 1 EXTRA COIN	7 coins inserted successively award 1 bonus coin
8 COINS GIVE 1 EXTRA COIN	8 coins inserted successively award 1 bonus coin
9 COINS GIVE 1 EXTRA COIN	9 coins inserted successively award 1 bonus coin

● COIN TO CREDIT: The number of coins to number of credits conversion rate.

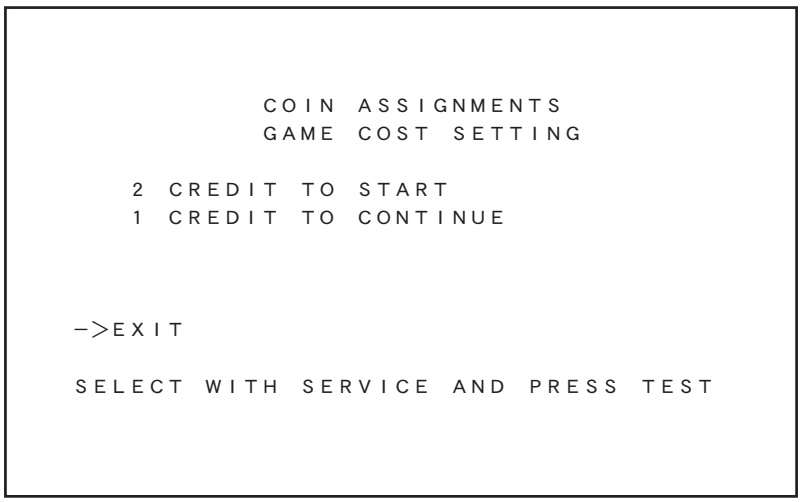
Move the cursor to EXIT and press the TEST Button to return to the Coin Assignments screen.

f-6. GAME COST SETTING

Use the COIN ASSIGNMENTS GAME COST SETTING screen to set the cost (number of required credits) that the game program will use to determine if there are enough credits to play the game.

A total of 8 game costs can be defined. The game cost is defined by the BOOT ID, and when the second boot recognizes the game, the game cost defined by the BOOT ID will be displayed.

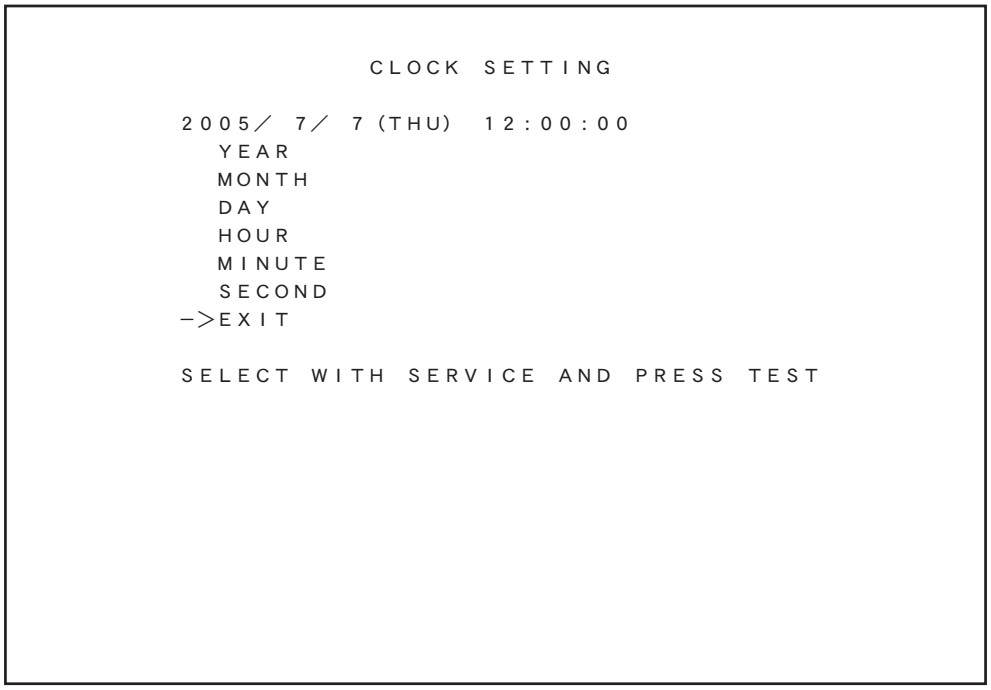
If the game is not recognized, the default game cost will be displayed.



Move the cursor to EXIT and press the TEST Button to return to the Coin Assignments screen.

g. CLOCK SETTING

Use CLOCK SETTING to set the date and time.



Use the SERVICE Button to move the cursor to the category that you wish to change and press the TEST Button to increase that value. Holding the TEST Button down will make the value continuously increase. Changes will come into effect when you exit.

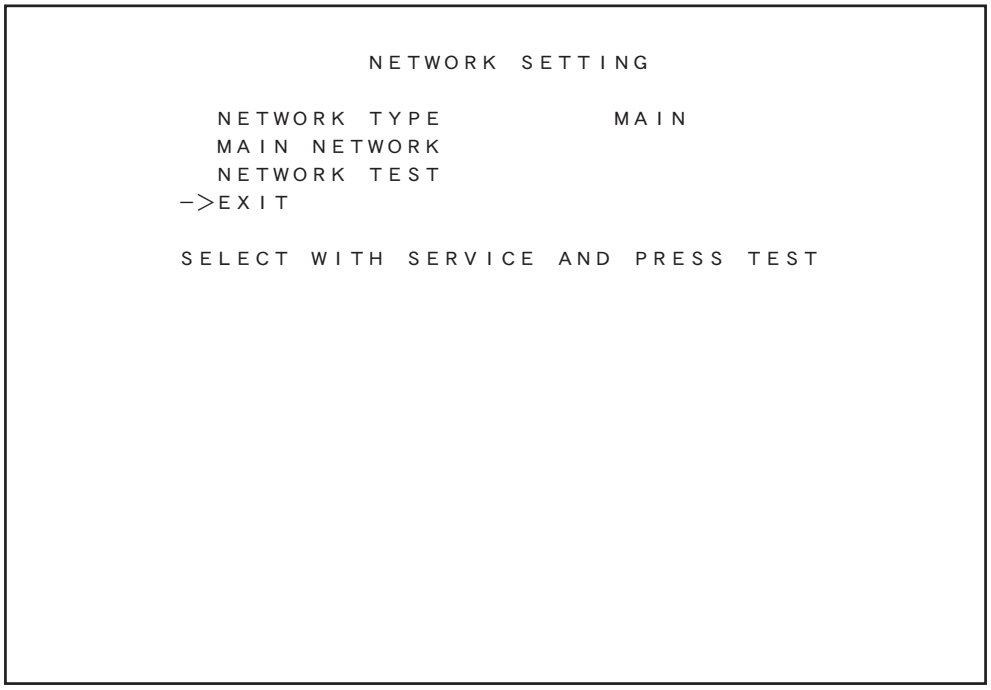
Move the cursor to EXIT and press the TEST Button to return to the System Test Menu screen.

h. NETWORK SETTING

Use NETWORK SETTING to determine network settings or to test the network.

This product does not use the network function. You must use the following factory settings.

- NETWORK TYPE: MAIN
- MAIN NETWORK: No need to set.



The following information is displayed on this screen.

- NETWORK TYPE: Sets the type of network to use.
- MAIN NETWORK: Sets the onboard LAN.
- NETWORK TEST: Performs a network test.

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

Select a category on the NETWORK SETTING (Setting Menu) and the following screen will be displayed. However, since this product does not use network function, this manual does not contain instructions for performing network settings or tests.

```
                NETWORK SETTING

     DHCP                 XXXXXXXX
     IP ADDRESS
       XXX. XXX. XXX. XXX
     SUBNET MASK
       XXX. XXX. XXX. XXX
     GATEWAY
       XXX. XXX. XXX. XXX
     PRIMARY DNS
       XXX. XXX. XXX. XXX
     SECONDARY DNS
       XXX. XXX. XXX. XXX
  ->EXIT

  SELECT WITH SERVICE AND PRESS TEST
```

NETWORK SETTING Screen

```
                  NETWORK TEST

               STATUS        XXXX
               CHECKING      XXX%

               DHCP ------ XXXX
               LOOPBACK -- XXXX
               GATEWAY --- XXXX
               SERVER ---- XXXX

             PRESS TEST TO EXIT
```

NETWORK TEST Screen

i. GAME TEST MODE

Opens the Game Test Mode, allowing game specific settings and tests to be performed.

This option will be displayed in grey until preparations are complete. Select the Game Test Mode option then perform the exit to begin the game test.

STOP
IMPORTANT

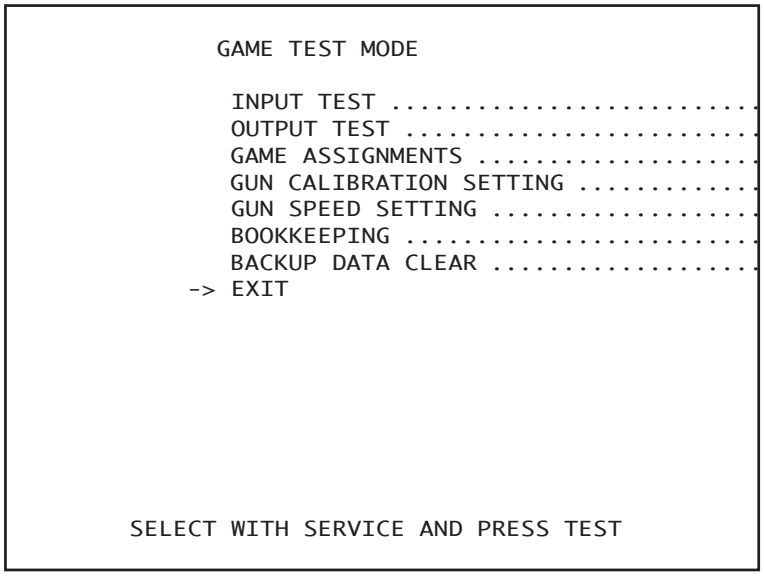
Among the settings in Game Test Mode, the following settings become effective as listed below, rather than in the same way as System Test mode settings.

- Changes in GAME ASSIGNMENTS are effective after selecting EXIT on the GAME ASSIGNMENTS screen.
- Changes in GUN CALIBRATION SETTING and GUN SPEED SETTING are effective after pressing the TEST Button on the confirmation screen.

Game Test Mode allows game settings to be altered, Control Units (Guns) to be calibrated and game data to be checked.

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

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



Performs test, adjustments and settings for each of the Game Test Mode screen items below.

a. INPUT TEST:	Tests each input device used in the game.
b. OUTPUT TEST:	Tests each output device used in the game.
c. GAME ASSIGNMENTS:	Adjusts game settings.
d. GUN CALIBRATION SETTING:	Performs sight settings for the game's gun.
e. GUN SPEED SETTING:	Sets the speed volume for the game's gun.
f. BOOKKEEPING:	View all recorded game data.
g. BACKUP DATA CLEAR:	Erase all game records.

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

After performing tests and adjustments, return to the Game Test Mode screen, select EXIT and press the TEST Button. You will return to the System Test Menu screen.

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

a. INPUT TEST

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

```
                INPUT TEST

                  PLAYER1    PLAYER2
START              OFF        OFF
GUN TRIGGER        OFF        OFF
GUN BUTTON         OFF        OFF
GUN SPEED X        7f         7f
GUN SPEED Y        7f         7f
GUN X              00         00
GUN Y              00         00
SCREEN IN          OUT        OUT
SERVICE                OFF
TEST                   OFF


   PRESS TEST AND SERVICE TO EXIT
```

The items refer to the following input devices. Input is normal if the display to the right of each item changes from OFF to ON when each input device is operated.

Everything is functioning correctly if the GUN SPEED X and GUN SPEED Y values change according to the speed at which the Control Unit (Gun) is moved vertically/horizontally.

Everything is functioning correctly if the word "OUT" to the right of SCREEN IN changes to "IN" when the gun is pointed at the screen, and the values to the right of GUN X and GUN Y move between 00 to FF.

- ● START: The player START Buttons.
- ● GUN TRIGGER: The trigger on the gun.
- ● GUN BUTTON: The Button on the gun.
- ● GUN SPEED X: This value changes if gun is shaken on the X axis.
- ● GUN SPEED Y: This value changes if gun is shaken on the Y axis.
- ● GUN X: The X axis position on the screen targeted by the gun.
- ● GUN Y: The Y axis position on the screen targeted by the gun.
- ● SCREEN IN: Displays if the gun is pointing IN or OUT of the screen.
- ● SERVICE: The SERVICE Button.
- ● TEST: The TEST Button.

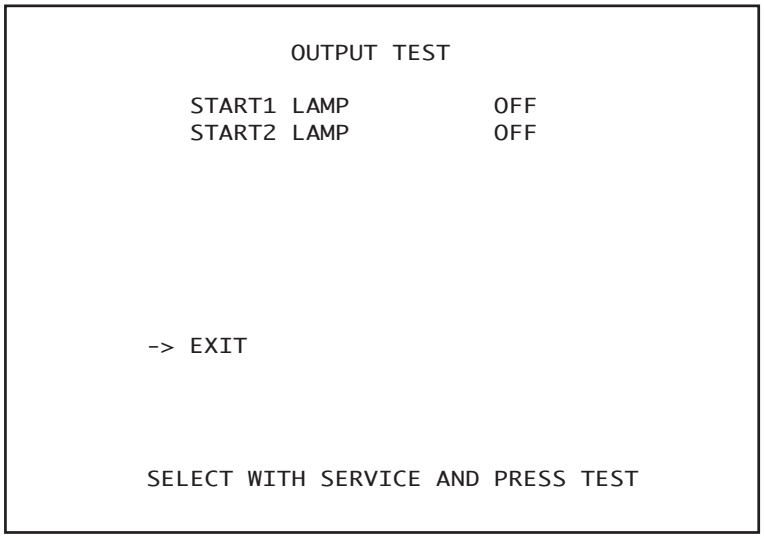
Press the SERVICE and TEST Buttons simultaneously to return to the Game Test Mode screen.

b. OUTPUT TEST

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

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

[For Overseas Other than Europe]



Perform the tests as follows.

● START1 LAMP: Select START1 LAMP and press the TEST Button to turn the option ON. The player 1 START Button will light up. The lamp will remain on for as long as the TEST Button is held down.

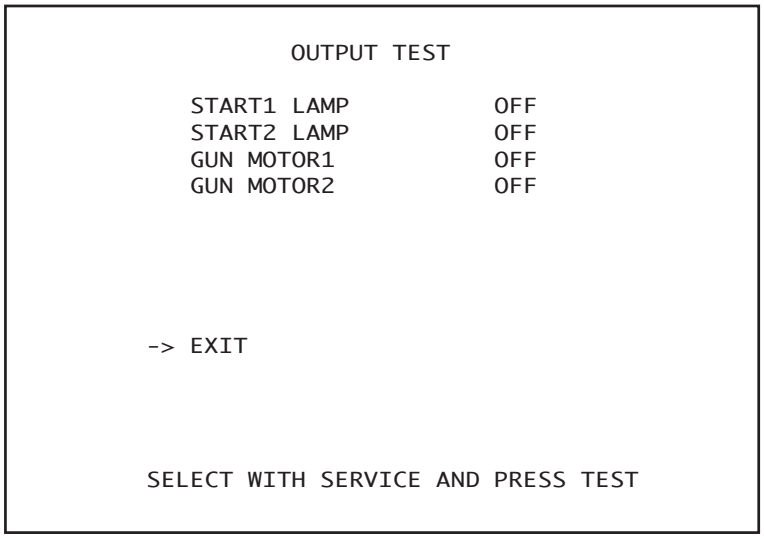
● START2 LAMP: Select START2 LAMP and press the TEST Button to turn the option ON. The player 2 START Button will light up. The lamp will remain on for as long as the TEST Button is held down.

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

[For Europe]

STOP
IMPORTANT

Display of GUN MOTOR1 and GUN MOTOR2 options can be turned on or off using the DIP-SW. For cabinets with vibration motors attached to the Control Units (Guns), turn on display of the GUN MOTOR1 and GUN MOTOR2 under DIP-SW settings to alter these settings.



Perform the tests as follows.

● START1 LAMP: Select START1 LAMP and press the TEST Button to turn the option ON. The player 1 START Button will light up. The lamp will remain on for as long as the TEST Button is held down.

● START2 LAMP: Select START2LAMP and press the TEST Button to turn the option ON. The player 2 START Button will light up. The lamp will remain on for as long as the TEST Button is held down.

● GUN MOTOR1: Select GUN MOTOR1 and press the TEST Button to turn the option ON. The player 1 gun will begin to vibrate. The vibration will continue for as long as the TEST Button is held down.

● GUN MOTOR2: Select GUN MOTOR2 and press the TEST Button to turn the option ON. The player 2 gun will begin to vibrate. The vibration will continue for as long as the TEST Button is held down.

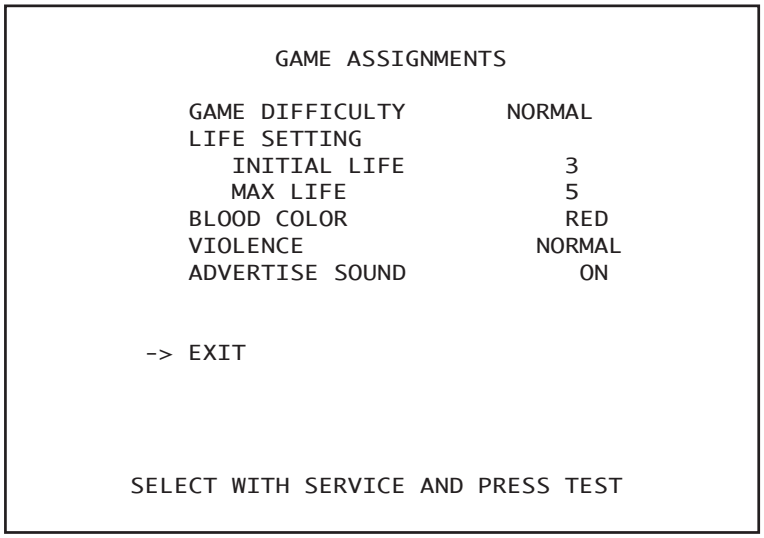
Move the cursor to EXIT and press the TEST Button to return to the Game Test Mode screen.

c. GAME ASSIGNMENTS

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

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

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



Perform the following settings for each item.

● GAME DIFFICULTY:
Set the level of difficulty to one of five levels; VERY EASY -> MEDIUM EASY -> NORMAL -> MEDIUM HARD -> VERY HARD.

● LIFE SETTING INITIAL LIFE
The number of lives the player will start the game with. Can be set between 1 and 9. However, cannot be set higher than the MAX LIFE setting.

● LIFE SETTING MAX LIFE:
The maximum number of lives a player may have. Can be set between 1 and 9.

● BLOOD COLOR:
You can set the color of blood to one of two settings; RED or BROWN.

● VIOLENCE:
You can set the level of damage for the enemies to one of two settings; NORMAL or MILD. When set to MILD, the violence of enemy deaths will be toned down.

● ADVERTISE SOUND:
You can set the Attract Mode (Advertise) sound to ON or OFF.

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

d. GUN CALIBRATION SETTING

Select GUN CALIBRATION SETTING to display the following screen.
Perform the sight settings for the guns to be used in the game.

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

```
          GUN CALIBRATION SETTING

        GUN MARK CHECK ..........................d-1
        PLAYER1 GUN ADJUSTMENT ..................d-2
        PLAYER1 GUN DEFAULT ADJUSTMENT ..........d-3
        PLAYER2 GUN ADJUSTMENT ..................d-2
        PLAYER2 GUN DEFAULT ADJUSTMENT ..........d-3




      -> EXIT



       SELECT WITH SERVICE AND PRESS TEST
```

Details for each item are as follows.

d-1. GUN MARK CHECK:
Checks the gun sights. 1P and 2P guns are checked at the same time.

d-2. PLAYER1 GUN ADJUSTMENT:
Adjusts the sight for the Player 1 side.

d-3. PLAYER1 GUN DEFAULT ADJUSTMENT:
Adjust the default sight settings for the Player 1 side.

d-2. PLAYER2 GUN ADJUSTMENT:
Adjust the sight for the Player 2 side. (Operated in the same way as PLAYER1 GUN ADJUSTMENT)

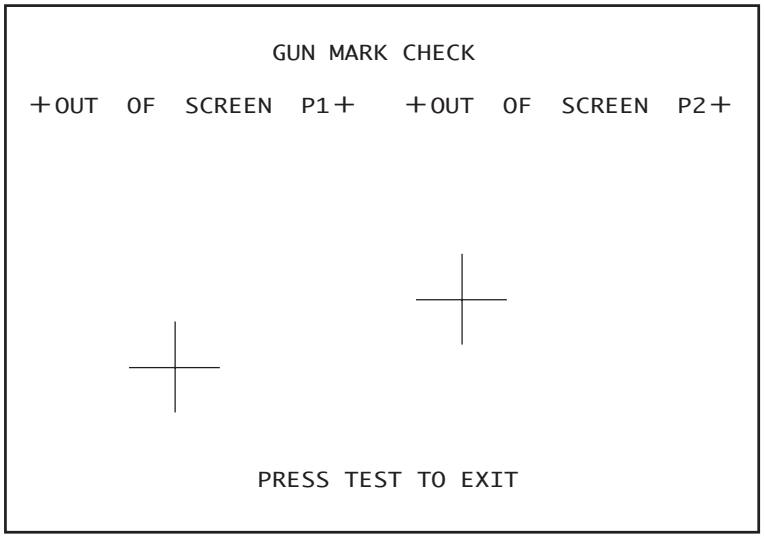
d-3. PLAYER2 GUN DEFAULT ADJUSTMENT:
Adjust the default sight settings for the Player 2 side. (Operated in the same way as PLAYER1 GUN DEFAULT ADJUSTMENT)

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

d-1. GUN MARK CHECK

This checks gun sights.

Select GUN MARK CHECK on the Gun Calibration Setting screen and press the TEST Button.



● 1P Gun Cross
This is displayed when the gun is pointed at the screen. 1P is red.

● 2P Gun Cross
This is displayed when the gun is pointed at the screen. 2P is blue.

"OUT OF SCREEN" is displayed when the gun cross is perceived to be out of screen.

Pointing the gun at the screen displays the gun cross (sight) for that gun. You can check to see if the sight lines up properly at this screen.

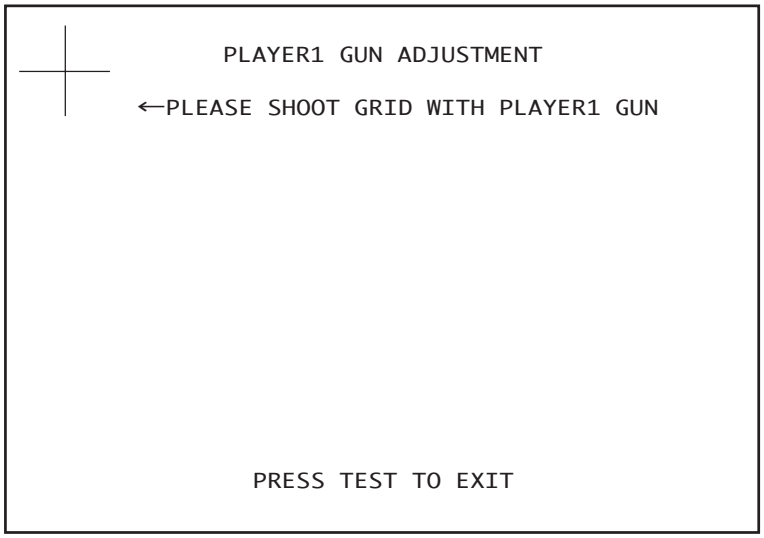
Press the TEST Button when everything has been checked. You will return to the Gun Calibration Setting screen.

d-2. PLAYER1 GUN ADJUSTMENT/PLAYER2 GUN ADJUSTMENT

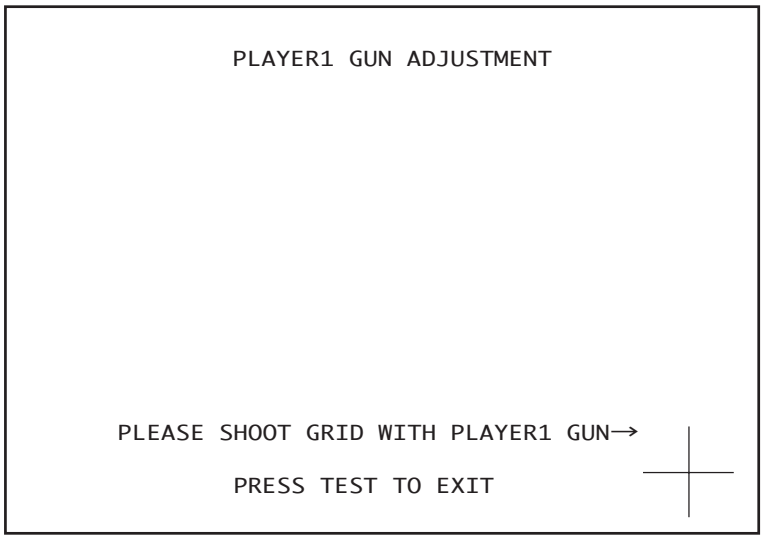
This item adjusts the Player 1 gun sight. (This is the same for "PLAYER2 GUN ADJUSTMENT".)

Select PLAYER1 GUN ADJUSTMENT on the Gun Calibration Setting screen and press the TEST Button.

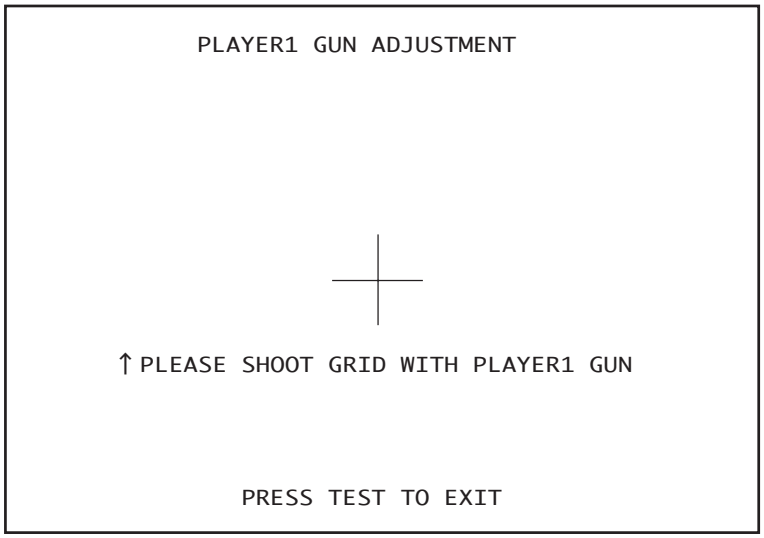
NOTE: "PLEASE SHOOT GRID WITH PLAYER1 GUN" on the screen will flash.



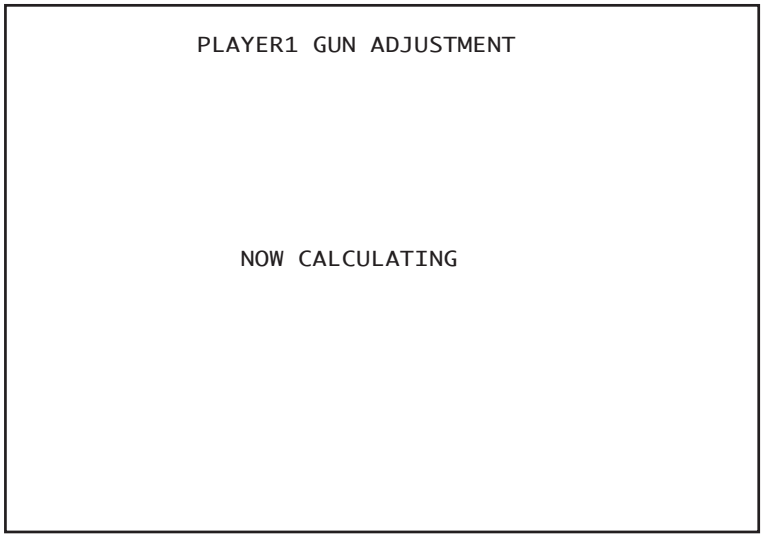
Follow the on-screen instructions to adjust the gun sight settings. Aim at the mark in the upper left corner and fire. The mark in the upper left will disappear, and the same mark will be displayed in the lower right corner.
(Press the TEST Button to return to the Gun Calibration Setting screen with canceling the adjustment.)



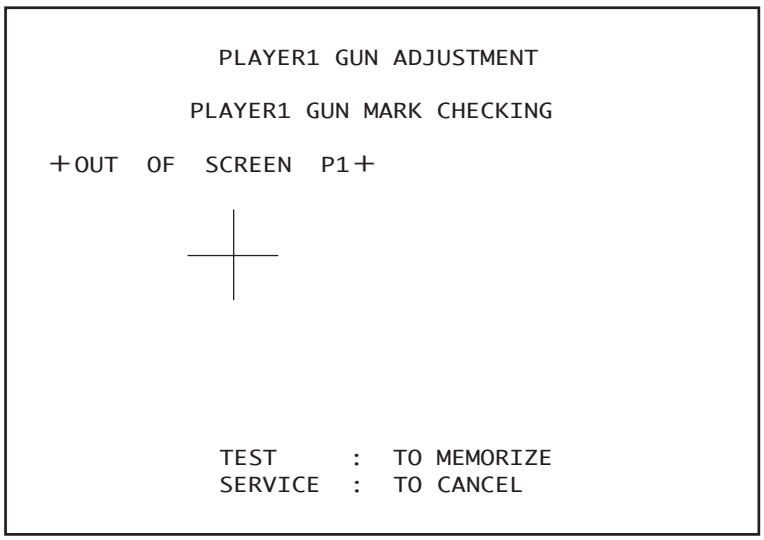
Aim and fire at the mark to the lower right. The mark to the lower right will disappear, and the same mark will be displayed in the center.
(Press the TEST Button to return to the Gun Calibration Setting screen.)



Aim and fire at the mark in the center.



"NOW CALCULATING" will be displayed in the center. The screen will automatically switch to the following.



Point the Control Unit (Gun) at the screen and a gun mark will be displayed. Check to make sure that the gun can aim right up to the edges of the frame.

If the calibration is correct press the TEST Button to save it.
If re-calibration is required press the SERVICE Button. The calibration results will not be saved and you will return to the Gun Calibration Setting screen.

"OUT OF SCREEN" is displayed when the gun cross is perceived to be out of screen.

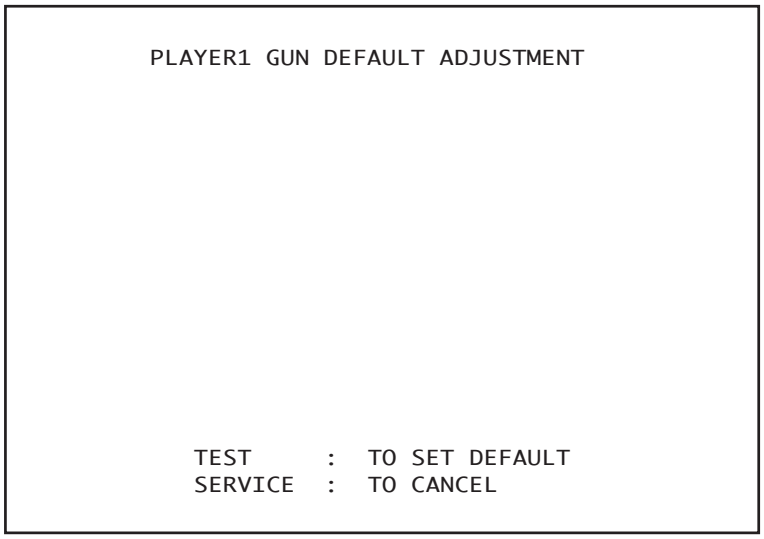
Refer to the following procedure when adjusting the sights.

- Line up the concave sight nearest you on the gun so that it is at the height of the horizontal line of the "+" mark.
- Line up the convex sight at the tip of the gun so that it also lines up with the horizontal line.
- Line up the centers of the tops of the concave and convex sights with the center of the "+" and fire.

d-3. PLAYER1 GUN DEFAULT ADJUSTMENT/PLAYER2 GUN DEFAULT ADJUSTMENT

This item adjusts the sight settings to those at the time of shipment. (This is the same for "PLAYER2 GUN DEFAULT ADJUSTMENT".)

Select PLAYER 1 GUN DEFAULT ADJUSTMENT on the Gun Calibration Setting screen and press the TEST Button.



Press the TEST Button to set the Control Unit (Gun) targeting to the pre-set default values. When setting is complete the message "COMPLETED" will appear on the screen and it will then automatically proceed to the Gun Calibration Setting screen.



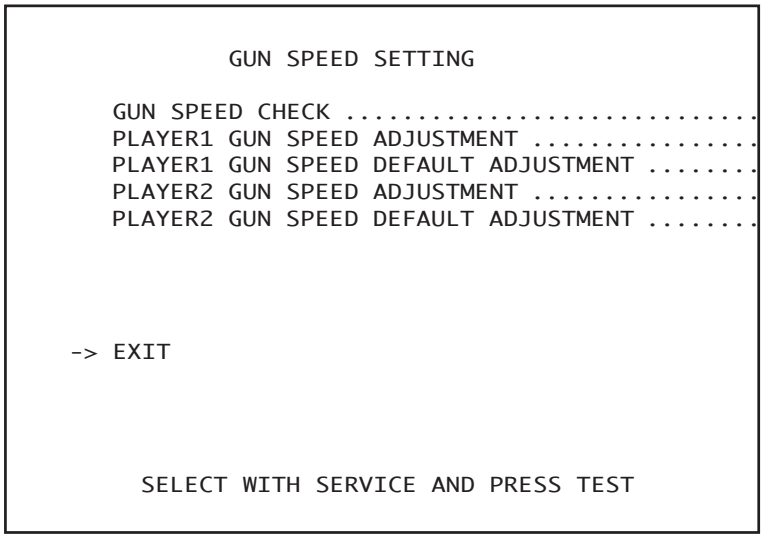
If you wish to cancel this process, press the SERVICE Button. The screen will automatically proceed to the Gun Calibration Setting screen without altering the settings for the gun.

e. GUN SPEED SETTING

Adjust the volume settings for the Control Unit's (Gun's) speed sensors.

Select GUN SPEED SETTING on the Game Test Mode screen and press the TEST Button to display the following screen.

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



Details for each item are as follows.

e-1. GUN SPEED CHECK:

Checks the registered speed when the guns are shaken. Player 1 and Player 2 Guns are both checked together.

e-2. PLAYER1 GUN SPEED ADJUSTMENT:

Adjusts the registered speed for when the Player 1 gun is shaken.

e-3. PLAYER1 GUN SPEED DEFAULT ADJUSTMENT:

Returns the registered speed for when the Player 1 gun is shaken to the pre-set default setting.

e-2. PLAYER2 GUN SPEED ADJUSTMENT:

Adjusts the registered speed for when the Player 2 gun is shaken. (Operated in the same way as PLAYER1 GUN SPEED ADJUSTMENT.)

e-3. PLAYER2 GUN SPEED DEFAULT ADJUSTMENT:

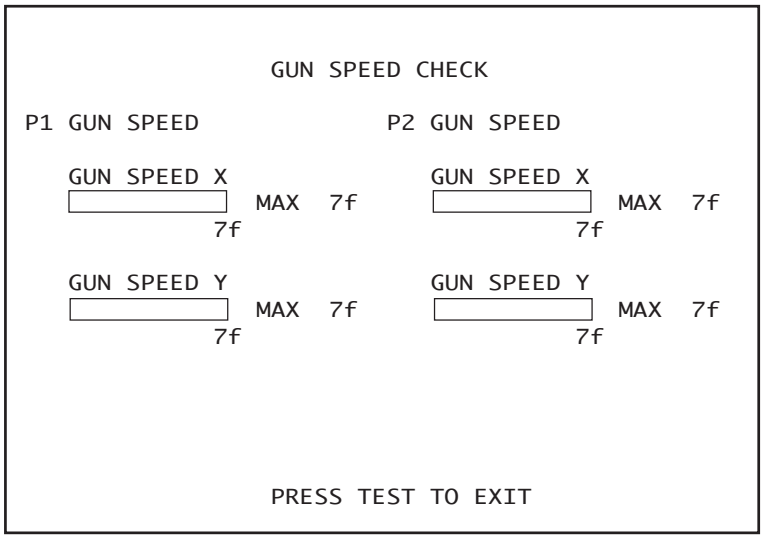
Returns the registered speed for when the Player 2 gun is shaken to the pre-set default setting. (Operated in the same way as PLAYER1 GUN SPEED DEFAULT ADJUSTMENT.)

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

e-1. GUN SPEED CHECK

Checks the registered speed when the Control Units (Guns) are shaken.

Select GUN SPEED CHECK on the Gun Speed Setting screen and press the TEST Button to display the following screen.



Moving the gun for each player will alter the values displayed on the X axis and Y axis speed bars. Use this screen to check that the current maximum speed setting matches the speed values by moving the guns around.

- If the numbers don't change at all:
  The sensors may be broken or cables disconnected.

- If the numbers change but never reach even half of the MAX value no matter how hard the gun is moved:
  There is a problem with speed settings.

Once you have finished all checks, press the TEST Button to return to the Gun Speed Setting screen.

e-2. PLAYER1 GUN SPEED ADJUSTMENT/ PLAYER2 GUN SPEED ADJUSTMENT

CAUTION

Pay attention to your surroundings when moving the Control Unit (Gun) during speed adjustment so as not to hit people or objects around you. You may hurt others or yourself if due caution is not taken.

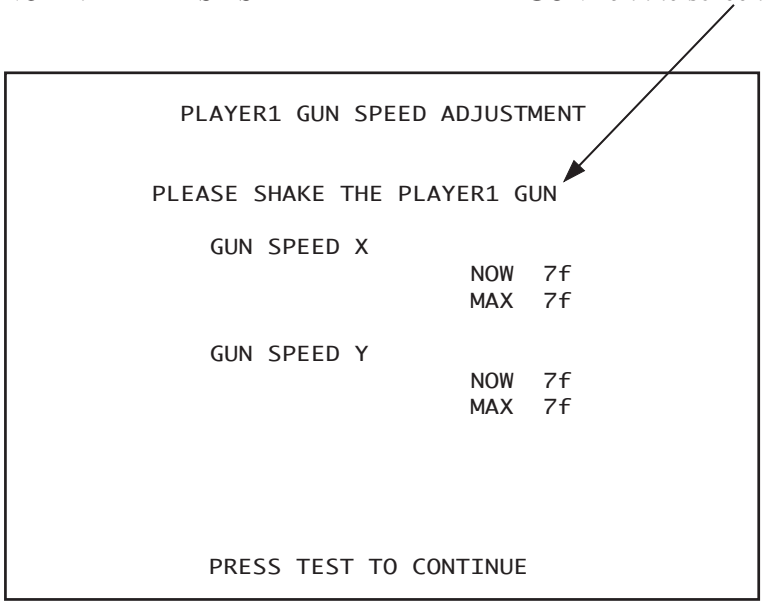
STOP
IMPORTANT

If GUN SPEED SETTINGS are not set, or a mistake is made with the GUN SPEED SETTINGS, the gun may start to only fire single shots during the game.
This is because the gun continually registers as having been shaken and thus continually reloads. This is not a fault with the gun itself, and can be fixed by performing GUN SPEED SETTINGS again.

Adjusts the registered speed for when the Player 1 gun is shaken. (This is the same for "PLAYER2 GUN SPEED ADJUSTMENT".)

Select PLAYER1 GUN SPEED ADJUSTMENT on the Gun Speed Setting screen and press the TEST Button to display the following screen.

NOTE: "PLEASE SHAKE THE PLAYER1 GUN" on the screen will flash.

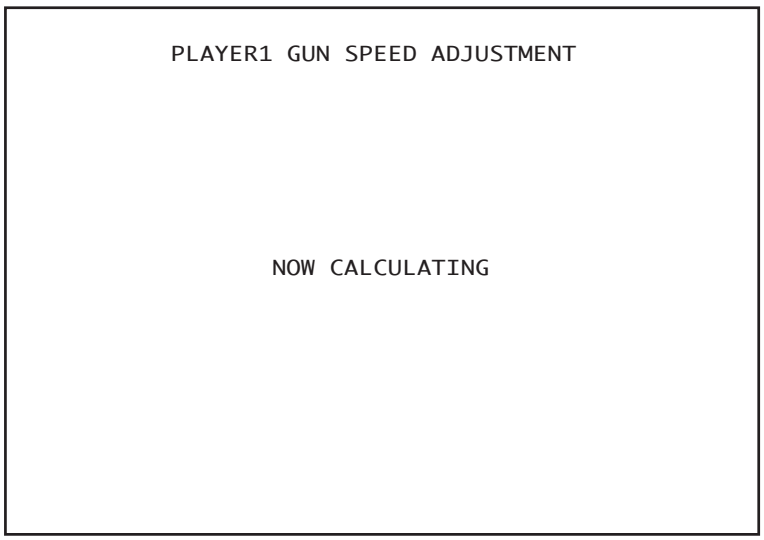


Follow the onscreen instructions to perform the gun speed settings.
Shake the gun on the X axis and the Y axis and set the MAX value for each.

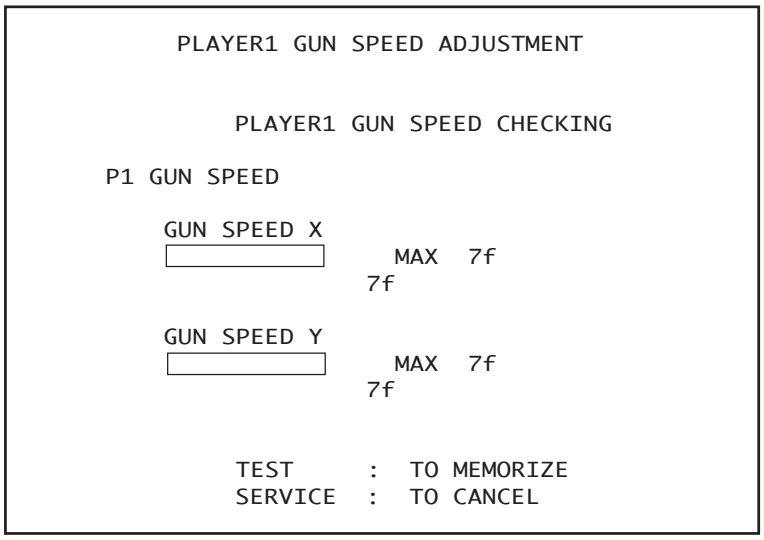
NOTES:

- You need only shake the gun gently on the X axis and the Y axis. If these settings are set with the gun shaken very hard it may lead to malfunctions during the game.

- Proceed to the next screen to confirm the set values. The bar here is simply for reference, and swinging the gun forcefully and filling this bar to the top is not necessary. Moving the gun lightly so that the bar is more than half full will allow the game to progress smoothly.

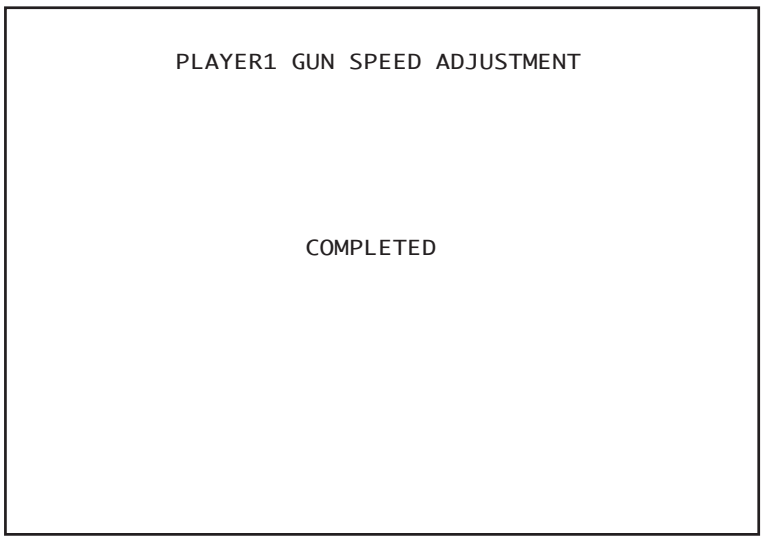


Press the TEST Button and the message "NOW CALCULATING" will be displayed on the screen, and it will then proceed automatically to the next screen.



The set MAX speed values will be displayed. Move the gun again and check that these are no problems with these speed settings. If everything seems in order, press the TEST Button.

If the speed settings need to be adjusted again, press the SERVICE Button. The results of the adjustment will not be saved and the screen will return to the Gun Speed Setting screen.

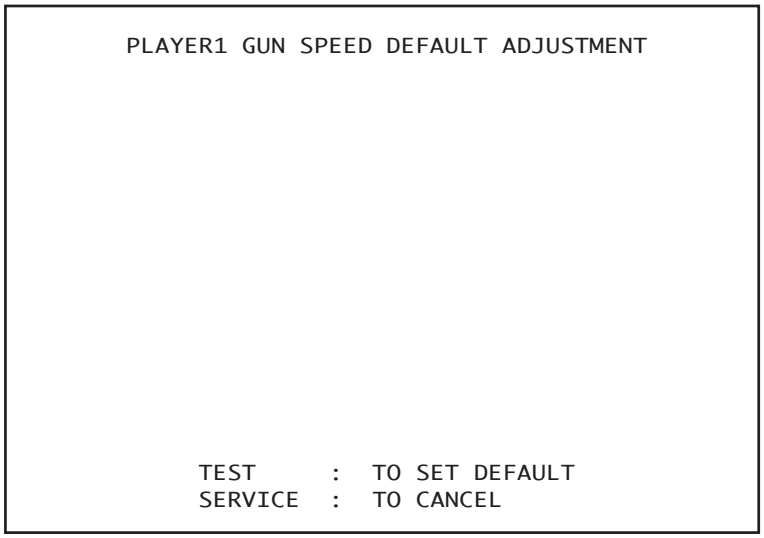


Press the TEST Button and the message "COMPLETED" will be displayed on the screen, and it will then proceed automatically to the Gun Speed Setting screen.

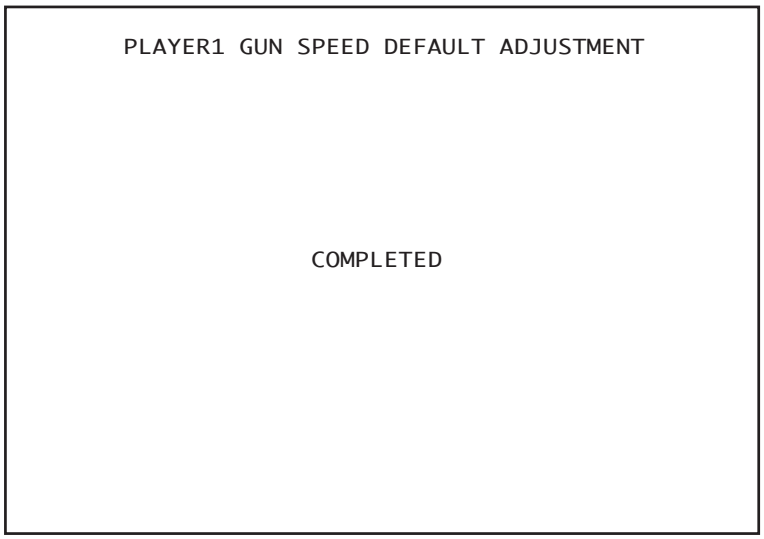
e-3. PLAYER1 GUN SPEED DEFAULT ADJUSTMENT/ PLAYER2 GUN SPEED DEFAULT ADJUSTMENT

Returns the speed setting to the default factory setting.
(This is the same for "PLAYER2 GUN SPEED DEFAULT ADJUSTMENT".)

Select PLAYER1 GUN SPEED DEFAULT ADJUSTMENT on the Gun Speed Setting screen and press the TEST Button to display the following screen.



Press the TEST Button to set the Control Unit (Gun) speed settings to the pre-set defaults. If you wish to cancel the process, press the SERVICE Button. The gun speed settings will not be changed and the screen will automatically return to the Gun Speed Setting screen.



When adjustment is complete the message "COMPLETED" will be displayed on the screen and it will then proceed automatically to the Gun Speed Setting screen.

f. BOOKKEEPING

Select BOOKKEEPING on the Game Test Mode screen to display the three screens of operating status data.

```
          BOOKKEEPING       PAGE1/3


            COIN 1              0
            COIN 2              0
            TOTAL COINS         0

            COIN CREDITS        0
            SERVICE CREDITS     0
            TOTAL CREDITS       0




           PRESS TEST TO CONTINUE
```

The display items for the screen (PAGE 1/3) are as follows.

- ● COIN 1: The number of coins inserted into Coin Chute 1.
- ● COIN 2: The number of coins inserted into Coin Chute 2.
- ● TOTAL COINS: The total number of coins inserted into the coin chutes.
- ● COIN CREDITS: The number of credits for the coins inserted.
- ● SERVICE CREDITS: The number of credits input by the SERVICE Button.
- ● TOTAL CREDITS: The total number of all credits.

Press the TEST Button to display the next screen (PAGE 2/3).

```
        BOOKKEEPING       PAGE2/3


  NUMBER OF GAMES                          0
    FIRST PLAY                             0
    CONTINUE PLAY                          0
  TOTAL TIME                 0000D 00H 00M 00S
  PLAY TIME                  0000D 00H 00M 00S
  AVERAGE PLAY TIME                    00M 00S
  LONGEST PLAY TIME                    00M 00S
  SHORTEST PLAY TIME                   00M 00S

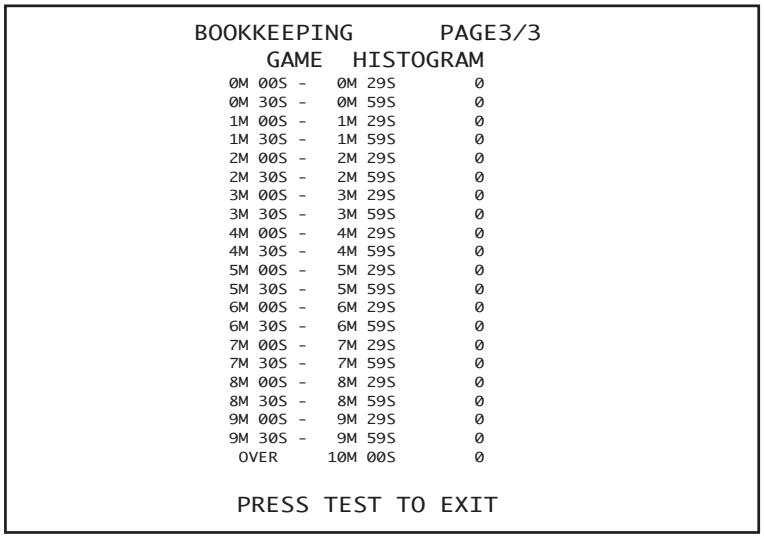



            PRESS TEST TO CONTINUE
```

The display items for the screen (PAGE 2/3) are as follows.

- ● NUMBER OF GAMES: The total number of games played by 1P and 2P.
- ● FIRST PLAY: The total number of games started by 1P and 2P.
- ● CONTINUE PLAY: The total number of continues used by 1P and 2P.
- ● TOTAL TIME: The amount of time the unit has been in operation.
- ● PLAY TIME: The amount of time the game has been played.
- ● AVERAGE PLAY TIME: The average play time for one game.
- ● LONGEST PLAY TIME: The longest play time for one game.
- ● SHORTEST PLAY TIME: The shortest play time for one game.

Press the TEST Button to display the next screen (PAGE 3/3).

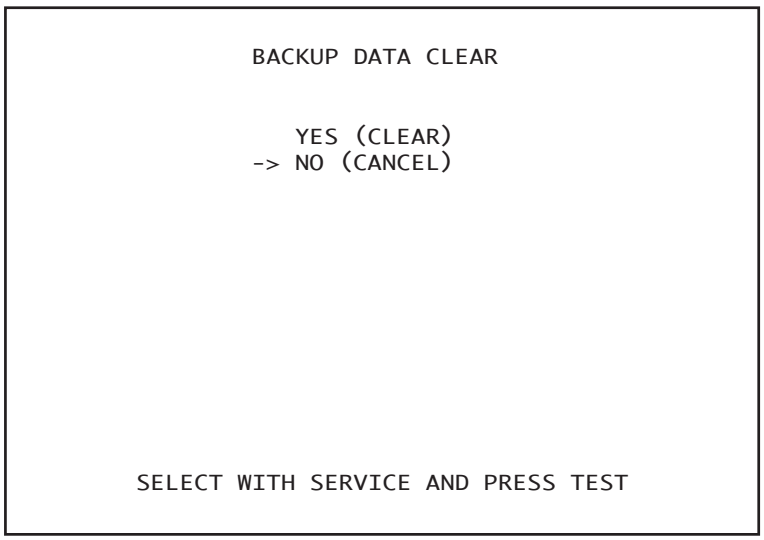


This displays play times on a scale from 0M00S to 9M59S with 30-second intervals. All play times over ten minutes are included in the item OVER 10M00S.

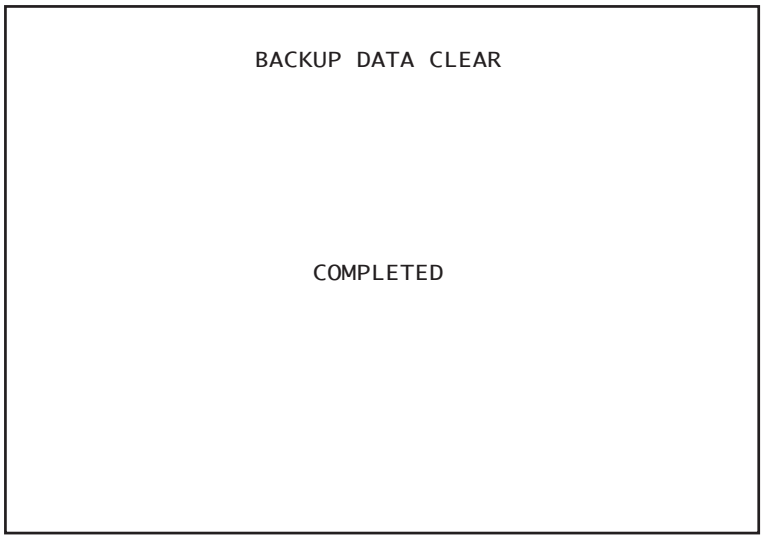
Press the TEST Button after viewing. You will return to the Game Test Mode screen.

g. BACKUP DATA DLEAR

Select BACKUP DATA CLEAR to clear the contents of BOOKKEEPING in the Game Test Mode and the game score.



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 and the screen will return to the Game Test Mode screen automatically.



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

10. CONTROL UNIT (GUN)

WARNING

- In order to prevent any electric shocks or short circuits, be sure to turn the power off before performing any work that involves touching the interior parts of the product.
- Be careful not to damage the wires. Damaged wires may cause electric shocks or short circuits, or present a risk of fire.
- Be very careful when soldering. Handling a soldering iron carelessly may result in a fire or burns.

CAUTION

- When securing the plastic-made parts, do not excessively fasten screws and nuts. Failure to do this may damage the parts, and fragments resulting from damage may cause injury.
- When reassembling the Control Unit (Gun), be sure to check the connecting portion and the trigger, etc. If the reassembly work is insufficient and/or incorrect, fingers may be caught and result in injury.
- Make sure that there is no gap when attaching cover L and R. A gap or crack may trap hands or fingers and lead to injury.

IMPORTANT

- Do not cut the tie belt securing the wires in the Control Unit (Gun). Cutting the tie belt may cause malfunctioning of the wire connection. If you cut the tie belt when replacing the wire etc., be sure to secure the wires using a new tie belt as before.
- After taking the Control Unit (Gun) apart, always use "Tightening Adhesive" (part number: 090-0012). Apply an appropriate amount to the screw and then tighten it up. If you do not use "Tightening Adhesive" there is a risk of looseness or the Control Unit (Gun) coming apart.
- Only use the tightening adhesive specified by this manual. Using any other "Tightening Adhesive" may cause a chemical reaction that renders the screws useless or damage the surface of the Control Unit (Gun).
- Follow these directions carefully to avoid damaging or losing small parts.
- After exchanging any parts, always enter Test Mode and adjust/check the Control Unit (Gun).

If there appears to be a problem with the gun and adjustment in Test Mode makes no difference, part of the gun is most likely broken.
Use the following instructions to take the gun apart and replace the broken part.

The exterior casing, comprised of cover L and cover R, must be opened up in order to change interior parts.
As some internal parts are connected to cover R, work with cover R face down on the working surface.

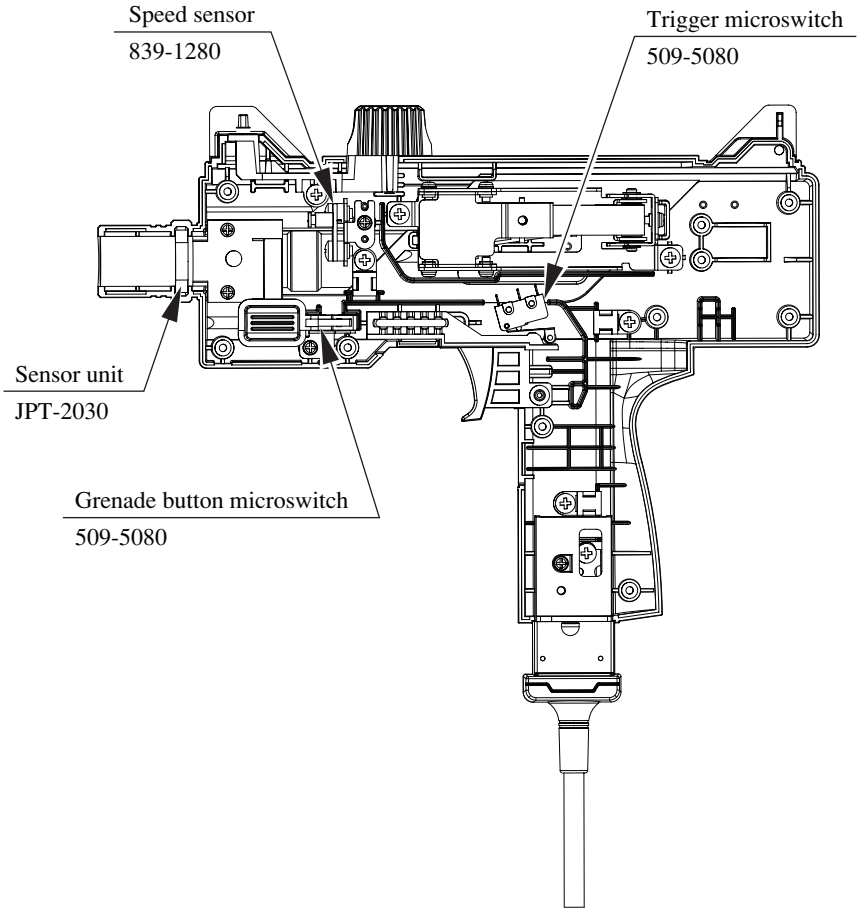


FIG. 10 a (Unit Interior)

Replacing the Microswitch

The Control Unit (Gun) houses two microswitches, the trigger microswitch and the grenade button microswitch.

① Turn off power to the cabinet.

② Removing all 9 screws will allow cover L and cover R to be taken apart. Remove all 9 screws.

SCREW (9), black
M3×12, w/small flat & spring washers

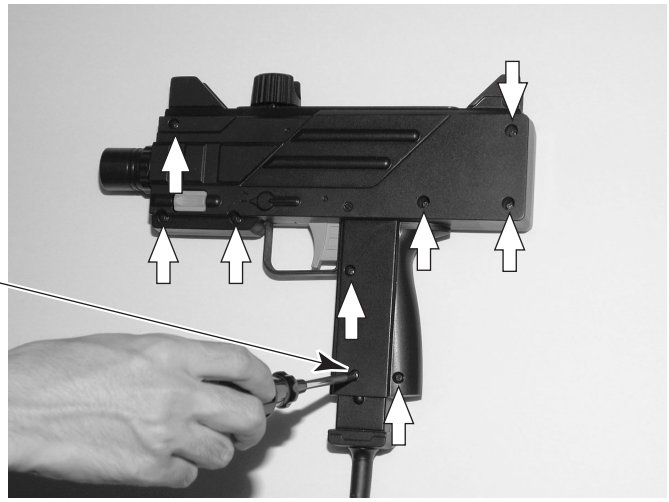


PHOTO 10 a

③ Place cover R face down on the work surface and slowly lift cover L directly upward.



PHOTO 10 b

④ Lift the trigger microswitch up from where it is attached to cover R.

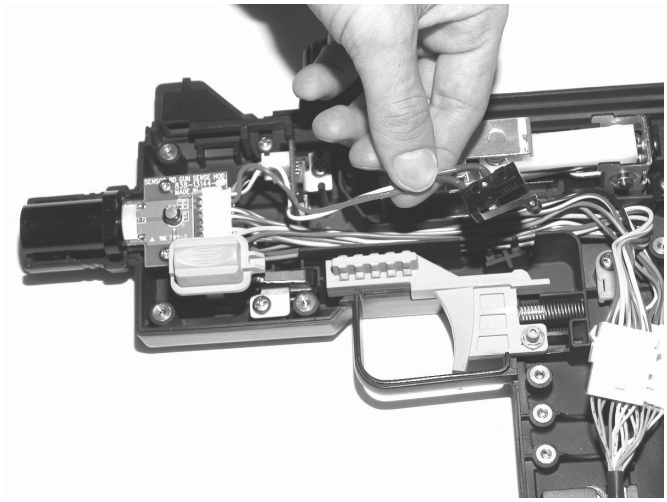


PHOTO 10 c

⑤ Remove the solder, allowing you to remove the microswitch.

⑥ The grenade button microswitch is located at the base of the grenade button. Lift the grenade button free of cover R.

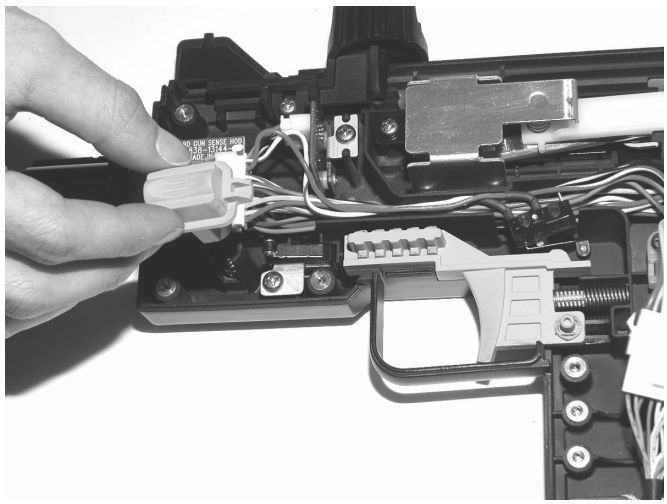


PHOTO 10 d

⑦ Remove the screw and remove microswitch cover R.

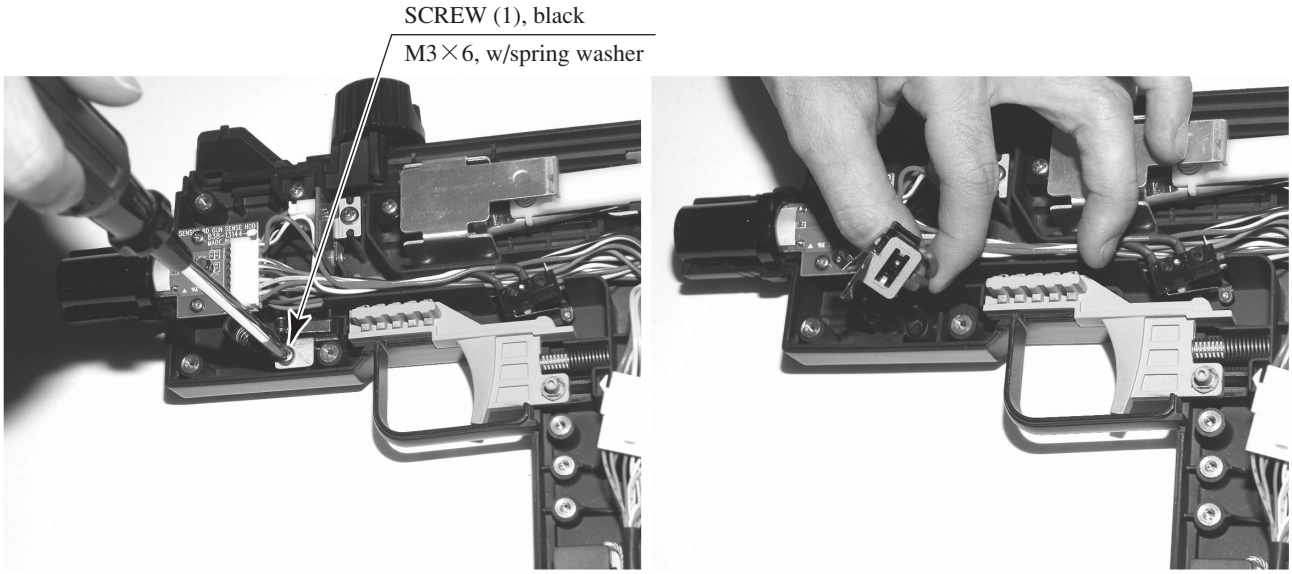


PHOTO 10 e

⑧ Undo the brackets and remove the solder to allow you to remove the microswitch.

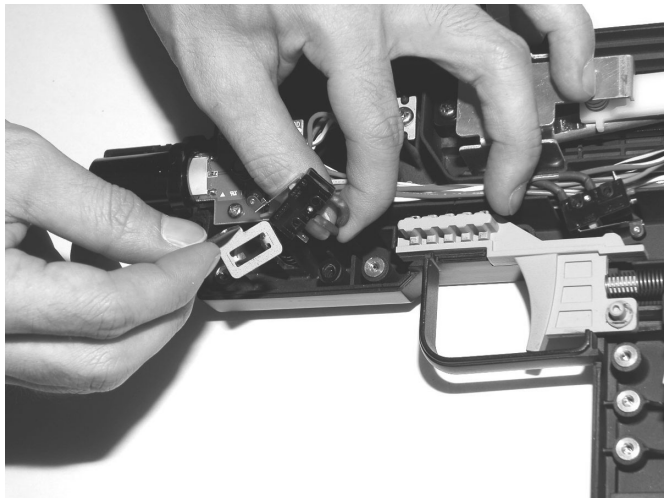


PHOTO 10 f

⑨ Solder the new microswitch in place on the gun.
Then operate all buttons on the gun and confirm that the microswitch turns ON/OFF before putting covers L and R back together.
Do not tighten the screws too tightly when reattaching the covers.

⑩ Perform an input test as described in the chapter on "Test Mode."

Replacing the Sensor Unit

① Follow steps ① - ③ above of the microswitch replacement procedure. You will now have removed cover L.

② Undo the connector and remove the sensor unit.

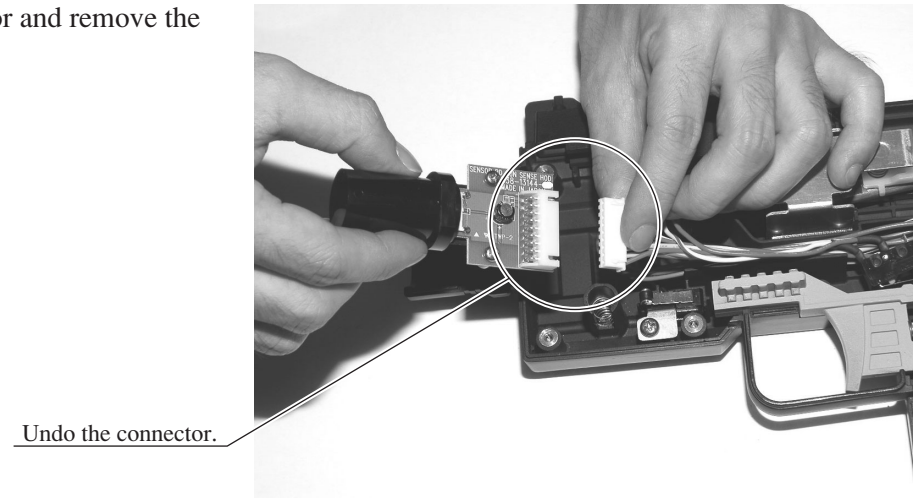


PHOTO 10 g

③ Attach the new sensor unit and fit it back in place inside the Control Unit (Gun).
Then operate all buttons on the gun and confirm that the microswitch turns ON/OFF before putting covers L and R back together.
Do not tighten the screws too tightly when reattaching the covers.

④ Perform a targeting test as described in the chapter on "Test Mode."

Replacing the Speed Sensor

① Follow steps ① - ③ above of the microswitch replacement procedure. You will now have removed cover L.

② Remove 1 screw.

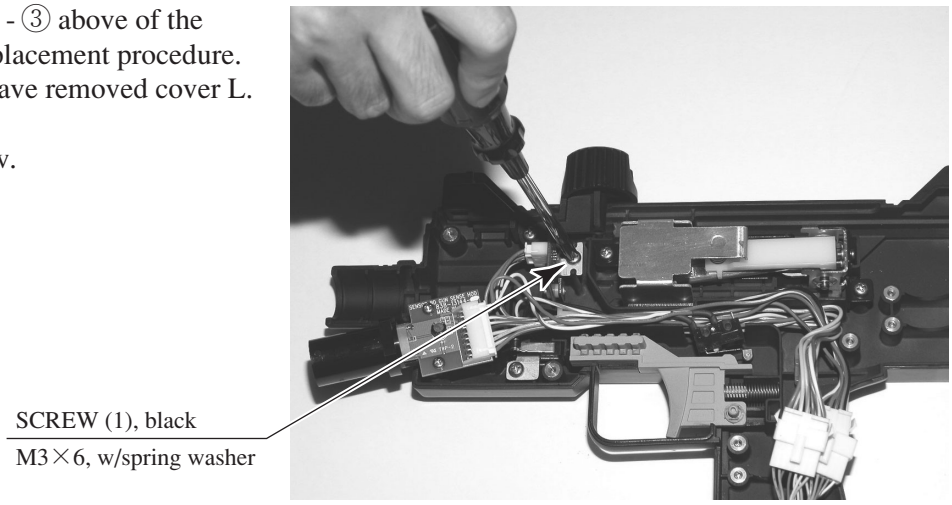


PHOTO 10 h

③ Remove cover R from the speed sensor and undo the connector.

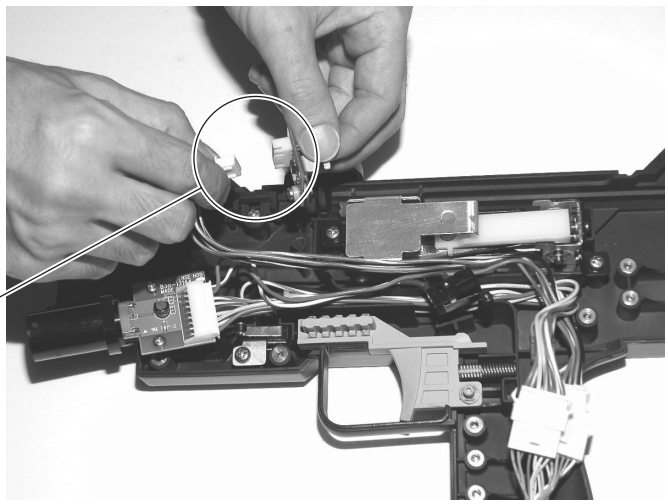


PHOTO 10 i

④ Undo the 2 screws and separate the sensor (board) and brackets. The brackets, screws and plastic washers will be used with the new sensor so do not lose them.

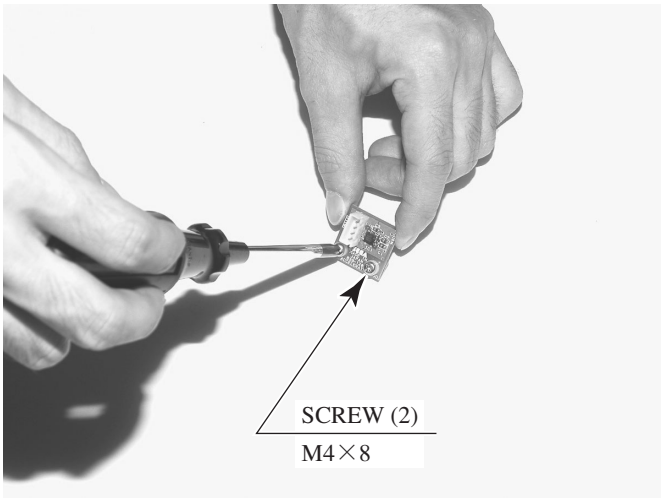


PHOTO 10 j

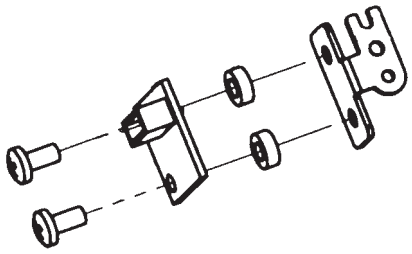


FIG. 10 b

⑤ Replace the sensor and paying careful attention to all parts involved place it inside the gun. Pass the screws through the sensor, plastic washers and then the bracket in order.

⑥ Perform a speed test as described in the chapter on "Test Mode."

11. PROJECTOR

CAUTION

The projector is adjusted prior to leaving the factory. Avoid any unnecessary adjustment.

STOP
IMPORTANT

- If the adjustment method in this manual does not resolve the problem contact the customer service number in this manual or your supplier.
- "Snow" on the screen/changes in brightness for a short period are due to the high pressure mercury lamp in the projector. This is not a defect and does not need repairs.
- The life of the high pressure mercury lamp is the average number of hours 50% of lamps last for. Therefore a life of 8,000 hours does not mean that the lamp cannot last beyond 8,000 hours.
- There is no way of knowing when the lamp is going to cease to function. Once it ceases to function, the projector will be unable to display anything and the product cannot be used. Have a spare lamp ready at all times.
- Do not stick tape, stickers or anything else onto the screen. Any kind of adhesive may damage the surface of the screen.

The projector remembers adjustments.
If there is any distortion, etc. that requires adjustment on the TEST screen, use the remote control.

The average life of the projector's high pressure mercury lamp is approximately 8000 (50% survival), but the its actual lifespan depends on how it is used etc.
The lamp will not last forever. If the screen is dark or continually disappears the lamp must be changed immediately.
Follow the procedure as outlined in the projector manual to change the lamp and be sure to reset the timer setting.

11 — 1 CLEANING THE SCREEN

CAUTION

Since the Projector screen is susceptible to damage, pay careful attention to its handling. When cleaning, refrain from using water or volatile chemicals.

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 benzene, 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.
If the screen is especially dirty, call in a professional cleaner.

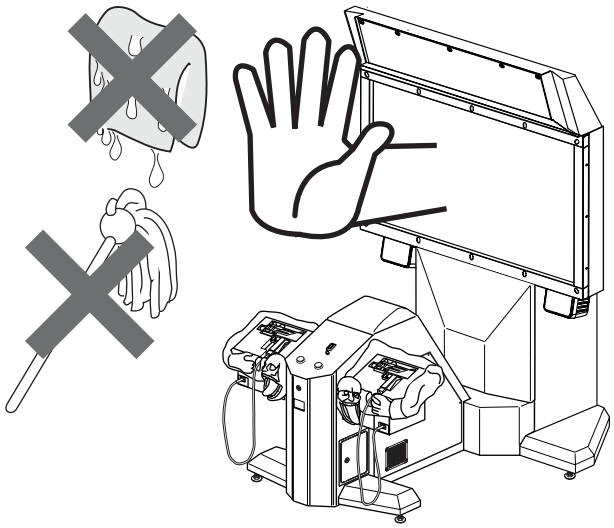


FIG. 11. 1

STOP
IMPORTANT

- When making adjustments, make sure that the remote control's emitter is pointed toward the projector screen.
- The projector unit itself does not have any controls on it.
  - *1: Do not needlessly enter SERVICE or SPECIAL Modes. Any control errors made in these Modes may alter settings and prevent display. This manual does not contain an explanation of SERVICE Mode.
  - *2: The projector does not have a VIDEO input. The VIDEO setting cannot be used.

Use the accompanying remote control to perform all projector adjustments.
The remote control cannot turn the projector or the entire game system's power ON or OFF.

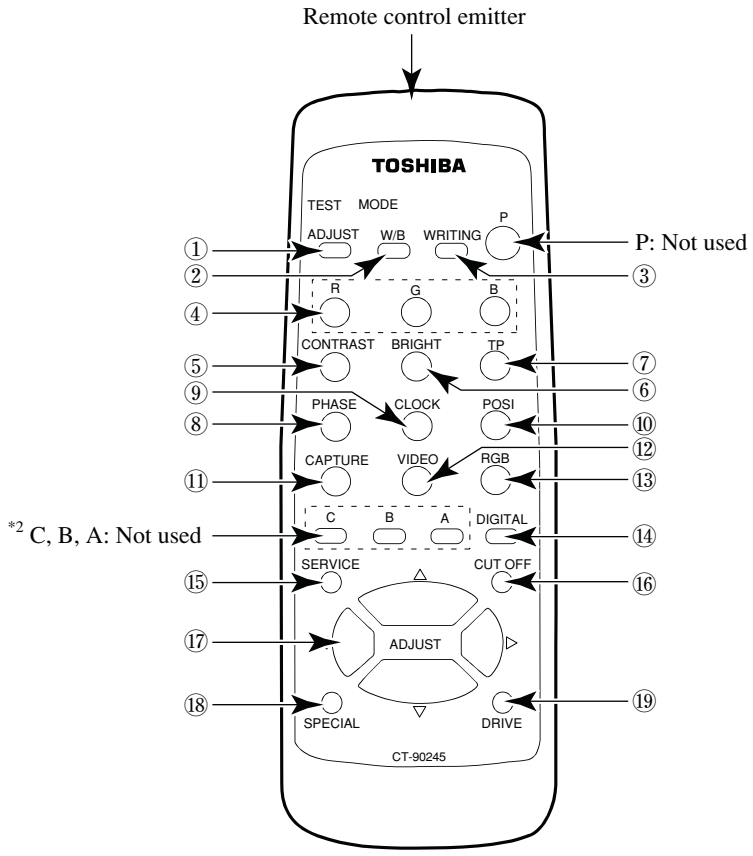


FIG. 11. 2

① ADJUST (ADJUST Mode):	Press this button to enter ADJUST Mode. It also functions as the EXIT button.
② W/B switch (white balance):	Select WHITE BALANCE Mode.
③ WRITING (memory):	Store adjustment data.
④ R, G, B (color select):	Use to select a color when adjusting color balance.
⑤ CONTRAST:	Adjust the contrast of the projected image.
⑥ BRIGHT:	Adjust the black level (brightness) of the projected image.
⑦ TP (test pattern):	Display an internal test pattern.
⑧ PHASE (phase adjust):	Adjust the sampling phase.
⑨ CLOCK (clock adjust):	Adjust the sampling clock.
⑩ POSI (display position):	Adjust the display position of the projected image.
⑪ CAPTURE (adjust image capture):	Adjust timing of image capture.
⑫ VIDEO input:	Select video input.
⑬ RGB input:	Select RGB input.
⑭ DVI input:	Select DVI input.
⑮ *1 SERVICE:	Enter SERVICE Mode.
⑯ CUT OFF (adjust cut off):	Adjust the white balance of dark areas.
⑰ ADJUST (adjust up/down and left/right):	Adjusted selected category.
⑱ *1 SPECIAL:	Enter SPECIAL Mode.
⑲ DRIVE (adjust drive):	Adjust the white balance of light areas.



The projector is precisely adjusted in the factory prior to sale. Avoid unnecessary adjustment at all costs. Needlessly altering adjustment data may make any later repairs harder to perform.

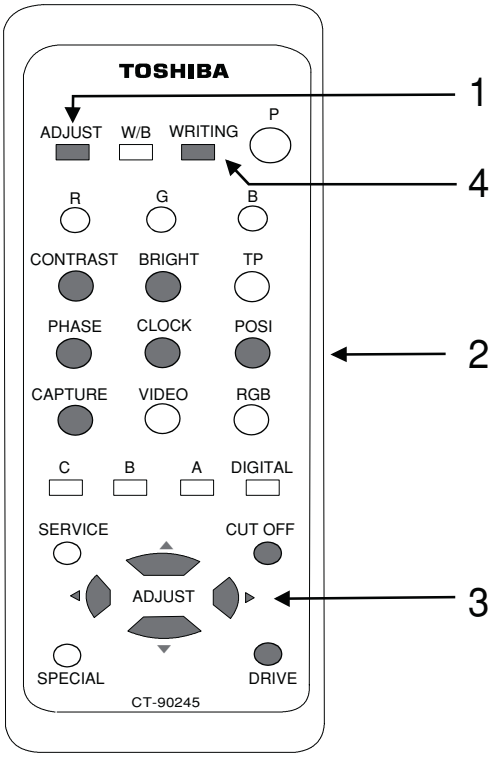
[Controls]

① Before performing any adjustments you must first press the ADJUST button and enter ADJUST Mode. If you wish to exit without making any adjustments press the ADJUST button twice to return to Normal Mode.

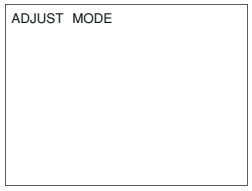
② Once in ADJUST Mode press the button for the adjustment you wish to make.

③ When the adjustment category is displayed used the ADJUST [▲] [▼] [◀] [▶] buttons to make adjustments.

④ When you have finished making adjustments press the WRITING button to record the adjusted data. If you wish to exit without saving the adjusted data return to Normal Mode without pressing the WRITING button and then turn the power off for a reasonable period of time. Press the ADJUST button three times to return to Normal Mode.

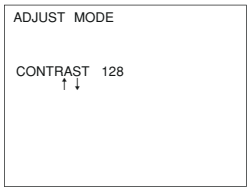


1 Press the ADJUST button.



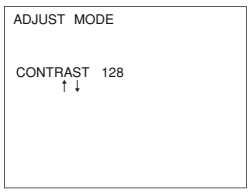
The projector will enter ADJUST Mode and wait for an adjustment category button to be pressed.

2 Press an adjustment category button.



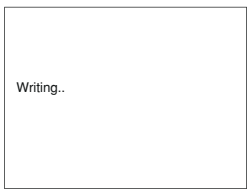
The projector will enter the selected Adjustment Mode.

3 Use the ADJUST [▲] [▼] [◀] [▶] buttons to make adjustments.



Adjust the values of the displayed adjustment data to suit your needs.

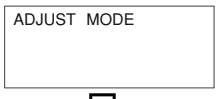
4 Press the WRITING button (record and finish).



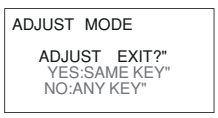
The message "WRITING" will be displayed, and the adjusted data recorded. After about 3 seconds the projector will return to Normal Mode.

Returning to Normal Mode from ADJUST Mode:

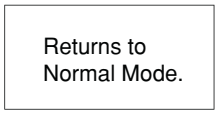
ADJUST Mode



Press the ADJUST button. The exit menu will appear.



Press the ADJUST button again.

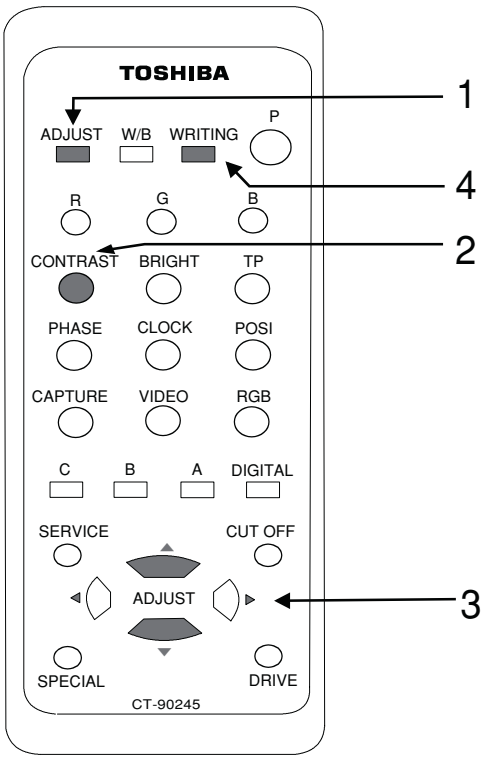


Adjusting Contrast

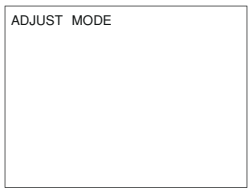
STOP
IMPORTANT

- To abort adjustment without recording any changes press the ADJUST button twice (in some instances three times) to return to Normal Mode.
- If you wish to carry on and make further adjustments to a different menu repeat 2 ~ 3.
- If you do not record adjustment data then all adjustments will be lost when the power if turned off, and when it is turned back on the projector will be returned to the state prior to adjustment.

Adjusting the contrast will alter the tones of the displayed image.

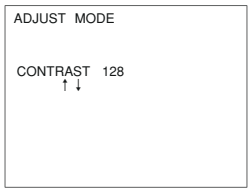


1 Press the ADJUST button.



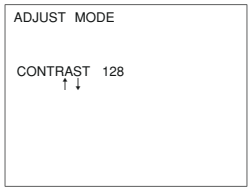
The projector will enter ADJUST Mode and wait for an adjustment category button to be pressed.

2 Press the CONTRAST button.



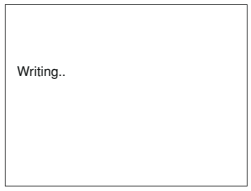
The projector will enter the CONTRAST Adjust Mode.

3 Use the ADJUST [▲] [▼] buttons to make adjustments.



The values of the adjustment data will change. Continue to make adjustments until the screen's contract suits your needs.

4 Press the WRITING button (record and finish).



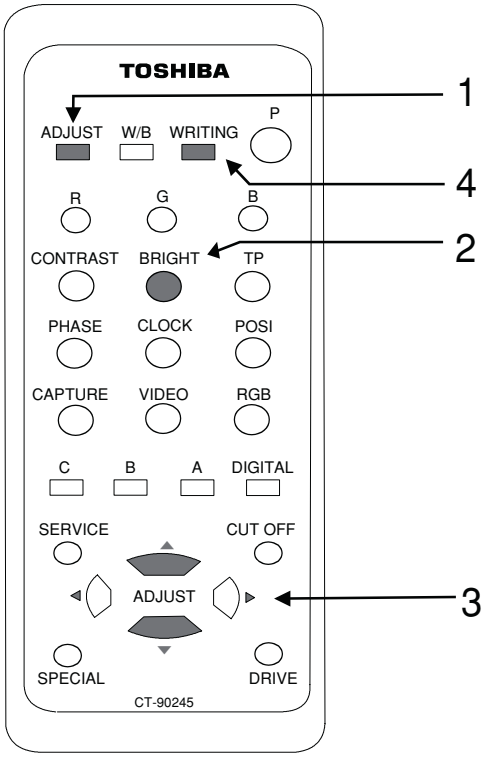
The message "WRITING" will be displayed, and the adjusted data recorded.

Adjusting Brightness

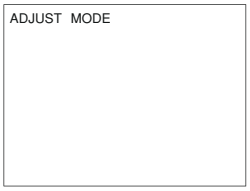
STOP
IMPORTANT

- To abort adjustment without recording any changes press the ADJUST button twice (in some instances three times) to return to Normal Mode.
- If you wish to carry on and make further adjustments to a different menu repeat 2 ～ 3.
- If you do not record adjustment data then all adjustments will be lost when the power if turned off, and when it is turned back on the projector will be returned to the state prior to adjustment.
- Mistaken adjustment of the brightness can reduce the quality of the projected image. It is therefore recommended that the factory setting by used.

Adjusting the brightness will alter the display of the black parts of the image.

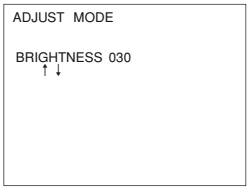


1 Press the ADJUST button.



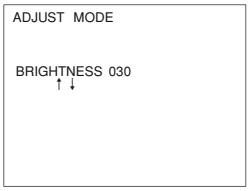
The projector will enter ADJUST Mode and wait for an adjustment category button to be pressed.

2 Press the BRIGHT button.



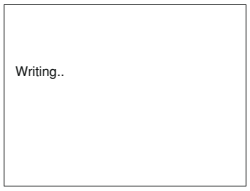
The projector will enter the BRIGHTNESS Adjust Mode.

3 Use the ADJUST [▲] [▼] buttons to make adjustments.



The values of the adjustment data will change. Continue to make adjustments until the screen's brightness suits your needs.

4 Press the WRITING button (record and finish).



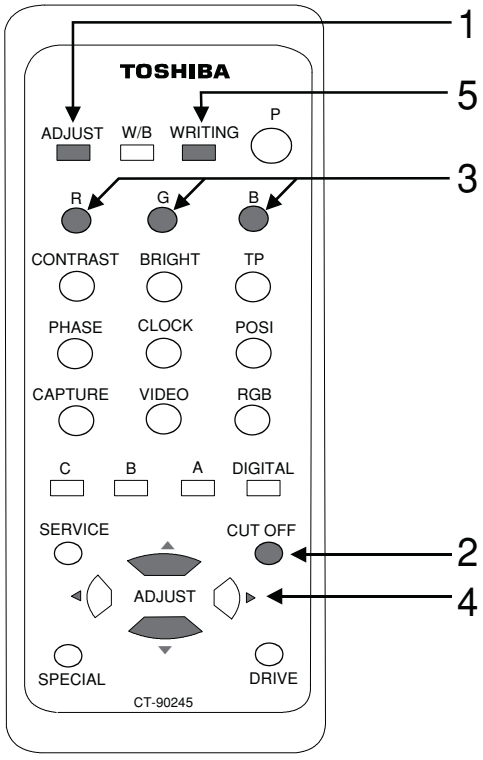
The message "WRITING" will be displayed, and the adjusted data recorded.

Adjusting Cut Off

STOP
IMPORTANT

- To abort adjustment without recording any changes press the ADJUST button twice (in some instances three times) to return to Normal Mode.
- If you wish to carry on and make further adjustments to a different menu repeat 2 ~ 3.
- If you do not record adjustment data then all adjustments will be lost when the power if turned off, and when it is turned back on the projector will be returned to the state prior to adjustment.
- Mistaken adjustment of the cut off can reduce the quality of the projected image. It is therefore recommended that the factory setting by used.

Adjusting the cut off will alter the white balance of the dark parts of the image.



1 Press the ADJUST button.

ADJUST MODE

The projector will enter ADJUST Mode and wait for an adjustment category button to be pressed.

2 Press the CUT OFF button.

ADJUST MODE

CUTOFF1 150
↑ ↓ R

The projector will enter the CUT OFF Adjust Mode.

3 Press a color select button; R, G or B.

- -ADJUST MODE- -
ID: ..

CUTOFF1 032
↑ ↓ R

Select the color you wish to adjust.

4 Use the ADJUST [▲] [▼] buttons to make adjustments.

- -ADJUST MODE- -
ID: ..

CUTOFF1 032
↑ ↓ R

The values of the adjustment data will change. Continue to make adjustments until the screen's white balance of darker areas suits your needs.

5 Press the WRITING button (record and finish).

- -ADJUST MODE- -
ID: ..

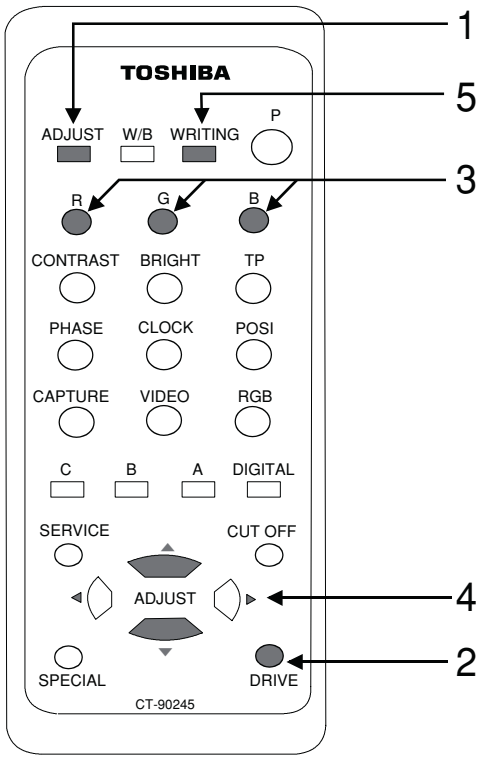
Writing..

The message "WRITING" will be displayed, and the adjusted data recorded.

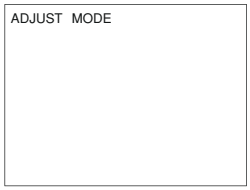
STOP
IMPORTANT

- To abort adjustment without recording any changes press the ADJUST button twice (in some instances three times) to return to Normal Mode.
- If you wish to carry on and make further adjustments to a different menu repeat 2 ~ 3.
- If you do not record adjustment data then all adjustments will be lost when the power if turned off, and when it is turned back on the projector will be returned to the state prior to adjustment.
- Mistaken adjustment of the drive can reduce the quality of the projected image. It is therefore recommended that the factory setting by used.

Adjusting the drive will alter the white balance of the light parts of the image.

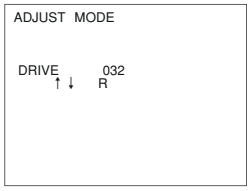


1 Press the ADJUST button.



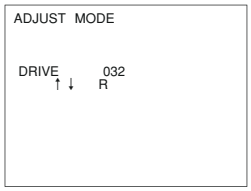
The projector will enter ADJUST Mode and wait for an adjustment category button to be pressed.

2 Press the DRIVE button.



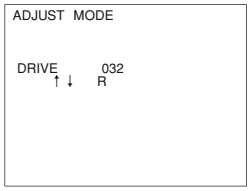
The projector will enter the DRIVE Adjustment Mode.

3 Press a color select button; R, G or B.



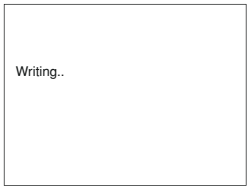
Select the color you wish to adjust.

4 Use the ADJUST [▲] [▼] buttons to make adjustments.



The values of the adjustment data will change. Continue to make adjustments until the screen's white balance of lighter areas suits your needs.

5 Press the WRITING button (record and finish).

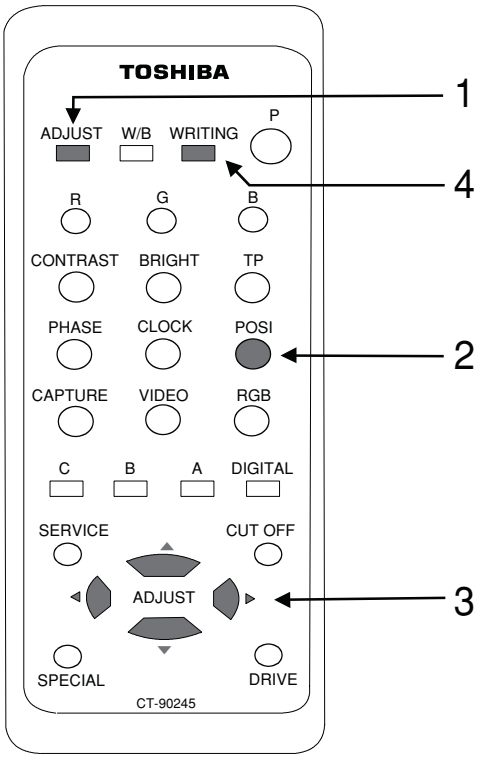


The message "WRITING" will be displayed, and the adjusted data recorded.

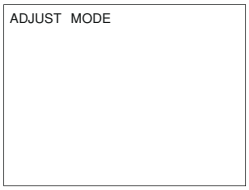
Adjusting Screen Display Position (POSI)

STOP
IMPORTANT

- To abort adjustment without recording any changes press the ADJUST button twice (in some instances three times) to return to Normal Mode.
- If you wish to carry on and make further adjustments to a different menu repeat 2 ~ 3.
- If you do not record adjustment data then all adjustments will be lost when the power if turned off, and when it is turned back on the projector will be returned to the state prior to adjustment.

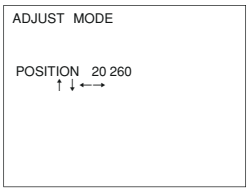


1 Press the ADJUST button.



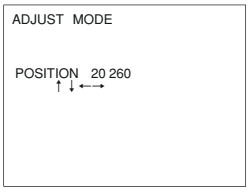
The projector will enter ADJUST Mode and wait for an adjustment category button to be pressed.

2 Press the POSI button.

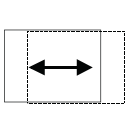


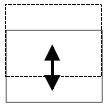
The projector will enter the POSITION Adjust Mode.

3 Use the ADJUST [▲][▼][◀][▶] buttons to make adjustments.

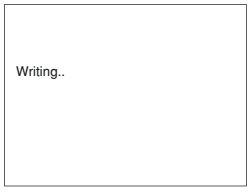


The values of the adjustment data will change. Continue to make adjustments until the screen's display position suits your needs.





4 Press the WRITING button (record and finish).

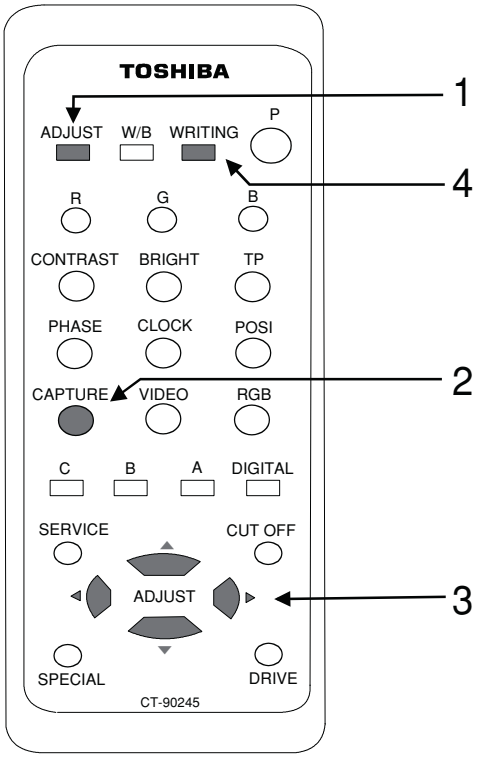


The message "WRITING" will be displayed, and the adjusted data recorded.

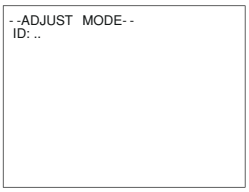
Adjusting Capture

STOP
IMPORTANT

- To abort adjustment without recording any changes press the ADJUST button twice (in some instances three times) to return to Normal Mode.
- If you wish to carry on and make further adjustments to a different menu repeat 2 ～ 3.
- If you do not record adjustment data then all adjustments will be lost when the power if turned off, and when it is turned back on the projector will be returned to the state prior to adjustment.

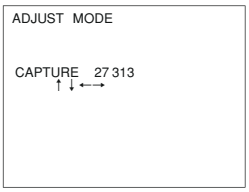


1 Press the ADJUST button.



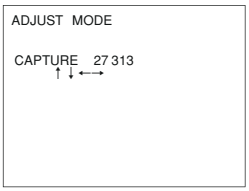
The projector will enter ADJUST Mode and wait for an adjustment category button to be pressed.

2 Press the CAPTURE button.

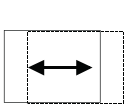


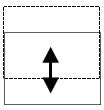
The projector will enter the CAPUTRE Adjust Mode.

3 Use the ADJUST [▲][▼][◀][▶] buttons to make adjustments.

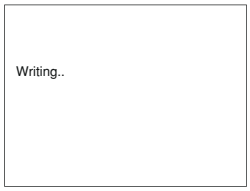


The values of the adjustment data will change. Continue to make adjustments until the screen's display position suits your needs.





4 Press the WRITING button (record and finish).

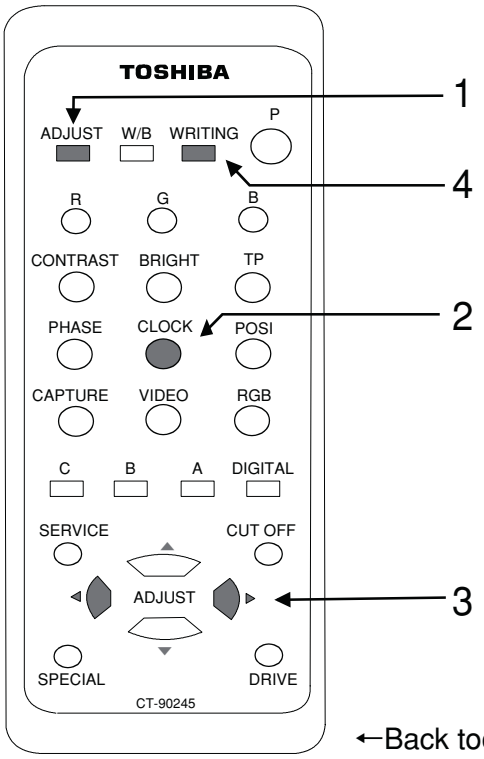


The message "WRITING" will be displayed, and the adjusted data recorded.

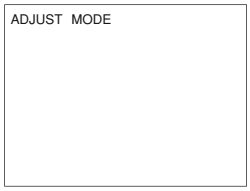
Adjusting the Clock

STOP
IMPORTANT

- To abort adjustment without recording any changes press the ADJUST button twice (in some instances three times) to return to Normal Mode.
- If you wish to carry on and make further adjustments to a different menu repeat 2 ~ 3.
- If you do not record adjustment data then all adjustments will be lost when the power if turned off, and when it is turned back on the projector will be returned to the state prior to adjustment.
- Mistaken adjustment of the clock can cause the screen jitter or moir_ patterns. It is therefore recommended that the factory setting by used.

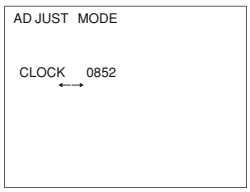


1 Press the ADJUST button.



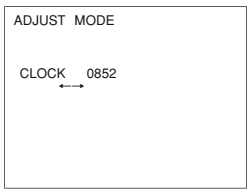
The projector will enter ADJUST Mode and wait for an adjustment category button to be pressed.

2 Press the CLOCK button.



The projector will enter the CLOCK Adjust Mode.

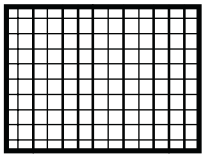
3 Use the ADJUST [◀] [▶] buttons to make adjustments.



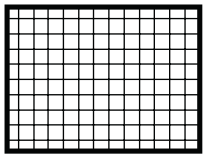
The values of the adjustment data will change. Continue to make adjustments until the screen's sampling clock reaches a suitable setting (no jitter or moir_).

Example of Adjustment via Crosshatch Pattern

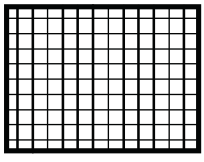
←Back too far
NG (moiré present)



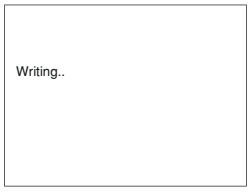
Perfect setting
OK (no moiré)



Too far forward →
NG (moiré present)



4 Press the WRITING button (record and finish).

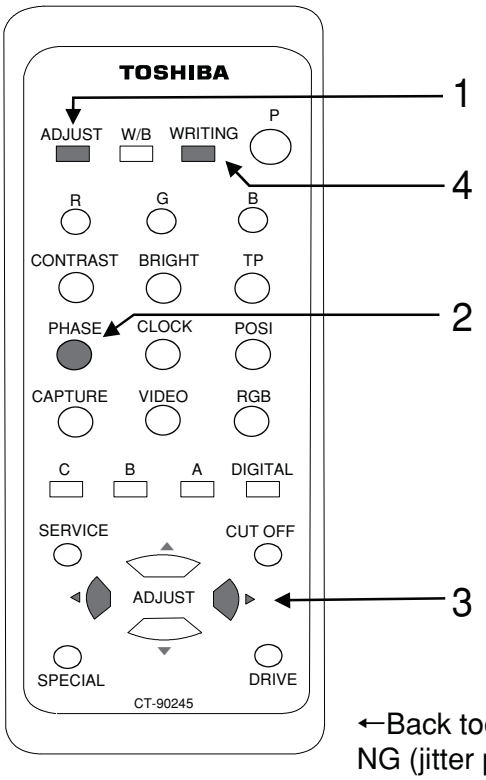


The message "WRITING" will be displayed, and the adjusted data recorded.

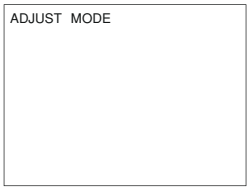
Adjusting Phase

STOP
IMPORTANT

- To abort adjustment without recording any changes press the ADJUST button twice (in some instances three times) to return to Normal Mode.
- If you wish to carry on and make further adjustments to a different menu repeat 2 ~ 3.
- If you do not record adjustment data then all adjustments will be lost when the power if turned off, and when it is turned back on the projector will be returned to the state prior to adjustment.
- Mistaken adjustment of the phase cause the screen jitter. It is therefore recommended that the factory setting by used.

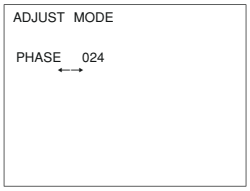


1 Press the ADJUST button.



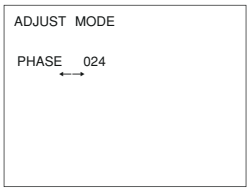
The projector will enter ADJUST Mode and wait for an adjustment category button to be pressed.

2 Press the PHASE button.



The projector will enter the PHASE Adjust Mode.

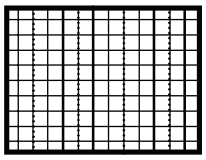
3 Use the ADJUST [◀] [▶] buttons to make adjustments.



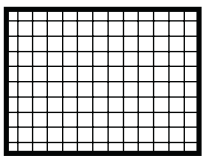
The values of the adjustment data will change. Continue to make adjustments until the screen's sampling phase reaches a suitable setting (no jitter).

Example of Adjustment via Crosshatch Pattern

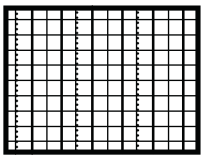
←Back too far
NG (jitter present)



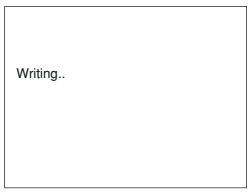
Perfect setting
OK (no jitter)



Too far forward →
NG (jitter present)



4 Press the WRITING button (record and finish).



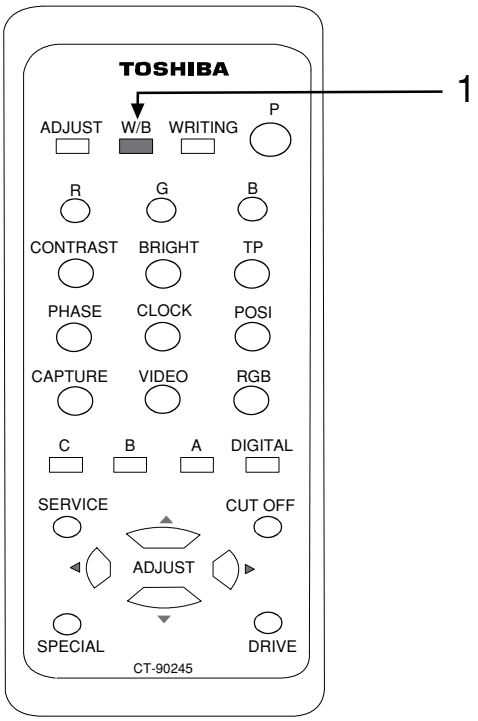
The message "WRITING" will be displayed, and the adjusted data recorded.

White Balance Switch (W/B)

STOP
IMPORTANT

WB1 has been given standard adjustment in the factory. Therefore use of WB1 is recommended.

White balance (W/B) is adjusted (preset) to WB1 in the factory, but you can switch it to suit your needs.



1 Press the W/B button.



Each press of the W/B button will move through the White Balance Modes in sequence.

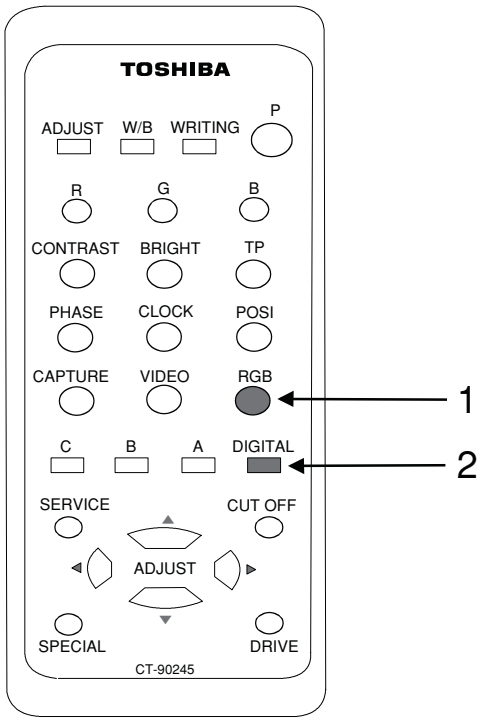
[WB 1] → [WB 2] → [WB 3]

Change Input (RGB Input/DVI Input)

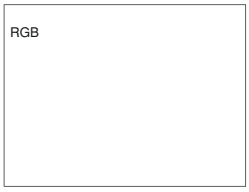
STOP
IMPORTANT

- You must use the analog RGB setting with this product.
- If the input selected in change input is not receiving a signal the message "NO INPUT SIGNAL" will be displayed for approximately 5 seconds on the screen. After that the screen will remain black.

The projector can be switched between analog RGB input and DVI input.

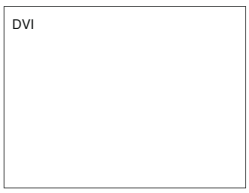


1 Press the RGB button.



This will select analog RGB input.

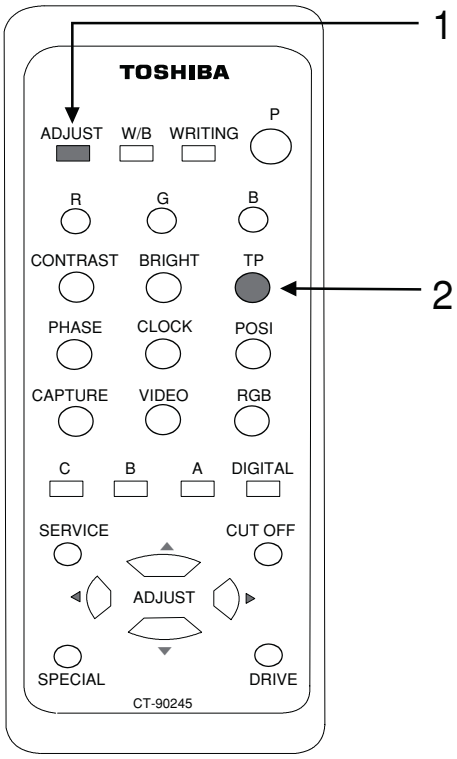
2 Press the DIGITAL button.



This will select DVI input.

Display Internal Test Pattern (TP)

The projector has the following internal test pattern onboard.
However, to adjust the monitor for this product you must use MONITOR TEST under TEST Mode. (See Section 9-2 d.)



1 Press the ADJUST button.

ADJUST MODE

The projector will enter ADJUST Mode and wait for an adjustment category button to be pressed.

2 Press the TP button.

00

Each press of the TP button will display a different internal test pattern.

0 0 ・・・・・→ 6 0

Return to Normal Mode after displaying a test pattern

Press the ADJUST button. ⇨ Press the ADJUST button. ⇨ Press the ADJUST button again.

The projector will enter ADJUST Mode.

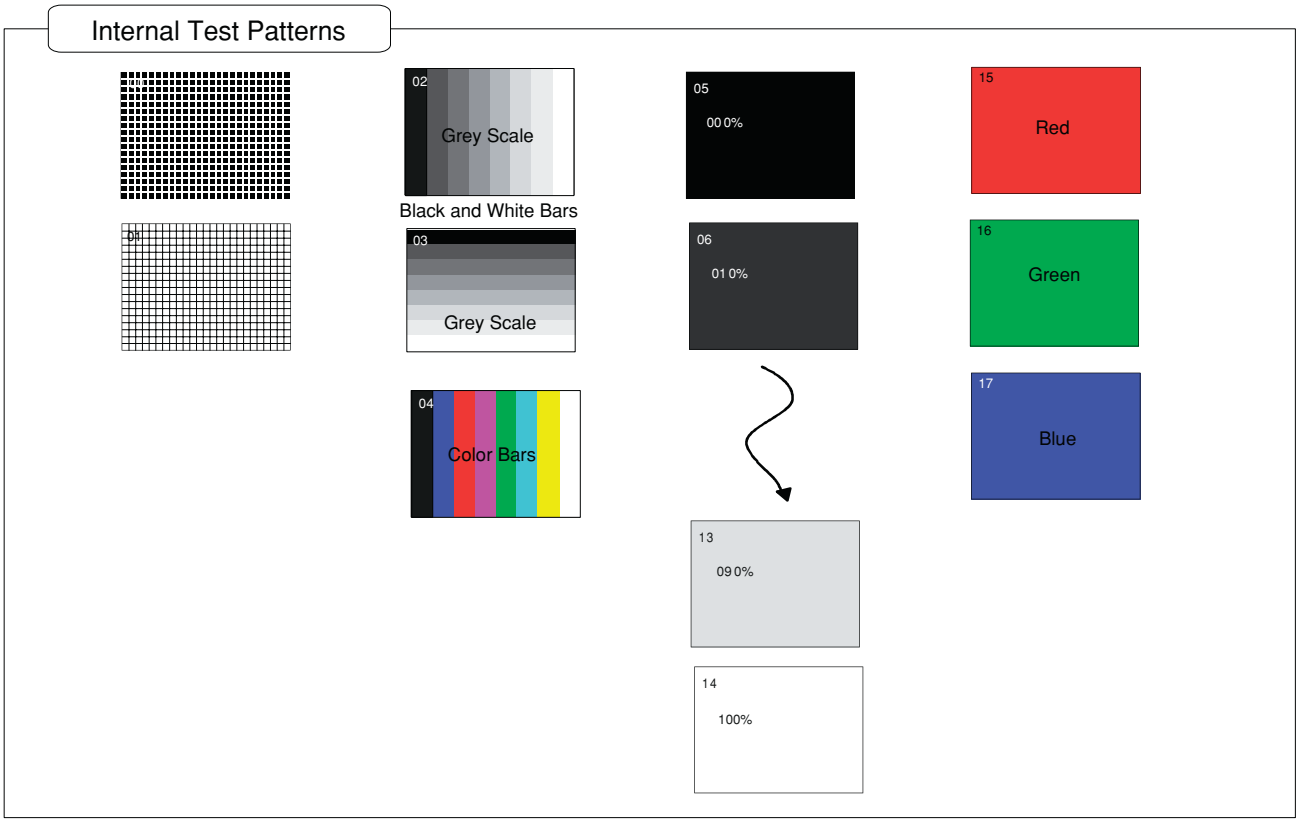
ADJUST MODE

The exit menu will be displayed.

ADJUST MODE

ADJUST EXIT?"
YES:SAME KEY"
NO: ANY KEY"

The projector will return to Normal Mode.



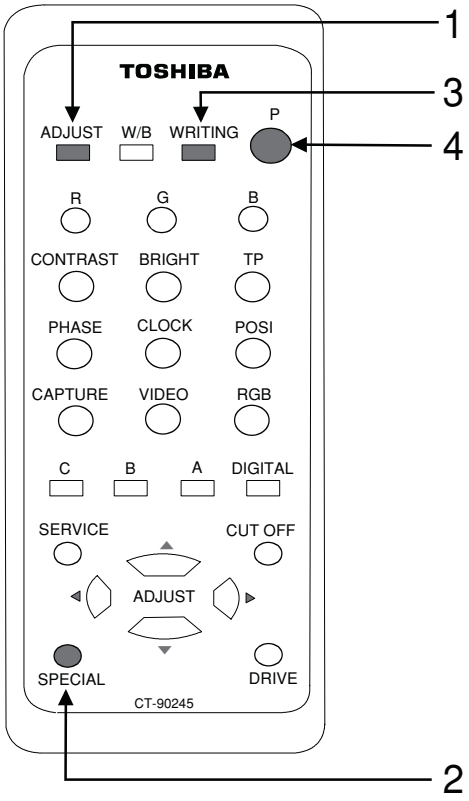
NOTE: The content of the internal test patterns may be altered without prior notice.

SPECIAL Mode: Lamp Timer Display and Reset

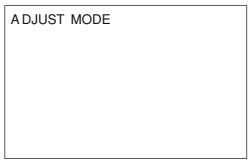
STOP
IMPORTANT

After changing the lamp you must perform the lamp reset operation (step 4 below) to reset the lamp timer.

Displays the amount of time the lamp has been used for.

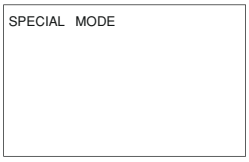


1 Press the ADJUST button.



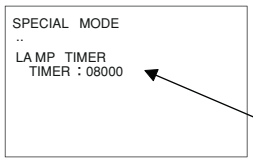
The projector will enter ADJUST Mode and wait for an adjustment category button to be pressed.

2 Press the SPECIAL button.



The projector will enter SPECIAL Mode and await further selections.

3 Press the WRITING button.

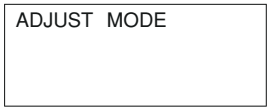


The amount of time the current lamp has been used for will be displayed.

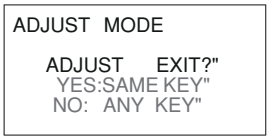
Return to Normal Mode after checking the lamp timer

Press the ADJUST button. ⇨ Press the ADJUST button. ⇨ Press the ADJUST button again.

The projector will enter ADJUST Mode.



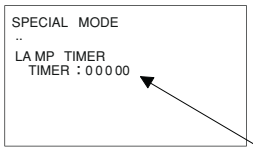
The exit menu will be displayed.



The projector will return to Normal Mode.

4 Hold down the P button for approximately 4 seconds.
(Will reset the timer, record it and exit.)

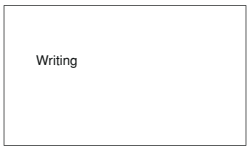
Reset



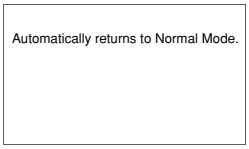
Once this message appears release the P button.
The used time will change to "00000" and the reset is complete.

Used time becomes "00000".

Record



Exit

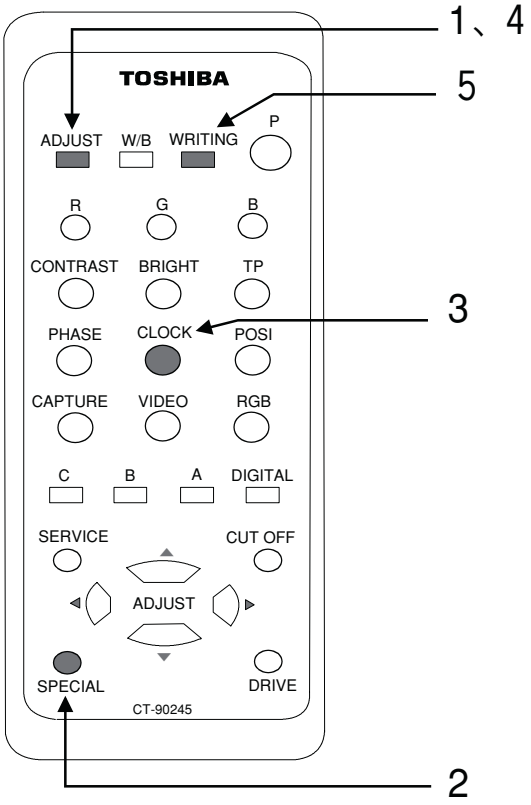


SPECIAL Mode: FORCE Mode (FORCE)

STOP
IMPORTANT

- You must set FORCE Mode to OFF for this product.
- To abort adjustment without recording any changes press the ADJUST button twice (in some instances three times) to return to Normal Mode.

Setting FORCE Mode to ON will allow you to set reception to always occur with the same timing.
When FORCE Mode is set to OFF reception will be set automatically each time in accordance with a timing signal.
However, if this does not match the timing signal recorded in the projector, the image may fall out of sync.



1 Press the ADJUST button.

ADJUST MODE

The projector will enter ADJUST Mode and wait for an adjustment category button to be pressed.

2 Press the SPECIAL button.

SPECIAL MODE

The projector will enter SPECIAL Mode and await further selections.

3 Press the CLOCK button.

SPECIAL MODE

FORCE MODE OFF

The current setting (ON/OFF) will be displayed.
Press the CLOCK button again to change this setting.
If you wish to finish without changing the setting press the ADJUST button three times to return to Normal Mode.

4 Press the ADJUST button to remember the setting.

ADJUST MODE

The projector will enter ADJUST Mode and await further selections.

5 Press the WRITING button.

WRITING

The data will be remembered and then the projector will automatically return to Normal Mode.

SPECIAL Mode: Auto Adjust and Frame Lock Settings

STOP
IMPORTANT

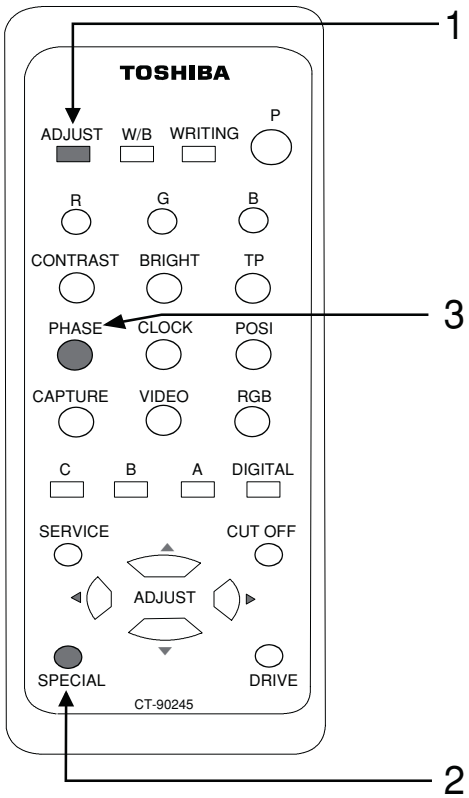
- You must set AUTO ADJUST Mode to ON for this product.
- You must set Frame Lock to ON for this product.
- To abort adjustment without recording any changes press the ADJUST button twice (in some instances three times) to return to Normal Mode.

AUTO ADJUST ON/OFF (Press the PHASE button at step 3)

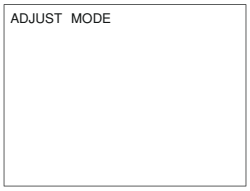
Setting the AUTO ADJUST Mode to ON will automatically determine the timing signal and the image will be displayed in the normal screen position.
Setting AUTO ADJUST Mode to OFF will display the image according to the timing signal recorded in the projector.

FRAME LOCK ON/OFF (Press the POSI button at step 3)

If Frame Lock is set to OFF then "snow" may appear on the screen when displaying moving images. If this happens setting the Frame Lock to ON is advised.

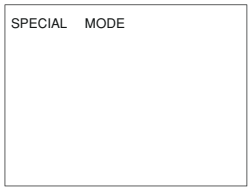


1 Press the ADJUST button.



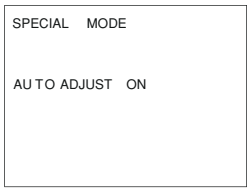
The projector will enter ADJUST Mode and wait for an adjustment category button to be pressed.

2 Press the SPECIAL button.



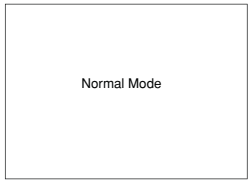
The projector will enter SPECIAL Mode and await further selections.

3 Press the PHASE button.



The current setting (ON/OFF) will be displayed.
Press the PHASE button again to change this setting.

If you wish to finish without changing the setting, press the ADJUST button three times to return to Normal Mode.



The setting will be automatically recorded and the projector will return to Normal Mode.

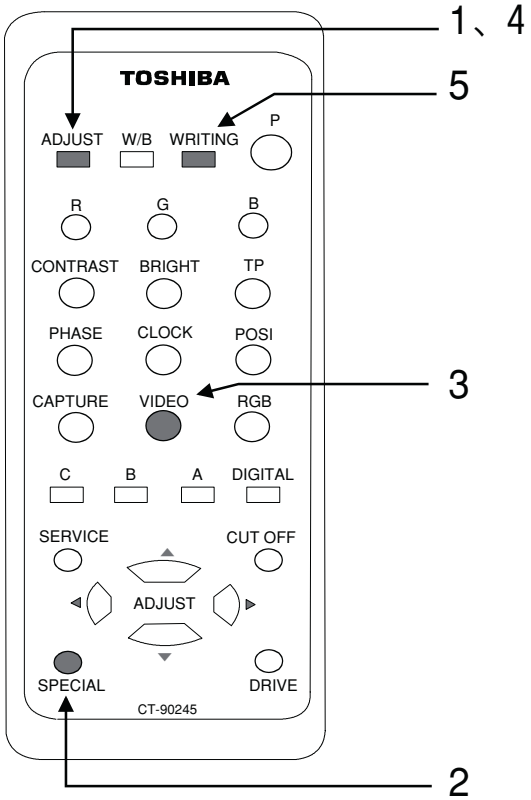
SPECIAL Mode: RE-AUTO ADJUST

STOP
IMPORTANT

To abort adjustment without recording any changes press the ADJUST button twice (in some instances three times) to return to Normal Mode.

RE-AUTO ADJUST (Press the VIDEO button at step 3)

Press this button and the Auto Adjust process will be performed again.
If the image is being drawn incorrectly pressing this button should fix the problem.
You must input a signal that displays 100% of the image field when performing this operation.
For this product, use the MONITOR TEST screen under TEST Mode. (See Section 9-2 d.)



1 Press the ADJUST button.

ADJUST MODE

The projector will enter ADJUST Mode and wait for an adjustment category button to be pressed.

2 Press the SPECIAL button.

SPECIAL MODE

The projector will enter SPECIAL Mode and await further selections.

3 Press the VIDEO button.

SPECIAL MODE

RE-AUTO ADJUST

The Auto Adjust process will be performed.
If you wish to finish without changing the setting, press the ADJUST button three times to return to Normal Mode.

4 Press the ADJUST button to remember the setting.

ADJUST MODE

The projector will enter ADJUST Mode and await further selections.

5 Press the WRITING button.

WRITING

The data will be remembered and then the projector will automatically return to Normal Mode.

WARNING

- To prevent electric shock and fire hazards, only perform this operation after turning off the main power switch and removing the power cord from the socket.
- Never put anything metal or flammable into the interior of the DLP. Using it with such an object inside may lead to an electric shock or fire.
- Make sure that the lamp is firmly in place. If the lamp is loose then it is a fire hazard, and it also might not come on.
- The lamp becomes very hot during use and remains so for a while afterward. Attempting to change the lamp before it has sufficiently cooled may lead to burns and other injuries.
- If the lamp shatters fragments of glass will remain inside the lamp. Never shake a shattered lamp or hold/place one higher than eye level. Doing so could lead to a serious accident.

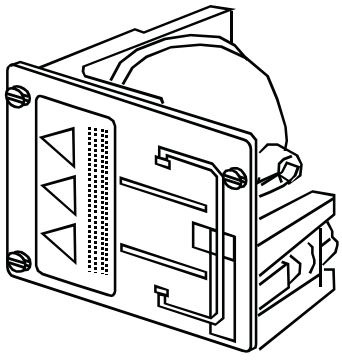
CAUTION

When opening the door or lamp cover to change the lamp, do not touch or remove any parts that are unrelated to the lamp changing process. Doing so may lead to injury, and could also harm the efficient working of the product.

IMPORTANT

Do not remove any screws other than those specified below. Doing so could harm the efficient working of the product.

Always perform the lamp changing operation with the power turned off.
Once you have inserted the new lamp only turn the power back on once the lamp exchange cover is back in place. Then enter SPECIAL mode and reset the lamp timer on the Lamp Timer Screen.



Lamp Unit Parts Number/Name
200-6020/ASSY LAMP DLP PJTN DSPL

① Turn OFF the main power switch on the AC unit and disconnect the power.

② Remove the 4 truss screws and remove the front panel.

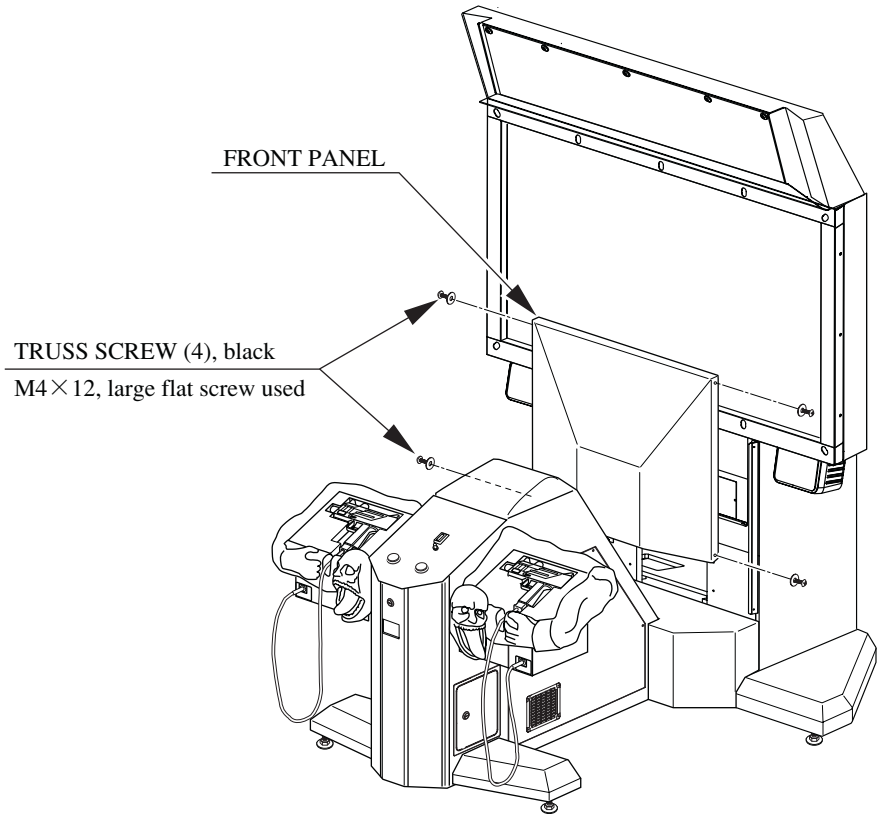


FIG. 11. 3 a

③ Remove the 4 screws and remove the lamp change cover.

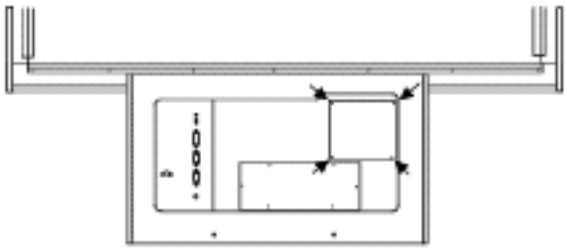


FIG. 11. 3 b

④ Remove the old lamp unit. Loosen the three screws holding the lamp unit in place.

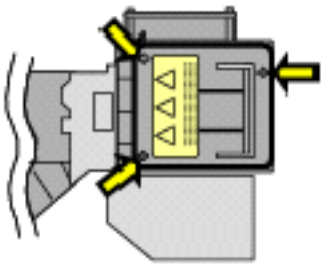


FIG. 11. 3 c

⑤ Pull the lamp out toward you.

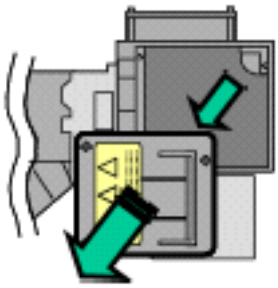


FIG. 11. 3 d

⑥ Insert the new lamp unit. Make sure that you push it all the way in.

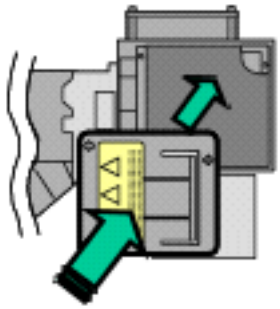


FIG. 11. 3 e

⑦ Tighten the three screws to hold the lamp unit in place.

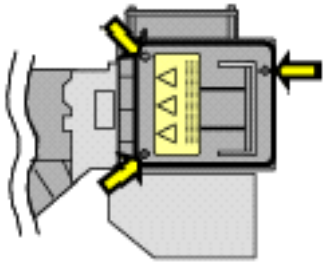


FIG. 11. 3 f

⑧ Replace the lamp change cover and fix it in place with the 4 screws.

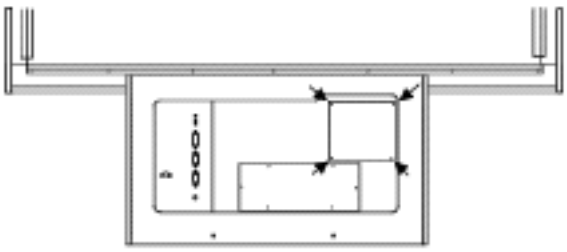


FIG. 11. 3 g

⑨ Replace the front panel and fix it in place with the 4 truss screws.

12. COIN SELECTOR

WARNING

- When working with the product, be sure to turn the power off. Working with the power on may cause an electric shock or short circuit.
- Be careful not to damage the wires. Damaged wires may cause electric shocks or short circuits, or present a risk of fire.

CAUTION

Make sure that the prop is firmly in place before starting any work. If the prop comes loose the control panel may close causing an accident.

12 — 1 REMOVING THE COIN SELECTOR

① Turn off the power.

② Unlock and open the control panel.



PHOTO 12. 1 a

③ Make sure the prop is firmly in place.

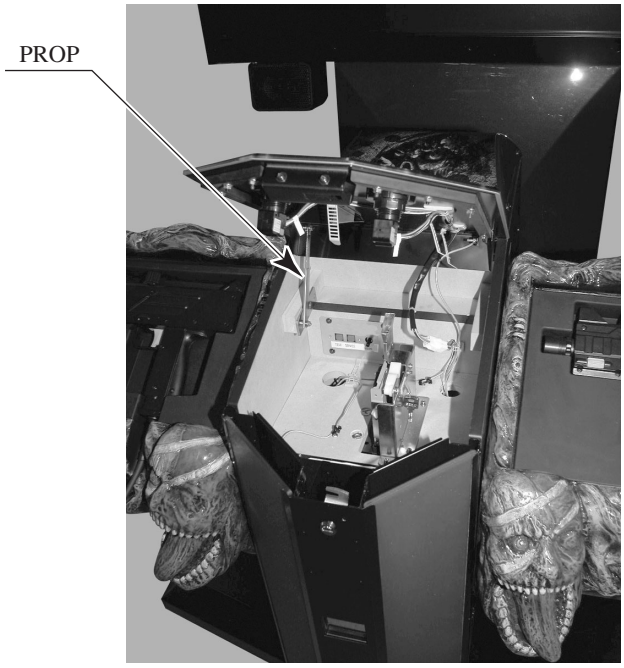


PHOTO 12. 1 b

④ The coin selector is located in the centre of the inside of the control panel. Remove the white stopper and remove the coin selector by lifting it diagonally up and to the left.

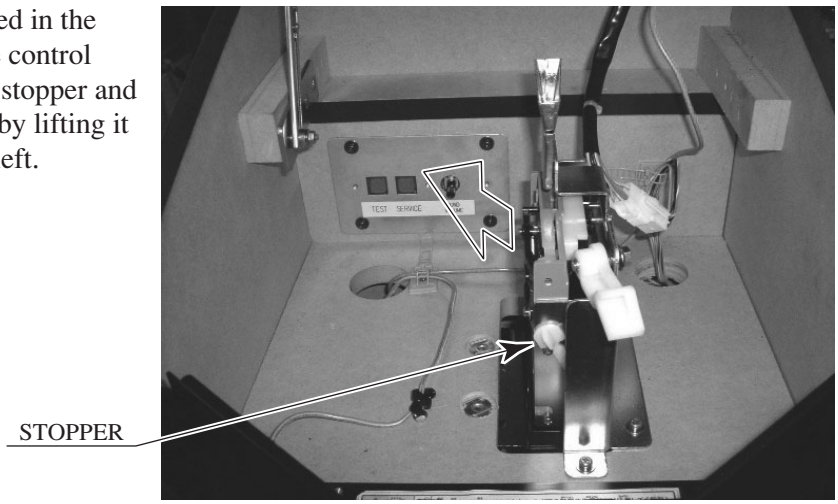


PHOTO 12. 1 c

12 — 2 COIN INSERTION TEST

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

☐ Does the Coin Meter count satisfactorily?

☐ Does the coin drop into the Cashbox correctly?

☐ Is the coin rejected when inserted while keeping the Reject button pressed down?

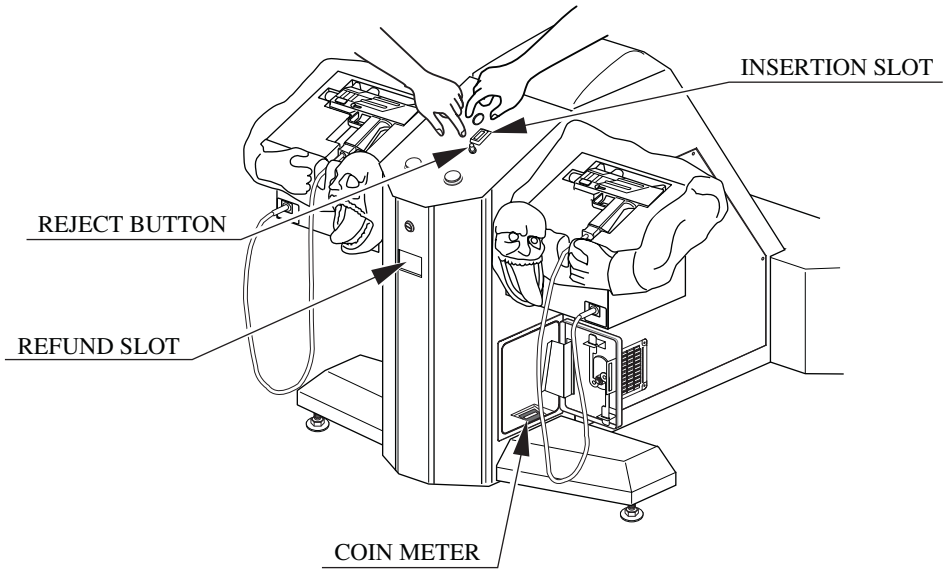


FIG. 12. 2

12 — 3 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.

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 control panel.

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.

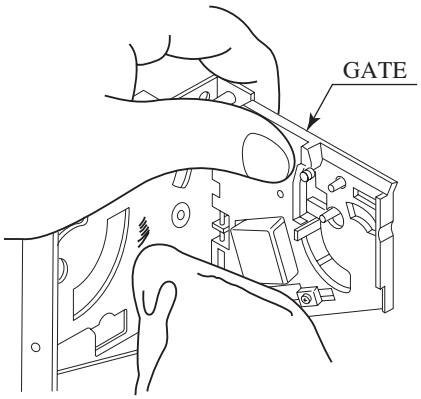


FIG. 12. 3 a

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 above, further apply a dry cloth, etc. to cause the coin selector to dry completely.

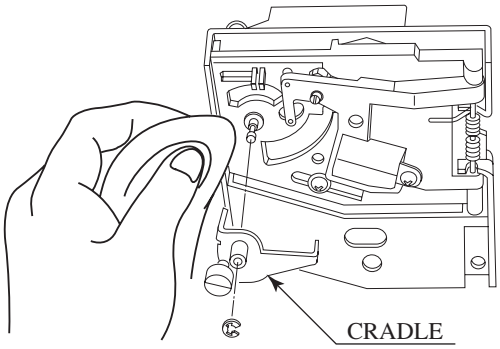


FIG. 12. 3 b

12 — 4 HANDLING COIN JAMS

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

13. REPLACING THE FLUORESCENT LIGHTS 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 becomes very hot and can cause burns if touched. 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.
- Be careful not to damage the wires. Damaged wires may cause electric shock or short circuit or present a fire risk.

CAUTION

- To perform work safely and securely, be sure to prepare a stepladder which is in a secure and stable condition. Performing work without using the stepladder 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.
- Make sure that the prop is firmly in place before starting any work. If the prop comes loose the control panel may close causing an accident.

IMPORTANT

Be careful not to damage or lose small parts.

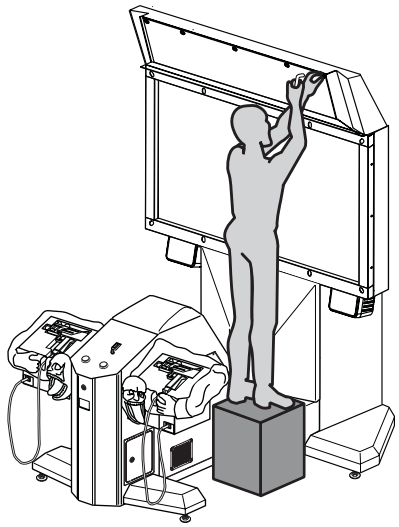


FIG. 13

Use a stepladder to perform this step.

13 — 1 BILLBOARD FLUORESCENT LIGHT

① Turn the power off.

② Use the enclosed hexagonal wrench (L-wrench) to remove the 5 hexagonal screws. The screws use a rubber spacer and design washer. Make sure you do not lose these parts.



PHOTO 13. 1 a

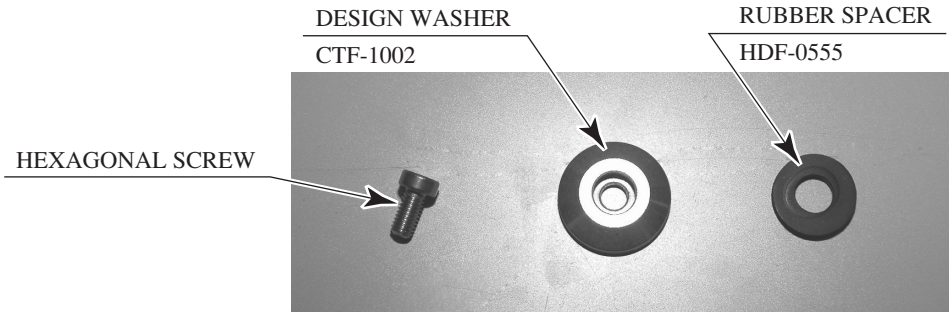


PHOTO 13. 1 b

③ Remove the billboard plate. The bottom of the billboard plate is inserted into the cabinet. Lift it diagonally upwards to remove it.



PHOTO 13. 1 c

④ Change the fluorescent light.

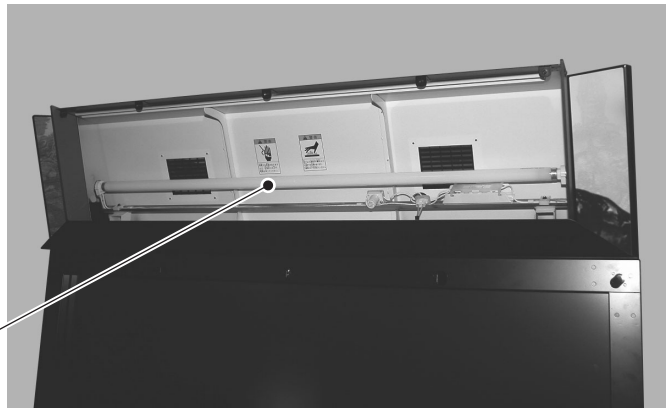


PHOTO 13. 1 d

13 — 2 COLD-CATHODE TUBE

The lighting units on the front right and left sides of the cabinet use a cold-cathode tube. The sash and lighting plate that require removal are shaped different on the left and right sides.

① Turn the power off.

② Unlock and open the control panel.
Make sure the prop is firmly in place.

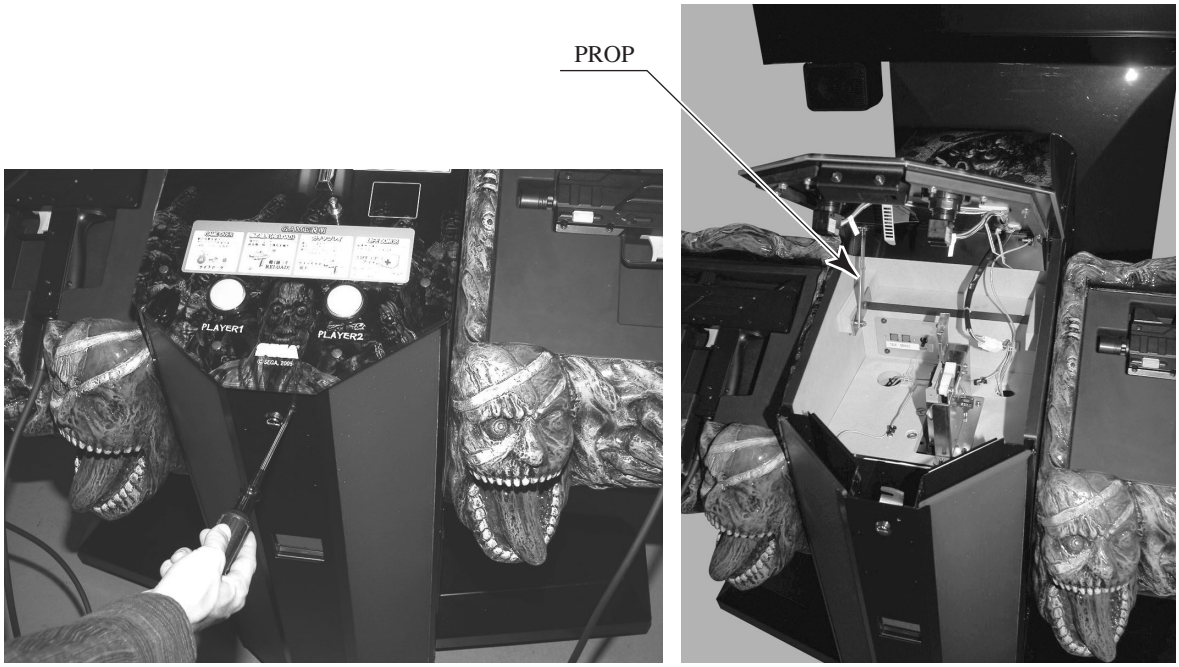


PHOTO 13. 2 a

③ Remove the three truss screws and remove the sash.

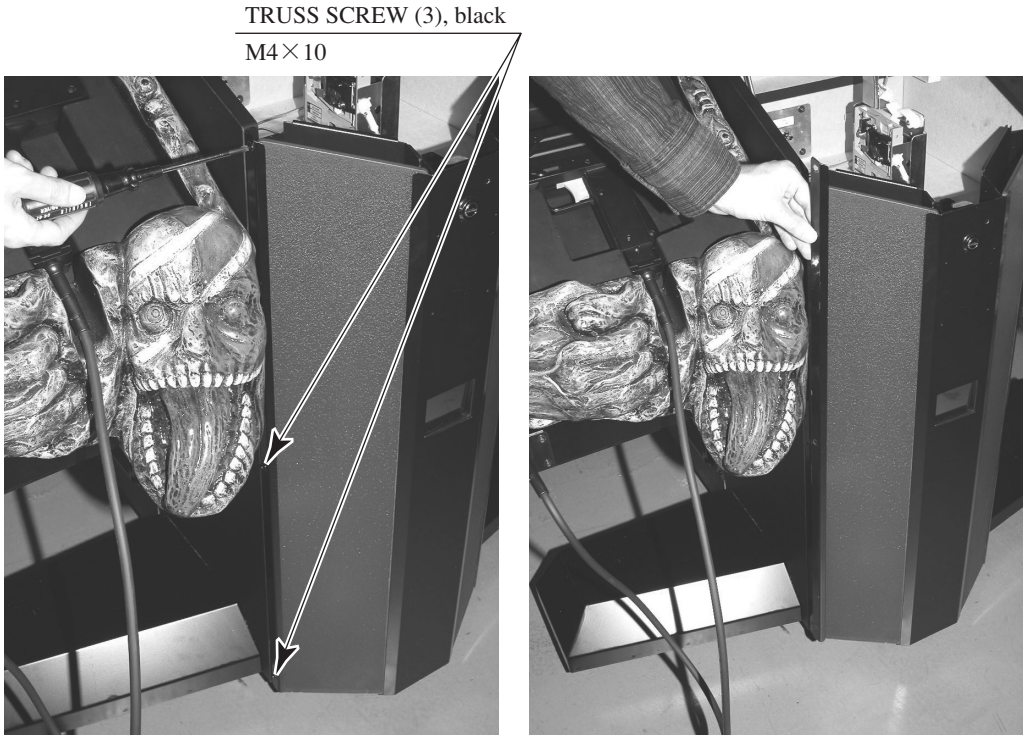


PHOTO 13. 2 b

④ Remove the lighting plate. Lift it directly upwards to remove it.

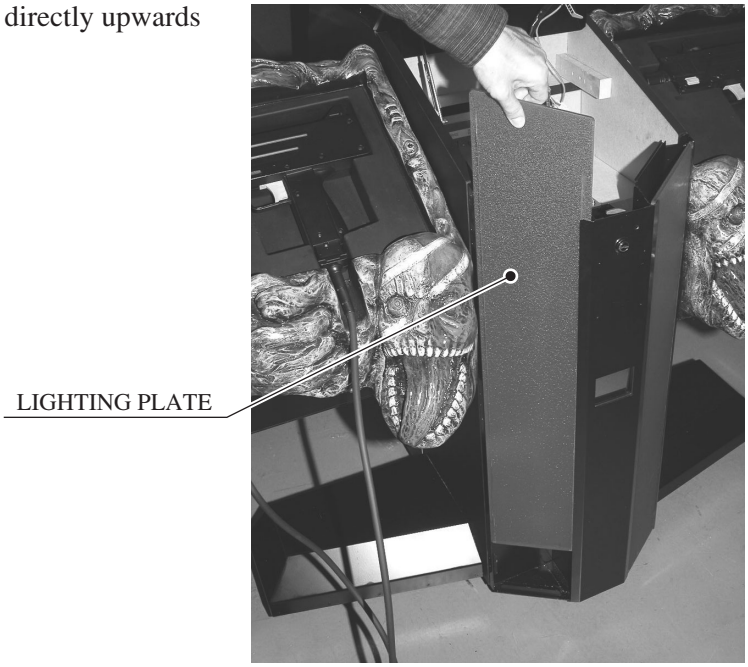


PHOTO 13. 2 c

⑤ Remove the two flange nuts and remove the CCFL board bracket. There is a connector on the internal inverter board so remove the bracket with care.

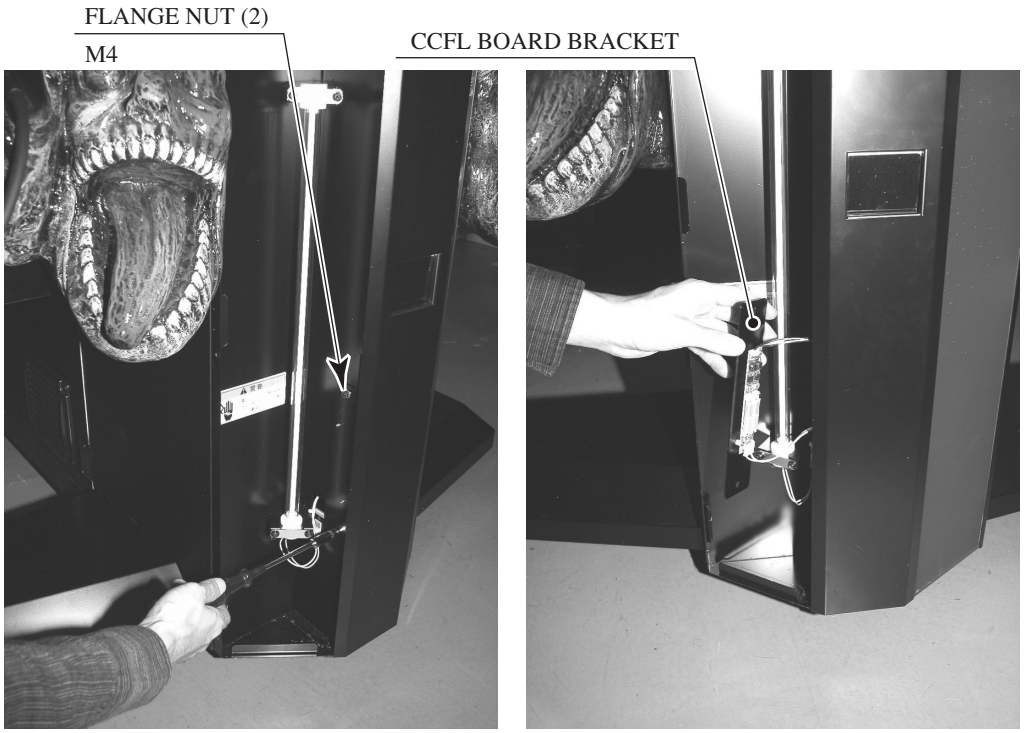


PHOTO 13. 2 d

⑥ Disconnect the inverter board connector. To replace the inverter board remove the two screws.

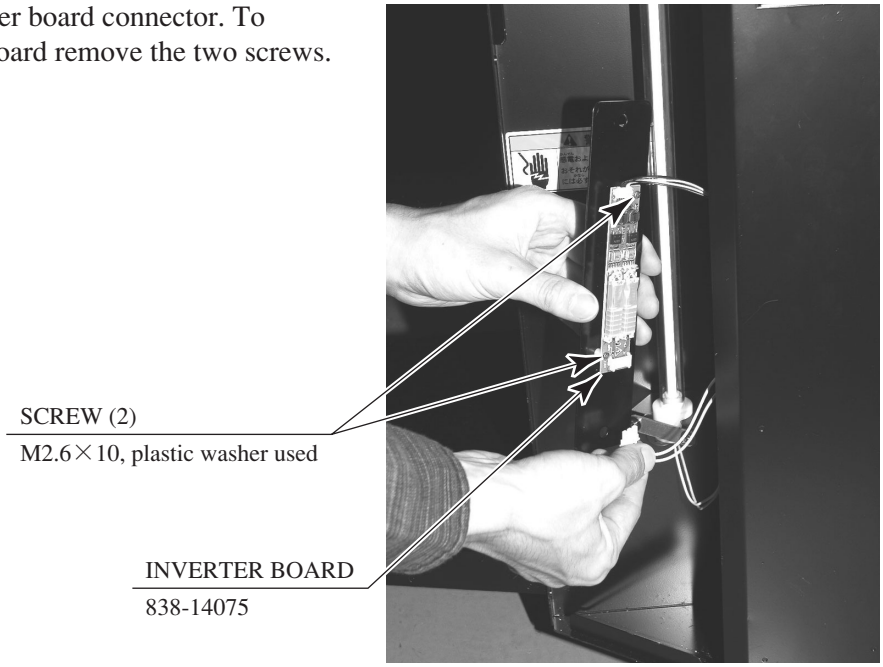


PHOTO 13. 2 e

⑦ Remove two screws in each location and remove the upper and lower CCFL plates that fix the cold-cathode tube in place.

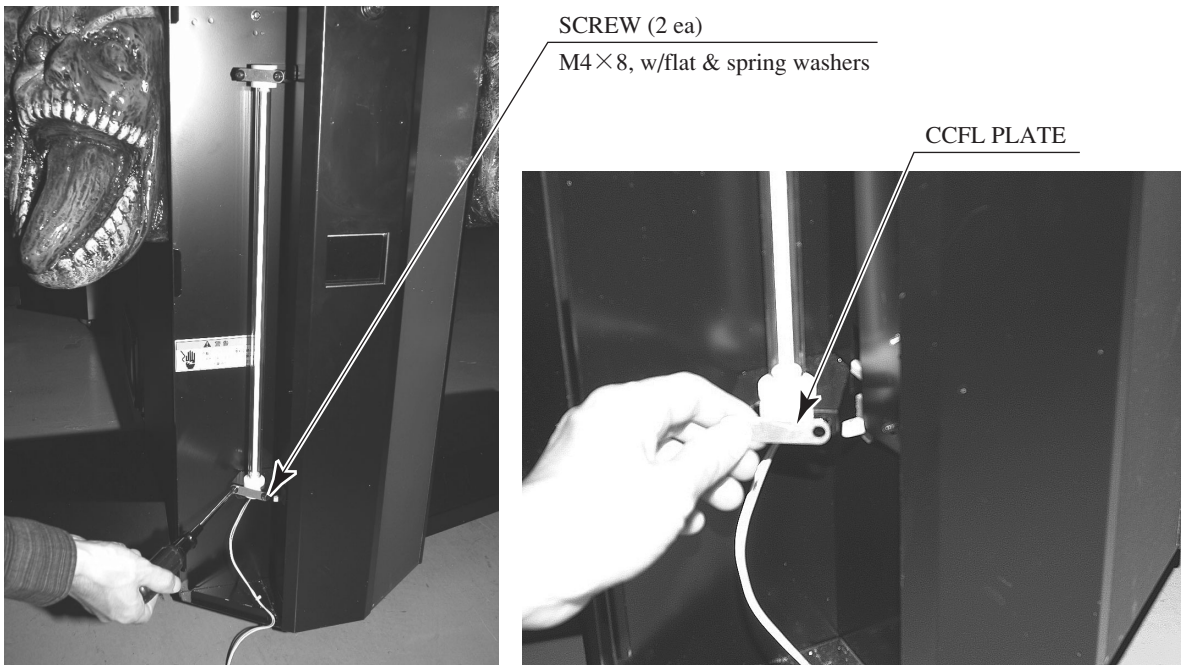


PHOTO 13. 2 f

⑧ Hold onto the white plastic lamp holder and remove the cold-cathode tube.



PHOTO 13. 2 g

⑨ Take off the lamp holders and replace the cold cathode tube. Use the same lamp holders on the new tube.

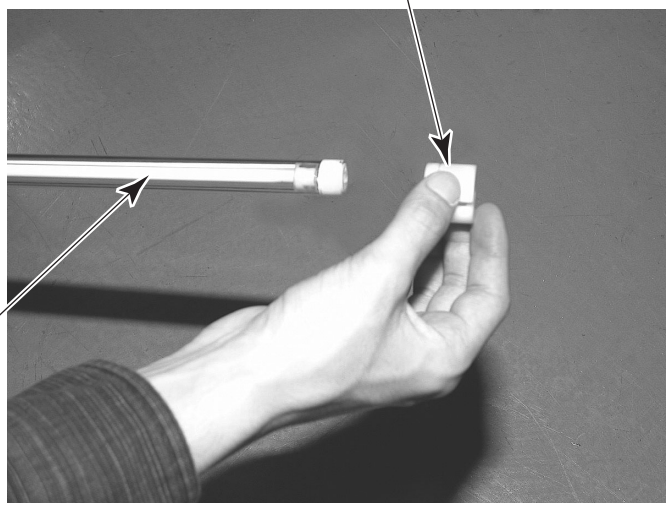


PHOTO 13. 2 h

14. PERIODIC INSPECTION

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

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

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: PERIODIC INSPECTION TABLE

	Description	Period	Reference
CABINET	Checking adjuster grounding	Daily	3
CONTROL UNIT (GUN)	Cleaning	As necessary	-
	Checking sight	Weekly	9
	Inspecting switches	Monthly	9
COIN SELECTOR	Inspecting coin switches	Monthly	9-2
	Testing coin insertion	Monthly	12-2
	Cleaning the coin selector	Tri-monthly	12-3
PROJECTOR	Screen cleaning	Weekly	11-1
	Checking adjustments	Monthly or when moving	6, 11, 9-2
GAME BOARD	Performing memory test	Monthly	9-2
	Checking settings	Monthly	9, 9-2
POWER SUPPLY PLUG	Inspecting and cleaning	Annually	See above
INTERIOR	Cleaning	Annually	See above
CABINET SURFACES	Cleaning	As necessary	See below

CLEANING THE CABINET SURFACES

When the cabinet surfaces become dirty, remove stains with a soft cloth soaked in water or diluted (with water) chemical detergent and then wrung dry. To avoid damaging the finish, do not use such solvents as thinner, benzene, etc. (other than ethyl alcohol) or abrasives (bleaching agent and chemical dust-cloth).

Some general-purpose household, kitchen, and furniture cleaning products may contain strong solvents that degrade plastic components, coatings, and print. Before using any cleaning product, read the product's cautionary notes carefully and test the product first on a small area that is not highly visible.

15. TROUBLESHOOTING

15 — 1 PROBLEMS NOT INVOLVING THE GAME BOARD

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

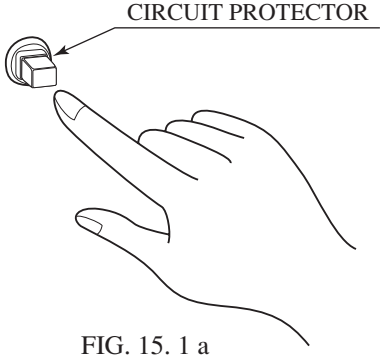
WARNING

- In order to prevent electric shock and short circuit, be sure to turn power off before performing work.
- Be careful not to damage the wires. Damaged wires may cause electric shock or short circuit or present a fire risk.
- 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.

TABLE 15

PROBLEMS	CAUSE	COUNTERMEASURES
With Main SW ON, no activation.	Power is not supplied.	Securely insert the power plug into the plug socket.
	Power supply/voltage is not correct.	Make sure that power supply/voltage is correct.
	The Circuit Protector functioned due to a momentary electrical overload.	After eliminating the cause of overload, reinstate the AC Unit's Circuit Protector (see 5 of Section 6, refer to the following).
The color on the projector screen is incorrect.	Image adjustment is not appropriate.	Adjust appropriately (see Sec. 11).
No sound is emitted.	Sound volume adjustment is not appropriate.	Adjust sound volume (see Sec. 9).
	Board and Amplifier malfunctioning	Perform the sound test and confirm (see Sec. 9-2).

CIRCUIT PROTECTOR



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

FIG. 15. 1 a

PROBLEMS	CAUSE	COUNTERMEASURES
Control Unit (Gun) sighting is not satisfactory.	Sights are not aligned due to changes in the surrounding environment.	Perform sighting adjustment in the test mode (see Sec. 9-3).
	LED board malfunctioning	Check to ensure that the LED lights up. If it does not light up, replace (see Fig. 15.1b).
	Sensor unit malfunctioning	Replace the sensor unit (see Sec. 10). <JPT-2030 SENSOR UNIT>
	LED board and LED board cover are contaminated.	Wipe off soiled surfaces (see Sec. 14).
	Fuse on the sensor unit has blown due to a momentary electrical overload.	Fix the source of the overload, then replace the fuse (see Sec. 15-3). <514-5143-200 FUSE S.B 200MA250V HBC CE ROHS or 514-5146-200 FUSE S.B 200MA250V 218 CE ROHS>
The Control Unit (Gun) does not appear to be operating correctly.	A fault with the microswitches	Use an Input Test to make sure they change between ON and OFF. If they do not, exchange the faulty microswitches (see Sec. 10). <509-5080 SW MICRO TYPE>
	A fault with the LED board	Check that the LEDs are on. If not, exchange them (see FIG. 15.1b).
	Speed sensor settings are wrong.	Use TEST Mode to correct the settings (see Sec. 9-3).
	The sensor unit is broken.	Exchange the sensor unit (see Sec. 10).
	The speed sensor circuit fuse has blown due to a momentary electrical overload.	After resolving the cause of the overload, change the fuse (see Sec. 15-3). <514-5143-200 FUSE S.B 200MA250V HBC CE ROHS or 514-5146-200 FUSE S.B 200MA250V 218 CE ROHS>
The fluorescent light does not come on.	The fluorescent light has died.	Exchange the fluorescent light (see Sec. 13).
The cold-cathode tube does not come on.	The cold-cathode tube has died.	Exchange the cold-cathode tube (see Sec. 13).
	The inverter board is broken.	Exchange the inverter board (see Sec. 13).

Replacing the LED Board

CAUTION

Removing or attaching of the mask must be carried out by at least two people, one on the left and one on the right. A single person working alone can lead to injury.

If the light from the 2 LEDs cannot be seen then there is a problem or malfunction. Follow the steps below to exchange them. You can also use the following steps to clean the screen.

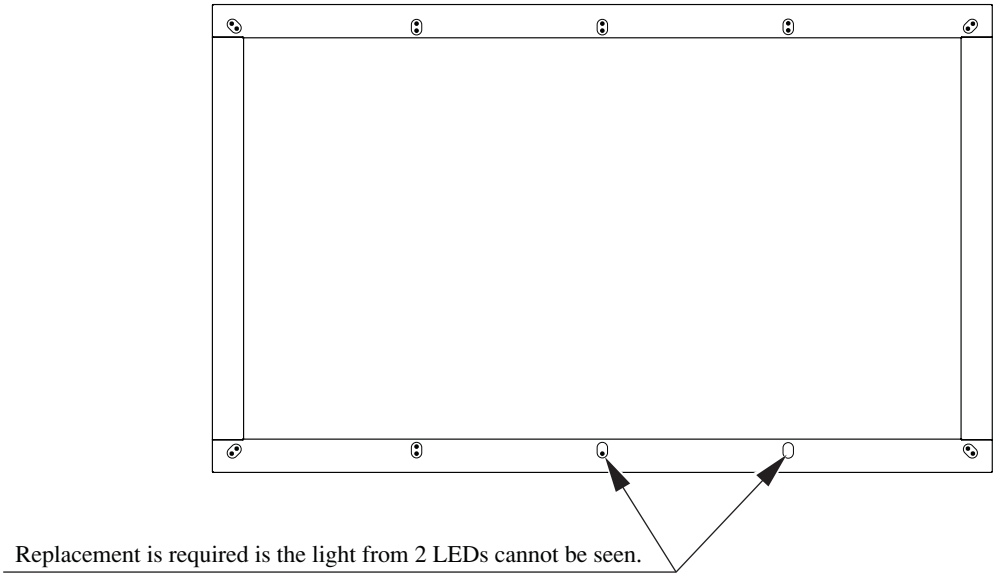


FIG. 15. 1 b

① Turn the power off.

② Remove the four truss screws and remove the front panel.

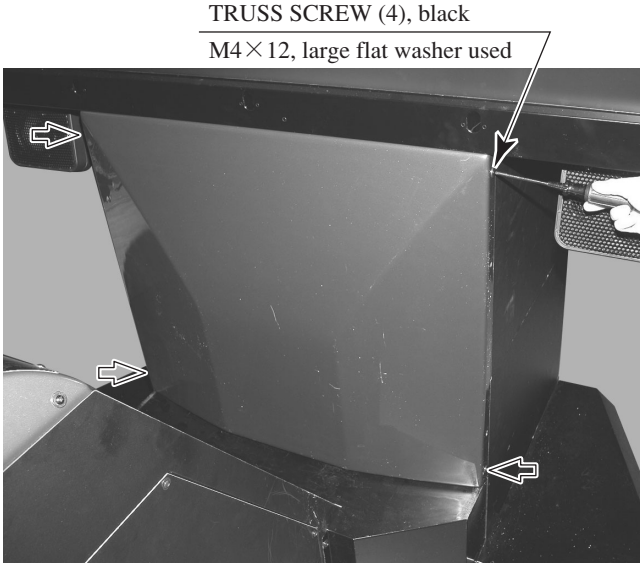


PHOTO 15. 1 a

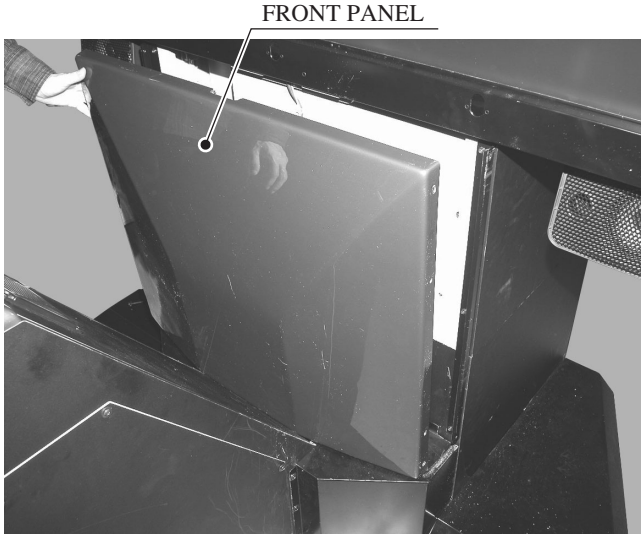


PHOTO 15. 1 b

③ Disconnect the two connectors.



PHOTO 15. 1 c

④ Remove the six screws from the side of the projector.



PHOTO 15. 1 d

⑤ Have one person take the left and another the right and remove the mask.



PHOTO 15. 1 e

⑥ The mask has the LED boards attached. Remove the two U nuts holding the malfunctioning board, disconnect both connectors and remove and replace the LED board.
Be carefully not to lose the flat metal washers and plastic washers safe, and pay attention to the facing/direction of the LED board when inserting it.

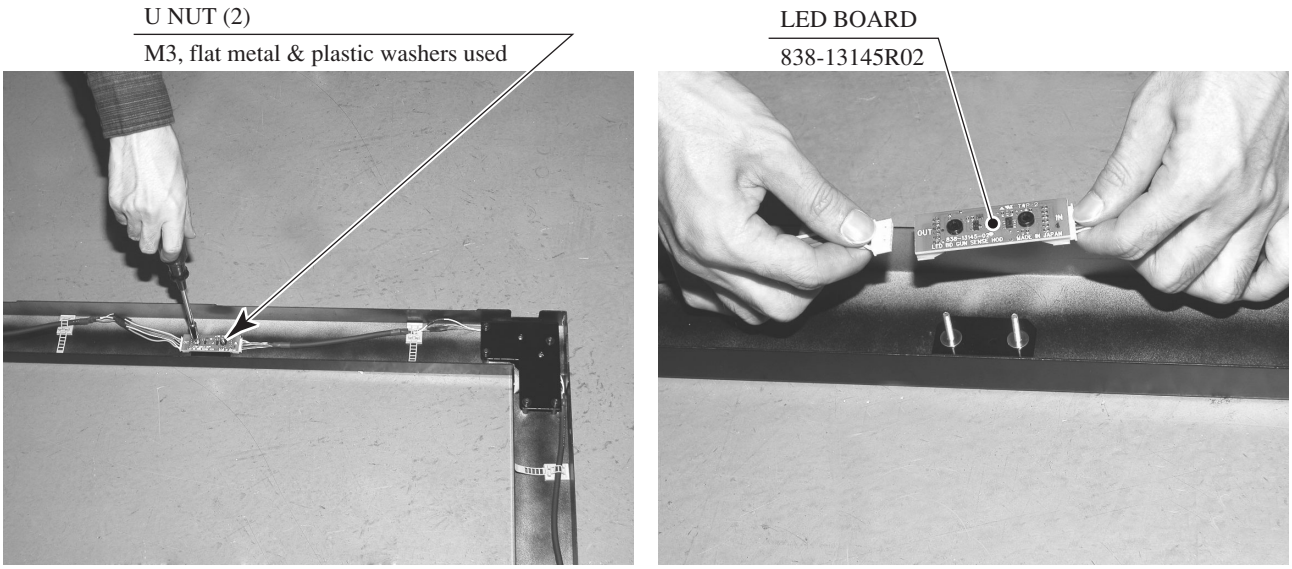


PHOTO 15. 1 f

⑦ If the problematic LED board is in the corner of the mask remove the 5 screws and remove the joint bracket. The joint bracket has the same parts are the boards along the straight sections of the mask, and there are 2 types.

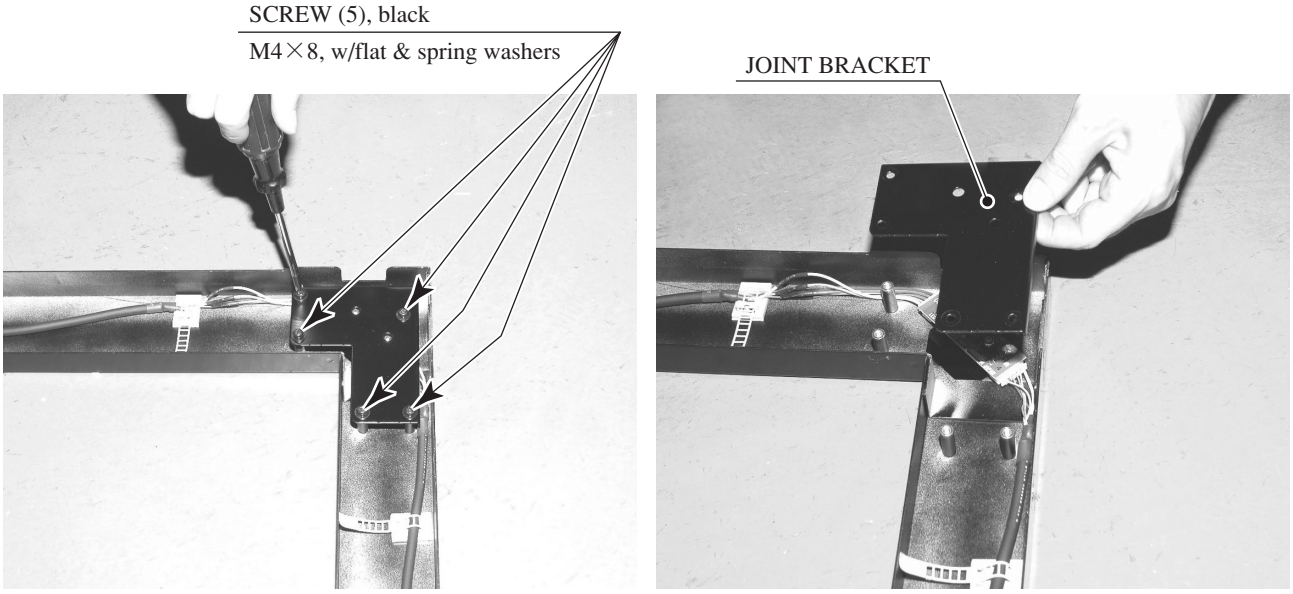


PHOTO 15. 1 g

⑧ Remove the two U nuts, disconnect both connectors and remove and replace the LED board. Be carefully not to lose the flat metal washers and plastic washers safe, and pay attention to the facing/direction of the LED board when inserting it.

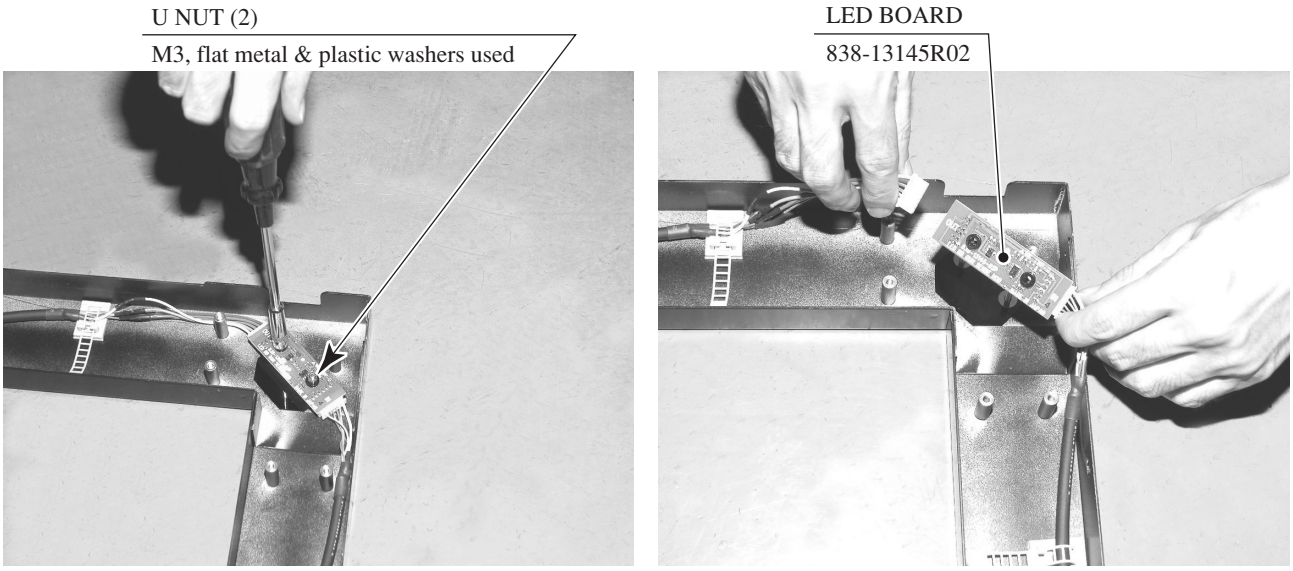


PHOTO 15. 1 h

⑨ After exchanging the LED board enter TEST Mode and perform a lighting test.

WARNING

- If an error code is displayed get on-site maintenance personnel or other qualified professional to look at it. An unqualified person attempting to resolve an error code problem may lead to electric shock, short circuit and risk of fire.
  If no on-site maintenance personnel or qualified professional is available immediately turn off the power and contact the customer services in this manual or your supplier.
- If a problem not described in this manual occurs, or the resolution to a problem described in this manual is not effective, do not make further attempts to resolve the problem yourself. Immediately turn off the power and contact the customer services in this manual or your supplier. Any unguided attempts to solve such problems may lead to a serious accident.

STOP

IMPORTANT

- If Error 20 occurs it is necessary to restart the machine in order to clear the error.
- The errors below include some which can never occur during the normal operation of "The House of the Dead 4."
- If an error number or message not listed below appears, cease using the product immediately and send the LINDBERGH board in for repairs.

The LINDBERGH board is equipped to display various errors on-screen to help solve any problems. If an error is displayed the game cannot be used. Use the following table of causes and resolutions to solve the problem.

Error 01

DISPLAY	Game Program Not Found.
CAUSE	The key chip is not connected.
COUNTERMEASURES	Check that the key chip is connected correctly. Check that the keychip is not inserted the wrong way or that the key chip from a different system is not inserted.

Error 02

DISPLAY	Game Program Not Available.
CAUSE	The key chip is not supported.
COUNTERMEASURES	Send the LINDBERGH board in for repair with the key chip still in place.

Error 05

DISPLAY	Wrong Region.
CAUSE	The game is for a foreign region.
COUNTERMEASURES	Use a domestic game.

Error 06

DISPLAY	I/O Device Not Found.
CAUSE	The LINDBERGH board's I/O board cannot be found.
COUNTERMEASURES	Send the LINDBERGH board in for repair with the key chip still in place.

Error 07

DISPLAY	Graphic Card Not Found.
CAUSE	The LINDBERGH board's graphics card cannot be found.
COUNTERMEASURES	Send the LINDBERGH board in for repair with the key chip still in place.

Error 08

DISPLAY	Sound Card Not Found.
CAUSE	The LINDBERGH board's sound card cannot be found.
COUNTERMEASURES	Send the LINDBERGH board in for repair with the key chip still in place.

Error 09

DISPLAY	System Memory Not Enough.
CAUSE	The LINDBERGH board does not have enough memory.
COUNTERMEASURES	Send the LINDBERGH board in for repair with the key chip still in place.

Error 10

DISPLAY	Unexpected Game Program Failure.
CAUSE	The game program crashed due to an unexpected error.
COUNTERMEASURES	Turn the power off and then restart.

Error 11

DISPLAY	JVS I/O board is not connected to main board.
CAUSE	(1) The I/O board is not connected. (2) Unreliable connection between the main board and the I/O board.
COUNTERMEASURES	(1) Connect the I/O board to the main board. Verify that the power cable is connected to I/O board. (2) Reconnect or replace the JVS cable that connects the I/O board to the main board.

Error 12

DISPLAY	JVS I/O board does not fulfill the game spec.
CAUSE	The correct I/O board is not connected.
COUNTERMEASURES	Use an I/O board that provides the proper input/output for the game.

Error 14

DISPLAY	Network firmware version does not fulfill the game spec. Required version XX.XX.
CAUSE	The firmware version installed on either the network board or the DIMM Media board is older than the required version.
COUNTERMEASURES	Use a network board or DIMM Media board with firmware that meets or exceeds the required version.

Error 15

DISPLAY	Game Program Not Found.
CAUSE	The key chip is not connected.
COUNTERMEASURES	Check that the key chip is connected correctly. Check that the key chip is not inserted the wrong way or that the key chip from a different system is not inserted.

Error 21

DISPLAY	Game Program Not Found on Game Disk.
CAUSE	There is no program image on the game disk.
COUNTERMEASURES	Check that a game disk corresponding to the key chip is inserted into the drive.

Error 22

DISPLAY	Game Program Not Found on Device.
CAUSE	There is no game image on the game installer device.
COUNTERMEASURES	Perform a reinstall from the game disk.

Error 24

DISPLAY	DVD Drive Not Found.
CAUSE	The DVD drive cannot be found.
COUNTERMEASURES	Connect the DVD drive.

Error 25

DISPLAY	Game Disk Not Found.
CAUSE	The game disk cannot be found.
COUNTERMEASURES	Insert the game disk.

Error 26

DISPLAY	Storage Device Not Found.
CAUSE	The program installer device cannot be found.
COUNTERMEASURES	Send the LINDBERGH board in for repair with the key chip still in place.

Error 27

DISPLAY	Storage Device is Not Acceptable.
CAUSE	The program installer device does not have enough space.
COUNTERMEASURES	Send the LINDBERGH board in for repair with the key chip still in place.

Error 28

DISPLAY	This Game Disk is Not Acceptable.
CAUSE	The game disk cannot be read correctly.
COUNTERMEASURES	Exchange the game disk for a proper game disk. Check that the game disk is not scratched, damaged or dirty.

Error 29

DISPLAY	Cannot Control DVD Drive.
CAUSE	The DVD drive cannot be controlled.
COUNTERMEASURES	The DVD drive may be damaged.

Error 31

DISPLAY	Storage Device Not Enough.
CAUSE	The program installer device does not have enough space.
COUNTERMEASURES	Send the LINDBERGH board in for repair with the key chip still in place.

Error 32

DISPLAY	Installing Game Program Failed.
CAUSE	Transfer of the program failed.
COUNTERMEASURES	Check that the DVD drive is connected correctly. Check that the game disk is not scratched, damaged or dirty.

Error 33

DISPLAY	Storage Device is Not Acceptable.
CAUSE	The program installer device cannot be found.
COUNTERMEASURES	Send the LINDBERGH board in for repair with the key chip still in place.

Error 34

DISPLAY	Storage Device Not Found.
CAUSE	The program installer device cannot be found.
COUNTERMEASURES	Send the LINDBERGH board in for repair with the key chip still in place.

Error 35

DISPLAY	Storage Device is Not Acceptable.
CAUSE	The program installer device does not have enough space.
COUNTERMEASURES	Send the LINDBERGH board in for repair with the key chip still in place.

Error 36

DISPLAY	Storage Device May be Broken.
CAUSE	The program installer device is broken.
COUNTERMEASURES	Send the LINDBERGH board in for repair with the key chip still in place.

Error 37

DISPLAY	Verifying Game Program Failed.
CAUSE	The program image is unverified due to the program image not existing on the game disk or server.
COUNTERMEASURES	Check that the correct game disk is inserted.

Error 41

DISPLAY	Server Not Respond.
CAUSE	The server is not responding.
COUNTERMEASURES	Check the network settings. Set IP Address and other settings. Check that the network cable has not been pulled out.

Error 42

DISPLAY	Server Mount Failed
CAUSE	The server directory is could not be reached.
COUNTERMEASURES	Check the network settings. Set IP Address and other settings. Check that the network cable has not been pulled out.

Error 43

DISPLAY	IP Address Not Assigned.
CAUSE	An IP Address could not be obtained from the DHCP server.
COUNTERMEASURES	Check the network settings. Set IP Address and other settings. Check that the network cable has not been pulled out.

Error 44

DISPLAY	Game Program Not Found on Server.
CAUSE	No program image on the network server.
COUNTERMEASURES	Check that the game title, place on the network server, and the key chip correspond to each other.

Caution 51

DISPLAY	Wrong Resolution Setting.
CAUSE	The game does not support the current resolution settings.
COUNTERMEASURES	Change the DIP SW to the correct settings and restart.

Caution 52

DISPLAY	Wrong Horizontal/Vertical Setting.
CAUSE	The monitor horizontal/vertical settings are incorrect.
COUNTERMEASURES	Change the DIP SW to the correct settings and restart.

15 — 3 REPLACING THE FUSE

WARNING

- Fuse replacements other than those specified can cause accidents and are strictly forbidden. In case fuse replacements other than those stated in this manual are necessary, contact where you purchased the product from for inquiries regarding this matter.
- To prevent accidents due to electrical shock, always turn the power off and disconnect the power plug from the power outlet before performing any task that involves touching the interior of the product.
- Be careful not to damage the wires. Damaged wires may cause electric shock, short circuit or present a risk of fire.
- Be sure to use fuses meeting the specified rating. Using fuses exceeding the specified rating can cause fire and electric shock accidents.
- After eliminating the cause of a blown fuse, replace the fuse. Depending on the cause of the fuse blow, continued use with the blown fuse can cause generation of heat and present a risk of fire.

The Control Unit (Gun) circuit fuses are found, from facing the cabinet, inside side door R on the right side of the cabinet. There are four fuses arranged vertically on the control panel inside side door R. From top to bottom these fuses are -

- Player 1 Control Unit (Gun) speed sensor fuse
- Player 2 Control Unit (Gun) speed sensor fuse
- Player 1 Control Unit (Gun) targeting sensor unit fuse
- Player 2 Control Unit (Gun) targeting sensor unit fuse

① Turn the power off.

② Remove the three truss screws on side door R.

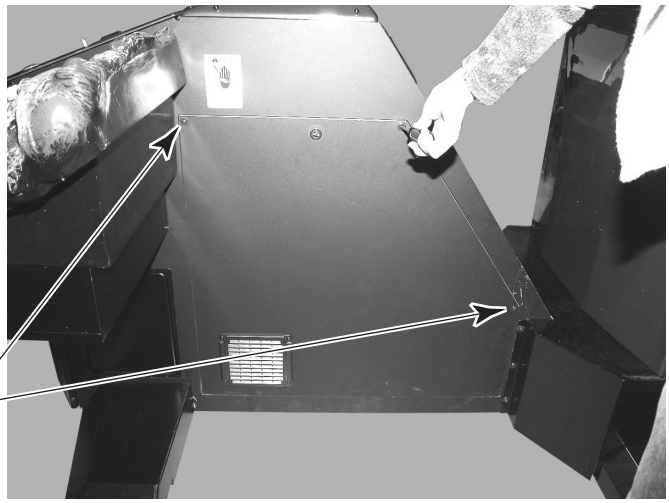


PHOTO 15. 3 a

③ Unlock and remove side door R.



PHOTO 15. 3 b

④ Exchange the fuse.

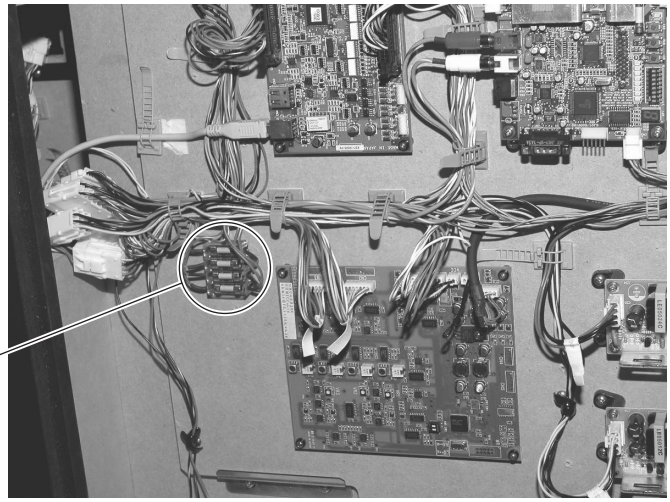


PHOTO 15. 3 c

16. GAME BOARD



- In order to prevent electric shock and short circuit hazards, be sure to turn power off before performing work.
- Be careful not to damage the wires. Damaged wires may cause electric shock or short circuit or present a fire risk.
- Do not expose the Game BD, etc. without a good reason. Failure to observe this can cause electric shock hazard or malfunctioning.
- Do not use this product with connectors other than those that were connected and used with the Game Board at the time of shipping. Do not carelessly connect wires to connectors that were not used at the time of shipping, as this may cause overheating, smoke or fire damage.
- When replacing or repairing the game board and then returning it to the cabinet, be sure to reconnect all the connectors correctly. Improper connection may cause electric shock, short circuit or fire.
- When connecting the connectors, be sure to attach them correctly. There is only one correct way in which they must be connected. Attempting to connect them incorrectly may cause damage to the pins on the connectors, and cause electric shock, short circuit or fire.



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



- When exchanging the game board place and post off the damaged board in the new board's special packaging. If you do not have the packaging or it is damaged order one using the following product number/name <601-11691: CARTON BOX LBG>.
- When sending a board for repairs or do not dismantle the board in any way prior to sending it away. It may not be possible to meet your request if any parts are missing.
- Send a game board in for repair with the key chip still inserted.

16 — 1　REMOVING THE GAME BOARD

The game board (LINDBERGH board) is found, from the facing the cabinet, inside side door L on the left side of the cabinet. Remove the entire wooden board (ASSY MAIN BD) on which the LINDBURGH board is placed.

① Turn the power off.

② Remove the three truss screws from side door L.

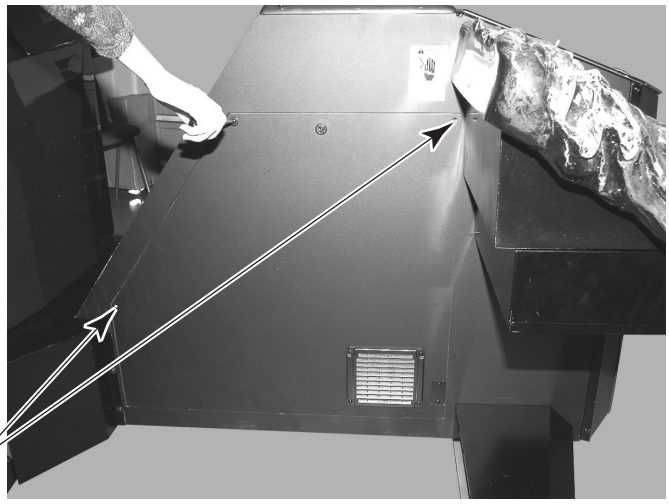


PHOTO 16. 1 a

③ Unlock and open side door L.



PHOTO 16. 1 b

④ Disconnect all connectors attached to the LINDBERGH board.

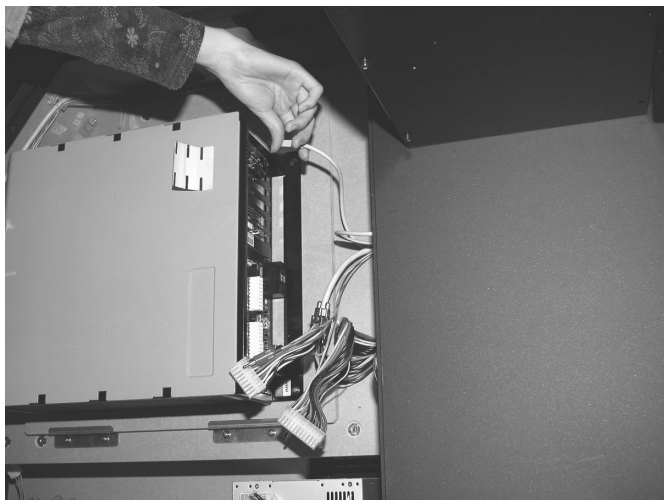
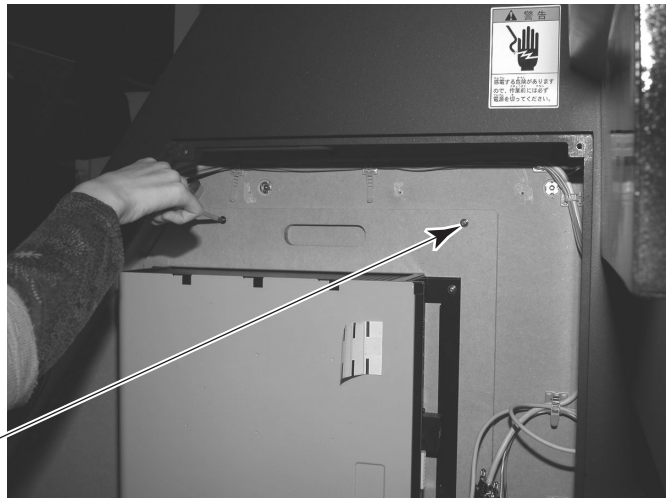


PHOTO 16. 1 c

⑤ Remove the two screws holding the base (wooden board) in place.
Take care as once these screws are removed there is a risk of the entire board falling forward.



SCREW (2)
M4×30, w/flat & spring washers

PHOTO 16. 1 d

⑥ Remove the ASSY MAIN BD.



PHOTO 16. 1 e

⑦ Place the ASSY MAIN BD on a flat surface.

⑧ Remove the four screws and remove the LINDBERGH board.

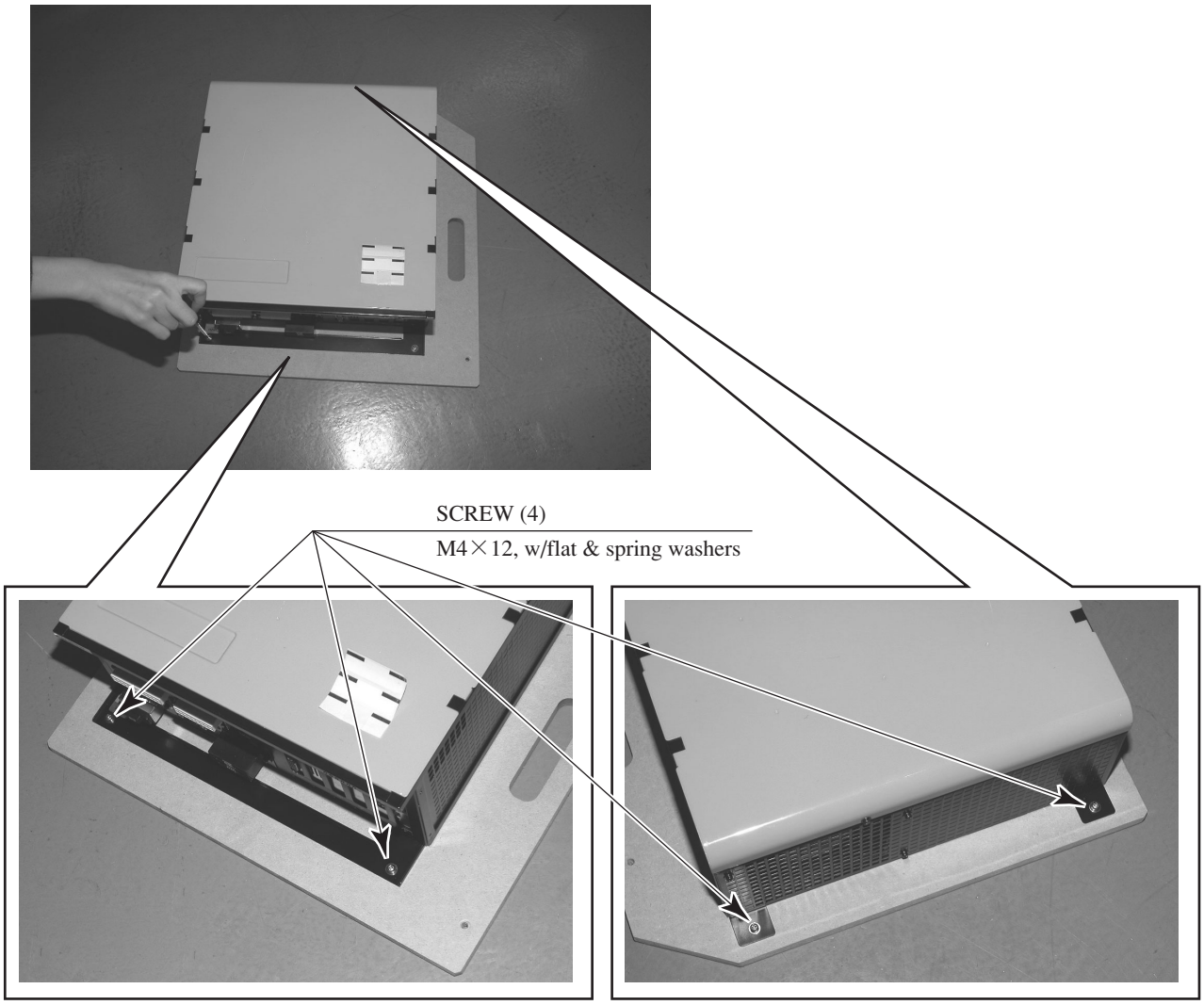


PHOTO 16. 1 f

STOP
IMPORTANT

- The game board becomes the game board for this product once the key chip is inserted.
- The DIP SW (dip switches) on the board must be set as specified below. If set incorrectly for this product, an error will be displayed and the game will not run.

ASSY CASE LBG L 1GB HDF EXP (844-0002D-02)

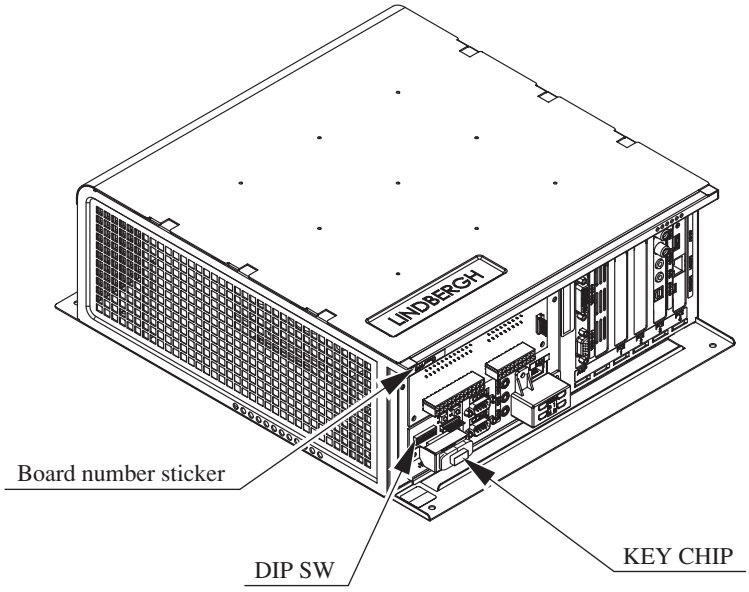


FIG. 16. 2 a

DIP SW Setting

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

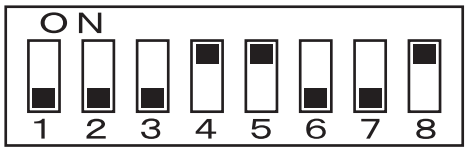


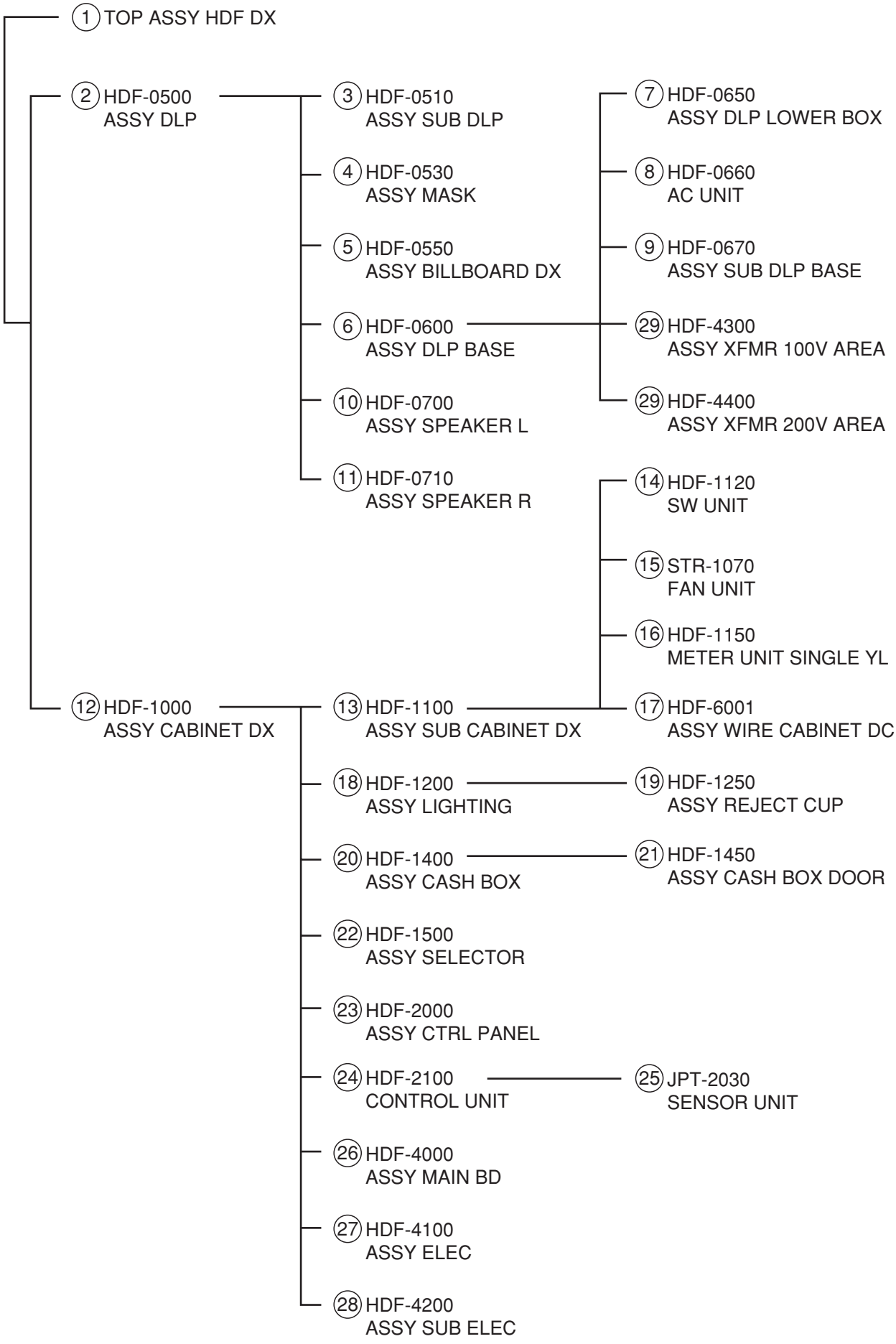
FIG. 16. 2 b

17. DESIGN RELATED PARTS

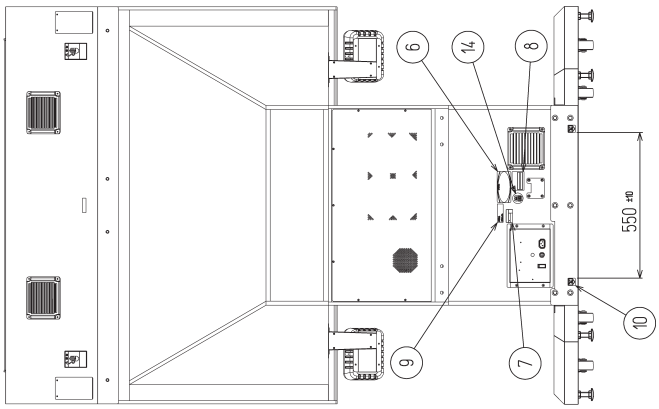
For the Warning Display stickers, refer to Section 1.

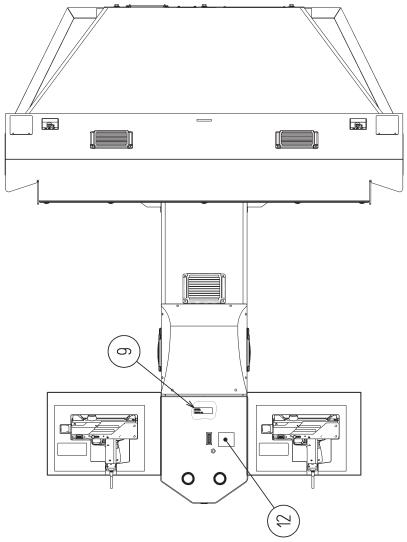


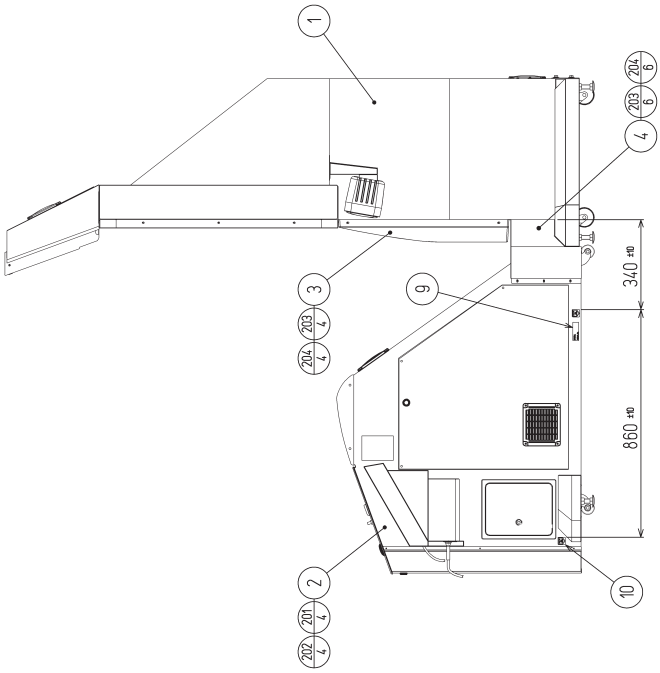
18. PARTS LIST

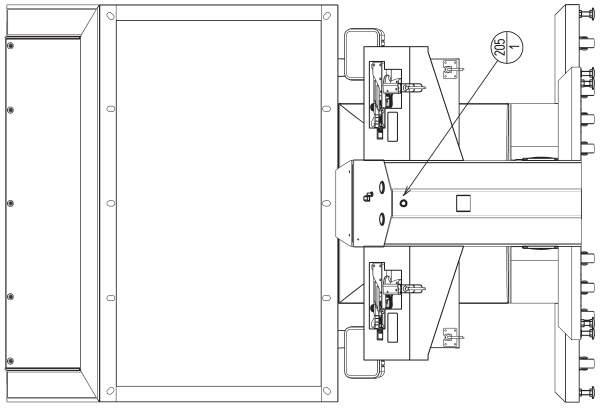


① TOP ASSY HDF DX （D-1/2）





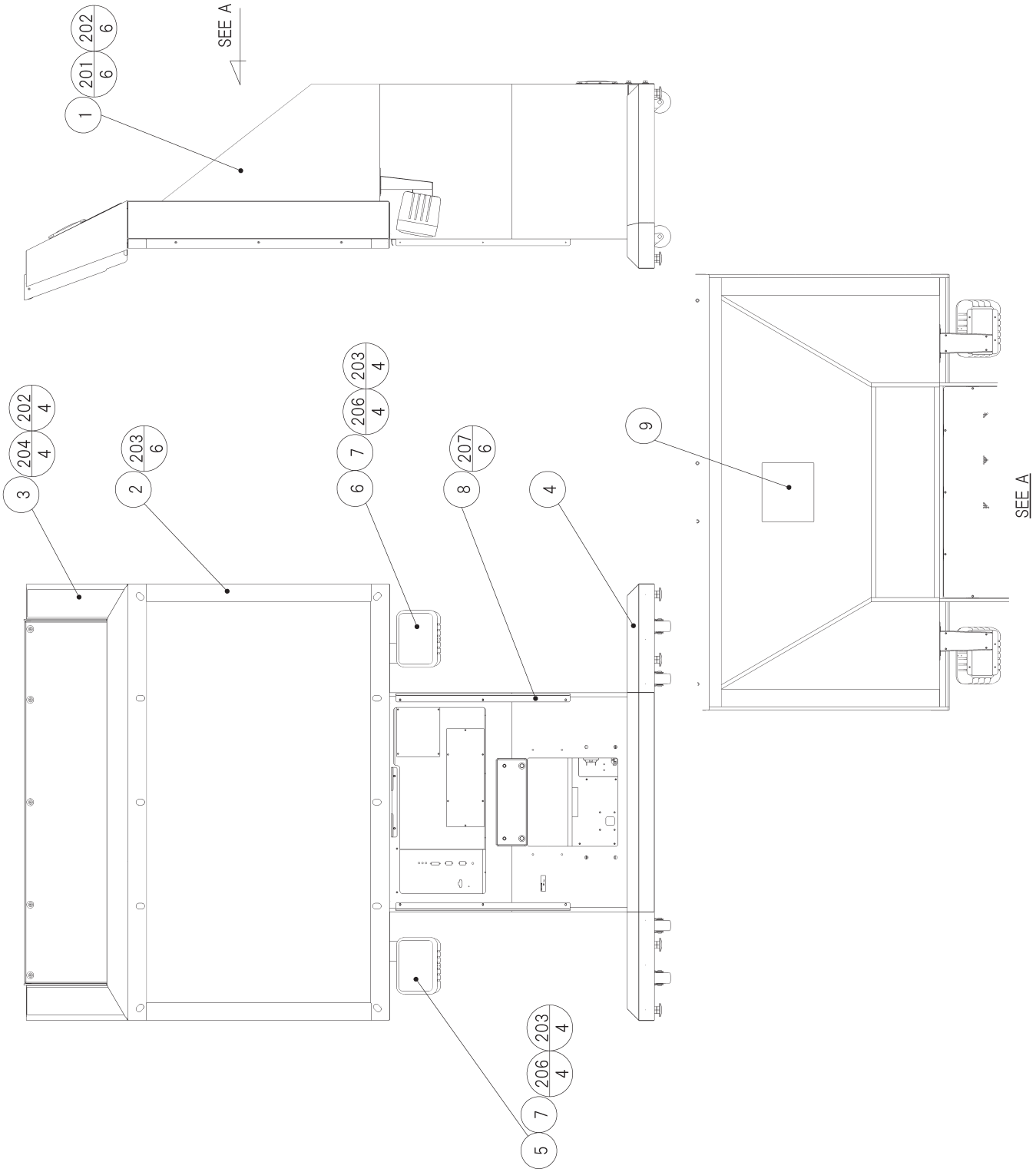




① TOP ASSY HDF DX (D-1/2)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	HDF-0500	ASSY DLP	
2	HDF-1000	ASSY CABINET DX	
3	HDF-0001	FRONT PANEL	
4	HDF-0002	JOINT COVER	
5	SGM-4556	POLY COVER 1200 × 1500 × 1200	
10	421-11416	STICKER CAUTION FORK	
11	421-8479-01	STICKER INSTR SUNLIGHT ENG	
201	030-000835-SB	HEX BLT BLK W/S M8 × 35	
202	068-852216-0B	FLT WSHR BLK 8.5-22 × 1.6	
203	000-T00412-0B	M SCR TH BLK M4 × 12	
204	068-441616-0B	FLT WSHR BLK 4.4-16 × 1.6	
205	008-T00412-0B	TMP PRF SCR TH BLK M4 × 12	
401	420-6908-01	OWNERS MANUAL HDF DX ENG	
402	SGM-4111Y	KEY BAG	
404	509-5080	SW MICRO TYPE (SS-5GL2)	
405	600-6729-01	AC CABLE CONNECT TYPE 15A W/E	<Taiwan>
	600-6619-02	AC CABLE CONNECT TYPE FOR UK	<Hong Kong>
	600-6618-01	AC CABLE CONNECT TYPE FOR EXP	<Others>
407	540-0043-91	L-WRENCH FOR HEX SOC 3MM	
408	514-5143-200	FUSE S.B 200MA250V HBC CE ROHS	
	514-5146-200	FUSE S.B 200MA250V 218 CE ROHS	
409	443-40002D-02	STICKER 844-0002D-02	
411	220-5576	KEY MASTER FOR 220-5575	
412	610-0719-01	DVD-DRIVE UNIT USB	
413	HDF-6002	ASSY WIRE DVD	
/	421-6690-06	STICKER 110V	<AC 110V Area>
/	421-6690-03	STICKER 220V	<AC 220V Area>
/	421-6690-05	STICKER 240V	<AC 240V Area>

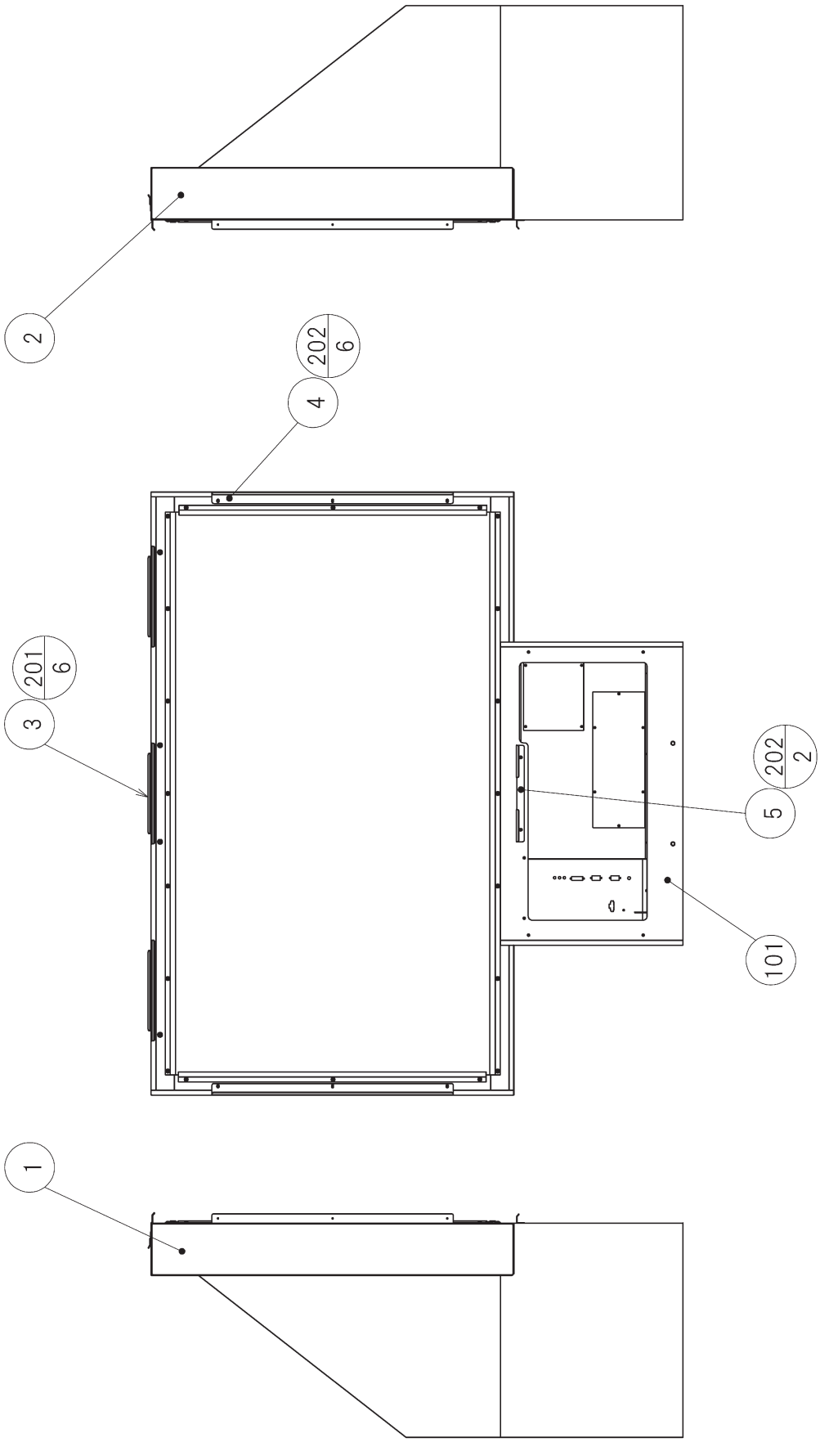
② ASSY DLP (HDF-0500)　　（D-1/2）



② ASSY DLP (HDF-0500) (D-2/2)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	HDF-0510	ASSY SUB DLP	
2	HDF-0530	ASSY MASK	
3	HDF-0550	ASSY BILLBOARD DX	
4	HDF-0600	ASSY DLP BASE	
5	HDF-0700	ASSY SPEAKER L	
6	HDF-0710	ASSY SPEAKER R	
7	HDF-0702	SPEAKER BRKT BACK PLATE	
8	HDF-0514	SIDE MASK FIX BRKT	
9	440-WS0060YJP	STICKER W PTV	
101	280-5277	CORD CLAMP 18	
102	280-5008	CORD CLAMP 15	
201	030-000835-SB	HEX BLT BLK W/S M8 × 35	
202	068-852216-0B	FLT WSHR BLK 8.5-22 × 1.6	
203	000-P00410-WB	M SCR PH BLK W/FS M4 × 10	
204	030-000830-SB	HEX BLT W/S BLK M8 × 30	
206	000-P00525-WB	M SCR PH BLK W/FS M5 × 25	
207	000-P00416-W	M SCR PH W/FS M4 × 16	

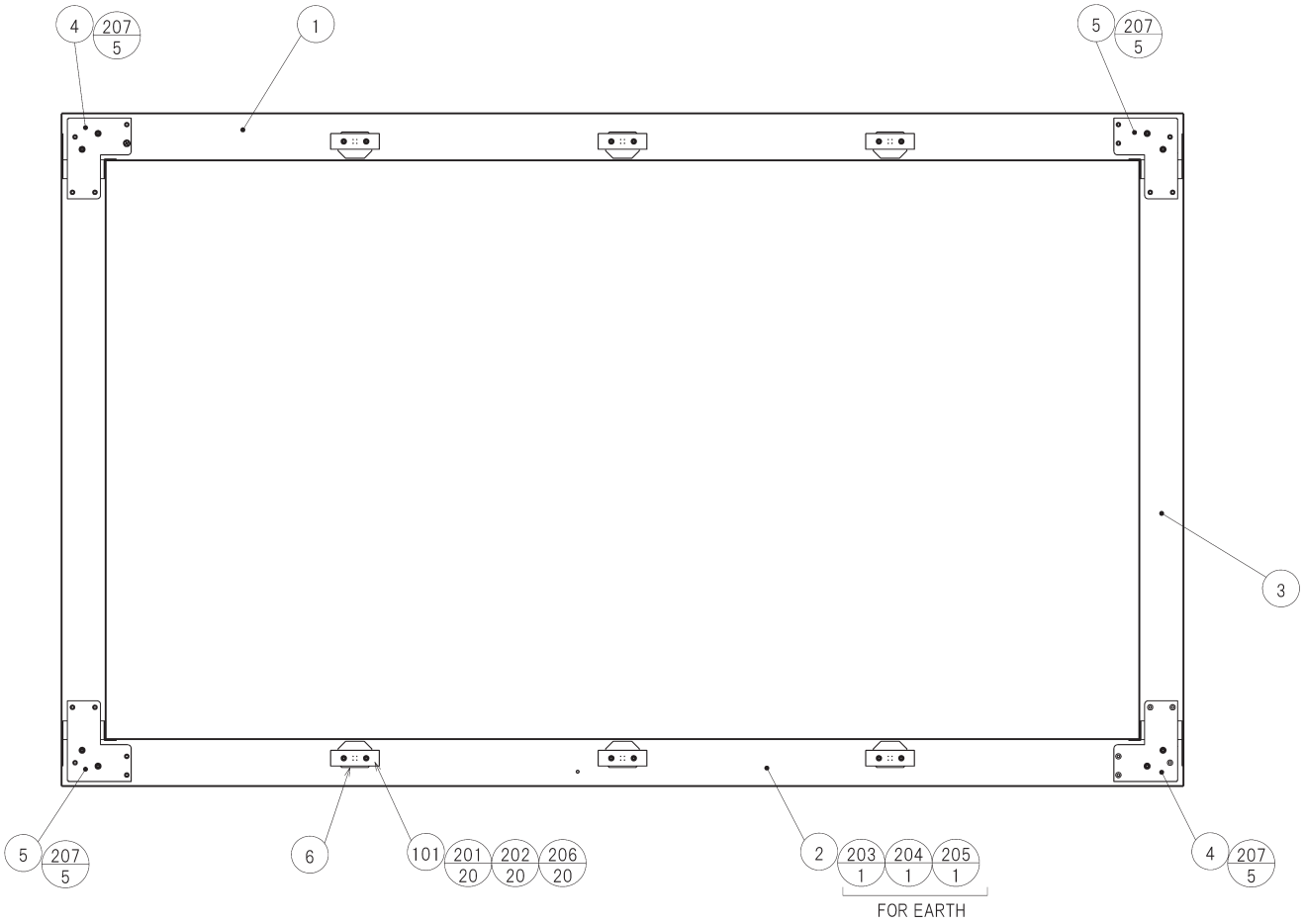
③ ASSY SUB DLP (HDF-0510)　（D-1/2）



③ ASSY SUB DLP (HDF-0510) (D-2/2)

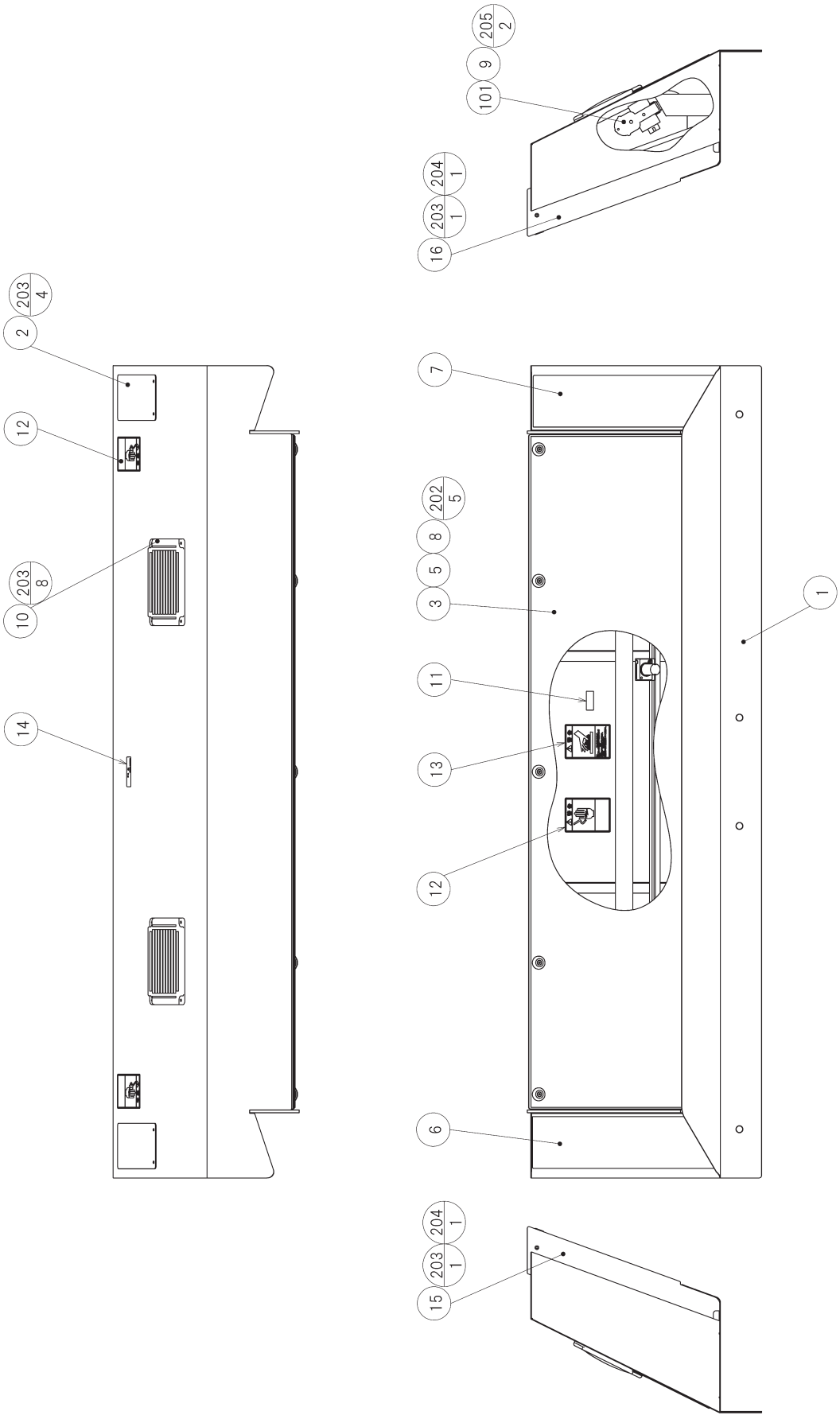
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	HDF-0511	STICKER DLP SIDE L	
2	HDF-0512	STICKER DLP SIDE R	
3	HDF-0513	UPPER MASK BRKT	
4	HDF-0514	SIDE MASK FIX BRKT	
5	HDF-0515	FRONT PANEL BRKT	
101	200-6017	DLP PJTN DSPL 62W TYPE	
201	000-F00420	M SCR FH M4 × 20	
202	000-P00416-WB	M SCR PH W/FS BLK M4 × 16	

④ ASSY MASK (HDF-0530)



ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	HDF-0531	UPPER MASK	
2	HDF-0532	LOWER MASK	
3	HDF-0533	SIDE MASK	
4	HDF-0534	MASK JOINT BRKT L	
5	HDF-0535	MASK JOINT BRKT R	
6	JPT-1082	IR COVER	
101	838-13145R02	LED BD GUN SENSE HOD	
102	280-5277	CORD CLAMP 18	
103	280-5275-SR10	CORD CLAMP SR10	
201	050-U00300	U NUT M3	
202	069-000034-PN	FLT WSHR PLASTIC BLK 3-8 × 1	
203	050-H00400	HEX NUT M4	
204	060-F00400	FLT WSHR M4	
205	060-S00400	SPR WSHR M4	
206	FAS-680016	FLT WSHR NI 3-10 × 0.5	
207	000-P00408-W	M SCR PH W/FS M4 × 8	
301	HDF-60009	WH MASK1	
302	HDF-60010	WH MASK2	
303	HDF-60011X	WH MASK3	
304	HDF-60040	WH EARTH MASK2	

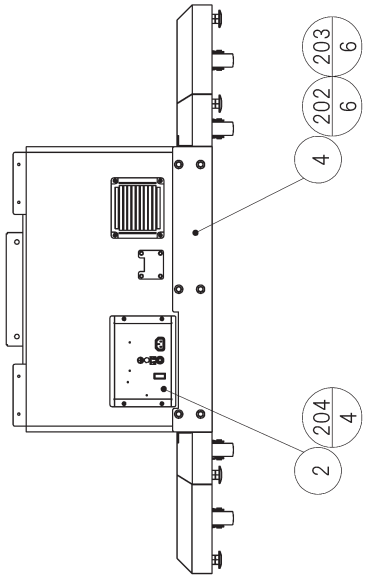
⑤ ASSY BILLBOARD DX (HDF-0550)　（D-1/2）

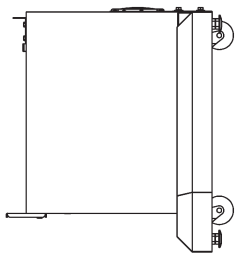


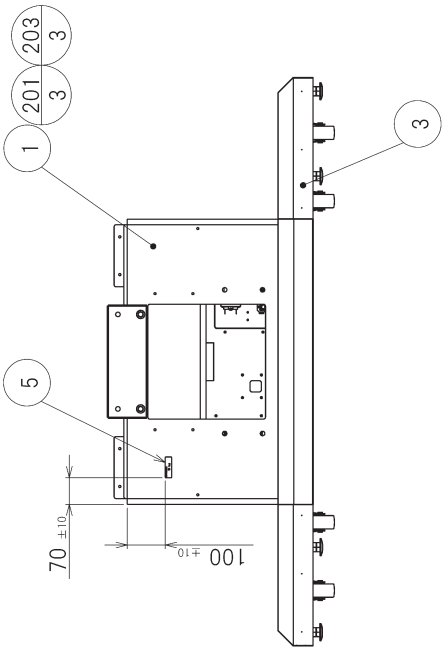
⑤ ASSY BILLBOARD DX (HDF-0550) (D-2/2)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	HDF-0551	BILLBOARD BOX	
2	HDF-0552	BILLBOARD BACK PLATE	
3	HDF-0553	BILLBOARD PLATE	
5	HDF-0555	RUBBER SPACER	
6	HDF-0556	STICKER BILLBOARD SIDE L	
7	HDF-0557	STICKER BILLBOARD SIDE R	
8	CTF-1002	WASHER CTF	
9	253-5457	FL HOLDER	
10	253-5460-01	AIR VENT BLACK	
11	421-7501-10	STICKER FL 40W	
12	440-WS0002XEG	STICKER W POWER OFF ENG	
13	440-WS0012XEG	STICKER W HIGH TEMP ENG	
15	HDF-0558	BILLBOARD SIDE PLATE L	
16	HDF-0559	BILLBOARD SIDE PLATE R	
101	390-6788-40EX	ASSY FL40W EX W/CONN HIGH S CE	
102	280-5277	CORD CLAMP 18	
202	FAS-290038	HEX SKT LH CAP SCR STN M5 × 10	
203	000-T00410-0B	M SCR TH BLK M4 × 10	
204	068-441616-0B	FLT WSHR BLK 4.4-16 × 1.6	
205	000-P00430-W	M SCR PH W/FS M4 × 30	
301	HDF-60013	WH FL	

⑥ ASSY DLP BASE (HDF-0600)　（D-1/2）



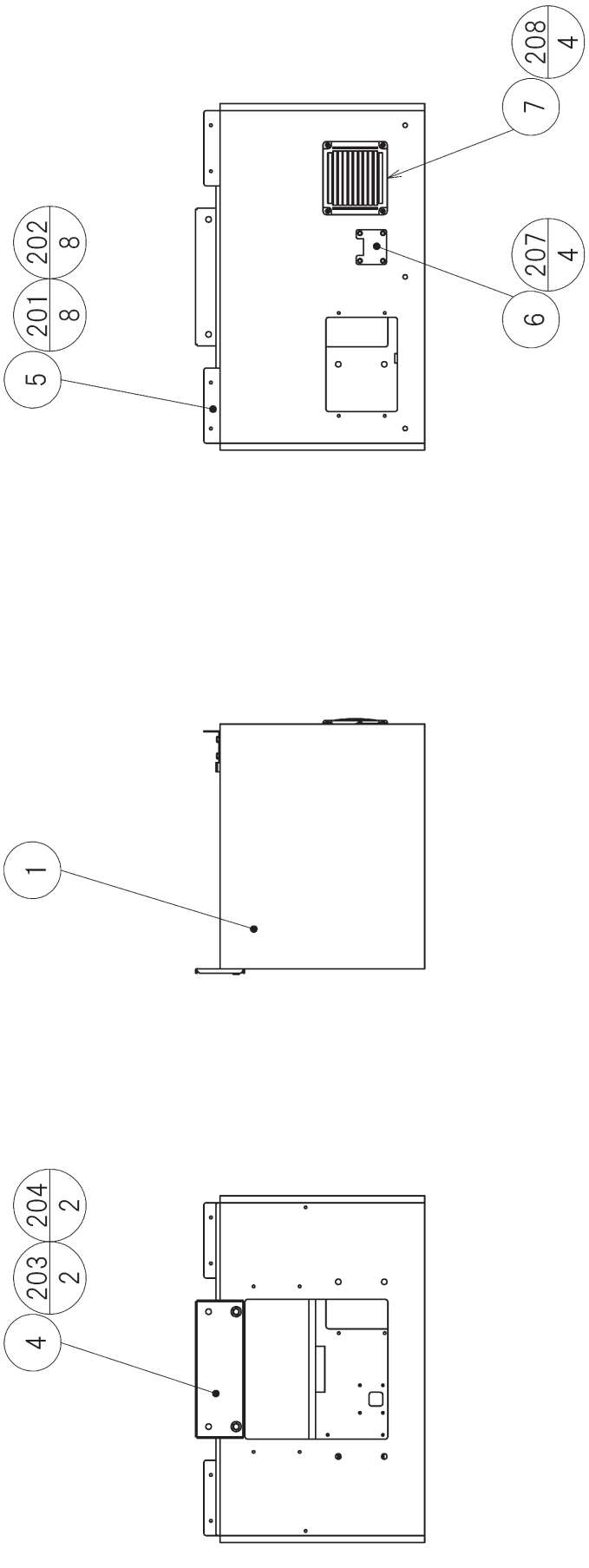




⑥ ASSY DLP BASE (HDF-0600) (D-2/2)

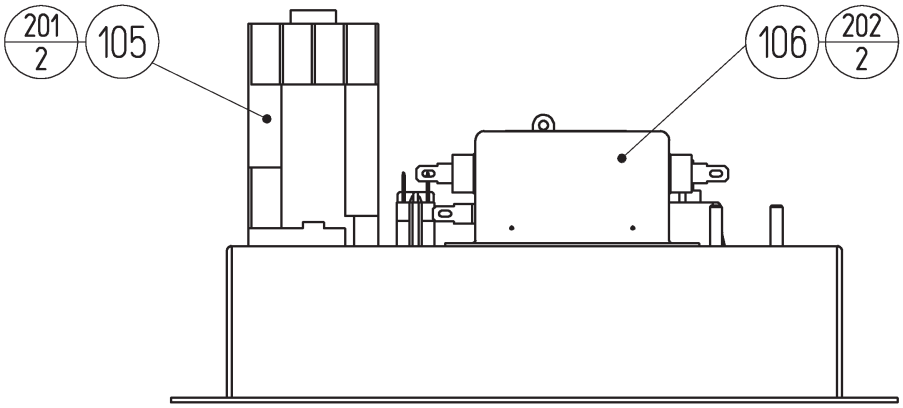
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	HDF-0650	ASSY DLP LOWER BOX	
2	HDF-0660	AC UNIT	
3	HDF-0670	ASSY SUB DLP BASE	
4	HDF-0601	BOX JOINT BRKT	
201	030-000840-SB	HEX BLT W/S BLK M8 × 40	
202	030-000820-SB	HEX BLT W/S BLK M8 × 20	
203	068-852216-0B	FLT WSHR BLK 8.5-22 × 1.6	
204	000-T00420-0B	M SCR TH BLK M4 × 20	
/	030-000630-S	HEX BLT W/S M6 × 30	
/	068-652016	FLT WSHR 6.5-20 × 1.6	
/	HDF-4300	ASSY XFMR 100V AREA	<AC 110-120V Area>
/	HDF-4400	ASSY XFMR 200V AREA	<AC 220-240V Area>

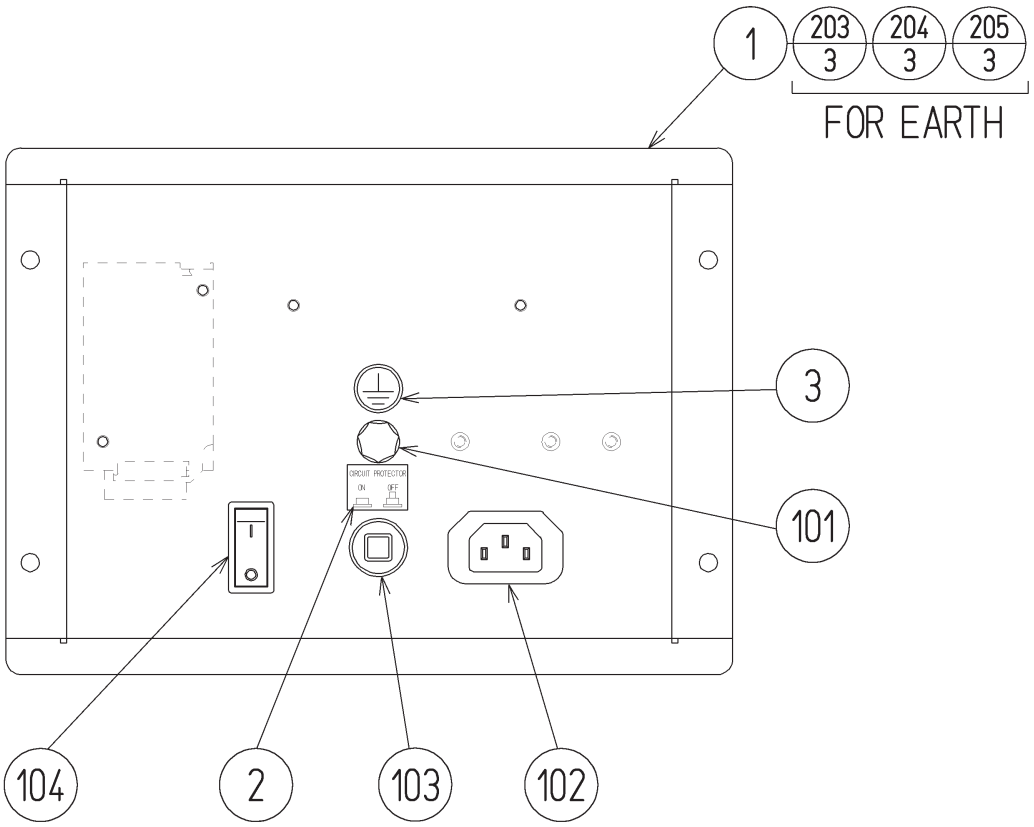
⑦ ASSY DLP LOWER BOX (HDF-0650)　（D-1/2）



⑦ ASSY DLP LOWER BOX (HDF-0650) (D-2/2)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	HDF-0651	DLP LOWER BOX	
4	HDF-0654	DLP FRONT JOINT BRKT	
5	HDF-0655	DLP REAR JOINT BRKT	
6	HDF-0656	CABLE PLATE	
7	253-5460-01	AIR VENT BLACK	
101	280-5277	CORD CLAMP 18	
201	030-000630-SB	HEX BLT BLK W/S M6 × 30	
202	068-652016-0B	FLT WSHR BLK 6.5-20 × 1.6	
203	030-000835-SB	HEX BLT BLK W/S M8 × 35	
204	068-852216-0B	FLT WSHR BLK 8.5-22 × 1.6	
206	011-F00312	TAP SCR #1 FH 3 × 12	
207	000-P00416-WB	M SCR PH W/FS BLK M4 × 16	
208	000-T00420-0B	M SCR TH BLK M4 × 20	
302	HDF-60006	WH EXT AC2	
303	HDF-60007	WH EXT AUDIO1	
304	HDF-60008	WH EXT MASK1	
305	HDF-60039	WH EARTH MASK1	

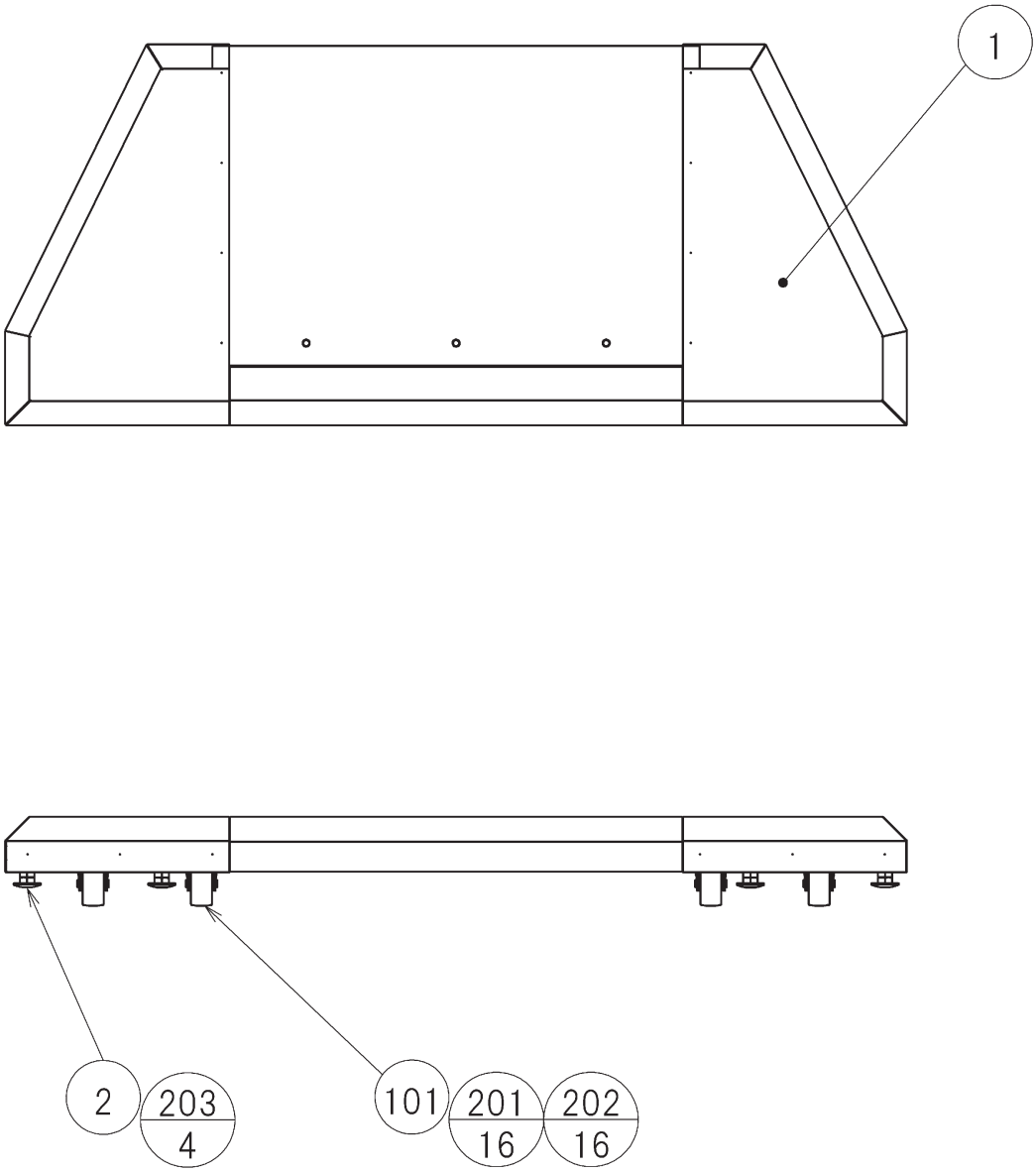

201/2
105
106
202/2


1
203/3
204/3
205/3
FOR EARTH
3
101
104
2
103
102

⑧ AC UNIT (HDF-0660) (D-2/2)

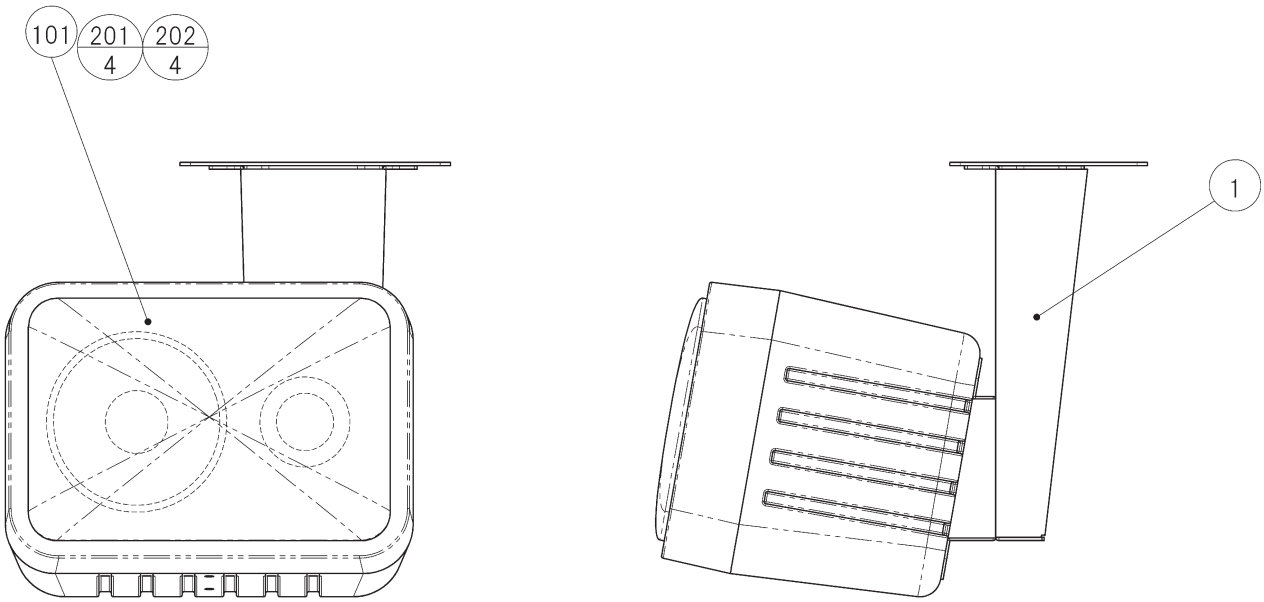
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	HDF-0661	AC BRKT	
2	421-7468-02	STICKER C.P W/PIC	
3	421-8202	STICKER EARTH MARK	
101	280-0417	TERMINAL BINDING POST BLACK	<Taiwan>
		NOT USED	<Others>
102	214-0202	AC INLET PANEL TYPE	
103	512-5046-8000	C.P 8000MA CE UL	<Taiwan>
	512-5046-5000	C.P 5000MA CE UL	<Others>
104	509-6102-V-B	SW ROCKER J8 V-B AJ8202BF	
105	450-5126	MAGNET CONTACT S-NIOCX	<Taiwan>
	450-5133	MAGNET CONTACT S-NIOCX AC200V	<Korea>
	450-5134	MAGNET CONTACT S-NIOCX AC230V	<Others>
106	270-5115	NOISE FILTER 15A GT-215J	
107	280-5277	CORD CLAMP 18	
108	310-5029-G20	SUMITUBE F G 20MM	
109	310-5029-F20	SUMITUBE F F 20MM	
201	000-P00416-WB	M SCR PH W/FS BLK M4 × 16	
202	000-P00408-W	M SCR PH W/FS M4 × 8	
203	050-H00400	HEX NUT M4	
204	060-F00400	FLT WSHR M4	
205	060-S00400	SPR WSHR M4	
301	HDF-60001	WH AC IN	
302	HDF-60002	WH AC MAIN SW	
303	HDF-60003	WH AC MC OUT	
304	HDF-60004	WH AC NF OUT	

⑨ ASSY SUB DLP BASE (HDF-0670)



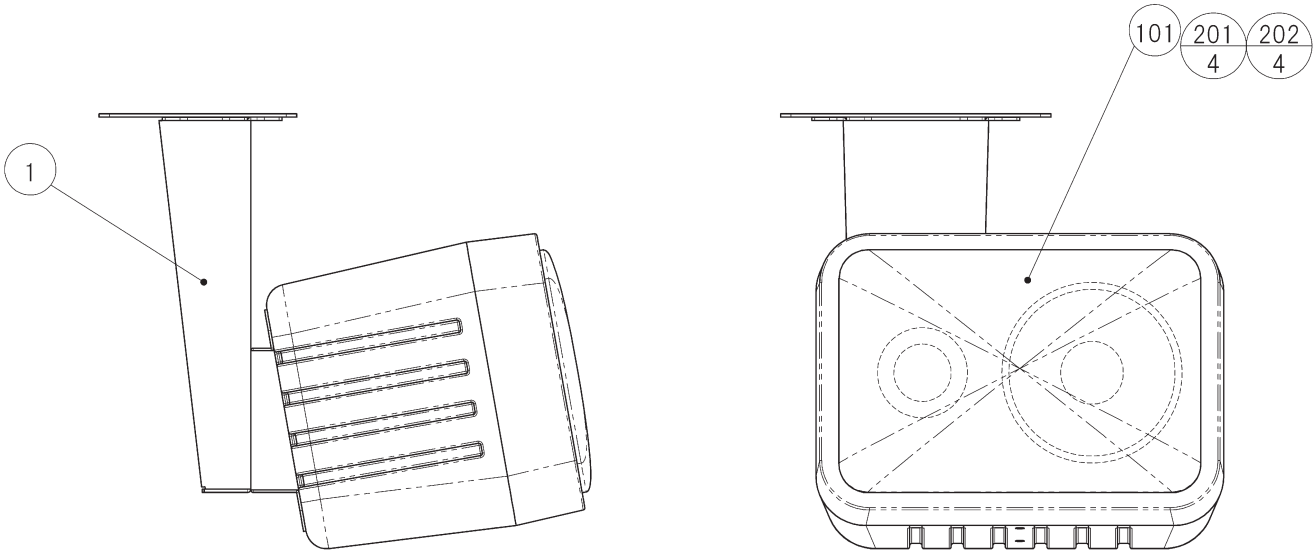
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	HDF-0671	DLP BASE	
2	601-5699X	LEG ADJUSTER BOLT M16 × 75	
101	601-6224	CASTER 75	
101	601-9377	CASTER FAI=75	
201	030-000820-SB	HEX BLT W/S BLK M8 × 20	
202	060-F00800-0B	FLT WSHR BLK M8	
203	050-H01600-0B	HEX NUT BLK M16	

⑩ ASSY SPEAKER L (HDF-0700)



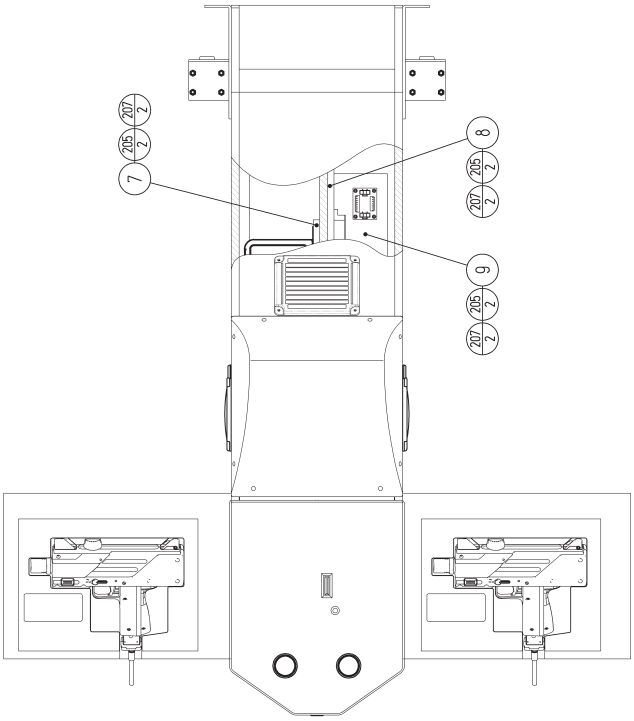
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	HDF-0701X	SPEAKER BRKT L	
101	130-5228-01-91	SPEAKER BOX 4OHM 40W	
102	280-5275-SR10	CORD CLAMP SR10	
103	601-5526-070	BUSH 1.6T (L=70MM)	
201	012-P00512-0B	TAP SCR #2 PH BLK 5 × 12	
202	060-F00500-0B	FLT WSHR BLK M5	
301	HDF-60012	WH SP	

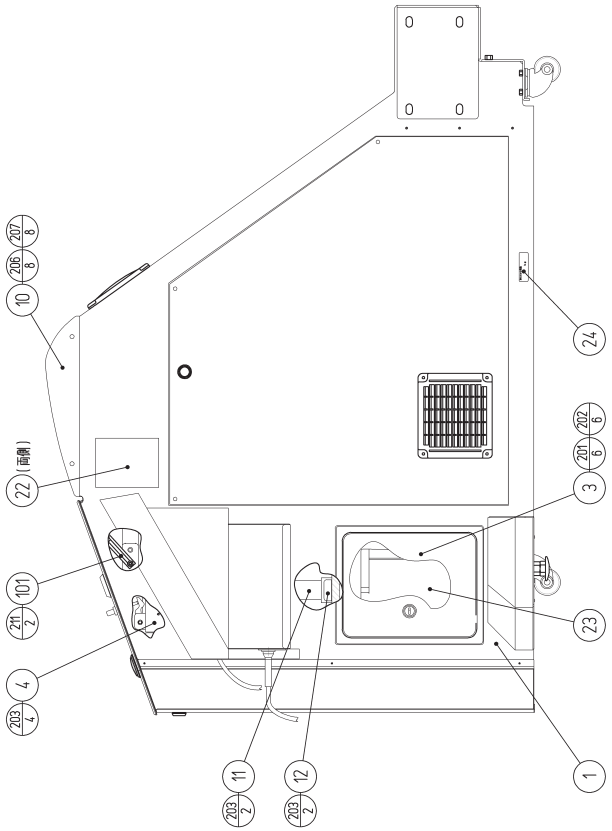
⑪ ASSY SPEAKER R (HDF-0710)

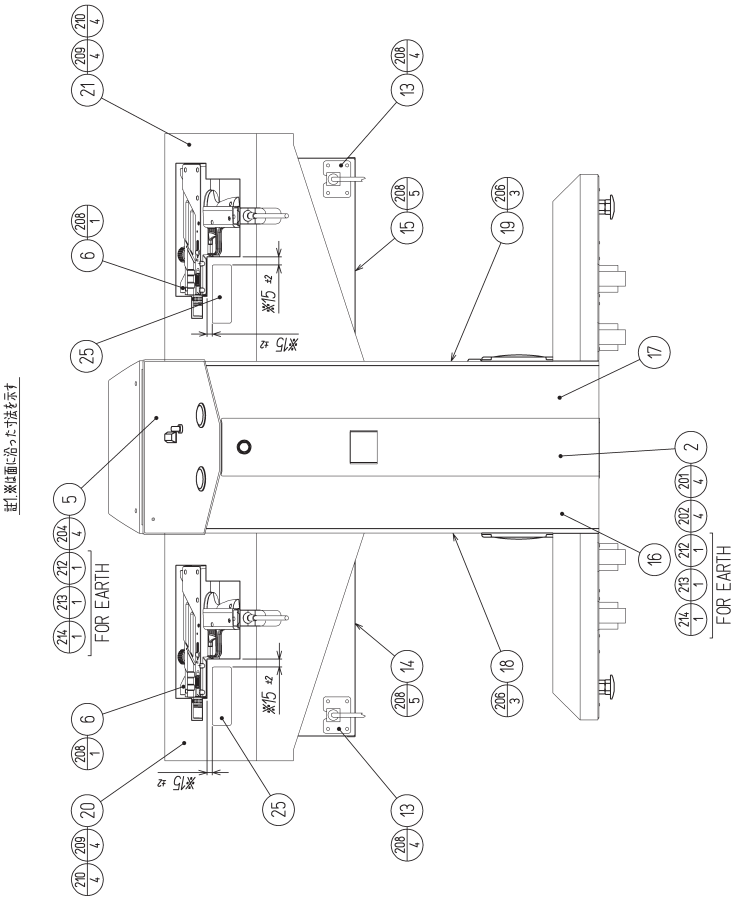


ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	HDF-0711X	SPEAKER BRKT R	
101	130-5228-01-91	SPEAKER BOX 4OHM 40W	
102	280-5275-SR10	CORD CLAMP SR10	
103	601-5526-070	BUSH 1.6T (L=70MM)	
201	012-P00512-0B	TAP SCR #2 PH BLK 5 × 12	
202	060-F00500-0B	FLT WSHR BLK M5	
301	HDF-60012	WH SP	

⑫ ASSY CABINET DX (HDF-1000)　（D-1/2）





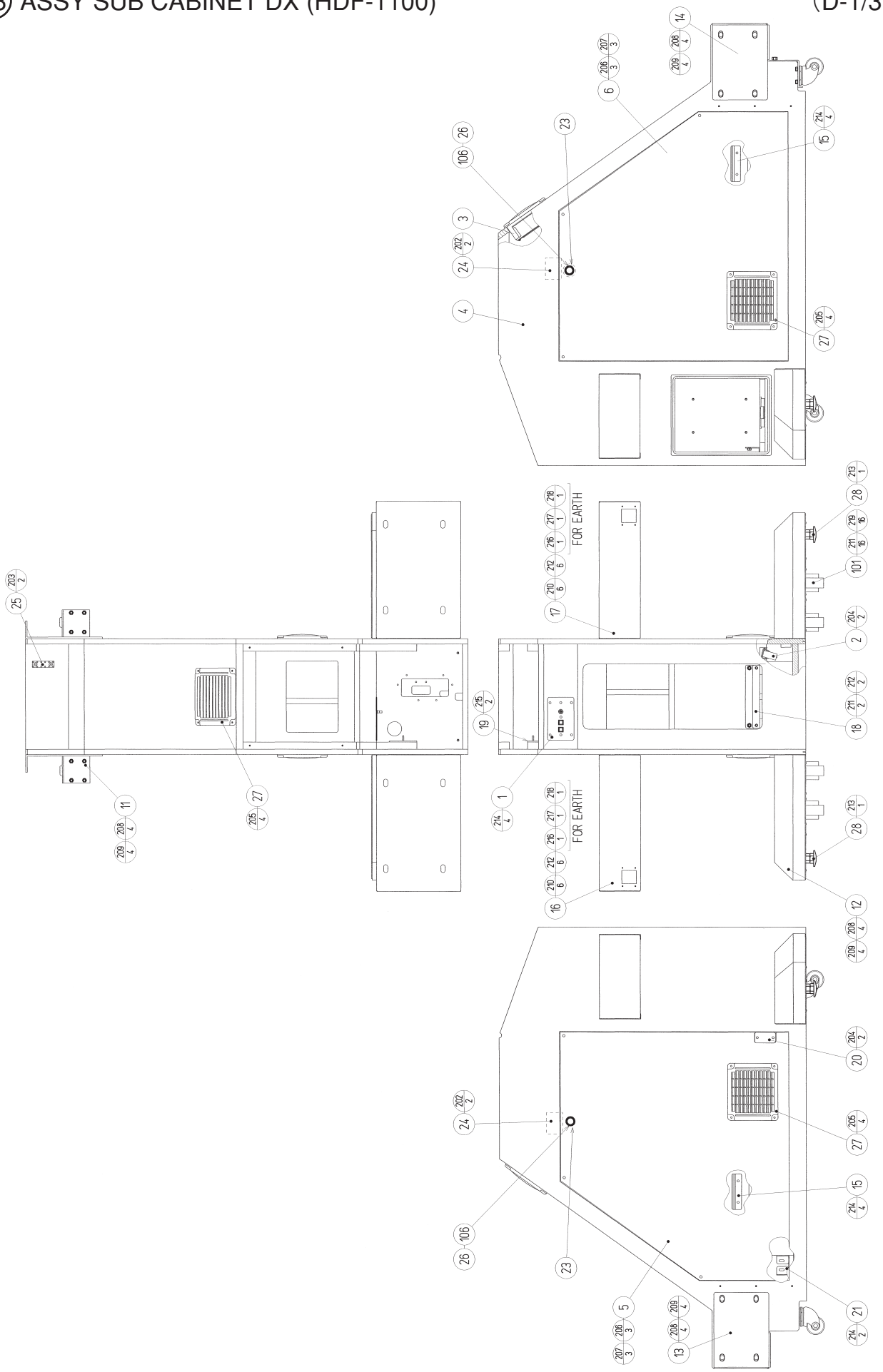


註1 塗装面に沿った寸法を示す

⑫ ASSY CABINET DX (HDF-1000) (D-2/2)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	HDF-1100	ASSY SUB CABINET DX	
2	HDF-1200	ASSY LIGHTING	
3	HDF-1400	ASSY CASH BOX	
4	HDF-1500	ASSY SELECTOR	
5	HDF-2000	ASSY CTRL PANEL	
6	HDF-2100	CONTROL UNIT	
7	HDF-4000	ASSY MAIN BD	
8	HDF-4100	ASSY ELEC	
9	HDF-4200	ASSY SUB ELEC	
10	HDF-1001	TOP LID COVER	
11	HDF-1002	CHUTE	
12	HDF-1003	LOWER CHUTE	
13	HDF-1004	CONTROLLER CABLE BRKT	
14	HDF-1005	LID CTRL HOLDER L	
15	HDF-1006	LID CTRL HOLDER R	
16	HDF-1202	LIGHTING PLATE L	
17	HDF-1203	LIGHTING PLATE R	
18	HDF-1204	SASH LIGHTING L	
19	HDF-1205	SASH LIGHTING R	
20	HDF-1301	GUN HOLDER L	
21	HDF-1302	GUN HOLDER R	
22	440-WS0002XEG	STICKER W POWER OFF ENG	
23	253-5366	CASH BOX	
25	440-CP0307-EG	PLATE CONTROLLER ENG	
101	601-11440	STAY (SUGATSUNE L-140S)	
102	280-5275-SR10	CORD CLAMP SR10	
201	030-000616-SB	HEX BLT W/S BLK M6 × 16	
202	068-652016-0B	FLT WSHR BLK 6.5-20 × 1.6	
203	000-P00416-WB	M SCR PH W/FS BLK M4 × 16	
204	000-P00435-W	M SCR PH W/FS M4 × 35	
205	000-P00430-W	M SCR PH W/FS M4 × 30	
206	000-T00410-0B	M SCR TH BLK M4 × 10	
207	068-441616-0B	FLT WSHR BLK 4.4-16 × 1.6	
208	000-P00410-WB	M SCR PH BLK W/FS M4 × 10	
209	030-000812-S	HEX BLT W/S M8 × 12	
210	068-852216-0B	FLT WSHR BLK 8.5-22 × 1.6	
211	050-F00400	FLG NUT M4	
212	050-H00400	HEX NUT M4	
213	060-F00400	FLT WSHR M4	
214	060-S00400	SPR WSHR M4	

⑬ ASSY SUB CABINET DX (HDF-1100) （D-1/3）



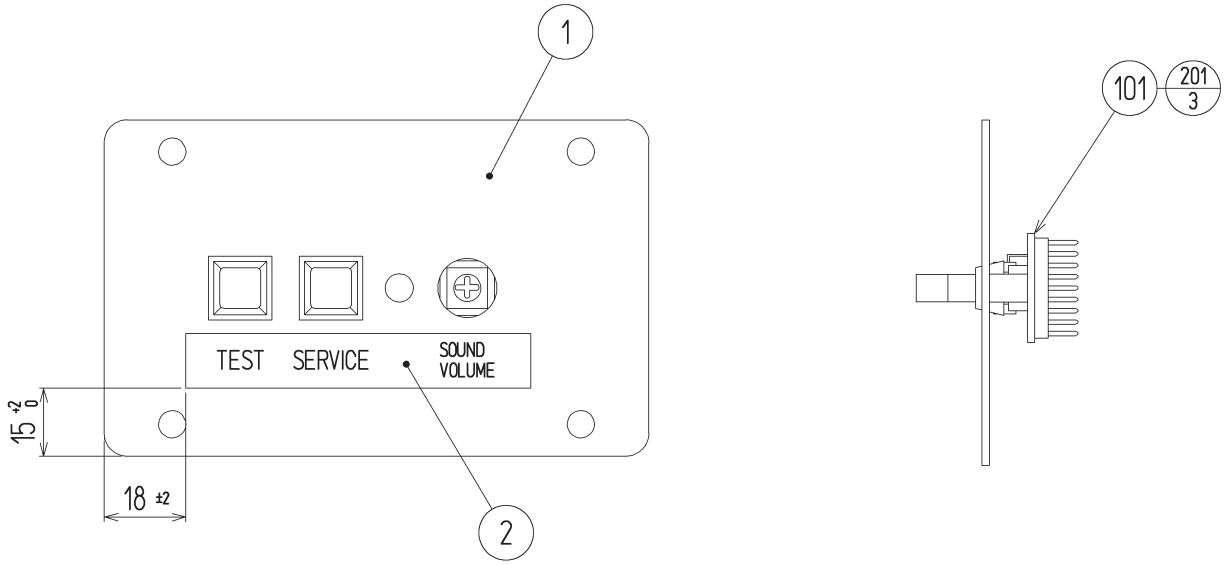
⑬ ASSY SUB CABINET DX (HDF-1100) (D-2/3)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	HDF-1120	SW UNIT	
2	HDF-1150	METER UNIT SINGLE YL	
3	STR-1070	FAN UNIT	
4	HDF-1101	CABINET DX	
5	HDF-1102	SIDE DOOR L	
6	HDF-1103	SIDE DOOR R	
11	HDF-1108	CASTER BRKT	
12	HDF-1109	FOOT BASE	
13	HDF-1110X	SIDE JOINT BRKT L	
14	HDF-1111X	SIDE JOINT BRKT R	
15	HDF-1112	BD HOLD BRKT	
16	HDF-1113	HOLDER BRKT L	
17	HDF-1114	HOLDER BRKT R	
18	HDF-1115	BRKT LIGHTING UNIT	
19	HDF-1116	STAY PLATE	
20	HDF-1117	PLATE DVD	
21	HDF-1118	BRKT SUB ELEC BASE	
23	117-0062	PLATE LOCK RETAINER	
24	117-5098	TNG RETAINER PLATE	
25	117-5402-12-91	EARTH TERMINAL PLATE 12P	
26	DP-1148X	LKG TNG	
27	253-5460-01	AIR VENT BLACK	
28	601-5699X	LEG ADJUSTER BOLT M16 × 75	
101	601-6056-01	CASTER 50 PH	
102	280-6676	CORD CLAMP TL-25A TKK	
103	280-5277	CORD CLAMP 18	
104	280-0419	HARNESS LUG	
105	280-5275-SR10	CORD CLAMP SR10	
106	220-5575	CAM LOCK MASTER W/O KEY	
201	011-F00312	TAP SCR #1 FH 3 × 12	
202	011-T03512	TAP SCR TH 3.5 × 12	
203	011-F03516	TAP SCR FH 3.5 × 16	
204	000-T00412-0B	M SCR TH BLK M4 × 12	
205	000-T00420-0B	M SCR TH BLK M4 × 20	
206	000-T00440-0B	M SCR TH BLK M4 × 40	
207	068-441616-0B	FLT WSHR BLK 4.4-16 × 1.6	
208	030-000835-SB	HEX BLT BLK W/S M8 × 35	
209	068-852216-0B	FLT WSHR BLK 8.5-22 × 1.6	
210	030-000630-SB	HEX BLT BLK W/S M6 × 30	
211	030-000616-SB	HEX BLT W/S BLK M6 × 16	
212	068-652016-0B	FLT WSHR BLK 6.5-20 × 1.6	
213	050-H01600-0B	HEX NUT BLK M16	
214	000-P00416-W	M SCR PH W/FS M4 × 16	
215	000-F00416	M SCR FH M4 × 16	
216	050-H00400	HEX NUT M4	
217	060-F00400	FLT WSHR M4	
218	060-S00400	SPR WSHR M4	
219	060-F00600	FLT WSHR M6	
/	600-7232-0800	WH EARTH VD1.25-4 800MM	<Korea &Australia>
/	600-7232-0700	WH EARTH VD1.25-4 700MM	<Korea &Australia>

⑬ ASSY SUB CABINET DX (HDF-1100) (D-3/3)

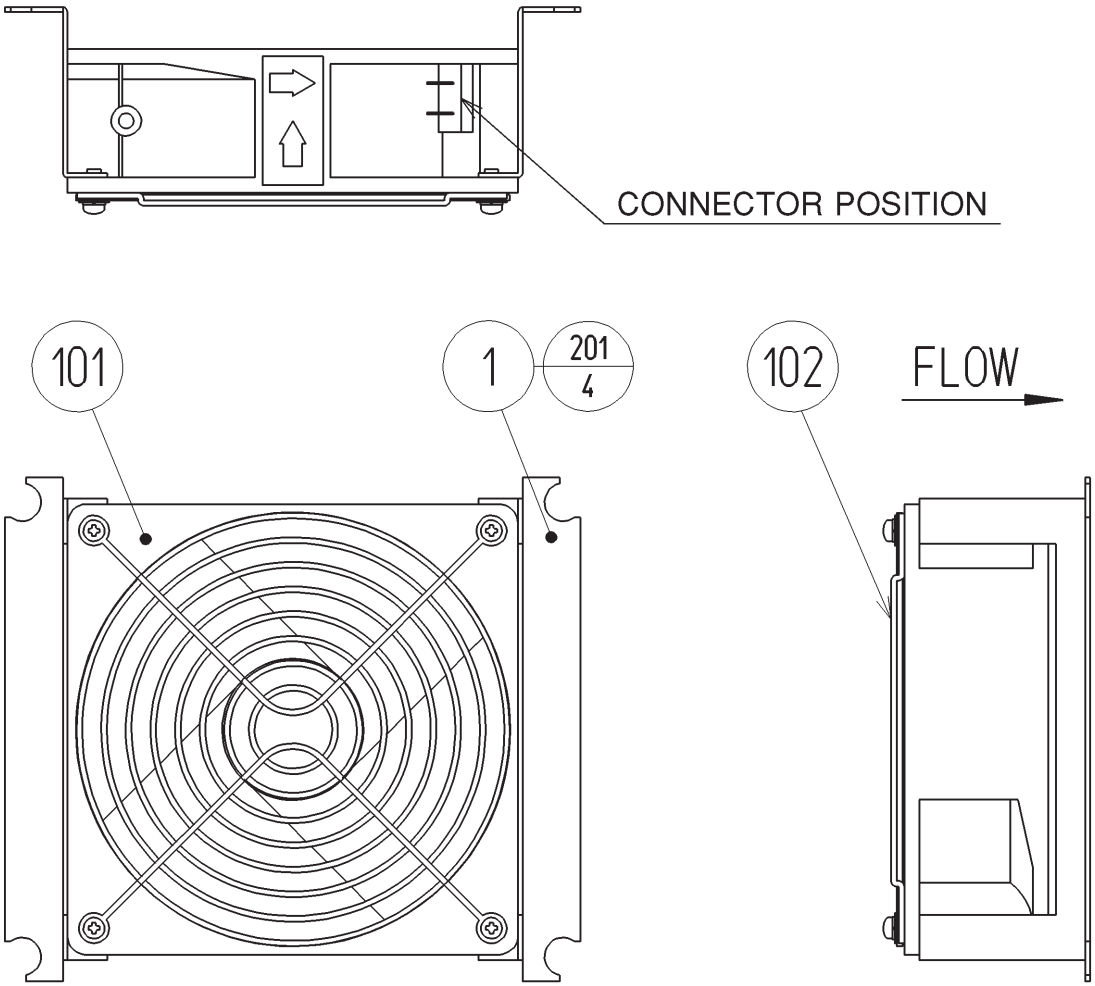
ITEM NO.	PART NO.	DESCRIPTION	NOTE
301	HDF-6001	ASSY WIRE CABINET DC	
302	HDF-60014	WH FAN	
303	HDF-60015	WH EXT AC3	
304	HDF-60016	WH EXT AUDIO2	
305	HDF-60017	WH EXT MASK2	
306	HDF-60020	WH COIN METER	
307	600-7232-2100	WH EARTH VD1.25-4 2100MM	
308	600-7009-2500	ASSY RGB CA D-SUB 15P 2500MM	
309	600-7141-100	CABLE JVS TYPE A-B 100CM	
310	600-7232-1900	WH EARTH VD1.25-4 1900MM	
311	600-7232-1800	WH EARTH VD1.25-4 1800MM	
312	600-7360-0800	WH LBG PWR 24P P TO P 0800MM	
313	600-7361-0800	WH LBG PWR 18P P TO P 0800MM	

⑭ SW UNIT (HDF-1120)



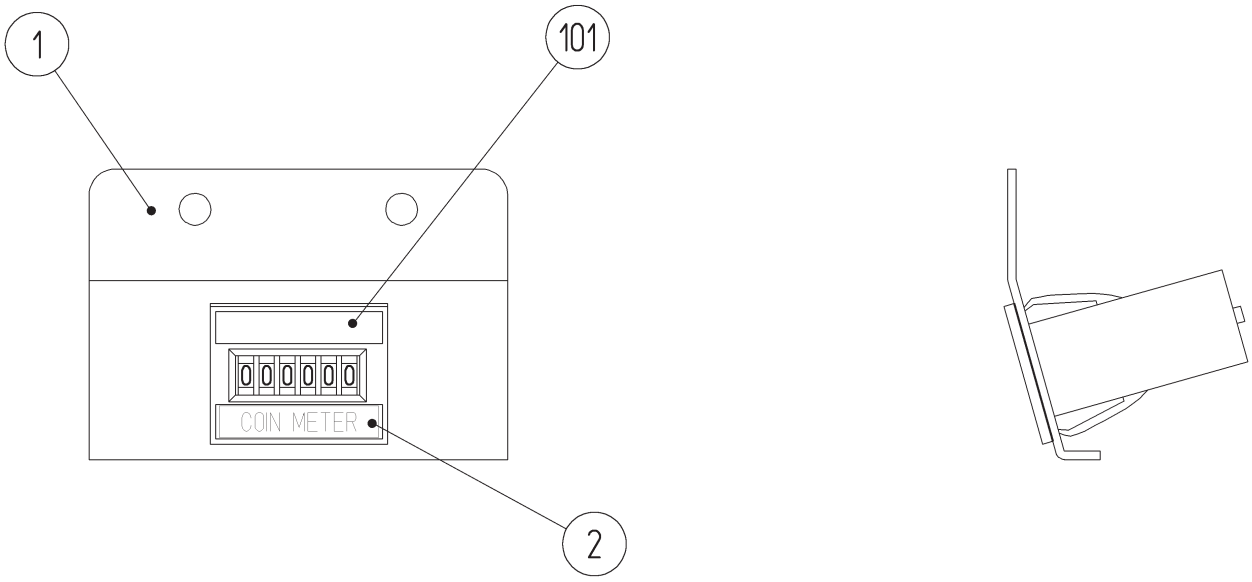
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	HDF-1121	SW PLATE	
2	421-12043	STICKER SW PANEL	
101	838-14548	SW & VOL BD	
201	000-P00308-W	M SCR PH W/FS M3 × 8	

⑮ FAN UNIT (STR-1070)



ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	105-5340-01	FAN BRKT LONG	
101	260-0011-03	AXIAL FLOW FAN AC100V 50-60HZ	
102	601-8543	FAN GUARD	
201	000-P00312-W	M SCR PH W/FS M3 × 12	

⑯ METER UNIT SINGLE YL (HDF-1150)



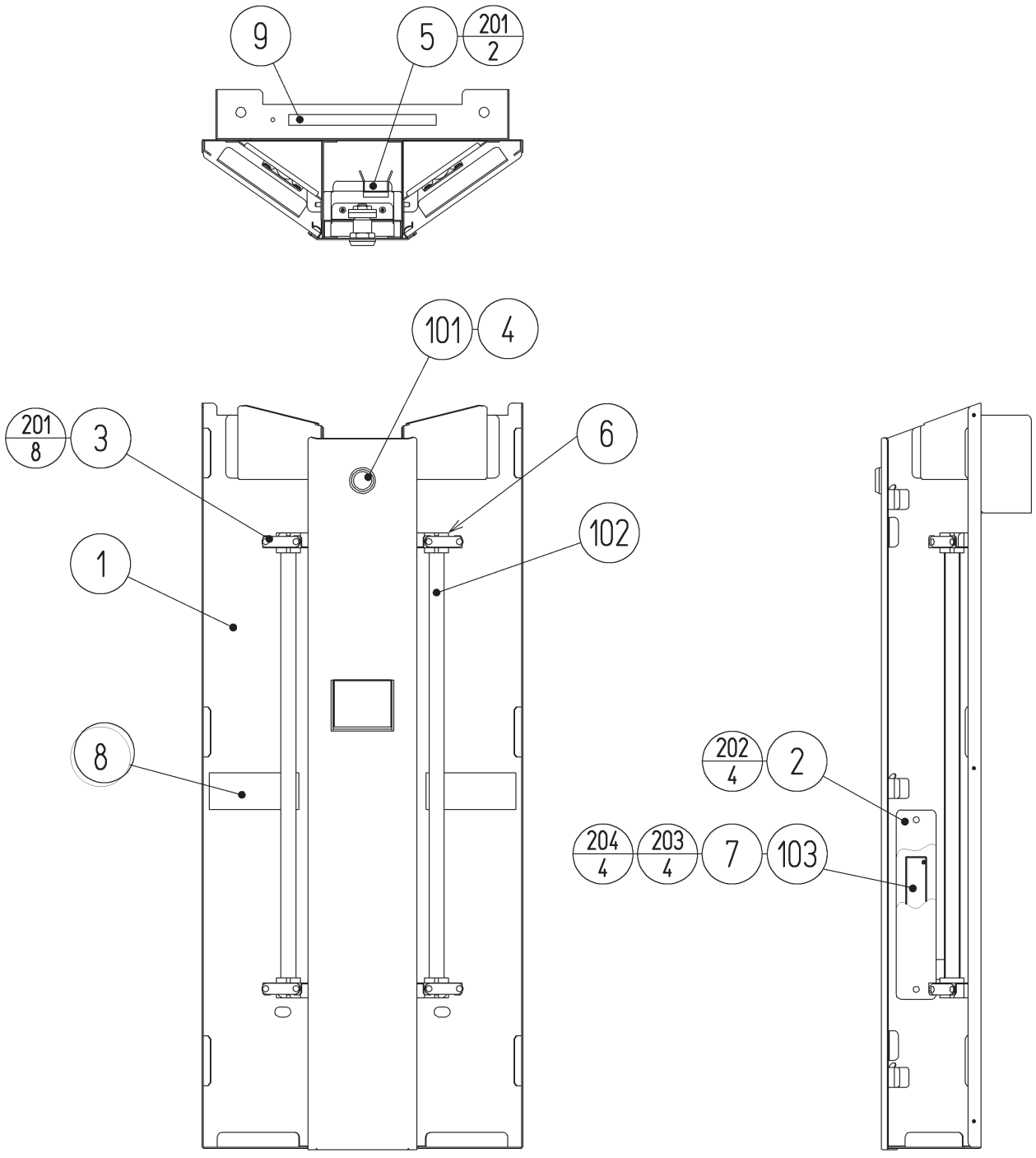
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	HDF-1151	METER BRKT	
2	421-9168-01	STICKER COIN METER	
101	220-5798-01	MAG CNTR 4P MZ674-DC5V-D41 JC	

⑰ ASSY WIRE CABINET DC (HDF-6001)

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	HDF-60018	WH EXT START SW	
302	HDF-60019	WH EXT COIN SW	
303	HDF-60021	WH EXT CONTROLLER	
304	HDF-60022	WH DC LINE1	

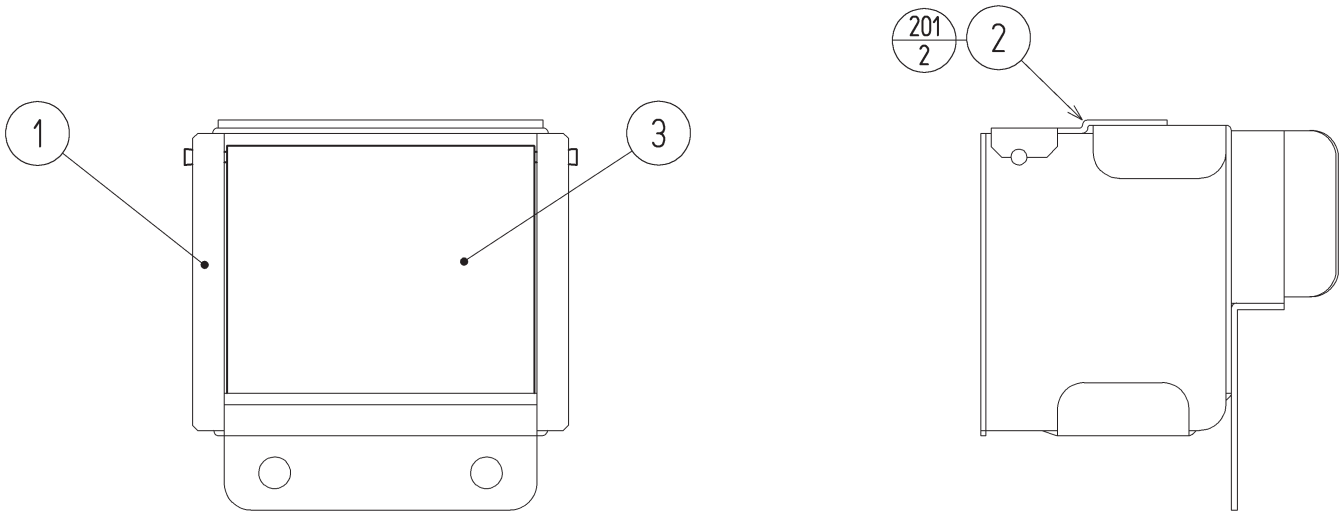
⑱ ASSY LIGHTING (HDF-1200) （D-1/2）



⑱ ASSY LIGHTING (HDF-1200) (D-2/2)

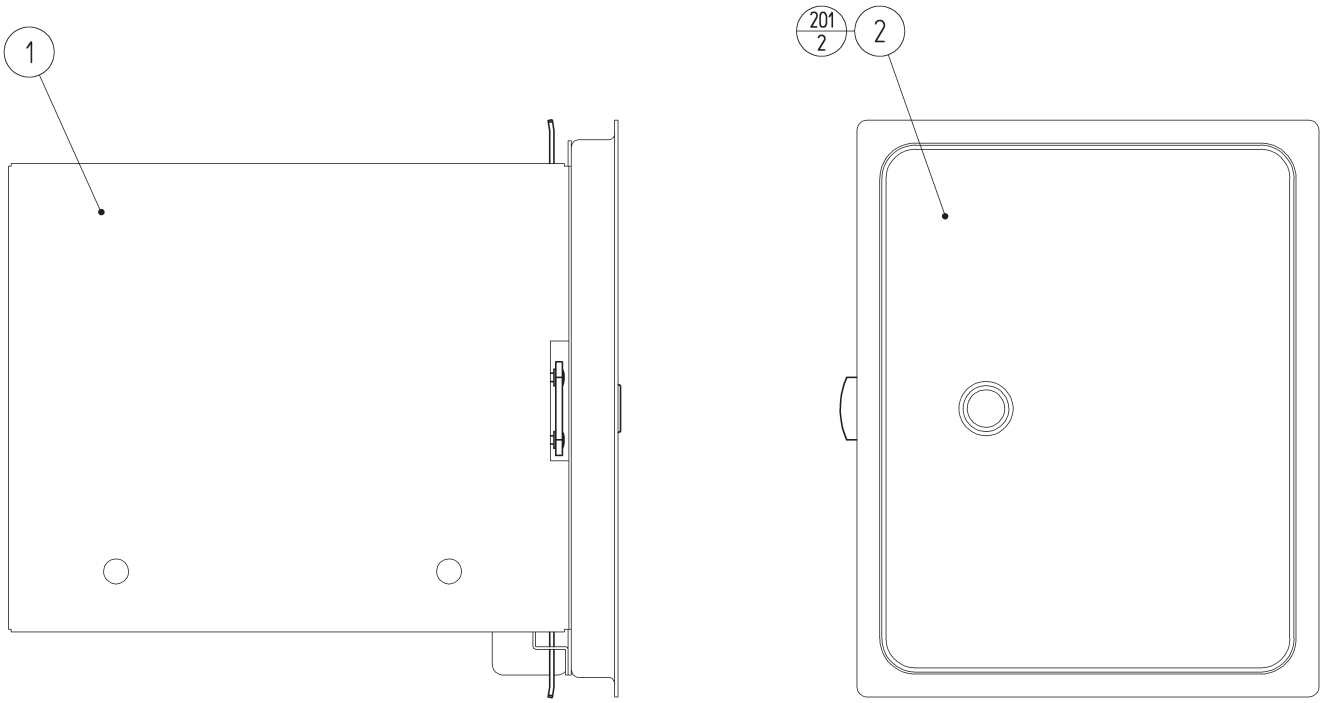
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	HDF-1201	LIGHTING BASE	
2	HDF-1206	BRKT CCFL BD	
3	HDF-1207	PLATE CCFL	
4	HDF-1208	TNG CTRL PANEL	
5	HDF-1250	ASSY REJECT CUP	
6	ATR-3604	LAMP HOLDER	
7	SHE-1238	SPACER COLLAR	
8	440-WS0165-EG	STICKER W BD POWER OFF S ENG	
9	440-CS0297-EG	STICKER C DOOR PINCH CTF ENG	
101	220-5575	CAM LOCK MASTER W/O KEY	
102	390-6746-RE	CCFL L=460 D=15 RED	
103	838-14075	CCFL INV ELEVAM S-12599C-10M	
104	280-5275-SR10	CORD CLAMP SR10	
105	601-6231-B020	EDGING NEW TYPE (L=20)	
201	000-P00408-W	M SCR PH W/FS M4 × 8	
202	050-F00400	FLG NUT M4	
203	000-P02610	M SCR PH M2.6 × 10	
204	FAS-680011	FLT WSHR POLY 2.7-6 × 0.5	
301	HDF-60035	WH CCFL INV	

⑲ ASSY REJECT CUP (HDF-1250)



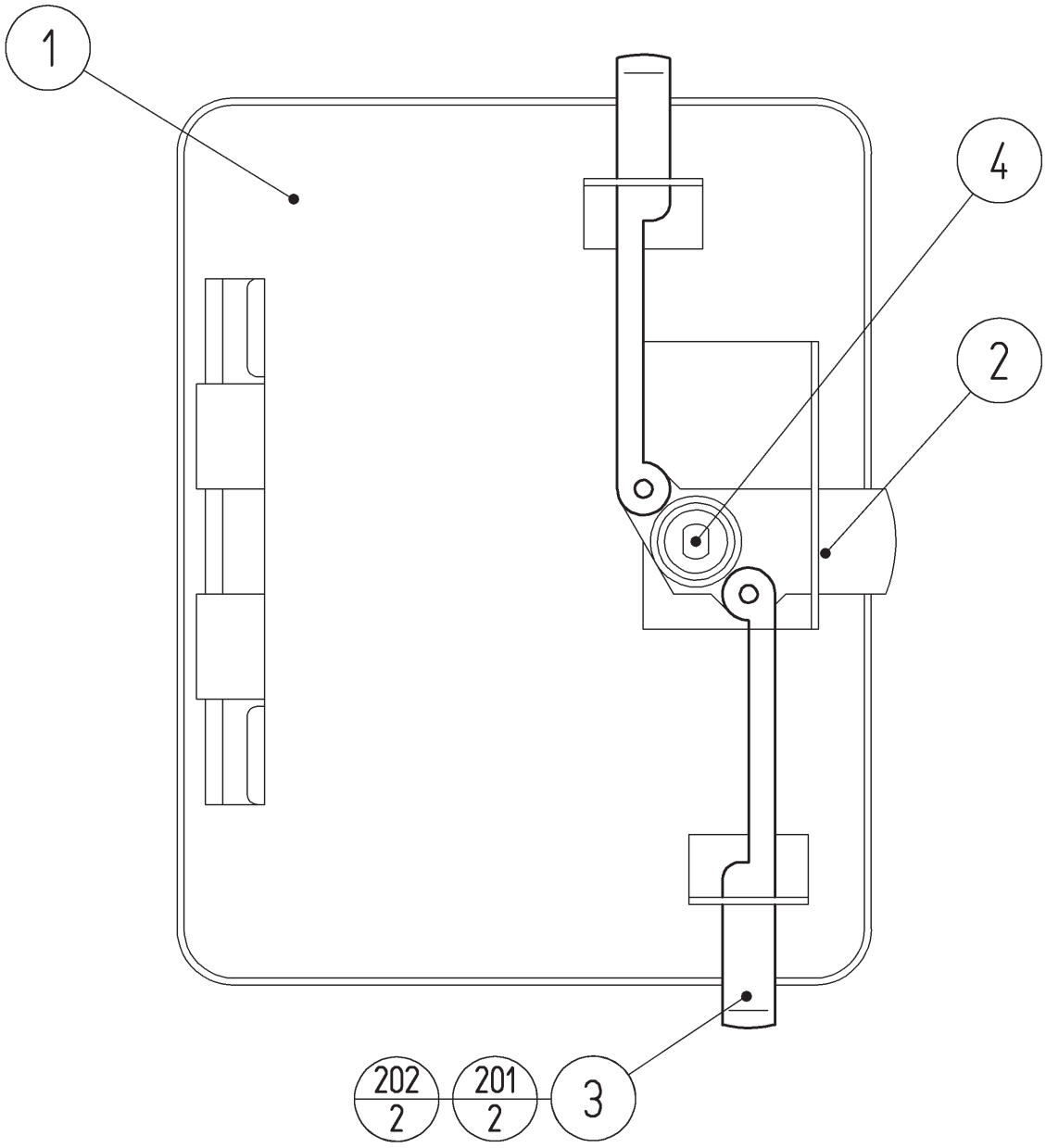
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	HDF-1251	REJECT CUP	
2	HDF-1252	LID REJECT CUP	
3	NOA-1405	FLAP	
201	000-P00408-W	M SCR PH W/FS M4 × 8	

⑳ ASSY CASH BOX (HDF-1400)



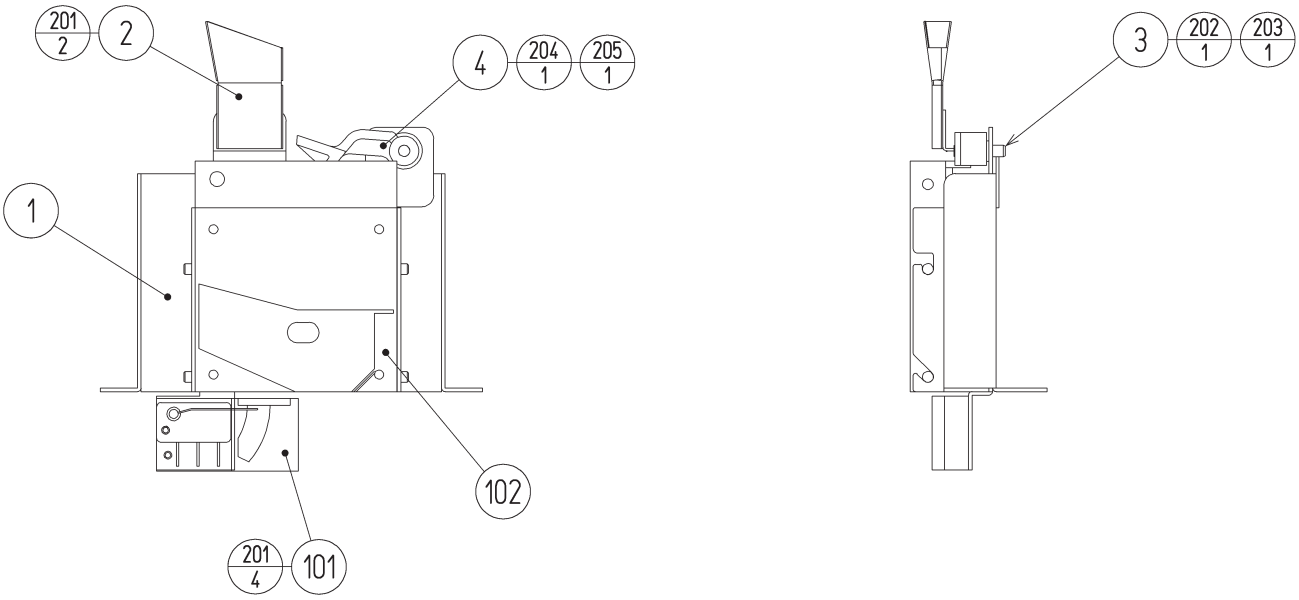
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	HDF-1401	CASH BOX	
2	HDF-1450	ASSY CASH BOX DOOR	
201	000-F00308-0B	M SCR FH BLK M3 × 8	

(21) ASSY CASH BOX DOOR (HDF-1450)



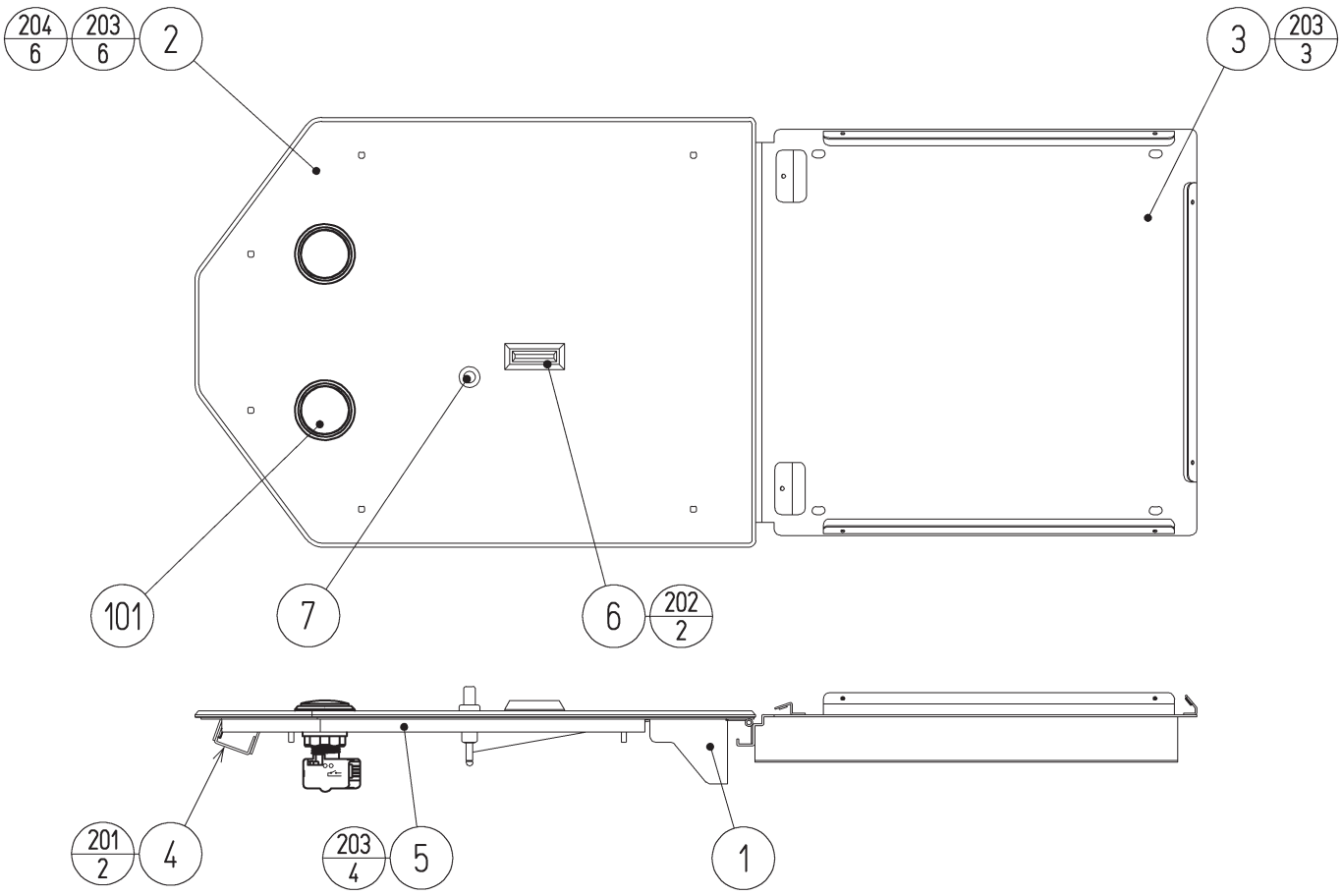
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	HDF-1451	CASH BOX DOOR	
2	HOT-1203X	CENTER TNG	
3	HOT-1204X	SIDE TNG	
4	220-5574	CAM LOCK W/KEYS	
201	060-F00400	FLT WSHR M4	
202	065-E00300	E RING 3MM	

㉒ ASSY SELECTOR (HDF-1500)



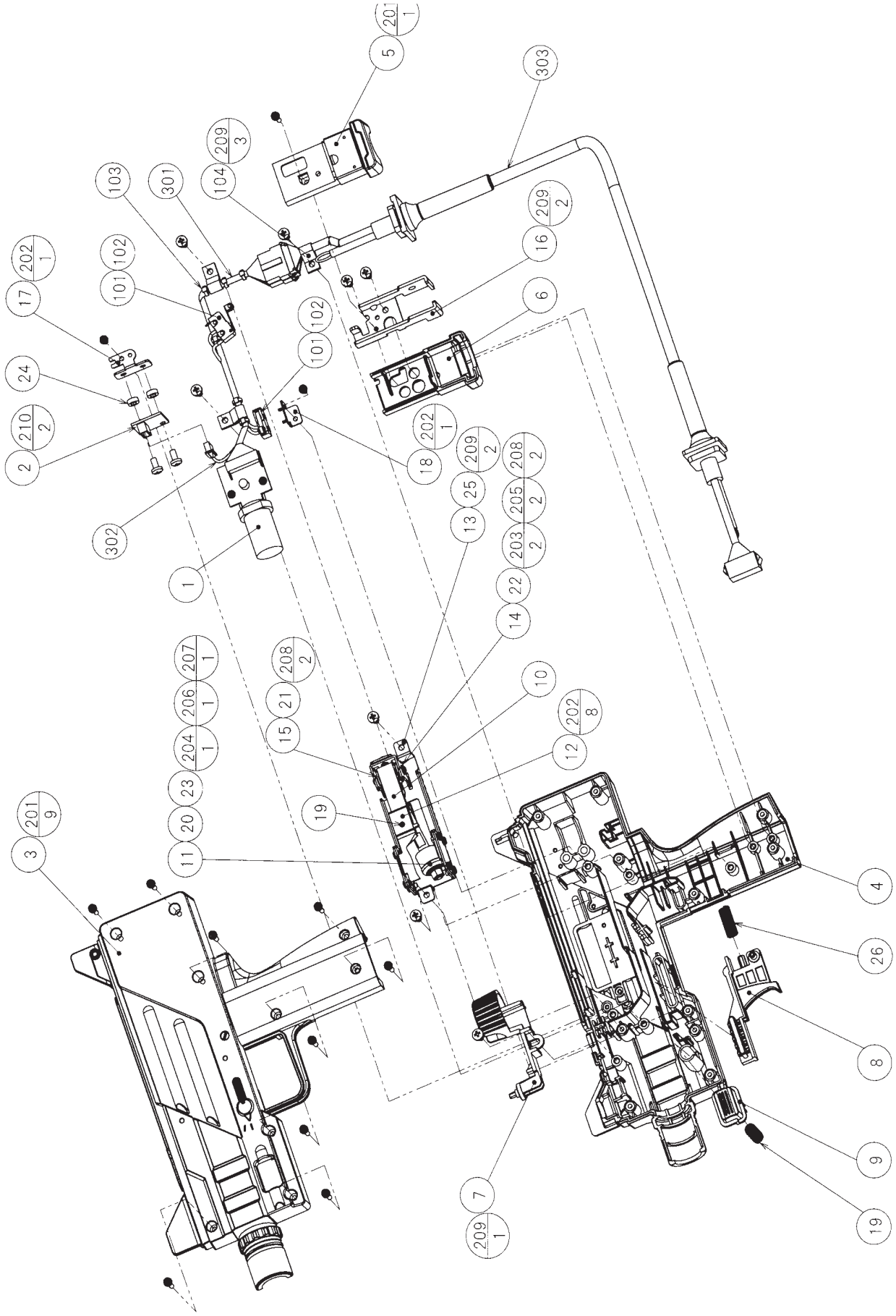
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	HDF-1501	COIN CHUTE BRKT	
2	HDF-1502	ENTRY CHUTE	
3	CFB-1683	REJECT SHAFT	
4	VSC-1474	REJECT CAM	
101	220-5777-04-02	C.C BRKT NT$10 R	<Taiwan>
	220-5777-05-02	C.C BRKT HK$1 R	<Hong Kong>
	220-5777-08-02	C.C BRKT S$1 R	<Singapore>
	220-5777-06-02	C.C BRKT 100WON R	<Korea>
	220-5777-07-02	C.C BRKT A$1 R	<Australia>
102	220-5208-79	COIN CHUTE REJ TAIWAN ¥10	<Taiwan>
	220-5208-29	COIN CHUTE REJR HONG KONG $	<Hong Kong>
	220-5208-96	COIN CHUTE REJR SINGAPORE $1	<Singapore>
	220-5208-37	COIN CHUTE KOREA 100 WON	<Korea>
	220-5208-07	COIN CHUTE REJR AUSTRALIA $1	<Australia>
201	000-P00408-W	M SCR PH W/FS M4 × 8	
202	050-H00500	HEX NUT M5	
203	060-S00500	SPR WSHR M5	
204	060-F00500	FLT WSHR M5	
205	065-E00300	E RING 3MM	
301	HDF-60024	WH COIN SW	

㉓ ASSY CTRL PANEL (HDF-2000)



ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	HDF-2001	CTRL PANEL BASE	
2	HDF-2002-01	CTRL PANEL ENG	
3	HDF-2003	CTRL CABI TOP BASE	
4	HDF-2004	LOCK BRKT	
5	HDF-2005X	CTRL PANEL SIDE GUARD	
6	220-5167-19	COIN ENTRY TAIWAN NT$10	<Taiwan>
	220-5167-10	COIN ENTRY HONG KONG $1	<Hong Kong>
	220-5167-15	COIN ENTRY ENG 1POUND	<Singapore>
	220-5167-02	COIN ENTRY 25	<Korea>
	220-5167-11	COIN ENTRY AUSTRALIA $1	<Australia>
7	250-5669	ASSY REJECT BUTTON L59	
101	509-6101	SW PB OBSA-45UM-Y-1FLED-Y-5V	
102	280-5277	CORD CLAMP 18	
201	000-P00408-W	M SCR PH W/FS M4 × 8	
202	000-P00310-W	M SCR PH W/FS M3 × 10	
203	050-F00400	FLG NUT M4	
204	FAS-310009	CRG BLT SH D=8.5 BLK M4 × 25	
301	HDF-60034	WH START SW	

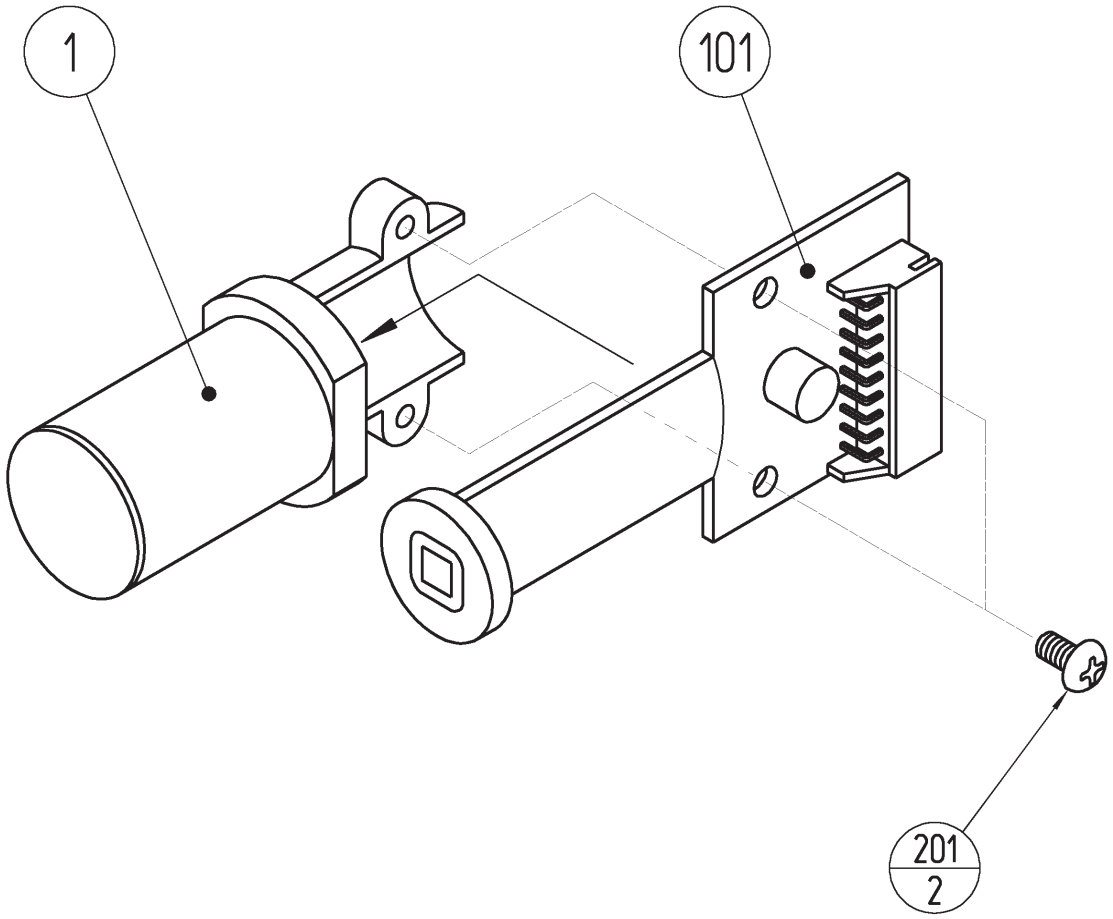
(24) CONTROL UNIT (HDF-2100)



(24) CONTROL UNIT (HDF-2100)

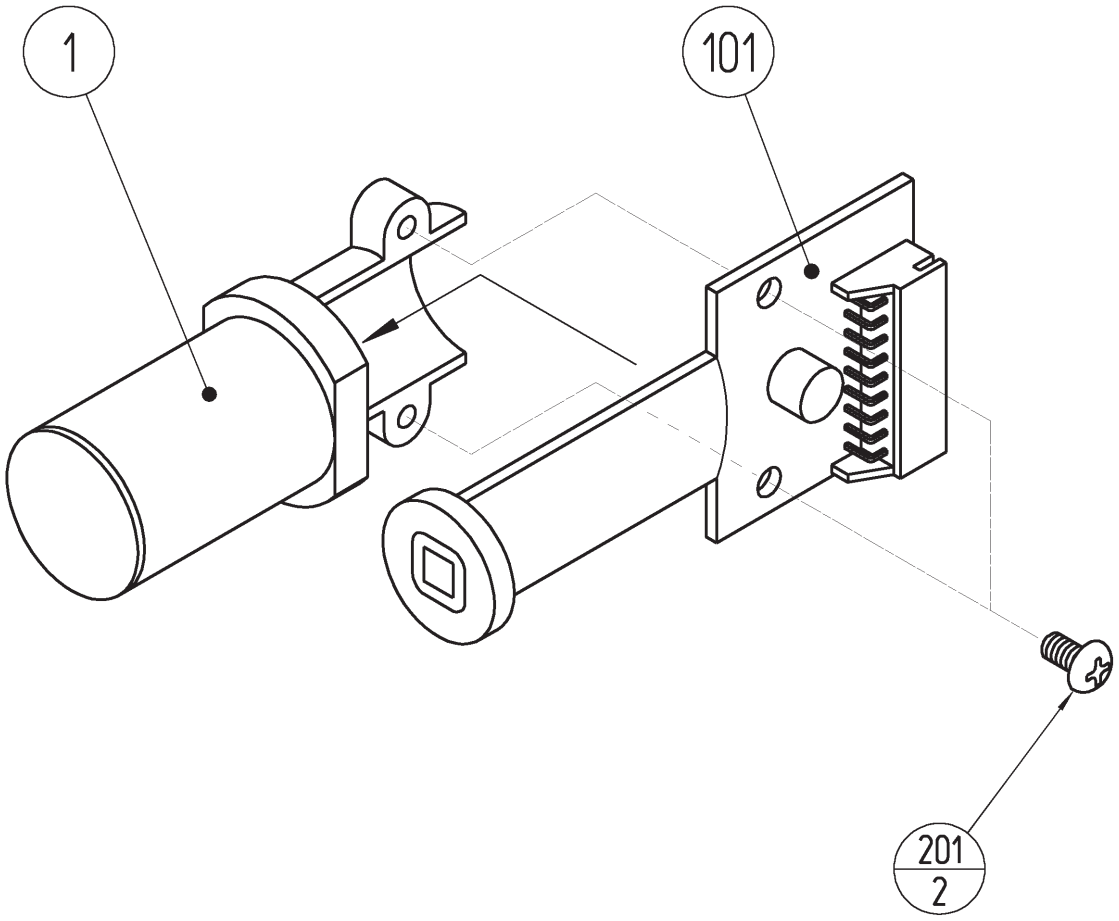
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	JPT-2030	SENSOR UNIT	
2	515-30-322 (839-1280-N)	XY ACCELERATION BD	
3	515-50-320 (HDF-2101)	COVER L	
4	515-50-321 (HDF-2102)	COVER R	
5	515-30-323 (HDF-2103)	GRIPEND L	
6	515-30-324 (HDF-2104)	GRIPEND R	
7	515-30-325 (HDF-2105)	BOLT KNOB	
8	515-30-326 (HDF-2106)	TRIGGER	
9	515-30-327 (HDF-2107)	BUTTON	
10	515-30-328 (HDF-2108)	SPRING ARM	
11	515-30-329 (HDF-2109)	KNOCK ROLLER	
12	515-30-330 (HDF-2110)	KNOCK FRAME L	
13	515-30-331 (HDF-2111)	KNOCK FRAME R	
14	515-30-332 (HDF-2112)	JOINT BASE	
15	515-30-333 (HDF-2113)	JOINT	
16	515-30-334 (HDF-2114)	CORD FRAME	
17	515-30-335 (HDF-2115)	SENSOR BRKT	
18	515-30-336 (HDF-2116)	SWITCH BRKT	
19	515-30-337 (HDF-2117)	BUTTON SPRING	
20	515-30-338 (HDF-2118)	KNOCK SHAFT	
21	515-30-339 (HDF-2119)	JOINT PIN S	
22	515-30-340 (HDF-2120)	JOINT PIN L	
23	515-30-341 (HDF-2121)	KNOCK WEIGHT	
24	HDF-2124	SPACER COLLAR	
25	HDF-2125	MASK SEAL	
26	CTF-2123	TRIGGER SPRING	
101	509-5080	SW MICRO TYPE (SS-5GL2)	
102	310-5029-D20	SUMITUBE F D 20MM	
103	601-0460	PLASTIC TIE BELT 100 MM	
104	280-5124-04	NYLON CLAMP NK04	
201	FAS-000100	M SCR PH W/SMALL FS BLK M3 ~12	
202	FAS-000045	M SCR PH W/S BLK M3 ~6	
203	FAS-000153	M SCR PH W/S M3 ~4	
204	050-H00500	HEX NUT M5	
205	060-F00400	FLT WSHR M4	
206	060-F00500	FLT WSHR M5	
207	060-S00500	SPR WSHR M5	
208	065-E00300	E RING 3MM	
209	FAS-120029	TAP SCR P-TITE PH 4 ~8	
210	000-P00408	M SCR PH M4 ~8	
301	515-30-344 (HDF-60036X)	WH SENSE BD	
302	515-30-345 (HDF-60037)	WH XY ACCEL BD	
303	515-30-346 (HDF-60038)	WH CONTROLLER	

(25) SENSOR UNIT (JPT-2030)



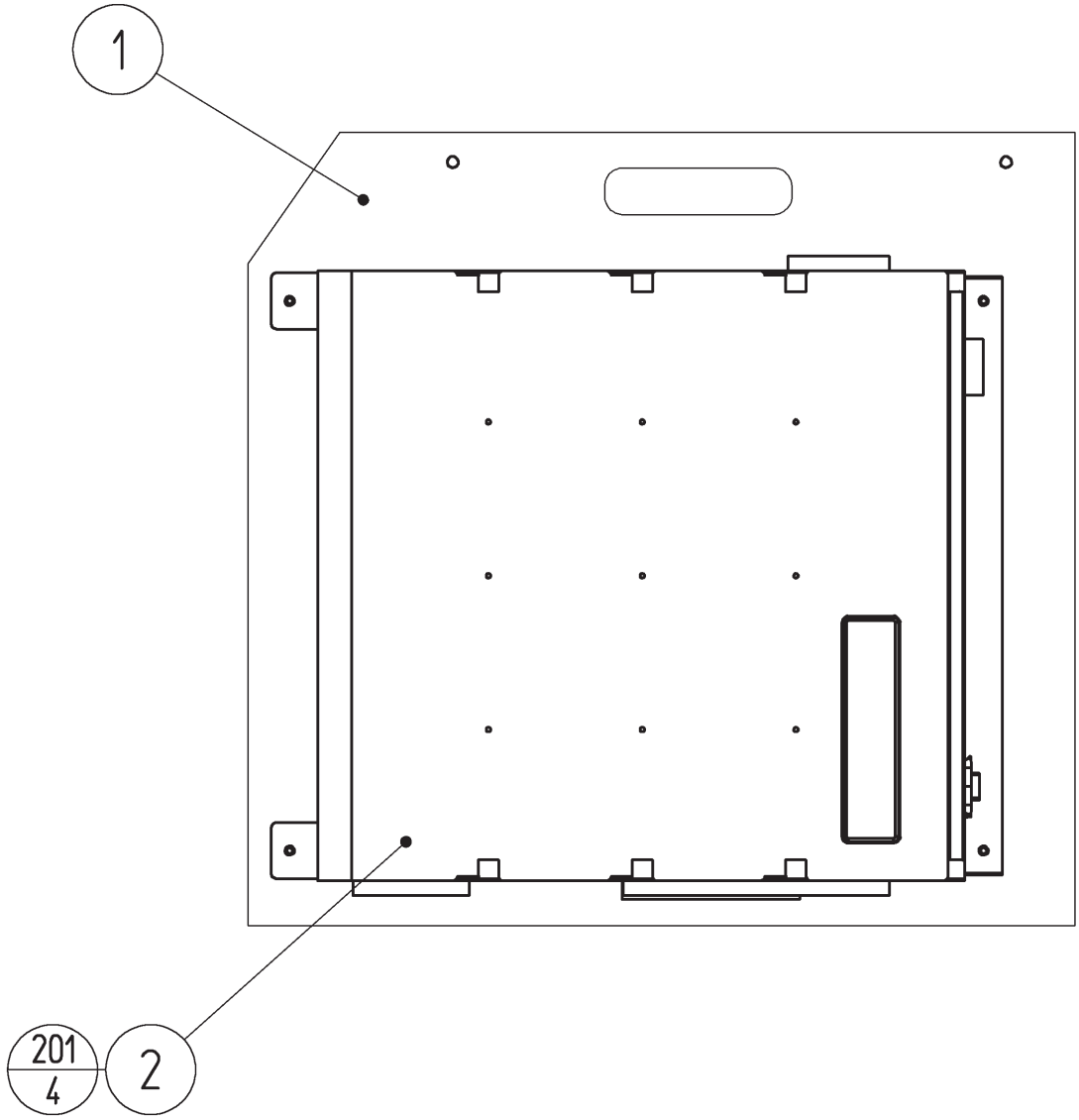
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	JPT-2031	SENSOR HOLDER	
101	838-13144R	SENSOR BD GUN SENSE	
201	012-P00306	TAP SCR #2 PH 3 x 6	

㉕ SENSOR UNIT (JPT-2030)

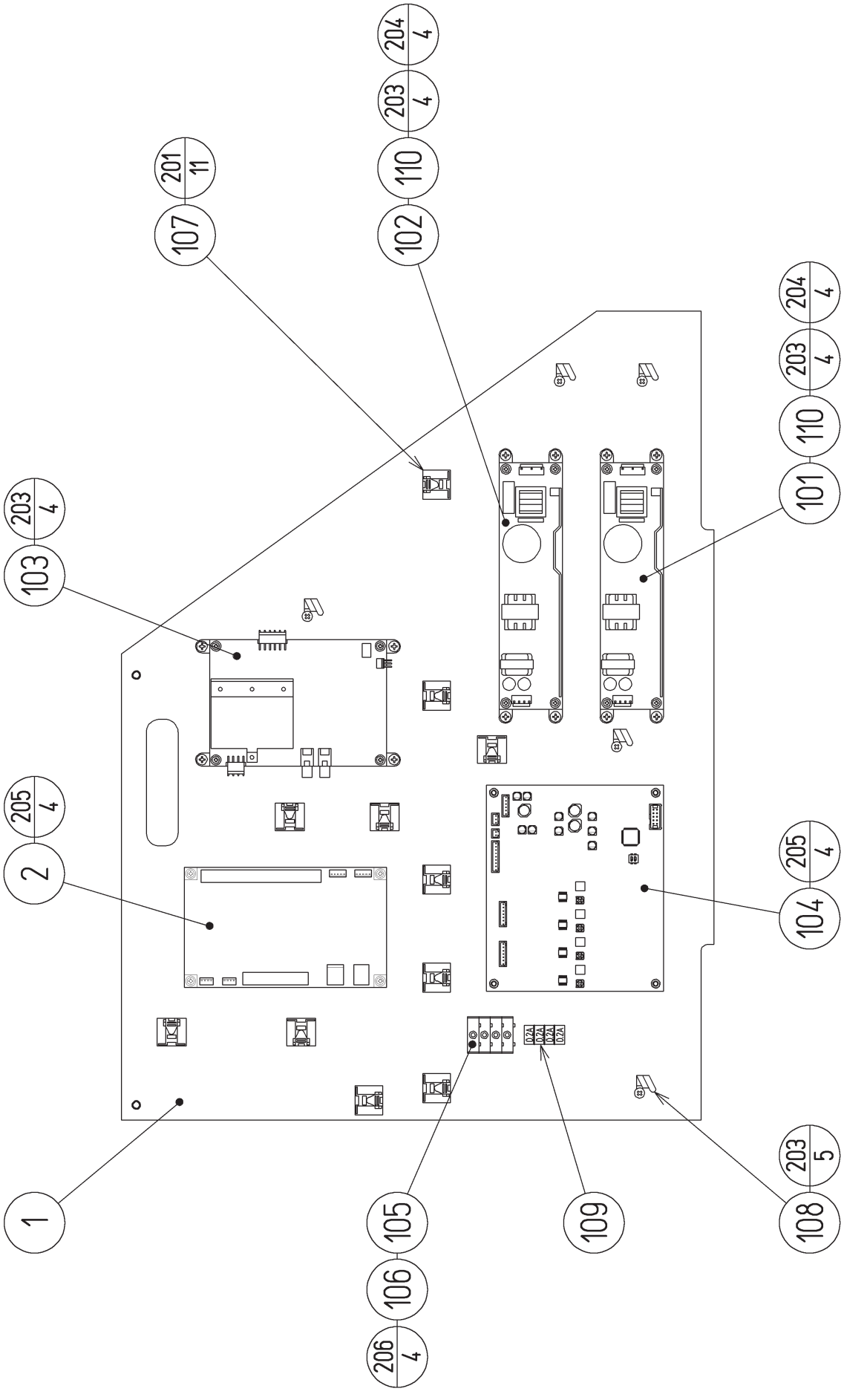


ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	JPT-2031	SENSOR HOLDER	
101	838-13144R	SENSOR BD GUN SENSE	
201	012-P00306	TAP SCR #2 PH 3 × 6	

㉖ ASSY MAIN BD (HDF-4000)



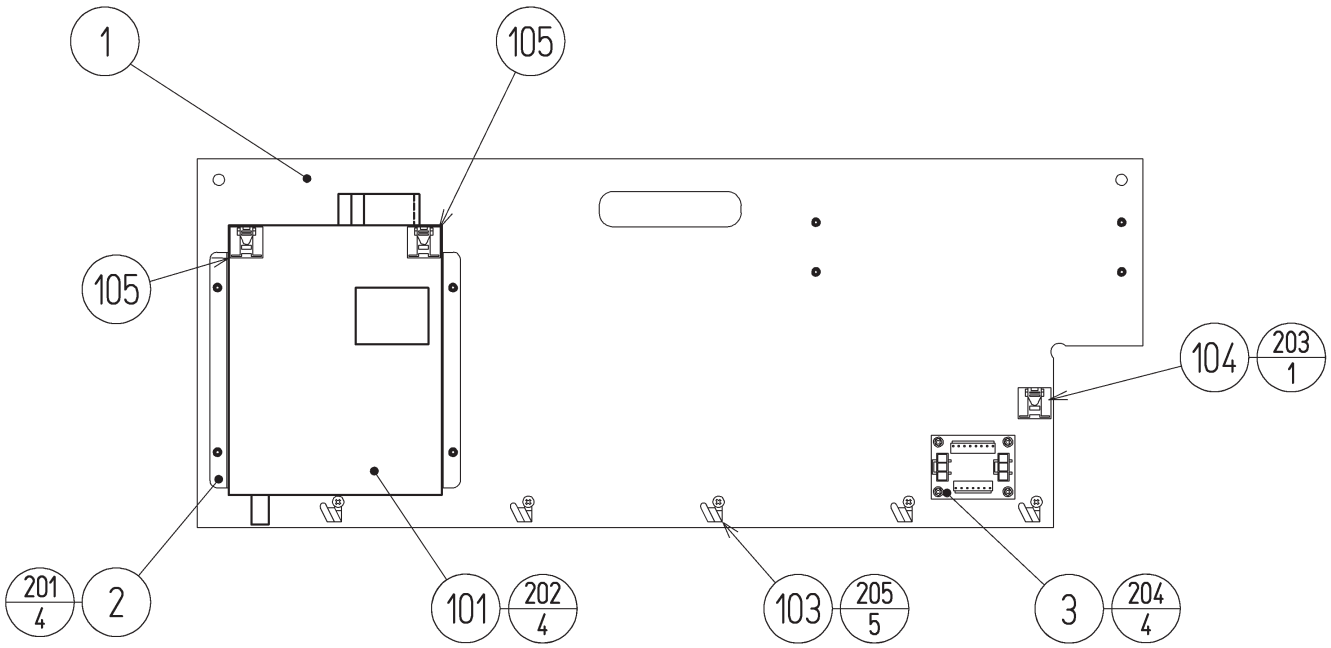
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	HDF-4001	WOODEN BASE MAIN	
2	844-0001D-02	ASSY CASE LBG L 1GB EXP	
201	000-P00412-W	M SCR PH W/FS M4 × 12	


204 4
203 4
110
102
201 11
107
204 4
203 4
110
101
203 4
103
205 4
2
205 4
104
203 5
108
1
105
106
206 4
109

㉗ ASSY ELEC (HDF-4100) (D-2/2)

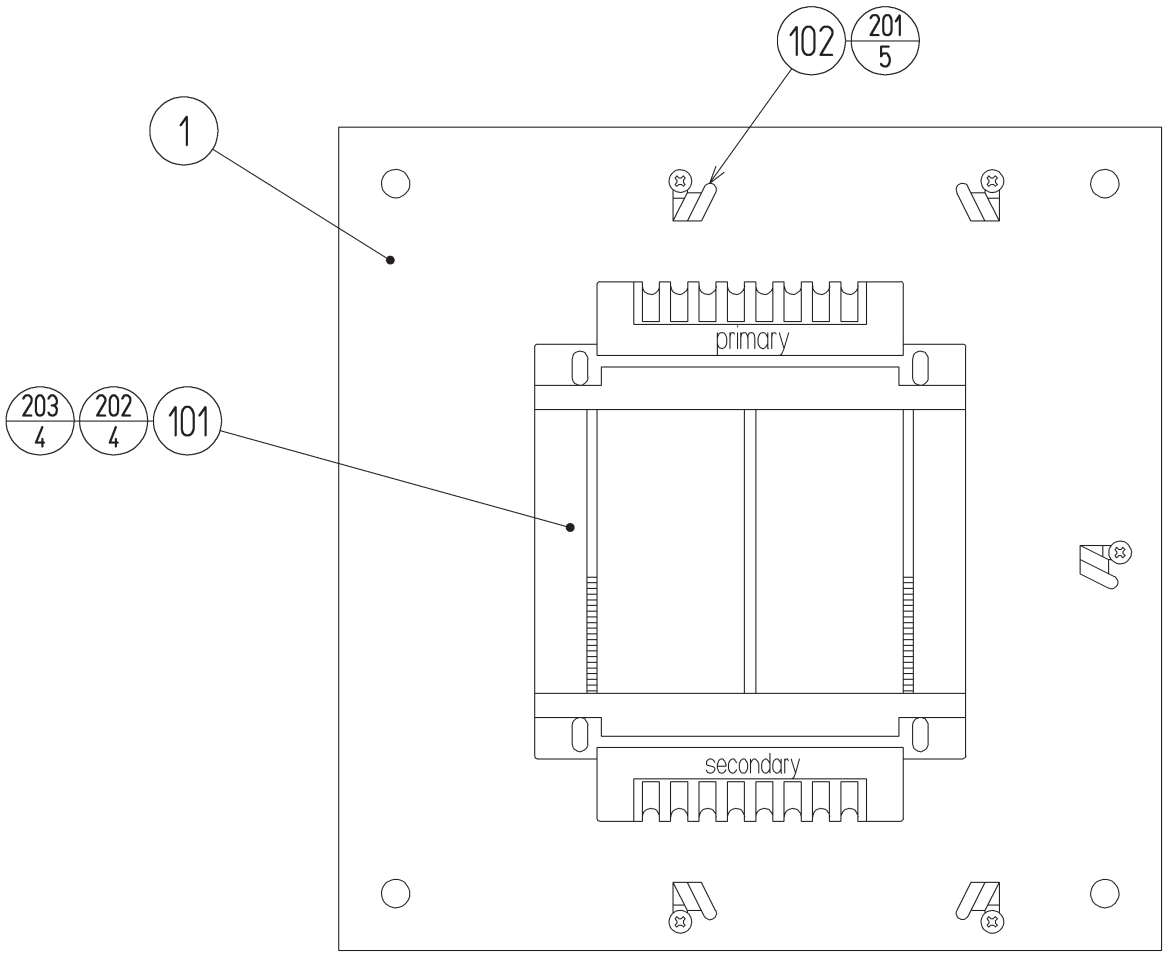
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	HDF-4101	WOODEN BASE ELEC	
2	837-14505	I/O CONTROL BD FOR JVS	
101	400-5421-05012	SW REGU LCA50S-12	
102	400-5421-05024	SW REGU LCA50S-24	
103	838-14515-A01	SOUND AMP ANALOG IN	
104	838-14465R	IC BD GUN SENCE NEW EDIT DX	
105	514-5084	FUSE HOLDER F-60B W/F-60	
106	514-5143-200	FUSE S.B 200MA250V HBC CE ROHS	
	514-5146-200	FUSE S.B 200MA250V 218 CE ROHS	
107	280-5277	CORD CLAMP 18	
108	280-0419	HARNESS LUG	
109	421-6595-16	STICKER 0.2A	
110	280-6681	L-LOCK LT-320PCG	
111	310-5029-D20	SUMITUBE F D 20MM	
201	011-F00312	TAP SCR FH 3 × 12	
202	011-T03510	TAP SCR TH 3.5 × 10	
203	011-T03516	TAP SCR TH 3.5 × 16	
204	000-P00308-W	M SCR PH W/FS M3 × 8	
205	011-P00320	TAP SCR PH 3 × 20	
206	011-P00312	TAP SCR PH 3 × 12	
301	HDF-60026	WH SW REGU IN	
302	HDF-60027	WH AUDIO OUT	
303	HDF-60028	WH SENSE TO MASK	
304	HDF-60029	WH DC IO	<Others>
	HDF-60029-01	WH DC IO DC12V W/EARTH	<Korea &Australia>
305	HDF-60030	WH DC LINE2	
306	HDF-60031	WH DC 24V	
307	HDF-60032	WH FREQ	
308	HDF-60033	WH SENSE 1P 2P	
/	HDF-4102	SW REGU BRKT	<Korea &Australia>
/	050-H00400	HEX NUT M4	<Korea &Australia>
/	060-F00400	FLT WSHR M4	<Korea &Australia>
/	060-S00400	SPR WSHR M4	<Korea &Australia>

(28) ASSY SUB ELEC (HDF-4200)



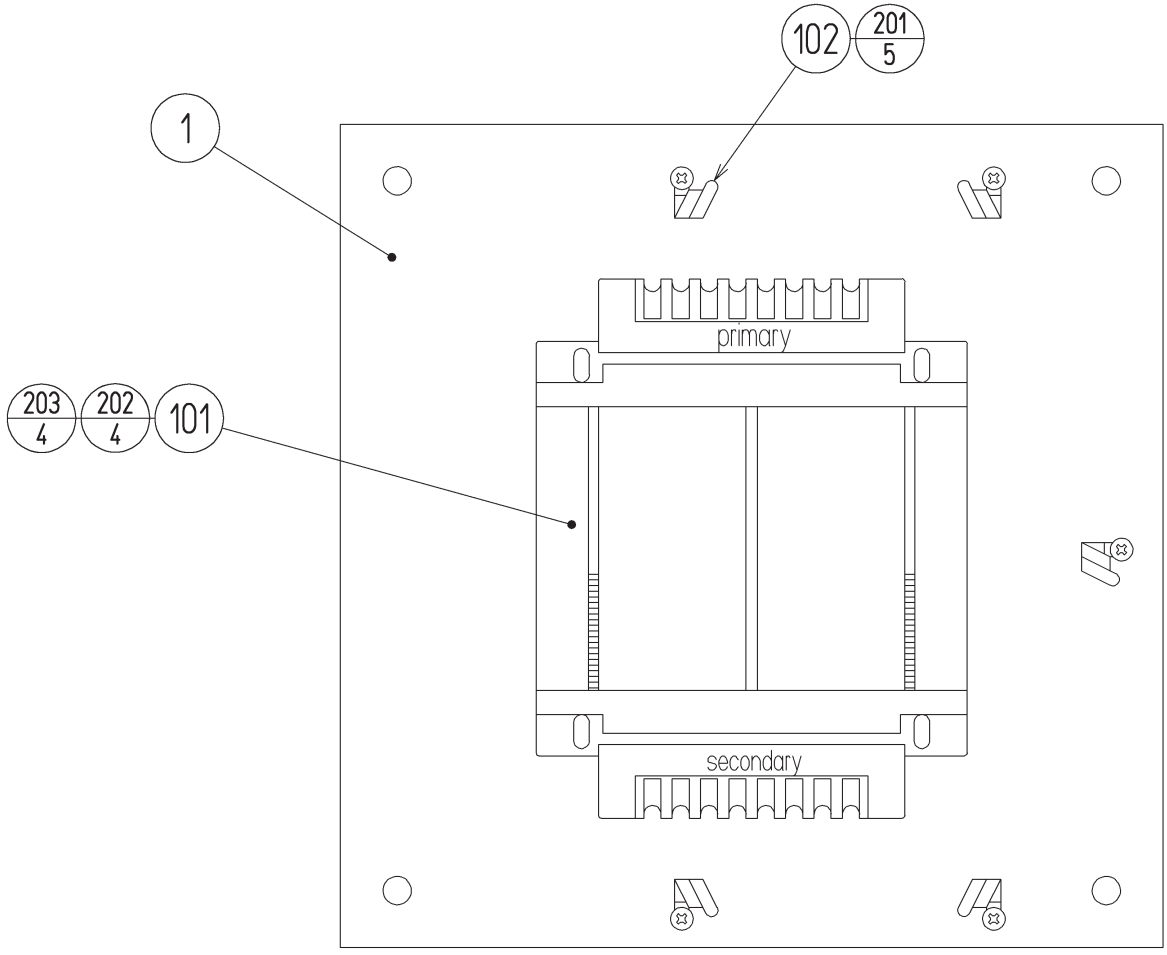
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	HDF-4201	WOODEN BASE SUB ELEC	
2	HDF-4202	BRKT PWR SPLY	
3	839-1160R91	TERMINAL BD	
101	400-5457-91	SW REGU ATX/JVS	
103	280-0419	HARNESS LUG	
104	280-5277	CORD CLAMP 18	
105	280-6676	CORD CLAMP TL-25A TKK	
201	000-P00412-W	M SCR PH W/FS M4 × 12	
202	000-P00308-W	M SCR PH W/FS M3 × 8	
203	011-F00312	TAP SCR #1 FH 3 × 12	
204	011-P00320	TAP SCR PH 3 × 20	
205	011-T03510	TAP SCR TH 3.5 × 10	
301	HDF-60025	WH AC DIVIDE	

㉙ ASSY XFMR 100V AREA (HDF-4300)



ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	HDF-4301	WOODENBASE XFMR	
101	560-5523-H	XFMR 100-120V 100V7.5A WB H	
102	280-0419	HARNESS LUG	
201	011-T03510	TAP SCR TH 3.5 × 10	
202	030-000516-SB	HEX BLT W/S BLK M5 × 16	
203	068-552016	FLT WSHR 5.5-20 × 1.6	
301	HDF-60041	WH TRANS IN	
302	HDF-60042	WH TRANS OUT	

㉙ ASSY XFMR 200V AREA (HDF-4400)



ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	HDF-4301	WOODENBASE XFMR	
101	560-5524-H	XFMR 220-240V 100V7.5A WB H	
102	280-0419	HARNESS LUG	
201	011-T03510	TAP SCR TH 3.5 × 10	
202	030-000516-SB	HEX BLT W/S BLK M5 × 16	
203	068-552016	FLT WSHR 5.5-20 × 1.6	
301	HDF-60041	WH TRANS IN	
302	HDF-60042	WH TRANS OUT	

19. WIRE COLOR CODE TABLE

WARNING

The DC power wire color for this product is different from previous SEGA titles. Working from the previous wire colors will create a high risk of fire.

The color codes for the wires used in the diagrams in the following chapter are as follows.

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

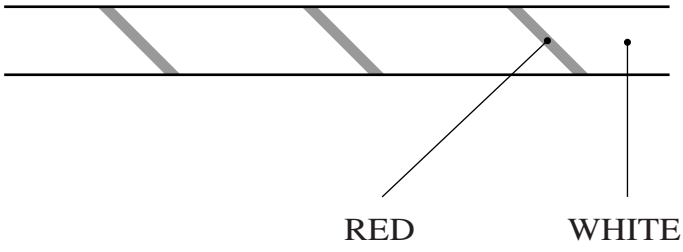
Wires other than those of any of the above 5 single colors will be displayed by 2 alphanumeric characters.

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

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

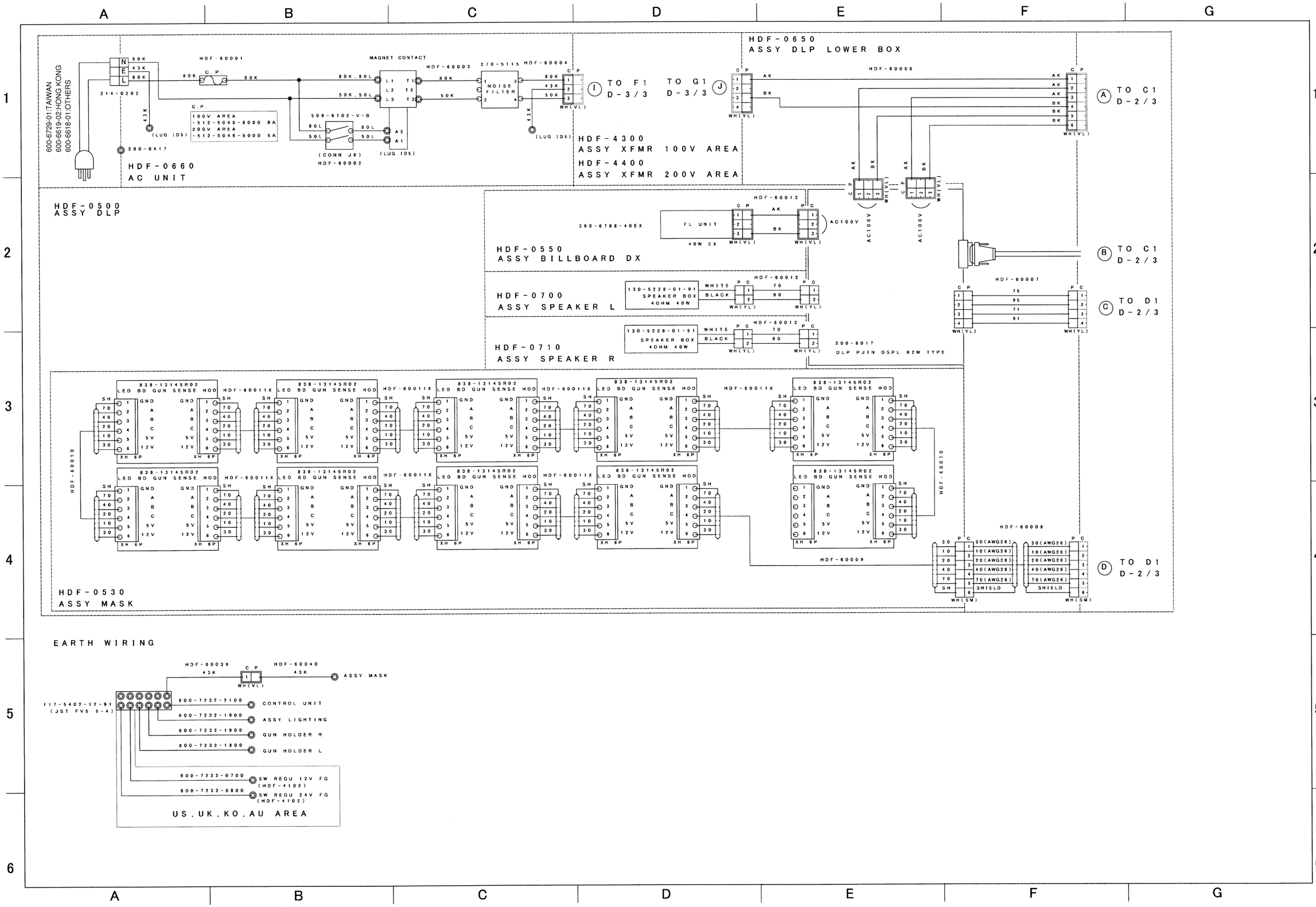
Note 1: If the right-hand side alphanumeric is not 0, that particular wire has a spiral color code. The left-hand side character shows the base color and the right-hand side one, the spiral color.

<Example> 51 ····· WHITE / RED

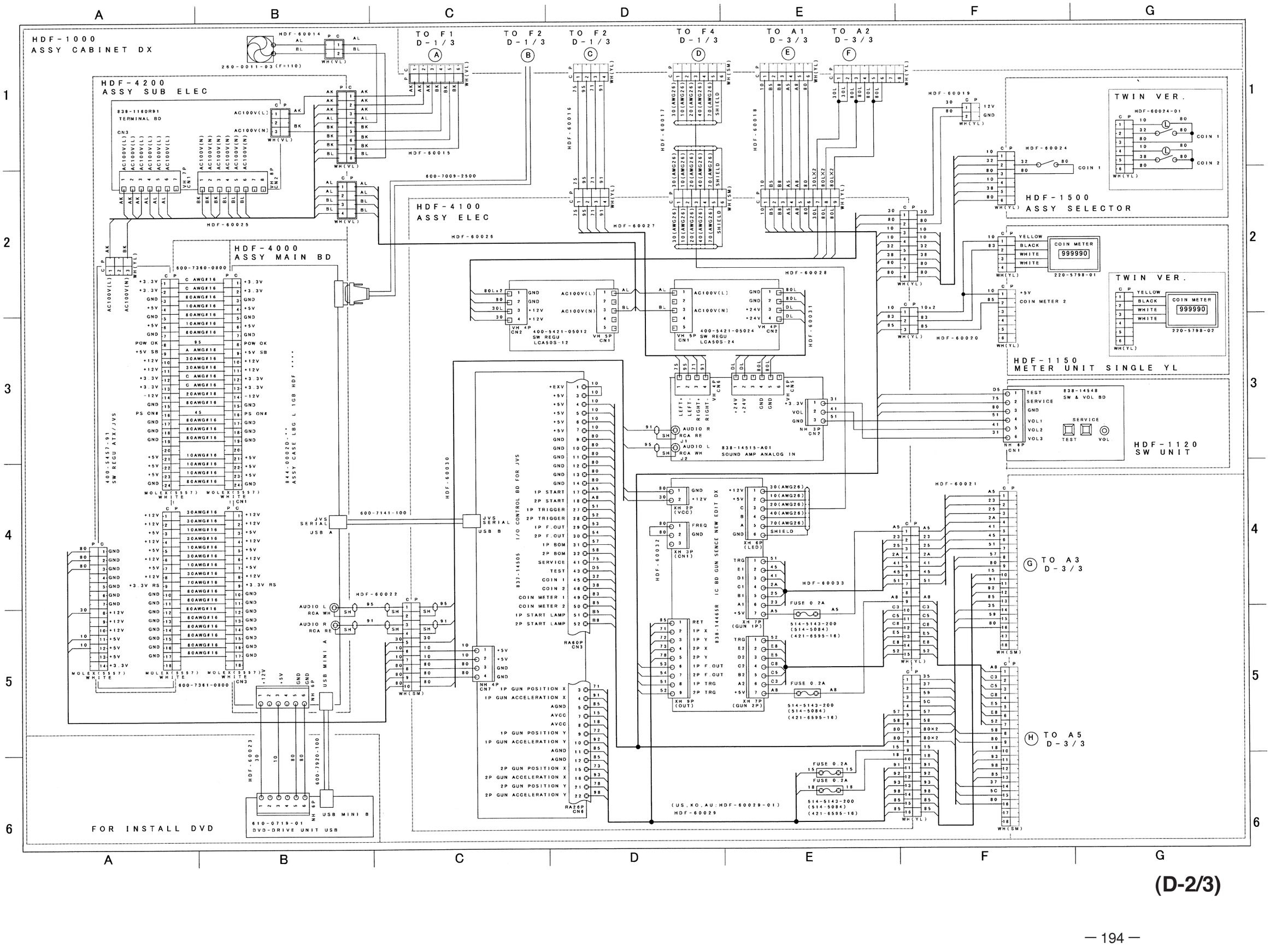


Note 2: The character following the wire color code indicates the size of the wire.

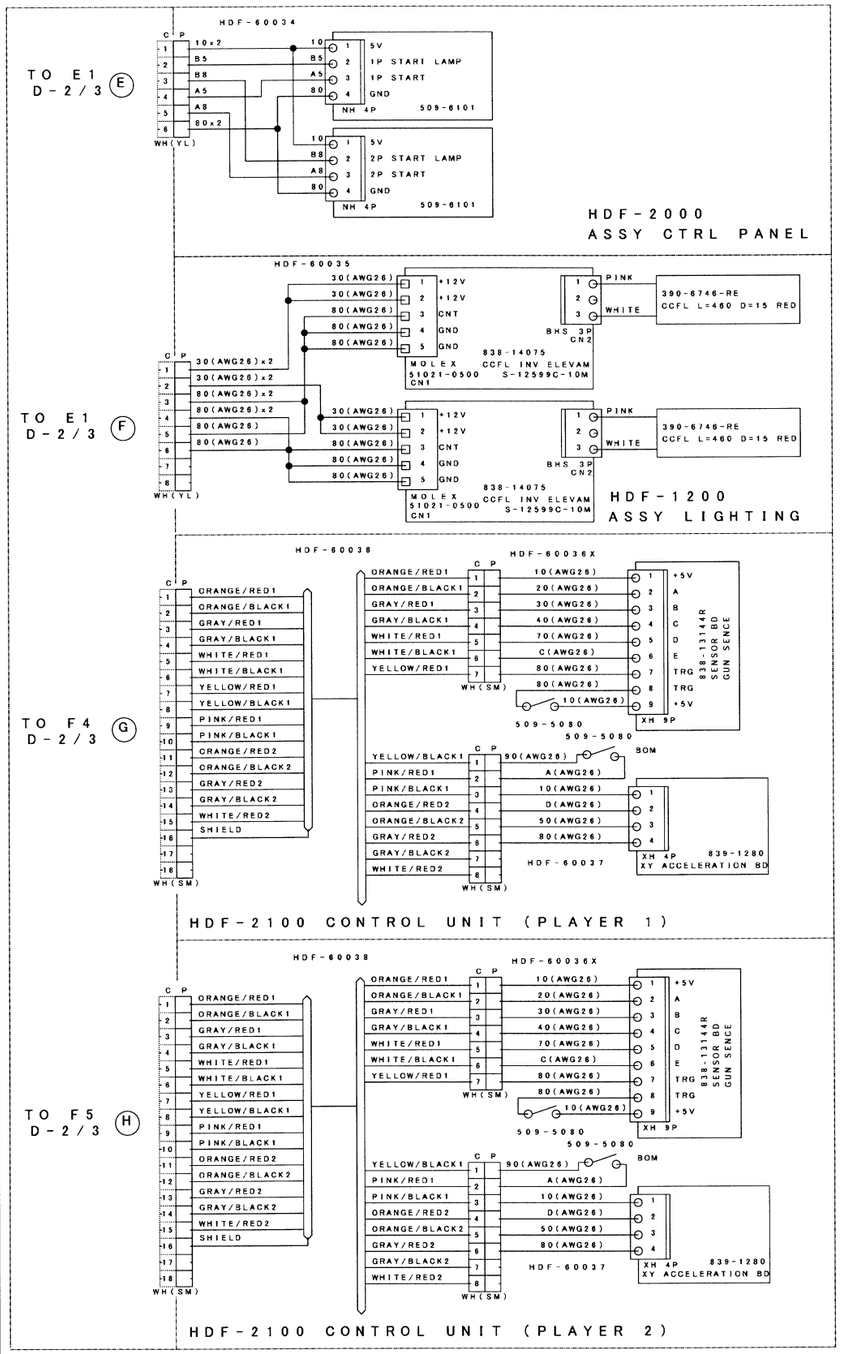
U:	AWG16
K:	AWG18
L:	AWG20
None:	AWG22

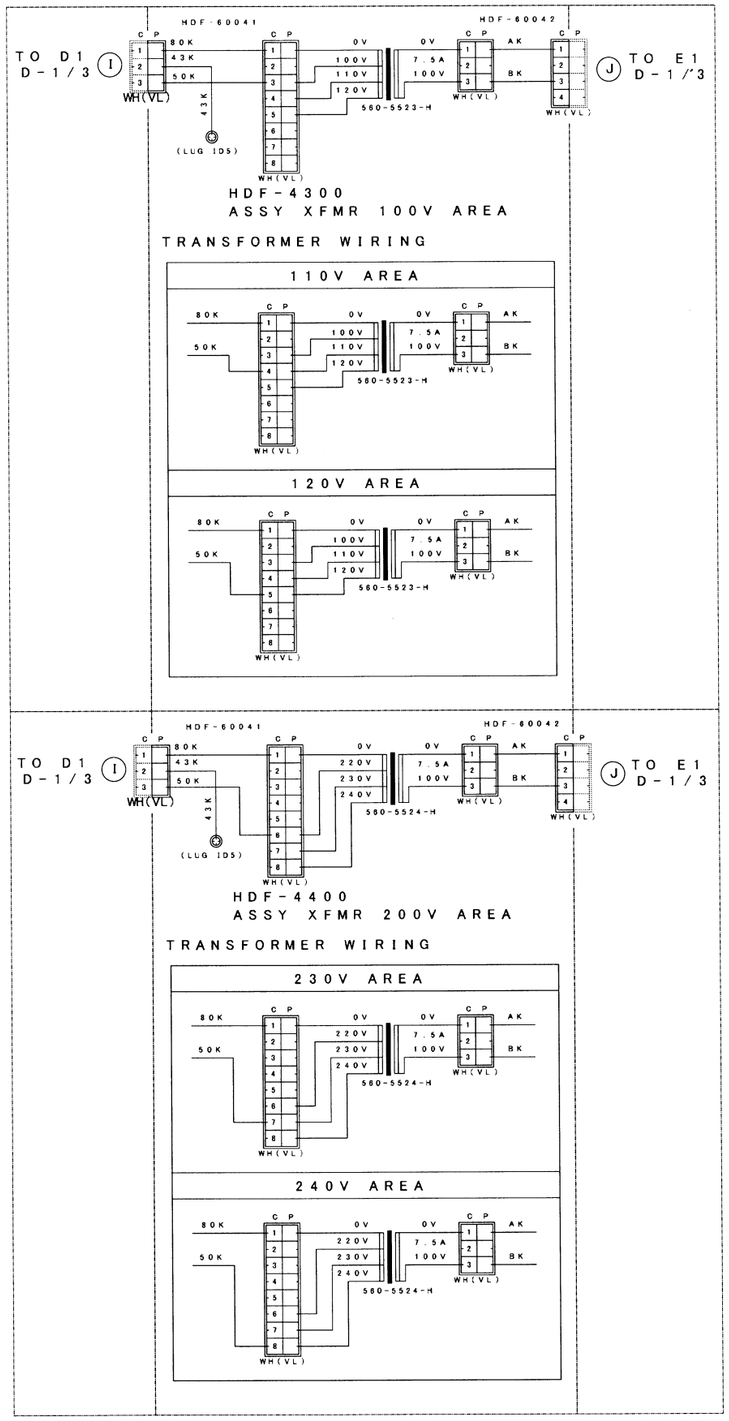


20. WIRING DIAGRAM (D-1/3)


HDF-1000
ASSY CABINET DX
HDF-4200
ASSY SUB ELEC
HDF-4000
ASSY MAIN BD
HDF-4100
ASSY ELEC
HDF-1500
ASSY SELECTOR
HDF-1150
METER UNIT SINGLE YL
HDF-1120
SW UNIT
TWIN VER.
TWIN VER.
TO F1 D-1/3
TO F2 D-1/3
TO F2 D-1/3
TO F4 D-1/3
TO A1 D-3/3
TO A2 D-3/3
TO A3 D-3/3
TO A5 D-3/3
COIN METER
999990
SW REGU LCA50S-12
SW REGU LCA50S-24
SOUND AMP ANALOG IN
I/O CONTROL BD FOR JVS
IC BD GUN SENCE NEW EDIT DX
DVD-DRIVE UNIT USB
FOR INSTALL DVD
(US,KO,AU:HDF-60029-01)
HDF-60029

(D-2/3)


HDF-60034
TO E1 D-2/3 (E)
10×2
B5
B8
A5
A8
80×2
WH(YL)
5V
1P START LAMP
1P START
GND
NH 4P 509-6101
2P START LAMP
2P START
HDF-2000
ASSY CTRL PANEL
HDF-60035
30(AWG26)×2
80(AWG26)×2
80(AWG26)
+12V
CNT
GND
838-14075
MOLEX 51021-0500 CCFL INV ELEVAM S-12599C-10M
CN1
PINK
WHITE
390-6746-RE
CCFL L=460 D=15 RED
BHS 3P CN2
TO E1 D-2/3 (F)
HDF-1200
ASSY LIGHTING
HDF-60038
TO F4 D-2/3 (G)
ORANGE/RED1
ORANGE/BLACK1
GRAY/RED1
GRAY/BLACK1
WHITE/RED1
WHITE/BLACK1
YELLOW/RED1
YELLOW/BLACK1
PINK/RED1
PINK/BLACK1
ORANGE/RED2
ORANGE/BLACK2
GRAY/RED2
GRAY/BLACK2
WHITE/RED2
SHIELD
WH(SM)
HDF-60036X
10(AWG26)
20(AWG26)
30(AWG26)
40(AWG26)
70(AWG26)
C(AWG26)
80(AWG26)
90(AWG26)
A(AWG26)
D(AWG26)
50(AWG26)
509-5080
+5V
A
B
C
D
E
TRG
838-13144R SENSOR BD GUN SENCE
XH 9P
BOM
HDF-60037
XH 4P 839-1280 XY ACCELERATION BD
HDF-2100 CONTROL UNIT (PLAYER 1)
TO F5 D-2/3 (H)
HDF-2100 CONTROL UNIT (PLAYER 2)


HDF-60041
HDF-60042
TO D1 D-1/3 (I)
TO E1 D-1/3 (J)
80K
43K
50K
WH(VL)
(LUG ID5)
0V
100V
110V
120V
7.5A
AK
BK
580-5523-H
HDF-4300
ASSY XFMR 100V AREA
TRANSFORMER WIRING
110V AREA
120V AREA
220V
230V
240V
580-5524-H
HDF-4400
ASSY XFMR 200V AREA
230V AREA
240V AREA

(D-3/3)

THE HOUSE OF THE DEAD 4 OWNER'S MANUAL

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