

420-7156-02



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LICENSED PRODUCT

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HUMMER

SERVICEMAN MANUAL

420-7156-02



SERVICEMAN MANUAL



IMPORTANT

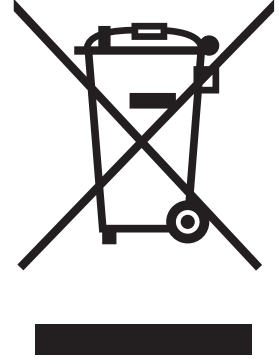
- Before using this product, read this manual carefully to understand the contents herein stated.
- After reading this manual, be sure to keep it near the product or in a convenient place for easy reference when necessary.

WEEE Statement

The WEEE (Waste of Electrical and Electronic Equipment) directive places an obligation on all EU based manufacturers and importers of Electrical and Electronic Equipment to take back products at the end of their useful life. Sega Amusements Europe Ltd accepts its responsibility to finance the cost of treatment and recovery of redundant WEEE in the United Kingdom in accordance with the specified WEEE recycling requirements.

The following symbol will be on all products manufactured from 13th August 2005, which indicates this product must NOT be disposed of with other normal waste. Instead, it is the user's responsibility to dispose of their waste equipment by arranging to return it to a designated UK collection point for the correct recycling of waste electrical and electronic equipment.

For more information about where you can send your waste equipment for recycling contact your local authority office.



Battery Recycling Statement

The EC Directive on Batteries and Accumulators (2006/66/EC) aims to minimize the impact of batteries on the environment and encourage the recovery of the materials they contain. To achieve increased collection and recycling of waste batteries, the Directive places 'producer responsibility' obligations on manufacturers and importers of portable, industrial and automotive batteries.

The following symbol will be on all equipment fitted with batteries from 26th September 2008 and indicates they must NOT be disposed of with other normal waste. Instead, it is the user's responsibility to dispose of used batteries by arranging to return them to a designated collection point for the correct recycling of waste batteries.

For more information about where you can send your waste batteries for recycling contact your local authority office.



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

To maintain safety:

To ensure the safe operation of this product, be sure to read the following before usage. The following instructions are intended for the users, operators and the personnel in charge of the operation of the product. After carefully reading and sufficiently understanding the warning displays and cautions, handle the product appropriately. Be sure to keep this manual close to the product or in a convenient place for future reference.

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



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



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



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

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



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



Indicates a "Protective Earth Terminal." Before operating the equipment, be sure to connect it to the Ground.
(The step may be omitted for products in which a power cord with earth is used.)

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

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

The parts of the product include warning labels for safety, covers for personal protection, etc. It is very hazardous to operate the product by removing parts and/or modifying the circuits. Should doors, lids and protective parts be damaged or lost, refrain from operating the product, and contact where the product was purchased from or the office herein stated. SEGA shall not be held responsible for any accidents, compensation for damage to a third party, resulting from the specifications not designated by SEGA.

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

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

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

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

- **When handling the monitor, be very careful. (Applies only to the product with a monitor.)**

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

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

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

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

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

** Descriptions herein contained may be subject to improvement changes without notice.*

** The contents described herein are fully prepared with due care. However, should any question arise or errors be found, please contact SEGA.*

INSPECTIONS IMMEDIATELY AFTER TRANSPORTING THE PRODUCT TO THE LOCATION

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

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

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SEGA AMUSEMENTS OFFICES

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. as regards the product, "HUMMER".

This manual is intended for technical personnel who have knowledge of electricity and technical expertise especially in ICs, CRTs, microprocessors, etc. For the prevention of accidents, work stated herein should under no circumstances be performed by anyone other than the technical personnel.

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 power to the machine, making sure to unplug the electrical cord from the outlet, and contact the office listed in this manual or the point of purchase for this product.

Should this Serviceman Manual be lost, it can be purchased by placing an order with the office listed in this manual or the point of purchase for this product.

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

IMPORTANT

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

WARNING

Service and maintenance work of the contents herein stated should be performed by the **SERVICEMAN** stipulated as per IEC Standard. Those who do not have technical expertise and knowledge other than the **SERVICEMAN** are not allowed to perform the work herein stated. Executing aforementioned work by such non-technical personnel can cause serious accidents that may endanger life.

SPECIFICATIONS

Installation space	2,390 mm [Width] x 2,740 mm [Depth]
Height	2,200 mm [When horizontal] 2,090 mm [When power is off] - 2,300 mm [maximum]
Weight	740 kg
Power, maximum current	600 W, 6.7 A (Single phase AC 230 V, 50 Hz Area)

NOTE: The contents herein described are subject to change without notice.

1 HANDLING PRECAUTIONS

When installing or inspecting the machine, be very careful of the following points and pay attention to ensure that the player can enjoy the game safely.

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

WARNING

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

STOP

IMPORTANT

1

HANDLING PRECAUTIONS

- 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.
- This product uses an LCD. Be careful when cleaning the LCD as it is easily scratched. For details, see Chapter 10 “LCD”.
- 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.
- 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 designed and manufactured specifically for this game machine. The manufacturers may discontinue, or change the specifications of such general-purpose parts. If this is the case, SEGA cannot repair or replace a failed game machine whether or not a warranty period has expired.

CONCERNING THE STICKER DISPLAY

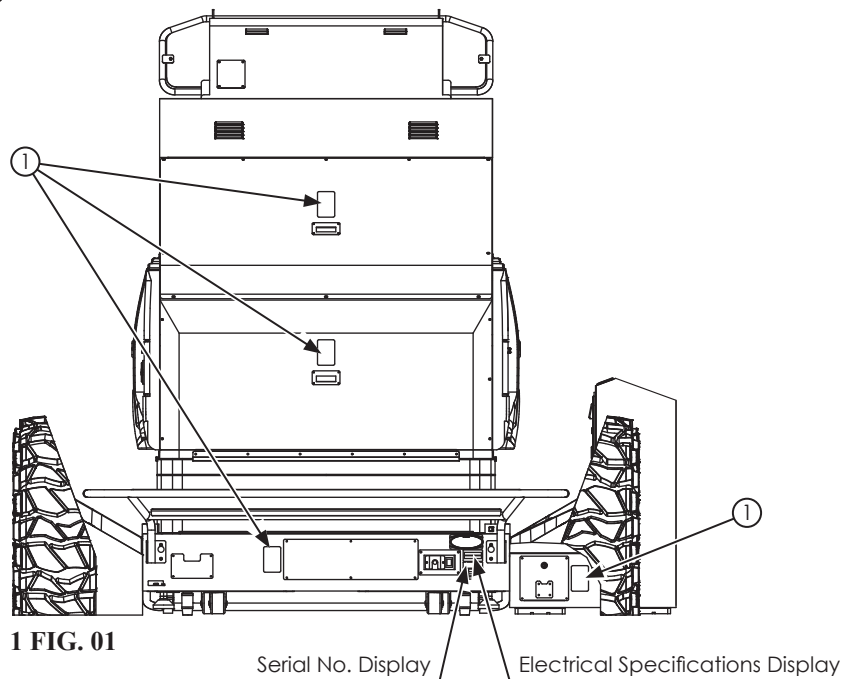
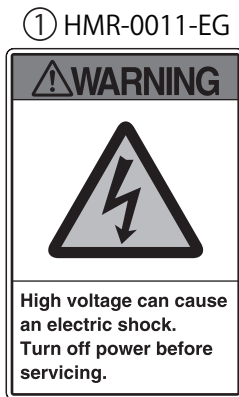
SEGA product has Stickers describing Serial No. (the product manufacture number) and Electrical Specifications. Also it has a sticker describing where to contact for repair and for purchasing parts. When inquiring about or asking for repair, mention the Serial No. and Name of Machine indicated on the sticker. The Serial No. indicates the product register. Identical machines could have different parts depending on the destination (whether the machines are intended for Europe or Japan). In order for us to take an appropriate action promptly, be sure to mention the Serial No. when contacting the applicable places.

NOTE: The illustrations indicate Product Liability related warning labels and stickers to be used in the countries where English is the official language. In the countries where a language other than English is used for the official language, the illustrated warning labels and stickers in the applicable official language will be used.

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 cease and desist immediately.

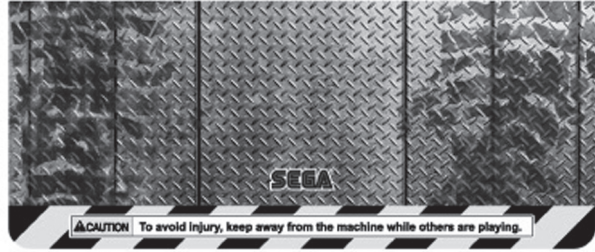


① HMR-0008-EG*

CAUTION


- For safety reasons, always fasten the seatbelt while playing this game.
- For safety reasons, pregnant persons, intoxicated persons or those with a height of less than 140 cm may not play this machine.
- Maximum number of passengers is two. Three or more passengers are not permitted on the ride.
- Do not play this game with children in your lap. They may fall and receive an injury.

⑤ HMR-0352 (HMR-0014-FR/SP/IT/GR)*



② HMR-0010-EG

WARNING



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


⑥ HMR-0015-EG*

CAUTION

To avoid injury, keep away from the machine while others are playing.

③ HMR-0012-EG

CAUTION



Keep fingers and objects away from the steering wheel gear mechanism. Failure to do so could result in injury.

⑦ HMR-0016-EG*

CAUTION

Do not enter or go near the machine while another person is playing the game. Doing so may cause injury. Do not place any personal belongings on the floor of the machine while playing. Doing so may result in damage to the personal belongings.

④ HMR-0013-EG*

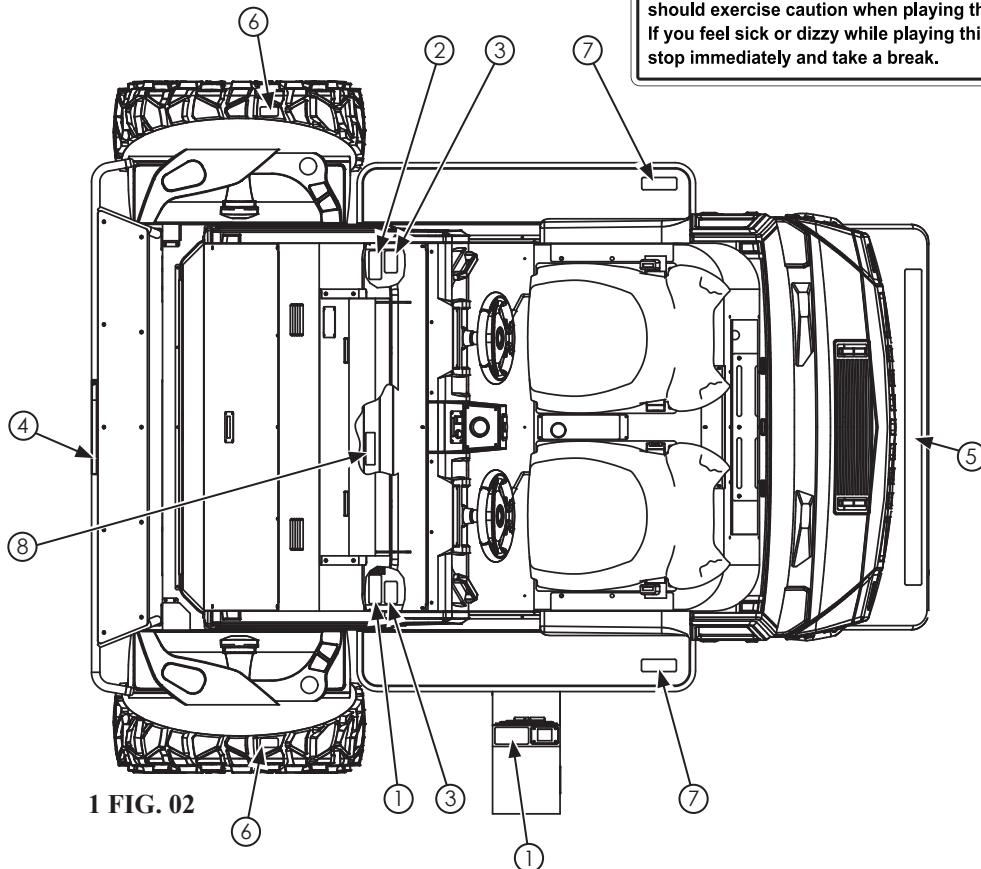
CAUTION Do not lean on or pass over a fence. It may cause an accident or injuries.

* Affix an applicable sticker for your country on English sticker.

⑧ HMR-2023-EG*


CAUTION

Adults and children that are prone to seizures, loss of consciousness, etc. due to flashing lights or television games, should exercise caution when playing this game. If you feel sick or dizzy while playing this game, stop immediately and take a break.

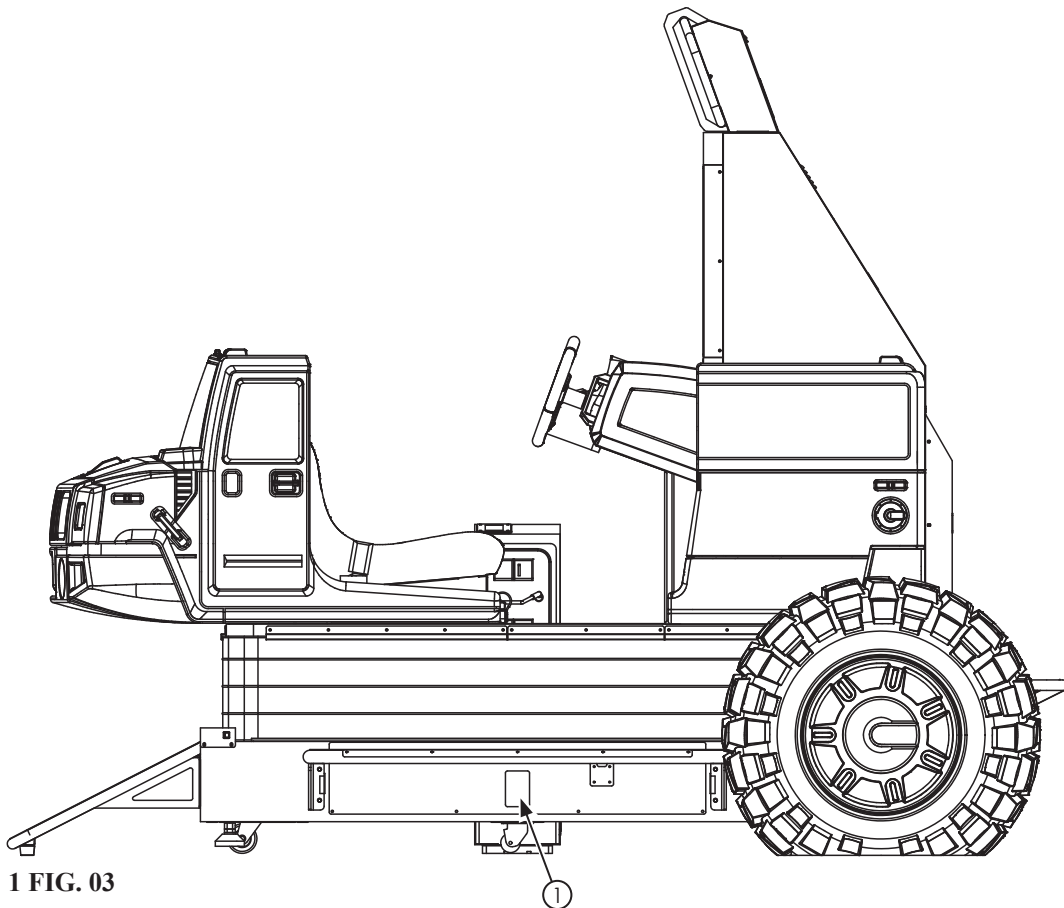
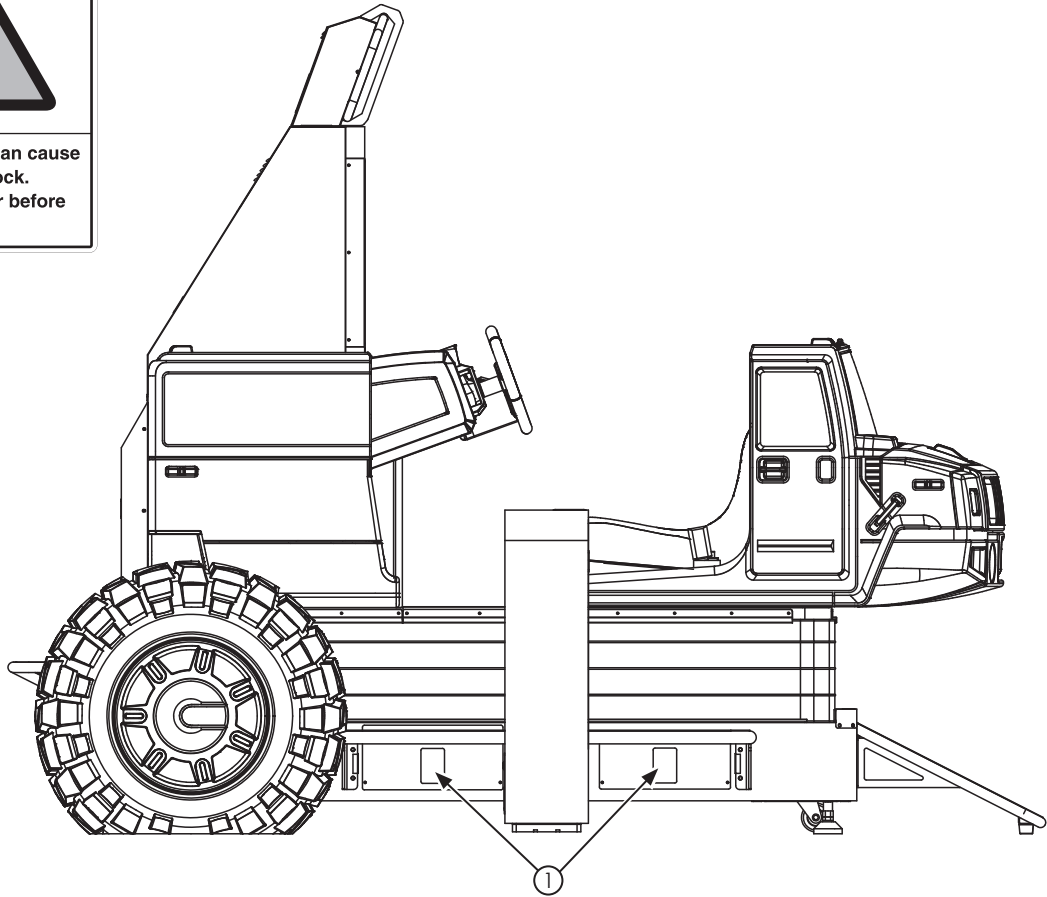


① HMR-0011-EG

⚠ WARNING



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



1 FIG. 03

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.
- Areas where the temperature exceeds the applicable temperature (ambient temperature) range of 5 to 30 degrees centigrade.

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.
- A dedicated breaker and grounding mechanism are necessary for the control tower and each cabinet of this product. Failure to heed this warning can cause a fire or electric shock.
- Use wires of the following capacity for the indoor power wiring. The use of wires of different electrical specifications can cause a fire or electric shock.

Single phase AC 230 V, 10 A min.

- Be sure to use an independent power supply equipped with an earth leakage breaker. Using a power supply without an earth leakage breaker 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.
- Use cable as rated below for the power cable. Use of a rated cable that does not satisfy the prescribed rating can cause fire and electric shock.

Single phase AC 230 V, 10 A min.

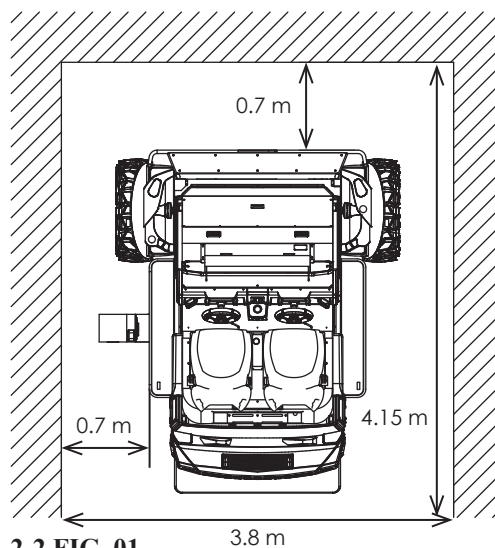
Electricity Consumption

MAX. 6.7 A Single phase AC 230 V, 50 Hz Area

2-2 OPERATION AREA

WARNING

- For the operation of this machine, secure a minimum area of 3.8 m (W) x 4.15 m (D). These dimensions are necessary to enable the customer to walk around the machine and also to provide adequate ventilation. This machine is a ride, so there is a possibility of a player falling off. In such an event, if a player strikes his or her head, a serious accident may occur, so be sure to secure the minimum area around the machine specified in this manual.
- Be sure to provide sufficient space specified in this manual. 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.
- If the machine does not fit through the entryway to the installation location, do not disassemble it without first consulting the instructions. The machine should only be disassembled in accordance with the instructions listed in this manual; do not attempt to disassemble it in any other way. Specific tools and adjustment procedures are required to assemble and disassemble the mechanical parts. Attempting to assemble or disassemble the machine without consulting the instructions may result in accidents during assembly/disassembly and electric shock, short circuits, and/or personal injury during operation. If the machine still does not fit through the entryway after following the procedures in this manual, contact your retailer or the office listed in this manual.
- If the machine is still too large to fit through the entryway after following the procedures listed in this manual, do not tip the machine on its side. Attempting to transport the machine while it is tipped on its side may cause accidents. It may also damage or warp parts of the machine, resulting in accidents during operation.
- To install this product, the entrance must be at least 1.5 m in width and 1.8 m in height. If the entrance is too narrow, do not tilt the product carelessly. If all the product weight is put on the casters at one side only, there could be damage or deformation, causing serious accidents such as workers getting caught underneath.



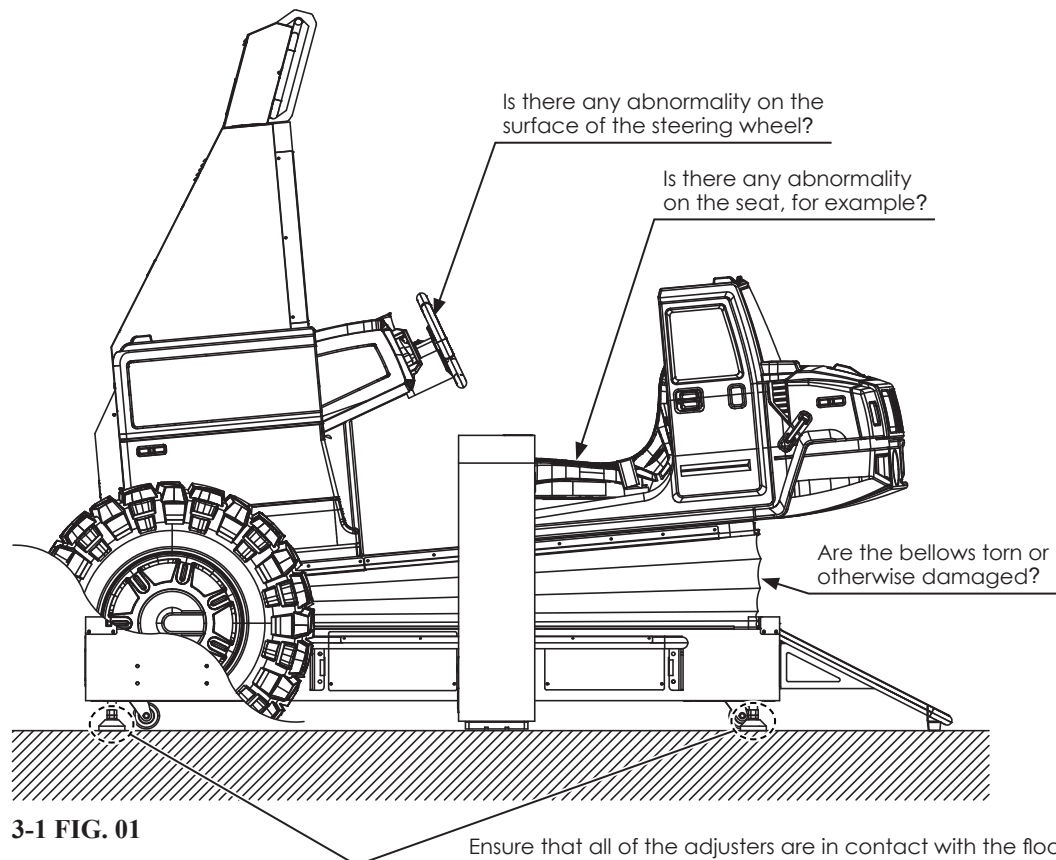
3 PRECAUTIONS REGARDING PRODUCT OPERATION

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

3-1 BEFORE OPERATION

WARNING

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



- To ensure safety, carry out a trial run before starting operation, and be sure to check the safety devices. Each ride moves, so each is equipped with safety devices. Be sure to check that these safety devices function normally.
 - Does the seatbelt securely fasten the player's body?
 - Does the seatbelt have any parts that could cause scratches or abrasion?
 - Does the ride stop when the seatbelt is released?
 - Are the seat parts securely fastened?
 - Does the ride stop when the MOTION STOP button at the center of the control panel is pressed?
 - Does the ride stop when the floor sensor detects any foreign objects?
 - Are there any breaks in the bellows?

WARNING

- Check each safety device and also check to see if any of the rides move abnormally. Abnormal motion may cause an accident, so do not operate the machine until the cause of the abnormality has been removed.
 - Does the ride move in the direction corresponding to the direction of operation?
 - Does the ride move smoothly?
 - Is there any undesirable looseness in the ride?
 - Is any unusual noise emitted while the ride is operating?
 - Is any unusual vibration emitted while the ride is operating?
 - Does the ride stop at an even position when the game is over?
 - Are there any cracks or breaks in places such as the handle that the player touches?
 - Are there any foreign objects in the seat?
- If an abnormality occurs in the ride mechanism, immediately stop operation, turn off the power, and contact the office indicated in this manual or the point of purchase. If you continue to operate the machine while there is an abnormality in it, a serious accident such as an electric shock, short circuit, fire, or a fall may occur.
- The motion of the ride will not stop when the ride is touched by anybody other than a player. Be sure to monitor the machine during a game.
- If a part related to the actuator of the ride mechanism breaks or deforms, for example, necessitating replacement or repair of the part, request the office indicated in this manual or the point of purchase to carry out this work. Specialized knowledge, technical expertise, and tools are necessary for carrying out this work. If you attempt to carry out this work yourself, an accident may occur.
- Be sure to perform appropriate adjustment of the LCD. For operation of this machine, do not leave monitor's flickering or deviation as is. Failure to observe this can have a bad influence upon the players' or the customers' physical conditions.
- It is suggested to prepare a rest space for players who feel sick after playing the game.
- Do not put any heavy item on this product. Placing any heavy item on the product can cause an accident fall or parts damage.
- Do not climb on the product. Climbing on the product can cause an accident fall. To check the top portion of the product, use a step ladder.
- To avoid electric shock, check to see if door & cover parts are damaged or omitted.
- To avoid electric shock, short circuit and/or parts damage, do not put the following items on or in the periphery of the product.
 - Flower vases, flowerpots, cups, water tanks, cosmetics, and receptacles/containers/vessels containing chemicals and water.

CAUTION

- Inspect for the following items during a trial run. If there is any type of error, use the Test Mode, etc., to resolve the problem. If you continue use with an error, it can cause an accident or irreparable parts damage.
 - Do the steering wheel and the ride move smoothly during the initialization operation?
 - Is there any strangeness in the operability of the steering wheels or the pedals?
 - Is there any abnormality in the steering wheel reaction mechanism?
 - Is there any improper adjustment of the LCD screen?
 - Are the bellows torn or has a screw dropped out of them?
- During daily cleaning, be sure to check the surface of the steering wheel, gear shifter, and other parts that the player touches with his hands for damage, cracks, or loose screws. If a player uses the machine while it is damaged, cracked, or has a loose screw, the player may become injured.
- During daily cleaning, be sure to check the seat for any abnormality, wetness, etc. Failure to do this may result in deliberate tampering or negligence being left undetected.

IMPORTANT

- Players directly hold the controller with their bare hands so it is recommended that wet towels (paper towels) be provided.
- Endeavor to clean the steering wheel and seat frequently.
- Provide a container or space for storing the customers' hand luggage, etc. To help prevent an accident and also protect parts, establish measures so that customers do not bring raingear, such as umbrellas, on rainy days, or juice or other beverages, into the area where the machine is installed.
- During network play, if communication is interrupted for some reason, each game will continue independently. Also, if communication is interrupted while in Customer Welcome Mode, the Test Screen will appear.
- When one cabinet connected for network play enters the Test Mode, the other cabinets will move to the Test Screen. For this reason, do not needlessly put a cabinet in the Test Mode while a customer is playing a game, even if the cabinet is not being used.
- You can make game settings and coin/credit (fee) settings individually, even for cabinets that are connected for network play. You can also change the settings of an individual cabinet to those for advanced players or beginners, for example. Normally, however, set all of the cabinets to the same settings. If you make a mistake in the fee setting, it is likely that the balance of payments and other items will be adversely affected.

3-2 DURING OPERATION (PAYING ATTENTION TO CUSTOMERS)

In order to prevent an accident or unnecessary trouble, the attendant or operator must endeavor to always pay attention to the behavior of the players and customer. This machine has movable rides of about the same size as an automobile. Sometimes a player or a customer may behave in an unexpected way. Be adequately aware of safety, and stop any behavior that is considered dangerous.

WARNING

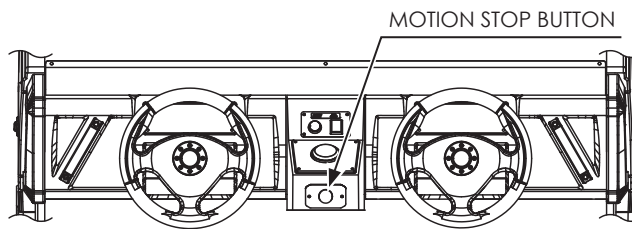
- For safety, do not allow any of the following people to play the game.
 - Those who have high blood pressure or a heart problem.
 - Those who have experienced muscle convulsion or loss of consciousness when playing video games, etc.
 - Those who have neck or spinal cord problems.
 - Those who are intoxicated or under the influence of drugs.
 - Pregnant women or those who could be pregnant.
 - Those who are not in good health.
 - Those who do not follow the attendant's instructions.
 - Those who cannot grasp the Control Unit securely because of immobility in fingers, hands or arms.
 - Persons who disregard the product's warning displays.
- The game cannot be played while sitting in a wheelchair.
- Persons who are 140 cm or taller can play. Those who do not meet the requirement cannot play safely with the seatbelt fastened.
- 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.
- 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.
- For safety's sake, warning indicators such as stickers are placed on the machine. However, a careless player will generally fail to read these warnings. The attendant must point out steps and level differences on the ride in order to prevent the occurrence of an accident.
- To avoid falls and resulting injury, immediately stop customers from leaning against or climbing on the product, etc.
- No more than 2 persons should sit on the ride of this machine. Instruct customers that 3 or more players must not sit on a ride. Failure to observe this precaution may result in accidents.

 **WARNING**

- Instruct customers not to get on or in any ride part, such as the rear of the ride or behind the back of the seat, other than the seat. Failure to observe this precaution may result in players falling over, falling off, or catching body parts in the ride.
- Entering the cabinet with a wet umbrella or wet shoes is strictly forbidden. There are electrical parts and wiring underneath the cabinet floor. If these become wet, this can cause an electric shock or short circuit. Be especially careful in managing the product on rainy days.
- Take care not to place a heavy object on a ride or seat. This may cause the object to strike the player when the ride moves.
- Instruct customers not to play a game with a child on their knees. This may cause an accident such as the child becoming caught between the control panel and the player or the child falling off the ride.
- Instruct players not to stand during a game in which the ride moves. This may result in the player falling off the ride or falling over.
- Instruct persons other than players to keep away from the machine while a game is in progress. If a person touches the moving ride, this may result in an accident such as the person falling over or getting his or her fingers caught in the bellows.
- An infant is unable to recognize danger, so instruct the guardian of the infant to be attentive and ensure that the infant does not approach the machine.

⚠ 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.
- Items such as large finger rings can cause injury to the fingers while playing. Instruct players to remove all accessories that could cause an accident before playing.
- Take care to ensure that two persons do not attempt to play a game by grasping a single steering wheel. Failure to heed this precaution may result in a minor or a major collision.
- Explain that the MOTION STOP button can be pressed to stop play whenever the player feels ill.



3-2 FIG. 01

MOTION STOP button at the center of the control panel

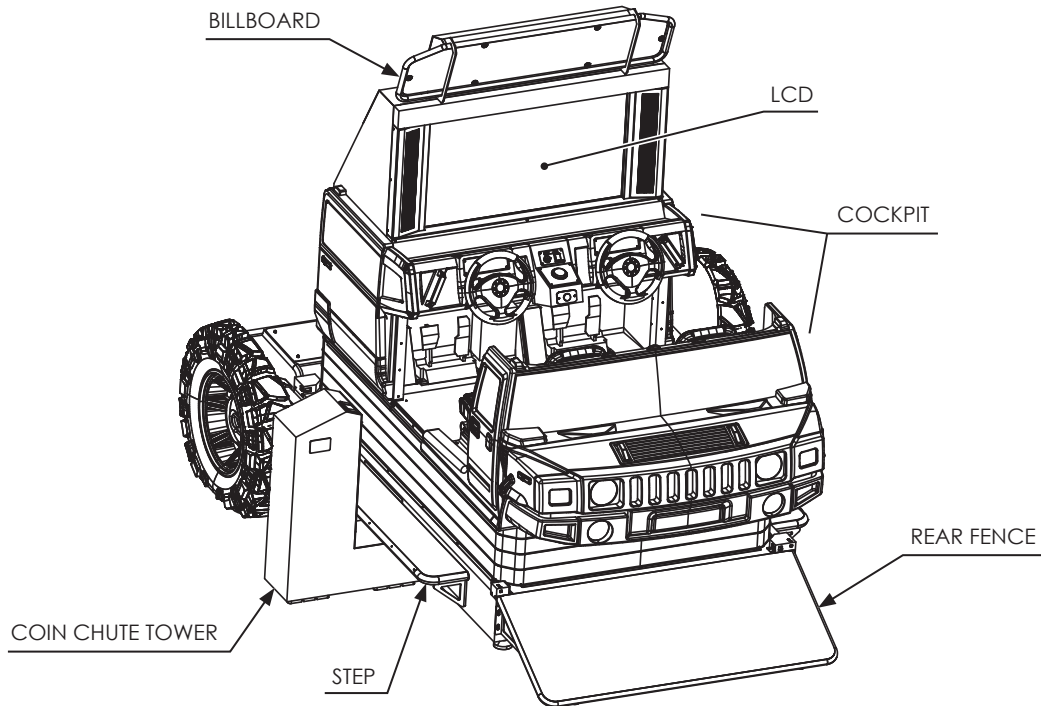
This button stops the motion of the ride during the game. It can be activated from the safety check screen. Pressing it once will stop the motion of the ride and return it to its original position. MOTION STOP cannot be canceled and the ride will not move until the game ends.

- Explain that the attendant will stop the game if he or she judges that a situation is dangerous.
- Take care to ensure that other customers do not touch operating devices during a game. Failure to heed this precaution may result in an accident or cause trouble between customers.
- There are steps and level differences on each ride, so instruct players to be careful when getting on or off the ride.
- Do not allow players to extend their hands or feet out from the ride during play. Otherwise there could be bruises, sprains or other accidental injuries.
- Instruct the player to adjust the seat in the front-rear direction to match his or her body size. If a player plays a game in an unreasonable posture, he or she may sustain an injury or incur discomfort.

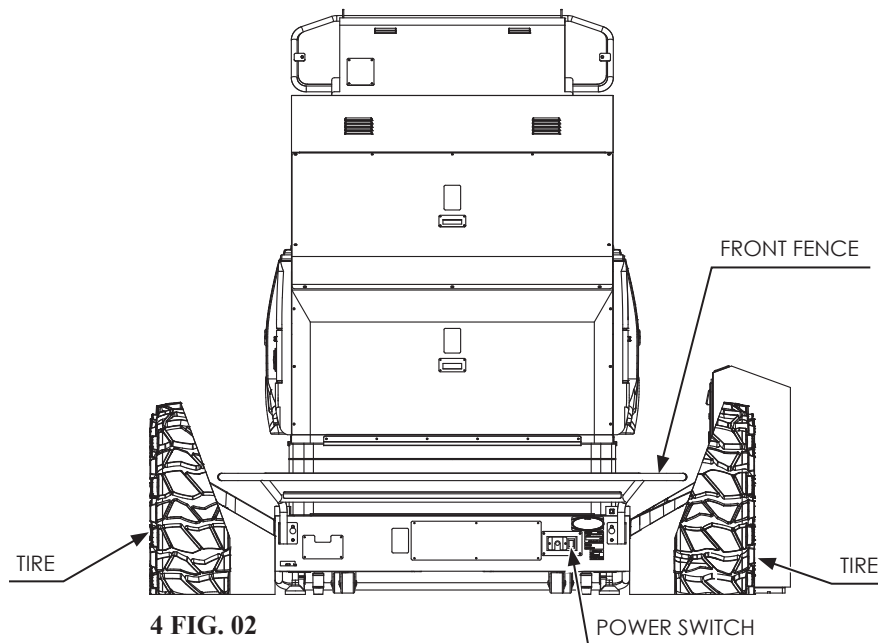
STOP IMPORTANT

- If a player carries hand luggage or other items onto a ride, objects may fall off or roll over, for example, when the ride moves, resulting in injury or damage. Also, instruct players not to take breakable items, etc., onto the ride.
- After the end of a game, check to ensure that the player has not forgotten or dropped any belongings.

4 PART DESCRIPTIONS



4 FIG.01



4 FIG.02

4 TABLE 01

ITEMS	Width x Depth x Height	Weight
COCKPIT	1,400 mm x 2,380 mm x 1,750 mm	622.6 kg
BILLBOARD	1,205 mm x 300 mm x 325 mm	14.2 kg
STEP	230 mm x 1,105 mm x 160 mm	18 kg
FRONT FENCE	1,755 mm x 165 mm x 270 mm	7.6 kg
REAR FENCE	1,325 mm x 500 mm x 280 mm	11.6 kg
COIN CHUTE TOWER	600 mm x 230 mm x 850 mm	22.4 kg
TIRE	470 mm x 820 mm x 720 mm	15 kg

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. If there are an insufficient number of game play manuals, request the point of purchase or the office indicated in this manual to supply additional manuals.

5 TABLE 01

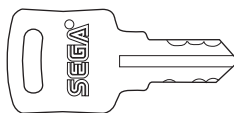
DESCRIPTION: SERVICEMAN MANUAL
 Part No. (Qty.): 420-7156-02 (1)
 Note: This manual
 Figures:
 Parts not labeled with part numbers are as yet unregistered or cannot be registered.
 Be sure to handle all parts with care, as some parts are not available for purchase separately.

OWNER'S MANUAL
 420-7168-02 (1)

PARTS CATALOG
 420-7169-01 (1)
 Parts list

LINDBERGH SERVICE MANUAL
 420-6921-01 (1)
 Explanation of built-in game board

KEY MASTER
 220-5793-2-A001 (2)
 For operating/closing the doors

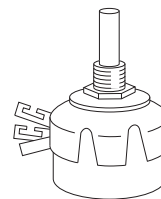


The key master is shipped with the manual packed together with the accessories.

KEY
 (2)
 Each key is used for opening and closing the coin chute door of a seat. The key for each seat is different. The keys are placed inside the coin chute doors for shipping.



VOLUME
 220-5753 (2)
 Spare (See Chapters 12.)



STICKER CAR NUMBER 0001
 HMR-0023 (1)
 For installation (See Chapter 6.)



STICKER CAR NUMBER 0002
 HMR-0024 (1)
 For installation (See Chapter 6.)



STICKER CAR NUMBER 0003
 HMR-0025 (1)
 For installation (See Chapter 6.)



STICKER CAR NUMBER 0004
 HMR-0026 (1)
 For installation (See Chapter 6.)



GREASE
 090-0314 (1)
 For greasing up
 (See Chapter 13.)



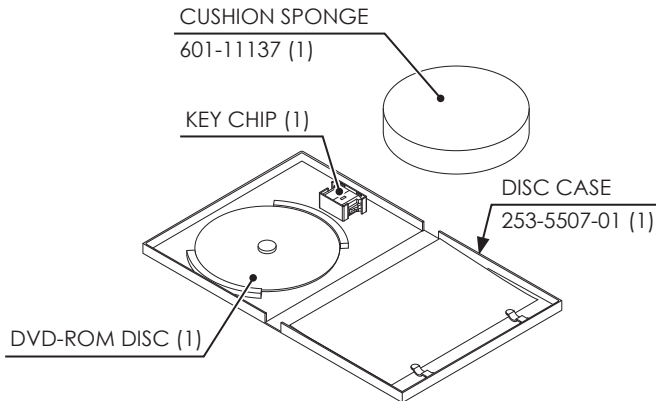
GREASE GUN
 090-0315 (1)
 For greasing up
 (See Chapter 13.)



GREASE HOSE
 090-0316 (1)
 For greasing up (See Chapter 13.)

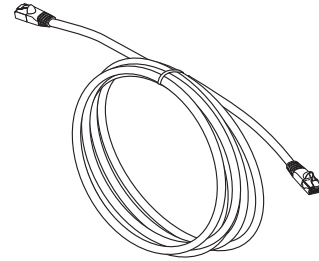


DVD SOFTWARE KIT (1)
Software media (See Chapter 6.)



NOTE: When you order the DVD-ROM disc only, specify the part number 610-0726-0057 (DVD SOFT HMR).

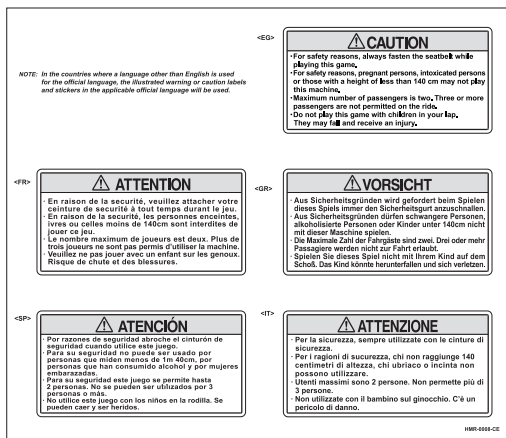
LAN CABLE 8m
HMR-0027 (1)
For network play (See Chapter 18.)



443-40026D-02 (1)

844-0026D-02

PL STICKERS
HMR-0008-CE (1)
See pages 2 to 4.



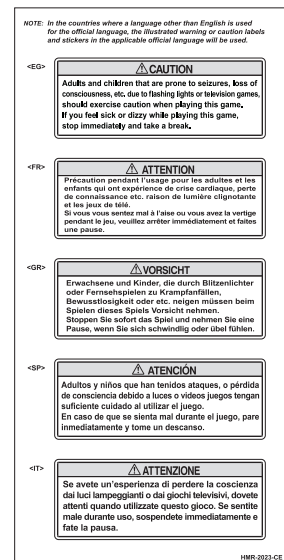
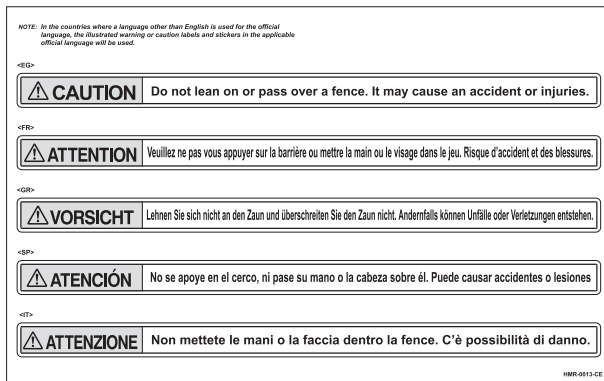
PL STICKERS
HMR-0014-FR/SP/IT/GR (1 ea.)
See pages 2 to 4.

PL STICKERS
HMR-0015-FR/SP/IT/GR (2 ea.)
See pages 2 to 4.

PL STICKERS
HMR-0016-FR/SP/IT/GR (2 ea.)
See pages 2 to 4.

PL STICKERS
HMR-2023-CE (1)
See pages 2 to 4.

PL STICKERS
HMR-0013-CE (1)
See pages 2 to 4.

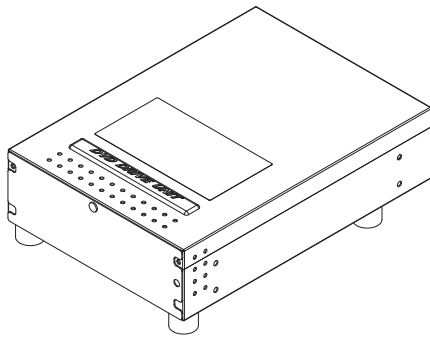


The DVD DRIVE and the DVD wire are sold separately, but it is required in order to install the software for this product. If you do not have them when installing the product, consult the dealer from which you purchased this product. Alternatively, use the kit number below to arrange for a drive.

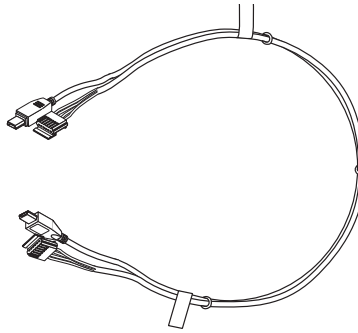
5 TABLE 02 XKT-1515 DVD DRIVE KIT FOR LBG ENG

SERVICE MANUAL DVP ENG
420-6923-01 (1)

DVD DRIVE
610-0719-01-91 (1)
For software installation (See 6-8.)



ASSY WIRE DVD
605-0094 (1)
For software installation (See 6-8.)



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.
- Adhere strictly to all of the work procedures stipulated in this document. If two or more workers are working at the same time, exercise special caution. If sequences are carried out erroneously, accidents can result. There might also be cases in which the assembly cannot be completed.
- Pay special attention to the surroundings when a multiple number of workers are working at the same time. There is always the danger that a worker might be injured. In assembly and installation of this product, there are procedures in which a stepladder is used, procedures in which heavy objects are attached, and procedures involving connection of a rated power supply of 10 amperes. Carelessness in doing work could lead to grave injuries and even fatalities.
- Ensure that connectors are accurately connected. Incomplete connections can cause electric shock.
- This work should be carried out by the site maintenance personnel or other qualified professionals. Work performed 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. If no one with proper technological expertise is available, request service from the office indicated in this document or the point of purchase so as to ensure safety.
- Be careful not to damage the wires. Damaged wires may cause electric shock or short circuit or present a risk of fire.
- Do not leave power cable or earth lines exposed over passageways. Exposure could lead to damage, electric shock or short circuit. Wherever wiring has been laid out on a floor surface, use a wiring protection cover. [Wiring diameter: Power cable, approx. 10 mm – 14 mm]
- Persons who connect indoor power supplies must be qualified electricians. Do not allow anyone without proper qualifications to make such connections. Otherwise there could be electric shock.
- Provide power cables for connecting the indoor power supply to the product. The rating of the power cable must be at least 15 amperes. The cable must conform to this requirement and also be of sufficient length to enable the indoor power supply to be connected to the product without difficulty. Use of a cable that does not meet the requirements can result in a fire or electric shock. The recommended dimensions of the power cable terminal for the product use are a hole diameter of 4.5 mm and width of 8 mm.

WARNING

- For the sake of safety and workability, use 3 core coaxial cable cables for the power cables.
- When inserting or removing a connector, always hold it by its main part. If you hold it by anything else while doing so, the connections between wire and connector terminal fixtures could be damaged; and there could be a short circuit or fire. There could also be poor connectivity.
- 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.
- Whenever any fasteners (e.g. screws, nuts) have been lost, always use replacement fasteners with proper dimensions as specified in this manual. If fasteners of any other dimensions are used, it could cause damage and/or separation of parts that result in secondary accidents.
- Be careful when aligning, attaching or mounting parts so that your head, hands, fingers, etc., do not get caught in anything. If two or more workers are working at the same time, exercise special caution. Failure to be cautious could result in accidental bone fractures or amputation. Check the surroundings carefully before proceeding.
- When connecting wires inside the cabinet, there may be instances in which the indoor lighting does not reach that location. Have a flashlight or other auxiliary lighting equipment on hand. If wires are connected carelessly, there could be an accidental short circuit, fire, etc.
- When tightening bolts and screws, ensure that other parts are suspended properly and bolts and screws are fastened tightly. Be sure to take accident prevention measures such as having another worker support parts. If a part drops or topples over during this work, a serious accident may result.

CAUTION

- Support and hold parts in place securely and fasten them with screws and/or bolts. Use two workers, one to support the part and another to fasten it in place. If a part is not supported securely, it might fall down, resulting in an accident.
- Wear appropriate work clothing so that work can be performed safely. Use gloves and safety shoes to prevent accidents or injuries.
- When installing a wire protection cover over a floor, use a material shaped so that no one passing by will stumble over it. Using a material that could be stumbled over might lead to an accidental fall.
- Be careful in handling plastic parts. Be sure not to tighten screws or nuts too tightly. If such parts are exposed to excessive loads or impact, they might become damaged, resulting in fragments or cracks that could cause accidental injury.

IMPORTANT

- There are parts of similar shape, so carefully check the shape of each part.
- Confirm the direction of installation for a part before proceeding. Make sure you understand the part's orientation in terms of up or down, left or right, front or rear, etc.

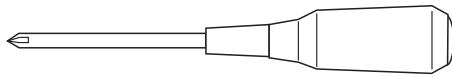
Proceed in the following order to assemble this product.

- 6-1 Installing the Cockpit
- 6-2 Attaching the Billboard
- 6-3 Attaching the Tires
- 6-4 Attaching the Front and Rear Fences
- 6-5 Attaching the Coin Chute Tower
- 6-6 Preparing the Game Software Installation
- 6-7 Connecting the Power and Ground
- 6-8 Software Installation
- 6-9 Attaching the Steps
- 6-10 Turning on the Power

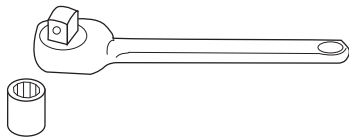
This product consists of a cockpit, a billboard, a front fence, tires, a rear fence, a coin chute tower, and steps.

Tools necessary for work

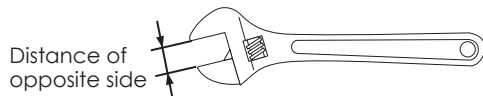
- Phillips screwdrivers (for M4 and M5)



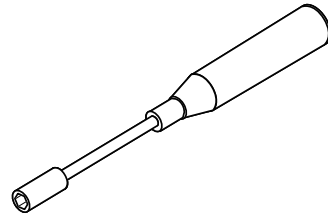
- Socket wrenches or hexagon screwdrivers measuring distances of 13 mm and 17 mm to opposite side (for M8 and M10 hexagon bolts and nuts)



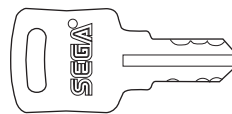
- Spanner with measuring distance of 24 mm to opposite side



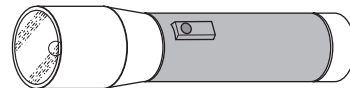
- Hexagonal screwdriver measuring distance of 7 mm to opposite side (for M4 nuts)



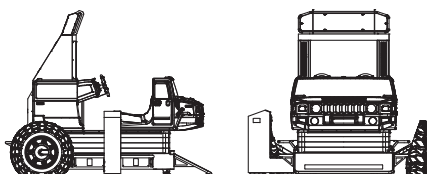
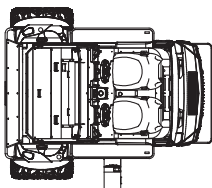
- Master key (accessory)



- Flashlight or other supplementary lighting



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

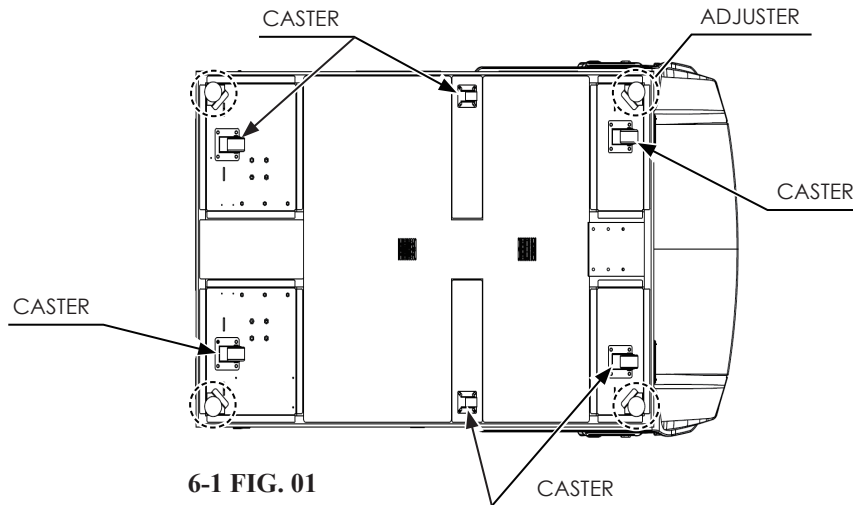


6-1 INSTALLING THE COCKPIT

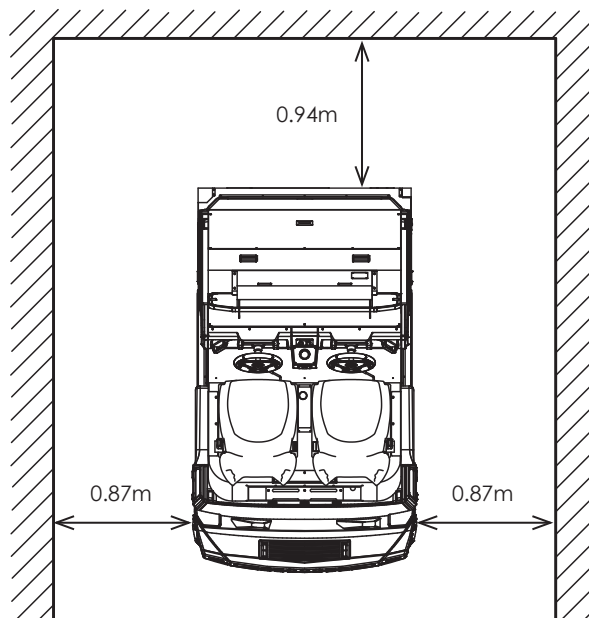
WARNING

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.

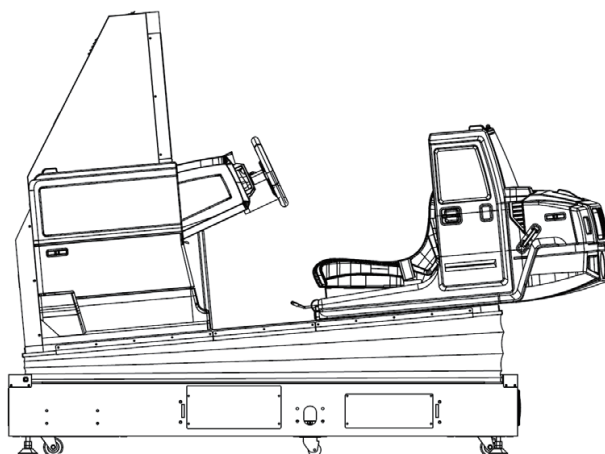
This cockpit has 6 casters and 4 adjusters.



- 1 Move the cockpit to the installation site. Hold the handle beside the steering and the base when moving or turning the cockpit around. Be careful not to push on any resin parts such as the car body.
- 2 After moving the cockpit to the installation site, check that the width of the pathway for customers will be 0.7 m or more and that there will be 0.7 m or more in the rear when the installation is complete.



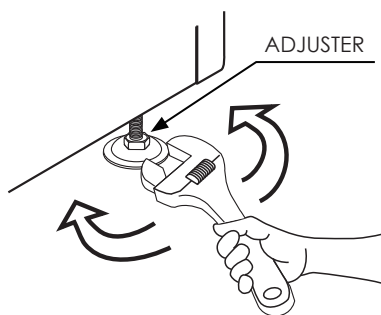
- 3** Ground all the adjusters on the underside of the cockpit.



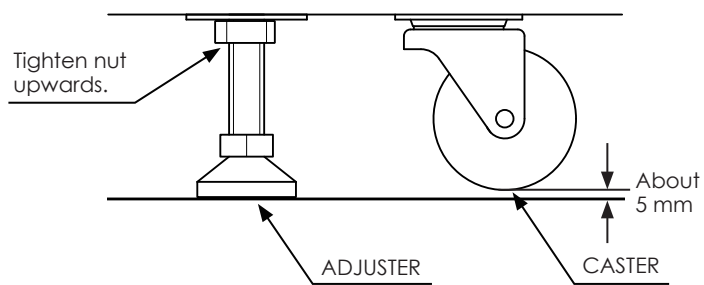
6-1 FIG. 03

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

- 4** Adjust the height of the adjusters. Make the gap between the caster and the floor approximately 5 mm. After adjusting, fix the height by tightening the adjuster nut upwards.



6-1 FIG. 04



6-1 FIG. 05

6-2 ATTACHING THE BILLBOARD

WARNING

Be careful when aligning, attaching or mounting parts so that your head, hands, fingers, etc., do not get caught in anything. If two or more workers are working at the same time, exercise special caution. Failure to be cautious could result in accidental bone fractures or amputation. Check the surroundings carefully before proceeding.

- 1 Lift the billboard with 2 or more people and from the front lower it onto the hook positions on top of the cockpit. Be careful not to trap hands or fingers.

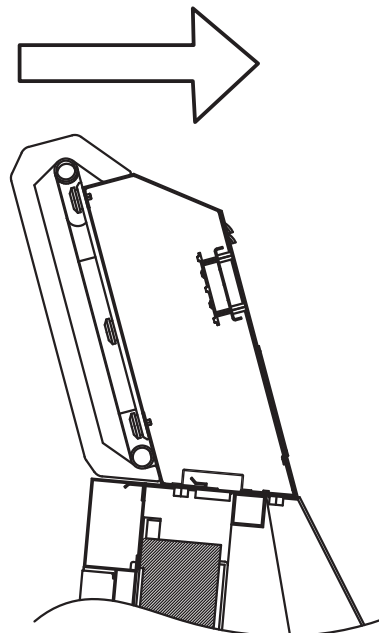


6-2 FIG. 01

- 2 Slide the billboard forward and hitch it to the hooks on top of the cockpit.



6-2 FIG. 02



6-2 FIG. 03

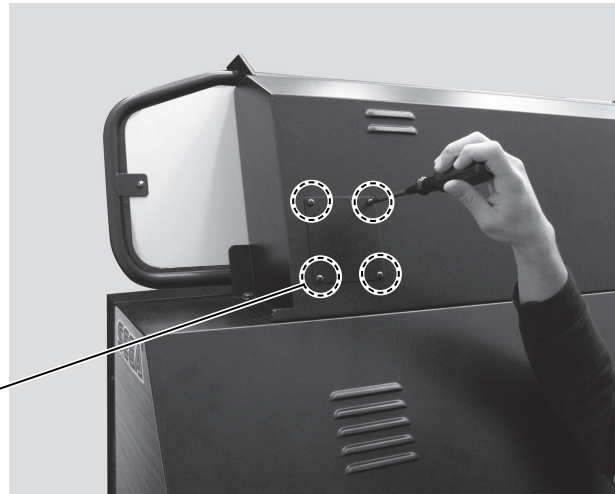
- 3** Secure the billboard on the left and right, using 2 hexagon bolts on each side.



HEXAGON BOLT (2), black
M8 x 25, w/spring washer, flat washer used

6-2 FIG. 04

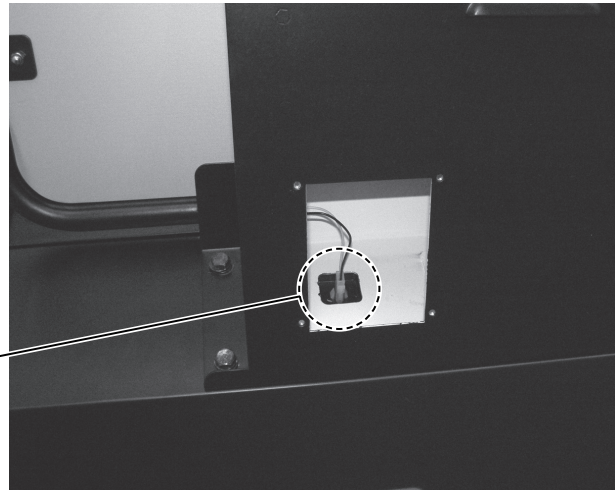
- 4** Unscrew the 4 truss screws, and remove the billboard back plate.



TRUSS SCREW (4), black
M4 x 8

6-2 FIG. 05

- 5** Connect the connector to the connector in the panel at the top of the cockpit.



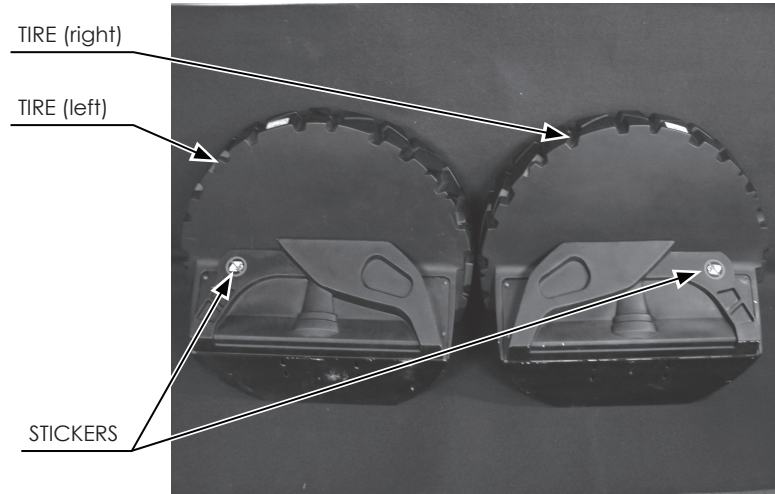
Connector

6-2 FIG. 06

- 6** Fasten the billboard backplate using 4 truss screws.

6-3 ATTACHING THE TIRES

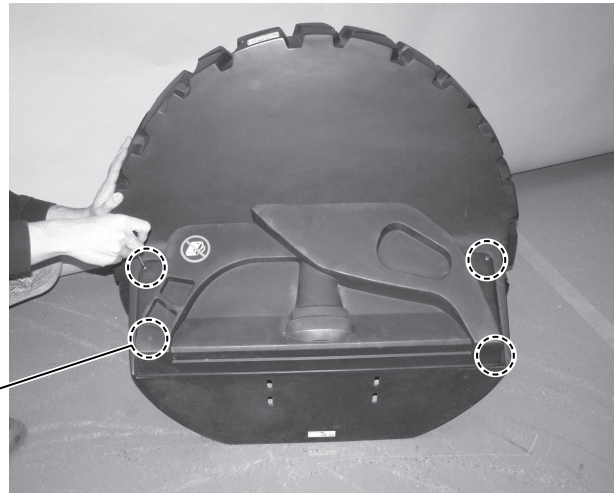
There are left and right tires. To align the tires correctly, attach the tires so that the round stickers on the tire covers are on the side of the player.



6-3 FIG. 01

- 1 Unscrew the 4 truss screws, and remove the tire cover from the tire.

TRUSS SCREW (4), black
M5 x 16



6-3 FIG. 02



6-3 FIG. 03

- 2** Place the tire on the floor in front of the cockpit.



6-3 FIG. 04

- 3** Align the attachment holes in the tire with the screw holes in the cockpit, and fasten the tire fences using 4 hexagon bolts each.

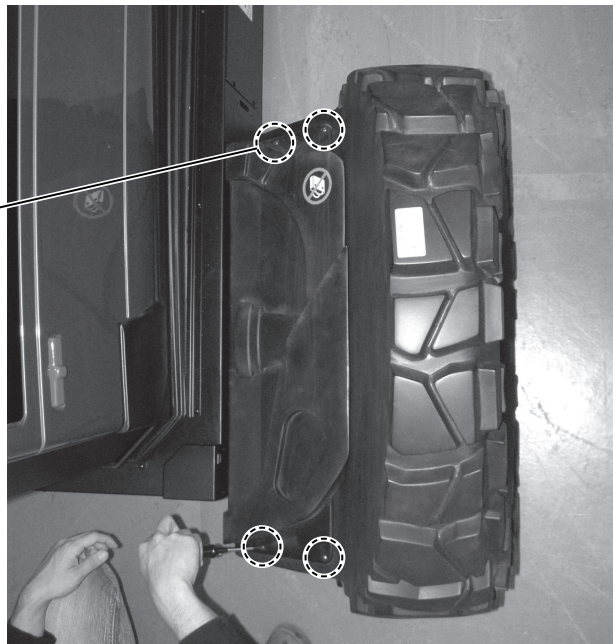
HEXAGON BOLT (4), black
M8 x 25, w/spring washer, flat washer used



6-3 FIG. 05

- 4** Attach the tire cover using 4 truss screws.

TRUSS SCREW (4), black
M5 x 16



6-3 FIG. 06

- 5** Attach the tire on the opposite side in the same way, referring to Steps 1 to 4.

6-4 ATTACHING THE FRONT AND REAR FENCES

- 1 Lightly fasten 2 hexagon bolts in the top 2 of the 4 screw holes in the front fence attachment section. The hexagon bolts should be fixed loosely.



HEXAGON BOLT (2), black
M8 x 25, w/flat & spring washers

6-4 FIG. 01

- 2 Attach the front fence by inserting the hexagon bolts into the keyhole-shaped holes in the upper section of the front fence.



6-4 FIG. 02

- 3 Fasten the two lower hexagon bolts. Then, tighten the loosely-fastened upper hexagon bolts.



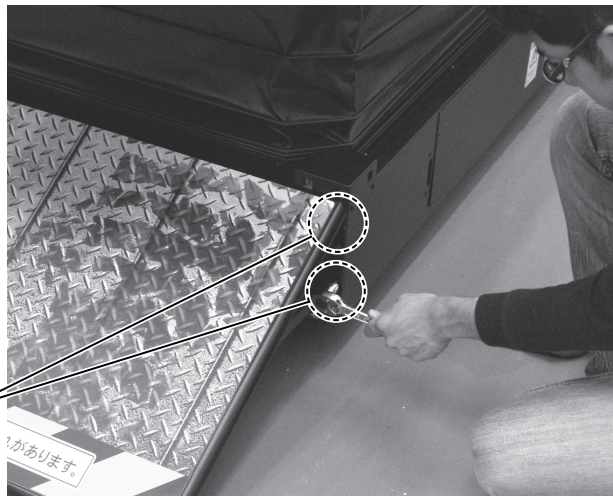
HEXAGON BOLT (2), black
M8 x 25, w/flat & spring washers

6-4 FIG. 03

4 Bring the rear fence to the rear of the cockpit, and fasten it to the cockpit using 4 hexagon bolts.



6-4 FIG. 04



HEXAGON BOLT (4), black
M8 x 25, w/spring washer, flat washer used

6-4 FIG. 05

6-5 ATTACHING THE COIN CHUTE TOWER

⚠ CAUTION

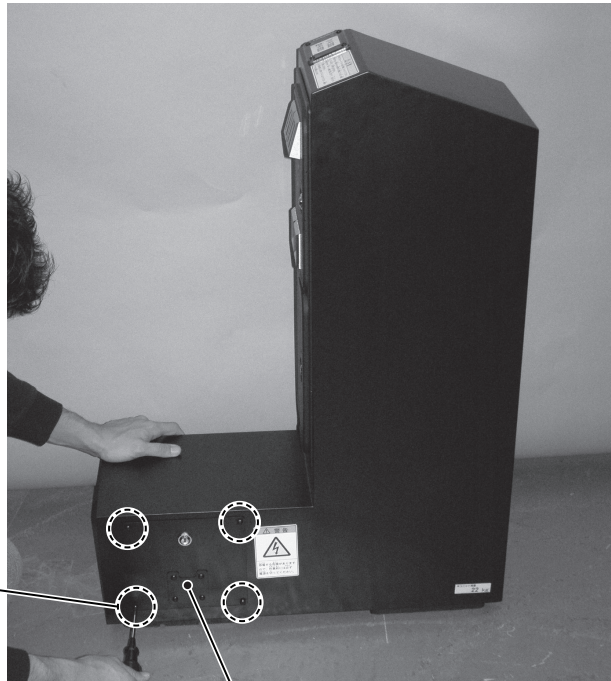
- When aligning the coin chute tower with the base and aligning the bolt hole positions, be careful not to trap your hands or fingers.
- Always screw the ground wire securely to ground. If the ground connection is neglected, accidents involving electric shocks or short circuits may occur. It may also cause malfunction, operation failure, or damage to parts.

STOP IMPORTANT

Always use spring and flat washers with screws for fixing ground terminals.

1 Unscrew the 4 truss screws, and remove the of the coin chute tower using the master key.

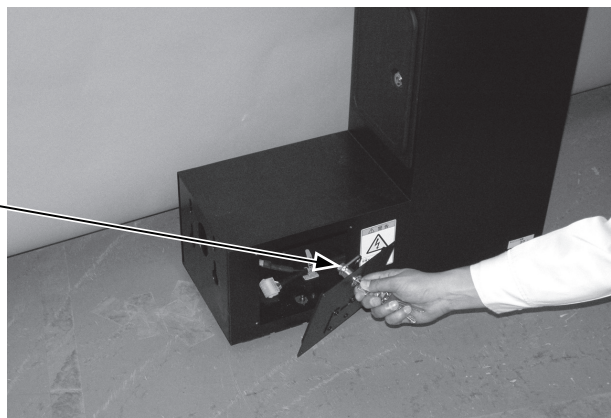
TRUSS SCREW (4), black
M4 x 8



6-5 FIG. 01

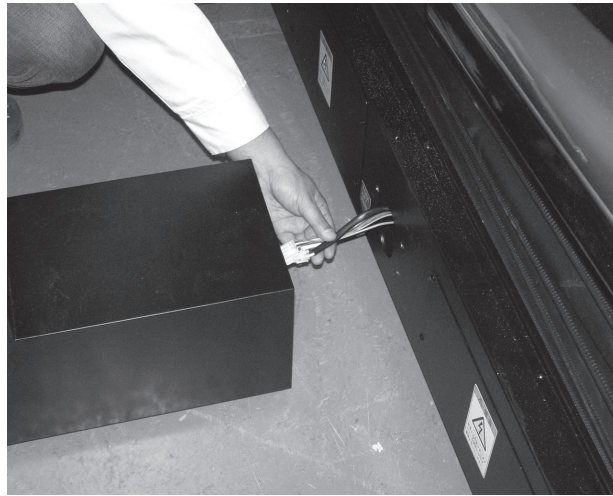
TOWER SIDE DOOR

Unlock



6-5 FIG. 02

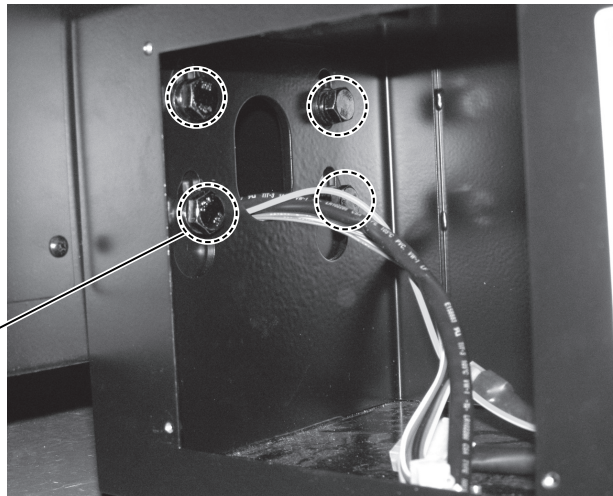
- 2** Pull out the 2 connectors and ground wire from inside the cockpit, bring the coin chute tower towards the cockpit, and draw the connectors and ground wire into the coin chute tower.



6-5 FIG. 03

- 3** Fasten the cockpit and coin chute tower using 4 hexagon bolts.

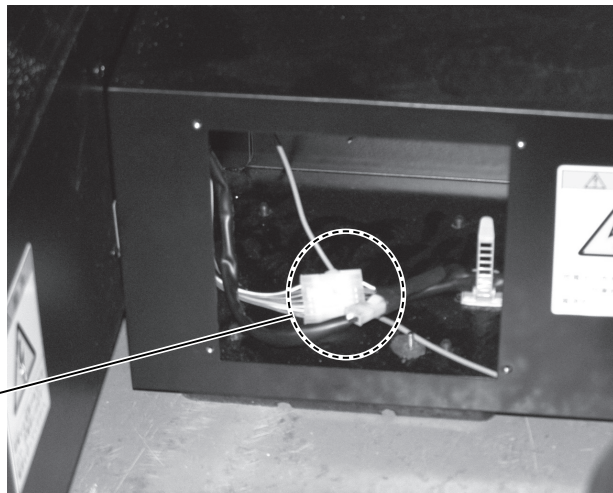
HEXAGON BOLT (4), black
M10 x 25, w/spring washer, flat washer used



6-5 FIG. 04

- 4** Connect the 2 connectors inside the coin chute tower.

Connector (2)

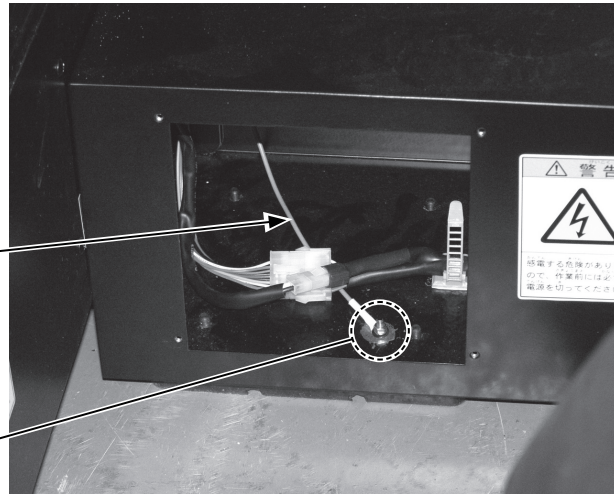


6-5 FIG. 05

- 5** Run the ground wire coming out of the cockpit through the stud (screw shaft) inside the coin chute tower, and fasten it using a hexagon nut. Run the stud through the ground wire terminal, flat washer, and spring washer, in that order, and fasten it using a hexagon nut.

GROUND WIRE

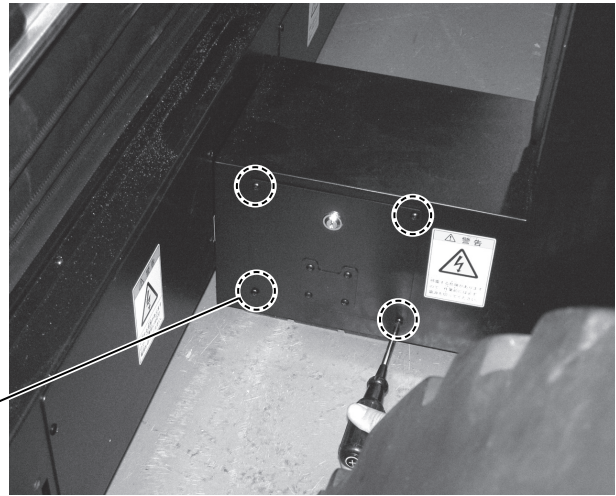
HEXAGON NUT (1)
M4, w/spring washer, flat washer used



6-5 FIG. 06

- 6** Attach the tower side using the master key, and fasten it using 2 truss screws.

TRUSS SCREW (4), black
M4 x 8



6-5 FIG. 07

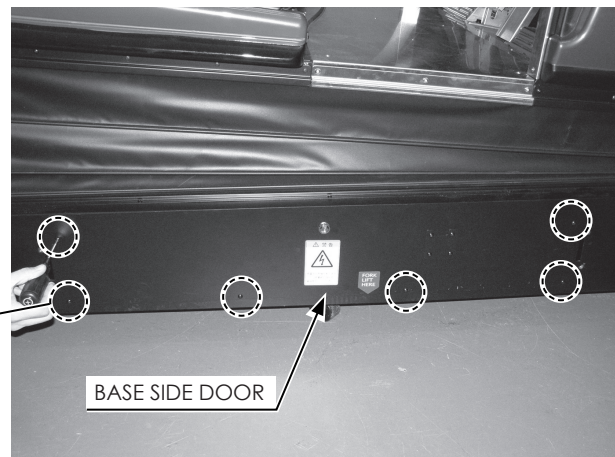
6-6 PREPARING THE GAME SOFTWARE INSTALLATION

WARNING

- Be careful not to damage the DVD wire by getting it caught between objects, etc. Doing so may cause a short circuit or fire.
- When connecting the DVD wire connector, check the orientation carefully and connect securely. The connector must be connected in the proper direction. If it is connected in the wrong direction or indiscriminately at an incline so that a load is applied, the connector or its terminal pins could break, causing a short circuit or fire.

- 1 Unscrew the 6 truss screws, and remove the base side door on the right-hand side of the cockpit using the master key.

TRUSS SCREW (6), black
M4 x 8

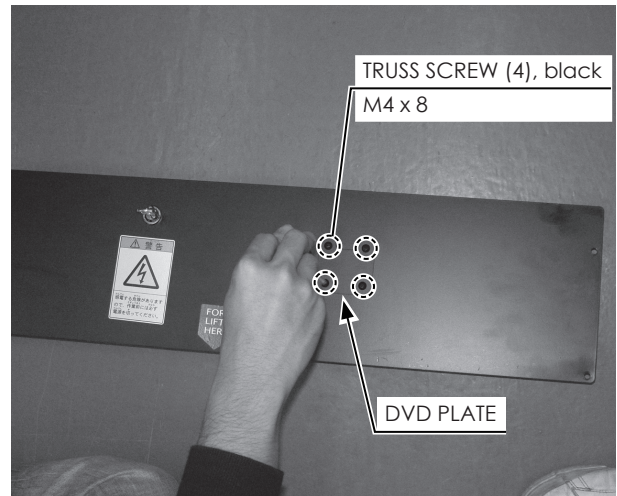


6-6 FIG. 01



6-6 FIG. 02

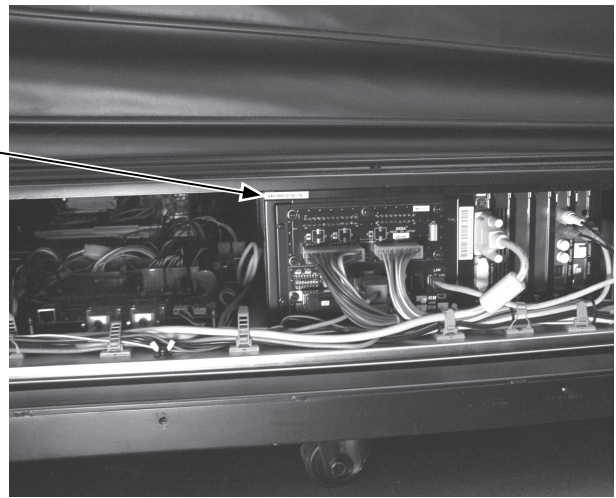
- 2 Unscrew the 4 truss screws, and remove the DVD plate attached to the base side door.



6-6 FIG. 03

- 3 Place the sticker that comes with the kit on the top of the LINDBERGH.

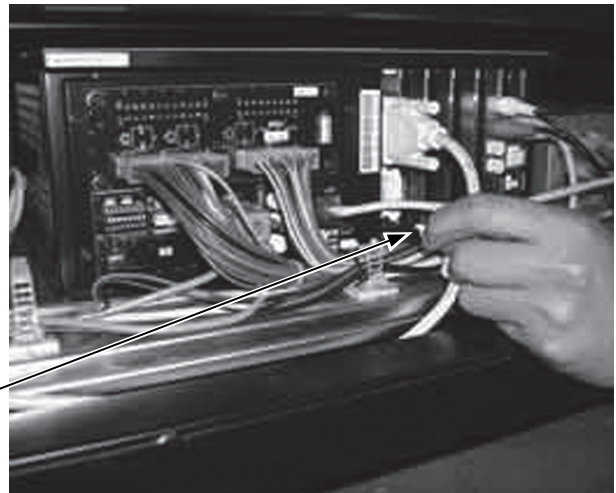
STICKER
844-0026D-02



6-6 FIG. 04

- 4 There is a box-shaped part with 4 USB connectors on the LINDBERGH. Pull out 1 white capped USB connector. It doesn't matter which of the 4 is unplugged.

Pull out 1 white capped USB connector



6-6 FIG. 05

- 5 Connect the DVD wire to the USB connector of the LINDBERGH.

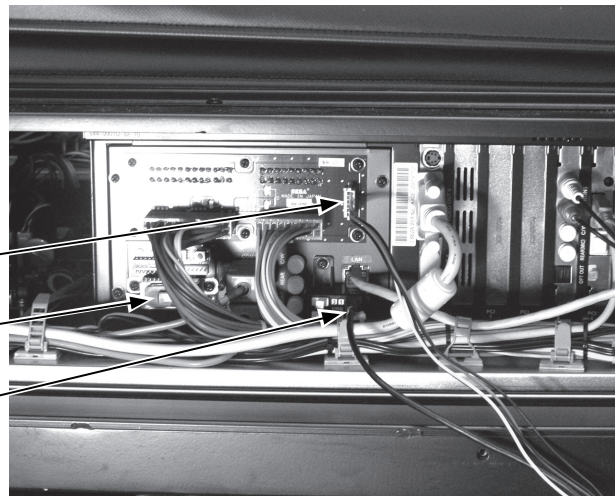
- 6 Connect the DVD wire to the power connector of the LINDBERGH.

7 Insert the key chip supplied with the DVD software kit into the LINDBERGH.

DVD WIRE/POWER CONNECTOR

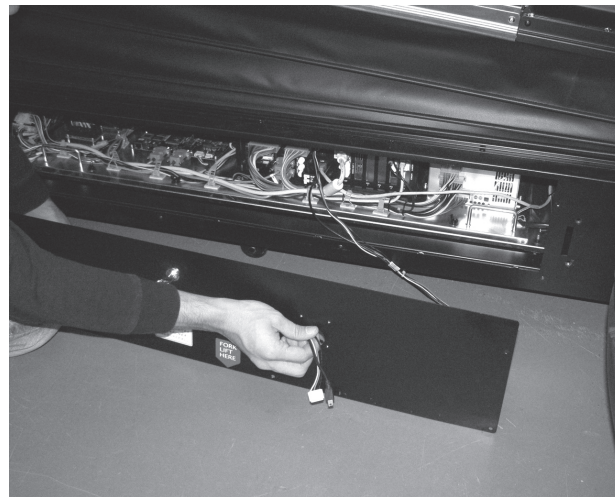
KEY CHIP

DVD WIRE/USB PORT



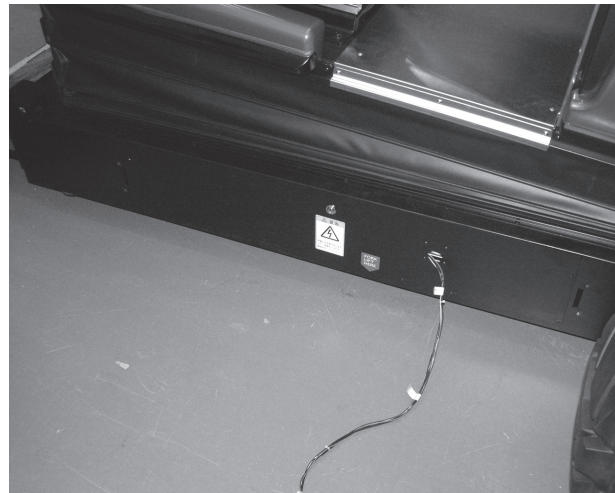
6-6 FIG. 06

8 Pass the DVD wire through the hole in the base side door.



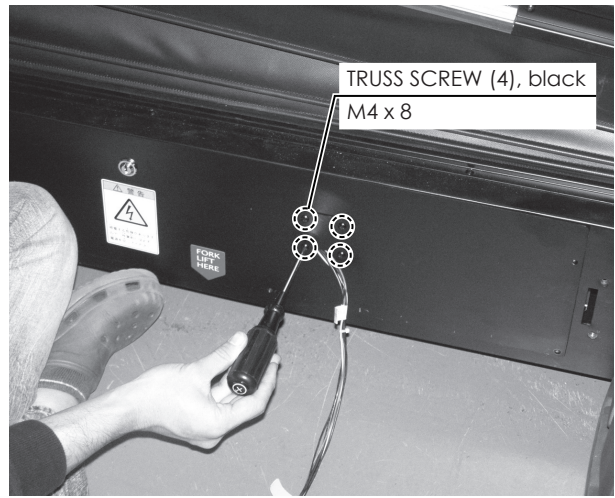
6-6 FIG. 07

9 Attach the base side door, and lock it with the master key.



6-6 FIG. 08

10 Fasten the DVD plate upside down using 4 truss screws.



6-6 FIG. 09

11 Connect the end of the DVD wire with the “DVD” tag on it to the 2 connectors on the DVD DRIVE.



6-6 FIG. 10

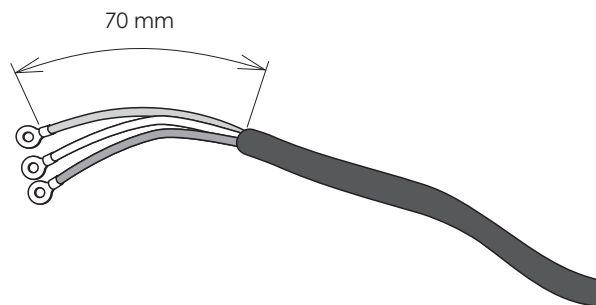
6-7 CONNECTING THE POWER AND GROUND

WARNING

- This work should be carried out by site maintenance personnel or other qualified professionals. Work performed 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. If only non-technical personnel are available, for safety reasons, request that the work be done by the point of purchase or the office listed in this manual.
- Use the power supply equipped with an earth leakage breaker. Use of power supply without such a breaker could result in fire if there is a current leakage.
- Have available a securely grounded indoor ground terminal. Without proper grounding, customers could be electrocuted and product operations might not always be stable.
- Do not expose the power cord or ground wire. If these are exposed, customers could stumble over them, for instance, and easily damage them. Additionally, if these lines are damaged, there could be a risk of electrical shock or short circuit. Set these lines at locations where they will not interfere with customer traffic, or attach covers to them.
- For safety reasons, be sure to first connect the power cable to the product. If the power cable is first connected to the power source, an accident such as an electric shock or short circuit may occur.

NOTE: Secure power supply cable and earth wire terminal to the breaker inside the cabinet, and connect power supply and earth.

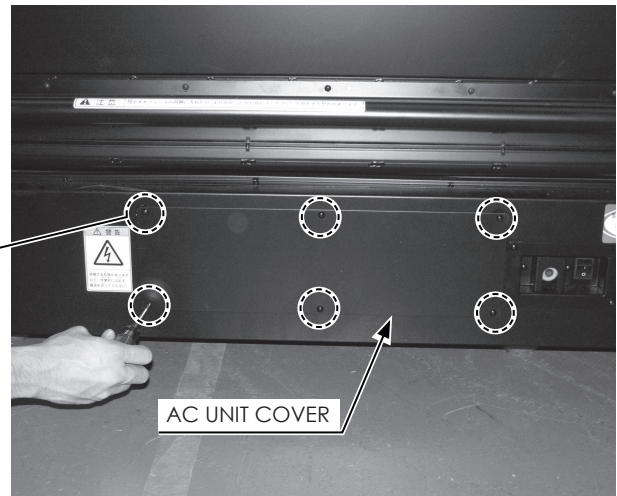
In the photo, earth wire coaxial cable is used, but the cable does not have to be coaxial if it satisfies the rating specified. There should be a distance of 70 mm between round terminal and outer covering of the power cable.



6-7 FIG. 01

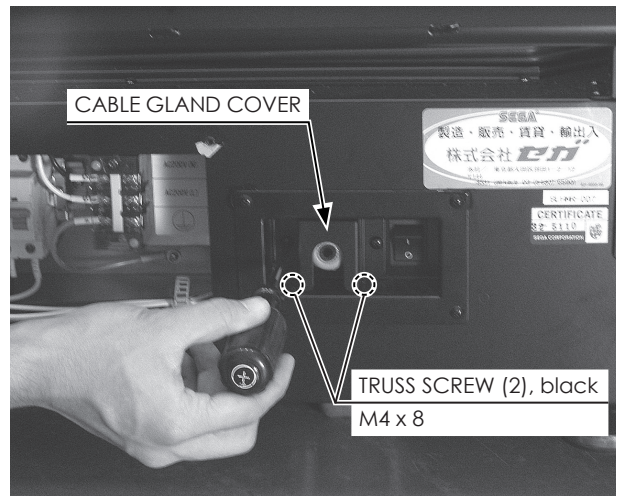
- 1 Unscrew the 6 truss screws, and remove the AC unit cover in the front of the cockpit.

TRUSS SCREW (6), black
M4 x 8



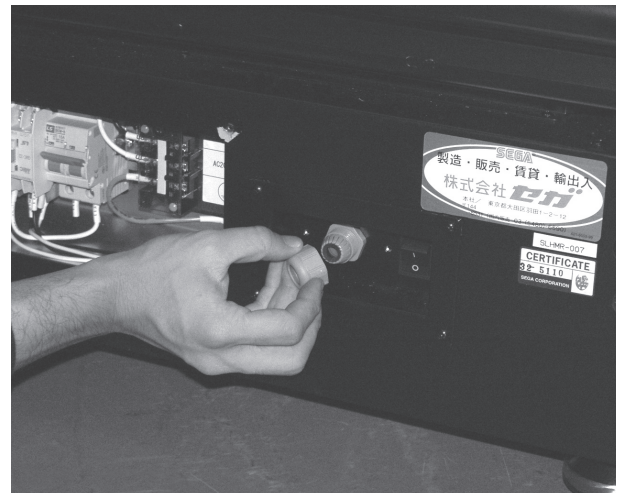
6-7 FIG. 02

- 2 Unscrew the 2 truss screws, and remove the cable gland cover.



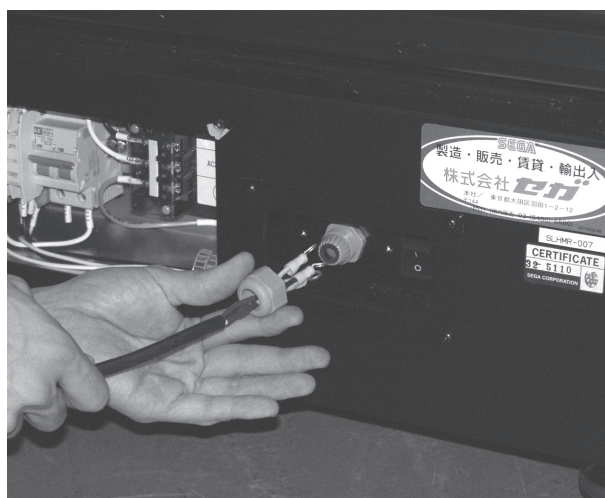
6-7 FIG. 03

- 3 Turn the bushing cover counterclockwise and remove.



6-7 FIG. 04

- 4** Pass the cable through the bushing cover, and the bushing, in that order, and draw the cable into the cockpit.



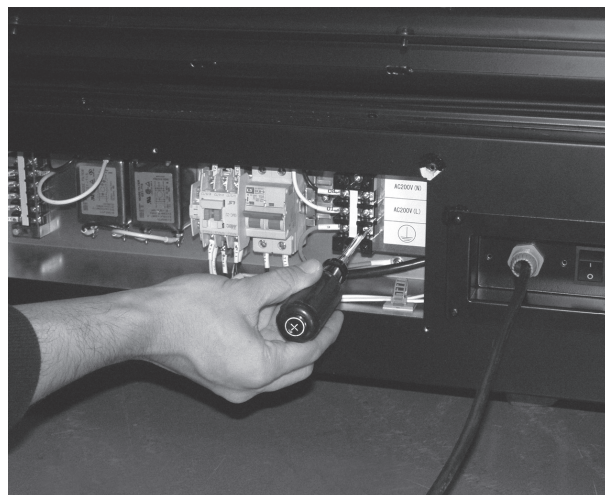
6-7 FIG. 05

- 5** Remove the transparent plastic board from the terminal.



6-7 FIG. 06

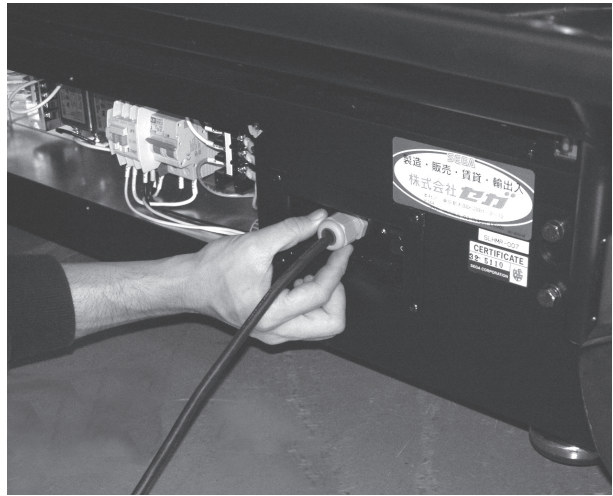
- 6** Undo the bolts on the terminal board temporarily, and fasten the terminals at the end of the cable to the terminal board. Make sure that you fasten the correct terminal. Those unable to make such a judgment should not perform this work. A fatality could result.



6-7 FIG. 07

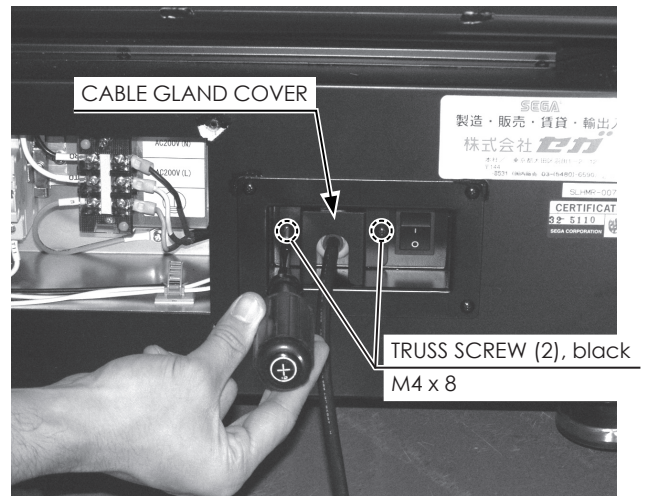
7 Attach the transparent plastic board to the terminal.

8 Rotate the bushing cover clockwise to fasten the cable.



6-7 FIG. 08

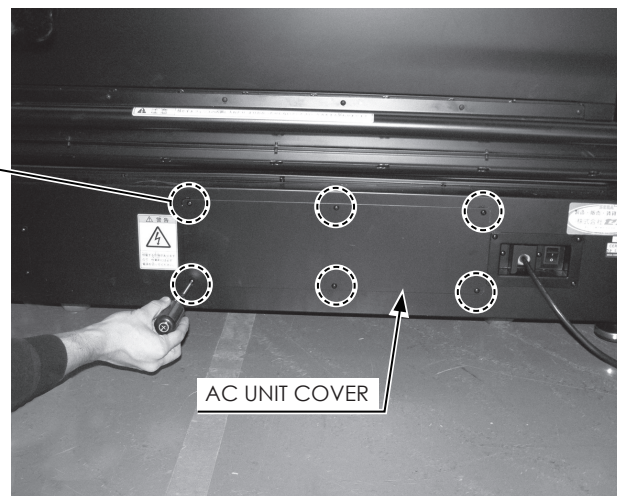
9 Fasten the cable lead-in gland cover with 2 truss screws.



6-7 FIG. 09

10 Fasten the AC unit cover using 6 truss screws.

TRUSS SCREW (6), black
M4 x 8



6-7 FIG. 10

11 Connect the terminal on the opposite side of the cable to the indoor power supply earth system.

6-8 SOFTWARE INSTALLATION

WARNING

- Be careful not to damage the DVD wire by getting it caught between objects, etc. Doing so may cause a short circuit or fire.
- The following explanation assumes that the product has been assembled properly as explained above. If there is an error or if the product operates in a manner other than as indicated below, turn off the power supply immediately. Failure to do so may result in a fire or electrical shock.
- Looking directly at the laser of the DVD DRIVE may cause eye injuries. Do not look inside the DVD DRIVE.
- For safety reasons, be careful not to touch or lean against the ride during the installation work. An accident could occur if the ride happens to move.

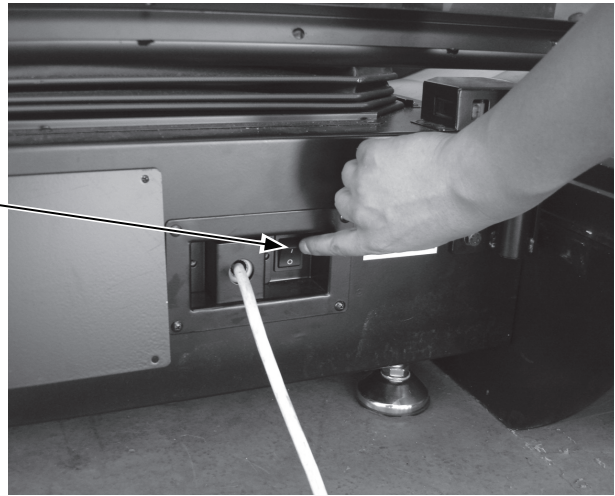
STOP

IMPORTANT

- The power is turned on without software installed on the game board (LINDBERGH), so “Error 22” is displayed even though there is no fault. However, if another error is displayed or there is no image output on the screen at all, a mistake in the assembly work, faulty wiring connection, a broken LINDBERGH, etc. could be the cause.
- After turning on the power, wait until “Error 22” is displayed. If some kind of operation is made inadvertently, unexpected problems, faults, or parts damage may occur.
- When “Error 22” is displayed, set the DVD in the DVD DRIVE, and turn the power off and on again. The software will be installed.
- After the power supply is engaged, the DVD DRIVE tray will not come out for about 30 seconds even if you press the switch. This is due to DVD DRIVE initialization.
- The DVD DRIVE tray can come out or return only while the power supply is engaged. The tray cannot be opened or closed while the power is off.
- Even after the software has been installed, store the DVD software kit, DVD DRIVE and DVD wire in a secure location.
- If for any reason installation cannot be completed, an error is displayed. Refer to the LINDBERGH service manual and take corrective action.
- After turning on the power, it will take several minutes for images on the LCD to be visible.
- Store the DVD DRIVE, DVD wire and DVD DRIVE kit in a location free of dust and cigarette smoke. The DVD DRIVE may not be able to read data due to its condition.

- 1** Turn on the main power switch on the AC unit.

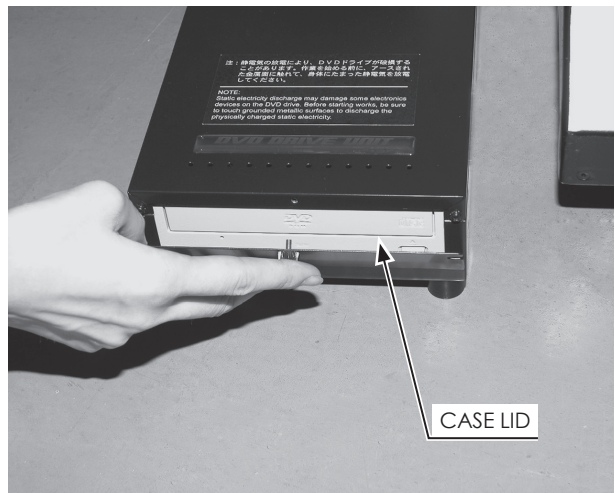
Turn the power on.



6-8 FIG. 01

- 2** The LINDBERGH startup image appears on the screen. However, it does take several minutes for the projector image to become visible. Wait for at least 1 minute. An error will occur. Check to see if it is "Error 22." If it is "Error 22," proceed to the next operation. If it is not "Error 22," take corrective measures as indicated in the LINDBERGH service manual.

- 3** Remove 1 urea (resin-head) screw, and then remove DVD DRIVE case lid.



6-8 FIG. 02

- 4** Press the DVD DRIVE switch. The DVD DRIVE tray comes out. Set the DVD from the DVD software kit into the tray. Always have the DVD label side facing upward.

- 5** Press the DVD DRIVE switch and the tray returns to its original position.

- 6** Turn the main switch to OFF once, wait for at least 1 minute, then turn the switch back to ON.

- 7** Software installs automatically from the DVD to the LINDBERGH. Do not turn off power to the cabinet during the installation.

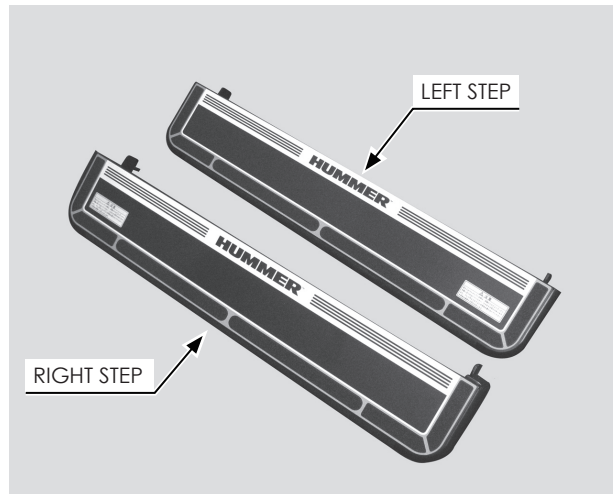
- 8** When installation is finished, the initialization operation will be performed automatically. (6-10 Turning on the Power)

- 9** When the advertising (waiting for customers) screen is displayed, the initialization operation is complete.

-
- 10** Press the DVD DRIVE switch to have the tray come out, and then remove the DVD.
-
- 11** Press the DVD DRIVE switch to have the tray return. When the power is cut off the tray will not move.
-
- 12** Turn off the main power switch on the AC unit.
-
- 13** Remove the DVD wire from the DVD DRIVE.
-
- 14** Attach DVD DRIVE case lid and fasten it with 1 urea (resin-head) screw.
-
- 15** Remove the 4 screws, and take off the DVD plate. (See 6-6 Steps 8 to 11.)
-
- 16** Take off the base side door again using the master key.
-
- 17** Disconnect the DVD wire from the LINDBERGH, and pull it out from the hole of the base side door.
-
- 18** Attach the DVD plate to the base side door with 4 truss screws so that it faces right-side up again.
-
- 19** Attach the base side door using the master key, and fasten it with 6 truss screws.
-
- 20** Store the DVD DRIVE, DVD wire, and DVD software kit in a location free from dust and cigarette smoke.

6-9 ATTACHING THE STEPS

The left and right steps are different. Attach the steps so that the warning label is towards the back of the cockpit.



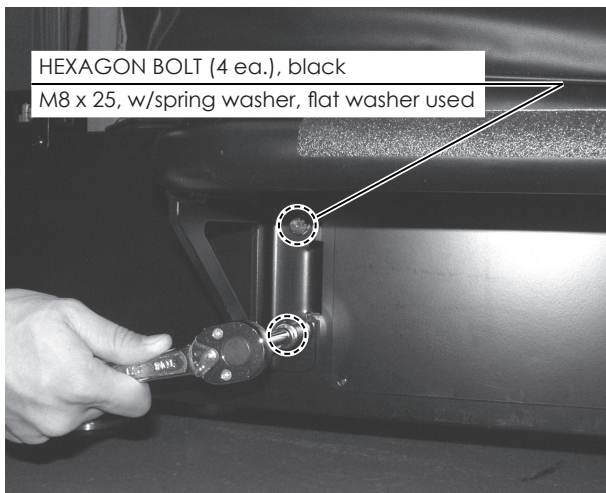
6-9 FIG. 01

- 1 Hang the step by inserting the step's hooking part into the cockpit.



6-9 FIG. 02

- 2 Fasten the steps using 4 hexagon bolts each.



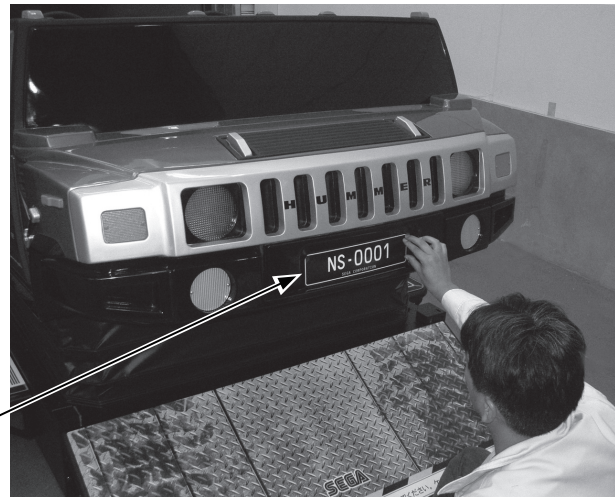
6-9 FIG. 03



6-9 FIG. 04

- 3** Attach the numbered sticker to the position shown in the figure.

Attach the numbered sticker



6-9 FIG. 05

6-10 TURNING ON THE POWER

WARNING

- The ride (seat) will move during the initialization operation. It is dangerous for people to be near the cabinet. One person should carry out initialization-related operations or the initialization operation should be started after carefully confirming that nobody is near the cabinet.
- Proceed with checks and tasks as indicated in these instructions. If instructions are not followed, or if tasks and/or checks are neglected, an electric shock or other very serious accident, even fatal accident, can occur. Also, customers could be injured while operating the product.
- For safe operation, inspect and check the operation of each part of the product when turning on the power. If any defects are found, deal with them immediately. Never operate the product with defects still present.

IMPORTANT

After starting the initialization operation, wait until the ride stops and the advertising screen is displayed or until an error screen is displayed due to the detection of an error. If switches, etc. are inadvertently operated, faults or parts damage may occur.

- 1 Reinspect the assembly work, paying special attention to the points below. Finally, check that there are no persons near the ride.
 - Have all the adjusters been properly grounded, and are no casters contacting the floor surface?
 - Have all power cable terminal blocks been fastened correctly?
 - Has the cover been attached to the terminal block?
 - Have all fastening bolts and screws been tightened?
 - Have any foreign objects been placed near the ride, or have any tools or spare screws, etc. been left on or in the product?
 - Have any foreign objects been placed near the steering wheel?

- 2 Turn the main switch on the front of the cockpit ON. This sends power throughout the product. Following the order below, output locations will activate.

- 1) Billboard LED lights.
- 2) LINDBERGH logo is displayed on LCD screen.
- 3) Actuator initialization. Moves upwards from lowest end, stopping in home position.
- 4) Steering wheel L/R initialization. First, the steering wheel rotates fully right, then it slowly rotates left while searching for the starting point and stops when it reaches the starting point.
- 5) Inter-cabinet communication check (in case of communication connection setting).
- 6) The Customer Welcome Screen appears and sound is output at the same time.

-
- 3** If, after the initialization operation ends, the steering wheel is not at its center position (facing straight ahead) or the ride stops at a tilted position, for example, reengage the power and conduct the initialization operation again.

If the problem is not corrected after repeating the initialization, there is most likely a fault in the volume settings.

Enter Test Mode, and check the settings. (See service manual.)

For this product, the following data and settings are still saved even if the power is turned off. Coin numbers represented in fractions (number of coins deposited that are not enough for one credit) and bonus adder count data are not saved.

- Number of credits
- Ranking data
- Test Mode settings (coin/credit settings, difficulty level, etc.)

7 PRECAUTIONS WHEN MOVING THE MACHINE

7

PRECAUTIONS WHEN MOVING THE MACHINE

WARNING

- As used in these instructions, the term “moving” refers to moving of the product within the same building, store or facility. These instructions do not cover moving between different buildings, areas, stores or facilities, since diverse factors are involved, not only packaging but also loading onto transport vehicles, and securing the product in place during transport. To transport the product to a different building or store, contact the vendor where the product was purchased or the office indicated in these instructions. Or request that moving be done for you. This product is made up of parts that are of large size and heavy weight. Unless work is entrusted to someone with expertise in packaging and transport of such parts, a serious accident might occur.
- Even when the product is to be moved within the same building, store or facility, contact the point of purchase or the office indicated in these instructions if there will be level differences or narrow or low level entrances while moving. Or request that moving be done for you. Never disassemble the product in any way not covered in these instructions. Otherwise there could be a fire, electric shock and/or short circuit.
- Always disconnect the power cable before moving the product. If it is moved with the power cable connected, the cable could be damaged, causing fire or electric shock.
- A qualified electrician is required for moving product parts within a store and for changing indoor wiring. Do not have work performed by anyone who is not qualified. Otherwise there could be electric shock.
- Have work performed by site maintenance personnel or other qualified individuals. Do not allow people without proper knowledge and technical expertise to work on the product. Otherwise there could be an electric shock or other serious accident. Also, customers could be injured while operating the product.
- Do not move this product while it is still assembled. Always take off the coin chute tower, the rear fence, and the step before moving it. Moving it while assembled could lead to damaged joints and mounting components which could in turn result in electrocution, short circuits or fire.
- Because it is structurally difficult for exterior lighting to enter the cabinet, have auxiliary lighting available. Working within a dark environment can lead to accidents.
- For instructions on separation and disassembly of the cabinet, refer to Chapter 6 of this manual. Failure to follow the instructions given by this manual leaves a high risk of accidents such as electric shock occurring.
- Proceed with checks and tasks as indicated in these instructions. If instructions are not followed, or if tasks and/or checks are neglected, an electric shock or other very serious accident, even fatal accident, can occur. Also, customers could be injured while operating the product.
- Be careful not to damage wiring. Before separating parts that have wiring connections, disconnect the wiring connections, unravel wire bundles and undo fastenings. Only after that, remove fasteners (screws, nuts, etc.). If wiring becomes damaged, there could be an electric shock, short circuit or fire.

WARNING

- When inserting or removing a connector, always hold it by its main part. If you hold it by anything else while doing so, the connections between wire and connector terminal fixtures could be damaged; and there could be a short circuit or fire. There could also be poor connectivity.
- Do not move unit with the adjusters in contact with the floor. Otherwise parts might be damaged or deformed and there might be accidents.
- Whenever any fasteners (e.g. screws, nuts) have been lost, always use replacement fasteners with proper dimensions as specified in this manual. If fasteners of any other dimensions are used, it could cause damage and/or separation of parts that result in secondary accidents.
- Do not place the cockpit on inclines or uneven surfaces. This could result in the unit falling over.
- Check surroundings carefully while moving the unit. If you should get caught between the unit and a wall, for instance, there could be a serious accident.
- Have on hand a number of workers appropriate for each task that needs to be done. Make calculations by approximating that one worker can lift roughly 15 kg of weight.
If an insufficient number of workers try to lift a heavy object, it could result in a worker stumbling and the object being dropped, crushing someone or something underneath. Workers could also injure their backs, etc.
- When lifting a heavy object, be sure to carefully consider the area where it will be lifted. If possible, lift the object by its handles or base. If weak fasteners or fragile parts are gripped, they could be damaged under the weight of the object, and this could result in a worker stumbling and the object being dropped, causing personal injury.
- Never disassemble the unit in ways other than those described in this manual. Doing so can cause accidents such as electric shocks, short circuits, and fires.
- Do not attempt to tilt the unit to fit it through narrow doorways. Moving the unit while it is tilted can result in an accident. It can also cause deformations and damage to parts, as well as deviations of fastening positions, which could result in accidents during operation.

⚠ CAUTION

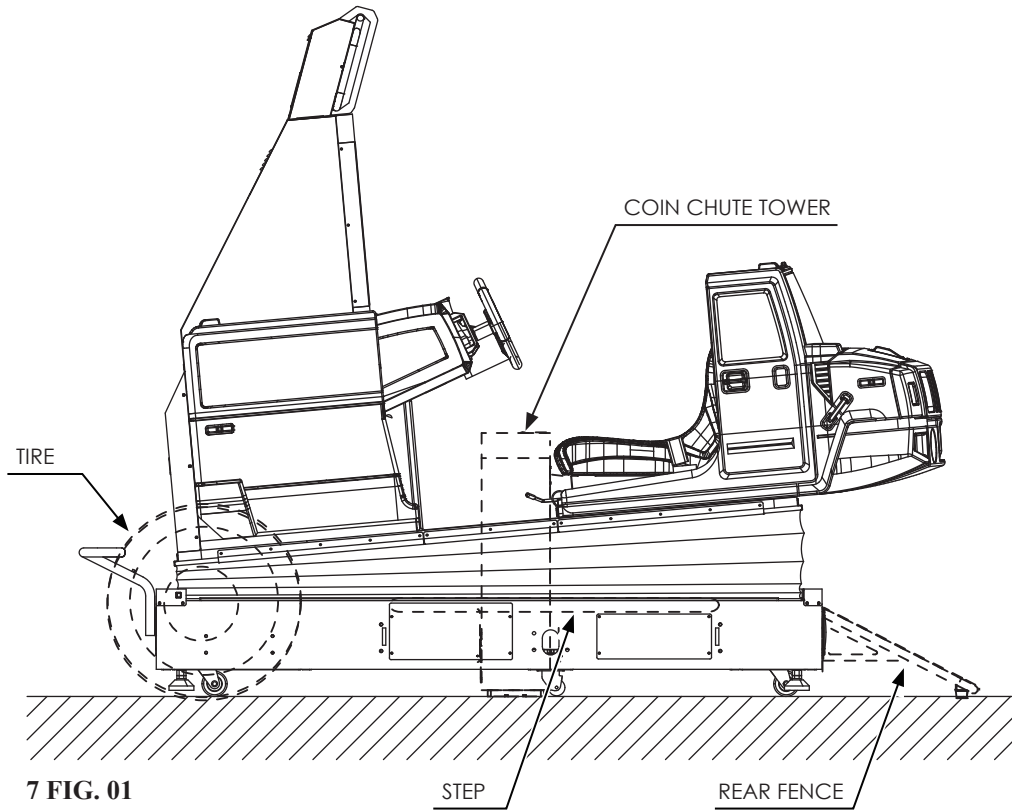
- Do not push plastic parts or the ride's parts. Do not support the unit by carrying plastic parts. Parts can be damaged, and fragments can cause injury.
- Do not push on or hold onto the LCD or steering wheels to move the unit. Doing so could break the parts and lead to people getting injured on the broken parts.
- Do not stack parts that have been separated or disassembled indiscriminately. The surface of the parts could be damaged or deformed. Significant deformations can result in improper operation and breakdowns.
- Do not lean separated or disassembled parts against a wall or other surface indiscriminately. The parts could be deformed. Accidents could also occur should the parts fall over.
- Do not hold or push controls such as the steering wheels or Gear Shifters. Deformations could lead to player injury.

STOP**IMPORTANT**

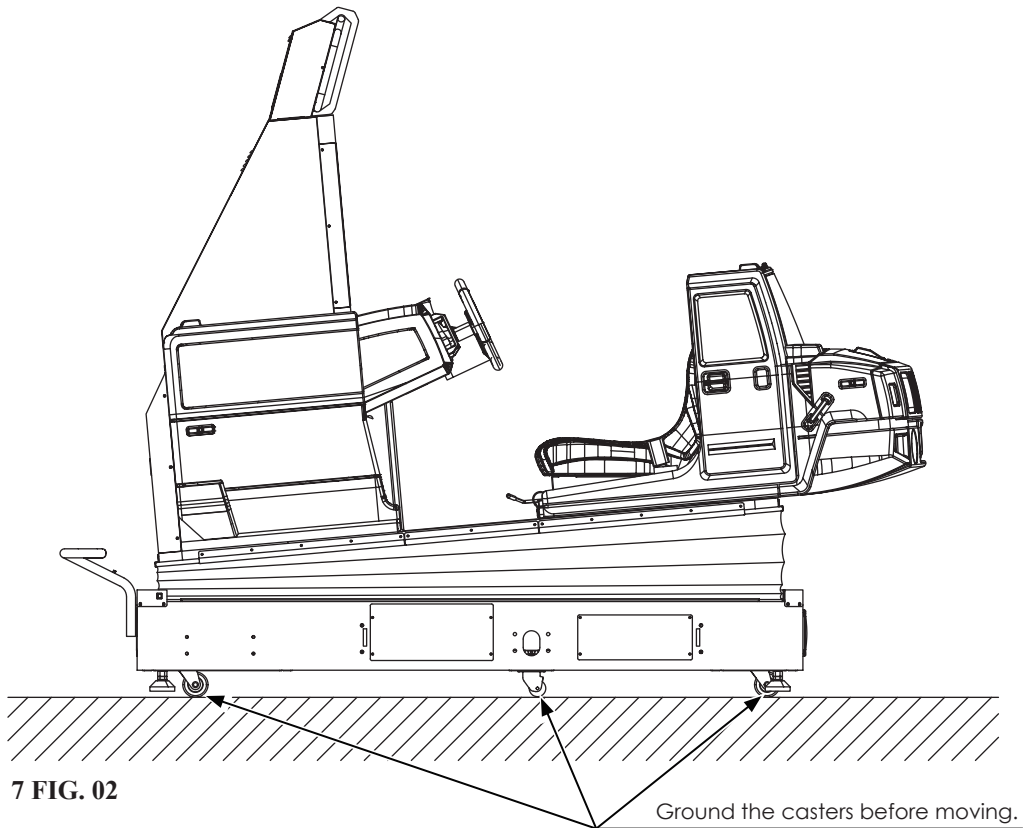
- If the unit is moved over floor surfaces where there is carpet, decorative panel, etc., there might be friction or soiling.
- Movement by casters can damage the floor, depending on the floor material. Have a mat or thin plate available for moving casters. If rugs, for instance, have been laid out, remove them before moving.
- Be careful not to damage the surfaces of parts. Support and push strong parts made of metal.
- Do not apply rope directly to the product's surface. Use protective material at locations where rope is applied.

The strength of this product's joints were not designed such that the product can be moved while assembled. Attempting to push on the cockpit, etc. to move the unit while assembled can result in damage, deformation, and misalignment of the joints. Abnormalities in the joints can result in improper operation or breakdown in internal mechanisms.

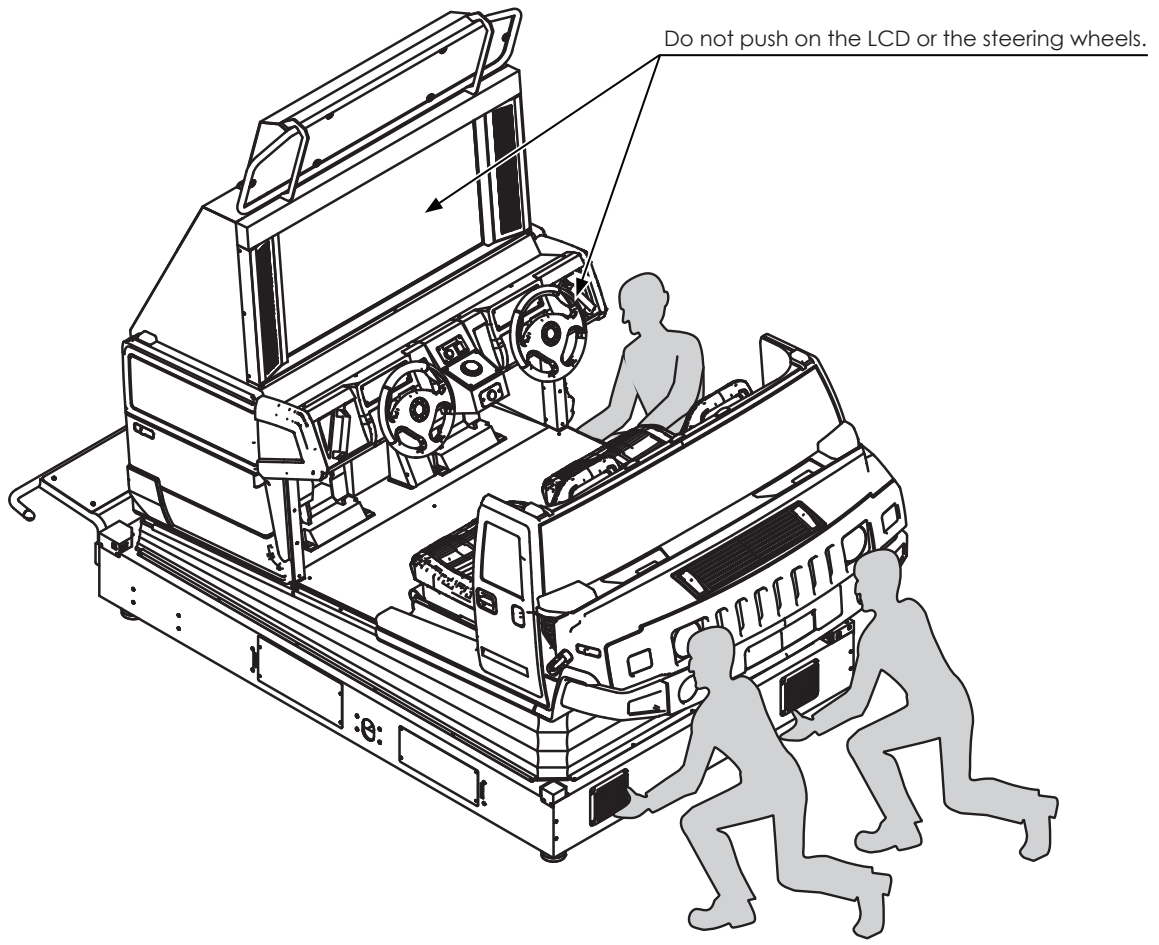
Take off the coin chute tower, the rear fence, the step, and the tires before moving the product.



7 FIG. 01



7 FIG. 02



7 FIG. 03

8 PLAYING THE GAME

8-1 GAME OUTLINE

- This is an off-road racing game featuring the GM Hummer. The sturdy Hummer plunges along rugged courses with jumps and banks, scattering obstacles in its path.
- By destroying various obstacles on the course, the player builds up Boost, and when the Boost Gauge reaches the maximum level, Boost can be used. The goal is to use Boost effectively to reach the finish and achieve victory.
- There are 4 courses in total (beginner/intermediate/advanced/super advanced). A total of 4 course types await the players: a wilderness of windswept bare rock; an unexplored jungle where nature stands in your way; an intensely cold and rugged snowy mountain range; and an abandoned factory with complicated diverging paths.
- The cabinet is a dedicated, movement-enabled cabinet featuring the eye-catching front hood of the Hummer. The biaxial motion achieves unbelievable three-dimensional movement and the exhilarating sensation of off-road driving.
- A “Driver Change System” is employed which allows 2 people to play alternately using 2 steering wheels. It is perfect for couples or groups, allowing them to enjoy the excitement together. (Versus games involving 2-4 cabinets are possible).

8-1-1 BASIC CONTROLS

- **STEERING**

Changes the direction the car is going. There is a steering wheel installed for both the right and left seats. If “2 Drivers” is selected, the right and left players can have fun driving alternately.

- **GAS (ACCELERATOR)**

The car accelerates.

During a jump, press down on the gas, and the car points upward. Ease up on the gas, and the car points downward. When landing, if you can use this accelerator control to make all 4 tires touch the ground at the same time, you’ll win Bonus Boost.

- **BRAKE**

The car decelerates and will stop if you continue to press the brake.

- **BOOST button**

When the Boost Gauge at the bottom right of the screen reaches its maximum level, you can use Boost. Press down while moving to make the car accelerate rapidly.

- **VIEW CHANGE button**

Switch between 2 different views.

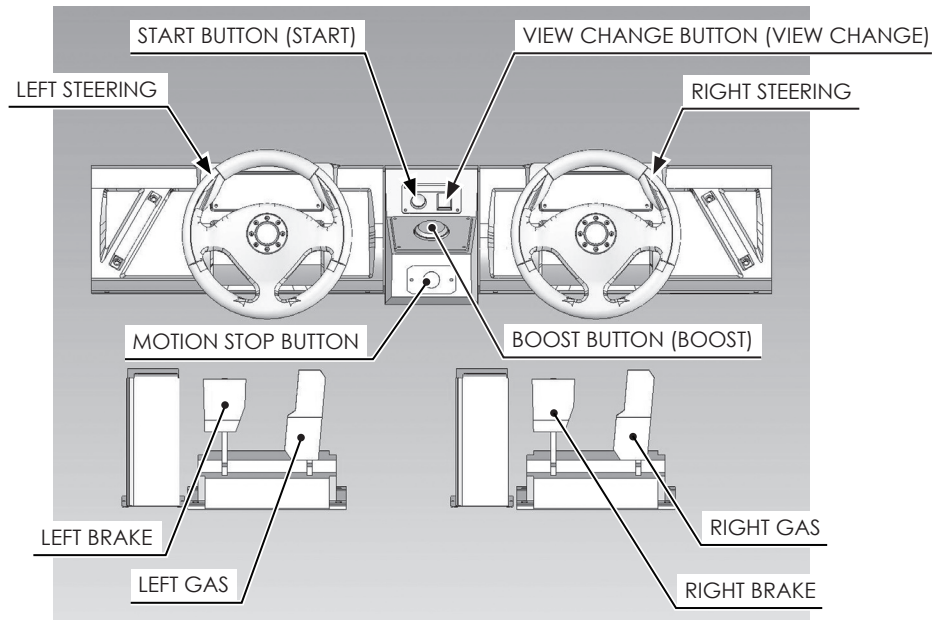
- **MOTION STOP button**

Stops the motion of the cabinet during a game. Once pressed, motion is stopped until the game is over.

Automatic Motion Stop

During a race, if a player's seatbelt is unfastened or the floor sensor is triggered, the movement of the seat will immediately stop.

If the race finishes with the seat at an angle, approximately 2 minutes after returning to the advertising screen, "Moving seat to mid-position." is displayed, and the seat automatically moves into the home position. If the floor sensor is triggered as the seat is moving into its home position, the movement of the seat will stop again. In such case, the seat will again return to center after 2 minutes.



8-1-1 FIG. 01

8-1-2 CAR SELECTION

6 types of car are available.

8-1-2 TABLE 01

Car Model	Type	
H1	Rally Tuning	Sports Tuning
H2	Rally Tuning	Sound Tuning
H3	Rally Tuning	Street Tuning

8-1-3 RACE COURSE

There are 4 courses in total. All courses are circuit tracks.
The more stars (★) a course has, the higher its level of difficulty.

8-1-3 TABLE 01

Course Name	Difficulty (1-4)	Laps
BLUSTER CANYON	★☆☆☆	4
ISOLATED JUNGLE	★★☆☆	3
CARIBOU VALLEY	★★★☆☆	2
INDUSTRIAL HILL	★★★★★	2

8-2 MODE OUTLINE

8-2-1 SINGLE PLAYER MODE

- **RACE MODE**

In this mode, a total of 20 cars, made up of the player and rivals (19 CPU cars), compete.

- **TIME ATTACK MODE**

Racing alone, the player competes against ghost data to try to achieve the fastest time.

Can only be selected with 1 player.

NOTE: In both “Race Mode” and “Time Attack Mode,” the game is over when the time reaches zero. Time is added when a checkpoint is passed or a lap is completed.

8-2-2 VERSUS MODE (VS MODE)

This mode allows players to compete against other machines in the same location. Versus games involving a maximum of 4 cabinets are possible.

When one player passes a checkpoint, time is added for all player.

When a player crosses the finish line, the remaining time for all other players will change to 10 seconds, and if they cannot finish within 10 seconds, time will be up and the race will end.

When this happens, a player's finishing place will be determined by their position when time runs out.

8-3 HOW TO PLAY

1 Insert coins. When the number of credits required for the game to start is reached, press the Start button, and the game will start.

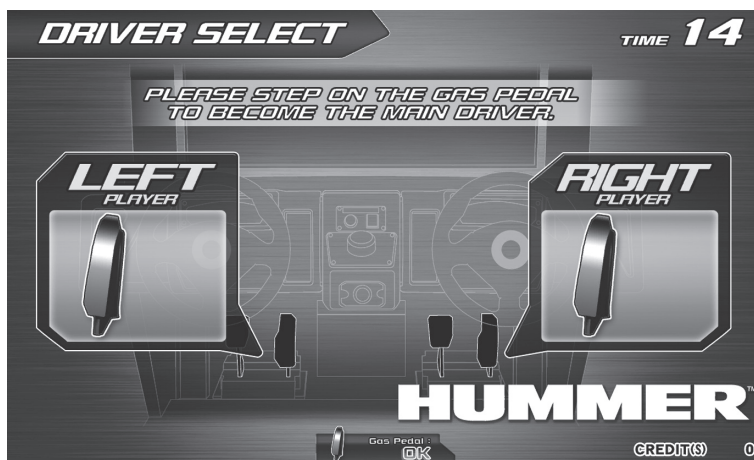
2 The game will wait for opponents from possible opponent machines not being played. Versus Mode will begin if sufficient coins are inserted into another machine while you are waiting for opponents. The wait for opponents will end when the countdown reaches zero or when the number of players reaches the set amount, and the game will begin with the current number of waiting players. (Single Player Mode will begin if there is one machine.)

NOTE: You will not be taken to the waiting for opponents screen if there is only a single machine or the machine has not been set up for Versus Mode.



8-3 FIG. 01

3 Determine who will be the main driver with the right to make decisions on a variety of selection screens. The player who presses the gas pedal becomes the main driver. If time runs out, the player in the left seat automatically becomes the main driver.



8-3 FIG. 02

-
- 4** Determine the number of players. Use the steering wheel to select the number of players and confirm your selection with the gas pedal.



8-3 FIG. 03

The passenger confirmation screen will be displayed for you to confirm the presence or absence of a passenger only if you select “PASSENGER: NO.” Even in Single Player Mode, if someone will sit in the seat next to you, make sure you select “PASSENGER: YES.” Use the steering wheel to select and confirm your selection with the gas pedal.



8-3 FIG. 04

-
- 5** Select the game mode. Use the steering wheel to select the mode and confirm your selection with the gas pedal. (Only if you selected 1 player in Single Player Mode)



8-3 FIG. 05

- 6 Select the car you will use. Use the steering wheel to select the car and confirm your selection with the gas pedal.



8-3 FIG. 06

- 7 Select the course. Use the steering wheel to select the course and confirm your selection with the gas pedal. In Versus Mode, course confirmation is decided by the most votes. If 2 courses have the same number of votes, then the course with the lowest difficulty rating will be chosen.



8-3 FIG. 07

- 8 The TIPS Screen shows a tutorial on this title.



8-3 FIG. 08

9 Cautions for playing safely are shown.

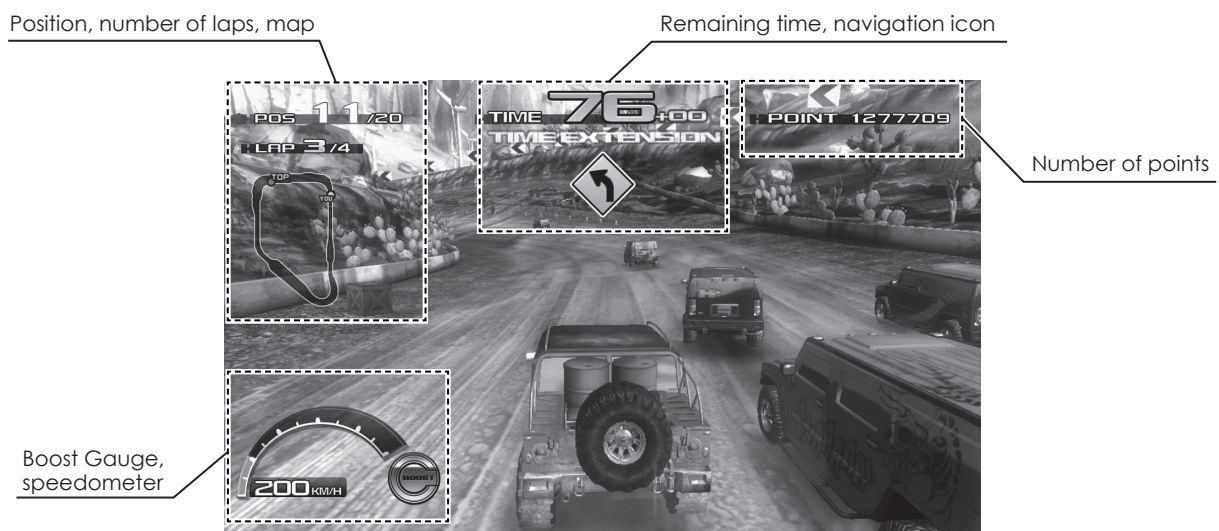
- If you press the MOTION STOP button, "MOTION STOP button was pressed." will be displayed, and the seat will not move from the start of the race. If you press the MOTION STOP button again while the Safety Confirmation screen is displayed, "MOTION STOP button was released." will be displayed, and the seat will move during the race.
- If the driver's or passenger's seat belt is unfastened, "Please fasten your seat belt." is displayed. If you remain in the same seat after playing the previous game without unfastening your seat belt, "Please temporarily unfasten seat belt, then fasten again." is displayed.
- If the floor sensor is triggered, "The floor sensor has been triggered." is displayed.



8-3 FIG. 09

10 The information displayed on the game screen is shown below. The information displayed on the screen varies in Single Player Mode (Race), Single Player Mode (Time Attack), and Versus Mode.

■ Single Player Mode (Race)

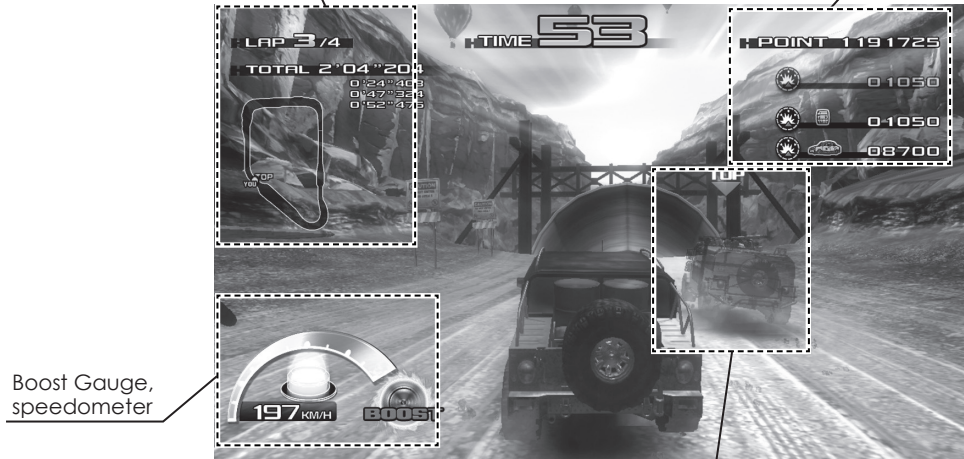


8-3 FIG. 10

■ Single Player Mode (Time Attack)

Number of laps,
Time Attack information, map

Number of points,
destroyed items and scores



8-3 FIG. 11

Top player's ghost data
(only displayed if you are not in the top score)

■ Versus Mode

Position, number of laps, map

Remaining time

Number of points



8-3 FIG. 12

Driver Change

The steering wheel icons show which player, right or left, is driving. The game screen in the figure below shows that the left player is driving.

The players alternate according to conditions such as colliding with other cars or walls, passing checkpoints, etc.



8-3 FIG. 13

Steering wheel icon

11 When the race is over, results will be displayed (Result Screen). The information displayed on-screen will vary depending on the mode.



8-3 FIG. 14

12 If you achieve a Ranking, you can enter your name. This name (4 English letters) will be displayed on the advertising screen.

Use the steering wheel to select the letters and enter your selection with the gas pedal or the Start button.



8-3 FIG. 15

13 After the race is finished, if you select “YES” in answer to “TRY AGAIN?” on the Try Again screen, the selections for the next game will begin from car selection. The main driver, number of drivers, presence of passenger, and game mode will be the same as in the previous game and cannot be changed. If you selected “YES” on the Try Again screen, it is not necessary to unfasten your seat belt and then refasten it. If the MOTION STOP button was pressed, it will be cancelled.



8-3 FIG. 16

8-4 OTHER FEATURES

- **Auto Drive Mode**

If the gas pedal is not pressed for 5 seconds after the race starts, Auto Drive Mode will start, and the car will begin to run automatically. Just one input from the gas pedal or brake pedal will cancel Auto Drive Mode.

- **MOTION STOP Button**

If the MOTION STOP button is pressed during a race, the seat will return to its home position and then stop. The seat will not move until the end of that race.

- **Safety Devices**

- During a race, if the driver's or passenger's seat belt is unfastened "Please fasten your seat belt. Seat is in a halt." is displayed and the seat stops moving immediately. When the seat belt is fastened, "Starting seat operation." is displayed and the seat resumes movement.
- During a race, if the floor sensor is triggered "Floor sensor is reacting. Seat is in a halt." is displayed and the seat stops moving immediately. When the floor sensor ceases to be triggered, "Starting seat operation." is displayed and the seat resumes movement.
- If the seat belt is not unfastened between the end of a game and the start of the next game in the same seat, "Please temporarily unfasten seat belt, then fasten again. Seat is in a halt." is displayed, and the seat does not move. If the seat belt of that seat is unfastened and then refastened, "Starting seat operation." is displayed and the seat moves.

8-5 HINTS FOR PLAYING THE GAME

- **DESTRUCTION**

When you destroy obstacles placed on the course, you accumulate Boost along with points.

Destroying many obstacles to accumulate Boost quickly is a key part of racing strategy.

When in Versus Mode, you can steer the race in your favor by strategically destroying obstacles before they are destroyed by the other players.

- **BOOST**

Boost is accumulated by destroying obstacles on the course.

When the Boost Gauge reaches maximum, the button lights up blue and, if pressed down, the button rises up from a pressed position.

By pressing down the BOOST button, you can accelerate rapidly.

During Boost, you become invincible, and if you are hit by rival cars you can send them flying to accumulate points.

When there are 2 drivers, Driver Change does not occur when you collide with a rival car or a wall because you are invincible.

- **LANDING**

During a jump, you can control the forward/back tilt of the car by pressing the gas pedal and releasing it, and you can control the right/left rotation by turning the steering wheel to the right and left.

When landing, if you can control the car to make all 4 tires touch the ground at the same time, you will get Bonus Boost.

- **DRIFT**

By lightly pressing the brake and turning the steering wheel dramatically before entering a turn, you can “Drift” through the turn in a skid. The key is to turn the steering wheel early enough before entering the corner.

As it starts to skid, the car will lurch from side to side, so you must control it by counter steering.

9 EXPLANATION OF TEST AND DATA DISPLAY

WARNING

- Do not touch any parts that are not specified in these directions. Touching unspecified locations may lead to electric shock or cause short circuits.
- In Test Mode, the ride (car body) will move in accordance with the controls. Be sure that persons other than the conductor of the test are not near the product while the Test Mode procedures are in progress. Failing to follow this precaution could result in major or minor collisions or falls.
- Be careful when riding on the ride while operating Game Test Mode. Improper operation can result in falling.
- Upon exiting Test Mode, the ride will go through the same initialization operation as when power is turned on. Be careful because the ride will move. There is a risk of collisions, falls, and fingers being caught.

IMPORTANT

- When you enter the Test Mode, fractional coin and bonus adder data is erased.
- 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.

Perform tests and data checks periodically by manipulating the TEST Button and SERVICE Button in the cabinet. Follow the instructions in this chapter to conduct checks when the game machine is first installed, when money is being collected, or when the game machine does not operate properly. Shown below are the tests and screens to be used for different problems.

This product uses a LINDBERGH game board and a DVD DRIVE. In the system, a different game can be played by putting a different DVD ROM in the DVD DRIVE.

For this reason, the product's Test Mode consists of two modes: a System Test Mode for systems in which coin settings, for instance, are made for products that use the same system, and a Game Test Mode for setting of difficulty level, etc., and for input/output test of operational units used exclusively with this product.

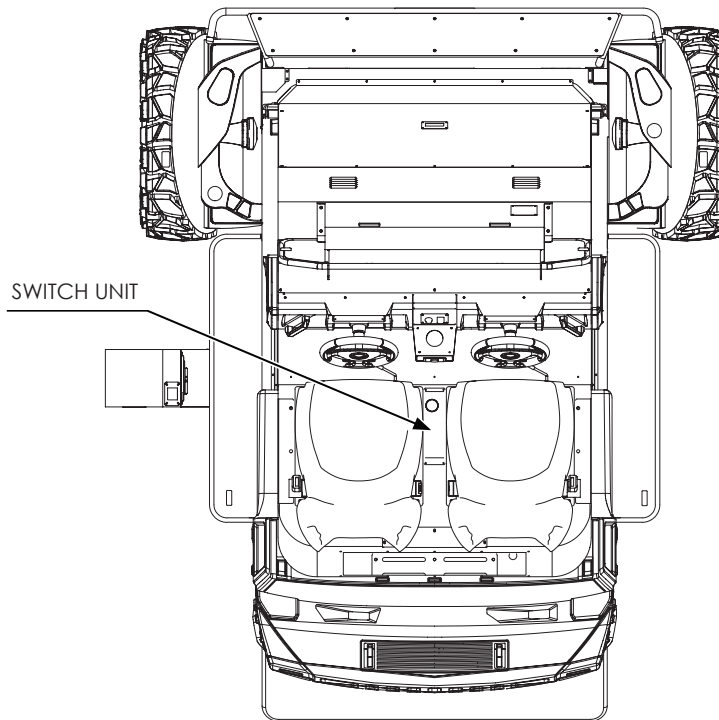
NOTE: "S/M" in the table denotes LINDBERGH Service Manual, which is provided separately.

9TABLE 01

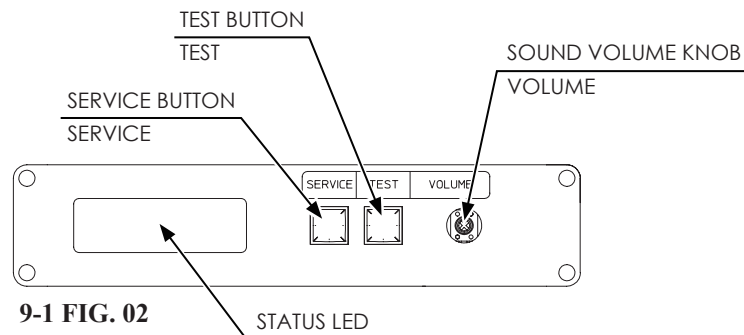
ITEMS	DESCRIPTION	REFERENCE SECTIONS
Game machine installation	1. Confirm that the information display screen appears in normal fashion.	"S/M" Chapter 4
	2. Investigate each input device on the Input Test Screen.	This Manual 9-3-2, "S/M" Chapter 4
	3. Investigate each output device on the Output Test Screen.	This Manual 9-3-3, "S/M" Chapter 4
Periodic maintenance	1. Check settings.	This Manual 9-3, "S/M" Chapter 4
	2. Test each input device on the Input Test Screen.	This Manual 9-3-2, "S/M" Chapter 4
	3. Test each output device on the Output Test Screen.	This Manual 9-3-3, "S/M" Chapter 4
Control problem	1. Investigate each input device on the Input Test Screen.	This Manual 9-3-2, "S/M" Chapter 4
	2. Adjust or replace each input device.	This Manual Chapters 11, 12
	3. If the problem persists, examine the mechanical components of each input device.	This Manual Chapter 11
Monitor problem	On the monitor adjustment check screen, check to be sure the monitor has been adjusted properly.	This Manual Chapter 10, "S/M" Chapter 4
IC board problem	1. Information Display Screen	"S/M" Chapter 4
	2. Speaker Test	"S/M" Chapter 4
Data Check	Check data on game play times, histograms, etc.	This manual 9-3-9

9-1 SWITCH UNIT

In Test Mode, the switch unit in the switch unit door is operated.
Unlock and open the switch unit door. Inside is a switch unit.



9-1 FIG. 01



9-1 FIG. 02

TEST Button (TEST)	Establishes Test Mode. Becomes the button to confirm selections in Test Mode.
SERVICE Button (SERVICE)	Makes it possible to enter credits for service without increasing the coin meter. Becomes the button to select items in Test Mode.
Sound Volume Knob (VOLUME)	This is the volume knob for speakers at the left and right of the control panel. Turn the knob to the right to increase speaker volume.
Status LED	Displays the operating status of the ACTUATOR.

9-2 SYSTEM TEST MODE

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 Mode 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.

In the System Test Mode, the main activities include checking LINDBERGH information and actions and the setting of coin/credit. Also, a screen appears for checking screen adjustments. For details, see the LINDBERGH Service Manual, which is provided separately.

Use the following settings with this product. If the settings are not as specified, error messages might appear and operations might not be normal.

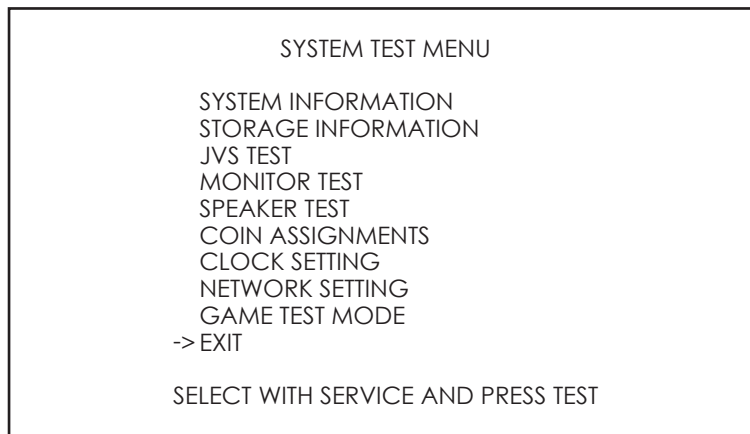
COIN ASSIGNMENTS

COIN CHUTE TYPE		COMMON
SERVICE TYPE		COMMON
GAME COST SETTING	CREDIT(S) TO START	Number of credits required to play with 1 driver.
	CREDIT(S) TO 2 DRIVERS	Number of additional credits required to play with 2 drivers (Driver Change). <i>NOTE: Only valid when 2 DRIVERS CREDIT is set to CHARGE. See 9-3-4 for details on 2 DRIVERS CREDIT setting.</i>

NETWORK SETTING

NETWORK TYPE		MAIN
MAIN NETWORK	DHCP	ENABLE

-
- 1 When the TEST Button is pressed, the System Test Menu Screen (SYSTEM TEST MENU) appears.



9-2 FIG. 01

-
- 2 Use the SERVICE Button to move the cursor to the desired test item.
-
- 3 Press the TEST Button to confirm selection of the item.
-
- 4 When testing and checking are completed, select EXIT and press the TEST Button. The System Test Menu Screen reappears.
-
- 5 When all tests are completed, select EXIT and press the TEST Button. The game screen reappears.

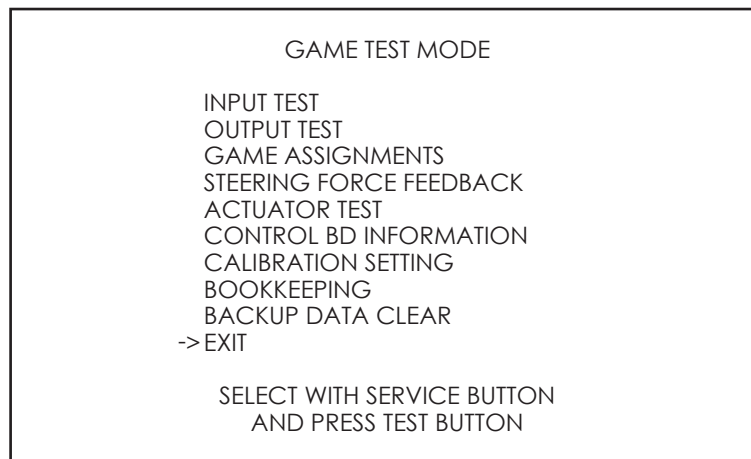
9-3 GAME TEST MODE

STOP IMPORTANT

- To change settings in the Game Test Mode, simply making changes on the setting screen will not be effective. Complete the Test Mode in normal fashion.
- Use with the specified settings. If settings other than those specified are used, inappropriate operations or malfunction may occur.

9-3-1 GAME TEST MODE

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



9-3-1 FIG. 01

- 2 For each following item, a test or setting is implemented, or data is displayed.

INPUT TEST	Tests each input device used for game.
OUTPUT TEST	Tests each output device used for game.
GAME ASSIGNMENTS	Adjusts all game settings.
STEERING FORCE FEEDBACK	Adjusts and Tests the STEERING.
ACTUATOR TEST	Tests operation of ACTUATOR.
CONTROL BD INFORMATION	Displays information about motion control board.
CALIBRATION SETTING	Corrects all calibration values.
BOOKKEEPING	Displays all recorded game data.
BACKUP DATE CLEAR	Erases all types of game records.

- 3 Use the SERVICE Button to move the cursor to the desired test item. Press the TEST Button to select the test item.
- 4 After changing the settings, select EXIT and press the TEST Button to return to the Game Test Menu Screen.
- 5 On the GAME TEST MODE screen, select EXIT and press the TEST Button. The SYSTEM TEST MENU screen reappears.
- 6 On the SYSTEM TEST MENU screen, select EXIT and press the TEST Button. The game screen reappears.

9-3-2 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.

However, if you press the TEST Button and switch to Test Mode before the LINDBERGH and the motion control board are communicating normally, items that cannot be checked on the INPUT TEST screen will appear. In such case, they will be displayed in gray as “UNKNOWN,” so carry out the test again once the game has started. Also, if CABINET MOTION in GAME ASSIGNMENTS is OFF, it will be displayed in gray as “UNKNOWN.”

- 1 On the GAME TEST MODE screen, select INPUT TEST and press the TEST Button. The INPUT TEST screen appears.

INPUT TEST		
STEERING	LEFT	RIGHT
GAS	**H	**H
BRAKE	**H	**H
SEAT BELT	**H	**H
	UNLOCK	UNLOCK
START		OFF
VIEW CHANGE		OFF
BOOST		OFF
TEST		OFF
SERVICE		OFF
MOTION STOP		OFF
FLOOR SENSOR LEFT		OFF
FLOOR SENSOR RIGHT		OFF
FLOOR SENSOR FRONT		OFF
FLOOR SENSOR REAR		OFF
FLOOR SENSOR REAR L		OFF
FLOOR SENSOR REAR R		OFF
PRESS TEST AND SERVICE TO EXIT		

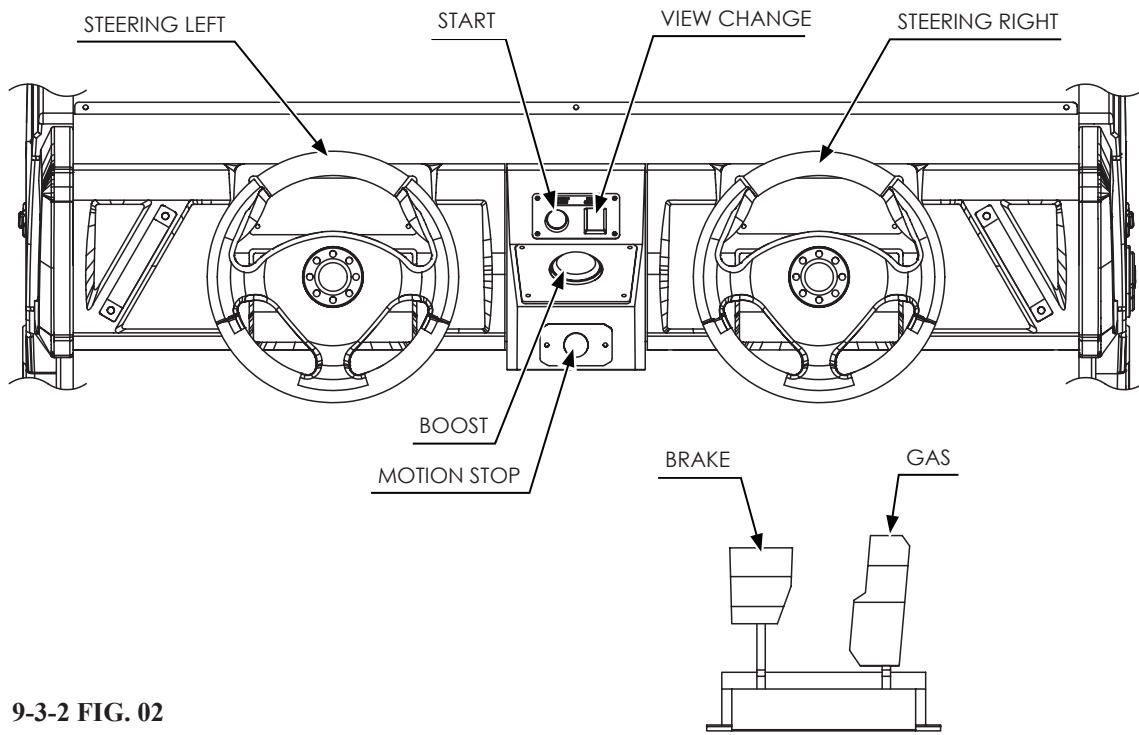
9-3-2 FIG. 01

- 2 Manipulate each switch, etc., to check screen display.

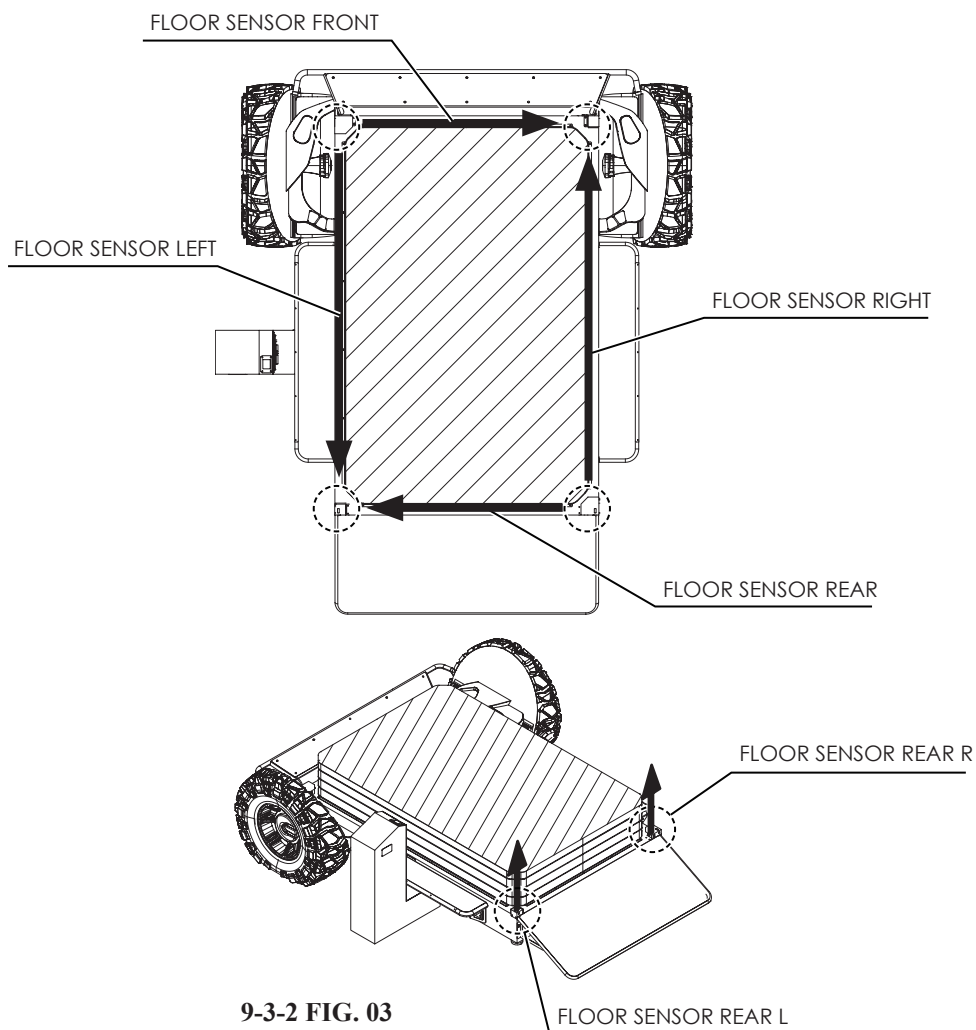
Test the STEERING, GAS and BRAKE controls to ensure that they are functioning properly and that the parameters change smoothly as each input device is operated. The STEERING value will decrease when the steering wheel is turned to the left and increase when turned to the right.

For the seat belt, “UNLOCK” is displayed when it is unfastened, and “LOCK” is displayed when it is fastened.

Other controls are working properly if the OFF display changes to ON when operating the corresponding input device.



9-3-2 FIG. 02



9-3-2 FIG. 03

- 3 When all checks are completed, press the TEST Button and the SERVICE Button simultaneously. The GAME TEST MODE screen reappears.

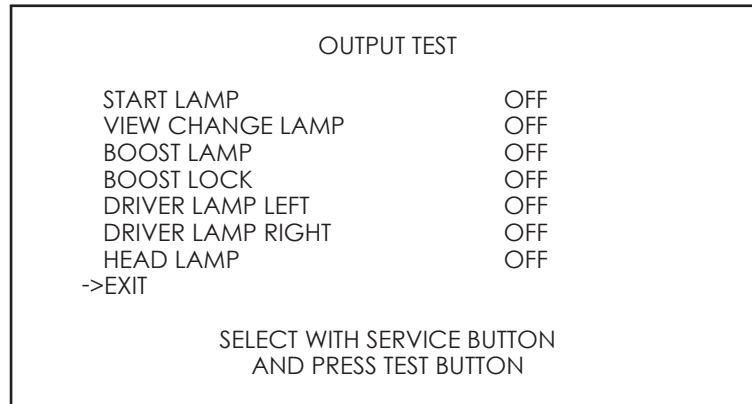
9-3-3 OUTPUT TEST

This screen is for confirming the proper operation of each output device used by the game. Periodically use this screen to check the status of each output device.

However, if you press the TEST Button and switch to Test Mode before the LINDBERGH and the motion control board are communicating normally, HEAD LAMP cannot be tested. In such case, it will be displayed in gray as “—,” so carry out the test again once the game has started.

Also, if CABINET MOTION in GAME ASSIGNMENTS is OFF, it will be displayed in gray as “—.”

- 1 On the GAME TEST MODE screen, select OUTPUT TEST and press the TEST Button. The OUTPUT TEST screen appears.

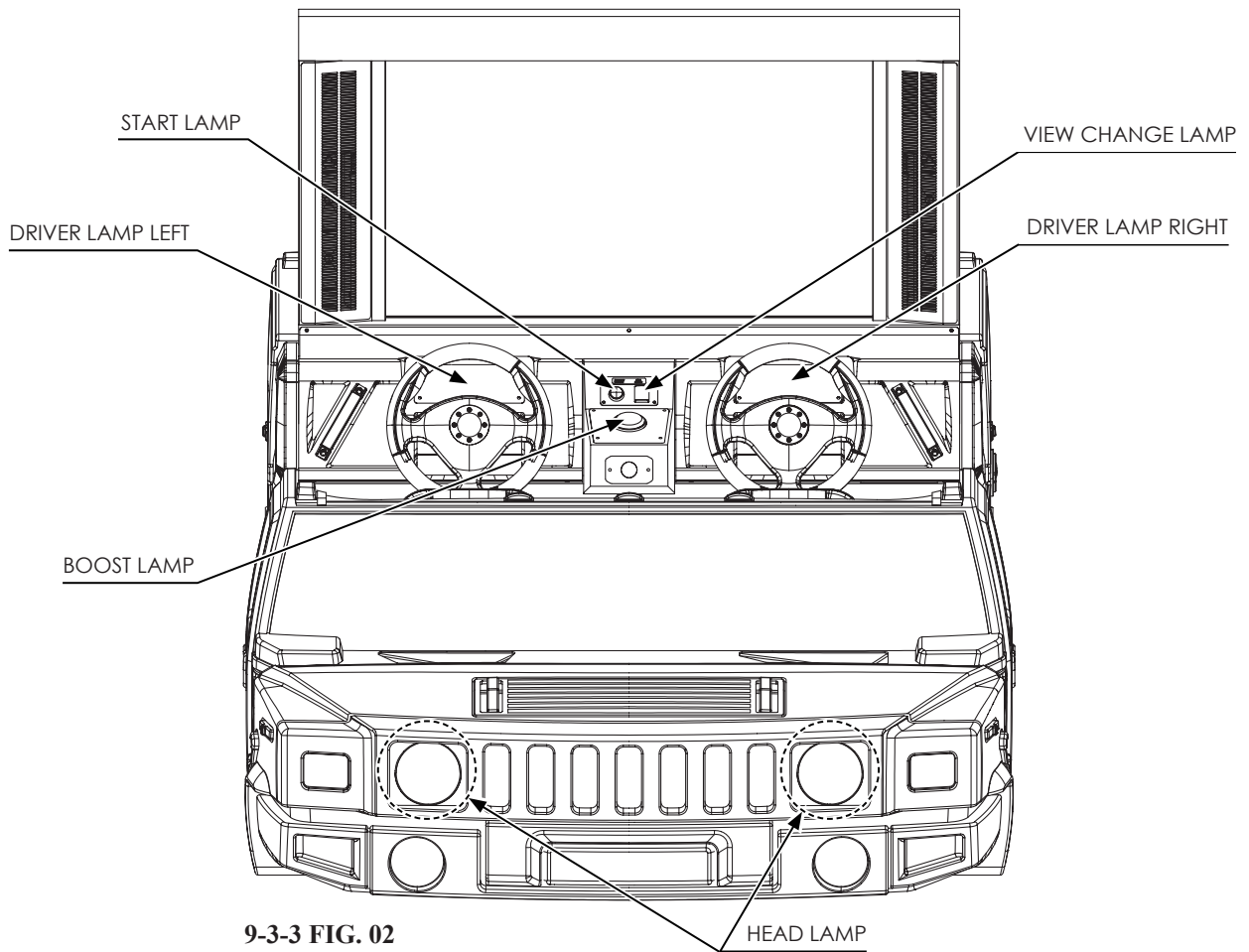


9-3-3 FIG. 01

- 2 Each item is explained below.

When you select BOOST LOCK and press the TEST Button, BOOST LOCK turns ON and the Boost Lock solenoid operates so that when the BOOST button is pressed it remains pressed-down. Pressing the TEST Button again turns BOOST LOCK OFF and the button will pop up.

As for all other options, press the TEST Button on an item to change the condition to ON, turning on its indicator light. Press the TEST Button again to change the condition to OFF, turning off the light.



9-3-3 FIG. 02

-
- 3 Press the SERVICE Button and move the cursor to select the item (output device).
-
- 4 When all checks are completed, select EXIT and press the TEST Button. The GAME TEST MODE screen reappears.

9-3-4 GAME ASSIGNMENTS

STOP IMPORTANT

- Ensure that you set up each cabinet correctly. Incorrect settings can lead to malfunctions.
- Players using cabinets with lower LINK ID numbers start further to the left in “Versus Mode.” When positioning cabinets, ensure that you arrange them so that the LINK ID numbers increase from left to right.
- When LINK ID setting has been changed, be sure to exit the Test Mode and restore the power after the LINDBERGH logo is displayed.

All settings such as level of game difficulty are adjusted.

Setting changes do not become effective until EXIT has been selected on the GAME TEST MODE screen. After a setting has been changed, be sure to always exit the GAME TEST MODE.

- 1 On the GAME TEST MODE screen, select GAME ASSIGNMENTS and press the TEST Button. The GAME ASSIGNMENTS screen appears.

GAME ASSIGNMENTS	
DIFFICULTY	NORMAL
ADVERTISE SOUND	ON
SPEEDOMETER	KILO
CABINET MOTION	3
TOTAL MACHINE	1
LINK ID	1
CABINET CAR COLOR	YELLOW
2 DRIVERS CREDIT	CHARGE
->EXIT	

SELECT WITH SERVICE BUTTON
AND PRESS TEST BUTTON

9-3-4 FIG. 01

2 Each item is explained below.

DIFFICULTY	<p>Set level of difficulty to one of 6 levels. VERY EASY is the easiest, and VERY HARD is the most difficult. KIDS is a short race mode. (Default setting: NORMAL)</p> <p><i>NOTES:</i></p> <ul style="list-style-type: none"> - <i>Can only be set on cabinet with LINK ID 1, and other communicating cabinets also set accordingly.</i> - <i>When changing from KIDS to another setting or changing to KIDS from another setting, BACKUP DATA CLEAR must be performed first. Also perform BACKUP DATA CLEAR on other communicating cabinets.</i>
ADVERTISE SOUND	Set sound on the advertising screen. (Default setting: ON)
SPEEDOMETER	Set the speedometer to display speed in kilometers per hour (KILO) or miles per hour (MILE). (Default setting: KILO)
CABINET MOTION	<p>Choose between 4 levels of seat motion during the game, OFF→1→2→3. Level 3 moves the most and Level 1 moves the least. OFF means that the seat will not move at all. (Default setting: 3)</p> <p><i>NOTE: When the game is being operated under normal conditions, select a setting other than OFF.</i></p>
TOTAL MACHINE	<p>Set how many cabinets can play. Set a number 1, 2, 3 or 4 depending on the total number of units connected. (Default setting: 1)</p> <p>Set the cabinet to 1 if it is not for Versus Mode.</p>
LINK ID	<p>Assign an ID to the cabinet. Choose from 1, 2, 3 or 4. (Default setting: 1). Set the LINK ID numbers so that all communicating cabinets have different numbers. When positioning cabinets, ensure that you arrange them so that the LINK ID numbers increase from left to right.</p> <p><i>NOTE: When LINK ID setting has been changed, be sure to exit the Test Mode and restore the power after the LINDBERGH logo is displayed.</i></p>
CABINET CAR COLOR	You can select YELLOW, GREEN, ORANGE, or BLUE as the color of your car shown on the game screen. Set the color for the cabinet. (Default setting: YELLOW)
2 DRIVERS CREDIT	<p>Set additional credits when 2 drivers is selected as the number of drivers. Set to CHARGE to make additional credits necessary, and set to FREE to make additional credits unnecessary. (Default setting: CHARGE)</p> <p>If set to CHARGE, the setting value in SYSTEM TEST MODE→COIN ASSIGNMENTS→GAME COST SETTING→</p> <p>* CREDIT(S) TO 2 DRIVERS is the number of additional credits.</p>

3 Use the SERVICE Button to move the cursor to the desired test item. Press the TEST Button to select the test item.

4 When all setting adjustments are completed, select EXIT and press the TEST Button. The GAME TEST MODE screen reappears.

9-3-5 STEERING FORCE FEEDBACK

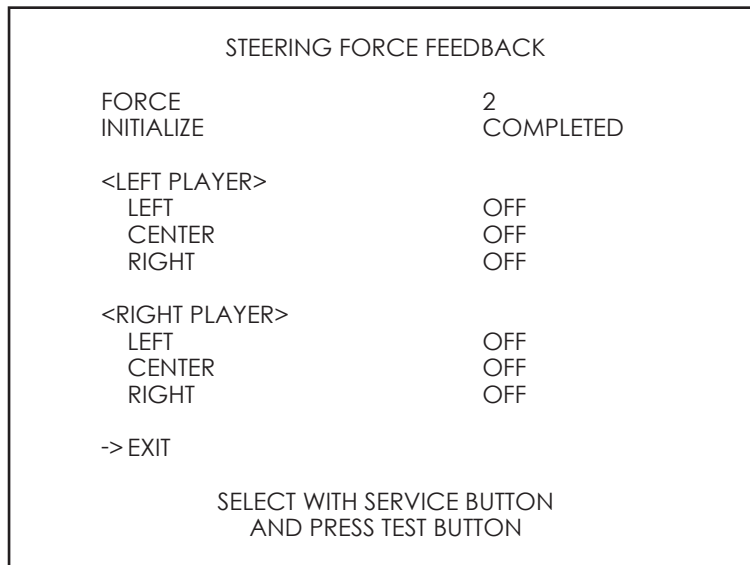
This screen is for setting the strength of the steering wheel’s force feedback and checking the operation of the steering wheel motor.

Periodically use this screen to check that the steering wheel motor is operating normally.

Changes to the settings do not become effective until EXIT has been selected on the GAME TEST MODE screen.

After a setting has been changed, be sure to always exit the GAME TEST MODE.

- 1 On the GAME TEST MODE screen, select STEERING FORCE FEEDBACK and press the TEST Button. The STEERING FORCE FEEDBACK screen appears.



9-3-5 FIG. 01

- 2 Each item is explained below.

FORCE	The force on the steering wheel can be set at 4 different levels. 1 is the weakest and the strength increases towards 4. (Default setting: 2)
INITIALIZE	Performs initialization operation for steering wheel motor. When selected, “INITIALIZING” is displayed and the steering wheel moves automatically. Do not touch the steering wheel until “COMPLETED” is displayed and the steering wheel has completely stopped moving. If “INCOMPLETE” is displayed, carry out a steering wheel motor rotation test after carrying out the initialization operation.
<LEFT PLAYER> <RIGHT PLAYER>	The motor moves each seat’s steering wheel allowing its operation to be checked. Turn the steering wheel left and right when the screen indicates LEFT and RIGHT. When CENTER is displayed, the steering wheel will return to the center.

- 3 Use the SERVICE Button to move the cursor to the desired test item. Press the TEST Button to select the test item.

- 4 When all setting adjustments are completed, select EXIT and press the TEST Button. The GAME TEST MODE screen reappears.

9-3-6 ACTUATOR TEST

⚠ WARNING

During this test, the ride (car body) will move in accordance with the controls. Ensure that persons other than the conductor of the test do not inadvertently approach the ride while the test is in progress. Also, the conductor of the test must carry out the test while sitting in the seat. Failing to follow this precaution could result in major or minor collisions or falls.

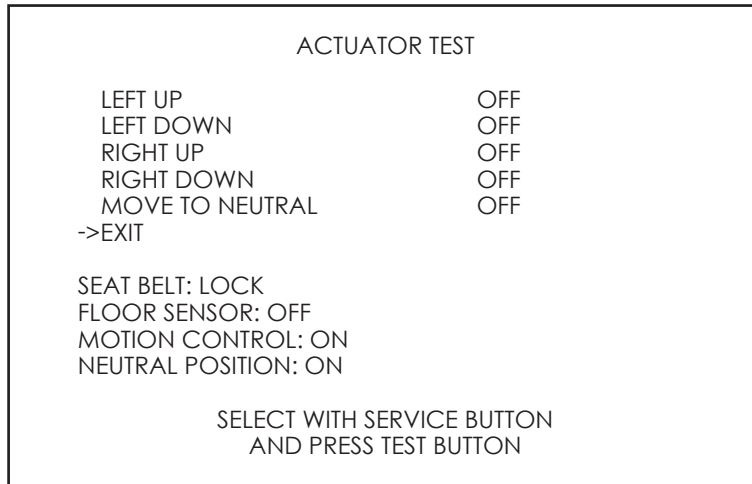
This screen is for checking the operation of the ACTUATOR. Periodically use this screen to check that the ACTUATOR is operating normally.

However, if you press the TEST Button and switch to Test Mode before the LINDBERGH and the motion control board are communicating normally, the ACTUATOR TEST cannot be carried out. In such case, it will be displayed in gray as “—” or “UNKNOWN,” so carry out the test again once the game has started.

Also, if CABINET MOTION in GAME ASSIGNMENTS is OFF, it will be displayed in gray as “—” or “UNKNOWN.”

Also, when the ride (ACTUATOR) initialization operation is incomplete, the test cannot be carried out even if ACTUATOR TEST is entered. Exit Test Mode and carry out the test again after the ride has moved into the neutral position.

- 1** On the GAME TEST MODE screen, select ACTUATOR TEST and press the TEST Button. The ACTUATOR TEST screen appears.



9-3-6 FIG. 01

- 2** Fasten the seat belts in both seats and check that the floor sensors are not obstructed. If a seat belt in either of the two seats is unfastened or if any of the 6 floor sensors are triggered, the ACTUATOR operation test cannot be carried out.

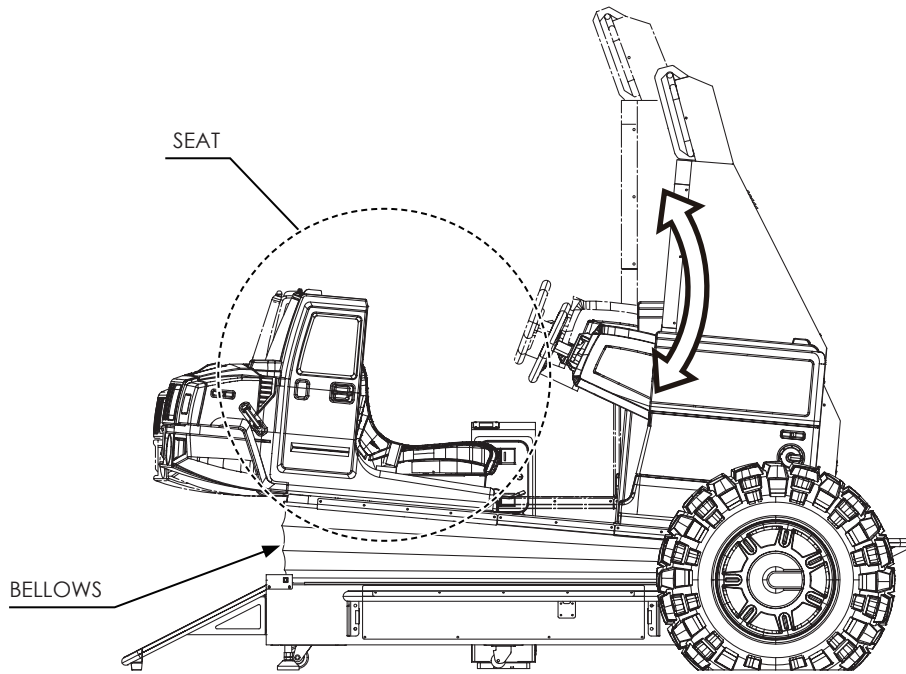
- 3** Each item is explained below.

● **ACTUATOR Test Operations**

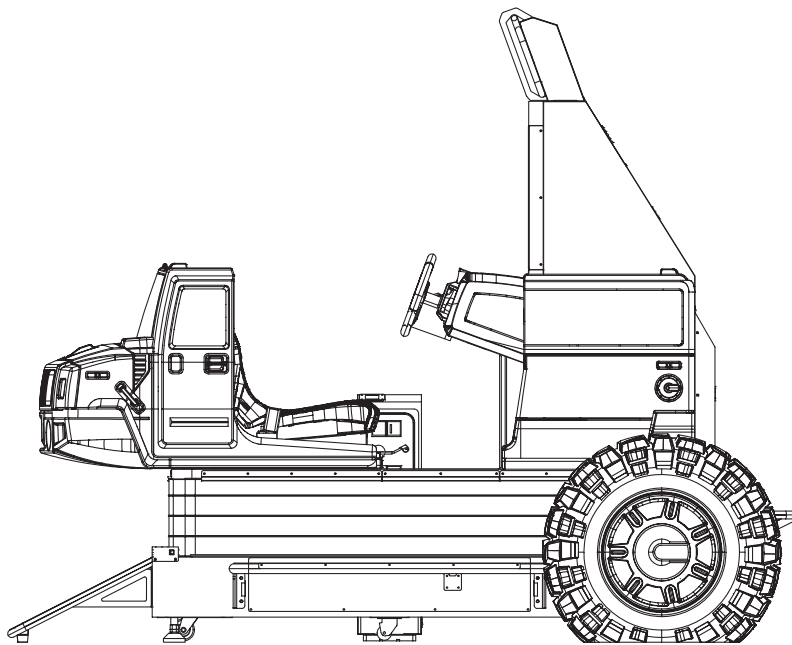
LEFT UP	While the TEST Button is pressed, “ON” is displayed and the left side of the ride goes up.
LEFT DOWN	While the TEST Button is pressed, “ON” is displayed and the left side of the ride goes down.
RIGHT UP	While the TEST Button is pressed, “ON” is displayed and the right side of the ride goes up.
RIGHT DOWN	While the TEST Button is pressed, “ON” is displayed and the right side of the ride goes down.
MOVE TO NEUTRAL	When the TEST Button is pressed, “ON” is displayed and the ride returns to the neutral position.

MOVE TO NEUTRAL:

The front of the ride will move up and down to be level on the left and right, and, with the seat at a level position, the front and back of the bellows will stop at the same height.



9-3-6 FIG. 02

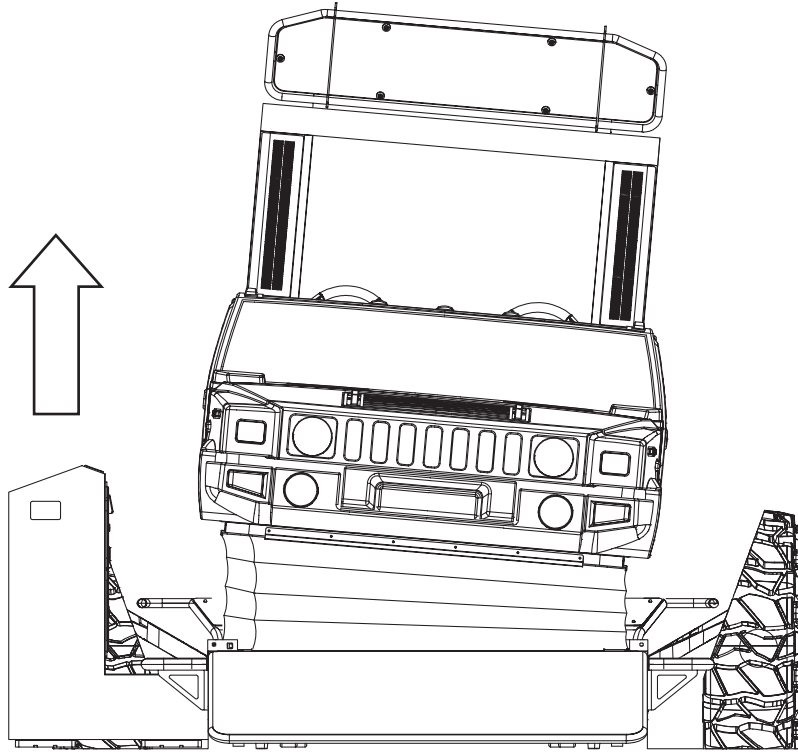


9-3-6 FIG. 03

LEFT UP:

The left side of the ride goes up.

NOTE: RIGHT UP makes the right side of the ride go up, opposite to that shown in the figure.

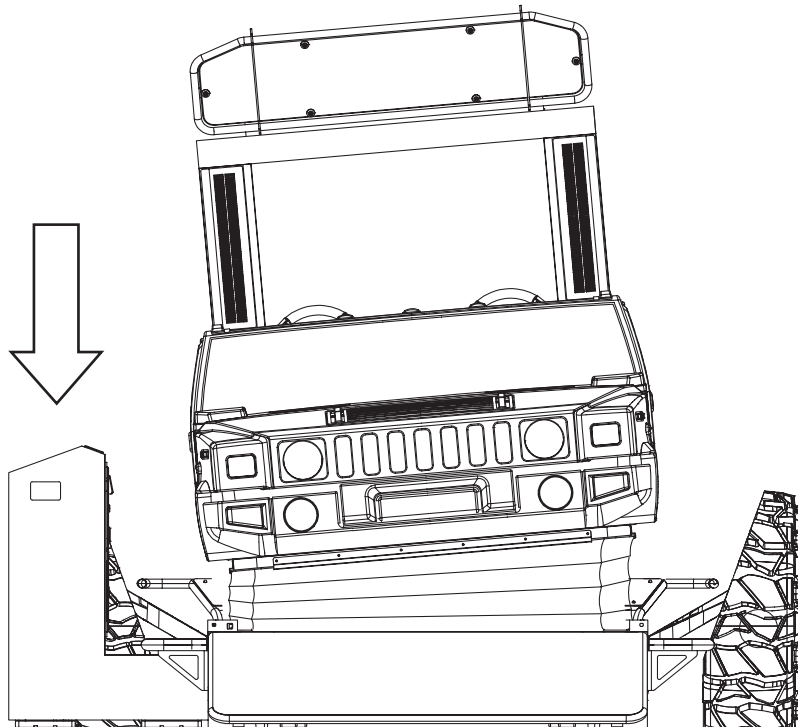


9-3-6 FIG. 04

LEFT DOWN:

The left side of the ride goes down.

NOTE: RIGHT DOWN makes the right side of the ride go down, opposite to that shown in the figure.



9-3-6 FIG. 05

● ACTUATOR Status

SEAT BELT	If a seat belt in either of the two seats is unfastened, “UNLOCK” is displayed. If both seat belts are fastened, “LOCK” is displayed. While “UNLOCK” is displayed, the ACTUATOR operation test cannot be carried out.
FLOOR SENSOR	If any of the 6 floor sensors are triggered, “ON” is displayed. If all the floor sensors are not triggered, “OFF” is displayed. While “ON” is displayed, the ACTUATOR operation test cannot be carried out.
MOTION CONTROL	If CABINET MOTION in GAME ASSIGNMENTS is set to OFF, “OFF” is displayed on the ACTUATOR TEST screen. If CABINET MOTION is set to anything other than OFF, “ON” is displayed on the ACTUATOR TEST screen. If an error has occurred, error information is displayed. If “INITIALIZE ERROR” is displayed, exit Test Mode and carry out the test again after confirming that the ride has moved into the neutral position.
NEUTRAL POSITION	If the right and left ACTUATORS are in the neutral position, “ON” is displayed. If the right and left ACTUATORS are not in the neutral position, “OFF” is displayed and EXIT cannot be selected.

4 Use the SERVICE Button to move the cursor to the desired test item. Press the TEST Button to select the test item.

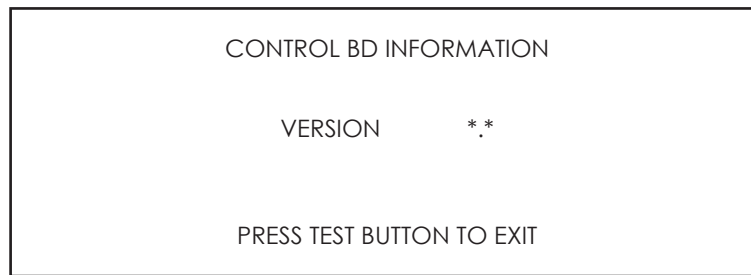
5 When all checks are completed, select MOVE TO NEUTRAL and press the TEST Button. The ride will move into the neutral position.

6 After confirming that the ride has moved to the neutral position, select EXIT and press the TEST Button. The GAME TEST MODE screen reappears.

9-3-7 CONTROL BD INFORMATION (Motion Control Board Information)

This screen is for checking the program version of the motion control board. If CABINET MOTION in GAME ASSIGNMENTS is set to OFF, “COMMUNICATION OFF” is displayed. If communication between the LINDBERGH and the Motion Control Board is lost due to some sort of failure, “COMMUNICATION ERROR” is displayed. Check the connection between the LINDBERGH and the motion control board.

- 1 On the GAME TEST MODE screen, select CONTROL BD INFORMATION and press the TEST Button. The CONTROL BD INFORMATION screen appears.



9-3-7 FIG. 01

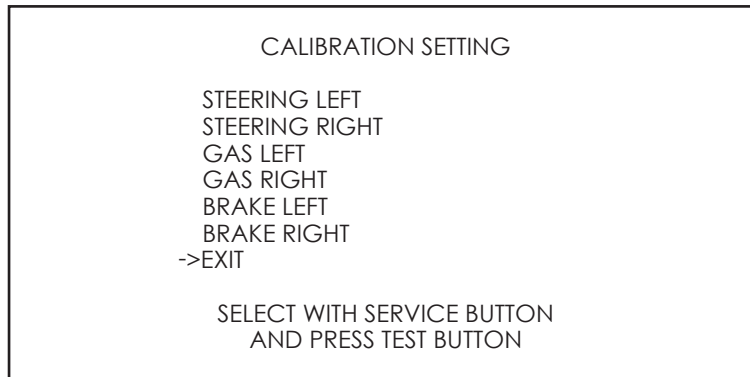
- 2 When check is completed, press the TEST Button. The GAME TEST MODE screen reappears.

9-3-8 CALIBRATION SETTING

This screen is for adjusting and confirming the status of the left/right steering wheels, left/right gas pedals, and left/right brake pedals. Periodically use this screen to confirm that each setting is appropriate. Also, when replacing the volume, use this screen to make adjustments.

Setting changes do not become effective until EXIT has been selected on the GAME TEST MODE screen. After a setting has been changed, be sure to always exit the GAME TEST MODE.

- 1 On the GAME TEST MODE screen, select CALIBRATION SETTING and press the TEST Button. The CALIBRATION SETTING screen appears.



9-3-8 FIG. 01

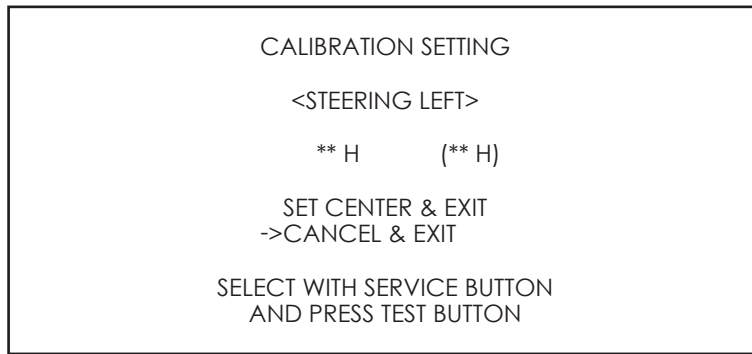
- 2 Each item is explained below.

STEERING LEFT/RIGHT	Sets the center position for both the right and left steering wheel.
GAS LEFT/RIGHT	Sets the maximum and minimum values for both the right and left gas pedal.
BRAKE LEFT/RIGHT	Sets the maximum and minimum values for both the right and left brake pedal.

- 3 Use the SERVICE Button to move the cursor to the desired test item. Press the TEST Button to select the test item. The settings screen for the selected item appears.

- 4 When all checks are completed, select EXIT and press the TEST Button. The GAME TEST MODE screen reappears.

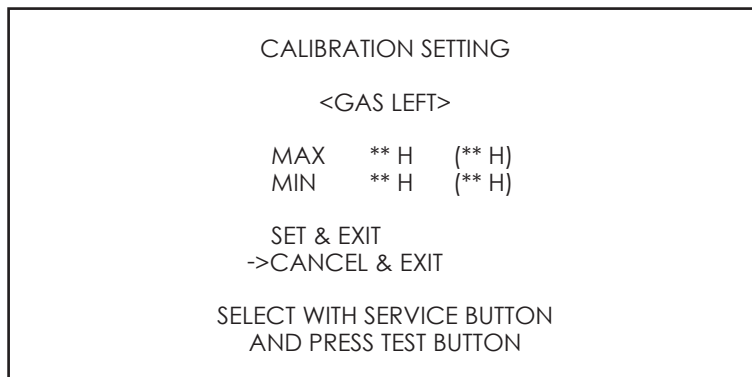
STEERING LEFT/RIGHT (Steering Wheel Calibration Setting)



9-3-8 FIG. 02

- 1 Hold the steering wheel to be set in the center position. The center number (hexadecimal) will change. The number inside the brackets () is the currently recorded setting value.
- 2 Select SET CENTER & EXIT and press the TEST Button to set the new value and return to the CALIBRATION SETTING screen.
- 3 Select CANCEL & EXIT and press the TEST Button to return to the CALIBRATION SETTING screen without saving the new setting.

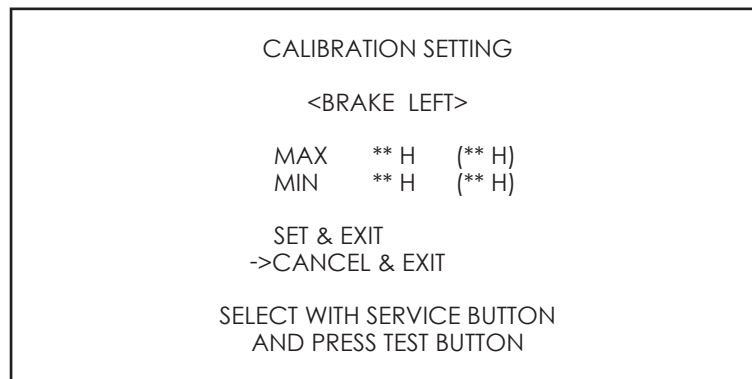
GAS LEFT/RIGHT (Gas Pedal Calibration Setting)



9-3-8 FIG. 03

- 1 Press completely the gas pedal you are setting and then release it. The center number (hexadecimal) will change. MAX is the value when the pedal was pressed completely, and MIN is the value when the pedal was released. The number inside the brackets () is the currently recorded setting value.
- 2 Select SET & EXIT and press the TEST Button to set the new value and return to the CALIBRATION SETTING screen.
- 3 Select CANCEL & EXIT and press the TEST Button to return to the CALIBRATION SETTING screen without saving the new setting.

BRAKE LEFT/RIGHT (Brake Pedal Calibration Setting)



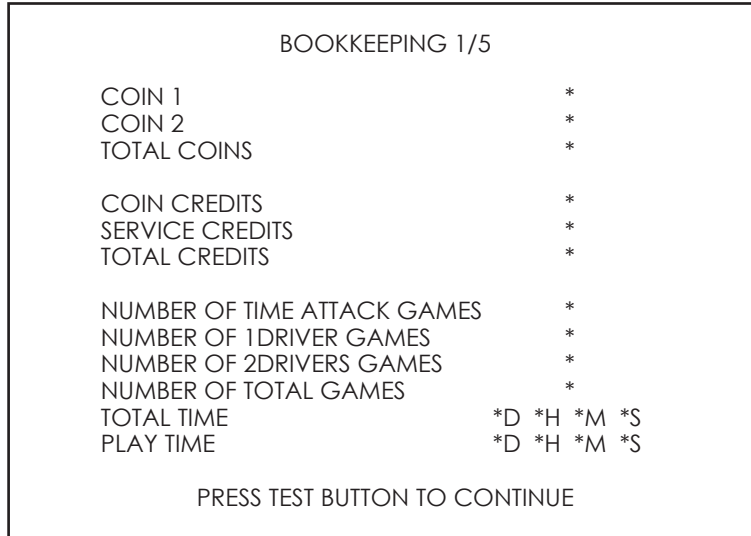
9-3-8 FIG. 04

- 1** Press completely the brake pedal you are setting and then release it. The center number (hexadecimal) will change. MAX is the value when the pedal was pressed as hard as possible, and MIN is the value when the pedal was released. The number inside the brackets () is the currently recorded setting value.
- 2** Select SET & EXIT and press the TEST Button to set the new value and return to the CALIBRATION SETTING screen.
- 3** Select CANCEL & EXIT and press the TEST Button to return to the CALIBRATION SETTING screen without saving the new setting.

9-3-9 BOOKKEEPING

Each game record can be viewed.

- 1 On the GAME TEST MODE screen, select BOOKKEEPING and press the TEST Button. The BOOKKEEPING 1/5 screen appears.

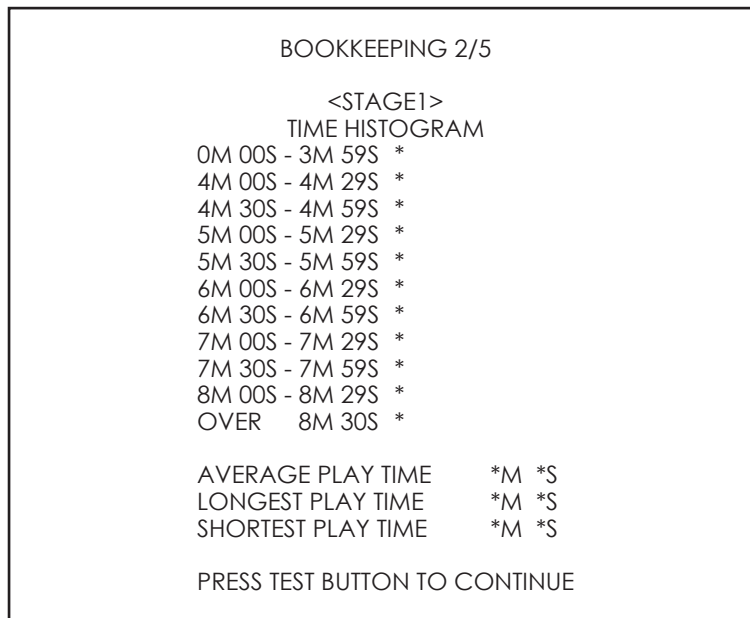


9-3-9 FIG. 01

- 2 Each item is explained below.

COIN 1	Number of coins inserted in coin chute 1.
COIN 2	Number of coins inserted in coin chute 2.
TOTAL COINS	Total number of coins inserted in all coin chutes.
COIN CREDITS	Number of credits for coins inserted.
SERVICE CREDITS	Number of credits entered with the SERVICE Button.
TOTAL CREDITS	Total number of all credits.
NUMBER OF TIME ATTACK GAMES	Number of times played in Time Attack Mode.
NUMBER OF 1DRIVER GAMES	Number of times played in Race Mode with 1 driver.
NUMBER OF 2DRIVERS GAMES	Number of times played in Race Mode with 2 drivers (Driver Change).
NUMBER OF TOTAL GAMES	Total number of games played.
TOTAL TIME	Amount of time the cabinet has been in operation.
PLAY TIME	Amount of time game has been played.

- 3 Press the TEST Button to move to the next page.



9-3-9 FIG. 02

4 In “BOOKKEEPING 2/5” to “BOOKKEEPING 5/5” it is possible to see the distribution of play times, etc. for each course (STAGE). This should be used as a reference for setting the level of difficulty and other settings. The pages correspond to the courses as shown below.

Page title	Label at top of screen	Course name
BOOKKEEPING 2/5	<STAGE1>	BLUSTER CANYON
BOOKKEEPING 3/5	<STAGE2>	ISOLATED JUNGLE
BOOKKEEPING 4/5	<STAGE3>	CARIBOU VALLEY
BOOKKEEPING 5/5	<STAGE4>	INDUSTRIAL HILL

5 Each item is as shown below.

TIME HISTOGRAM	Displays the distribution of play times in 30 seconds intervals. Play times under 4 minutes are included in “0M 00S - 3M 59S”, and play times of 8.5 minutes and above are included in “OVER 8M 30S”.
AVERAGE PLAY TIME	Average play time for this course (STAGE).
LONGEST PLAY TIME	Longest amount of time game has been played on this course (STAGE).
SHORTEST PLAY TIME	Shortest amount of time game has been played on this course (STAGE).

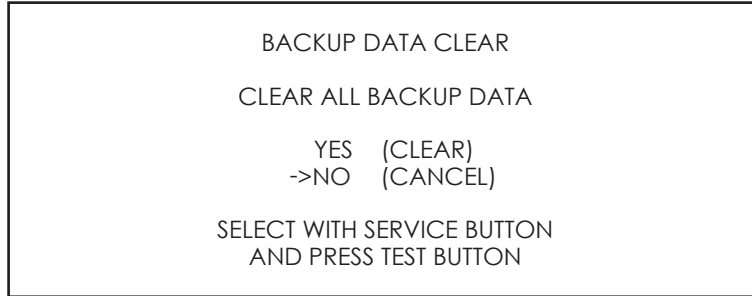
6 Press the TEST button to move to the next page.

7 When all checks are completed, press the TEST Button on the BOOKKEEPING 5/5 screen. The GAME TEST MODE screen reappears

9-3-10 BACKUP DATA CLEAR

Delete all game records (game scores and GAME TEST MODE; BOOKEEPING data).

- 1 On the GAME TEST MODE screen, select BACKUP DATA CLEAR and press the TEST Button. The BACKUP DATA CLEAR screen appears.



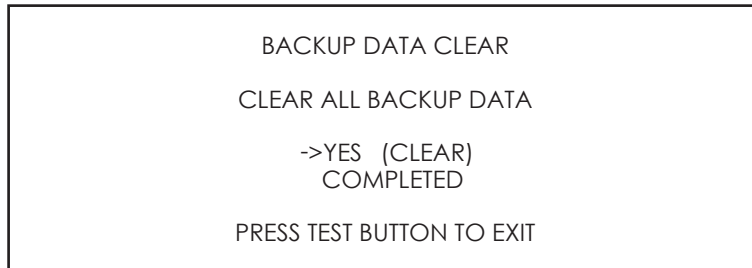
9-3-10 FIG. 01

- 2 Select item to either clear data or to cancel the function, and then confirm with the TEST Button.

YES (CLEAR)	All game records are cleared. After clearing, "COMPLETED" is displayed.
NO (CANCEL)	All game records are not cleared.

- 3 When YES (CLEAR) has been selected and the TEST Button pressed, all data is cleared. Then "COMPLETED" is displayed and press the TEST Button to return to the GAME TEST MODE screen.

Move the cursor to NO (CANCEL) and press the TEST Button to return to the GAME TEST MODE screen without clearing the data.



9-3-10 FIG. 02

10 LCD

STOP IMPORTANT

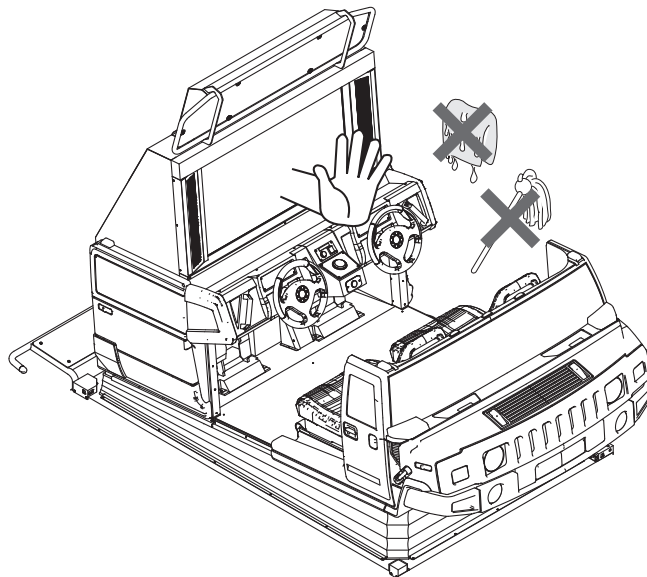
Do not make careless adjustments. Making the wrong adjustment to the settings could lead to problems that are not easily fixed. If you are unable to make the adjustments you desire, contact the office listed in this manual or the point of purchase.

10-1 CLEANING THE LCD

STOP IMPORTANT

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

Clean the LCD screen once a week.



10 FIG. 01

10-2 ADJUSTMENT PROCEDURE

STOP IMPORTANT

Since the LCD monitor is adjusted prior to leaving the factory, refrain from adjusting its settings unnecessarily. Misadjusting the settings can make repair difficult.

How to Access the Adjustment Board

Remove the 2 truss screws on the bottom right side of the control panel and open the monitor control plate by lowering the front part. The adjustment board is inside the monitor control plate. There are wires connected to the adjustment board. Do not remove the monitor control plate unless it is necessary.

TRUSS SCREW (2), black
M4 x 8

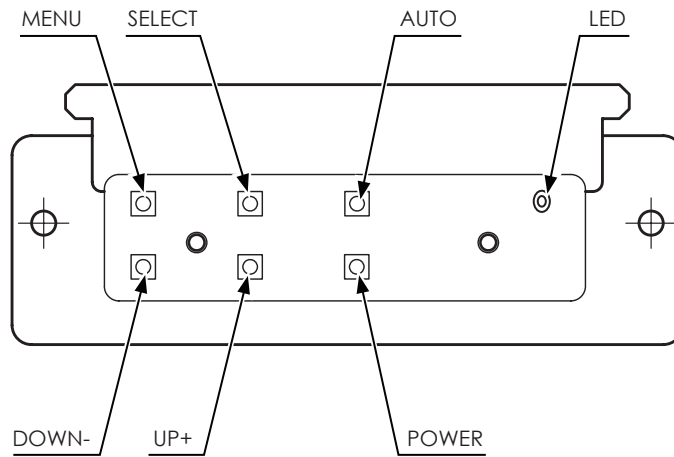


10-2 FIG. 01

ADJUSTMENT BOARD



10-2 FIG. 02



10-2 FIG. 03

The following buttons and LED are on the adjustment board:

AUTO	Performs an automatic adjustment.	
MENU	Shows the display adjustment menu or saves the settings and exits the adjustment menu.	
SELECT	Confirms the desired function on the display adjustment menu.	
DOWN/UP	Moves through the items on the display adjustment menu or adjusts the levels after selecting an item to adjust.	
POWER	Used to switch the LCD power between ON and STANDBY.	
LED	Shows the display status.	
	Green	Power is on.
	Red	Power is on STANDBY.

An explanation of how to adjust “Contrast” is provided below as a typical example.

- 1 Press the MENU button to display the display adjustment menu (OSD menu).
- 2 Press the UP and DOWN buttons to select “Contrast,” and press the SELECT button to confirm.
- 3 Press the AUTO button to perform an automatic adjustment. You can also press the UP and DOWN buttons to change the values manually.
- 4 Press the MENU button to save the current settings and exit the display adjustment menu (OSD menu).

11 STEERING WHEEL MECHANISM

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 shock or short circuit or present a risk of fire.
- Do not touch any parts that are not specified in these directions. Touching unspecified locations may lead to electric shock or cause short circuits.
- This work should be performed by site maintenance personnel or other skilled professionals. Work performed by non-technical personnel can cause a severe accident such as an electric shock.
- To ensure that there are no accidents during the work or subsequent operation of the unit, do not perform work that is not described in this manual. Work not described in this manual may require specific parts or professional expertise. If a procedure not given in this manual is required, request service from the office given in this manual or from the point of purchase.
- Exercise due caution in performing soldering procedures. If the soldering iron is handled carelessly, there could be fires or burns.
- Proceed very carefully when heating the thermal contraction tube. Careless operations can result in fires or burns.
- The motor parts may be hot immediately after a game has been completed, so allow some time to pass before beginning work on the parts.
- Stand back from the cabinet when restoring power after maintenance has been completed. The ride and steering wheel will automatically undergo initialization operation when power is restored. Failure to observe this precaution could result in a collision or fall.
- Carefully read the “Usage Precautions” that come with the grease used in periodic maintenance work and make sure that you understand them. Improper use can lead to accidents.

CAUTION

- Be careful when handling the parts of the steering wheel mechanism. Avoid damaging, deforming, or losing them. The loss of even one part will adversely affect the operation of the steering wheel, and may cause player injury. It could also result in fatal breakdown or faulty operations.
- Be careful not to get fingers caught when removing or attaching doors or adjusting the VR bracket.
- The handle mechanism has mechanical parts such as gears and timing belts. Performing maintenance also requires a person to bend over the side of the cockpit. Careless work methods can result in injuries such as back and shoulder injuries, or fingers being caught.

STOP IMPORTANT

After adjusting or replacing the volume, always go to the CALIBRATION SETTING screen in Game Test Mode and set the mobility value.

When the operability of the steering wheel is poor, or when there is no effect from adjusting the volume in Test Mode, most likely either the volume gears are misaligned or the volume has broken down. Following the procedures described below, adjust the alignment of the gears, or replace the volume.

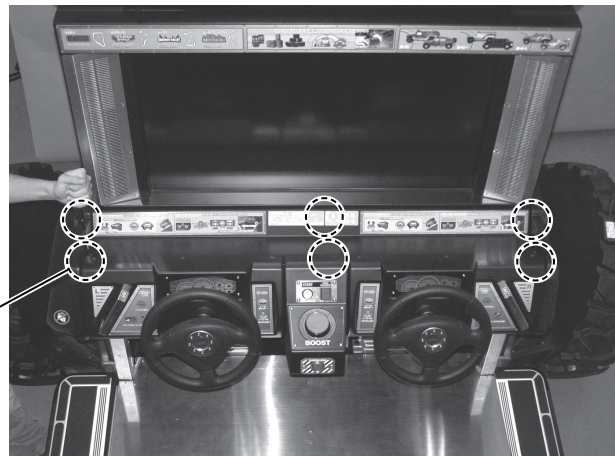
This product is designed such that the volume will not be damaged when the steering wheel is turned completely to the left or right, because it will be within the range of the volume's axis of revolution. Fasten the volume so the gears are aligned appropriately when the steering wheel is in the center position (i.e. straight ahead) with the volume axis in the illustrated direction (see 11-1 FIG. 03).

11-1 VOLUME ADJUSTMENT AND REPLACEMENT

Adjustment Method

- 1 Turn off the power switch of the cabinet.
- 2 Remove the 6 truss screws and take off the steering wheel motor cover.

TRUSS SCREW (2), black
M4 x 8, Only 3 flat washers are used on the player side

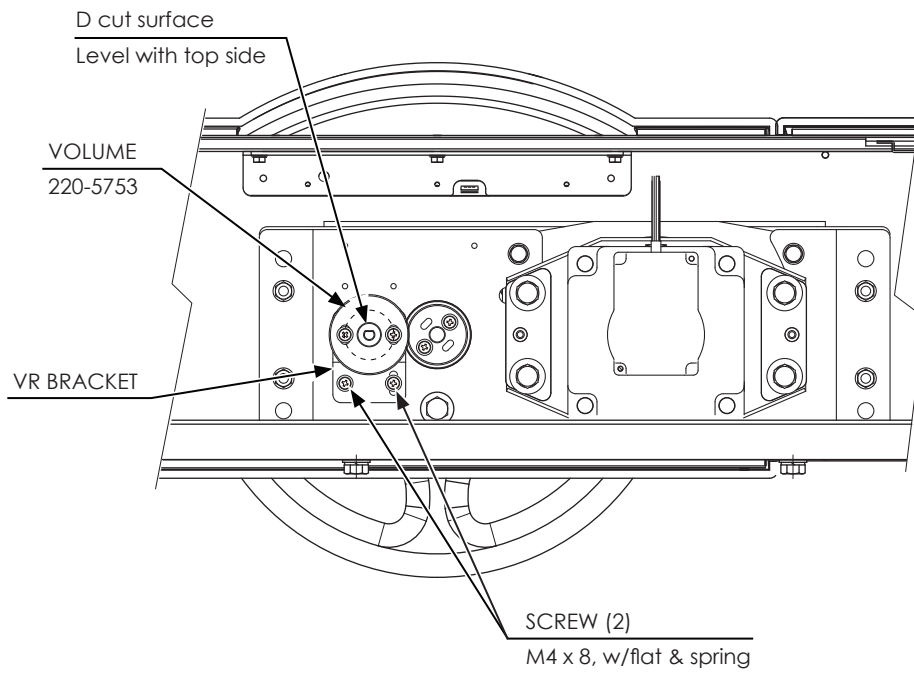


11-1 FIG. 01



11-1 FIG. 02

- 3 Loosen the 2 screws that fasten the VR bracket, and undo the gear alignment. Only loosen the 2 screws.
- 4 Align the gears so that the volume axis is as depicted below (See 11-1 FIG. 03), with the steering wheel in center position (i.e. straight ahead).
- 5 Tighten the 2 VR bracket fastening screws.
- 6 Confirm that the gears rotate smoothly by operating the steering wheel.
- 7 On the CALIBRATION SETTING Screen in the Game Test Mode, set the volume values. (See 9-3-8.)



11-1 FIG. 03

- 8 Confirm that the figures change smoothly by operating the steering wheel.

Replacement Method

When replacing the volume, prepare the new volume and 3 thermal contraction tubes (PART No. 310-5029-F20). Use the wiring to be soldered to the volume as is.

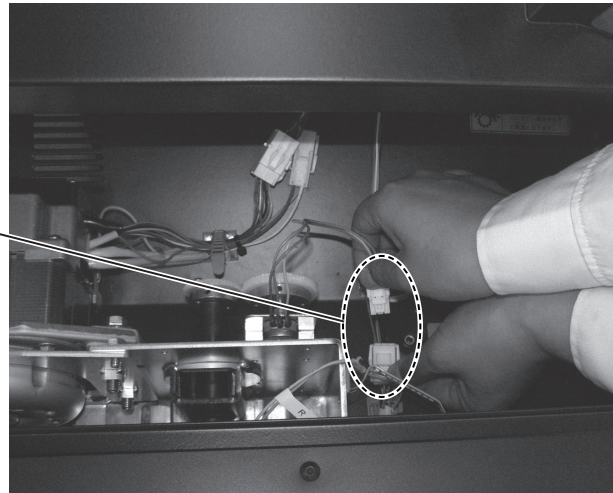
For replacement, the following tools are required.

- Philips screwdriver for M4 screws
- Allen wrench measuring a distance of 1.5 mm to opposite side
- Adjustable spanner measuring a distance of 11 mm to 12 mm to opposite side
- Nippers
- Cutter
- Soldering iron
- Industrial dryer
- Solder

1 Referring to the adjustment steps, remove the steering wheel motor cover.

2 Pull out the wiring connector from the volume. Undo the cord clamp fastening the wiring in place.

Disconnect the connector



11-1 FIG. 04

3 Remove the 2 screws that fasten the VR bracket, and remove the VR bracket together with the volume. The screws have flat and spring washers attached.

4 Loosen the 2 hexagon socket screws from the gear holder, and pull out the gear holder from the volume axis.

5 Remove the nut that fastens the VR bracket, and remove the volume from the VR bracket.

6 With nippers or a cutter, remove the thermal contraction tube that covers the solder weld part. Use a soldering iron to melt the solder weld, and remove the wiring from the volume.

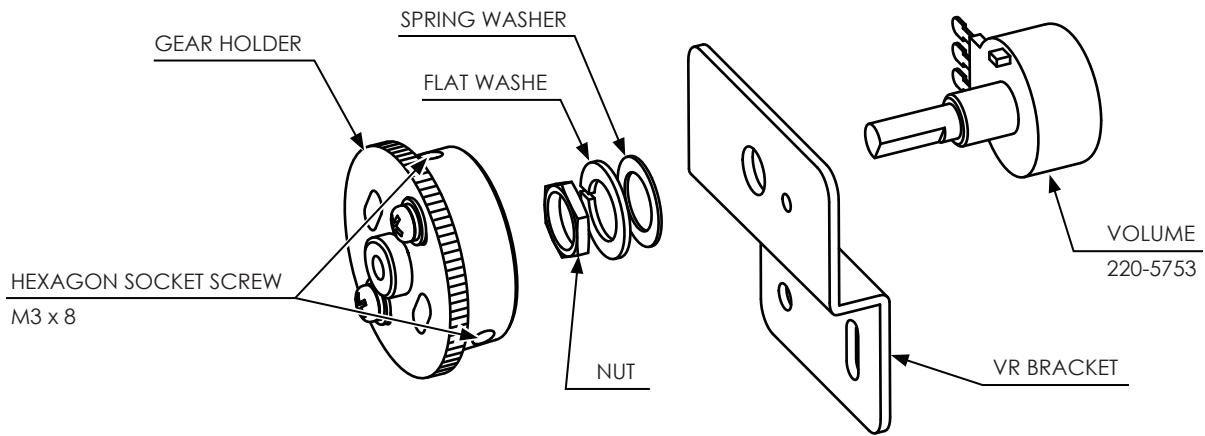
7 Run each wire of the wiring through a thermal contraction tube.

8 Solder each wire to the terminals of the new volume. Be sure to verify the wire for soldering and its terminal using the wiring diagram.

9 Cover the solder weld part with thermal contraction tubing, and heat with the industrial dryer, adhering the thermal contraction tubing to the solder weld part.

10 Attach the VR bracket and gear holder to the volume.

- 11 Align the gears so that the volume axis's D cut surface is level with the top side, while the steering wheel is in center position (i.e. straight ahead). Fasten the VR bracket with 2 screws.
- 12 Confirm that the gears rotate smoothly by operating the steering wheel.
- 13 Connect the connectors. Fasten the wiring with a cord clamp so that it does not get caught in the gears or other parts.
- 14 Turn on the power. Take proper precautions since the initialization operation will begin.
- 15 On the CALIBRATION SETTING Screen in the Game Test Mode, set the volume figures. (See 9-3-8.)



11-1 FIG. 05

11-2 GREASING

STOP IMPORTANT

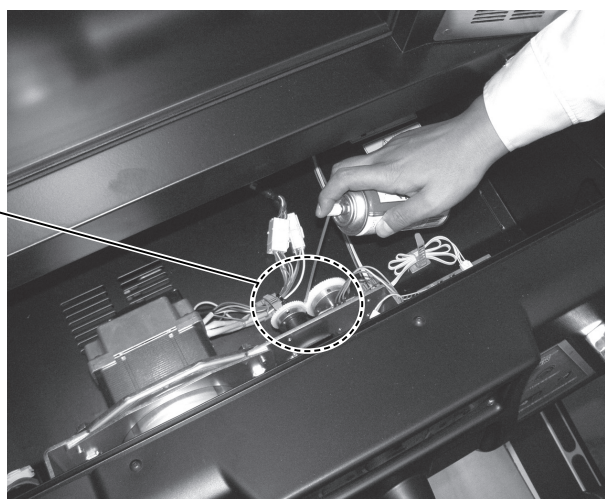
- Be sure to use the designated grease. Using undesignated grease can cause parts damage.
- Do not apply grease to locations other than as specified. Doing so may create a risk of operational problems and deterioration of parts.
- The designated periods for greasing serve only as a guide. Whenever there are squeaks or other anomalies, apply grease at designated locations.

Grease the parts listed below once every 3 months.
Use GREASE MATE (PART No. 090-0066) as spray grease.

1 Remove the steering wheel motor cover. (See “11-1 Volume Adjustment and Replacement.”)

2 Apply grease to the area shown in the figure.

Gear alignment area



11-2 FIG. 01

12 ACCELERATOR & BRAKE

12

ACCELERATOR & BRAKE

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. However, the unit must be switched on when using test mode. Do not touch any part of the unit except those areas indicated.
- Use care so as not to damage wirings. Damaged wiring can cause electric shock or short circuit.
- This work should be performed by the Location's Maintenance Man or Serviceman. Performing work by non-technical personnel can cause electric shock hazard.
- To prevent accidents while working or while operating the product after it has been installed, be sure not to conduct any procedures other than those given in this manual. There are cases in which procedures not covered in this manual require special tools and skills. If a procedure not given in this manual is required, request service from the office given in this manual or from the point of purchase.
- Carefully read the "Usage Precautions" that come with the grease used in periodic maintenance work and make sure that you understand them. Improper use can lead to accidents.

CAUTION

Do not touch the steering wheel when switching the unit on. The steering wheel undergoes automatic initialization immediately after the unit is switched on.

IMPORTANT

After replacing or adjusting the volume, always set the volume's movement values at the CALIBRATION SETTING Screen in Test Mode. (See 9-3-8.)

When the accelerator and brake pedal do not operate properly, either the volume attachment position must be adjusted, or the volume must be replaced. Also, the gear alignment position and spring should be greased once every 3 months.

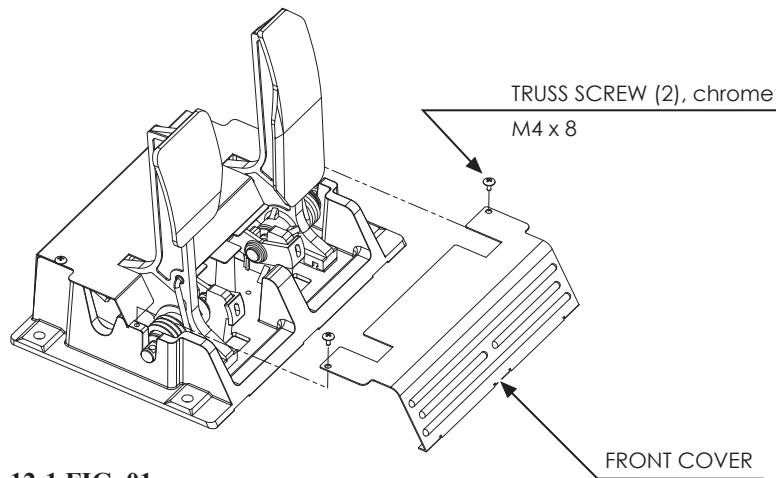
12-1 VOLUME ADJUSTMENT AND REPLACEMENT

The appropriate value for acceleration volume is under 30H when released and over C0H when stepped on. The appropriate value for brake volume is under 35H when released and over D0H when stepped on. Check Volume values in the TEST mode.

Since work is performed inside the energized cabinet, be very careful so as not to touch undesigned places. Touching places not specified can cause electric shock or short circuit. The following tools are required for the operations below: Phillips screwdrivers for M4 and M5.

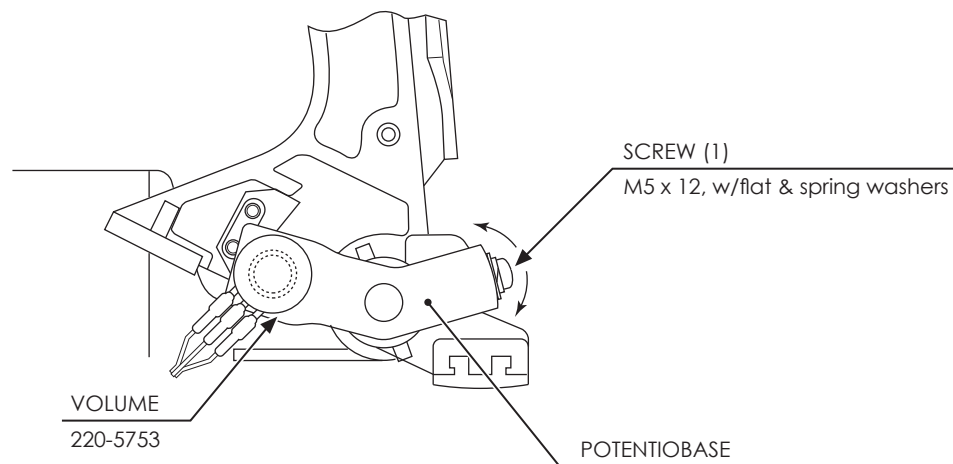
Adjustment Method

- 1 Remove 2 truss screws, and remove the front cover of the accelerator and brake.



12-1 FIG. 01

- 2 Loosen the screw that secures the potentiobase, and adjust the volume values by moving the base.

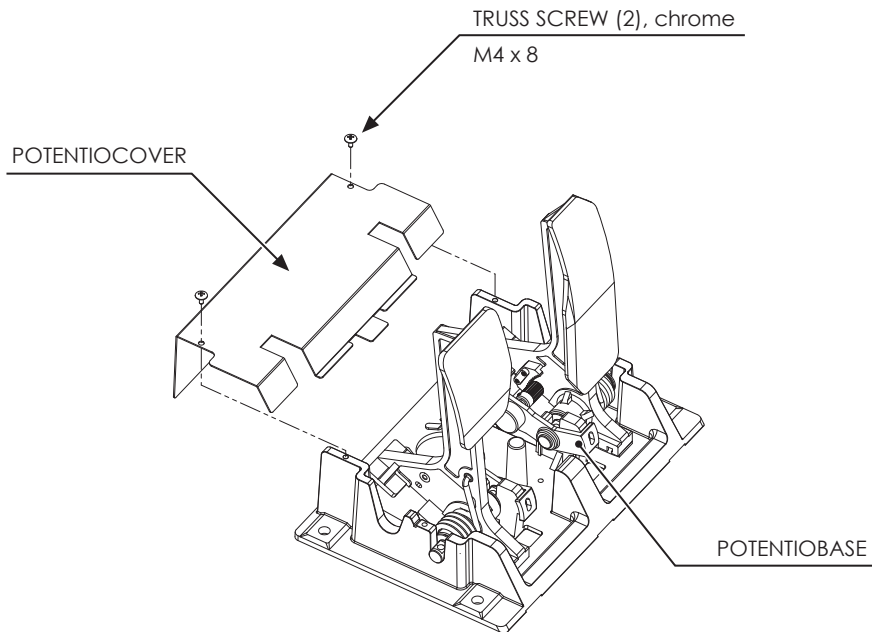


12-1 FIG. 02

- 3 Fasten the potentiobase.
- 4 On the CALIBRATION SETTING Screen in the Game Test Mode, set the volume values. (See 9-3-8.)
- 5 Confirm that the values change smoothly by operating the pedal.

Replacement Method

- 1 Turn off the power switch of the cabinet.
- 2 Remove 2 screws, and remove the potentiocover.

**12-1 FIG. 03**

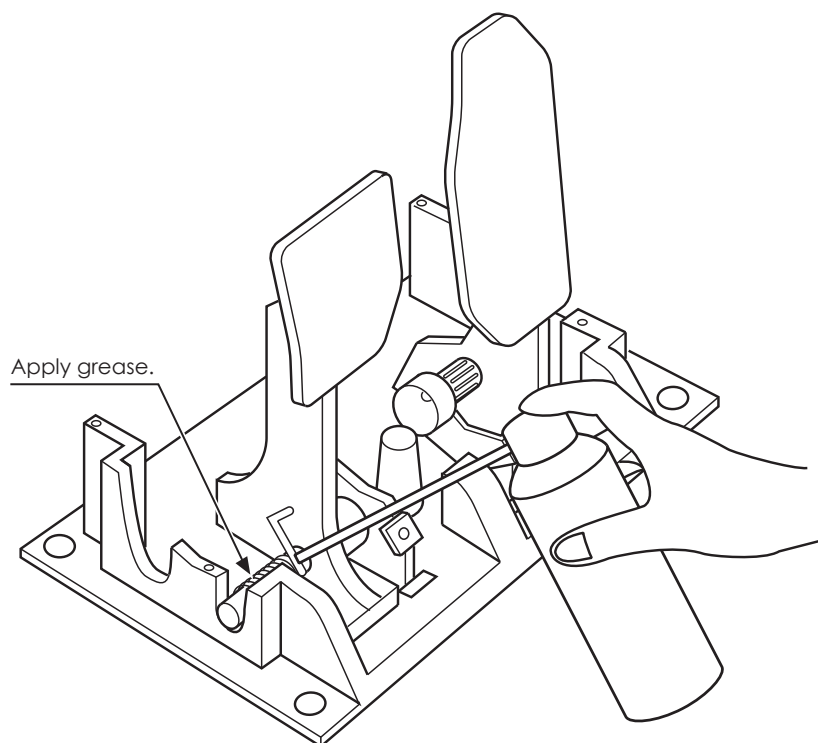
- 3 Undo the connector of the volume to be replaced.
- 4 Remove the screw that fastens the potentiobase. (See 12-1 FIG. 02.)
- 5 With the volume still attached, remove the potentiobase. (See 12-1 FIG. 03.)
- 6 Remove the base and the gears, and replace the volume.
- 7 After replacement, set the volume as described in the “Adjustment Method” section above. (See 9-3-8.)
- 8 After adjusting the settings, confirm that the values change smoothly by operating the pedal.

12-2 GREASING

STOP IMPORTANT

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

Grease the spring and gear alignment area once every 3 months.
Use GREASE MATE (PART No. 090-0066) as spray grease.



12-2 FIG. 01

13 GREASING THE RIDE MECHANISMS

13

GREASING THE RIDE MECHANISMS

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 shock or short circuit or present a risk of fire.
- Do not touch any parts that are not specified in these directions. Touching unspecified locations may lead to electric shock or cause short circuits.
- This work should be performed by site maintenance personnel or other skilled professionals. Work performed by non-technical personnel can cause a severe accident such as an electric shock.
- To prevent accidents while working or while operating the product after it has been installed, be sure not to conduct any procedures other than those given in this manual. There are cases in which procedures not covered in this manual require special tools and skills. If a procedure not given in this manual is required, request service from the office given in this manual or from the point of purchase.
- Stand back from the cabinet when restoring power after maintenance has been completed. The ride and steering wheel will automatically undergo initialization operation when power is restored. Failure to observe this precaution could result in a collision or fall.
- Do not carelessly touch the ride mechanism. Doing so could result in broken bones or amputation.

CAUTION

- When using grease, adhere to all warnings described on the grease's packaging. Careless use of grease can present health risks to workers.
 - Grease may cause inflammation upon contact with skin. Use gloves for protection, and be careful not to let the grease come in contact with bare skin. If grease gets into contact with skin, wash thoroughly with soap and water.
 - There is a risk of cutting your hands when opening the container of grease. Use gloves for protection.
 - The handling of grease is governed by laws and ordinances. Use grease in accordance with the laws and ordinances administered by the area where the facility is located. Unlawful usage can result in environmental pollution. If you are unsure of the laws and ordinances associated with handling grease, consult with the point of purchase of this product.

STOP IMPORTANT

- Use only the specified grease. Using any other kind of grease can result in faulty operations and damage to parts.
- To prevent dirt or water from mixing with grease, tightly seal the grease after usage.
- Store the grease in a dark area, out of direct sunlight.
- The designated periods for greasing serve only as a guide. Whenever there are squeaks or other anomalies, apply grease at designated locations.
- Be sure to use the special grease included with the product. The same grease is applied before shipping. Use of different grease creates chemical changes, and can result in faulty operations or operational failures.
- Order more grease from the point of purchase if you run out of the included special grease.
- Control the grease gun's lever so it is completely open and completely closed. Without implementing the full range of motion, the grease cannot be applied.
- Do not apply grease to locations other than as specified. Doing so may create a risk of operational problems and deterioration of parts.
- Use only the specified amount of grease when applying grease with the grease gun. Applying more than the specified amount of will have no effect.
- If the power is turned off while the actuator that moves the ride is extended, it will make a noise when it returns. This is not an accident.

13 TABLE 01 Greasing

Part	Application Amount	Number of Times to Move Lever Back and Forth	Timing
Piston area on actuator	60 g	About 30 times	Every 6 months
Bearing housing	30 g	About 15 times	
Universal joint	5 g	About 2 or 3 times	
Guide	60 g	About 30 times	
Ball joint	15 g	About 7 or 8 times	

NOTE: One full pump with the grease gun is about 2 g of grease.

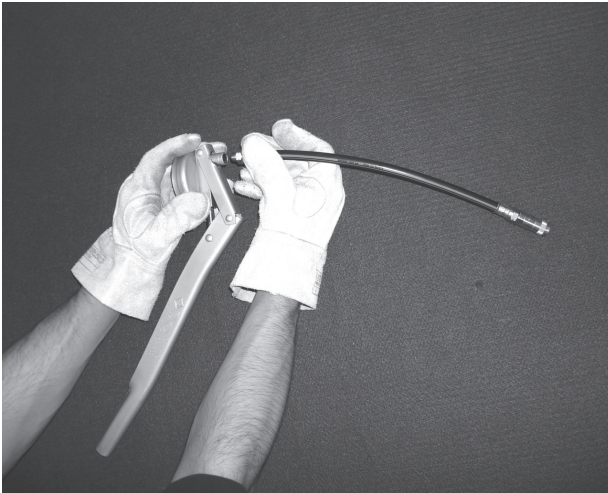
There are 2 actuators and a guide on the cockpit's ride mechanism, and there is a ball joint on the rear. Apply grease periodically to the ride mechanism in accordance with the table above. Apply grease directly to the sliding surface of the guide.

Grease Gun Assembly

To grease the machine, you will use the supplied Grease Gun (Sega part No.: 090-0315), Grease Hose (Sega part No.: 090-0316) and special grease (Sega part No.: 090-0314). Refer to the assembly instructions provided with the grease gun to put it together and fill it with grease.



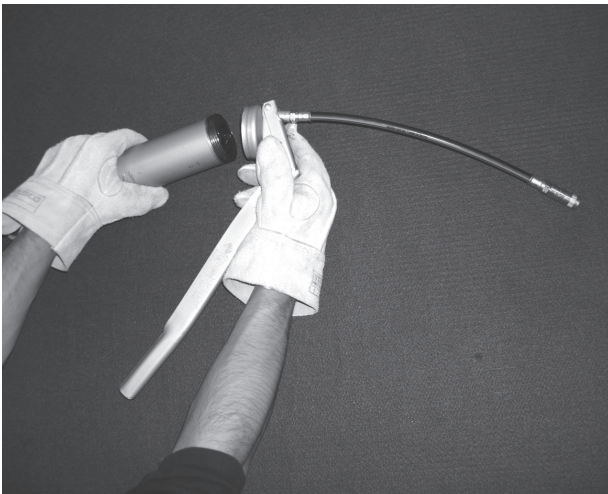
13 FIG. 01



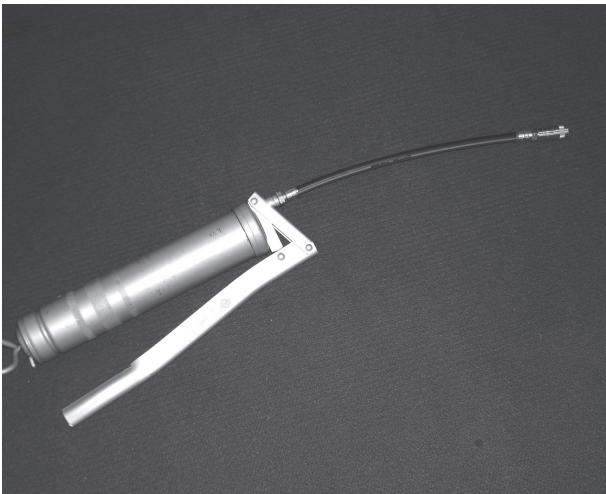
13 FIG. 02



13 FIG. 03



13 FIG. 04



13 FIG. 05

13-1 GREASING THE ACTUATOR

- 1 Turn off the power switch of the cabinet.
- 2 Remove the 10 truss screws and take off the upper front cover.

TRUSS SCREW (10), black
M4 x 8



13-1 FIG. 01

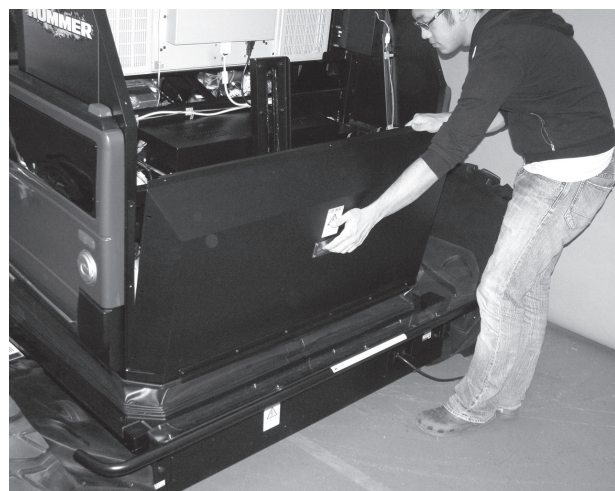


13-1 FIG. 02

- 3 Remove the 6 truss screws and take off the lower front cover.



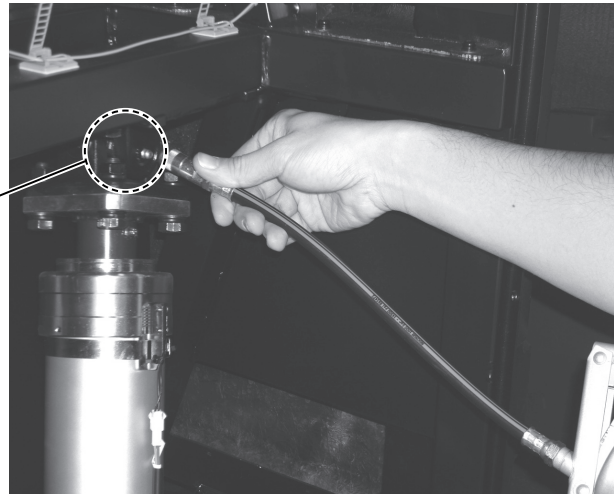
13-1 FIG. 03



13-1 FIG. 04

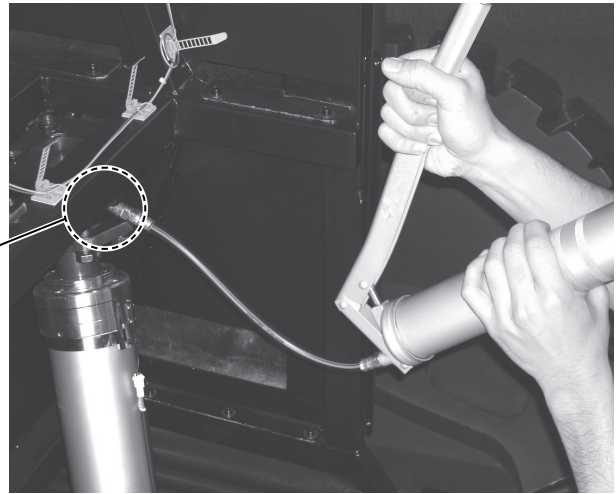
- 4** Insert the nozzle of the grease gun into the grease nipple on the universal joint and apply the grease.

Insert



13-1 FIG. 05

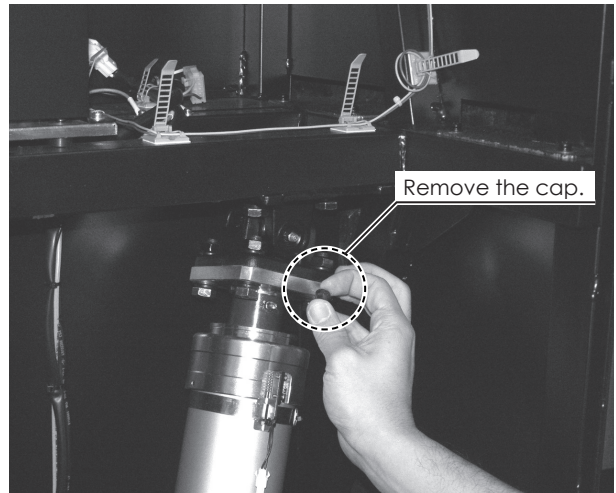
Apply grease.



13-1 FIG. 06

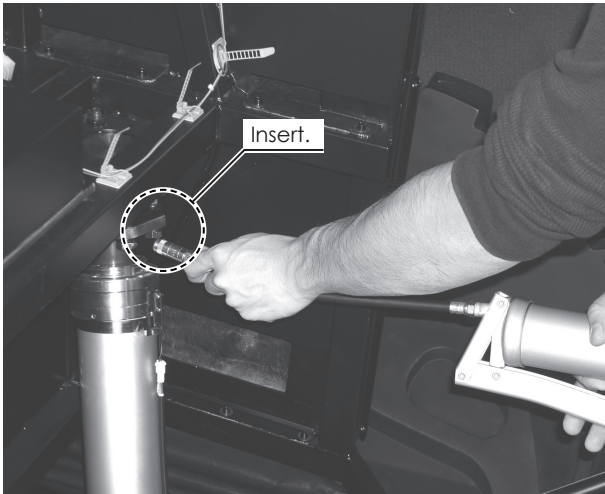
- 5** Take off the cap of the universal joint on the top of the actuator.

Remove the cap.

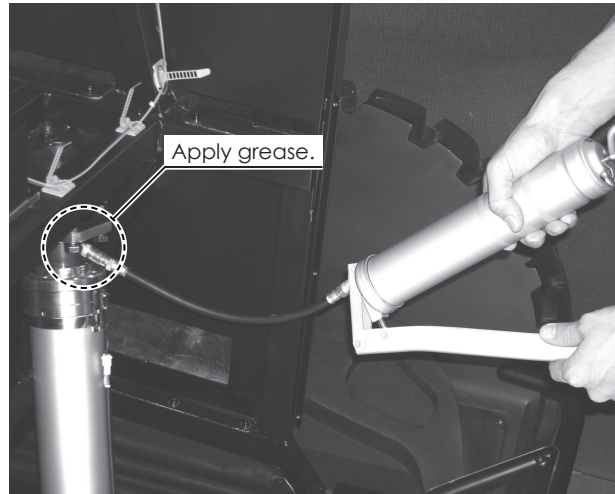


13-1 FIG. 07

6 Insert the nozzle of the grease gun into the grease nipple on the piston and apply the grease.

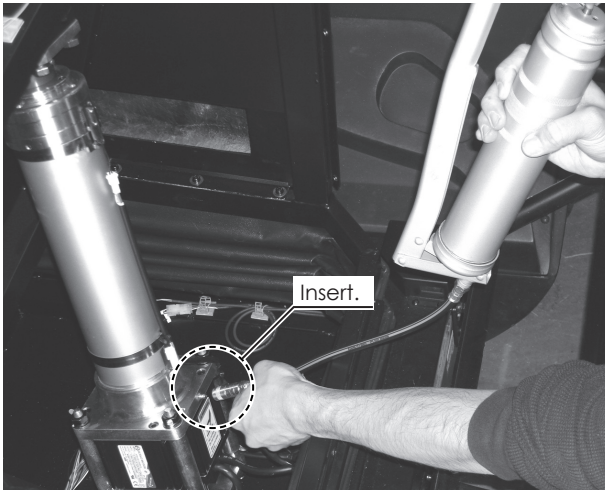


13-1 FIG. 08

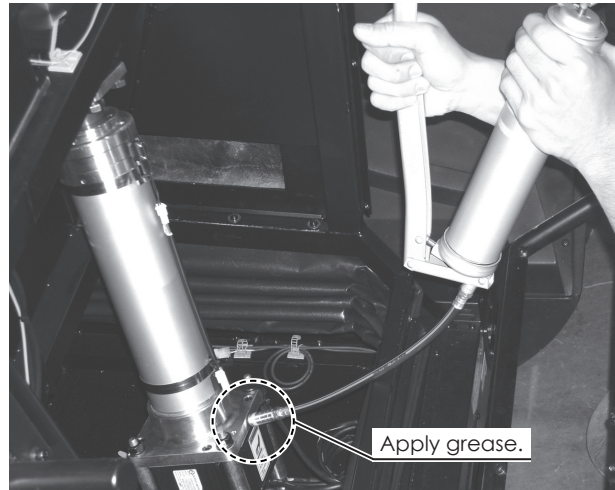


13-1 FIG. 09

7 Insert the nozzle of the grease gun into the grease nipple on the bearing housing of the actuator and apply the grease.

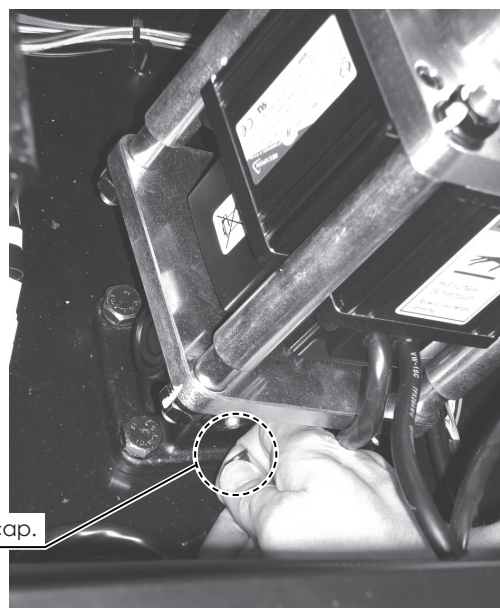


13-1 FIG. 10



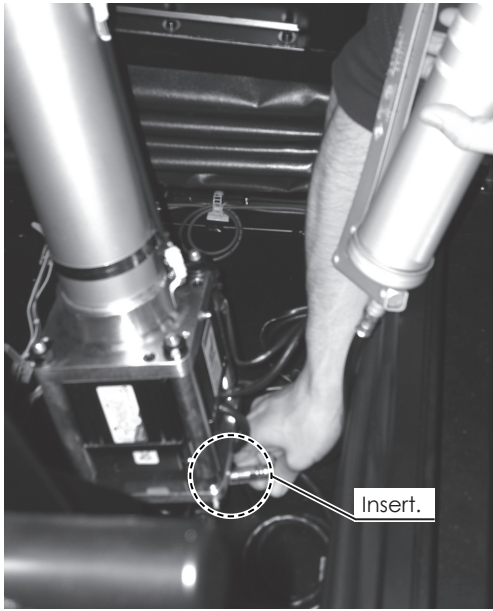
13-1 FIG. 11

8 Take off the cap of the universal joint on the bottom of the actuator.



13-1 FIG. 12

- 9 Insert the nozzle of the grease gun into the grease nipple on the universal joint and apply the grease.



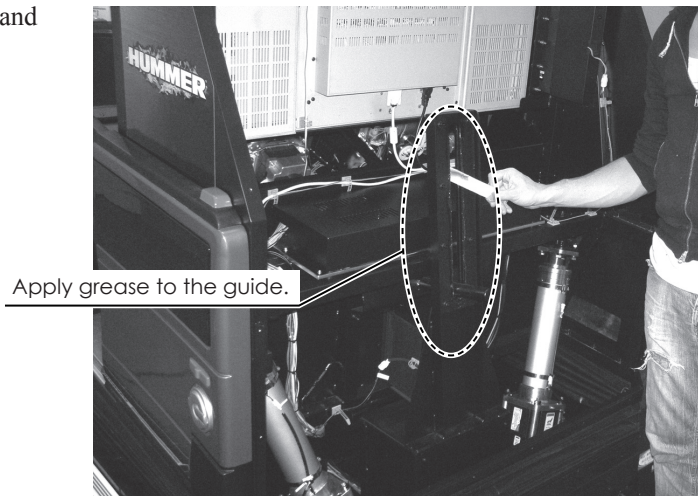
13-1 FIG. 13



13-1 FIG. 14

- 10 Apply grease to the actuator on the other side following the same procedures.

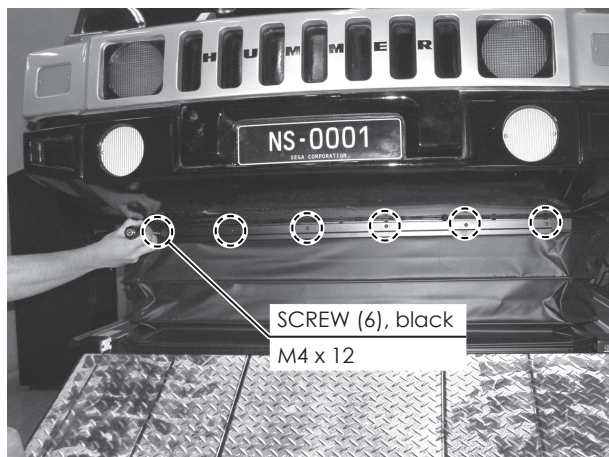
- 11 Apply grease to the guide between the left and right actuators.



13-1 FIG. 15

13-2 GREASING THE BALL JOINT

- 1 Remove the 6 screws and take off ride bellows bracket 1.

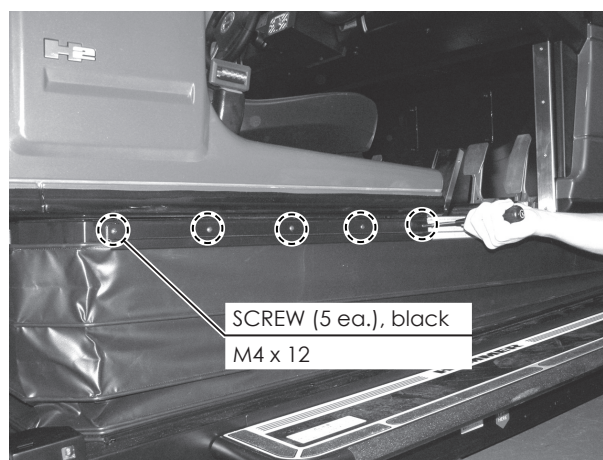


13-2 FIG. 01

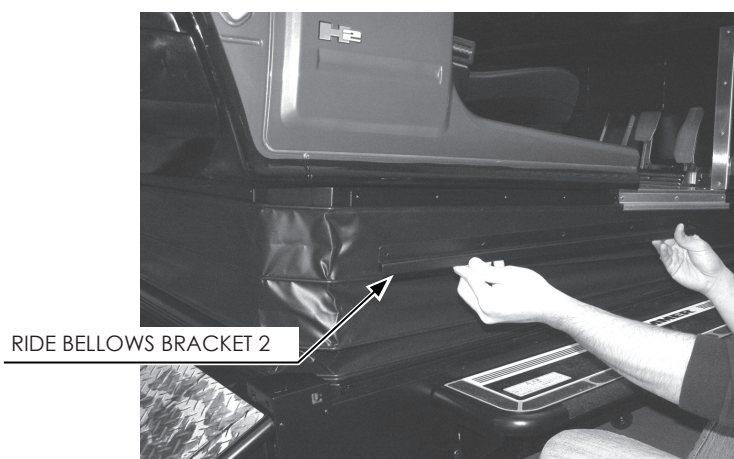


13-2 FIG. 02

- 2 Remove the 5 screws on both the left and right ride bellows bracket 2 and take them off.

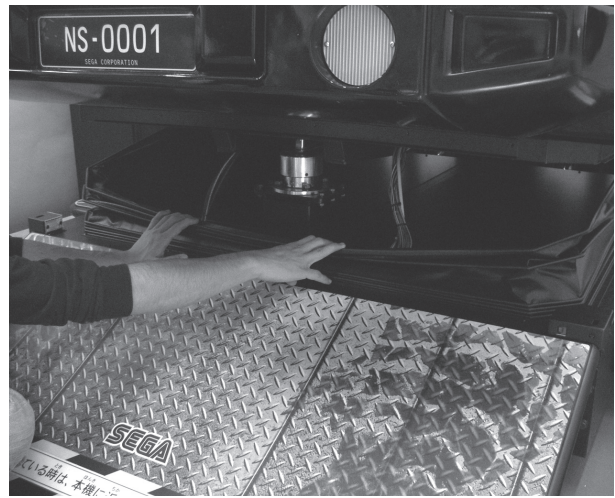


13-2 FIG. 03

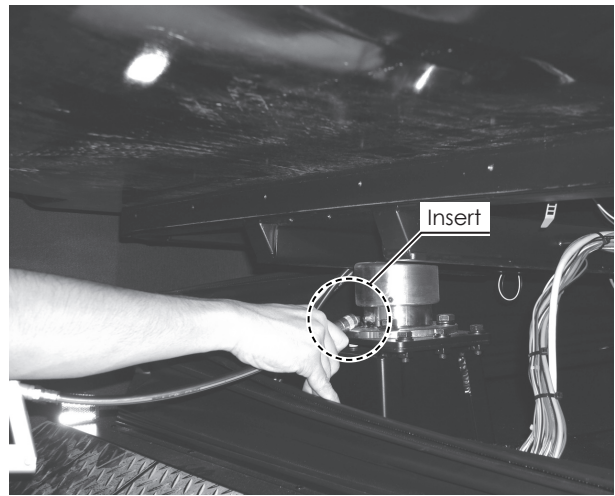


13-2 FIG. 04

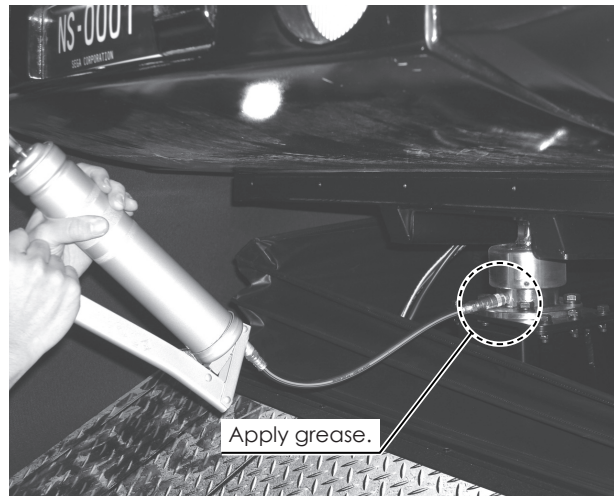
- 3 Lower the bellows, insert the nozzle of the grease gun into the grease nipple on the ball joint, and apply the grease.



13-2 FIG. 05



13-2 FIG. 06



13-2 FIG. 07

14 PERIODIC INSPECTION

WARNING

- Be sure to check once a year to see whether power cords are damaged, the plug is securely inserted, dust has accumulated between the socket outlet and the power plug, etc. Using the product with accumulated dust can cause fire and electric shock.
- Periodically, around once a year, get in touch with the office herein stated or the distributor, etc. where the product was purchased from, regarding internal cleaning. Using the product with accumulated dust in the interior can cause a fire or accident. Note that professional cleaning will require a fee.
- There is the danger of accidents involving electrical shorts circuits or fire caused by factors such as the deterioration of insulation in electrical and electronic equipment over time. Check that there are no abnormalities such as odors from burning.
- For all normal maintenance procedures, always turn off the power before beginning. Starting the procedures with the power still on can result in electric shocks or short circuits.
- When restoring power after maintenance is completed or going into or coming out of the Test Mode, be sure to verify that there are no people near the product. When the power is restored or when coming out of Test Mode, the product will automatically undergo initialization operation. If people are near the product, it could result in major or minor collisions.
- In the event that parts related to the ride mechanisms (actuators, limit switches, etc.) are damaged or break down, or when parts replacement or repairs are needed, request work be done by the point of purchase or the office listed in this manual. Such procedures require specialized knowledge, techniques, and tools. Improperly performed procedures can result in accidents.
- Do not use a water jet (high pressure washing device) or hose to clean this product. It was not designed to be cleaned by a water jet. Water could get inside and cause electrocution or short circuits. The product could also be damaged in such a way that it is difficult to repair.

CAUTION

- Be careful not to get your fingers caught when opening/closing or attaching/removing doors, lids and other such parts.
- When working inside the cabinet, you could get caught on parts or scratch yourself on them. Check the inside of the cabinet and be aware of where the parts are before performing the work.

STOP IMPORTANT

Important Safety Sensor Testing

It is recommended that All Safety Sensors are regularly tested. For instructions on how to test the Safety Sensors, refer to Section 9-3-2 Input Test. Failure to carry out regular tests could mean faulty sensor units go undetected.

14

PERIODIC INSPECTION

The items listed below require periodic checks and maintenance to guarantee the performance of this machine and to ensure safe operation.

Regularly clean all points of direct player contact such as the steering wheel and seat. Make regular inspections to ensure there is no damage to the surfaces and there are no foreign objects on the parts.

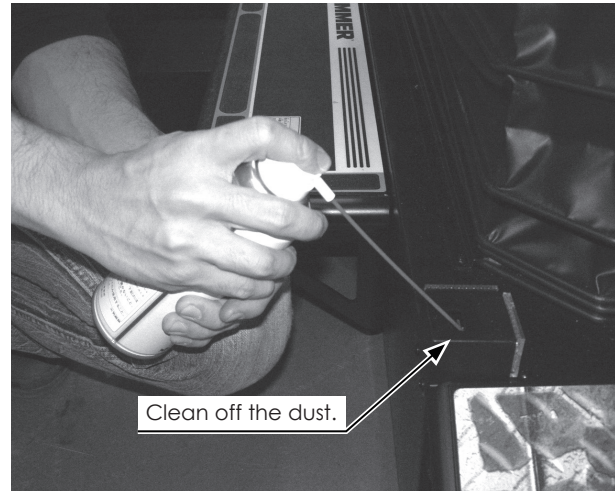
14 TABLE 01 PERIODIC INSPECTION TABLE

ITEMS	DESCRIPTION	PERIOD	REFERENCE
CABINET	Confirm that adjusters contact floor	Daily	3
LCD	Check monitor adjustments	Monthly or when moving	10
	Screen cleaning	Weekly	
STEERING WHEEL MECHANISM	Volume and switch inspection	Monthly	11
	Greasing	Every 3 months	
ACCELERATOR & BRAKE	Volume and switch inspection	Monthly	12
	Greasing	Every 3 months	
ACTUATOR	Greasing	Every 6 months	13
GAME BOARD	Check board information	Monthly	9, 17
	Confirm settings	Monthly	
	Cleaning	Every 3 months	
ELECTRONIC/ELECTRICAL PARTS	Inspection	As appropriate	As above
POWER CABLES	Inspection, Cleaning	1 year	As above
CABINET INTERIOR	Cleaning	1 year	As above
COCKPITS	Cleaning	Daily	As above
SAFETY DEVICES	Check seatbelt	Daily	3
	Check MOTION STOP button	Daily	
	Check floor sensors	Daily	
	Bellows	Every 6 months	

14-1 CLEANING THE FLOOR SENSORS AND GREASING THE SEAT RAIL

Cleaning the Floor Sensors

Use an air spray can to clean the dust off the sensors.



14-1 FIG. 01

Seat (Greasing to Seat Rail Portion)

Move the seat to the rearmost position and apply grease to the portion shown in the figure once every 3 months by using NOK KLUBER L60 or GREASE MATE SEGA PART No. 090-0066.

After greasing, move the seat a few times forward and backward so as to allow the grease to be applied all over uniformly.

Apply grease.



14-1 FIG. 02

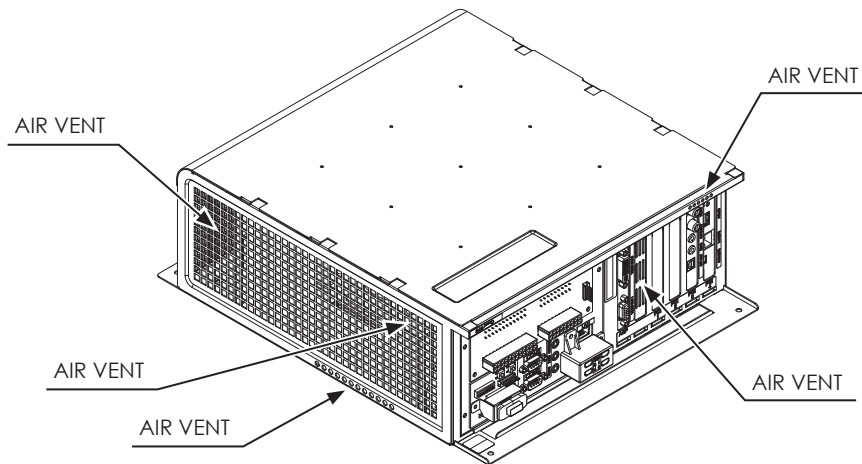
14-2 CLEANING THE LINDBERGH BOARD

STOP IMPORTANT

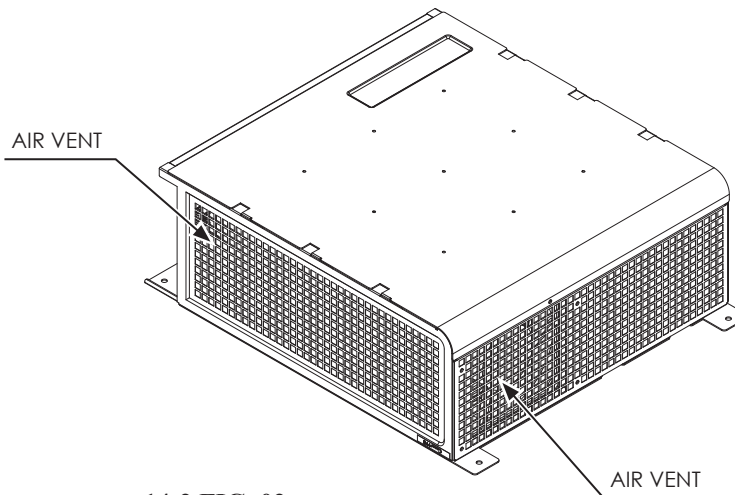
Be sure to clean LINDBERGH once in 3 months. Dust accumulating in game boards may not function properly.

1 Take out the LINDBERGH. (See “17-1 Removing the LINDBERGH.”)

2 Clean around the air vent of LINDBERGH boards with a vacuum cleaner.



14-2 FIG. 01



14-2 FIG. 02

3 Clean around installment parts of LINDBERGH boards in the cabinet with a vacuum cleaner. Be sure not to damage wirings and boards. Electronic devices on boards may damage by static electricity, and be sure not to vacuum electronic devices by a vacuum cleaner.

4 Install the LINDBERGH by working in reverse order. (See “17-1 Removing the LINDBERGH.”)

15 TROUBLESHOOTING

WARNING

- Should an error message appear, have the facility's maintenance or technical staff deal with the issue. Work by those without the necessary specialized knowledge and technical expertise can result in electric shocks, short circuits, and fires. If such maintenance or technical staff is not available, or if the problem is with the ride mechanisms, immediately turn off the product's power and contact the office listed in this manual or the point of purchase.
- In the event that problems arise beyond those covered in this manual, or if the procedures listed in this document do not solve the problem, do not attempt to solve the problem with careless measures. Immediately turn off the product's power and contact the office listed in this manual or the point of purchase. Improper procedures can result in unforeseen accidents. There is also a risk of fatal damage.
- When restoring power after the problem has been resolved or going into or coming out of Test Mode procedures, be sure to verify that there are no people near the product. When the power is restored or when coming out of Test Mode, the product will automatically undergo initialization operation. If someone is near the product, there could be a minor or major collision.
- 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 shock or short circuit or present a risk of fire.
- Once the reason that the breaker or circuit protector activated has been removed, restore the breaker or circuit protector to its original condition. If the product is used while the reason for activation has not yet been removed, heat and/or fire could be generated.
- In the event that parts related to the ride mechanism actuator are damaged or break down, or when parts replacement or repairs are needed, request work be done by the point of purchase or the office listed in this manual. Such procedures require specialized knowledge, techniques, and tools. Improperly performed procedures can result in accidents.

Because this product has parts such as the ride mechanisms, it has some unique error messages.

When an error message appears, see chapter 9.

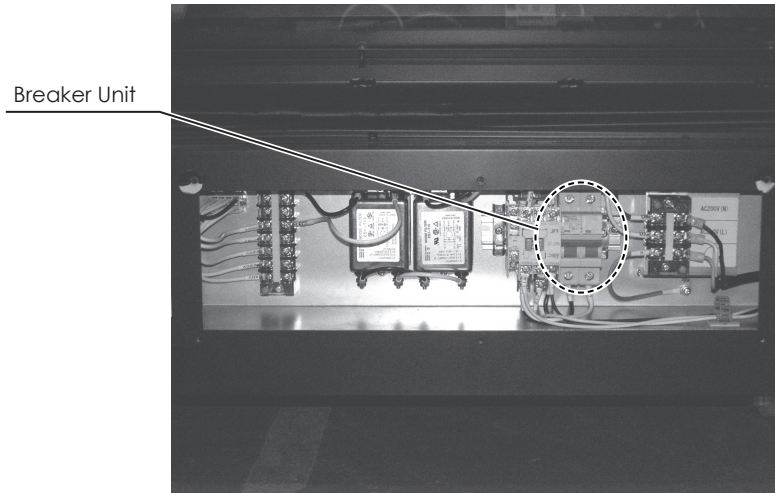
If trouble arises, first inspect the connections of the wiring connectors.

15 TABLE 01

PROBLEMS	CAUSE	COUNTERMEASURES
Billboard LEDs do not light up, and monitor is blank even though power has been turned on.	Power is not being supplied to the machine.	Check that the AC unit terminal is connected to power. Check to make sure the correct voltage is being supplied to the machine.
	The breaker has been tripped due to overload.	After resolving the overload, set the breaker to on. (See 15 FIG. 01.)
Billboard does not light up.	The wiring is not connected correctly.	Check the connections of the wiring between the cockpits and billboard.
Sound does not output from speakers.	Volume is not adjusted properly.	Adjust the volume.
	The wiring is not connected correctly.	Check to make sure the cable is properly connected to the LINDBERGH sound terminal (RCA).
The LCD monitor does not display an image.	The wiring is not connected correctly.	Check to make sure the cable is properly connected to the LINDBERGH video terminal (DVI).
	The LINDBERGH does not start up.	Check to make sure the LINDBERGH power cable is properly connected.
The LCD screen colors are wrong.	The LCD is not properly adjusted.	Adjust the LCD color settings.
The steering wheel does not perform appropriately.	The volume is misaligned.	Configure settings under GAME TEST MODE > CALIBRATION SETTING. (See 9-3-8.)
	The volume has broken down.	Replace the volume.
	The gear teeth do not line up.	Adjust the gear teeth.
The accelerator or brake does not perform appropriately.	The volume is misaligned.	Configure settings under GAME TEST MODE > CALIBRATION SETTING. (See 9-3-8.)
	The volume has broken down.	Replace the volume.
	The gear teeth do not line up.	Adjust the gear teeth.
A message comes up saying, "Floor sensor has been triggered," even though there is nothing there. Or there is an "Error1105" message.	The light axes of the floor sensors do not line up.	Adjust the light axes of the sensors.
	The floor sensors are dirty.	Clean the sensors.
Network play does not work.	The LAN cable is not connected correctly.	Check to make sure the LAN cable is connected.
	The HUB is not connected.	When 3 or 4 are connected, a separate HUB is required.
	The HUB does not have power.	Check to make sure the power connector is properly connected to the HUB.
Credits do not increase when coins are inserted, and the coin meter does not work.	The wiring is not properly connected.	Check to make sure the wiring between the cockpit and coin chute tower is properly connected. (See 9-3-8.)
Credits do not increase when coins are inserted, and the coin meter does not work.	The wiring is not properly connected.	Check to make sure the wiring between the cockpit and coin chute tower is properly connected.
The actual operation is different from the settings in GAME COST SETTING.	GAME TEST MODE > GAME ASSIGNMENTS > 2 DRIVERS CREDIT is set to FREE.	Change it to CHARGE. (See 9-3-4.)

PROBLEMS	CAUSE	COUNTERMEASURES
It will not go into TEST MODE.	The ride is in operation or could begin operation.	Enter TEST MODE after it goes to the advertising screen.
Some items cannot be tested in TEST MODE.	The communication check for LINDBERGH and MOTION CONTROL BD has not finished.	Leave TEST MODE and go back after it goes to the advertisement screen.
	GAME TEST MODE > GAME ASSIGNMENTS > CABINET MOTION is set to OFF.	Change it to a setting other than OFF. (See 9-3-4)
The DIFFICULTY setting cannot be changed to KIDS or any setting other than KIDS.	BACKUP DATA CLEAR has not been performed.	Perform the BACKUP DATA CLEAR operation and then change the setting.OFF. (See 9-3-10)

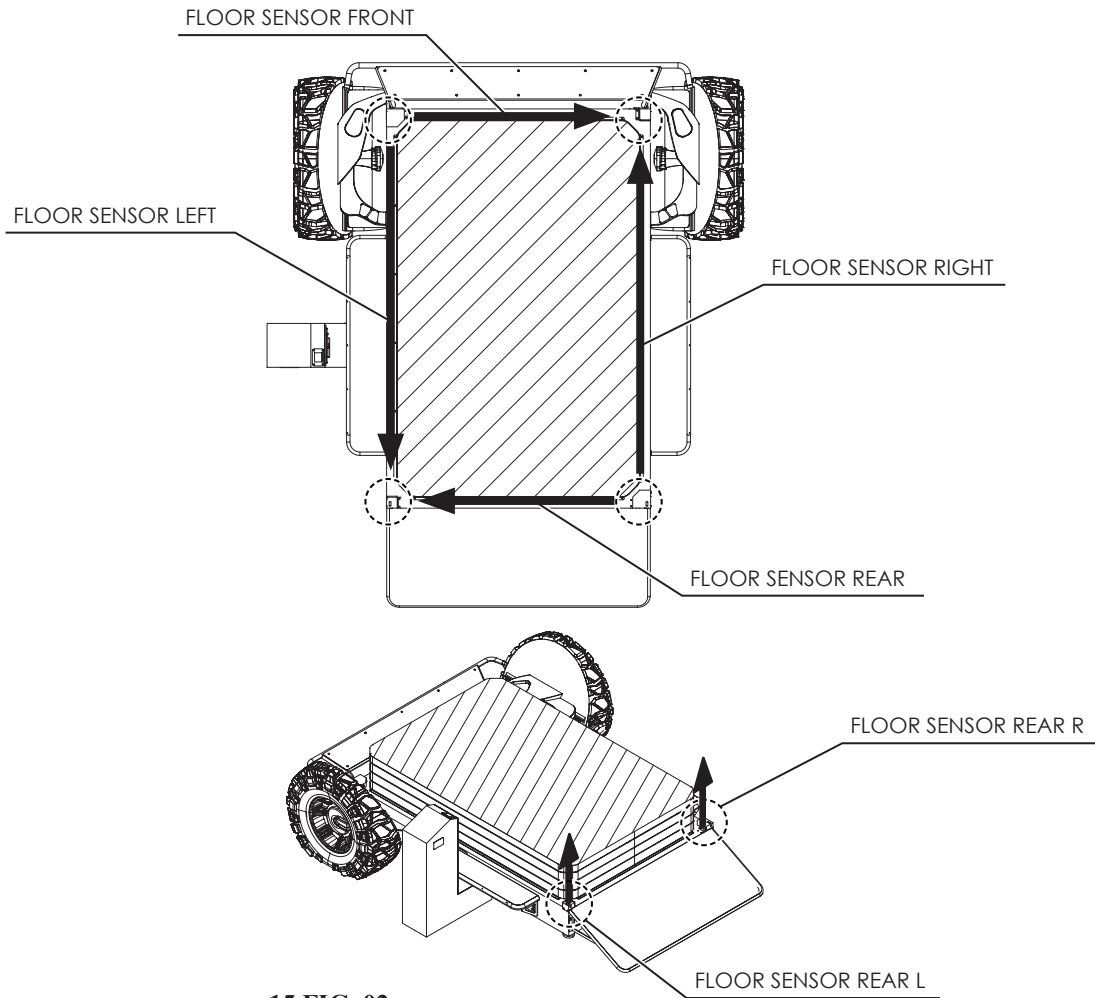
There is a breaker unit inside the AC unit. (See 6-7.)



15 FIG. 01

Adjusting the Floor Sensors

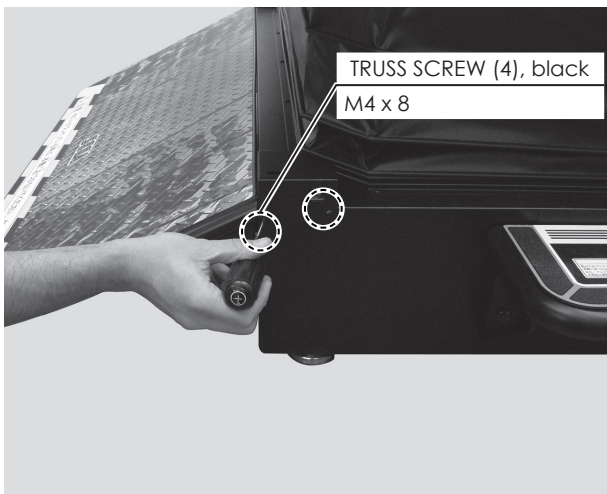
The floor sensors are positioned on the mechanical base as shown in the figure.



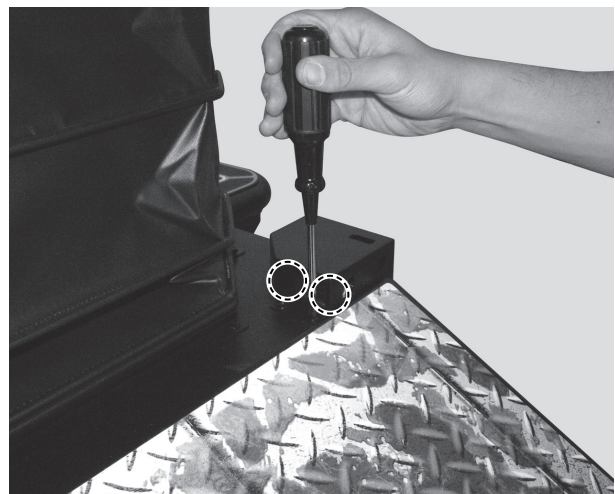
15 FIG. 02

If the sensors are not operating as they should, first check to see whether they are dirty or covered in dust. If they are, clean them off. Also, check to see if there are any objects around the base that might be blocking the sensors. If there are, move them out of the way. If you do that and there are still problems, follow the steps below to adjust the direction of the sensors.

- 1 Remove the 4 truss screws and take off the sensor cover.

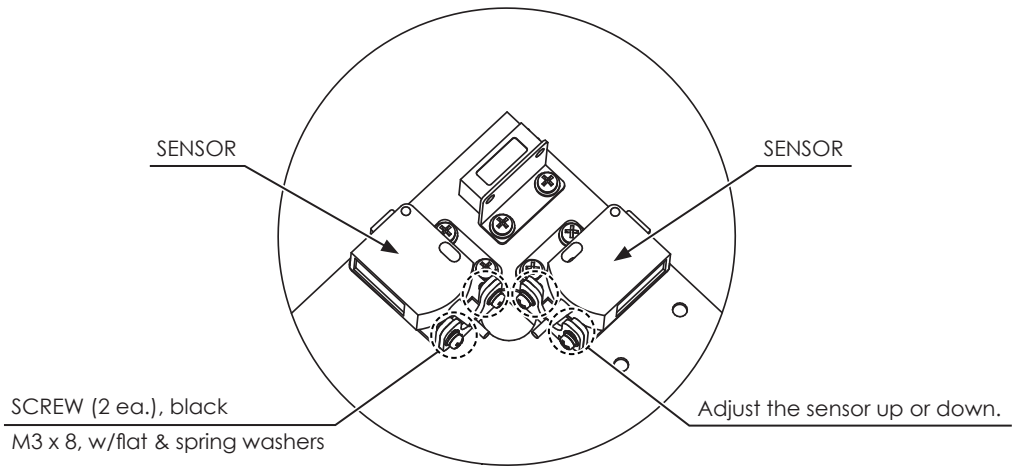


15 FIG. 03



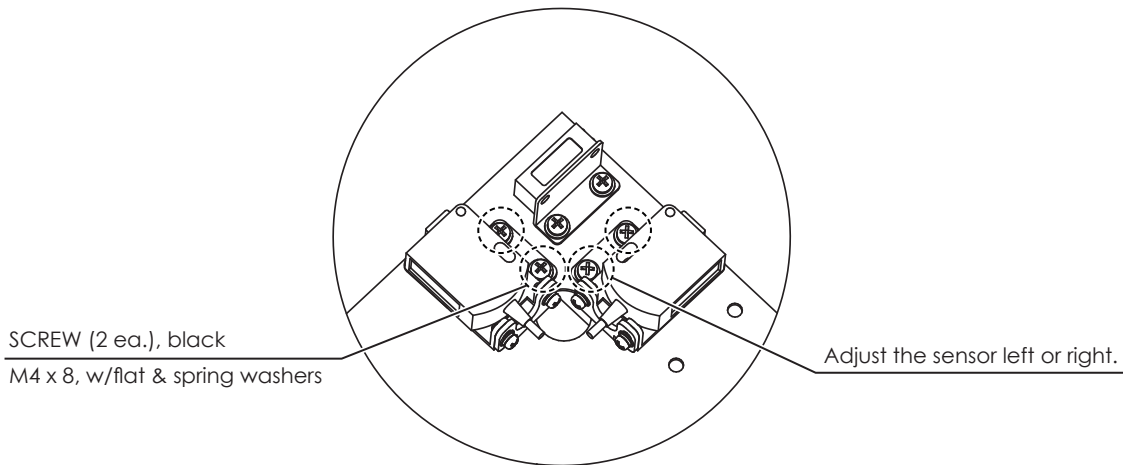
15 FIG. 04

2 The sensors can be adjusted up or down by loosening the 2 screws that hold them in place horizontally.



15 FIG. 05 Detailed HMR Floor Sensor Diagram

3 The sensors can be adjusted left or right by loosening the 2 screws that hold the sensor brackets in place vertically.



15 FIG. 06

4 Tighten the screws back.

5 Use Test Mode to check the sensitivity of the sensors. (See 9-3-2).

16 ERROR DISPLAY

WARNING

- If there is an error display, search out the cause immediately and take corrective action. If the product is operated while the error is ignored, there could be an accident. There could also be permanent damage to parts, etc.
- If an error is displayed, have the site maintenance personnel or other qualified individuals resolve it. If someone without specialized or technical knowledge attempts to rectify the problem, electric shock, short circuits or fire may result. If there is no site maintenance personnel or other qualified individuals available, turn the power off immediately, and contact your retailer or the office listed in this manual.
- If a problem not described in this manual and the LINDBERGH Service 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 your retailer or the office listed in this manual. Any unguided attempts to solve such problems may lead to a serious accident.
- If countermeasures given in this manual have been taken and there are still no improvements, contact your retailer or the office listed in this manual.

When this product detects an abnormality, the following messages will be displayed. Note the information about the error when managing the problem. For error messages displayed at the LINDBERGH logo screen, consult the LINDBERGH Service Manual.

Error 1001	There is an error in the COIN ASSIGNMENTS SETTINGS.
Displayed when the COIN ASSIGNMENTS settings are wrong in SYSTEM TEST mode.	
Check to make sure SYSTEM TEST MODE > COIN ASSIGNMENTS > COIN CHUTE TYPE and SERVICE TYPE are both set to COMMON.	

Error 1002	There is an error in the NETWORK SETTINGS.
Displayed when the NETWORK SETTING is wrong.	
Check that SYSTEM TEST MODE > NETWORK SETTING > MAIN NETWORK > DHCP is set to ENABLE.	

Error 1011	The CALIBRATION SETTING has not been set correctly.
Displayed when CALIBRATION SETTING has not been carried out correctly.	
Carry out GAME TEST MODE > CALIBRATION SETTING.	

Error 1012	Please run BACKUP DATA CLEAR in order to change DIFFICULTY SETTING.
DIFFICULTY SETTING cannot be changed unless BACKUP DATA CLEAR is run.	
GAME TEST MODE > GAME ASSIGNMENTS > DIFFICULTY setting for the cabinet with LINK ID 1 was changed from VERY EASY, EASY, NORMAL, HARD, VERY HARD to KIDS, so run BACKUP DATA CLEAR on communicating cabinets (LINK ID 2-4).	

Caution 1021	The CABINET MOTION SETTING is set to OFF.
The CABINET MOTION setting is set to OFF.	
When the game is being operated under normal conditions, select a setting other than OFF. Set GAME TEST MODE > GAME ASSIGNMENTS > CABINET MOTION to 1, 2, or 3.	
Error 1101	Unable to conduct GAME BD - MOTION CONTROL BD communication connection.
Unable to conduct LINDBERGH - MOTION CONTROL BD communication connection.	
Check that the cable is correctly connected to the LINDBERGH COM2 connector. Check that the MOTION CONTROL BD is operating (the status LED on the switch unit is displayed).	
Error 1102	An error has occurred in the MOTION CONTROL BD - ACTUATOR DRIVER communication connection.
An error has occurred in the MOTION CONTROL BD - ACTUATOR DRIVER communication connection.	
Turn the power to the cabinet OFF, wait for 1 minute or more, and then turn the power ON. If the error message still appears, check the status LED display on the switch unit and contact the inquiries office.	
Error 1103	An abnormality has occurred in the ACTUATOR DRIVER.
An abnormality has occurred in the ACTUATOR DRIVER.	
Turn the power to the cabinet OFF, wait for 1 minute or more, and then turn the power ON. If the error message still appears, check the status LED display on the switch unit and contact the inquiries office.	
Error 1104	The ACTUATOR is not in its initial position.
The ACTUATOR is not in its initial position.	
Turn the power to the cabinet OFF, wait for 1 minute or more, and then turn the power ON. If the error message still appears, check the status LED display on the switch unit and contact the inquiries office.	
Error 1105	A safety device activated while the cabinet was initializing.
A safety device activated while the cabinet was initializing.	
Check that an obstacle is not triggering the floor sensor. Check that the floor sensor is adjusted correctly. Turn the power to the cabinet OFF, wait for 1 minute or more, and then turn the power ON.	
Error 1201	Unable to recognize STEERING MOTOR DRIVE BD.
Unable to recognize STEERING MOTOR DRIVE BD.	
Check that the cable is correctly connected to the LINDBERGH COM1 connector.	
Error 1211	Unable to recognize LEFT STEERING MOTOR DRIVE BD.
Unable to recognize LEFT STEERING MOTOR DRIVE BD.	
Check that the LEFT PLAYER test in GAME TEST MODE > STEERING FORCE FEEDBACK can be carried out. If the test cannot be carried out, there may be a fault in the wiring or the MOTOR DRIVE BD.	

Error 1212	The LEFT STEERING MOTOR did not initialize successfully.
The LEFT STEERING MOTOR did not initialize successfully.	
Remove anything that is obstructing the movement of the steering wheel. If the error message still appears after restoring power to the cabinet, there may be a fault in the wiring, the MOTOR DRIVE BD, or the motor.	

Error 1213	The LEFT STEERING MOTOR is using abnormal encoder data.
The LEFT STEERING MOTOR is using abnormal encoder data.	
If the error message still appears after restoring power to the cabinet, there may be a fault in the wiring, the MOTOR DRIVE BD, or the motor.	

Error 1214	An overcurrent has passed through the LEFT STEERING MOTOR.
An overcurrent has passed through the LEFT STEERING MOTOR.	
If the error message still appears after restoring power to the cabinet, there may be a fault in the MOTOR DRIVE BD or the motor.	

Error 1215	The LEFT STEERING MOTOR has overheated.
The LEFT STEERING MOTOR has overheated.	
Disconnect power to the cabinet and wait for the temperature of the motor to drop. Then restore the power. If the error message appears frequently, there may be a fault in the MOTOR DRIVE BD or the motor.	

Error 1221	Unable to recognize RIGHT STEERING MOTOR DRIVE BD.
Unable to recognize RIGHT STEERING MOTOR DRIVE BD.	
Check that the RIGHT PLAYER test in GAME TEST MODE > STEERING FORCE FEEDBACK can be carried out. If the test cannot be carried out, there may be a fault in the wiring or the MOTOR DRIVE BD.	

Error 1222	The RIGHT STEERING MOTOR did not initialize successfully.
The RIGHT STEERING MOTOR did not initialize successfully.	
Remove anything that is obstructing the movement of the steering wheel. If the error message still appears after restoring power to the cabinet, there may be a fault in the wiring or the MOTOR DRIVE BD or the motor.	

Error 1223	The RIGHT STEERING MOTOR is using abnormal encoder data.
The RIGHT STEERING MOTOR is using abnormal encoder data.	
If the error message still appears after restoring power to the cabinet, there may be a fault in the wiring, the MOTOR DRIVE BD, or the motor.	

Error 1224	An overcurrent has passed through the RIGHT STEERING MOTOR.
An overcurrent has passed through the RIGHT STEERING MOTOR.	
If the error message still appears after restoring power to the cabinet, there may be a fault in the MOTOR DRIVE BD or the motor.	

Error 1225	The RIGHT STEERING MOTOR has overheated.
The RIGHT STEERING MOTOR has overheated.	
Disconnect power to the cabinet and wait for the temperature of the motor to drop. Then restore the power. If the error message appears frequently, there may be a fault in the MOTOR DRIVE BD or the motor.	

Error 1301	Unable to conduct internal cabinet communication connection.
Unable to conduct internal cabinet communication connection.	
If the error message still appears after restoring power to the cabinet, check that the LAN cable is connected correctly. Check that power is being supplied to the HUB. Check that the communication check screen is displayed on all the cabinets with communication connection.	
Error 1302	There is an error in the TOTAL MACHINE SETTING.
There is an error in the TOTAL MACHINE setting.	
Check that the number of communicating cabinets and the setting for GAME TEST MODE > GAME ASSIGNMENTS > TOTAL MACHINE are the same.	
Error 1303	There is an error in the LINK ID SETTING.
There is an error in the LINK ID setting.	
Check that the settings for GAME TEST MODE > GAME ASSIGNMENTS > LINK ID in communicating cabinets are not repeated.	
Error 1304	The cabinet which is being communicated with uses a different version of the game.
The cabinet which is being communicated with uses a different version of the game.	
Install the same version of the game.	
Error 1305	The cabinet which is being communicated with uses a different GAME BD region.
The cabinet which is being communicated with uses a different LINDBERGH region.	
Make the LINDBERGH regions the same.	

17 GAME BOARD

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.
- Have work pertaining to electric circuitry such as with the game board done by the site maintenance personnel or other qualified professionals. Otherwise there could be an electric shock or other serious accident. If no one with proper knowledge and skills is available, request work from the point of purchase or the office indicated in these instructions.
- Have auxiliary lighting made available. The cabinet structure makes it difficult for external lighting to reach inside the cabinet and floorboards are removed. Working in an environment without proper illumination can result in accidents. It can also cause damage to parts or wiring, resulting in an electric shock or short circuit.
- Be careful not to damage the wires. Damaged wires may cause electric shock or short circuit or present a risk of fire.
- Do not expose the game board, etc. for any reason. Doing so may cause electric shock or malfunctioning.
- No connectors other than those connected on the game board when first delivered can be used by this product. Do not connect any other wires to any of the unused connectors. This may lead to the generation of heat, smoke or burn outs.
- 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.

CAUTION

- In this product, setting changes are made using the Test Mode. The game board need not be operated. Use the game board, etc. as is with the same setting made at the time of shipment so as not to cause electric shock and malfunctioning.
- The chip parts 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.
- Be careful not to get fingers caught when removing doors or other parts.

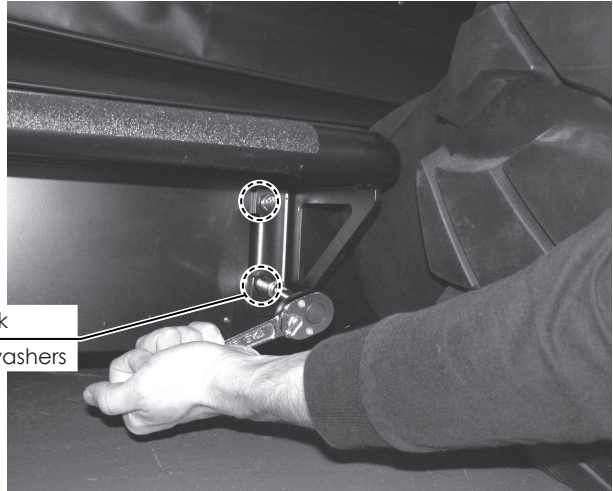
STOP IMPORTANT

- When exchanging the game board, place and post the damaged board in the replacement 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, 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.

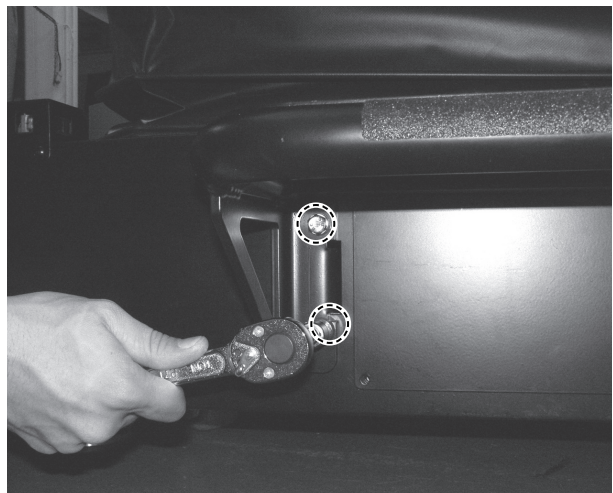
17-1 REMOVING THE LINDBERGH

- 1 Remove the 4 hexagon bolts and take off the step of the PLAYER 2 side where the LINDBERGH is.

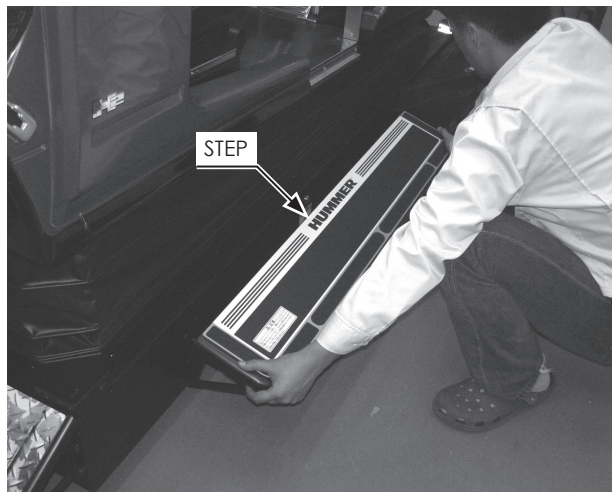
HEXAGON BOLT (4), black
M8 x 25, w/flat & spring washers



17-1 FIG. 01



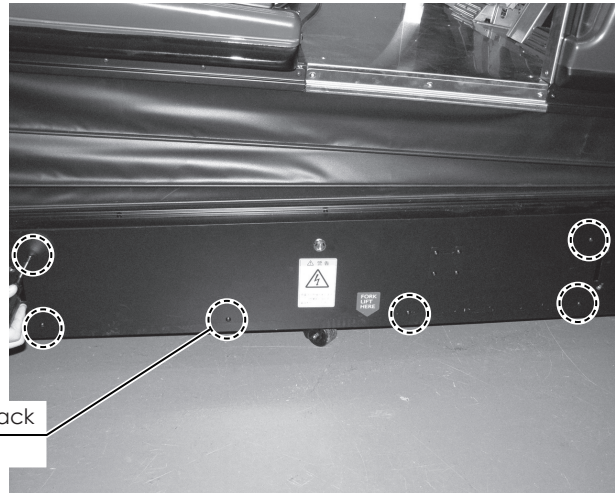
17-1 FIG. 02



17-1 FIG. 03

- 2** Remove the 6 truss screws, unlock the base side door with the master key, and take it off.

TRUSS SCREW (6), black
M4 x 8



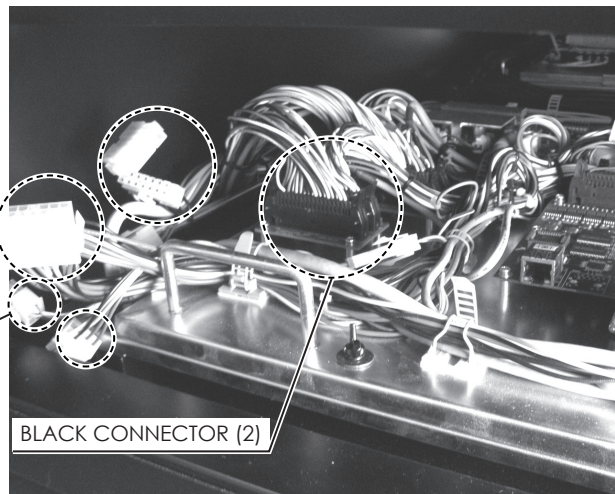
17-1 FIG. 04



17-1 FIG. 05

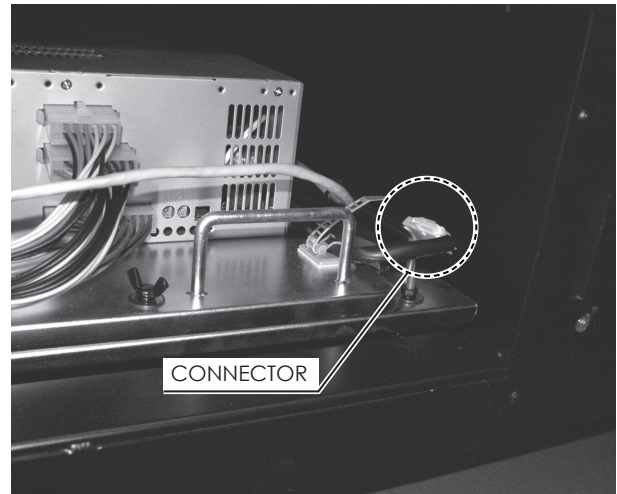
- 3** Disconnect the 4 white connectors on the left side of the base (metal plate) on which the LINDBERGH sits and the 2 black connectors connected to the board.

WHITE CONNECTOR (4)



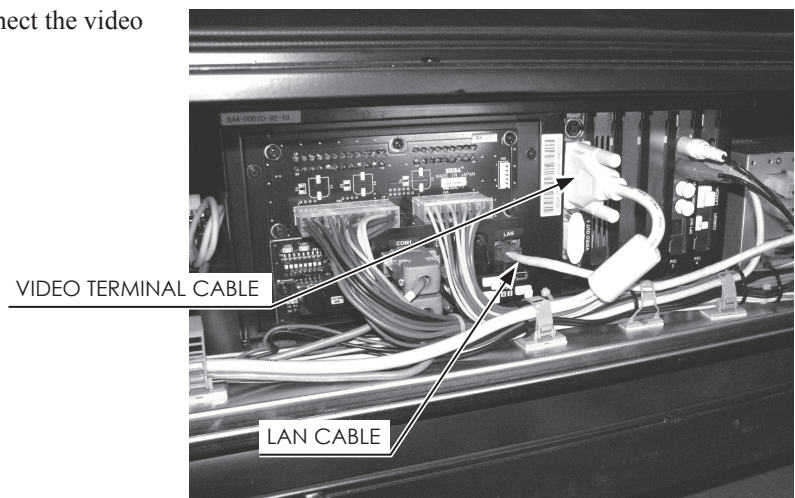
17-1 FIG. 06

- 4 Disconnect the white connector on the right side of the base (metal plate) on which the LINDBERGH sits.



17-1 FIG. 07

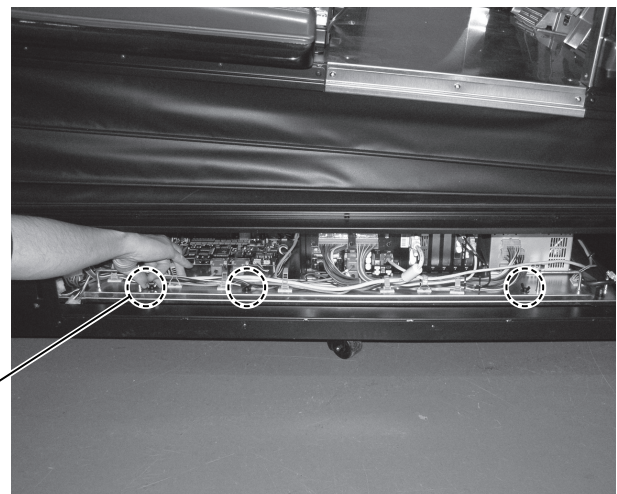
- 5 Undo the cord clamps and disconnect the video terminal and LAN cables.



17-1 FIG. 08

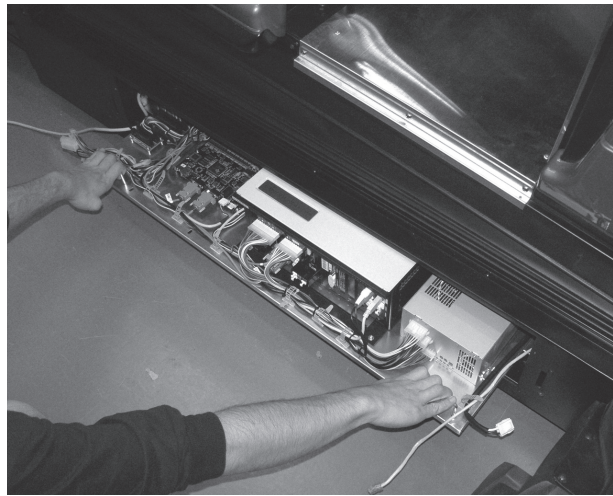
- 6 Remove the 3 thumb screws.

THUMB SCREW (3), black
M4 x 20, flat & spring washers used



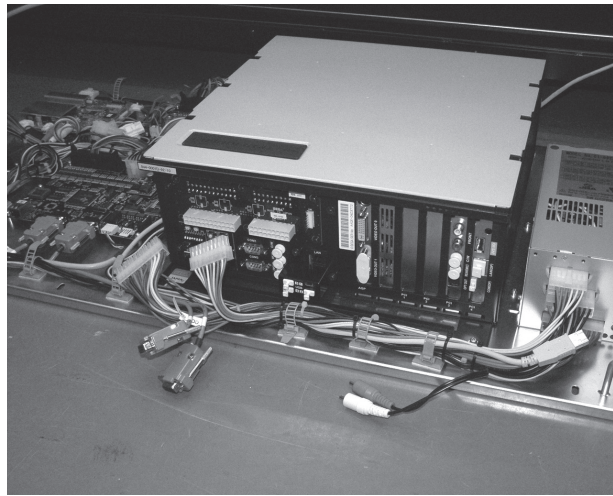
17-1 FIG. 09

- 7 Pull out the LINDBERGH carefully, base (metal plate) and all. Be careful not to pull on or otherwise damage any wires while doing so.



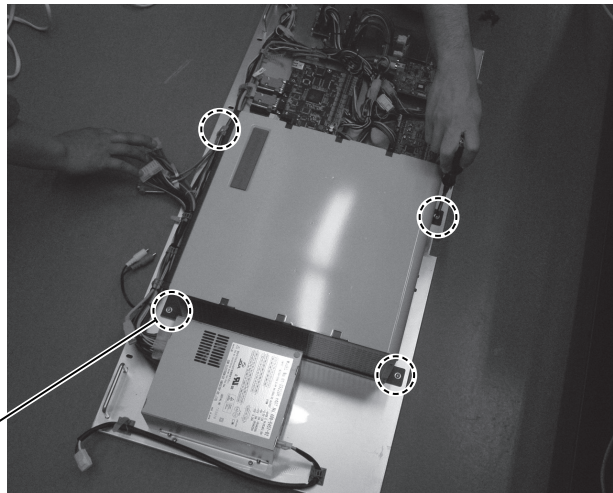
17-1 FIG. 10

- 8 Place the LINDBERGH on a level surface and disconnect all the connectors connected to it.



17-1 FIG. 11

- 9 Remove the 4 screws fastening the LINDBERGH to the base and take it off.



SCREW (4), chrome
M4 x 10, w/flat & spring washers

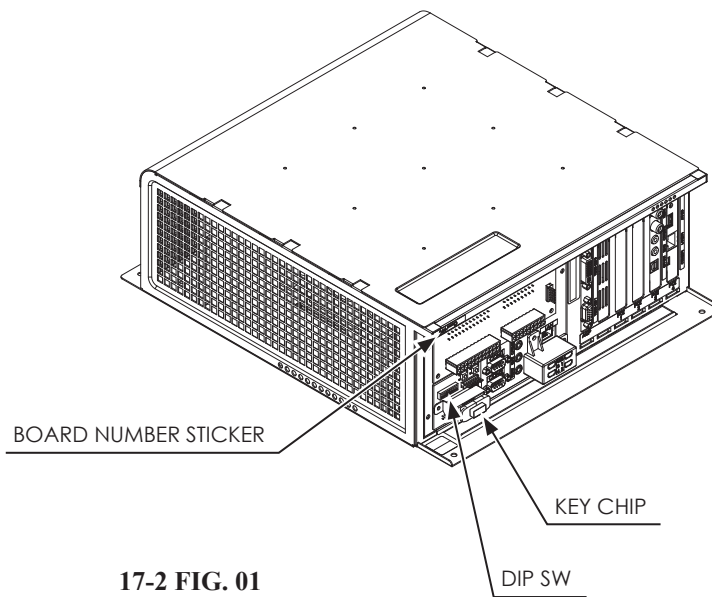
17-1 FIG. 12

17-2 COMPOSITION OF THE GAME BOARD

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.

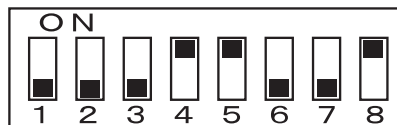
ASSY CASE LBG L 1GB HMR EXP (844-0026D-02)



17-2 FIG. 01

DIP SW Setting

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



17-2 FIG. 02

WARNING

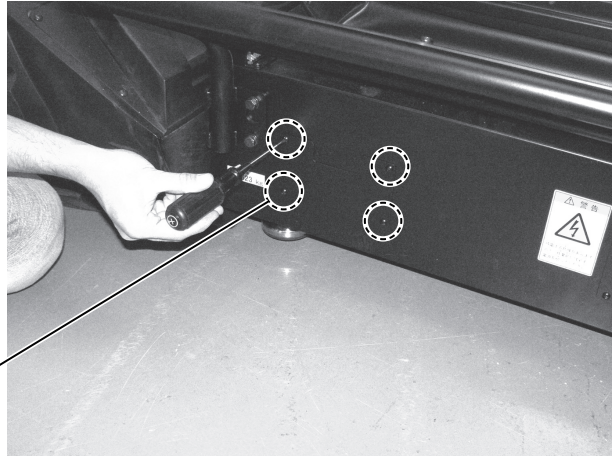
- This product is a complicated machine. Failing to assemble it properly could result in electrocution or damage to the machine itself and prevent it from working correctly.
- Ensure that connectors are accurately connected. Incomplete connections can cause electric shock.
- This work should be carried out by the site maintenance personnel or other qualified professionals. Work performed 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. If no one with proper technological expertise is available, request service from the office indicated in this document or the point of purchase so as to ensure safety.
- Be careful not to damage the wires. Damaged wires may cause electric shock or short circuit or present a risk of fire.
- Do not leave the communication cables or other wires exposed on the floor. They could become damaged, resulting in electrocution or short circuits. If the wires are left on the floor, be sure to use protective covers on them.

18-1 HOW TO CONNECT 2 CABINETS

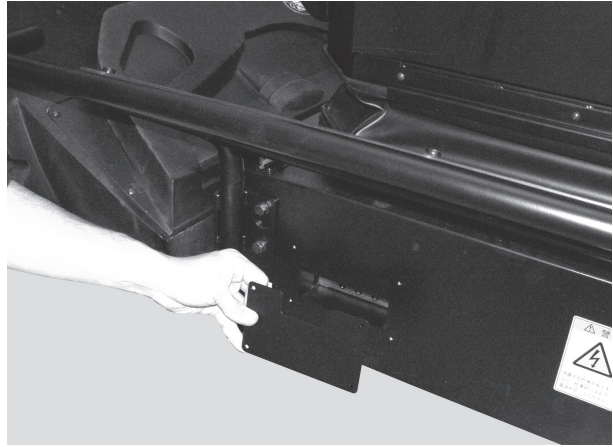
The following is an explanation of how to connect 2 cabinets for network play.

- 1 Remove the 4 truss screws and take off the LAN connector cover on the front of the cabinet on the PLAYER 2 side. Do this on both cabinets.

TRUSS SCREW (4), black
M4 x 8



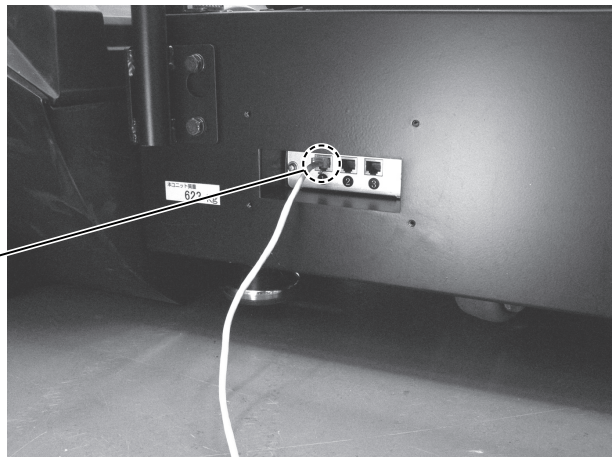
18-1 FIG. 01



18-1 FIG. 02

- 2 Connect the supplied LAN cable to the LAN connector port 1 on the first cabinet (LINK ID 1).

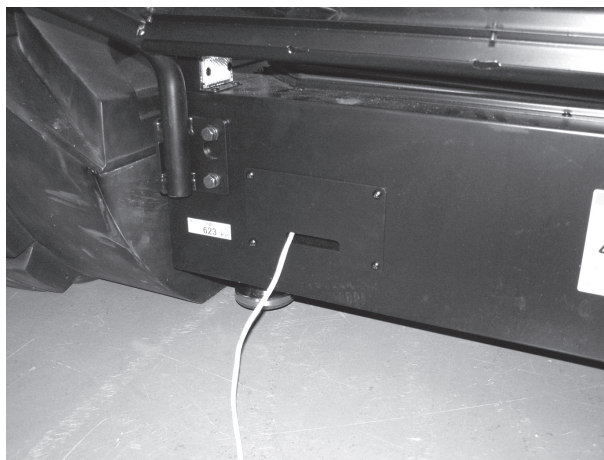
Connect to port 1



18-1 FIG. 03

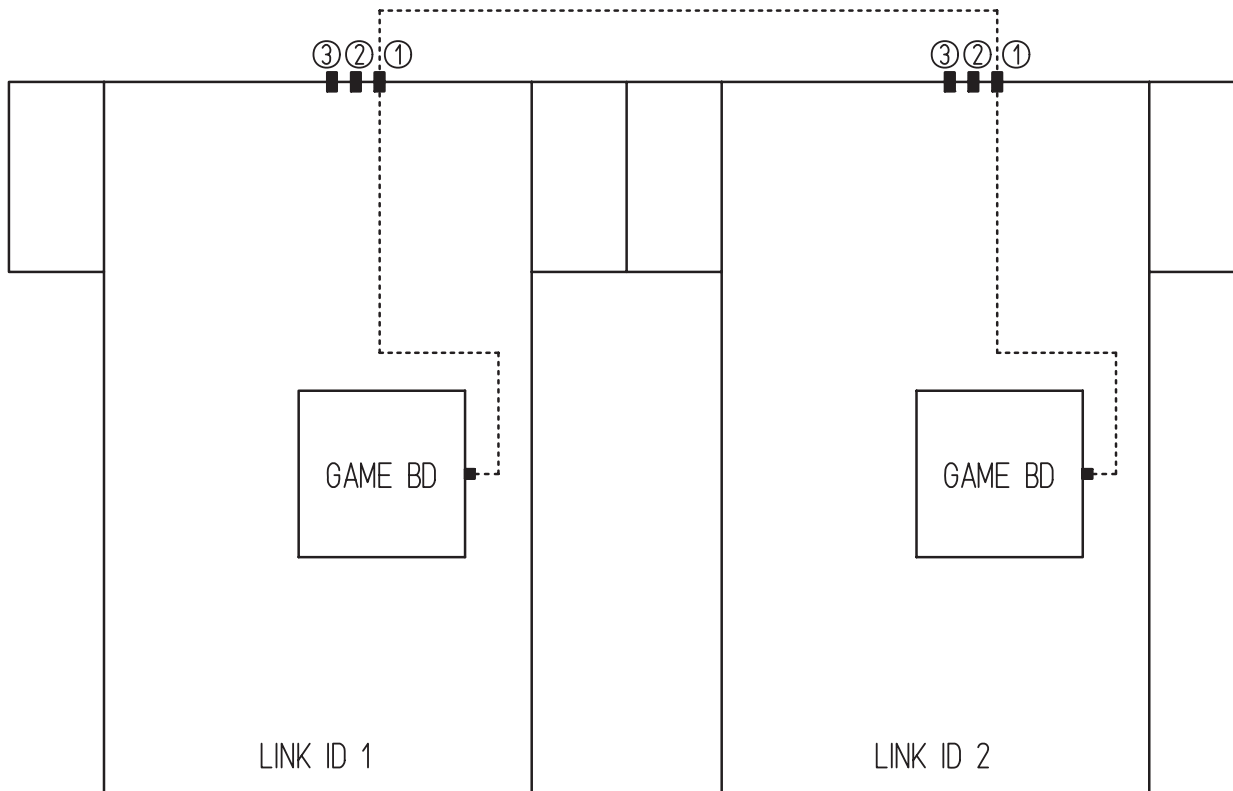
3 In the same way, connect the other side of the LAN cable to LAN connector port 1 on the second cabinet (LINK ID 2).

4 Flip the LAN connector upside down and fasten it in place with the 4 truss screws that were removed.



18-1 FIG. 04

This figure shows the connection.



18-1 FIG. 05 Connecting 2 Cabinets

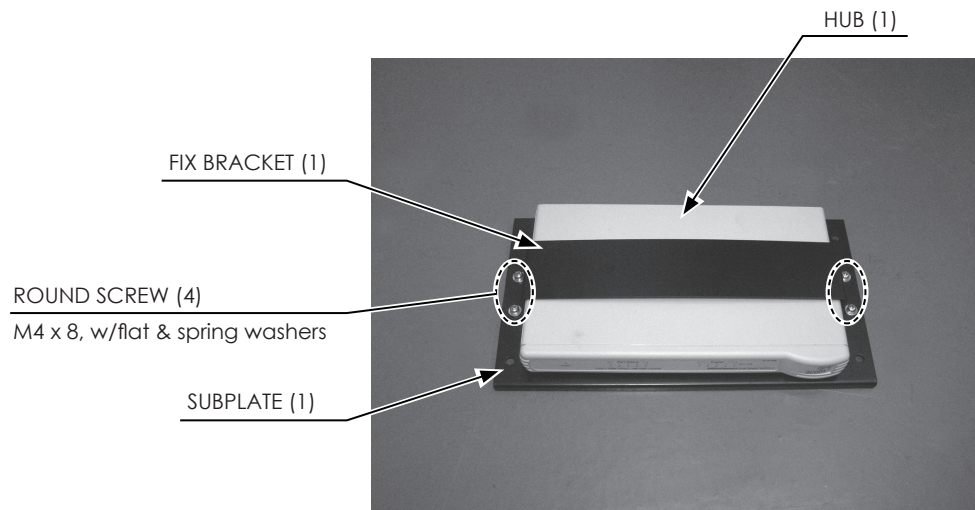
5 Configure both the cabinets for network play. (See 9-3-4.)

18-2 HOW TO CONNECT 3 OR 4 CABINETS

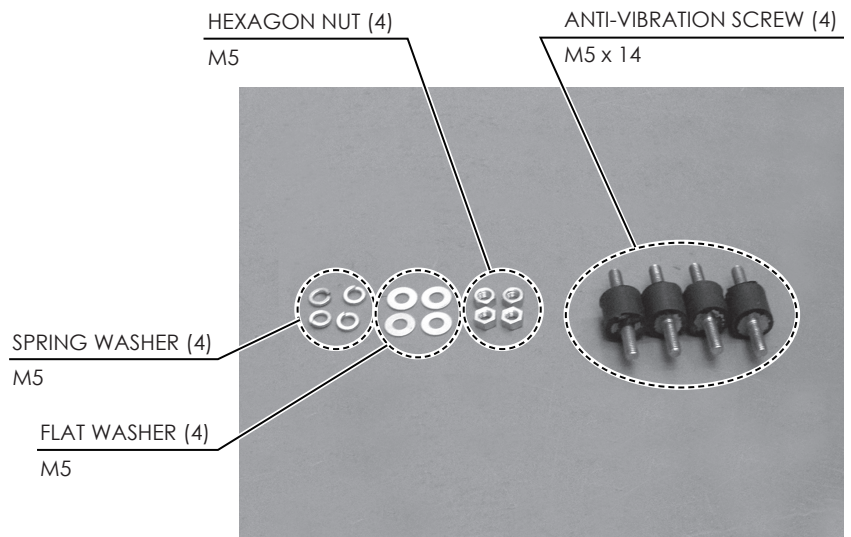
WARNING

Always turn the power off before performing this work. Failure to do so could result in electrocution or short circuits.

To set up 3 or 4 cabinets for network play you will need the separate HUB KIT (XKT-1731). The HUB KIT includes the parts listed below. Before assembling it, make sure you have all the parts. The part names below are the ones used in the assembly manual.

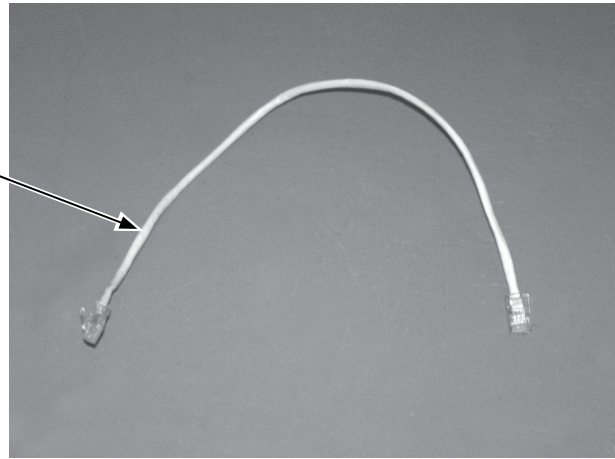


18-2 FIG. 01



18-2 FIG. 02

LAN CABLE (3)

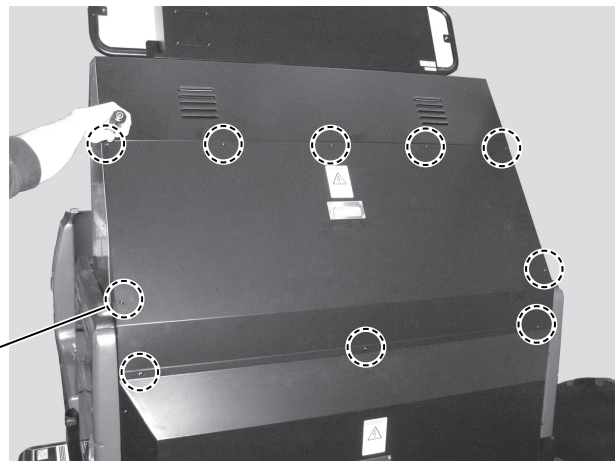


18-2 FIG. 03

Install the LAN hub on the cabinet with LINK ID 1. This work is not necessary for the other cabinets.

- 1 Remove the 10 truss screws and take off the upper front cover.

TRUSS SCREW (10), black
M4 x 8



18-2 FIG. 04

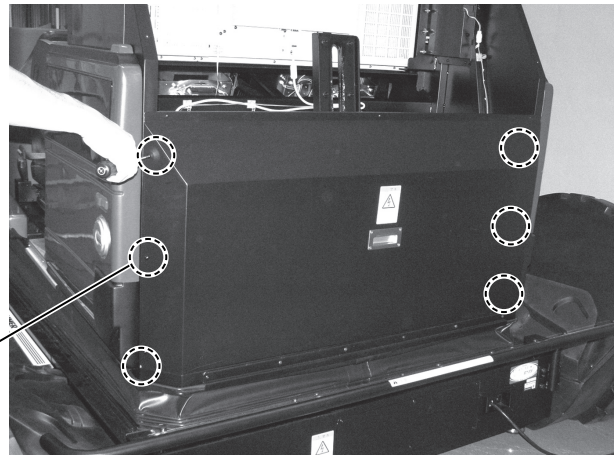
UPPER FRONT COVER



18-2 FIG. 05

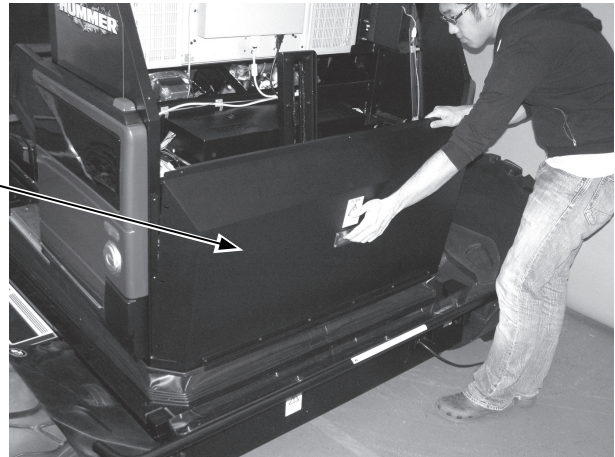
- 2** Remove the 6 truss screws and take off the lower front cover off.

TRUSS SCREW (6), black
M4 x 8



18-2 FIG. 06

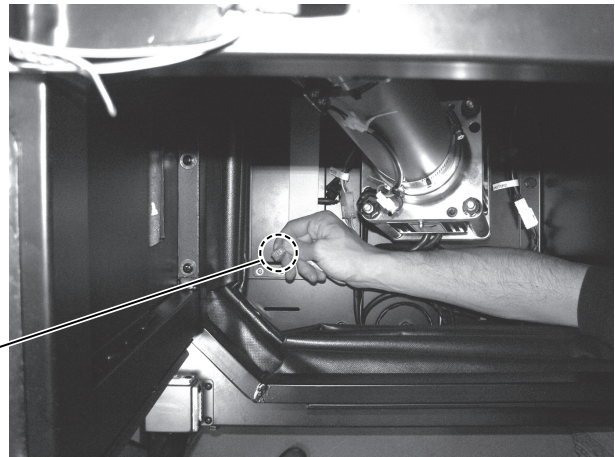
UPPER FRONT COVER



18-2 FIG. 07

- 3** Disconnect the connector of the LAN cable that is connected to the LAN connector on the LINDBERGH.

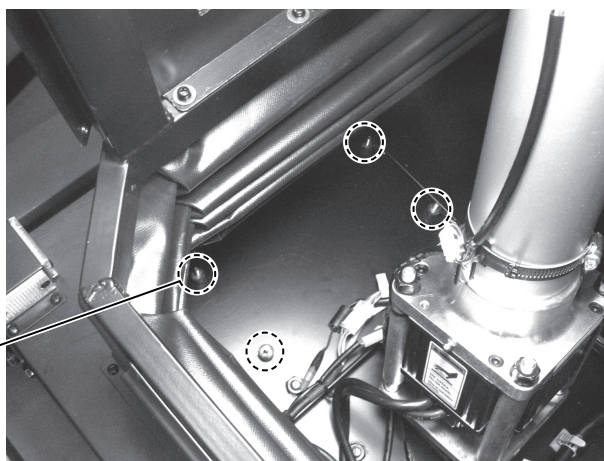
Disconnect the LAN connector.



18-2 FIG. 08

- 4** Screw 4 anti-vibration screws into the bottom plate.

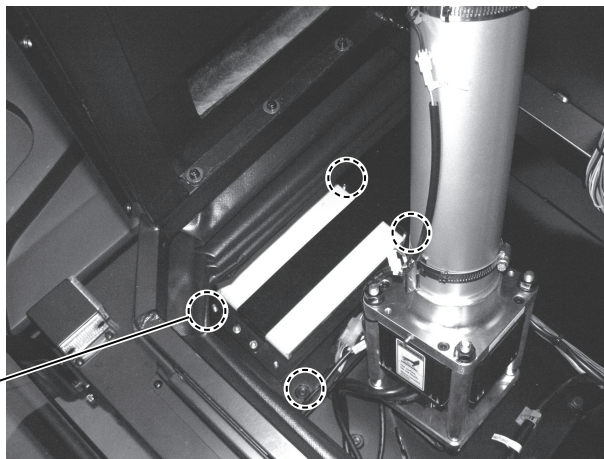
ANTI-VIBRATION SCREW (4)
M5 x 14



18-2 FIG. 09

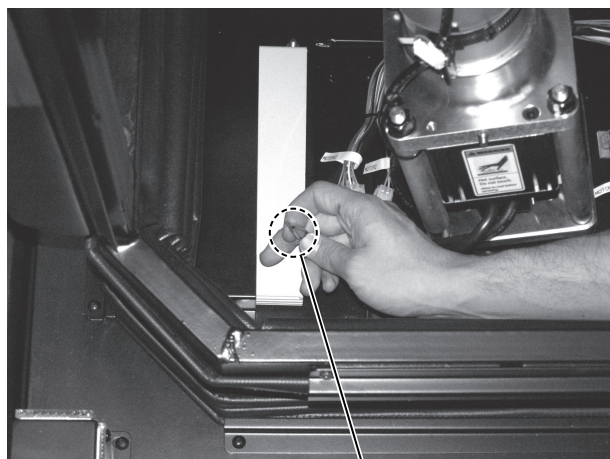
- 5** Mount the LAN hub onto the anti-vibration screws so that the port faces the center of the cabinet and fasten it in place with 4 hexagon nuts.

HEXAGON NUT (4)
M5, flat & spring washers used



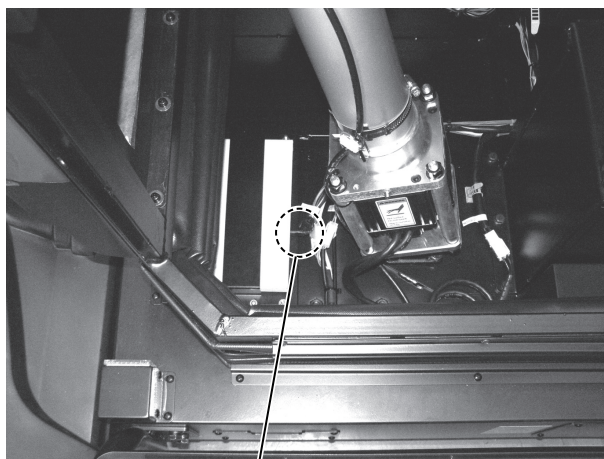
18-2 FIG. 10

- 6** Take off the cap of the power connector and connect it to the LAN hub.



18-2 FIG. 11

Remove the cap.

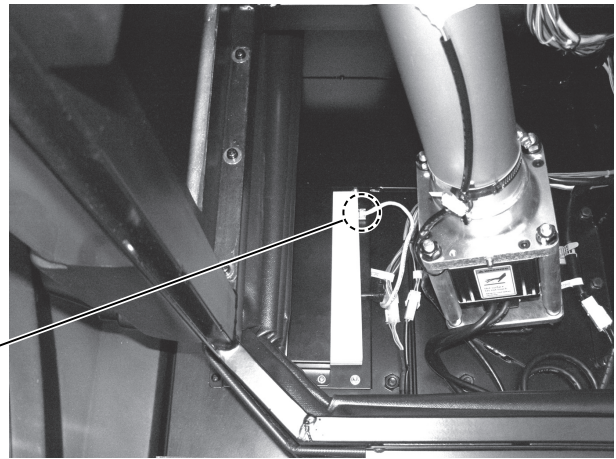


18-2 FIG. 12

Connect the power connector.

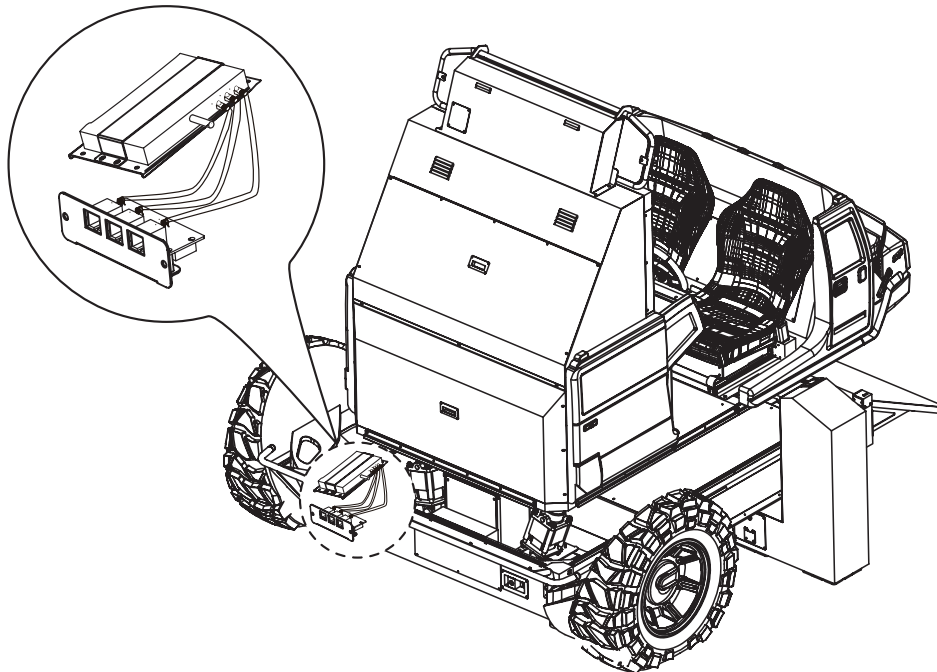
- 7** Connect the LAN cable that you disconnected in Step 3 to the LAN hub. It does not matter which port you use.

Connect the LAN cable.



18-2 FIG. 13

- 8** Connect the 3 LAN cables to the LAN hub. It does not matter which ports you use.



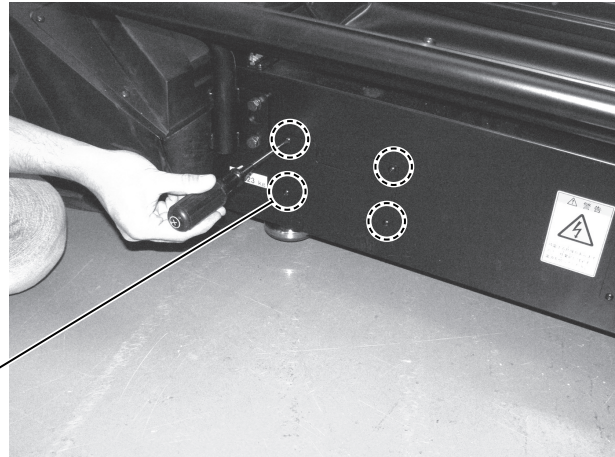
18-2 FIG. 14

- 9** Connect the other end of the 3 cables to the LAN connectors. It does not matter which ports you use.

- 10** Use 6 truss screws to attach the lower front cover.

- 11** Use 10 truss screws to attach the upper front cover.

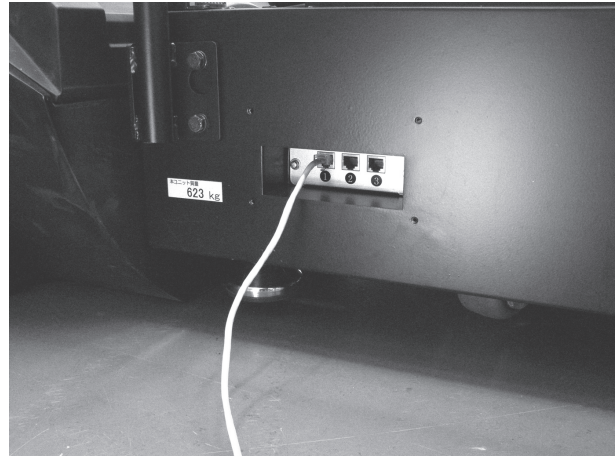
12 Remove the 4 truss screws and take off the LAN connector cover. Do this on all cabinets that will be connected.



TRUSS SCREW (4), black
M4 x 8

18-2 FIG. 15

13 Connect the LAN cable supplied with the game machine to LAN connector port 1 on the first cabinet (LINK ID 1).



18-2 FIG. 16

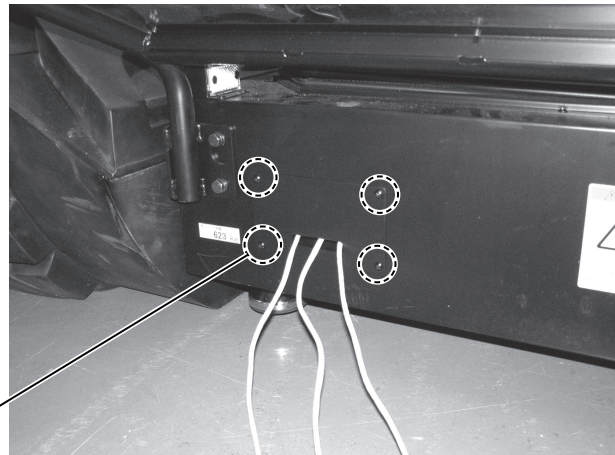
14 Connect the other end of the LAN cable to LAN connector port 1 on the second cabinet (LINK ID 2).

15 Connect another LAN cable to LAN connector port 2 on the first cabinet (LINK ID 1).

16 Connect the other end of the LAN cable to LAN connector port 1 on the third cabinet (LINK ID 3).

17 If there is a fourth cabinet (LINK ID 4), follow the same steps and connect it to the first cabinet (LINK ID 1).

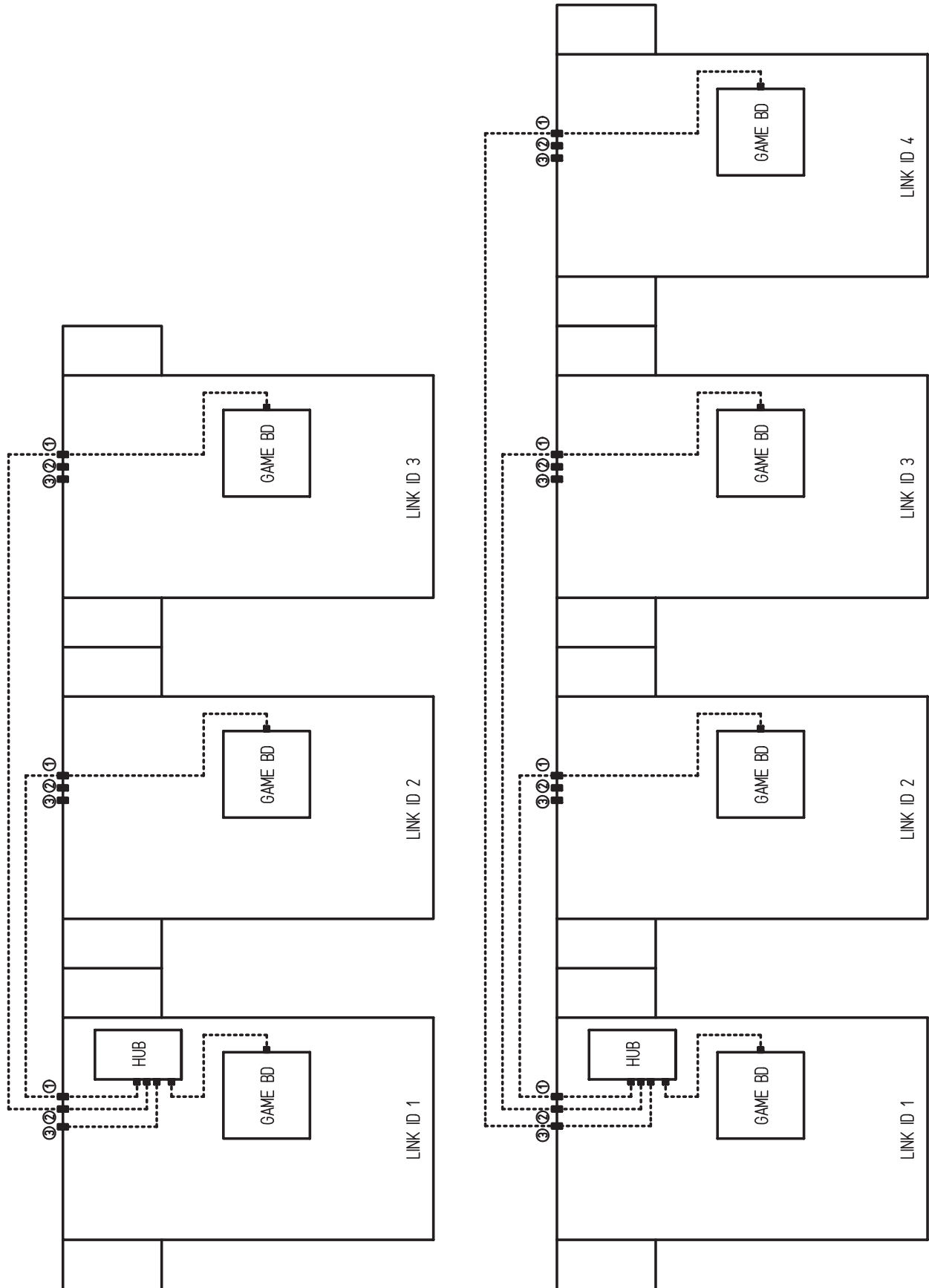
18 Flip the LAN connector cover upside down and attach it, fastening it in place with the 4 truss screws.



TRUSS SCREW (4), black
M4 x 8

18 -2 FIG. 17

This figure shows 3 and 4 cabinets connected.



18-2 FIG. 18 Connecting 3 or 4 Cabinets

19 Configure each cabinet for network play. (See 9-3-4.) The figure shows how 3 and 4 cabinets are connected.

19 DESIGN-RELATED PARTS

STICKER MONITOR SIDE L / HMR-2018
(Opposite side)
STICKER MONITOR SIDE R / HMR-2019



STICKER BAGGAGE
HMR-0017
(Same on opposite side)

BILLBOARD PLATE
HMR-0502

STICKER INSTR MASK R ENG
HMR-2026-EG

STICKER INSTR MASK C ENG
HMR-2025-EG

STICKER INSTR MASK L ENG
HMR-2024-EG

STICKER HUMMER
HMR-0601-01-B

STICKER H2
HMR-0601-01-A
(Same on opposite side)

STICKER REAR FENCE
HMR-0352

STICKER COIN CHUTE TOWER
HMR-0204

STICKER SIDE STEP
HMR-0018
(Same on opposite side)

19 FIG. 01

- NS-0001** STICKER CAR NUMBER 0001
HMR-0023
- NS-0002** STICKER CAR NUMBER 0002
HMR-0024
- NS-0003** STICKER CAR NUMBER 0003
HMR-0025
- NS-0004** STICKER CAR NUMBER 0004
HMR-0026

NON SLIP MAT SIDE STEP 1
HMR-0019

NON SLIP MAT SIDE STEP 2
HMR-0020

NON SLIP MAT SIDE STEP 2
HMR-0020

NON SLIP MAT SIDE STEP 1
HMR-0019

NON SLIP MAT SIDE STEP 3
HMR-0021

NON SLIP MAT SIDE STEP 4
HMR-0022

19 FIG. 02

STICKER OVER 140CM ENG
HMR-2017-EG

STICKER START SW
HMR-2182

STICKER FASTEN SEAT BELT ENG
HMR-2016-EG

STICKER MAXIMUM PASSENGER ENG
HMR-2015-EG

STICKER INSTR HANDLE COVER ENG
HMR-2022-EG

STICKER INSTR HANDLE COVER ENG
HMR-2022-EG

DRIVER LAMP FRONT PLATE
HMR-2004

DRIVER LAMP FRONT PLATE
HMR-2004

STICKER INSTR CTRL PANEL ENG
HMR-2020-EG

BUTTON PLATE
HMR-2011

STICKER MOTION STOP
HMR-2192

STICKER INSTR CTRL PANEL ENG
HMR-2020-EG

19 FIG. 03

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