



User Manual
VER. 0.2



- For your safe and correct use, read this manual carefully and understand it thoroughly before operation.
- Please keep this manual in a safe place at all times and refer to it for any future references.
- Make sure to pass this manual on to future owners of Mini Rider2 when the product is moved or sold.

simuline®

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 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 safe usage of this 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 User 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 serviceman should perform such work.

- **Be sure to turn off power before working on the machine.**

To prevent electric shock, be sure to turn off power before starting the work in which the worker touches the interior of the product. If the work is to be performed in the power-on status, the Instruction Manual herein always states to that effect.

- **Be sure to ground the Earth Terminal.** (This is not required in the case where a power cord with earth is used.)

This product equipped with the Earth Terminal. When installing the product, connect the Earth Terminal to the "accurately grounded indoor earth terminal" by using an earth wire. Unless the product is grounded appropriately, the user can be subject to electric shock. After performing repair, etc. for the Control equipment, ensure that the Earth Wire is firmly connected to the Control equipment.

- **Ensure that 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.

- **Specification changes (removal of equipment, conversion and addition) not designated by Simuline 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. Simuline shall not be held responsible for any accidents, compensation for damage to a third party, resulting from the specifications not designated by Simuline.

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

Before installing the product, check for Electrical Specifications. Simuline 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 result in a fire and electric shock.

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

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

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

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

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

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

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

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

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

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Introduction to the Manual

Specifications noted in this manual may change without notice.

This manual contains all of the instructions regarding assembly, installation, and maintenance of AQUARACE EXTREME

This manual is for the owner, manager and operators of the installation site.

This manual must be read thoroughly prior to the installation.

When the product is not working properly, do not attempt to perform any work to the machine unless you are the trained site maintenance personnel or technician. Contact the service representative listed in this manual for assistance.

If this manual is lost, contact the retailer or the service representative listed in this manual for a copy.

You will be able to find [IMPORTANT] signs throughout the manual where special attention is needed. This sign does not concern any damage to property or human body.



When this sign is ignored, product will not perform its original performance or the product may stop operating.

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About Warranty

This product is covered by a limited 1 year warranty.

Any malfunctions caused by the factory defects are covered by this warranty policy and will be repaired at manufacturer's expense. If you encounter any malfunction, stop the operation, disconnect the power, and contact the retailer or the service representative listed in this manual.

Below are the cases not covered by the warranty. Any repairs will be charged to the owner or the operator.

- 1) Malfunctions caused by NATURAL DISASTER.
 - 2) Malfunctions caused by WATER or BREAKAGE caused by FALL.
 - 3) Malfunctions caused by MISHANDLING.
 - 4) Malfunctions caused by NOT FOLLOWING THIS MANUAL AT ALL TIMES.
 - 5) Malfunctions caused by UNAUTHORIZED MODIFICATIONS (including ADDITIONS).
 - 6) Malfunctions caused by INTENTIONAL DAMAGE TO THE PRODUCT.
 - 7) Malfunctions caused by NOT FOLLOWING THE MAINTENANCE ROUTINE.
 - 8) Detail examination conducted by manufacturer's engineer, regular maintenance, moving the -product, re-installation.
 - 9) Malfunctions caused by OTHER PRODUCTS. Malfunctions such as flickering of the screen caused by MAGNETIC FIELDS, ELECTRICAL SIGNALS generated by near by products.
 - 10) Parts classified as expendables
 - A – Switches, buttons
 - B – Any advertisement articles such as POP, banner and ETC.
- ※ The manufacturer is not responsible for the loss of income at the installed site caused by the malfunctions of the product.

DEFINITION OF SERVICEMEN AND TECHNICIAN

WARNING

Make sure all of the work to be done on this product is executed by Site Maintenance Personnel or Technicians as noted in this manual. Any work that is not noted in this manual should not be executed by anyone except for the trained (authorized) technicians. If this warning is not followed, serious accidents such as electric shock or short circuit may occur.

Replacing any parts or maintenance work or any other work to the product must be done by the Site Maintenance Personnel or Technicians. This manual strictly states that the work to the product must be done by authorized personnel with professional knowledge. Definitions of the Site Maintenance Personnel and Technicians are as follows.

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

- **Technicians :**
Persons employed by amusement equipment manufacturers or involved in design, production, testing or maintenance of amusement equipment. The individual should have either graduated from technical school or hold similar qualifications in electrical/electronics/mechanical engineering.
 - Duties of Technicians : Installations of amusement machines. Repair or adjustments of the electronics and parts.

1. HANDLING CAUTIONS

When installing, maintaining or handling the product, the following cautions should be observed in order to enjoy the game safely.

Failure to follow the warnings listed below and in other parts of this manual may cause physical injuries or damage to the machine.

WARNING

- Before any installation or maintenance work, make sure to turn off the power. Failure to do so may cause an electric shock or short-circuit. In case it is necessary to keep the power on for a certain type of work, the manual will explicitly state so.
- Power cables/cords or grounding wires should not be exposed such as on a passage. The exposure may cause physical injuries, possibly resulting in short-circuit or electric shock.
- Do not place any article on power cables/cords nor damage them, for it may cause a fire or electric shock.
- Do not pull on the power cables/cords unnecessarily during or after installation. Damaged cords may cause a fire or electric shock.
- Make sure to earth the product. Incorrect grounding may also cause an electric shock.
- Firmly connect IC boards and all connectors completely. Unstable connections may cause an electric fire.
- Do not make any unauthorized changes or modifications to the product.
 - Doing so may cause fire or an electric shock. In some cases it can hurt and cause physical injury to the user/operator or bystander.
 - The manufacturer and/or seller will not be liable for any accidents that occur on products that have undergone unauthorized modifications or changes including but not limited to such modifications and changes performed by a third party.
- Make sure to always execute the routine maintenance procedures specified in the manual.

IMPORTANT

- When cleaning the surface of the monitor, use a soft and dry cloth. Do not use chemicals such as thinner or benzene.
- Static electricity in the human body can destroy electronic parts on IC boards. Make sure to discharge any static electricity by measures such as setting hands to a grounded metal plate before handling IC boards.
- There are some components/parts, which are not specially designed and manufactured for the product. Please understand that in case the manufacturer of such components/parts discontinues production or changes the specifications, it may not be possible to repair or replace such products regardless of the warranted period.

2. INSTALLATION LOCATION CAUTIONS

WARNING

The product is intended for indoor use. Therefore, do not install it outdoors. Even when installed indoors, the following locations should be avoided. They may cause a fire, electric shock or breakdown.

- Places with raindrops or water leakage, or places with high humidity such as indoor swimming pools or showers.
- Places that have a high temperature such as places with direct sunlight or close to heating sources.
- Places near flammable gas, explosive chemical or dangerous substances.
- Places that are dusty
- Places with an incline.
- Places with intense vibration
- Places near anti-disaster facilities such as emergency exit or fire extinguisher
- Any other place outside of the allowable temperature range (ambient temp.) of 5°C~30°C.

RESTRICTIONS FOR USE

WARNING

- Check your electric specifications.
Check whether the product conforms to the voltage, current and frequency provided at the installation location. For the electric specifications, see the plate (label) attached on the product.
If electric source outside of the specification is used, it can cause a fire or electric shock.
- Inside the installation location, a breaker and an earth connection for the product are required. An independent electric source for the product should be provided to prevent fire or electric shock.
- On the back side of the SCU, the power needed to operate the product is marked as single-phase AC 200V, 208V, 220V, 230V, and 240V. Prepare a compliant power source.
- Make sure to use the power with independent circuit breaker. Using any power source without circuit breaker can cause a fire.
- Do not have many electrical cords connected to a single socket. Overload can cause the generation of heat or a fire.

Electric Power Consumption

MAX. 14.73A (AC200V 50/60Hz)
14.43A (AC220V 50/60Hz)
11.38A (AC240V 50/60Hz)

OPERATIONAL FLOOR AREA

WARNING

- This product requires at least the space noted below for proper operation. This includes the consideration for the space for pedestrians and maintenance. If not enough space is provided, collisions and trouble may happen.
- 3334mm X 2171mm
- In case any accident occurs while the product is operated on a floor area less than specified, the manufacturer will not be responsible for any liability or reparations.
- In case the product cannot fit through the entrance of a location, do not disassemble without proper preparations. Disassemble only the parts as specified in this manual. Do not attempt a disassembly procedure not described in this manual. Special tools and adjustment procedures are required to disassemble/assemble much of the mechanical parts of the product. Improper disassemble/assemble can lead to accident during disassembly/assembly such as electrical shock and human injury. If the product does not fit through the entrance even after the disassembly specified in this manual, contact the manufacturer/supplier or the contact provided in this manual.
- This product requires opening of at least 2900mm of width and 1400mm of height to pass through. Do not tilt the product or subassemblies in an attempt to pass through small entrances. This can cause accidents during the transportation. In addition, it can cause damage or deformation to parts and result in accidents during operation.

3. CAUTIONS: OPERATION

For safe operation, please obey the following warnings and instructions.

CAUTIONS: OPERATION

WARNING

Check the following cautions before working hours to prevent accidents.

- To prevent any player or other customers from headache or dizziness, the product should be installed in a well-lighted place so that warning signs can be clearly read. Improper lighting can cause unexpected problems such as contact between customers, collision, and other undesirable situations.
- Adjust the monitor appropriately.
If monitor blinking is detected, do not leave it un-adjusted. Inappropriate monitor adjustment can cause dizziness or headache to players and other customers.
- Prepare a resting facility for players to take a rest in case he (she) needs to rest due to conditions such as motion sickness.
- Check whether the level adjusters are securely set to the ground. If not, the product is not properly set and can result in an accident.
- Do not place any heavy article on the product. It can cause an accident if dropped and can also damage components.
- Do not climb on the product. Accident can be caused from falling. If it is necessary to check the top of the product, use a stepladder.
- Check whether any doors or cover sections are damaged or separated. It can cause electric shock.
- Do not place the following articles on or inside the control panel, on top of the seat, on the top of the product or in the vicinity of the product. Doing so may cause short-circuit, electric shock or damage parts.
- Vase, pot, cup, water bucket, cosmetics and containers containing chemicals or water.
- Check the surroundings before turning the product on. Once it is turned on, the product is automatically initialized. If anyone is too close to the product during initialization, collision with the moving cabin can occur.
- For safe operation, make sure to execute a trial operation after power on. Since the cabin moves, the product is equipped with safety devices. Please check whether these safety devices work normally as follows.
 - Does the seat belt secure the player properly?
 - Is the seat belt free of damages or excessive wear?
 - Does the motion stop automatically when the seat belt is loosened?
 - Is the seat attached securely without looseness?
 - Does the product stop the motion when the GAME STOP button is pressed?
 - Does the product stop the motion when the sensors are tripped?
 - Does the product stop the motion when the cabin sensor is tripped?
 - Does the product stop the motion when the cabin door is opened?
- In addition to checking the safety devices, make sure that the product moves normally. Any abnormal motion can cause accidents. Do not operate the product unless all abnormalities are resolved.
 - Does the product move smoothly?
 - Is there any abnormal noise or sound when moving?
 - Is there any abnormal vibration when moving?
- If an abnormality regarding the Cabin or the Actuator is found during inspection or operation, stop the operation and contact the retailer or the service personnel listed in this manual. If the operation does not stop even after an abnormal behavior of the product is found, serious accidents/injury such as electric shock, short circuit, fire, and even death. For the maintenance of the Cabin or the Actuator, please contact the service personnel listed in this manual. A service person who is not authorized by the manufacturer should not carry out the service work on this product. Serious accidents or injury may occur during the work. Also, serious accidents or injury may occur to the passengers.
- To prevent any possible accidents, Fence must be installed properly and make sure the movements of the cabin is within the Fence.

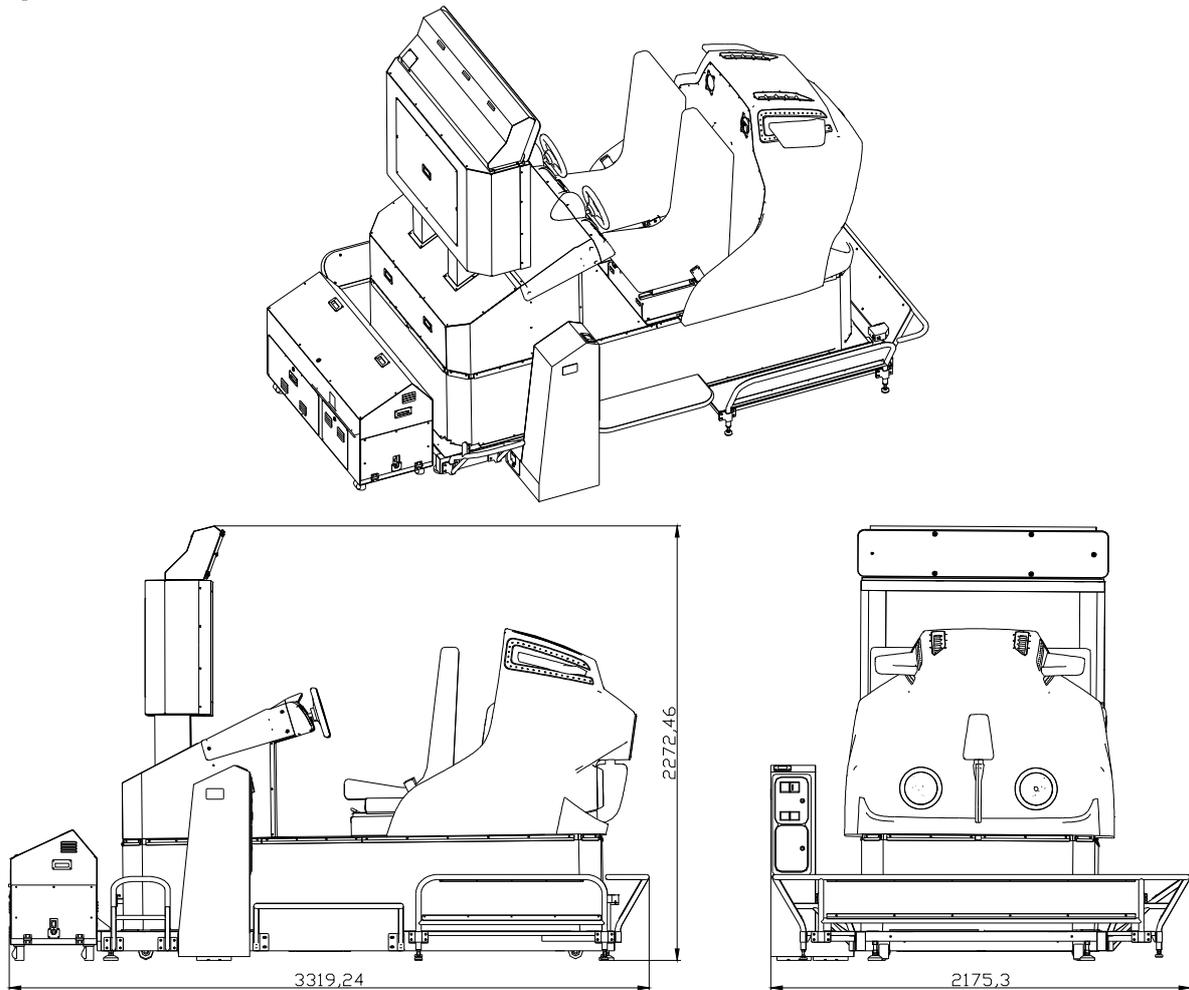
CAUTIONS : OPERATION (TO THE PLAYER)

To prevent accidents and/or unnecessary problems, alert players or customers to be aware of the following.

⚠ WARNING

- Anyone who falls into one or more of the following should be prevented from playing the game. It may cause an accident or injuries.
 - Persons who need assistance when walking, and persons with high blood pressure or heart disease.
 - Persons who have experienced spasms/convulsions or motion sickness or unconsciousness' after playing a TV video or similar game.
 - Persons who have neck or backbone trouble.
 - Pregnant women or persons who are intoxicated.
 - Persons susceptible to vomiting from amusement rides.
 - Persons that do not follow warning signs.
- Even persons who have never experienced discomfort due to phobic stimulation may experience dizziness, nausea, and/or headaches from playing this game.
- If discomfort becomes severe, advice a player to consult a doctor.
- Do not place any heavy articles or beverages on top of the product. Accidents from the falling articles and accidents due to electric shock can occur.
- Do not insert your finger or any foreign substances into any open parts or doors of the product. It may cause electric shock or short-circuit.
- Do not lean on or climb on the product. It may cause accidents from falling and turnover of the product.
- Do not pull out the power plug recklessly. It may cause short-circuit or electric shock.
- Person under the height of 90cm may not ride. Person with the height from 90cm to 120cm must ride with a guardian or a parent.
- Person with the weight of 120kg and above may not ride. It may cause the product to malfunction.
- Do not ride the product without the seatbelt fastened securely. The passenger can fall of the ride. Passengers need to have the seatbelts fastened at all times.
- This product is a two-passenger ride. Do not seat more than 2 passengers.
- Do not let the passengers to have their children ride on their laps.
- Do not let people get too close to the moving cabin. It can cause collisions. Specially for little children, use extra caution.
- Keep the feet inside the cabin at all times. If not, it can cause foot injuries.
- Remove objects such as bag straps or mufflers around the neck. Do not bring drinks into the ride.
- Always watch the passengers and bystanders to prevent any possible trouble. They might act in unexpected ways. Stop any dangerous behaviors for safety reasons.

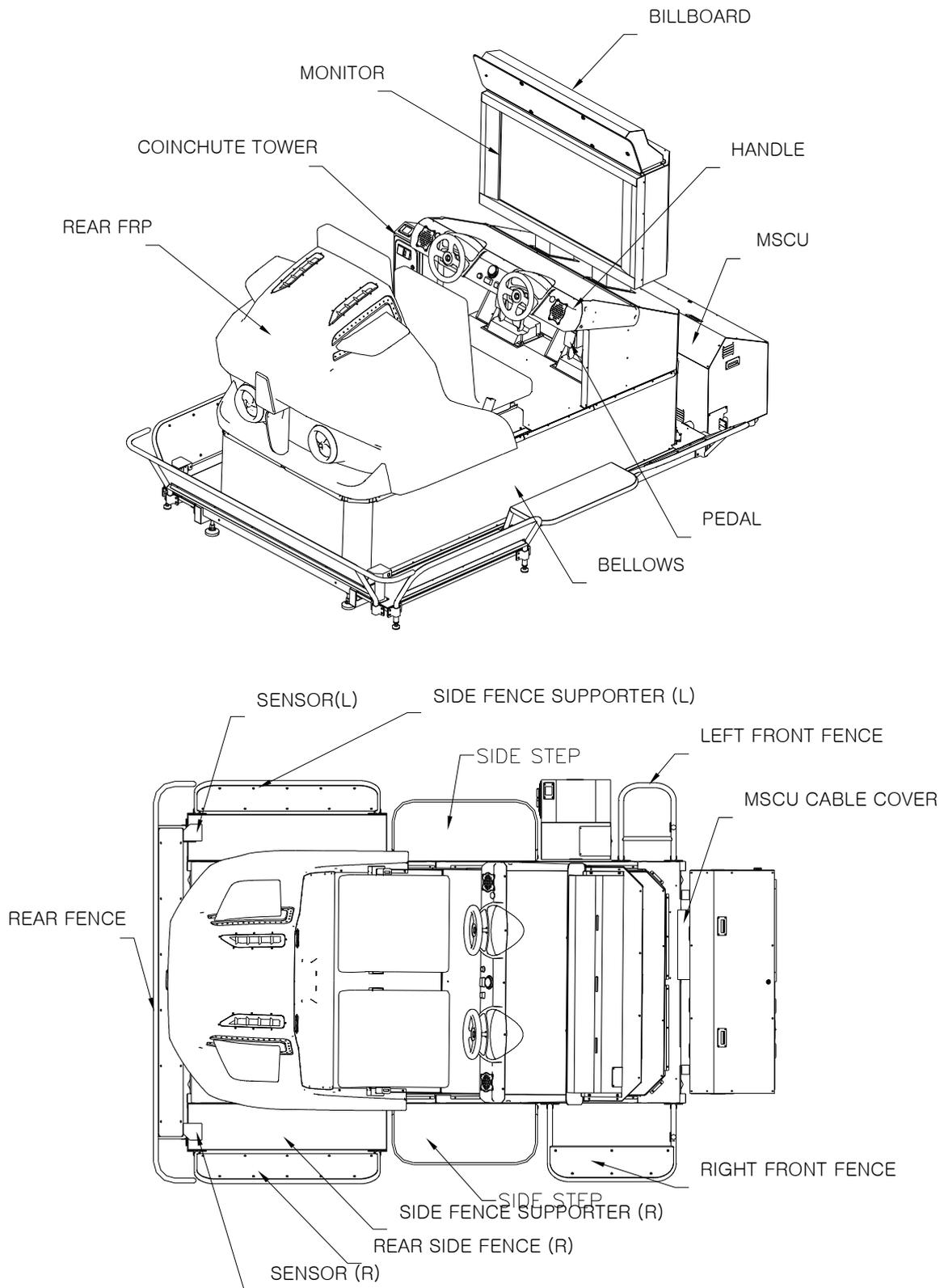
4. Specification

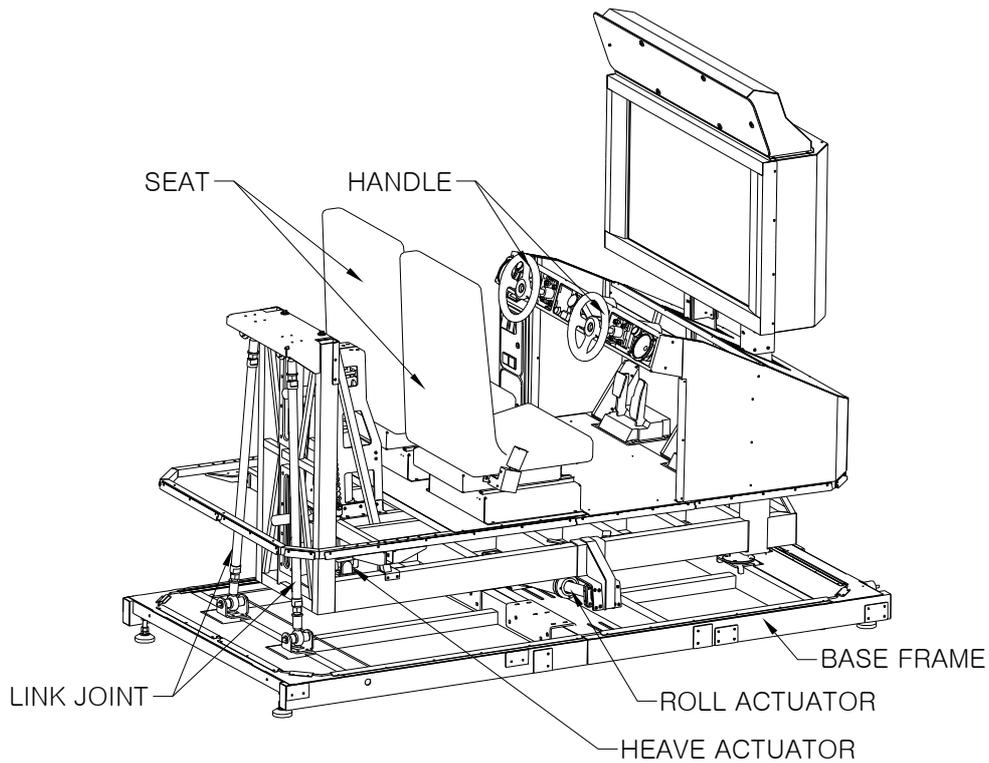


- Operation Area : 3320mm x 2175mm x 2272mm
- Total Weight : ~750Kg
- Maximum Power Consumption: 14.73A, 2467.7W (AC 200V, 50~60Hz)
 14.43A, 2449.3W (AC 220V, 50~60Hz)
 11.38A, 2301.6W (AC 240V, 50~60Hz)
- Monitor : 46" LCD (Demo Display : 60" PDP)
- Maximum Passenger weigh : Maximum 150kg / person

5. Parts

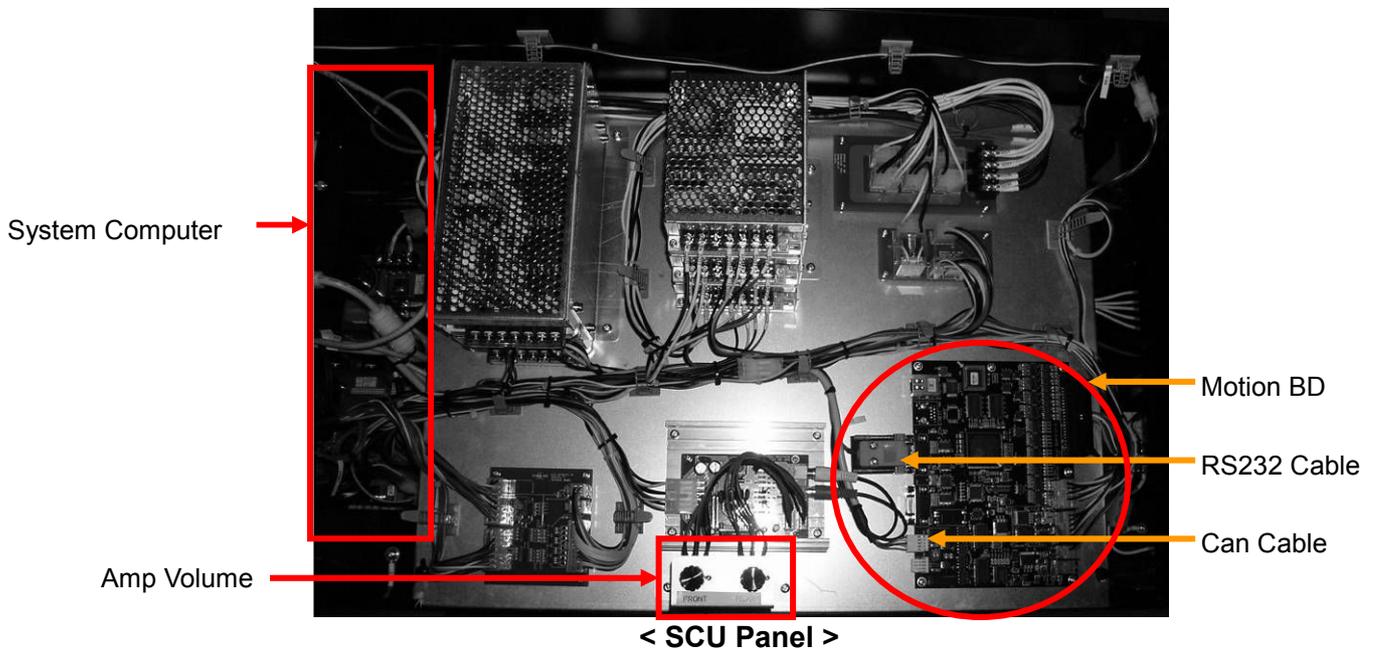
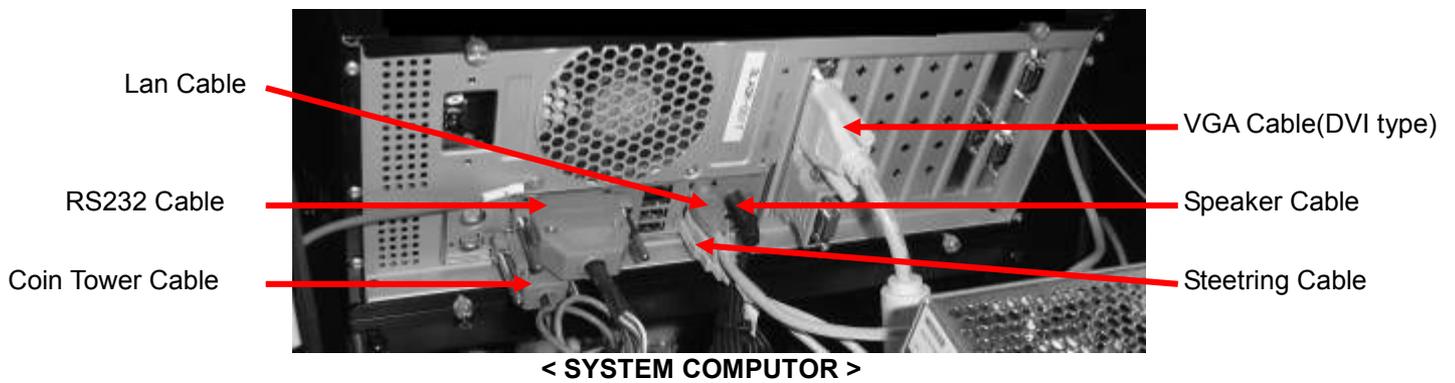
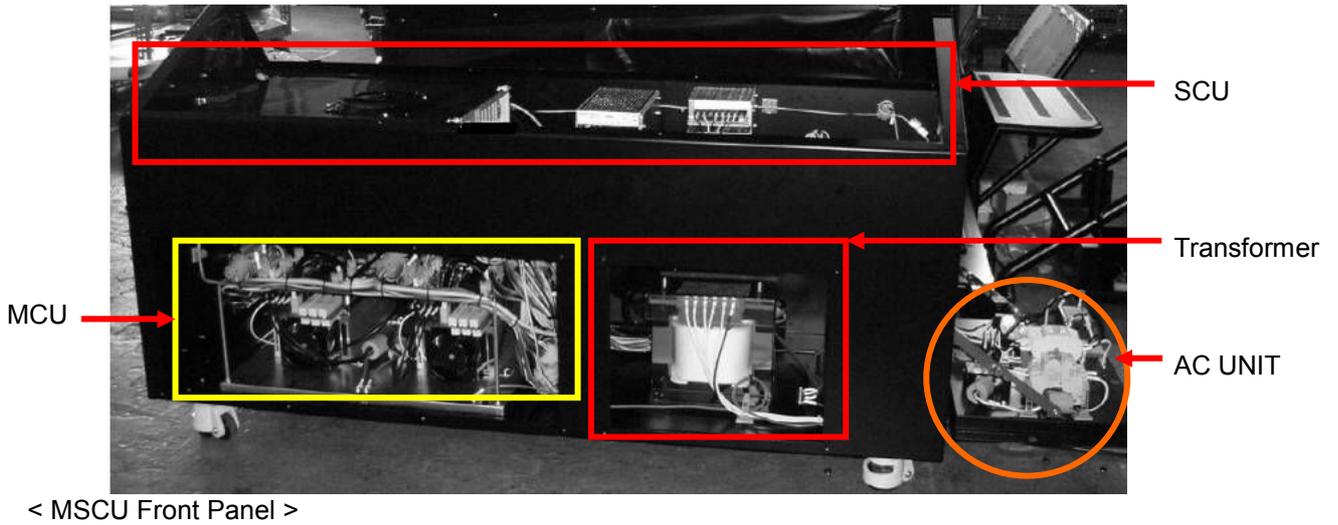
5-1. Cabin Parts





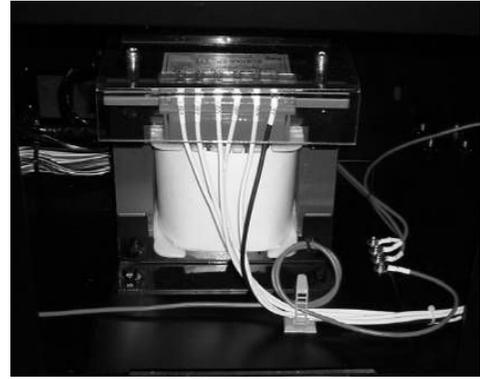
Item	Description
MSCU (Motion/System Control)	Composed of SCU, MCU, ACU and Transformer-Controls Motion System
Coinchute Tower	Composed of Coin Selector and Coin Vault. The Coinchute Tower of this product has compatibility that various Coin Frames can be installed.
Side Step	Passenger loading step
Billboard	Publications board
Fence	Keeps gallery away and guards the machine
Control Panel	Game controls
Motion Actuator Mechanism	2 actuators and 2 joints for motion, anti-twist structure, links, and etc.
Area Sensor	Safety Sensor. When triggered, cabin stops the motion and resumes in 3 seconds after the obstruction is removed.

5-2. MSCU(Motion/System Control Unit)





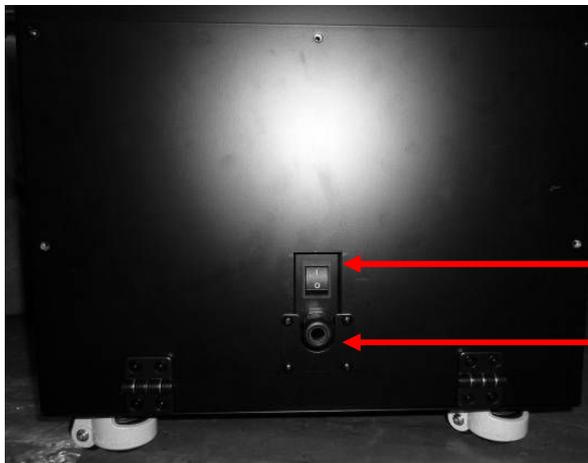
< MCU >



< Transformer >

NO	Item	Description
1	MSCU	Composed of SCU, MCU, ACU and Transformer-Controls Motion System
2	SCU (System Control Unit)	Composed of System Computer and SCU Panel – Controls System
3	System Computer	Computer that controls the entire machine including H/W and S/W
4	MCU (Motor Control Unit)	Composed of 2 Servo motor drivers that controls the operation of 2 Actuators for motion
5	Transformer	A transformer unit that can convert any country's electricity to suite the machine.

5-3. AC UNIT



Main Power Switch

Power Cable

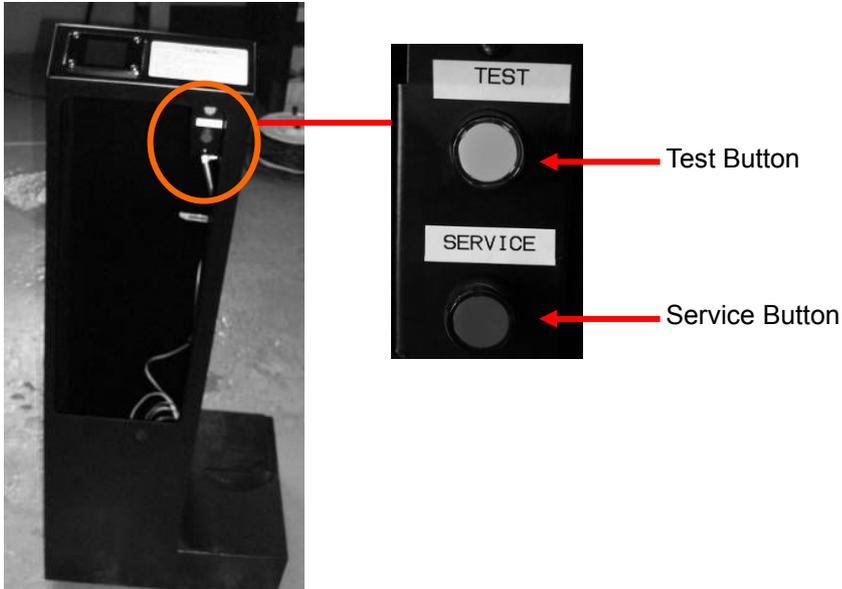
< AC UNIT >

No	Item	Description
1	Main Power Switch	When pushed to ON(1) position, system powers up and the cabin moves to initial position. When pushed to OFF(0) position, entire system shuts down.
2	Power Cable	Power cable

5-4. Coinchute Tower & O.P Panel

⚠ CAUTION

Test Button should only be operated by an authorized personnel.



O.P Panel is located inside the Coinchute Tower Door.

NO	Item	Description
1	Choinchute Tower	Coinchute Tower is composed of Coin Frame and Coin Vault. Coinchute Tower is designed to work with various types of Coin Frame.
2	Test Button	Used only when game settings need to be changed. Goes into TEST mode when pressed during the Advertise Screen is showing.
3	Service Button	When pushed, credit is added to the game. Used to raise credit while operation.

6. Accessory

Part	Quantity
MSCU Box Key	3
Coinchute Tower Key	2
Manual	1

7. Installation Assembly

WARNING

- This product has a complex structures and equipments. Please follow the instructions in this manual at all times. Misses in assembly may cause electric shock or damages to the machine and cannot guarantee normal operation in those cases.
- Make sure there are a crew of 4 or more is available for installation. This machine cannot be assembled by one technician. If the installation is carried out by one person, accidents or damages to the machine may occur.
- Make sure all of the connectors are connected to the proper positions firmly. Insecure connections may cause malfunctions or electric shocks.
- Make sure that none of the cables and harnesses are damaged during installation. Damaged cables and harnesses can cause electric shocks or short circuit.
- This installation must be carried out by the manager of the store or the service manager. If an unqualified personnel installs this machine, accidents may occur. Also, if the installation instructions in this manual is not followed fully, severe accidents may occur to both of the passengers and workers. If there are no technicians or site maintenance personnel are available for installation, please contact the office listed in this manual.
- Make sure that the required space is available for the installation. The space required for the installation is noted in this manual. Insufficient installation space may cause accidents during installation.
- Slanted floor, gaps, elevation difference must be avoided for installation. Cabin or frames may tip over and cause sever accidents.
- Do not expose the power cable, earth line and etc where people might walk over them. Damaged cables may cause electric shocks or short circuits. Use cable floor molds to protect them.
- Do not cover the vent at the back side of the MSCU. It may cause overheating and possibly fire.
- Refer to [2. Installation Location Cautions] prior to the installation. If not enough space is provided, bodily injuries including even death or damages to the product.
- When multiple number of technicians are working at the same time, use extreme caution to prevent any possible collisions and accidents.

CAUTION

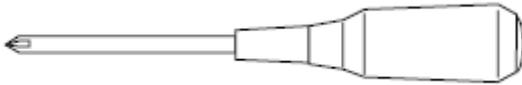
Use caution while working with molded parts. Too much pressure can damage the parts. This may cause injuries.

Installation is executed in the following order

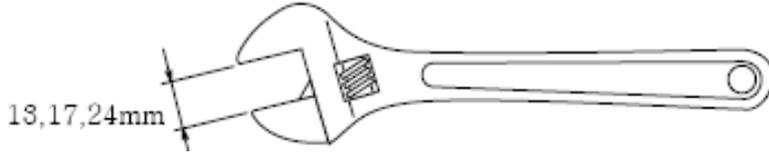
- (1) Locating the product at the installation site**
- (2) SENSOR installation**
- (3) SIDE FENCE SUPPORTER installation**
- (4) REAR SIDE FENCE installation**
- (5) REAR FENCE installation**
- (6) SIDE STEP installation**
- (7) RIGHT FRONT FENCE installation**
- (8) COINCHUTE TOWER installation**
- (9) LEFT FRONT FENCE installation**
- (10) BILLBOARD Installation**
- (11) MSCU Installation**
- (12) Power Cable**

Tools needed for Installation

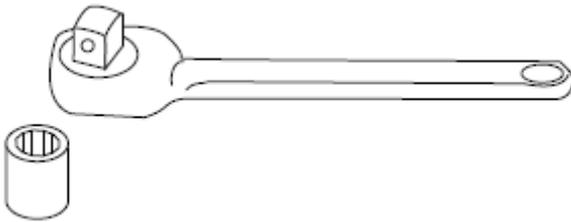
- Philips Screwdriver



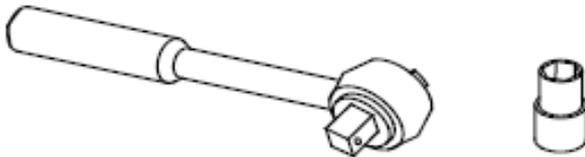
- 24mm Spanner(M16)



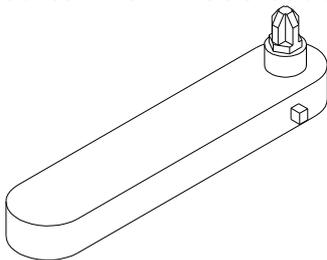
- 10, 13, 17, 19, 24mm Ratchet(M6, M8, M10, M12, M16)



- 8mm(Ashai), 5/16(7.95mm(HAPP)) Mini-Socket Wrench – Coin Frame



- Ratchet Driver – MSCU Cable Cover

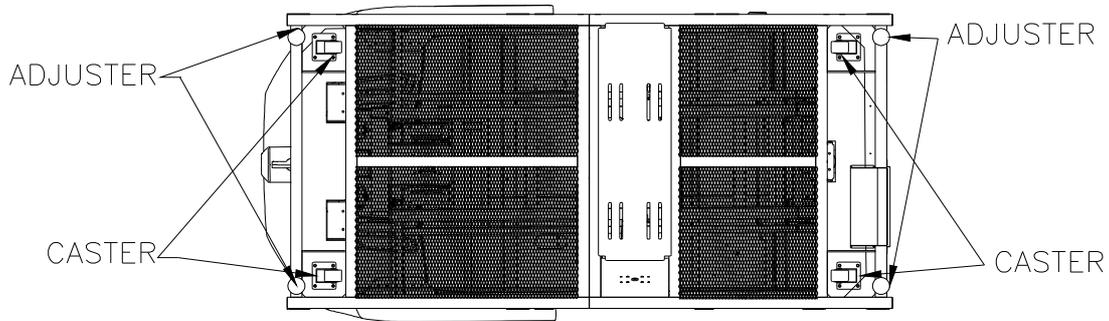


(1) Locating the product at the installation site

CAUTION

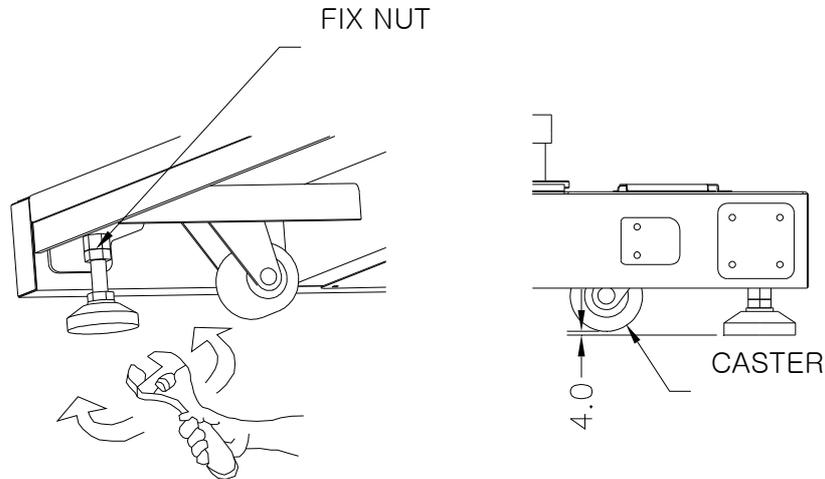
Make sure that all of the adjusters are firmly lowered to the floor before starting the work. If not, the product can move out of place and cause accidents.

This product is equipped with 4 casters and 4 adjusters.



< Fig 7-1a >

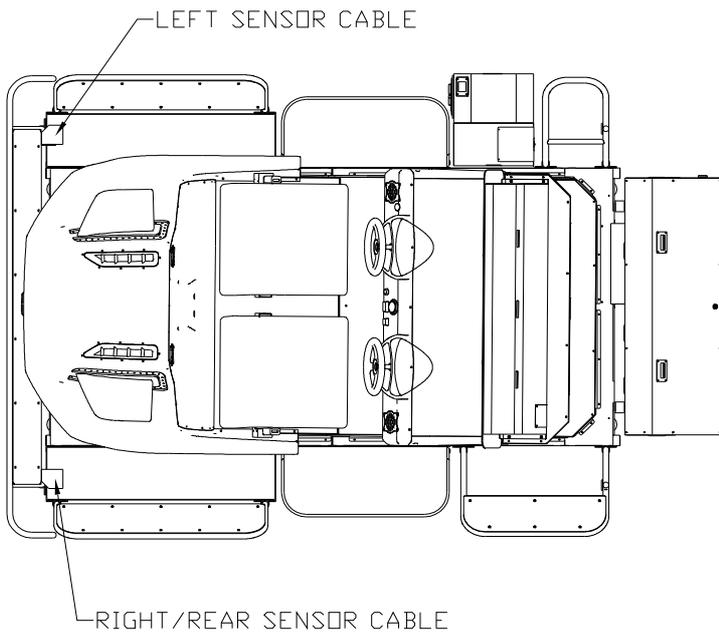
- ① Move the product to the installation location. When installing next to a wall, make sure there is enough room for loading and unloading.
- ② Adjust the adjusters so the product is level. When the installation location is decided, lower the adjusters all the way to the floor. Lower the adjusters until the bottom of the caster is about 4mm from the floor. (Turning a full circle of spanner makes Adjuster go up by 2 mm. So, after fixing Adjuster, please revolve it with a spanner two times to two and half times.)
- ③ When satisfied with the adjustment, refer to Fig 7-1b and tighten the adjuster nut to fix the setting.



< Fig 7-1b >

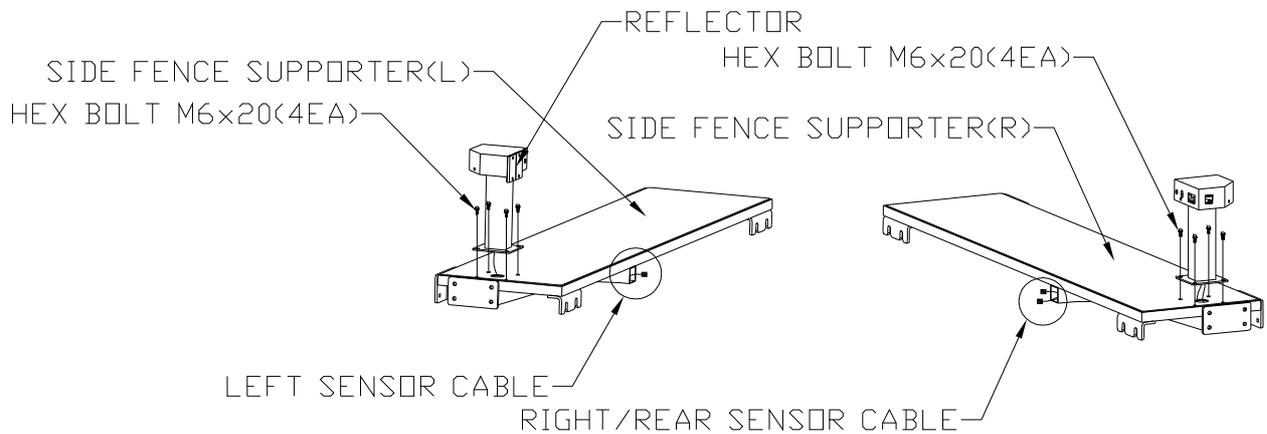
(2) SENSOR installation

① The installment position of SENSOR is as follows. Please install it conferring the following figure.



< Fig 7-2a >

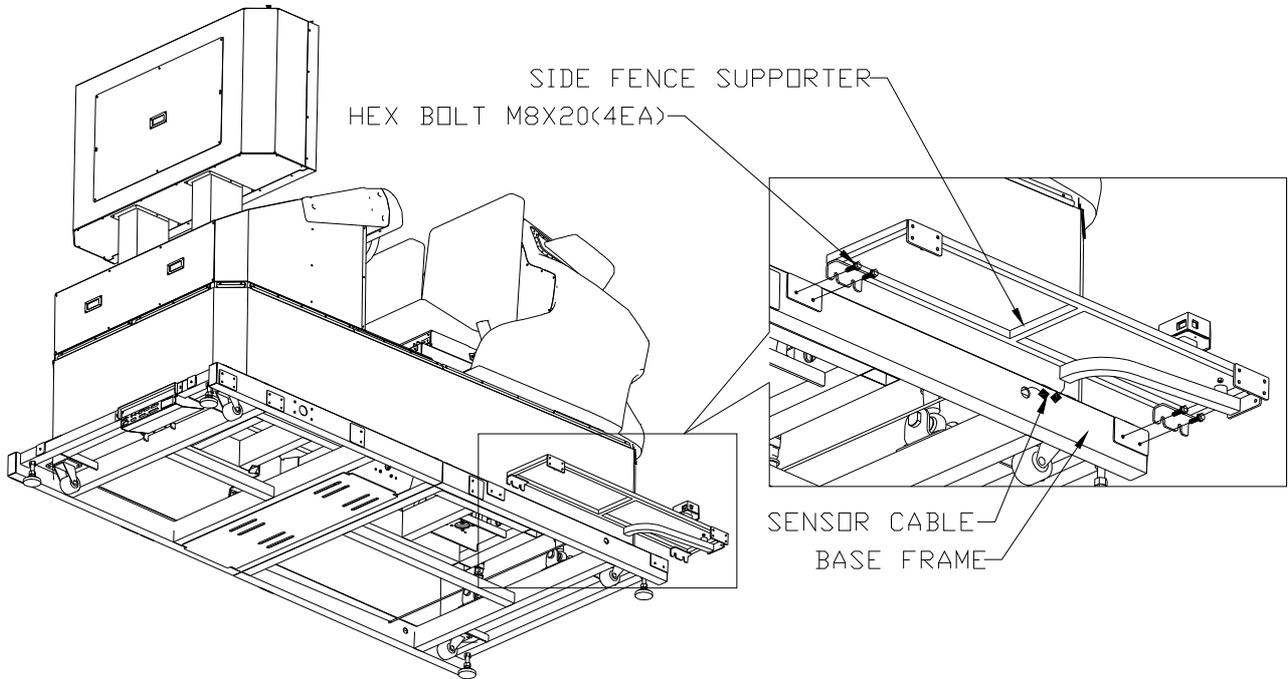
② It will be installed in SIDE FENCE SUPPORTER with four Hex Bolts (M6 x 20L). In installment, the SENSOR CABLE under the SENSOR must be in advance placed outside through the pipe. Please, be careful not to be confused with the direction of between the right and the left. The sensor attached with REFLECTOR should be in the left.



< Fig 7-2b >

(3) SIDE FENCE SUPPORTER installation

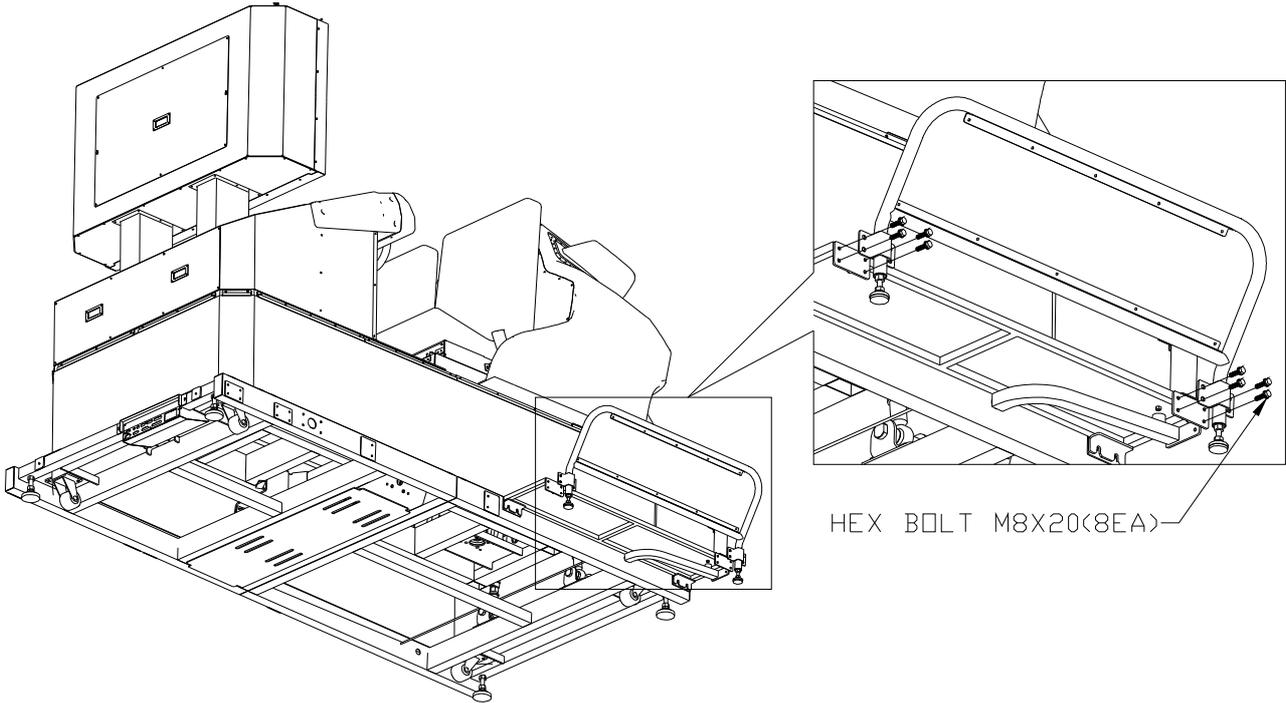
SIDE FENCE SUPPORTER can be installed at the side of BASE FRAME with four Hex Bolts (M6 x 20L). They must be installed at the both right and left sides of BASE FRAME. The upper side of REAR SIDE SUPPORTER and that of BASE FRAME should be fixed in a parallel way. Three SENSOR Cables must be connected and inserted inside. At this time, the cables must be connected with the ones with the same tags so that REAR and RIGHT SENSOR CABLE may not be exchanged. Please remember that when you step on REAR SIDE SUPPORTOR in the state of REAR SIDE FENCE not installed, it can be damaged.



< Fig 7-3 >

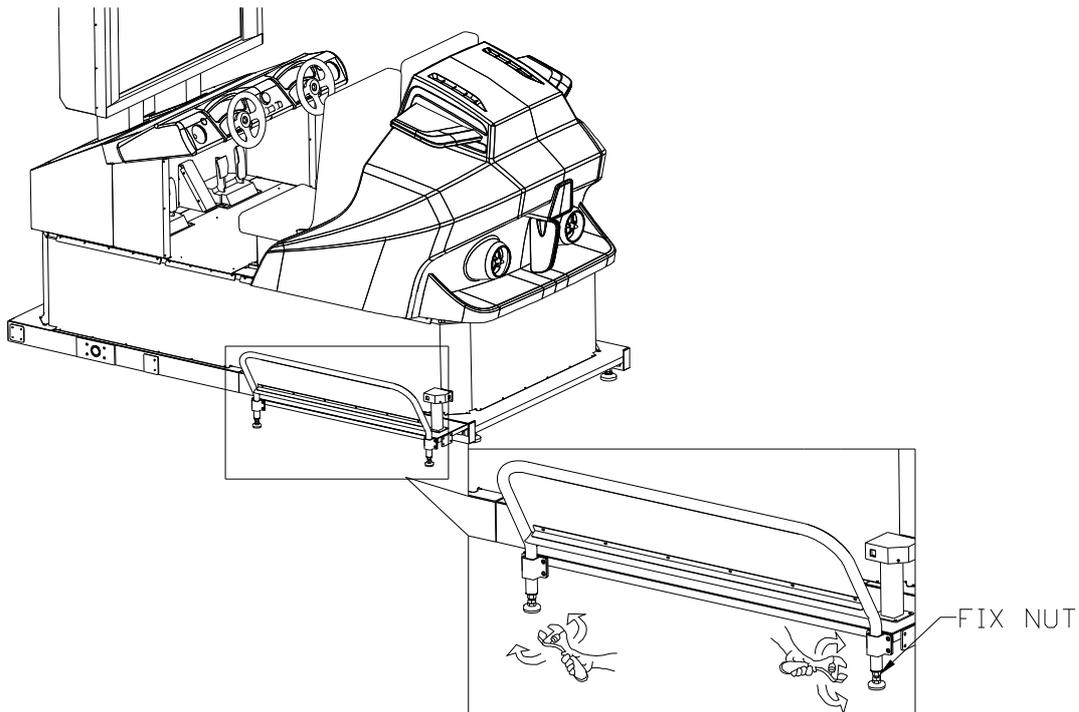
(4) REAR SIDE FENCE installation

- ① REAR SIDE FENCE can be installed with eight Hex Bolts (M8 x 20L).



< Fig 7-4a >

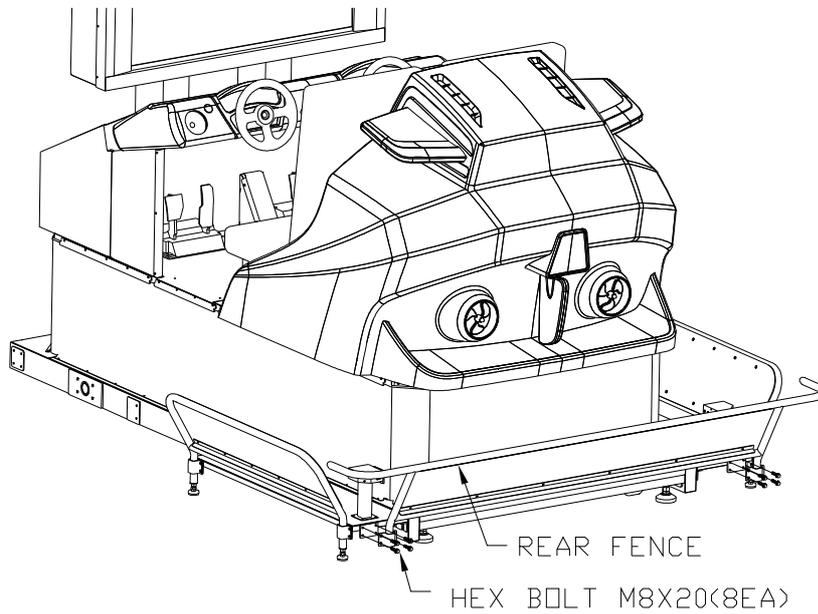
- ② It can be fixed by FIX NUT after lifting two Adjusters at the maximum level. Rear Side Fences must be installed at the both right and left sides of BASE FRAME.



< Fig 7-4b >

(5) REAR FENCE installation

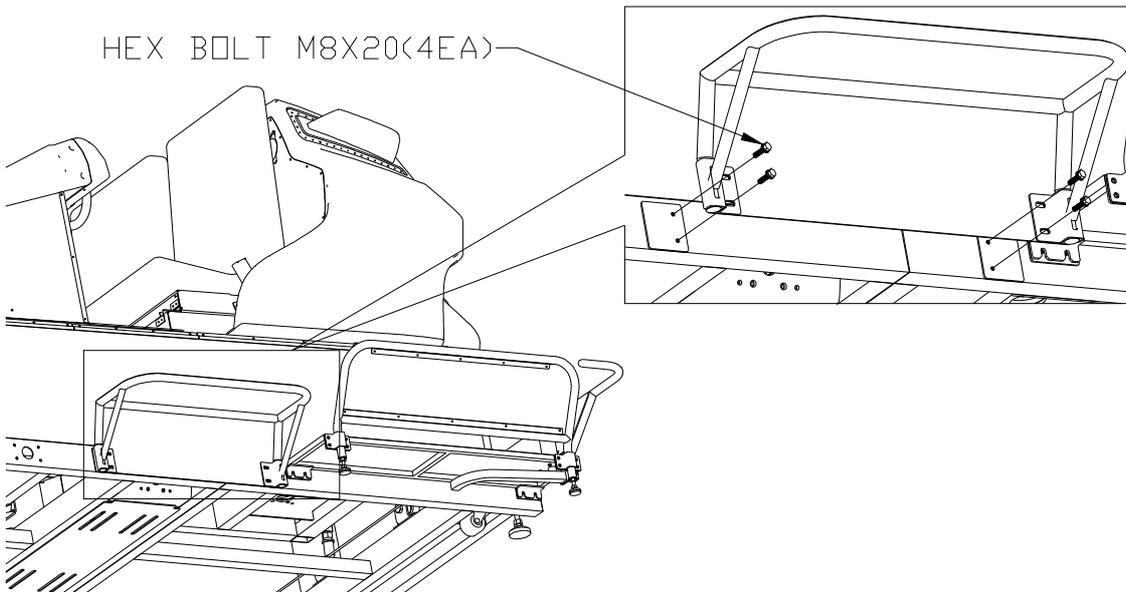
REAR FENCE will be installed in the tap hall at the backside of REAR SIDE FENCE with eight Hex Bolts (M8 x 20L). In case the level of the hall is not fit in, please rearrange the height of ADJUSTER in REAR SIDE FENCE.



< Fig 7-5 >

(6) SIDE STEP installation

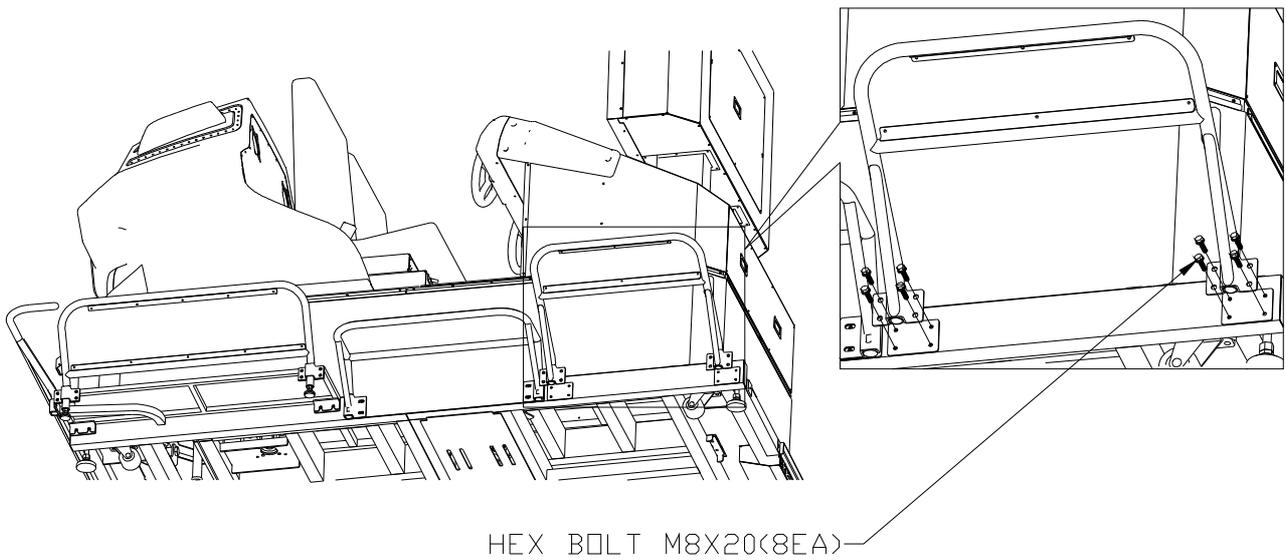
SIDE STEP in the side of BASE FRAME can be fixed with four Hex Bolts (M8 x 20L). They must be installed at the both right and left sides of BASE FRAME



< Fig 7-6 >

(7) RIGHT FRONT FENCE installation

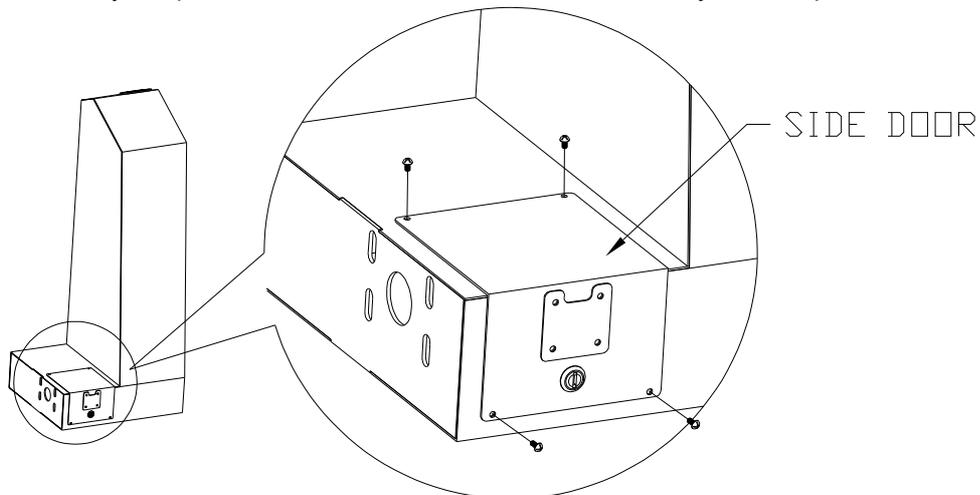
This can be installed at the right front of BASE FRAME with four Hex Bolts (M8 x 20L).



< Fig 7-7 >

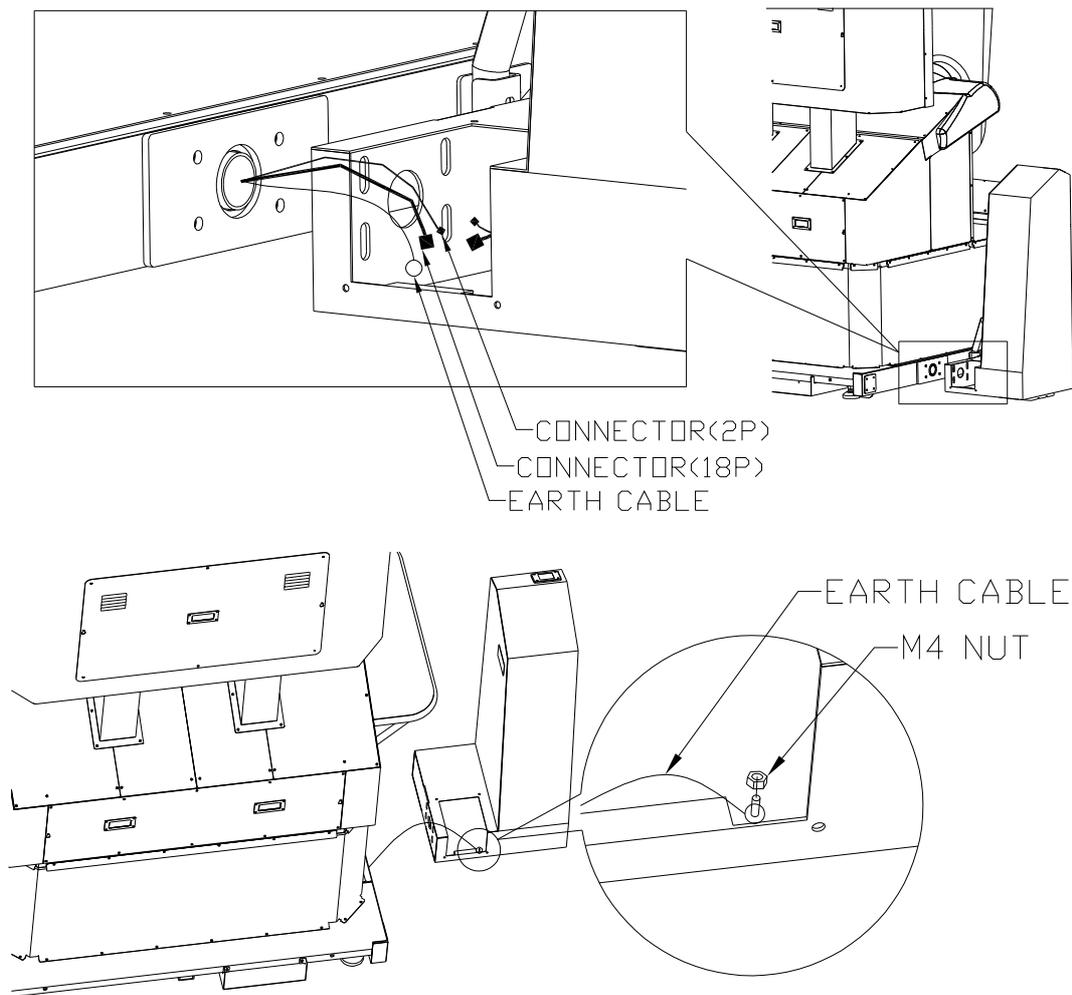
(8) COINCHUTE TOWER installation

- ① After you open SIDE DOOR of COINCHUTE TOWER, you must place the cable through a wiring hole.



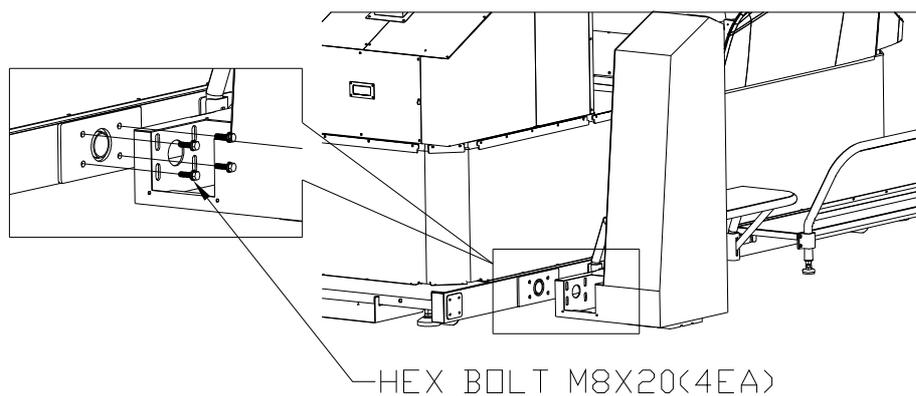
< Fig 7-8a >

- ② The CONNECTOR of the main body and that of COINCHUTE TOWER will be connected at the lower end of SIDE DOOR. The EARTH CABLE of the main body must be thrust toward COINCHUTE TOWER, hooked on a BOLT, and fixed by a M4 NUT.



< Fig 7-8b >

- ③ COINCHUTE TOWER will be installed at the left side of BASE FRAME with four Hex Bolts (M8 x 20L).

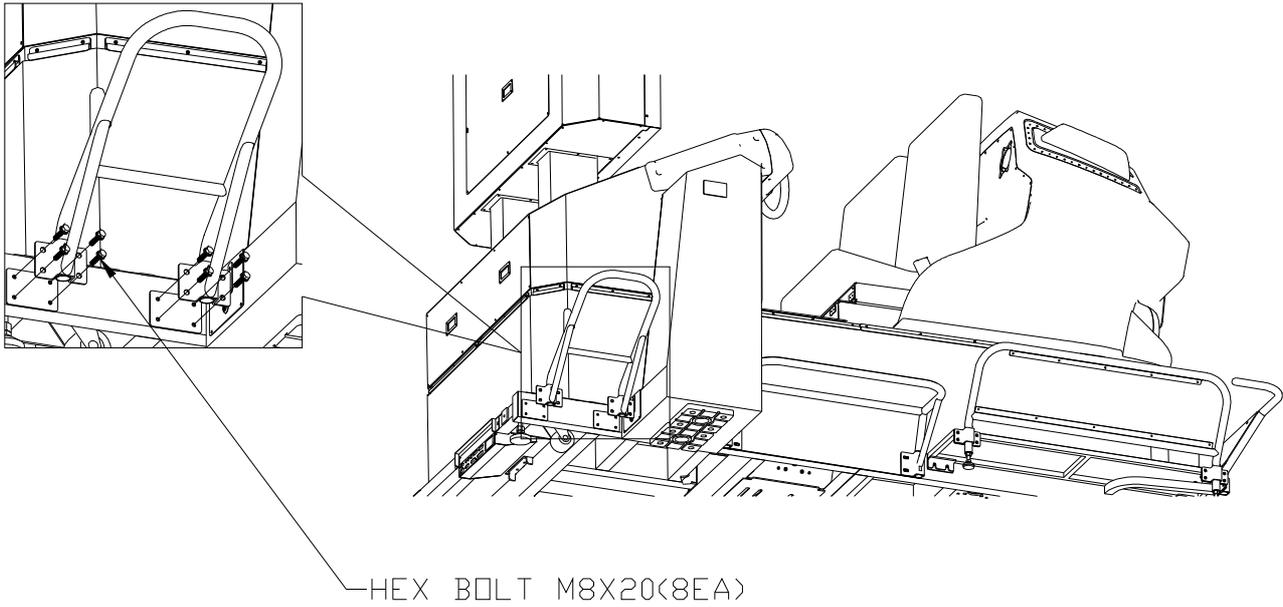


< Fig 7-8c >

- ④ You can shut SIDE DOOR.

(9) LEFT FRONT FENCE installation

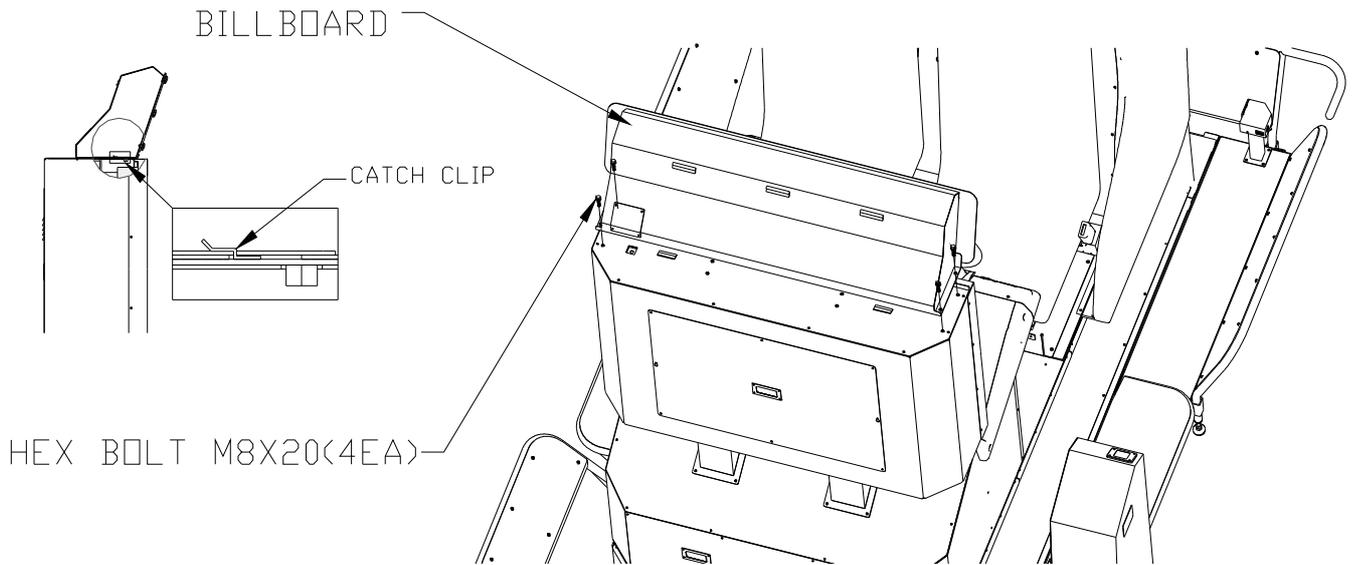
This can be installed at the left front of BASE FRAME with eight Hex Bolts (M8 x 20L).



< Fig 7-9 >

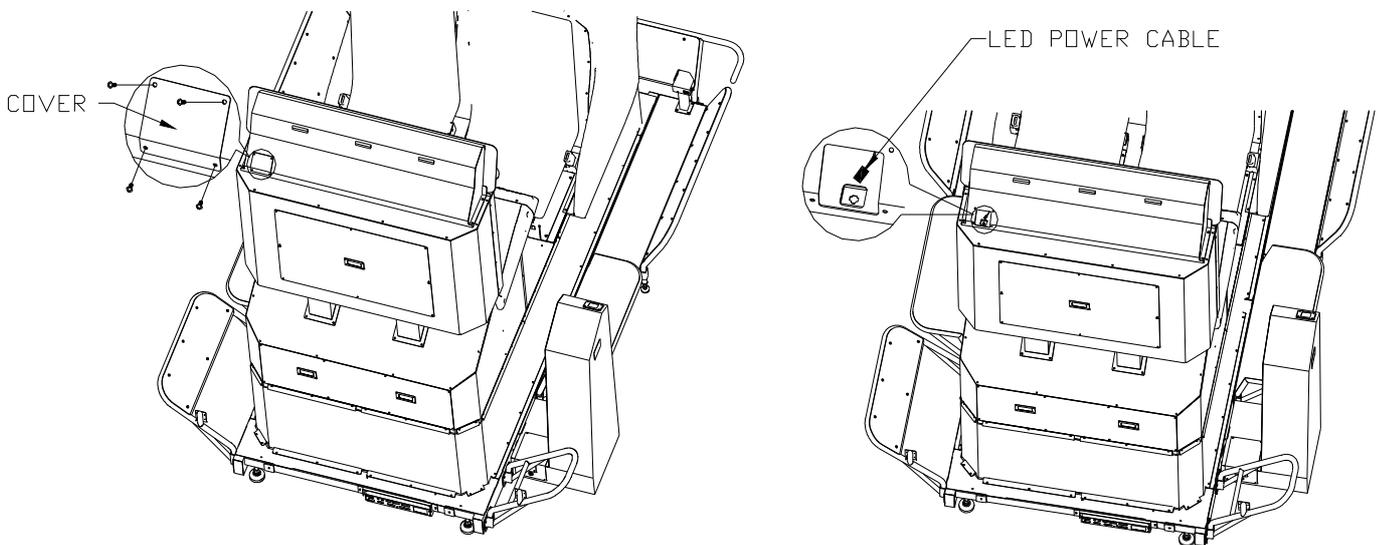
(10) BILLBOARD Installation

- ① After you push up the Billboard over the Monitor, you can hang it on CATCH CLIP, and fix it with four Hex Bolts (M8 x 20L) conferring the following figure.



< Fig 7-10a >

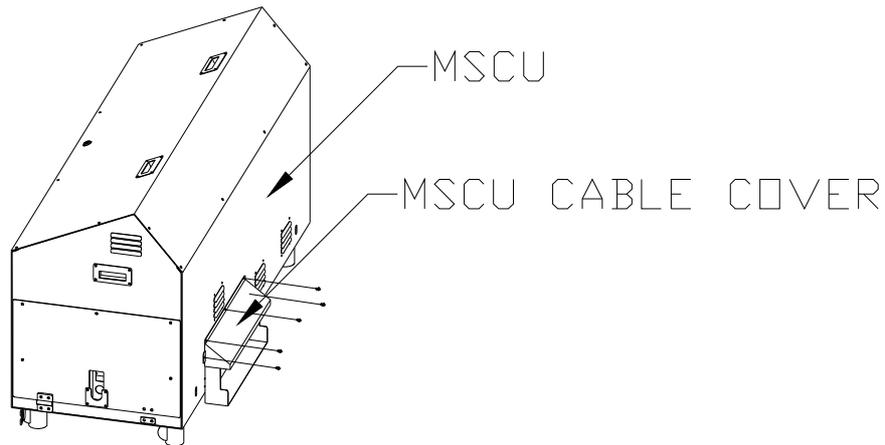
- ② After opening the COVER at the backside of Billboard, you can connect LED POWER CABLE. And then you can close the COVER.



< Fig 7-10b >

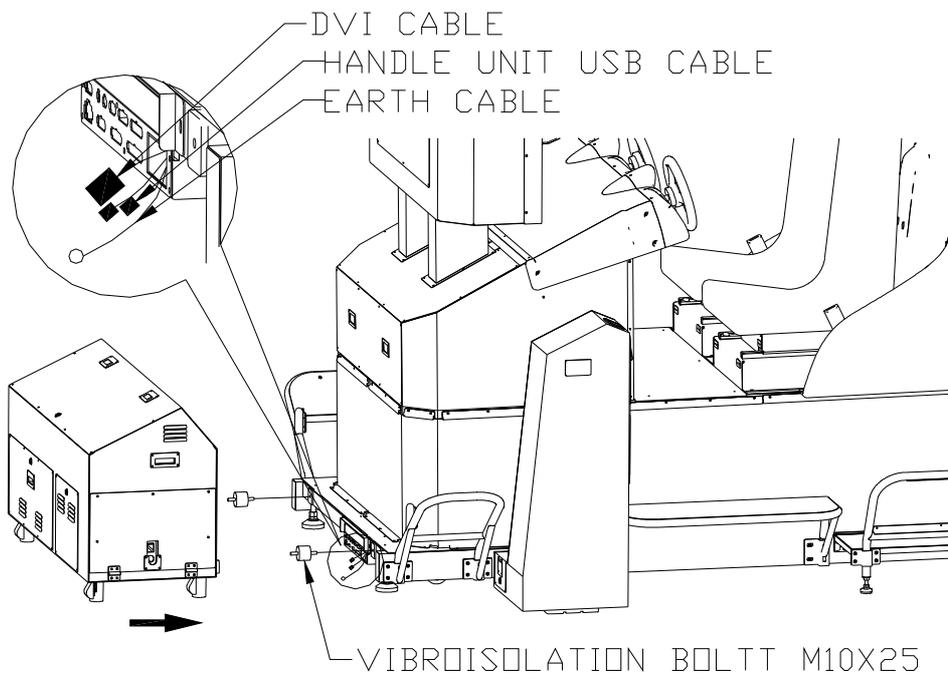
(11) MSCU Installation

- ① At first, MSCU CABLE COVER assembled at MUSC must be disjointed



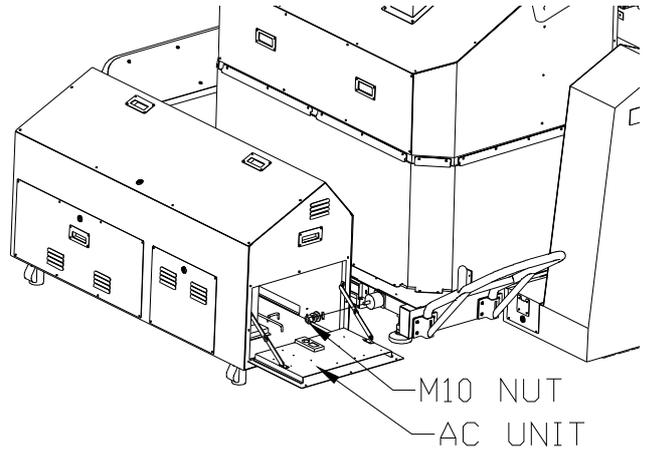
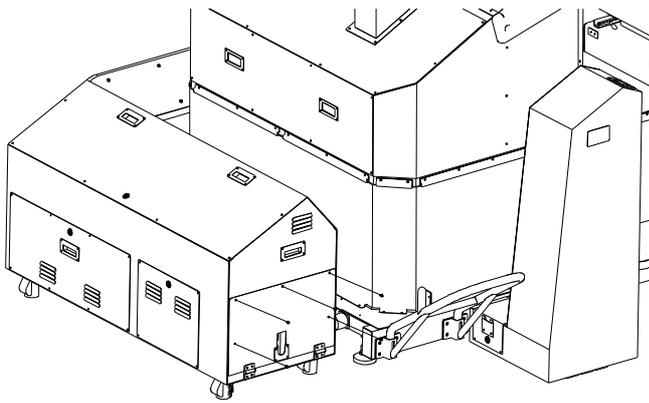
< Fig 7-11a >

- ② After you connect it with two VIBROISOLATION Bolts, M10 x 25L in the front side of BASE FRAME, you can push MUSC in a hole.

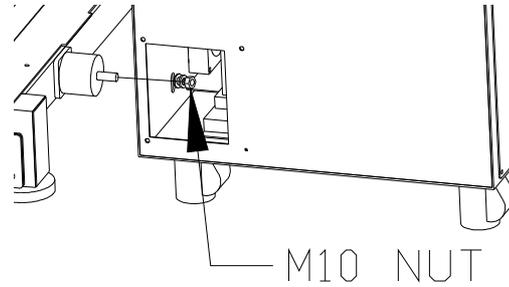
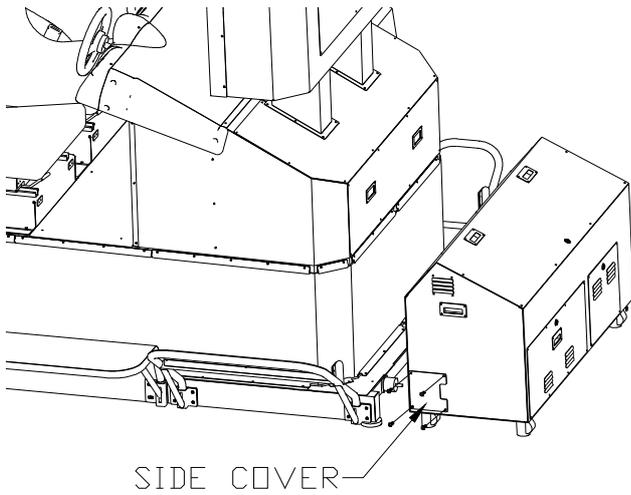


< Fig 7-11b >

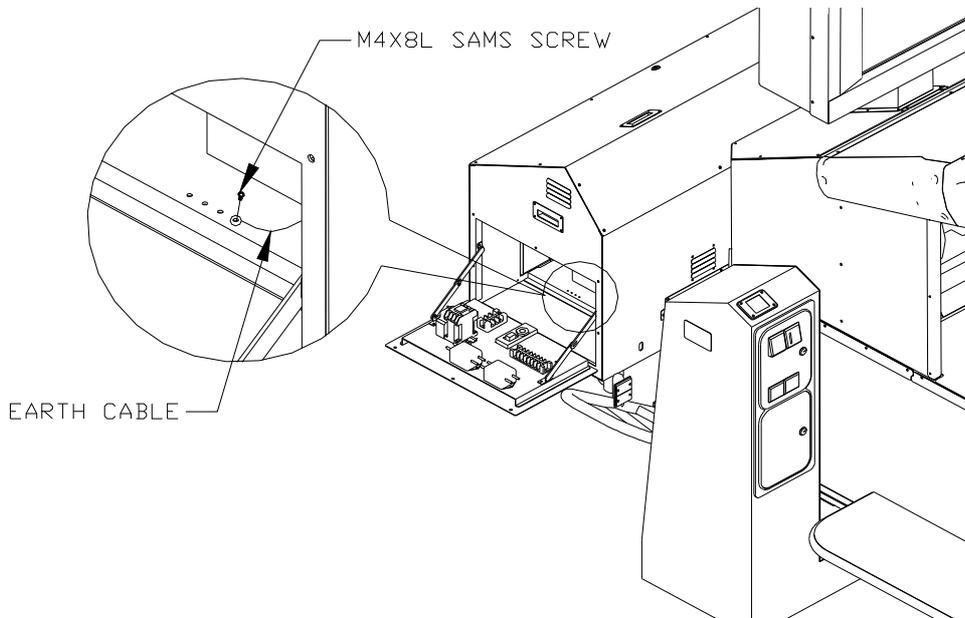
- ③ The Connectors which are outside of the front of the main body and backside of MSCU should be connected according to their shapes. After that, HANDLE UNIT USB CABLE, DVI CABLE can be connected. After opening AC UNIT and SIDE COVER as in Fig 7-11c, Fig 7-11d, you can connect it with the front side of BASE FRAME by VIBROISOLATION BOLT, M10 x 25L and M10 NUT. EARTH CABLE can be connected as in Fig 7-11e.



< Fig 7-11c >

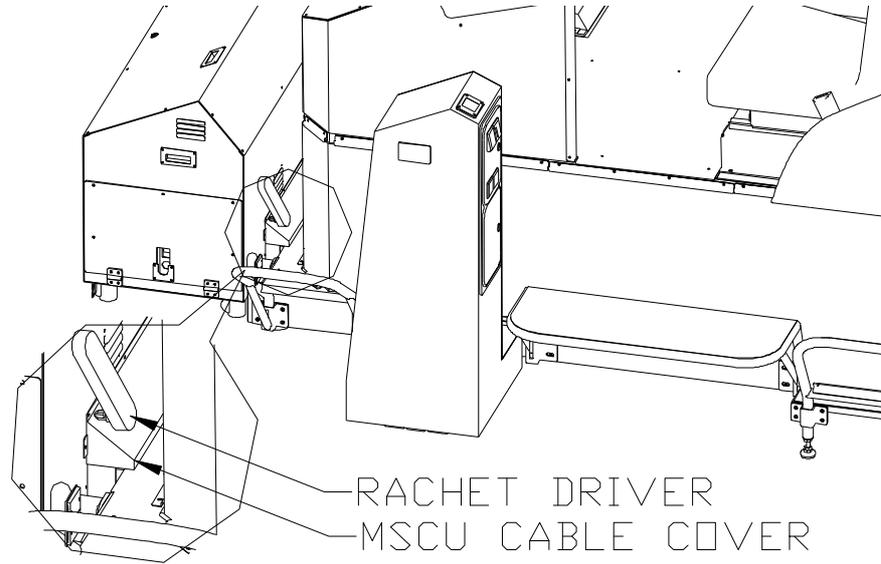


< Fig 7-11d >



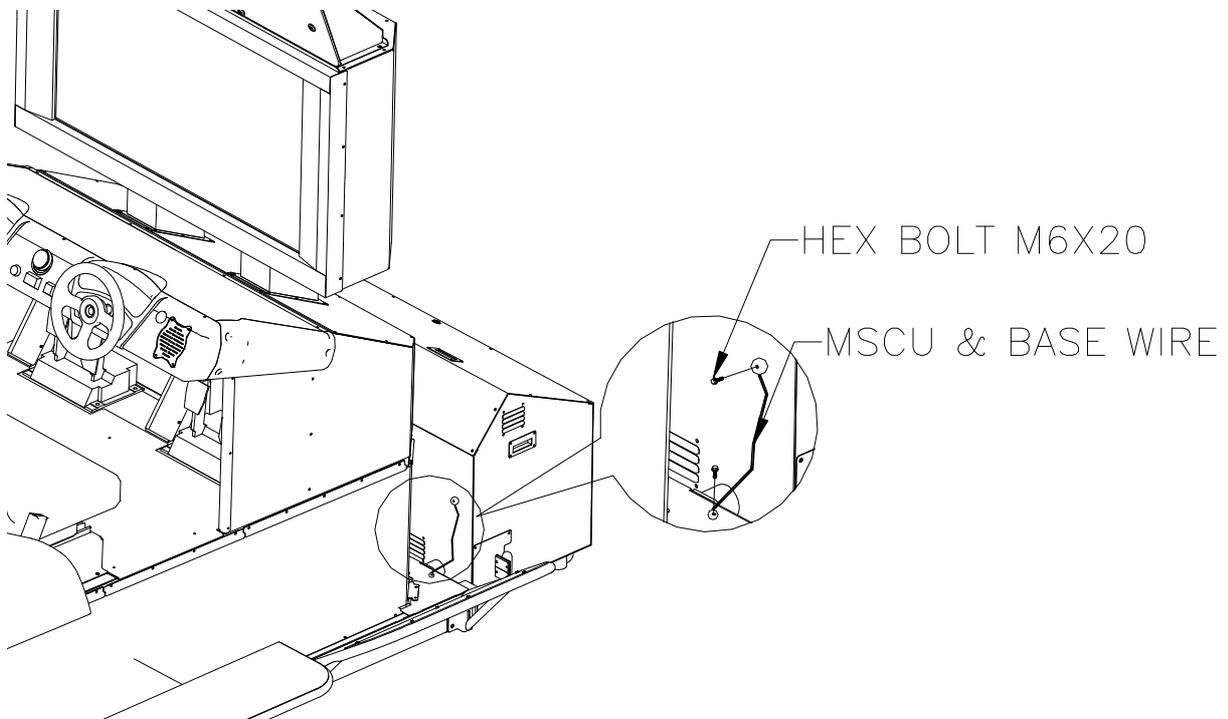
< Fig 7-11e >

④ You can fix again the disjointed MSCU CABLE COVER by using RACHET DRVIER.



< Fig 7-11f >

- ⑤ Finally, you can install MSCU & BASE WIRE at the both right and left sides with HEX BOLT, M6 x 20L.

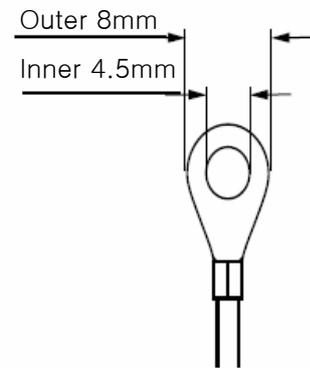


< Fig 7-11g >

(12) Power Cable

⚠ WARNING

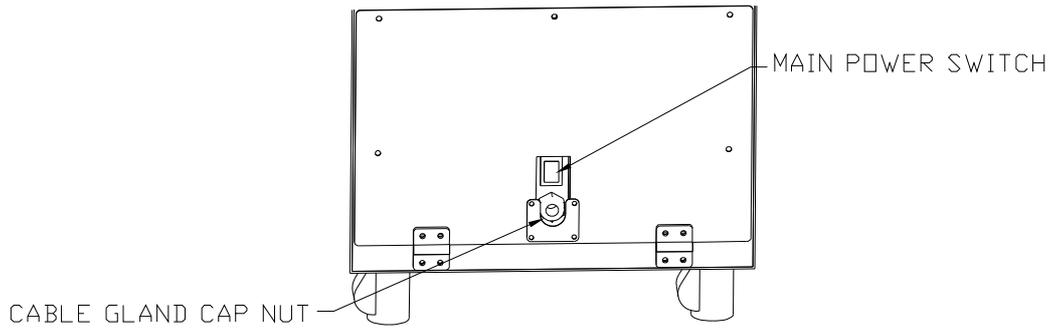
- When connecting the cable for power, refer to [2. Installation Location Cautions] prior to any work.
- Only use the power source with a circuit breaker. If the power source is not protected with a circuit breaker, accidents such as power leakage and fire can occur.
- Prepare a securely connected earth probe for the product and connect the product with earth line. If the product is not earthed properly, electric shock, damages to the product, and malfunction may occur.
- Do not expose the power cable or the earth cable out in a place such as a walkway. Electric shock or short circuit may occur if the cables are damaged. Also, pedestrians may trip and fall. Cover the cables well with a cable molds or conceal the cables so they cannot be seen.
- Secure the main power cable with cable gland. If the cables are not secured properly, movements of the product may cause electric shock to customers or malfunction of the product.
- The power cable must be 10mm~14mm in diameter and 3 line cable(with 2 power lines and 1 earth line.)
- When connecting the power cable or earth cable to the product, use a type 'O' terminal as shown here.



STOP IMPORTANT

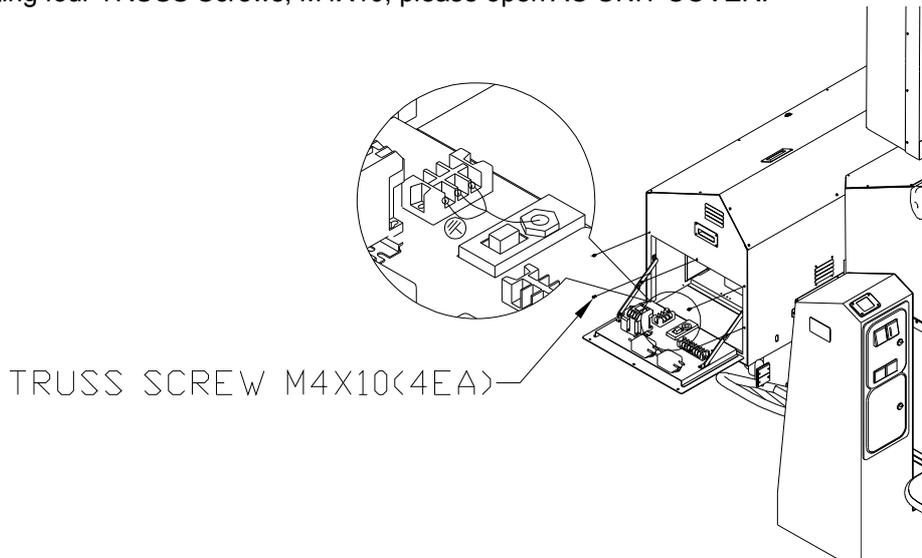
The Power cable is not included.

- ① After checking MAIN POWER SWITCH is OFF (0), please unfasten CAP NUT at CABLE GLAND.



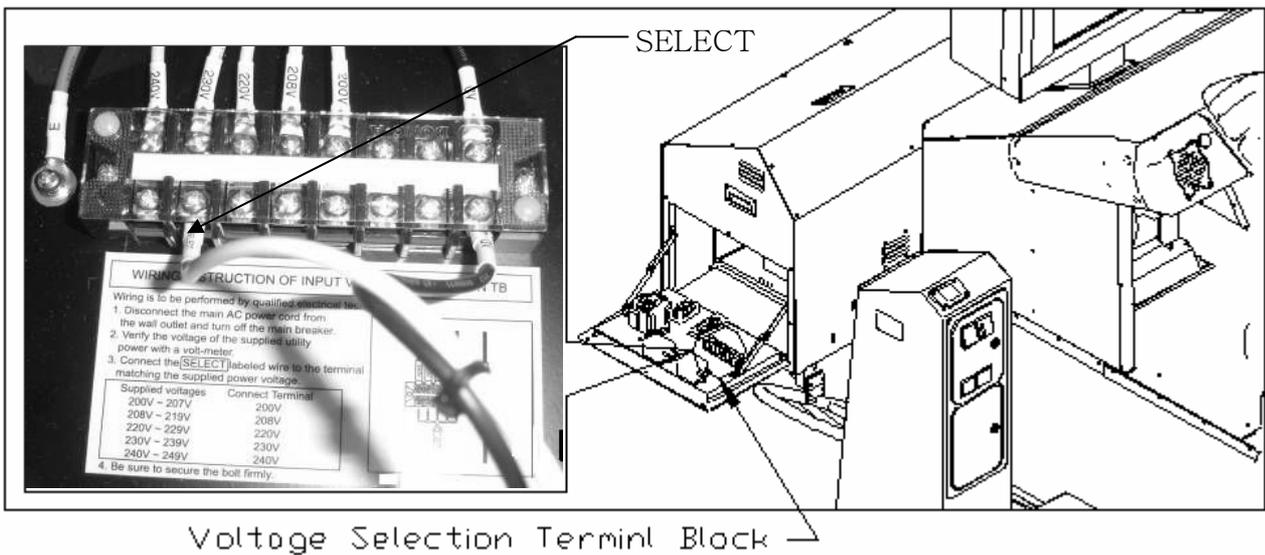
< Fig 7-12a >

- ② After uniting four TRUSS Screws, M4X10, please open AC UNIT COVER.



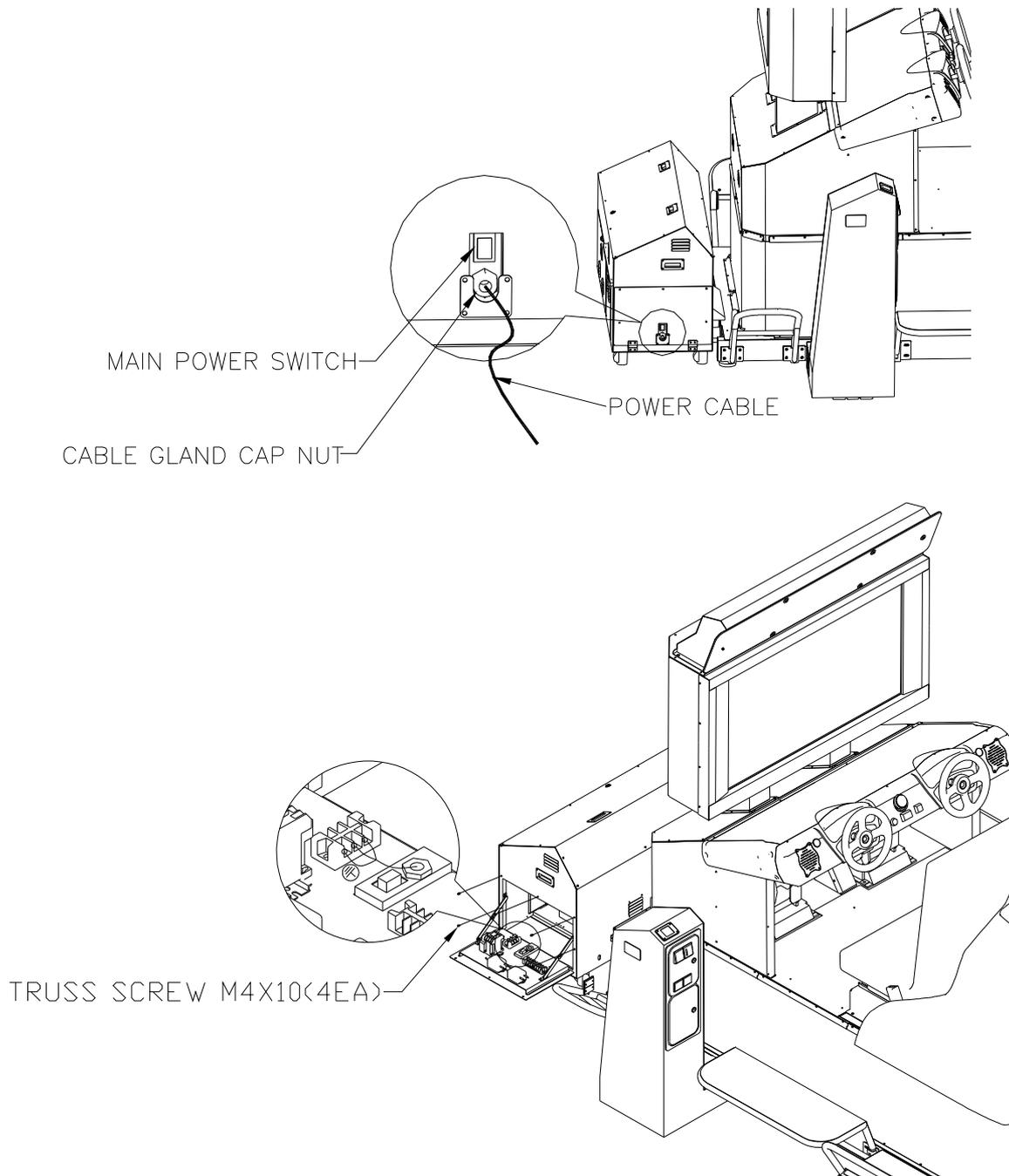
< Fig 7-12b >

- ③ As you are conferring the explanation on the attached sticker, you can connect SELECT terminal with VOLTAGE SELECTION TERMINAL BLOCK and fix it with a BOLT.



< Fig 7-12c >

- ④ After you push Electric Cable through Cable Gland Cap Nut, you can connect it with the main input electrical terminal stand. After connecting the two lines of electrical Cable as in the following figure, please connect a ground wire at the position with the sign of ground connection \oplus . Please make sure to have electrical Cable fixed firmly by revolving Cap Nut in Cable Grand in right direction.



< Fig 7-12d >

8. Safety feature

NO	Devise	Appearance	Location	Description
1	Area Sensor		Exterior (Cabin) (3)	Motion stops when triggered. Motion resumes 3 seconds after the obstruction is removed.
2	Motion Stop Button		Seat (2)	When pressed during play, motion stops and the cabin is lowered slowly to the initial position.
3	Seatbelt		Seat (2)	Prepared for the safety of the riders. When not fastened, game starts without motion. If un-fastened during play, motion of the cabin stops and resumes in 3 seconds after re-fastening.
4	Safety Fence		Exterior	Keeps gallery away to avoid any collisions.

9. Control Panel



NO	Devise	Color	Description
1	Motion Stop	Red	It is Motion Stop Button. If you press the button during the play, SEAT stops and moves to a boarding place.
2	Booster	Blue	If you press the button when Boost is filled with blue color, it is accelerated.  Whenever you pass through Check Point during the game, the usable frequency increases. Up to 4 can be stored.
3	Start	Yellow	Put in a coin and press the button to start the game.
4	Driver Change	Green	It can change the winning driver of the game during the 2-person play. If you push the button, "Player Change" appears on the screen and the driver changes.
5	View Change	Red	It can change monitor view. Whenever you push the button, it changes into the first person, the third person and SKY view.  <The 1 st person view> <The 3 rd person view> <SKY View>

10. Contents of the game

Overview

AQUA RACE EXTREME is a boat racing game.

Since the SEAT moves, players can experience the speed of the boat and oceanic waves with excitement.

(1) ADVERTIZE (Customer waiting)



Put in a coin and press Start Button to start the game. You don't have to put in a coin at a time of Free Play.

(2) Safe device description



It explains about safe devices including Motion Stop Button, Seatbelt and Sensor.

3) SELECT MODE (1) Screen



Select Single Driver or Dual Driver Mode.

► **Single Driver Mode:** 1 person plays the game.

If 1 person plays the game, make sure to buckle the seatbelt on the vacant seat, too.

► **Dual Driver Mode:** 2 drivers play the game alternatively to get to a Goal-in.

A driver that accelerates gets an upper hand first. Driver is replaced every 40 seconds,

and if

[Driver Change] is pressed, drivers can be replaced at any time.

Select a desired mode by turning the handle and accelerate to choose.

(4) SELECT MODE (2) Screen



► **Race Mode:** It is possible to take part in AQUA RACE. Drivers compete against many other rivals to win.

► **Time Attack Mode:** It is a time attack mode. Rivals do not appear.

Turn the handle to select a desired model and accelerate to choose.

(5) SELECT COURSE Screen



Select Resort or Aquapolis or Polynesia Stage.
The degree of difficulty and map differ according to a selected course.

- ▶ **Resort Stage** – The degree of difficulty ★
- ▶ **Aquapolis Stage** – The degree of difficulty ★★
- ▶ **Polynesia Stage** – The degree of difficulty ★★★

Select a desired course by turning a handle and accelerate to choose.

(6) SELECT COURSE Screen



- ▶ **All Mighty Boat:** It is Balance Boat. It is good at balancing and even beginners can operate it.
- ▶ **High Speed Boat:** It is a high speed boat. Zero blast-offs and the speed lag behind.
- ▶ **Sprinter Boat :** It is a moment acceleration boat. Despite excellent Zero blast-offs and acceleration, the highest speed lags behind.

Turn the handle to select a desired course and accelerate to choose.

(7) Game Screen



Item	Description
Time Limit	There is Check Point that needs to go through within a certain time during the game. Time Limit is set for check point passage. If the time exceeds, the game is over, and if the check point is passed, time increases and is indicated.
Position	It indicates the current position among rivals. Ex)4/6 – Ranks 4 th among 6 persons
Check Point	If Check Point is passed, Time increases and 1 boost appears.
Boost(Accelerator)	If the boost is filled with blue color, press Booster Button for acceleration.  Whenever Check Point is passed during the game, usable frequency increases. Up to 4 can be stored.
Rival	Rival ▼ indicates there is one rival behind my boat.
Total Time	Total time (Game start ~ current)
Lap Time	It is time required to complete a course.
Moving route	It indicates a moving route during the game.
Speed	It indicates the current speed.

(8) RESULT Screen



If the game is completed, position is indicated on the Result Screen.

(9) GAME OVER Screen



After the game is over, Game Over Screen is indicated.

► Game Error Screen



< Sensor Detection >



< Loose Seatbelt >



< Motion Stop Pressed >



< Wrong Route >



< Over Time >



< A course is completed without finishing the game – Only Lap Time 1 indicated >

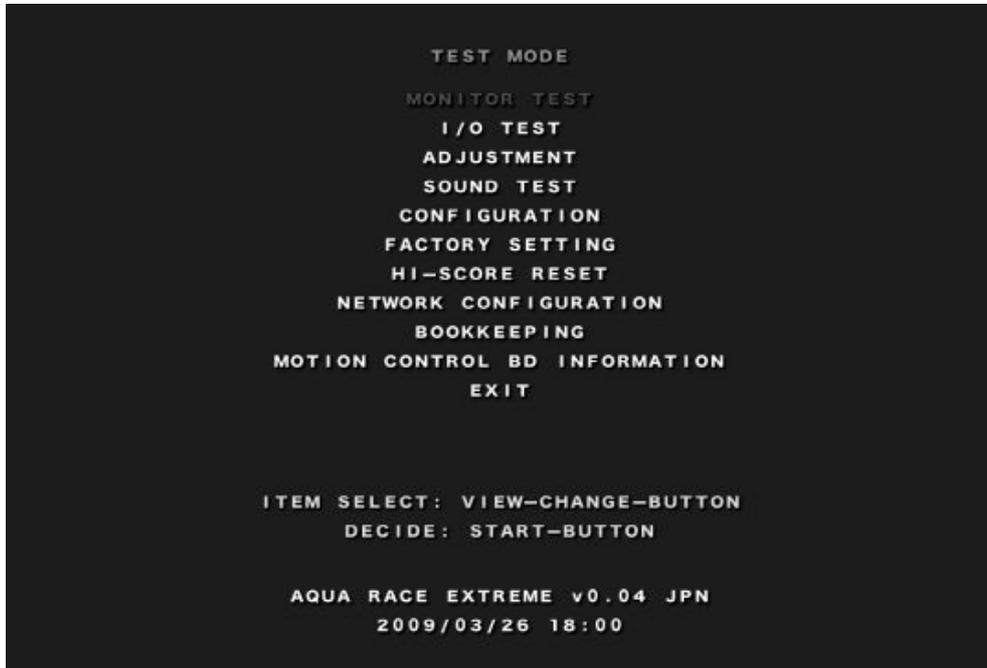
11. Test Mode



Only Maintenance Personnel in the store can operate Test Button

TEST MODE can change game setup.

If you press Test Button inside Coinchute Tower on <ADVERTIZE (Customer Waiting)> screen, it enters Test Mode.



< TEST MODE Main Screen >

- ▶ **ITEM SELECT** : Press View Change Button to select menu.
- ▶ **DECIDE** : Press START Button to determine selected button.

① MONITOR TEST



< Monitor Test Screen 1 >



< Monitor Test Screen 2 >

- ▶ **NEXT** : Press START Button.
- ▶ **EXIT** : Press TEST Button.

② I/O TEST



< I/O TEST Screen >

If I/O comes in with regard to COIN1, COIN2, Button, HANDLE, ACCELE, BRAKE, LAMP, SEATBELT and SENSOR, ON is indicated.

- ▶ **LAMP TEST** : Press START Button.
- ▶ **EXIT** : Press TEST Button.

③ AJUSTMENT



< Screen 1 >

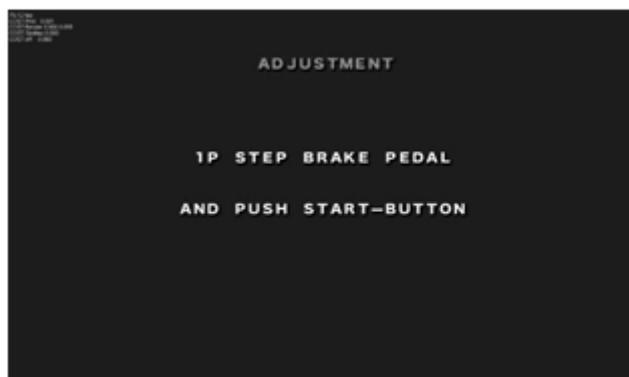


< Screen 2 >

Calibrate Accele and Brake in the left Seat (1 Player).

Step Accele and press Start Button to calibrate Accele Pedal.

Step Accele -> Press START ->Release it to adjust (min ~ max) value of Accele Pedal inside the program.



< Screen 3 >



< Screen 4 >

Step Brake and press START Button to calibrate Brake Pedal.
Step Brake -> Press START Button ->Release it to adjust (min ~ max) value of Brake Pedal inside the program.

Calibrate Accele and Brake of the right Seat (2 Player)
It is calibrated in the same way as the left Seat(1Player).



< Screen 5 >



< Screen 6 >

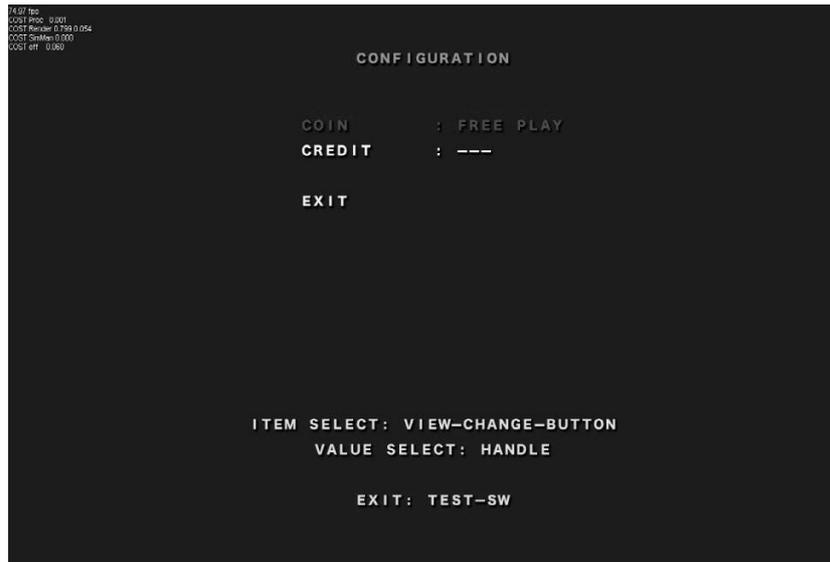


< Screen 7 >



< Screen 8 >

⑥ CONFIGURATION



< Configuration Screen >

- ▶ **ITEM SELECT** : Press View Change Button to select Menu.
- ▶ **VALUE SELECT** : Turn the handle to adjust Coin and Credit Values.
- ▶ **EXIT** : Press TEST Button.

Turn the handle right and left to determine desired values of Coin, Credit and Free Play, etc.

⑦ FACTORY SETTING

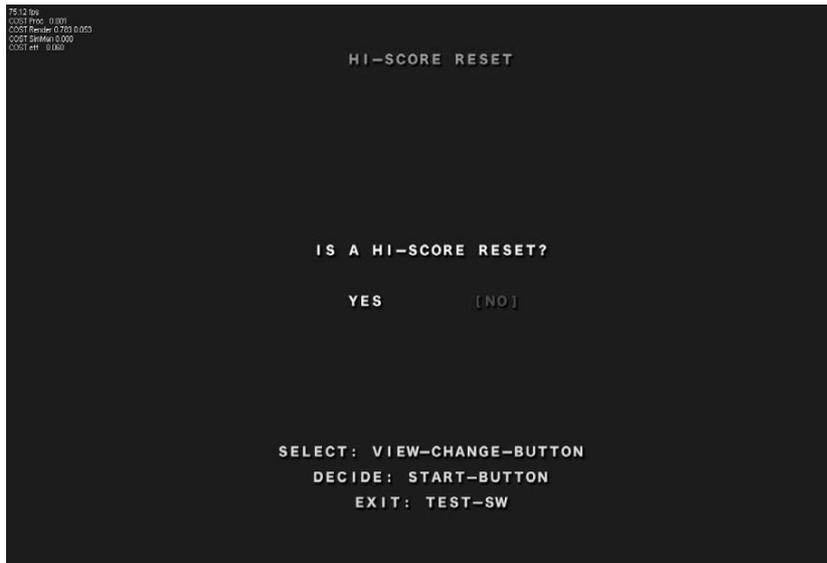


< Factory Setting Screen >

- ▶ **SELECT** : Press View Change Button to select Menu.
- ▶ **DECIDE** : Press START Button to determine selected menu.
- ▶ **EXIT** : Press TEST Button.

If you want to return to initial setting value, press [YES], and if you do not want to return, press [NO].

⑧ HI-SCORE RESET

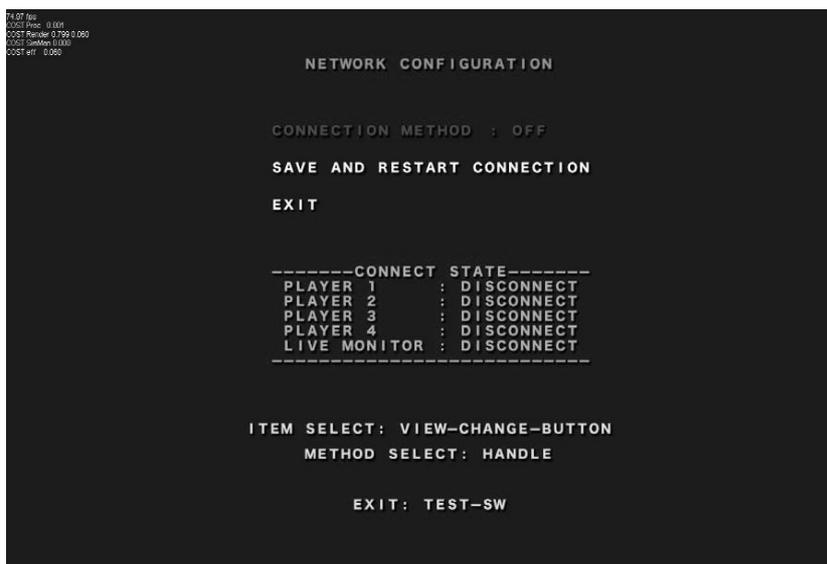


< Hi - Score Screen >

- ▶ **SELECT** : Press View Change Button to select Menu.
- ▶ **DECIDE** : Press START Button to determine selected menu.
- ▶ **EXIT** : Press TEST Button.

If you want to reset HI-SCORE, press [YES], and if you do not want to reset it, press [NO].

⑨ NETWORK CONFIGURATION



< Network Configuration Screen >

- ▶ **ITEM SELECT** : Press View Change Button to select Menu.
- ▶ **METHOD SELECT** : Turn Handle to select Mode.
- ▶ **EXIT** : Press TEST Button.

Select Connection Method only at a time of communication play and then turn Handle to set it on. If the network is connected, Connect State is indicated as Connect showing a connected player.

⑩ BOOKKEEPING

Date 2009/04/09		BOOKKEEPING		
TOTAL UPTIME(sec)	32490	MODE SELECT COUNT		
TOTAL PLAY FREQUENCY	96	TIME ATTACK	59	
COIN PLAY FREQUENCY	0	RACE BATTLE	37	
SERVICE PLAY FREQUENCY	96	LINK BATTLE	0	
MAX PLAY TIME(sec)	346			
MIN PLAY TIME(sec)	261			
AVERAGE PLAY TIME(sec)	304			
CONTINUE FREQUENCY	0			
USED BOAT COUNT				
Mode	TIME	RACE	LINK	TOTAL
TYPE BALANCE	18/	6/	0/	24
TYPE DASH	13/	17/	0/	30
TYPE QUICK	28/	14/	0/	42
TYPE MAX-SPEED	0/	0/	0/	0
TYPE BOOST	0/	0/	0/	0
NEXT PAGE: VIEW-CHANGE-BUTTON				
DATE SELECT: HANDLE				
EXIT: TEST-SW				

< Bookkeeping Screen >

- ▶ **NEXT PAGE** : Press View Change to move to the next page.
- ▶ **DATE SELECT**: Turn Handle to select Date.
- ▶ **EXIT** : Press TEST Button.

The following operation data are indicated.

- TOTAL UPTIME : Total operation time
- TOTAL PLAY FREQUENCY : Total number of plays
- COIN PLAY FREQUENCY : Total number of coin plays
- SERVICE PLAY FREQUENCY : Total number of service plays
- MAX PLAY TIME : Maximum play time
- MIN PLAY TIME : Minimum play time
- AVERAGE PLAY TIME : Average play time
- USED BOAT COUNT : Number of boats used
- MODE SELECT COUNT: Number of selected modes

⑪ MOTION CONTROL BD INFORMATION

```
MOTION CONTROL BD INFORMATION

CONNECTION MODE      : ON

EXIT

Program Version 0.1

Status of Motor Driver (1): 0043
Status of Motor Driver (2): 0043
Status of CAN        : NORMALITY

ITEM SELECT: VIEW-CHANGE-BUTTON
MODE SELECT: HANDLE or BOOSTER-BUTTON

EXIT: TEST-SW
```

< Motion Control BD Screen >

- ▶ **ITEM SELECT** : Press View Change Button to select Menu.
- ▶ **MODE SELECT** : Select Mode with Handle or Booster Button.
- ▶ **EXIT** : Press TEST Button.

Select Connection Mode [ON] to connect Motion Control BD. Otherwise, select [OFF].
It indicates Version of Motion Control BD, Motor Driver Status and Can Communication Status.

If errors occur in Motion Control BD, the following Error Code is indicated.
Please refer to Error Code Table in P65, 17-2. Motion Control BD Error.

```
MOTION CONTROL BD INFORMATION

CONNECTION MODE      : ON

EXIT

Program Version 0.1

Status of Motor Driver (1): [FF00]
Status of Motor Driver (2): 0043
Status of CAN        : NORMALITY

ITEM SELECT: VIEW-CHANGE-BUTTON
MODE SELECT: HANDLE or BOOSTER-BUTTON

EXIT: TEST-SW
```

< [FF00] Motor Control BD Error Indication Screen >

12. How to play the game (Guides for riders)

CAUTION

After the game, if SEAT returns to the boarding position, release the seatbelt and get off the boat.

IMPORTANT

If you do not fasten your Seatbelt, SEAT does not move even though the game starts.
Make sure to fasten your seat belt.

1. Check if Seat is in the boarding position.



< Advertize Screen >

2. Put in a coin. <Game Start Screen > appears.



< Game Start Screen >

3. Board Seat.

4. Fasten your seatbelt for safety.

※ Fasten the seat belt on the empty seat in case of a single-game. The seat moves only when the seat belts both in the left and the right are fastened.

5. Press START Button.

<Safety Device Description Screen > appears before the game starts.



< Safety Device Description Screen >

6. Turn the handle to select desired mode, course and boat according to the screen and step Accele to determine it.
7. Aquarace Extreme Game Screen starts and Seat moves.
8. If the game is finished, result is indicated, and <Game Over Screen> appears.



< Result Screen >



< Game Over Screen >

9. If the game is finished, Seat moves to a boarding position. Release the seatbelt after the seat completely stops.

13. System operation

⚠ WARNING

- If the power is turned on, SEAT slowly moves to the boarding position, so make sure that there is nobody around SEAT before turning it on.
- If the power is turned off, SEAT slowly moves to the initial position, so make sure that there is nobody around SEAT before turning it off.
- Do not turn the power OFF (0) -ON (1) consecutively. If you want to reset, turn it off and wait for at least 1 minute to turn it on. Otherwise, a motor controller and a motor within MCU might be damaged.
- It is AC220V within the machine. Never disassemble or repair the machine without approval.
- Never disassemble or repair the machine without approval from MSCU.

13-1. System operation (Power ON)

Turn Main Power Switch ON (1) to operate the system.

If MSCU is turned on to make a sound in about 5 seconds, SEAT descends to move in the right direction. If it is completed, "Cabin Initialize" appears on the monitor in 3 to 4 minutes, and SEAT moves to the boarding position. If it is completed and the system is prepared, <Advertize Screen> appears.



< Advertize Screen >

13-2. System End (Power OFF)

Turn Main Power Switch OFF (0) on the side of MSCU. If Switch is OFF (0), the entire system is finished. (At that time SEAT might be slanted.)

13-3. Emergency stop

CAUTION

If Main Power Switch is turned OFF (0), the entire system power will be turned off, so if emergency stop is required, press Stop Button in the left and the right of Control Panel to attempt emergency stop. Only when it fails, turn Main Power Switch OFF (0).

If you are to conduct emergency stop, press Stop Button in the right and the left of Control Panel. If emergency stop is not implemented with the operation, turn Main Power Switch OFF (0).

① [STOP BUTTON]

It is pressed when an emergent situation takes place while SEAT is moving.

- Ex) ◆ If a rider feel anxious
◆ If a rider wants to get off the cabin
◆ If emergency stop is required

If the button is pressed during the play, SEAT stops moving and then slowly moves to the boarding position.

② [Main Power Switch OFF(0)]

If emergency stop is not implemented with Stop Button, Main Power Switch is turned OFF (0).

14. Network Play

Network Play is optional.

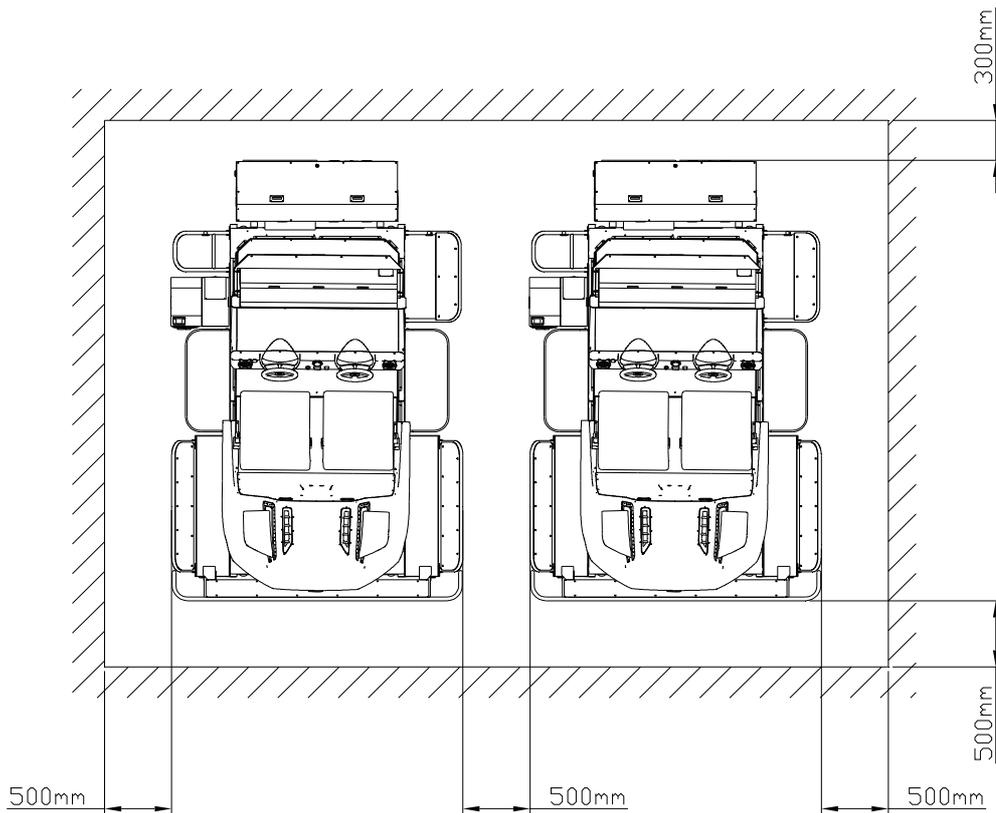
You can do network play with two to four when these products are connected through LAN CABLE.

When more than two machines are forwarded at the same time, HUB is built in at the machinery with the earliest SERIAL number. You can do network play using this game machine as a MAIN.

WARNING

- Please be sure to do the work after the electric switch is off. If not, it can cause an accident of electric shock or short circuit.
- Please be careful that the distribution wires should not be damaged because it can also cause an accident of electric shock or short circuit.
- Please do not touch the parts except the designated areas, which can be the cause of an accident of electric shock or short circuit.
- Please leave the work for maintenance men or service men. If any unqualified man does this work, it can cause an accident of electric shock.
- For communication play, you need enough electricity for the game players connected. Please check up the needed amount of electric current of each game player clarified in this booklet, and be sure to procure it.

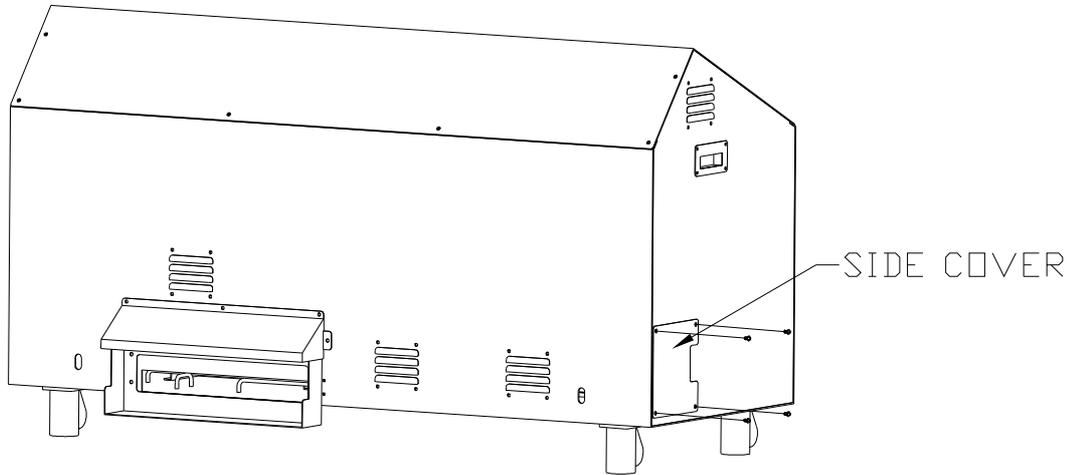
The distance of SIDE STEP of communication game machines must be kept 500mm as in the following figure when they are installed.



14-1. Connection of LAN CABLE

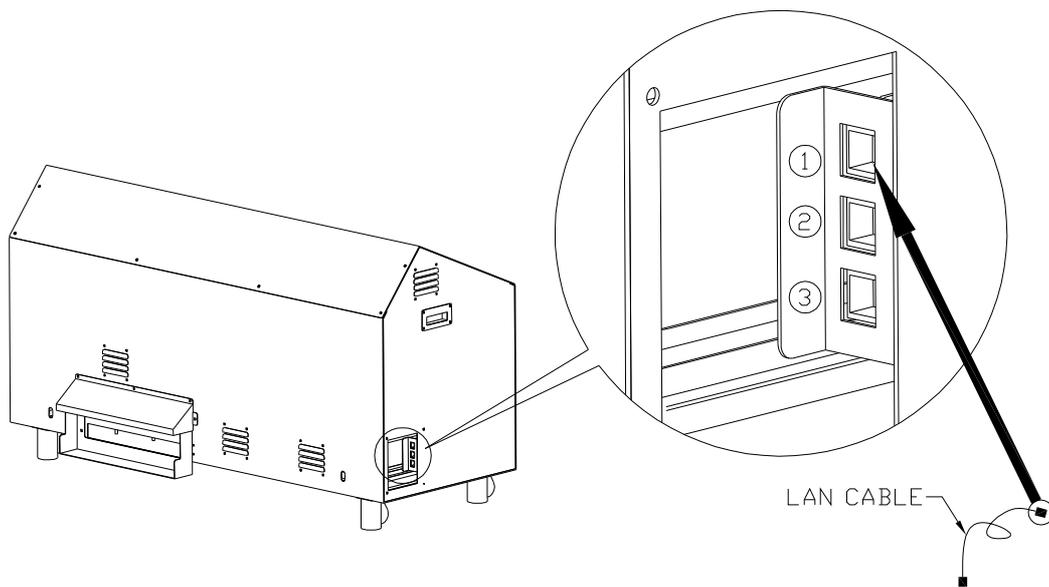
In order to do network play, more than two game machines must be connected through LAN CABLE. HUB is built in at the game machine with the earliest SERIAL number. This player must be used as a MAIN.

- ① The source of electricity of all the game machine must be cut off.
- ② Please open the SIDE COVER of each MSCU.



< Fig 14-1a >

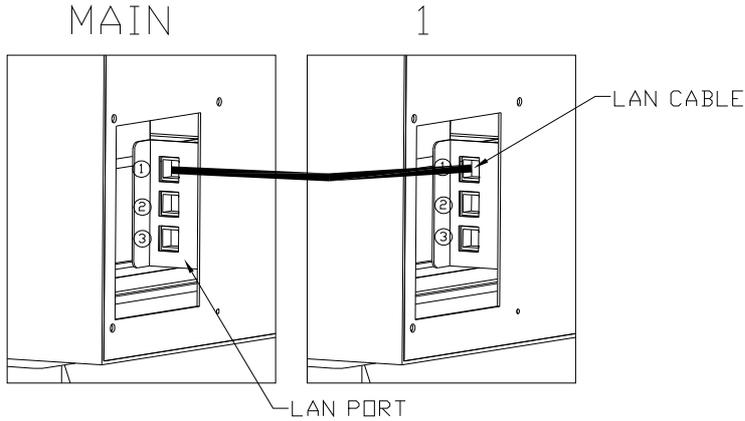
- ③ LAN PORT can be seen like the following figure if you open SIDE COVER.



< Fig 14-1b >

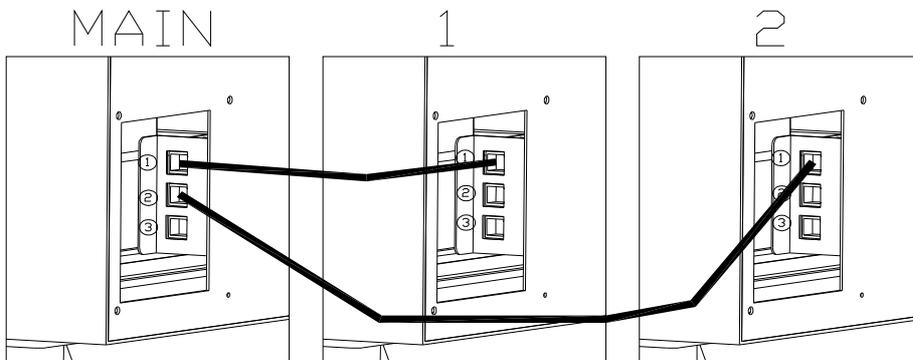
- ④ Please connect LAN CABLE with each game player conferring the following figure according to the number of network game machines. The game machine written as MAIN is the machine with the earliest SERIAL number.

EX1) When two game players are used for Communication Play



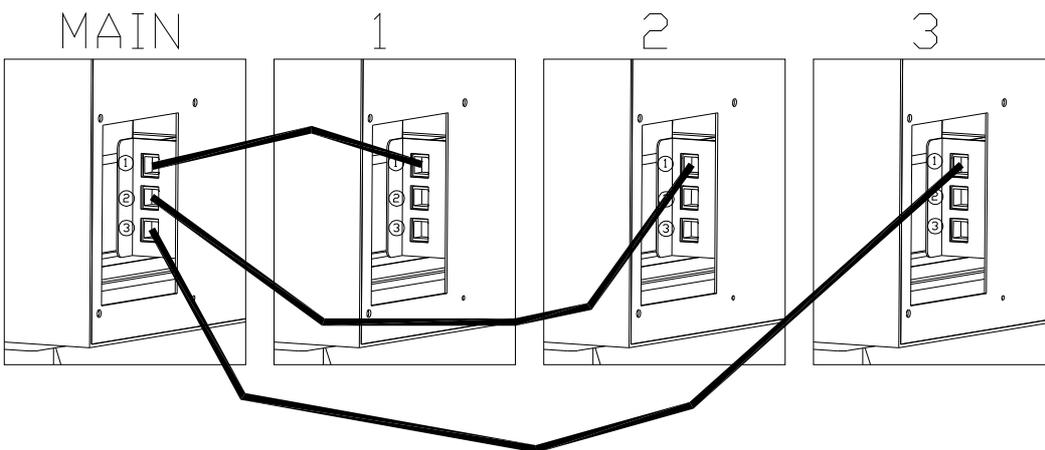
→ One end of CONNECTOR must be connected with LAN PORT ① of main machine, and the other end of it must be connected with LAN PORT ① of the other game machine.

EX2) When three game players are used for Communication Play



→ Two LAN CABLEs can be connected as in the figure.

EX3) When four game machines are used for Network Play

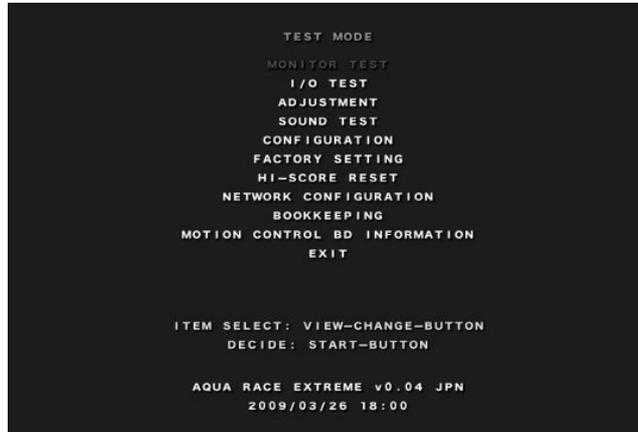


→ Three LAN CABLEs can be connected as in the figure.

14-2. Setting up of Network Play

In order to do network play, the game machines must be set up for network play.

- ① The source of electricity of all the game machines to be used for network play should be turn on.
- ② Please push the TEST button on ADVERTISE SCREEN of each game machine, and the Test Mode will be on. (* The TEST button is placed inside of the DOOR in Coinchute Tower.)
- ③ Please select [NETWORK CONFIGURATION] in the main screen of TEST MODE.

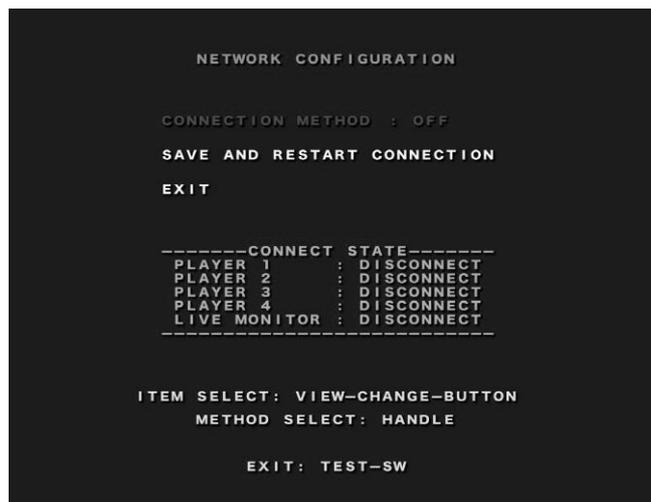


< Main screen of TEST MODE >

- ④ Please select the menu of [CONNECTION METHOD] in the screen of [NETWORK CONFIGURATION]. The unique ID must be assigned for each player.

Please select the menu of [CONNECTION METHOD] in the screen of [NETWORK CONFIGURATION]. You can assign each ID for each Game machine.

- ▶ ID of the Main Game Player: You can assign "PLAYER 1" for the ID as revolving the HANDLE. (**NOTICE!** The ID of the Main Game Player must be assigned as "PLAYER 1.")
- ID of the other Game Players: You can assign "PLAYER 2" to "PLAYER 4" for the IDs as revolving the HANDLE.



< Main screen of NETWORK CONFIGURATION >

- ⑤ If you push SAVE AND RESTART CONNECTION, the changed setting will be saved and the connection of NETWORK of the players will be started. If the connection is completed, the state of "CONNECT" for the assigned ID will appear on the CONNECT STATE screen.

* If you do not want to do Network Play anymore, please change the setting into the original state and push the button of SAVE AND RESTART CONNECTION to be saved.

15. Monitor

15-1. Monitor handling

Read the followings before handling the monitor and make sure to comply with it.
Precautions are as follows.



If it is ignored, it might cause death or serious wound.



If it is ignored, it might cause wound or property loss.



It aims to prohibit touching.



Pull the connector or plug.

WARNING

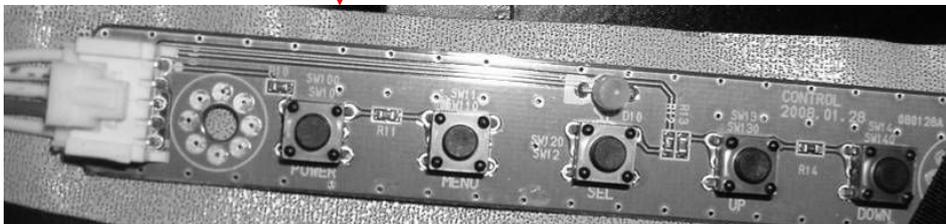
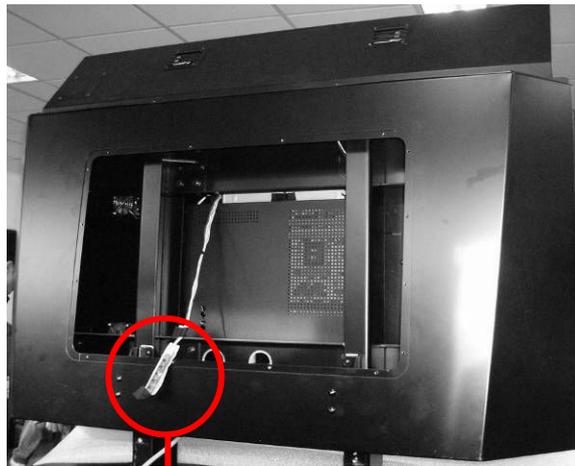
- If you install or disassemble the monitor or if you insert an external connector, make sure to pull the power cable. If not, it might cause an electric shock or an accident.
- Do not modify the monitor without approval. If modification causes a mechanical trouble, the manufacture is not responsible for it.
- High voltage.
- Since high voltage occurs inside the monitor, it is extremely dangerous, so do not touch the inside the monitor. If metal or paper is inserted into the monitor, turn off the power. It might cause a mechanical trouble or a fire.

15-2. How to adjust the monitor

⚠ WARNING

- Since the monitor is pre-set before delivery, do not unnecessarily adjust it. It is dangerous to handle a monitor with high voltage. If the adjustment is wrong, it might cause troubles such as maladjustment of Sink in the monitor and poor images.
- Make a proper adjustment of the monitor. Do not leave the monitor blinking or distorted. An inappropriate monitor might cause a headache or dizziness to players or other customers.
- Do not touch the monitor in other places than designated. It might cause an electric shock or an accident.

Check the position of the monitor adjuster. It is in the back of the monitor.



<Fig. 15-2a. Monitor Adjuster >

- BRIGHTNESS: It adjusts the level of brightness of the screen.
- CONTRAST: It adjusts the level of contrast of the screen.
- SHARPNESS: It adjusts the level of sharpness of the screen.
- H-POSITION: It adjusts the screen in a horizontal position.
- V-POSITION: It adjusts the screen in a vertical position.
- PHASE: It adjusts Clock Phase of the screen.
- FREQUENCY: It adjusts the frequency of the screen.

16. Repair & maintenance

WARNING

- Make sure to implement items in a regular checkpoint for safe use of the product.
If an accident occurs due to negligence, the manufacturer and the seller are not responsible for any loss including the responsibility of compensation for damages even on the third persons.
Make sure to check power cable connection once a year.
- Make sure to ask the seller to check the device once a year. If a regular check-up is not conducted, it might cause an accident.
- If the device is used for a long time, a short-circuiting or overheating might occur. Check if any burn occurs.
- Make sure that a store maintenance personnel repairs and maintains the device. Make sure to comply with the guidelines with regard to procedures and safety.
- Turn off power distribution brake to check the device. If not, it might cause accidents on account of sudden operation of the seat or electronic shock.

Make sure to check the followings on a regular basis for the purpose of safety.

Control Panel is touched by a player. Make sure to clean it so that a player can enjoy the game comfortably.

■ Regular checkpoint

	Description	Time
External frame	Check of the landing of Adjuster	Everyday
FRP surface	Cleaning	At an appropriate time
Monitor	Check adjustment	1 month or transport
Coin Selector	Coin input test Coin Selector Cleaning	1 month 3 months
Electronic or Electric parts	Check	At an appropriate time
Power cable	Check, Cleaning	1 year
Seat surface	Cleaning	At an appropriate time
Operation part	Maintenance Grease Input	1 year 1 year
Safety device	Check Seatbelt Check Stop Button Check Area Sensor	Everyday Everyday Everyday
Warning sticker	Check if it is broken or comes off	Every week
Fittings	Check if it is loosed or cracked	Everyday
Noise or vibration at a time of operation	Check if it makes noises or vibrates at a time of operation	Everyday

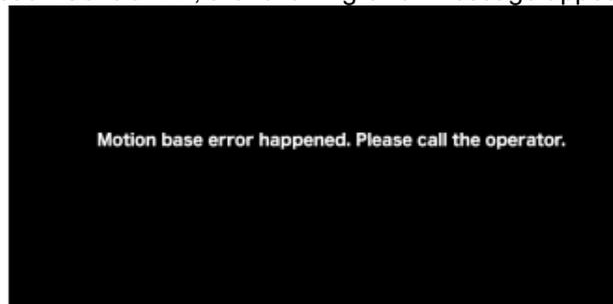
17. Troubleshooting

17-1. Troubleshooting Table

Trouble	Checkpoint	Countermeasure
IF it is not turned on	Check if Main Power Switch is turned OFF(0)	Turn Main Power Switch ON (1).
	Check if power cable is pulled	Check power cable and connect it
If the system does not function normally	Check if there is any error message on the monitor in the cabin	Turn Main Power Switch OFF (0) and reset the system in one minute. If it does not start, contact the manufacturer or the seller.
If the SEAT does not move	Check if Area Sensor responds. (YELLOW LED OFF)	Remove obstacles. (YELLOW LED ON)
	Check if Area Sensor responds without any obstacle (YELLOW LED OFF)	Check if Area Sensor is appropriately installed

17-2. Motion Control BD Error

If any problem occurs in Motion Control BD, the following error message appears on the monitor.



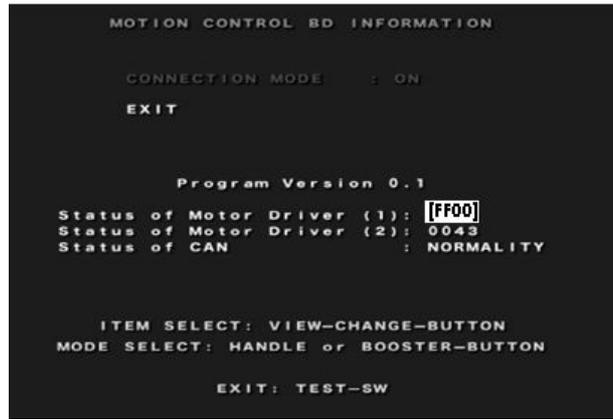
< Motion Control BD Error Indication Screen >

- ① Press TEST Button inside the door of Coinchute Tower to enter Test Mode.
- ② Select Motion Control BD Information on the Test Mode main screen



< TEST Mode Main Screen >

- ③ Check Error Code next to Status of Motor Driver (1) and (2) on the Motion Control BD Information Screen.



< [FF00] Error Screen >

Refer to the following error message table.

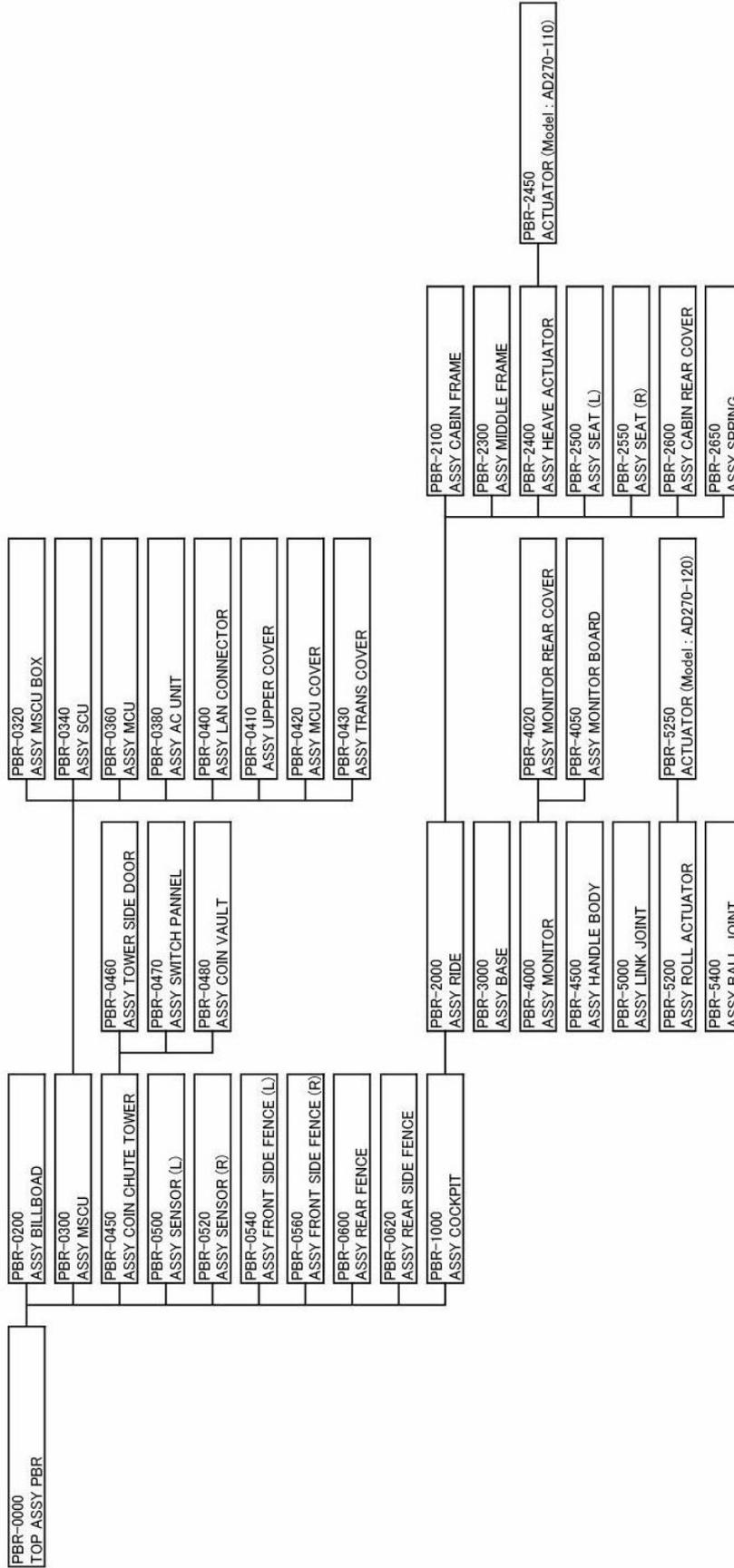
■ Motor Control BD Error Message Table

Error Code	Cause	Countermeasure
FF00	It occurs when Encoder Connector on Motor Drive BD is pulled (J11)	[Check Encoder Connector] Check if Motor Drive BD Encoder Connector on MCU is connected or if Connector cable is not damaged.(J11)
FFFF FFC7	It occurs when Motor Drive BD does not receive Encoder information	[Check 5V SMPS output power] 1. Check if the voltage between DGND and +5V is DC5.0V~5.2V. 2. If it is normal (1) but if the same problem is repeated, contact the manufacturer or the seller.
F800	Motor Drive BD +12V Relay K5•K8 contact problem	If SMPS (RD-65A) +12V output voltage is normal, measure +12V power in Motor Drive BD J7 Connector. If there is no +12V power, check connection Harness.
FFFE	It occurs when Actuator Limit Sensor cannot be found	1. Check Actuator Limit Sensor Joint and Connector. 2.If it is normal (1) but if FFFE Error is repeated in specific Motor Drive BD, contact the manufacturer or the seller to replace the Motor Drive BD.
90AE 9086	It occurs the moment it moves as Actuator 1 & 2 is turned on (It occurs when Motor의 Z(Zero) Pulse cannot be found without motor phase information)	1. If it is turned on when it is slanted, the error might occur. Correct the problem before resetting the system. 2.If there is a problem in Actuator Limit Sensor(Bottom Sensor) Joint, the error might occur.

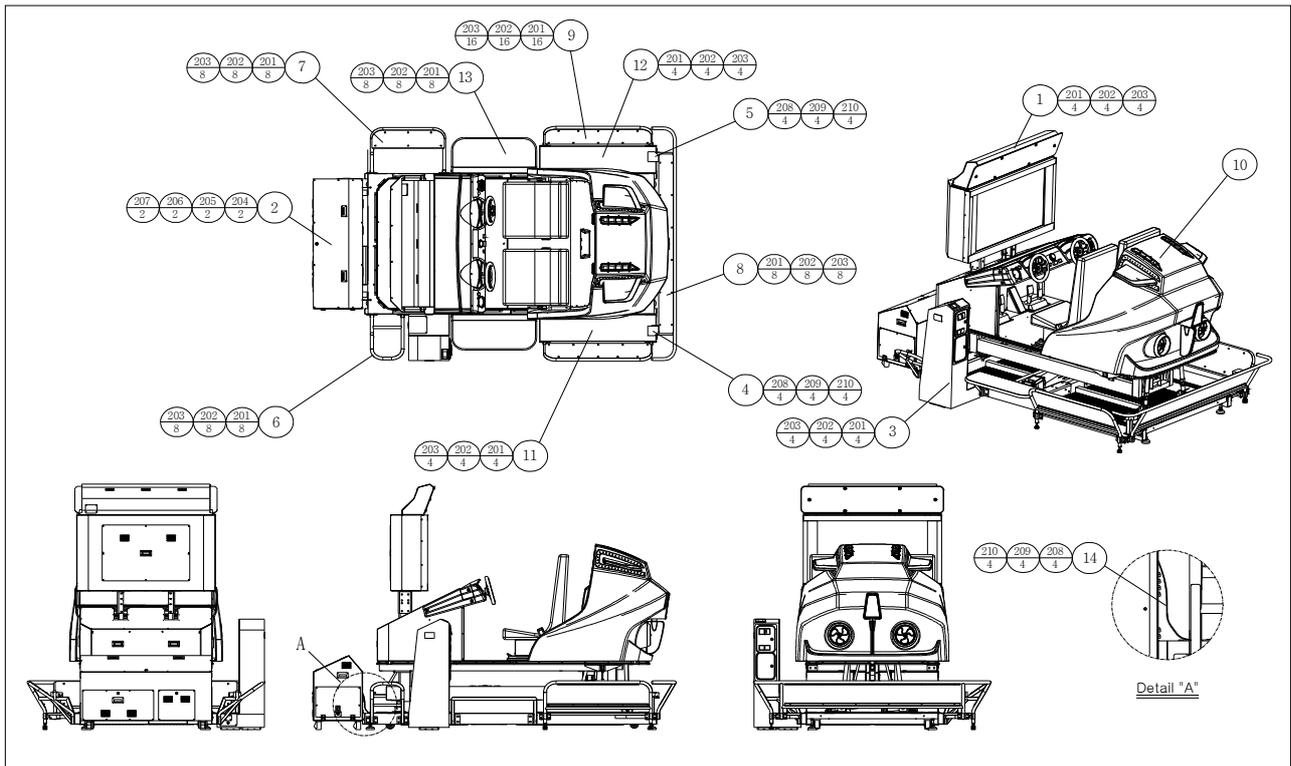
Error Code	Cause	Countermeasure
8C3	It occurs in Motor Drive BD IPM	<ol style="list-style-type: none"> 1. Check Motor Drive BD AC Power Check if input power is in AC200V to AC230V. 2. Check if Fan in Motor Drive BD Heatsink normally functions. 3. If it is normal in the item 1 and 2, and if the same error occurs in the specific Motor Drive BD, contact the manufacturer or the seller to replace Motor Drive BD.
10C3 90C3	Over Current Protection Error	<ol style="list-style-type: none"> 1. Main Trans output voltage Check if 220R and 220T are in 210V to 230V. 2. If Actuator Grease Up is insufficient, the error might occur. Check Grease, and if it is not sufficient, Grease it Up. 3. If it is normal in the item 1 and 2, and if the same error is repeated in specific Drive BD, contact the manufacturer to replace Motor Drive BD.
40C3 DOC3	Over Voltage Protection Error	<ol style="list-style-type: none"> 1. Check if Main Tran output voltage (220R, 220T) is in 210V~230V. 2. Check input power source to see if it turns 240V or higher momentarily. 3. If it is normal in the item 1 and 2, and if the same error is repeated in the specific Motor Drive, contact the manufacturer or the seller to replace Motor Drive BD.

18. Parts List

AQUARACE EXTREME DRAWING PART LIST

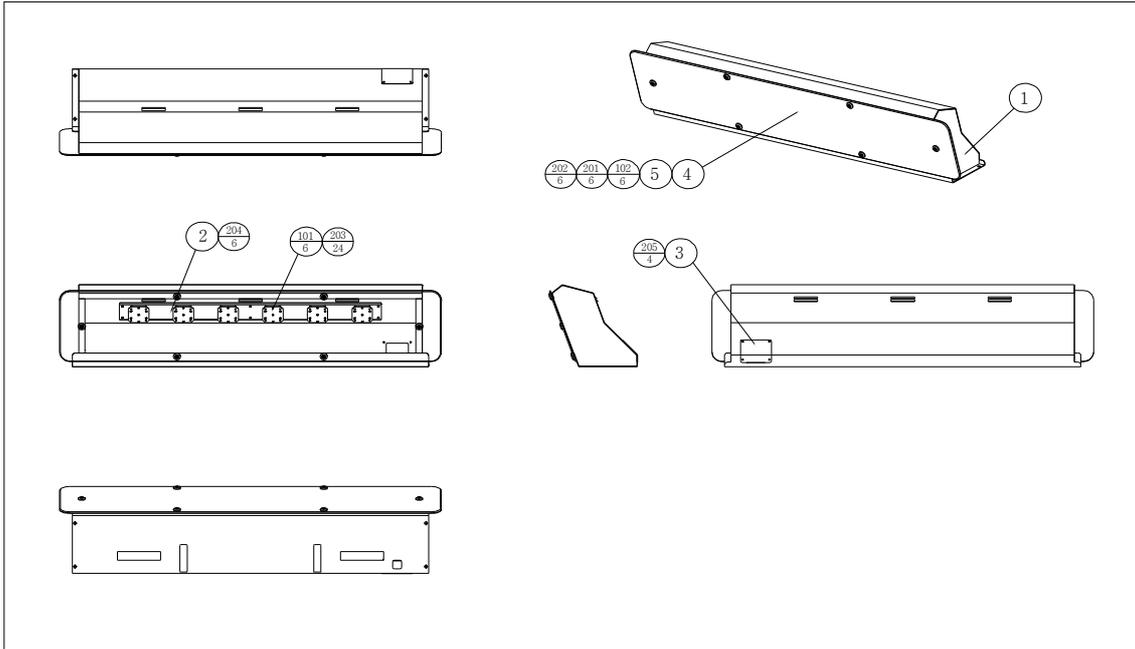


0. Top Ass'y PBR (PBR-0000)



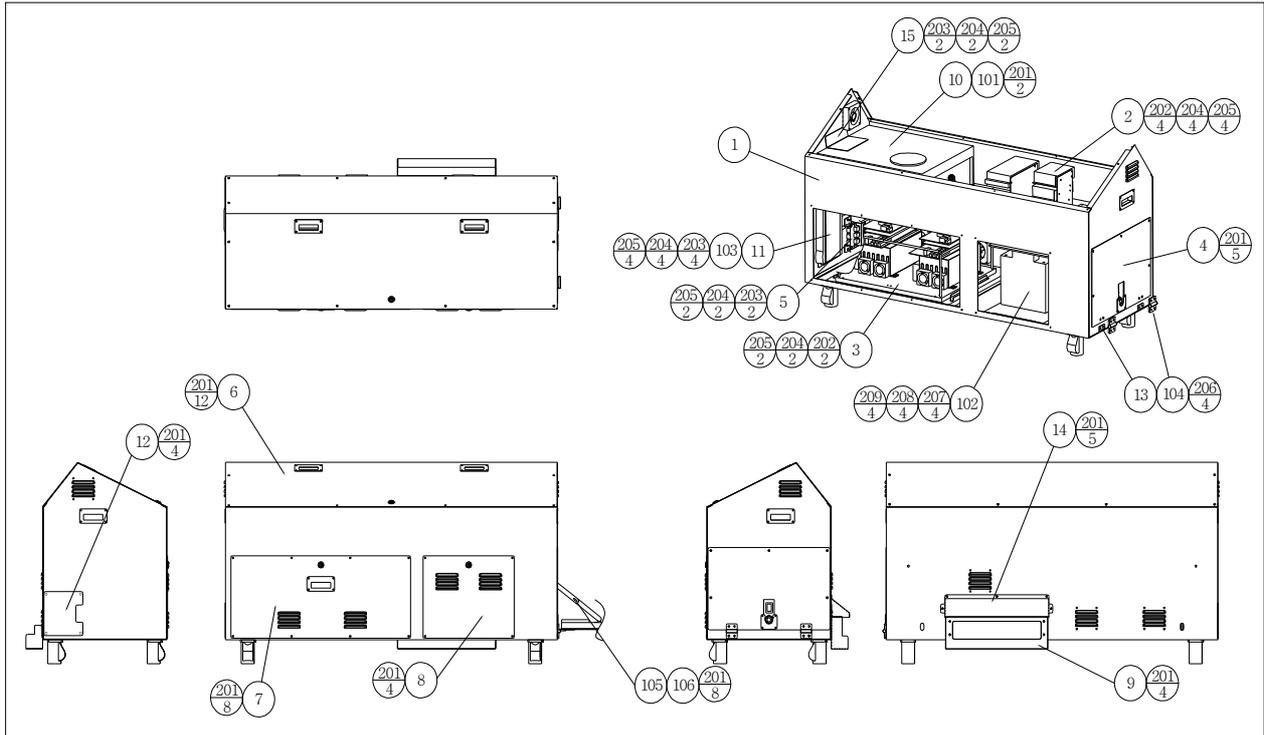
ITEM No.	DESCRIPTION	PART No.
1	ASSY BILLBOARD	PBR-0200
2	ASSY MSCU	PBR-0300
3	ASSY COIN CHUTE TOWER	PBR-0450
4	ASSY SENSOR(L)	PBR-0500
5	ASSY SENSOR(R)	PBR-0520
6	ASSY FRONT SIDE FENCE(L)	PBR-0540
7	ASSY FRONT SIDE FENCE(R)	PBR-0560
8	ASSY REAR FENCE	PBR-0600
9	ASSY REAR SIDE FENCE	PBR-0620
10	ASSY RIDE	PBR-1000
11	ASSY SUPPORT STEP(L)	PBR-0001
12	ASSY SUPPORT STEP(R)	PBR-0002
13	SIDE STEP	PBR-0003
14	MSCU & BASE WIRE	PBR-0004
201	HEX BOLT M8X20L	HB08-20HNB
202	SPRING WASHER M8	W-SP08HNB
203	FLAT WASHER M8	W-FL08HNB
204	VIBROISOLATION BOLT(M10X25L)	VB1025-4940
205	SPRING WASHER M10	W-SP10HNB
206	FLAT WASHER M10	W-FL10HNB
207	HEX NUT M10	N-HN10HNB
208	HEX BOLT M6X20L	HB06-25HNB
209	SPRING WASHER M6	W-SP06HNB
210	FLAT WASHER M6	W-FL06HNB

1. Ass'y Billboard (PBR-0200)



ITEM No.	DESCRIPTION	PART No.
1	ASSY BILLBOARD BOX BODY	PBR-0201
2	BILLBOARD LED BOARD PLATE	PBR-0202
3	BILLBOARD BOX CAP	PBR-0203
4	BILLBOARD ACRYL BOARD PLATE	PBR-0204
5	CTF WASHER	CTF-1002-KO
101	LED BD ESU-00-RA02P SIM	ESU-00-RA02P
201	LOW HEAD WRENCH SCREW M5X16L	LH05-016NSW
202	RUBBER WASHER(Ø19-Ø9-2T)	W-RB09NNB
203	ROUND SEMS SCREW M3X8L	SR03-008NNW
204	ROUND SEMS SCREW M4X8L	SR04-008NNW
205	TRUSS SCREW M4X12L	TR04-012NNB

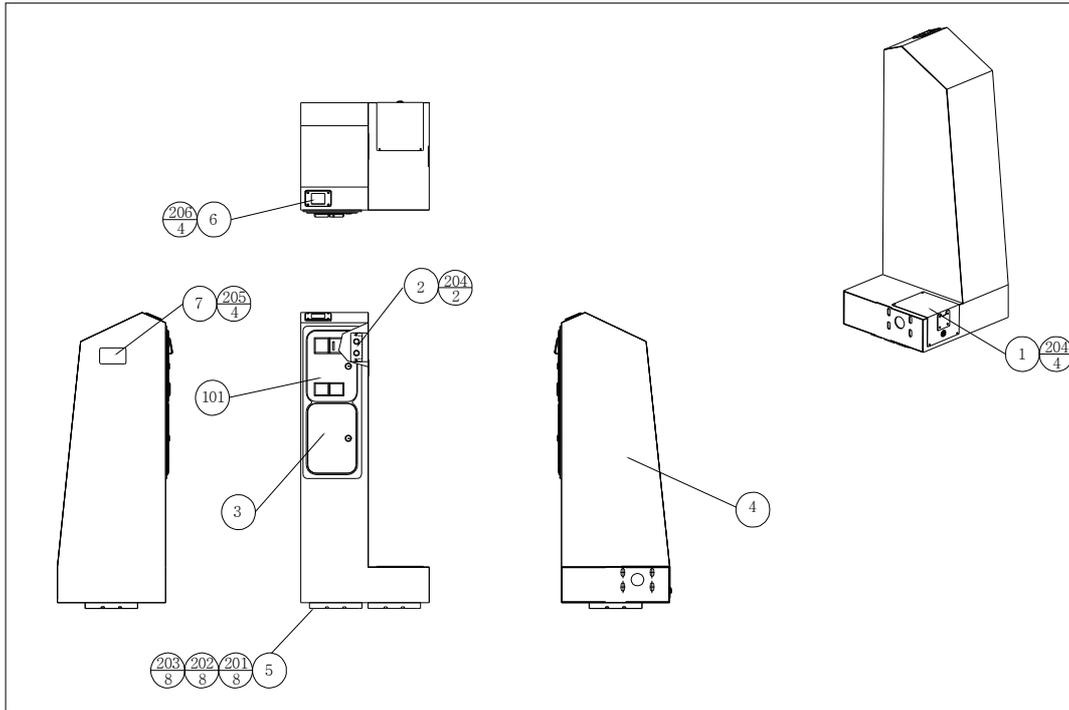
2. Ass'y MSCU (PBR-0300)



ITEM No.	DESCRIPTION	PART No.
1	ASSY MSCU BOX	PBR-0320
2	ASSY SCU	PBR-0340
3	ASSY MCU	PBR-0360
4	ASSY AC UNIT	PBR-0380
5	ASSY LAN CONNECTOR	PBR-0400
6	ASSY UPPER COVER	PBR-0410
7	ASSY MCY COVER	PBR-0420
8	ASSY TRANS COVER	PBR-0430
9	MSCU CABLE COVER-1	PBR-0301
10	PC FIX BRKT-1	PBR-0302
11	HUB FIX BRKT	PBR-0303
12	MSCY SIDE COVER-1	PBR-0304
13	HINGE BRKT	PBR-0305
14	MSCU CABLE COVER-2	PBR-0306
15	PC FIX BRKT-2	PBR-0307

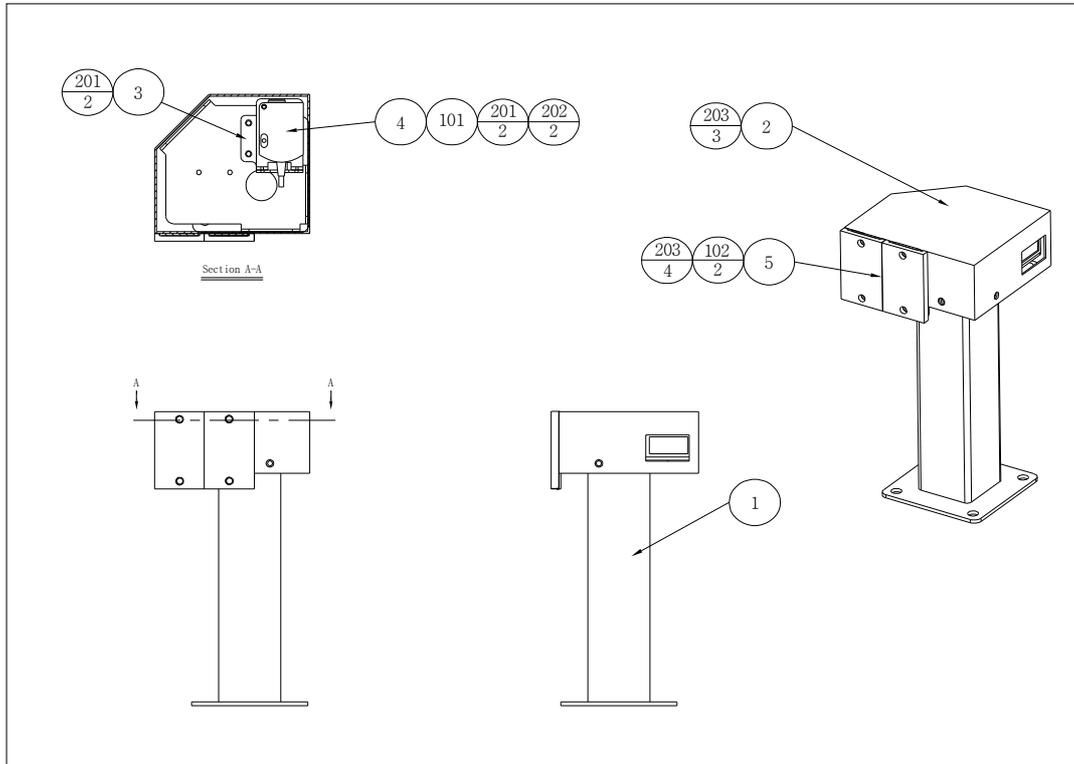
ITEM No.	DESCRIPTION	PART No.
101	PC	SYS-766G2-VS30
102	TANSFORMER BHTB-DS2K	EMU-40-R150M
103	SW HUB ESU-05-R048P SIM	ESU-05-R048P
104	HINGE (Model: h4050bk)	HINGE
105	HINGE (Model: KI-SD24 LEFT)	HINGE
106	HINGE (Model: KI-SD24 RIGHT)	HINGE
201	TRUSS SCREW M4X8L	TR04-08NNB
202	WING SCREW M4X20L	WB04-020NNB
203	FLANGE NUT M4	N-FN04NSN
204	FLAT WASHER M4 (LARGE)	W-FL04NNB
205	SPRING WASHER M4	W-SP04NNB
206	FLUSH SCREW M5X12L	FS05-012NNW
207	HEX BOLT M6X20L	HB06-020HNB
208	SPRING WASHER M6	W-SP06HNB
209	FLAT WASHER M6	W-FL06HNB

3. Ass'y Coinchute Tower (PBR-0450)



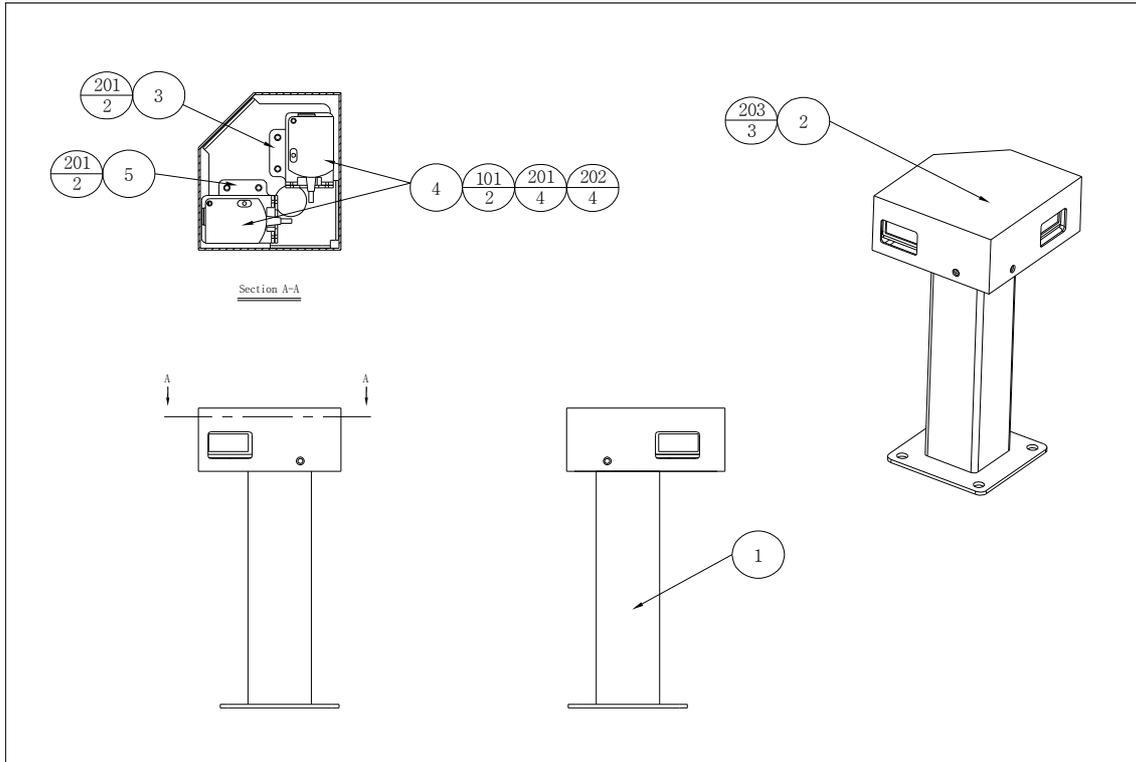
ITEM No.	DESCRIPTION	PART No.
1	ASSY TOWER SIDE DOOR	PBR-0460
2	ASSY SWITCH PANNEL	PBR-0470
3	ASSY COIN PLATE	PBR-0480
4	COIN CHUTE TOWER BOX	PBR-0451
5	RUBBER PAD	MET-03-025P
6	DENOMI PLATE	PBR-0452
7	EDY COVER	PBR-0453
102	42-0756-07(7-digit meter)/DC05V [HAPPS]	ECB-05-024P
201	WRENCH SCREW M6X20L	WR06-020HNB
202	FLAT WASHER M6 (LARGE)	W-FL06HNB
203	SPRING WASHER M6	W-SP06HNB
204	TRUSS SCREW M4X8L	TR04-008NNB
205	FLANGE NUT M4	FH-04NSN
206	ROUND HEAD WRENCH SCREW M4X12L	RW04-012NNB

4. Ass'y Sensor(L) (PBR-0500)



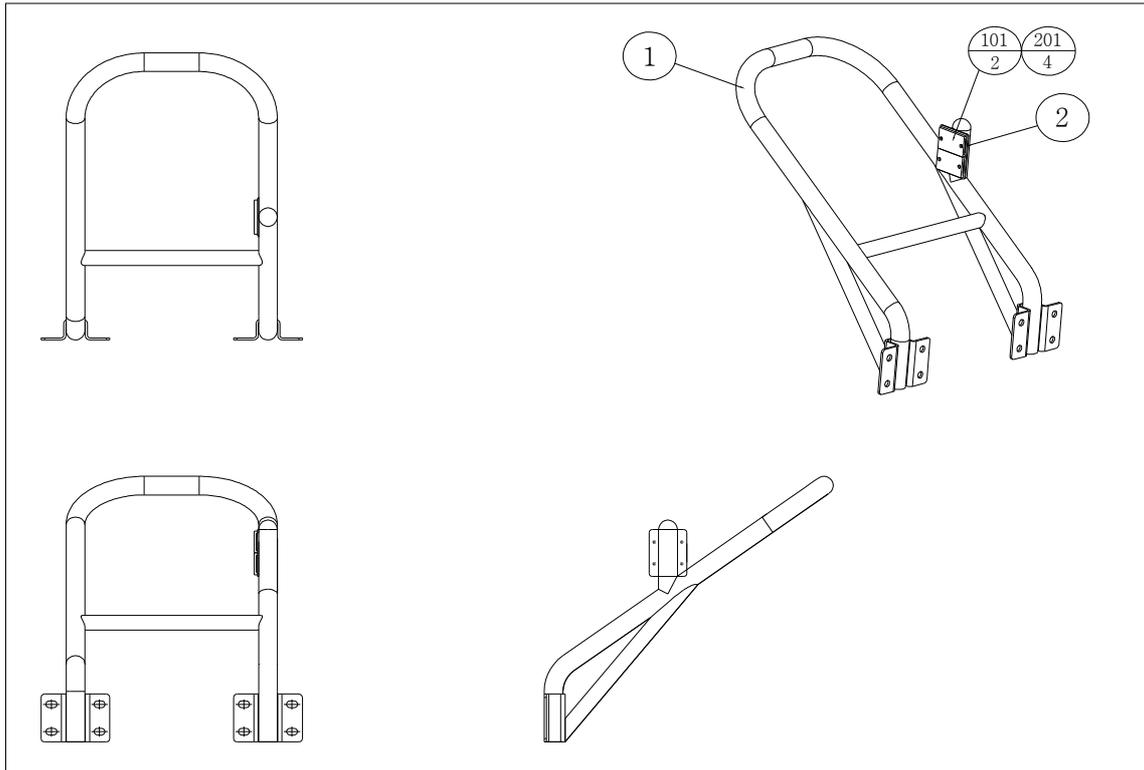
ITEM No.	DESCRIPTION	PART No.
1	SENSOR FRAME (L)	PBR-0501
2	SENSOR COVER - L	PBR-0502
3	SENSOR ADJUST BRAKET-L	PBR-0503
4	FOOT SENSOR FIX BRKT	PBR-0504
5	REFLECTOR SUPPORT PLATE	PBR-0505
101	PRK 25B[LEUZE]	ESU-05-R046P
102	MECHATEM REFLECTOR [KEO SAMG]	ESU-05-R047P
201	ROUND SEMS SCREW M3X8L	SR03-008NNB
202	ROUND SEMS SCREW M3X20L	SR03-020NNB
203	ROUND SEMS SCREW M4X8L	TR04-008NNB

5. Ass'y Sensor(R) (PBR-0520)



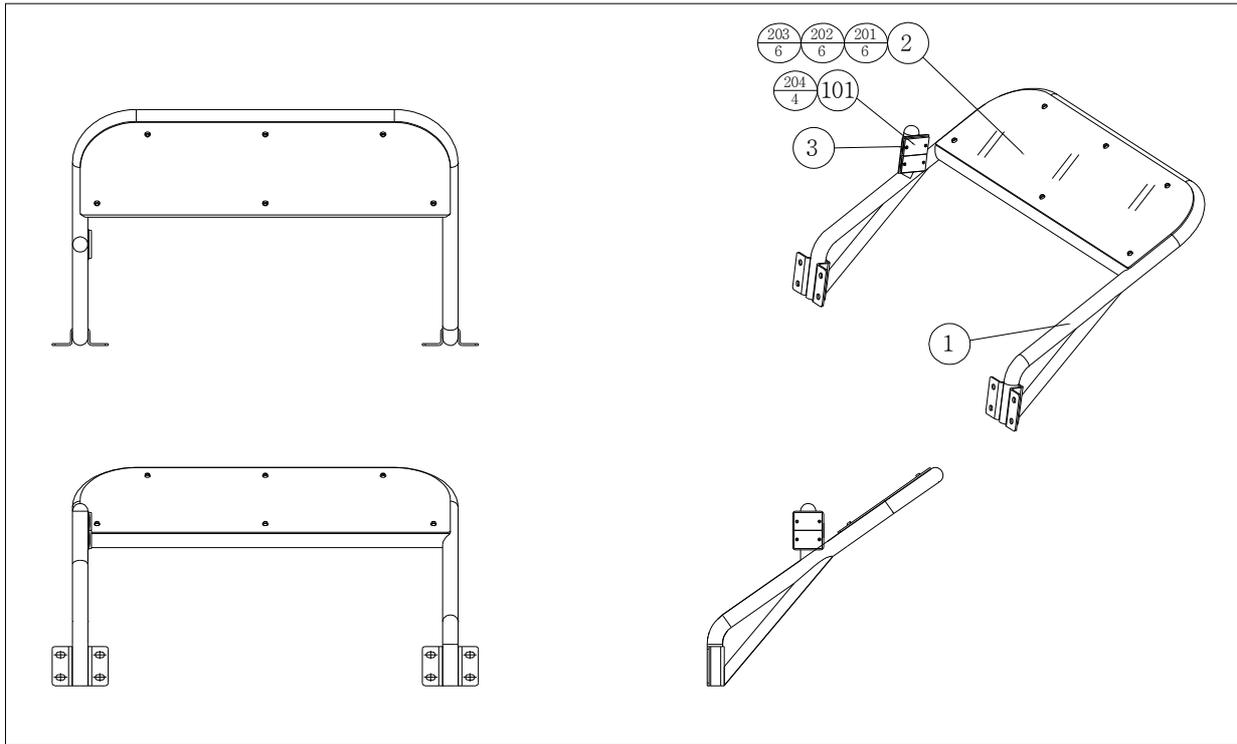
ITEM No.	DESCRIPTION	PART No.
1	SENSOR FRAME (R)	PBR-0521
2	SENSOR COVER - R	PBR-0522
3	SENSOR ADJUST BRAKET-L	PBR-0523
4	FOOT SENSOR FIX BRKT	PBR-0524
5	SENSOR ADJUST BRAKET-R	PBR-0525
101	PRK 25B[LEUZE]	ESU-05-R046P
201	ROUND SEMS SCREW M3X8L	SR03-08NNB
202	ROUND SEMS SCREW M3X20L	SR03-020NNB
203	TRUSS SCREW M4X8L	TR04-008NNB

6. Ass'y Front Side Fence(L) (PBR-0540)



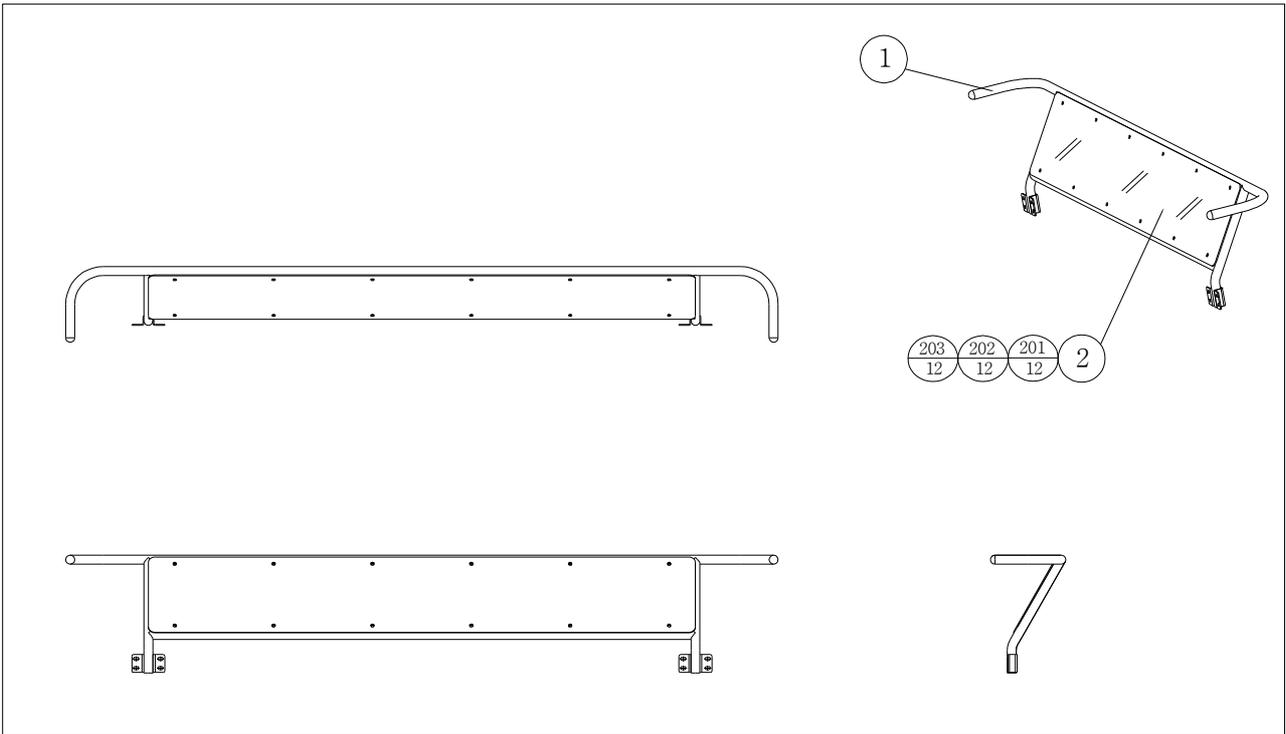
ITEM No.	DESCRIPTION	PART No.
1	FRONT SIDE FENCE FRAME	PBR-0541
2	REFLECTOR SUPPORT PLATE	PBR-0505
101	MECHATEM REFLECTOR [KEO SAMG]	ESU-05-R047P
201	TRUSS SCREW M4X8L	TR04-008NNB

7. Ass'y Front Side Fence(R) (PBR-0560)



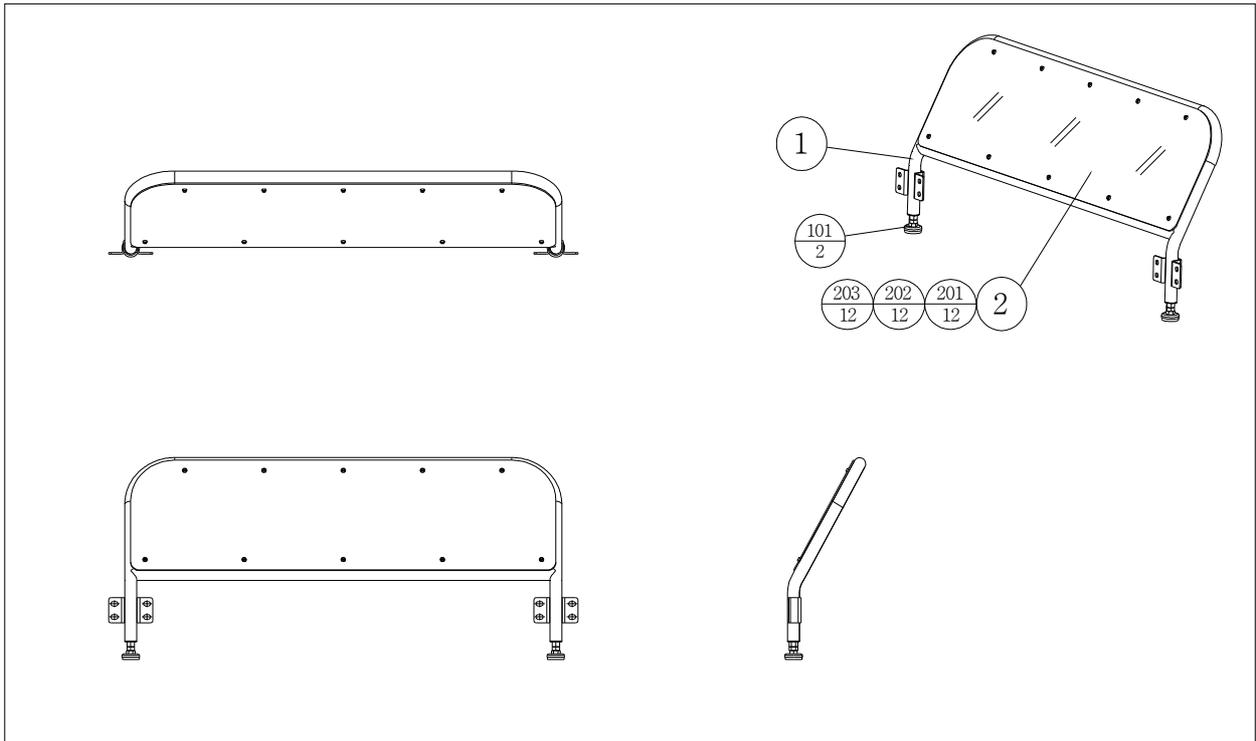
ITEM No.	DESCRIPTION	PART No.
1	MIRROR FRAME - R	PBR-0561
2	FRONT SIDE FENCE PC	PBR-0562
3	REFLECTOR SUPPORT PLATE	PBR-0505
101	MECHATEM REFLECTOR [KEO SAMG]	ESU-05-R047P
201	TRUSS SCREW M4X8L	TR04-008NNB
202	FLUSH SCREW M5X12L	FL05-012NNB
203	RACK WASHER M5	W-LC05NNB
204	RUBBER WASHER	W-RB05NNB

8. Ass'y Rear Fence (PBR-0600)



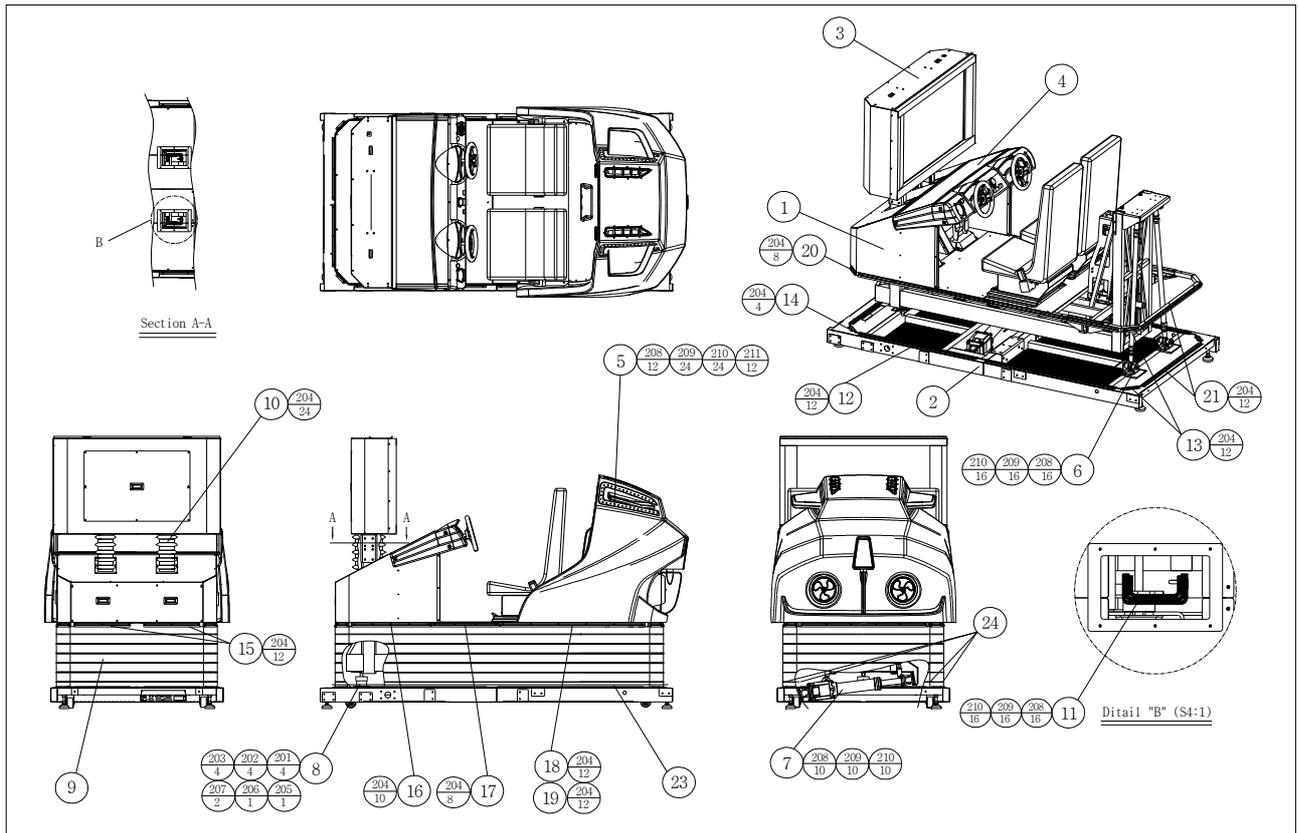
ITEM No.	DESCRIPTION	PART No.
1	REAR FENCE FRAME	PBR-0601
2	REAR FENCE PC	PBR-0602
201	FLUSH SCREW M5X12L	FL05-012NNB
202	RACK WASHER M5	W-LC05NNB
203	RUBBER WASHER	W-RB05NNB

9. Ass'y Rear Side Fence (PBR-0620)



ITEM No.	DESCRIPTION	PART No.
1	REAR SIDE FENCE FRAME	PBR-0621
2	REAR SIDE FENCE PC	PBR-0622
101	LEVEL FOOT A-VS-10(M10-80L)	A-VS-10
201	FLUSH SCREW M5X12L	FL05-012NNB
202	RACK WASHER M5	W-LC05NNB
203	RUBBER WASHER	W-RB05NNB

10. Ass'y Cockpit (PBR-1000)



ITEM No.	DESCRIPTION	PART No.
1	ASSY RIDE	PBR-2000
2	ASSY BASE	PBR-3000
3	ASSY MONITOR	PBR-4000
4	ASSY HANDLE BODY	PBR-4500
5	ASSY RIDE BODY	PBR-4800
6	ASSY LINK JOINT	PBR-5000
7	ASSY ROLL ACTUATOR	PBR-5200
8	ASSY BALL JOINT	PBR-5400
9	BASE BELLOWS	PBR-1001
10	MONITOR BELLOWS	PBR-1002
11	MONITOR FIX BRKT	PBR-1003
12	B-FRONT SIDE BRKT-1	PBR-1004
13	B-C REAR SIDE BRKT-1	PBR-1005
14	B-FRONT SIDE BRKT-2	PBR-1006
15	B-C FRONT BRKT	PBR-1007
16	C FRONT SIDE BRKT-1	PBR-1008
17	C MIDDLE SIDE BRKT	PBR-1009
18	B-C REAR SIDE BRKT-2(L)	PBR-1010
19	B-C REAR SIDE BRKT-2(R)	PBR-1011
20	C-FRONT SIDE BRKT	PBR-1012
21	B-C REAR BRKT	PBR-1013
22	B-C REAR BRKT-7	PBR-1014

ITEM No.	DESCRIPTION	PART No.
23	BELLOWS RUBBER BAND	PBR-1012
24	BELLOWS SIDE COVER	PBR-1013
201	HEX BOLT M10X30L	HB10-30HNB
202	SPRING WASHER M10	W-SP10HNB
203	FLAT WASHER M10	W-FL10HNB
204	TRUSS SCREW M5X12L	TR05-012NNB
205	SPRING WASHER M16	W-SP16HNB
206	FLAT WASHER M16	W-FL16HNB
207	HEX NUT M16	N-HN16HNB
208	HEX BOLT M8X25L	HB08-25HNB
209	SPRING WASHER M8	W-SP08HNB
210	FLAT WASHER M8	W-FL08HNB
211	HEX BOLT M8X45L	HB08-45HNB