

# RAZING STORM

## OPERATION MANUAL

The actual product may differ slightly from the illustrations in this manual.

RAZING STORM MANUAL  
US/EUROPE

NOTE: SEE ADDENDUM FOR SPECIFIC EU INFORMATION.

### **DANGER**

- To ensure safe operation of the game machine, be sure to read this Operation Manual before use.
- Keep this Operation Manual in a safe place for quick access whenever needed.

**NAMCO BANDAI Games Inc.**

# IMPORTANT

Read PRECAUTIONS and INSTALLATION  
Sections before operating game

## RF Notice

**Note:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operating in a commercial environment. This equipment uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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# INTRODUCTION

Thank you for purchasing the "Razing Storm" game machine (hereafter referred to as the "machine").

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## **This operation manual describes:**

- ♦ How to install, operate, relocate, transport, maintain and discard the machine safely and properly
- ♦ How to operate the machine correctly and make full use of its features
- ♦ How to ensure safety of players and bystanders

## **Inquiries regarding this machine and its repair**

- ♦ For further information about the machine and its repair, contact your distributor.

## **The software included in the machine is protected by copyright laws.**

The software must not be copied, modified, distributed publicly, or used for purposes other than the operation of this game machine.

Violators of copyright laws may be subject to criminal penalties.

Do not use the software storage media in any other game machine; otherwise, machine malfunctions may result.

## **Copyright and trademark notices**



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Notes:

# 1. SAFETY PRECAUTIONS - Be sure to read these instructions to ensure safety -

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## Instructions to the owner


- If you entrust another party to perform installation, operation, relocation, transportation, maintenance or discarding of the machine, instruct the concerned party to read and observe all the instructions and precautions in this operation manual regarding the particular action to be taken.

### 1-1 Magnitudes of risk

On the labels attached to the machine and in this operation manual, precautions regarding safety and property damage are classified as shown below in accordance with the magnitude of the particular risk.

 **DANGER** :Failure to avoid the risk most certainly result in death or serious injury.

 **WARNING** :Failure to prevent the indicated risk may result in death or serious injury.

 **CAUTION** Failure to prevent the indicated risk may result in minor injury or property damage.

Notes related to machine functions but not to safety are marked with the following indication.

 **NOTICE** :Note related to product function or protection.

### 1-2 Definition of the term “technician”

This operation manual is written for arcade personnel. However, the sections marked “To be conducted by a technician only” in the table of contents are written for technicians. These tasks should be conducted by technicians only.

Technician: A person engaged in machine design, manufacture, inspection or maintenance service for a manufacturer of amusement equipment, or a person who has technical knowledge related to electricity, electronics or mechanical engineering at a level equal to or higher than that of a technical high school graduate and is engaged routinely in the maintenance and management (including repair) of amusement machines.

## 1-3 Top-priority safety precautions

### WARNING

- **Should any abnormality occur, turn off the power switch immediately to stop operating the machine. Then, unplug the power cord plug from the AC outlet.**  
**Operating the machine without correcting abnormalities can result in a fire or accident.**
- **When adjusting the projector, do not touch any parts other than those specified in the instructions. Accidentally touching internal parts of the projector other than those specified can result in electric shock or injury.**  
\* **Some internal parts of the projector remain hot or charged with high voltage even after the power switch is turned off.**
- **Dust accumulated inside the projector can lead to a fire or malfunction.**  
The inside of the projector should be cleaned once a year. Contact your distributor for internal cleaning of the projector.
- **Do not dismount the projector screen. Removed screen and internal lens can converge light and may cause a fire, blindness or burns.**
- **Dust accumulated on the power cord plug may cause a fire. Check the power cord plug regularly and remove dust.**
- **Insert the power cord plug firmly into the AC outlet. Poor contact may cause overheating that can lead to a fire or burns.**
- **A damaged power cord can cause a fire, electric shock or electrical leakage. Observe the following cautions.**
  - ◆ **Keep the power cord away from heating devices.**
  - ◆ **Do not twist the power cord.**
  - ◆ **Do not bend the power cord forcibly.**
  - ◆ **Do not alter the power cord.**
  - ◆ **Do not bundle the power cord.**
  - ◆ **Do not pull the power cord. (Always unplug by holding the power cord plug, and avoid pulling the power cord.)**
  - ◆ **Do not place anything on the power cord.**
  - ◆ **Do not get the power cord caught by the machine, other equipment or wall.**
  - ◆ **Do not do anything else that might damage the power cord.**
- **Do not wet the power cord or power cord plug with water. Water can cause an electric shock or electrical leakage.**
- **Do not touch the power cord plug with a wet hand. Doing so can result in an electric shock.**
- **The power ratings of the machine are 120 VAC and 6 A. To prevent fire and electric shock, be sure to use interior wiring that conforms to these power**

ratings.

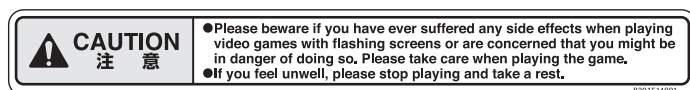
- **Operate the machine with a power supply voltage in the range of 105 to 125 VAC. Operating the machine with a supply voltage outside the specified range may cause a fire or electric shock. To ensure that the machine operates in optimum condition, maintain the power supply at 120 VAC.**
- **Use consumables and service parts (including fasteners) specified by our company. To order parts, contact your distributor.**
- **Do not convert the machine without permission. Do not perform any work that is not described in this operation manual. Unauthorized conversion of the machine may create unforeseen hazards.**
- **If the ownership of the machine is transferred, be sure to provide this operation manual and the Projector Adjustment Manual together with the game machine.**

## 1-4 Description of warning labels attached to the machine

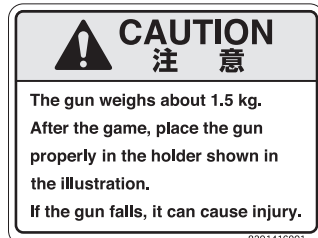
### WARNING

- The warning labels describe important safety precautions. Observe the following:
  - ◆ To ensure that the warning labels attached to the machine are easily legible, install the machine at a proper location with ample illumination and keep the labels clean at all times. Also, make sure that the labels are not hidden behind another game machine or other objects.
  - ◆ Do not remove or alter the warning labels.
  - ◆ If the warning labels become excessively dirty or damaged, replace them with new labels. To order warning labels, contact your distributor.

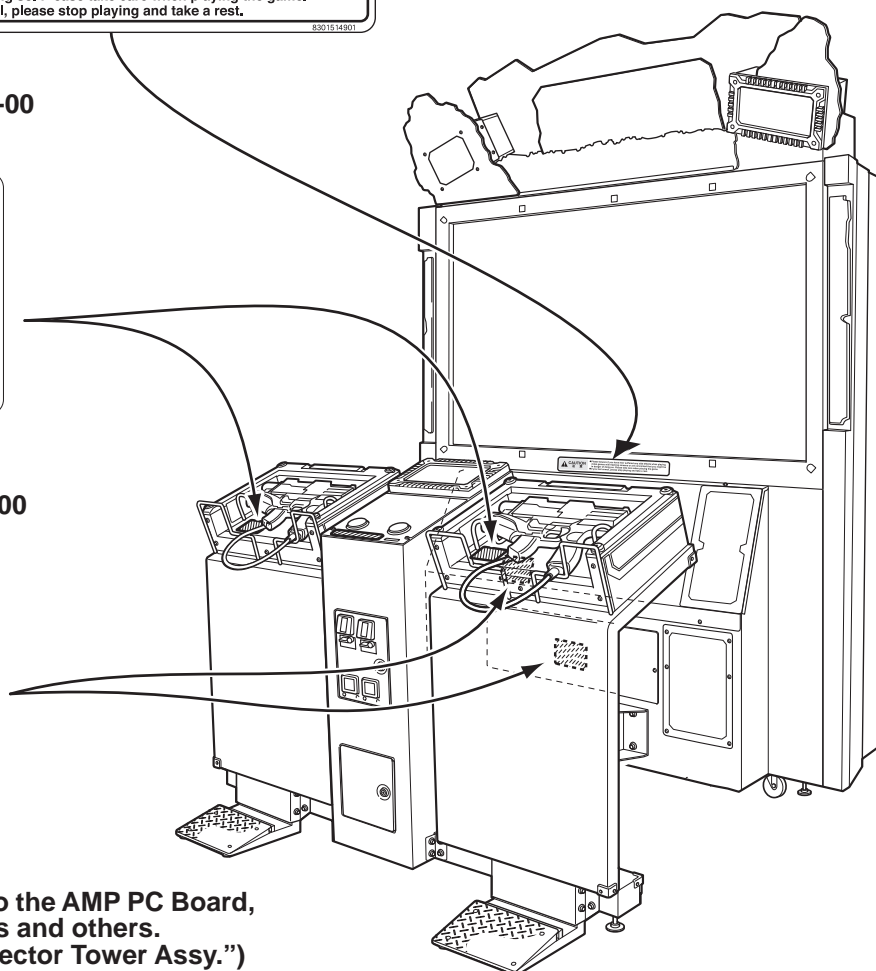
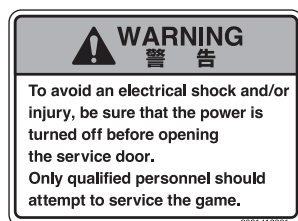
### Front side



Instruction sticker  
Part No. :VG44-07943-00



Caution sticker Gun  
Part No.:VG40-12401-00

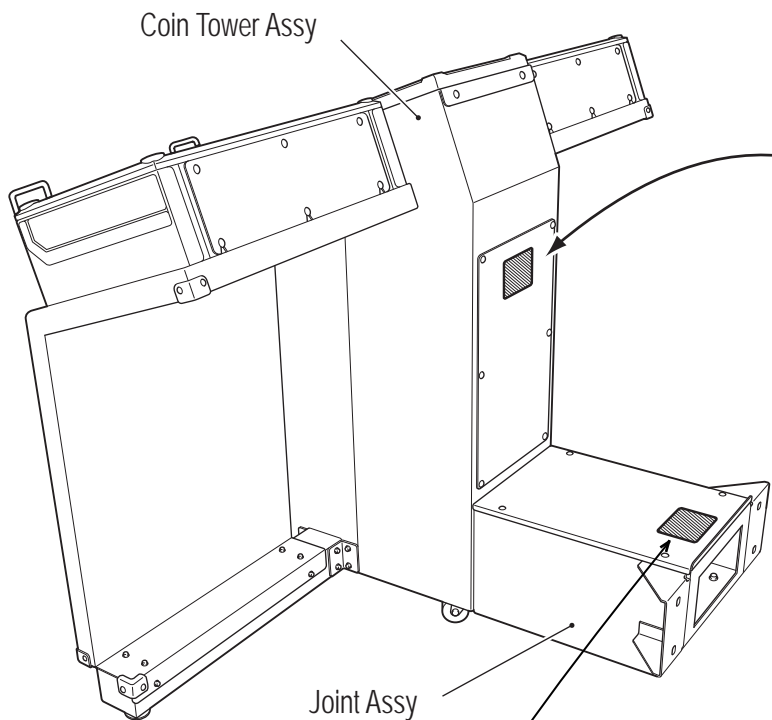


\* Internal parts refer to the AMP PC Board, switching regulators and others.  
(See P. 79 "8-3-1 Projector Tower Assy.")

Warning sticker Maintenance (B)  
Part No.: 461-531



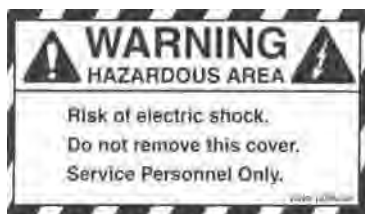
## Rear side of Coin Tower Assy



**Warning sticker Maintenance (B)**  
**Part No.: RM44-13905-00**

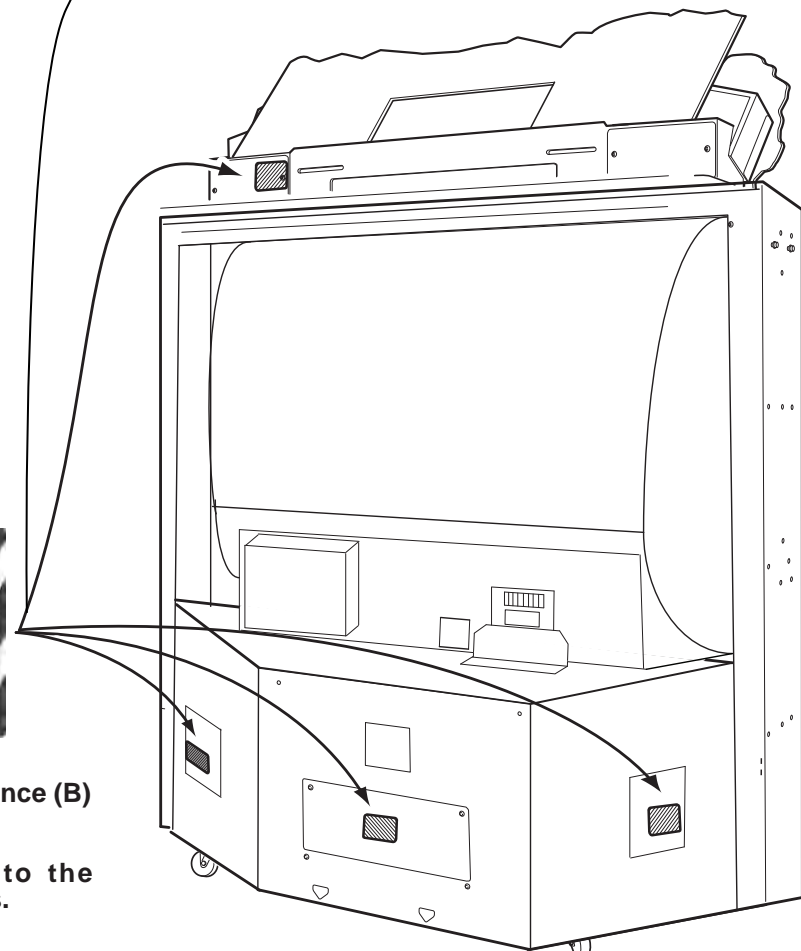
\* Internal parts refer to the CPU Board, USIO PC Board, GUN DRIVE PC Board, switching regulators and others.  
(See P. 27 "5-3-3 Connecting the Projector Tower Assy and Control Assy," P. 92 "8-3-3 (3) Replacing the CPU Board," P.94 "8-3-3 (4) Replacing the USIO PC Board," and P. 96 "8-3-3 (5) Replacing the GUN DRIVE PC Board.")

## Rear side



**Warning sticker Maintenance (B)**  
**Part No.: VC40-10599-00**

\* Internal parts refer to the transformers and others.



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# 2. SPECIFICATIONS

- (1) Rated power supply

US 105-125 VAC 60 Hz - Europe 240V 50/60Hz
- (2) Rated power consumption

460 W
- (3) Maximum current consumption

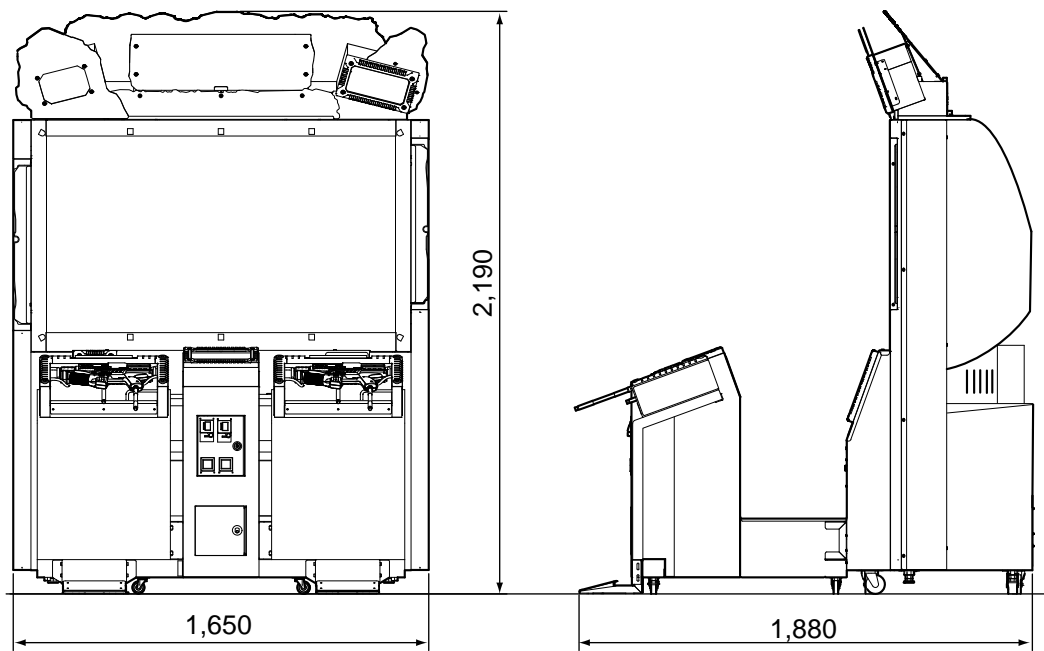
6 Amps
- (4) Coin box capacity

Approx. \$750 (3,000 25¢ coins)
- (5) Display device

60-inch DLP projector
- (6) Dimensions

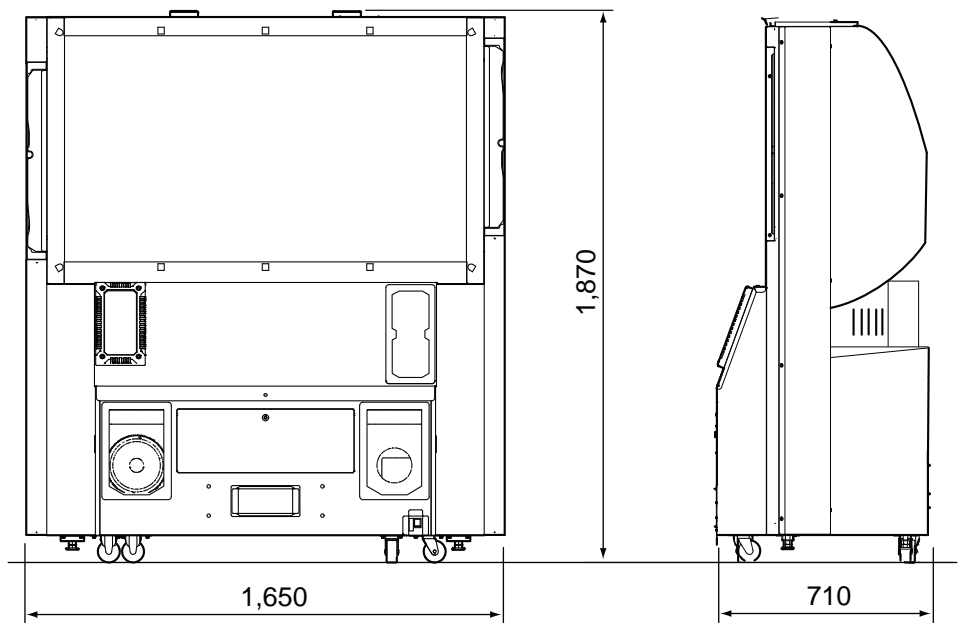
1. As installed

1,650 (W) x 1,880 (D) x 2,150 (H) [mm]

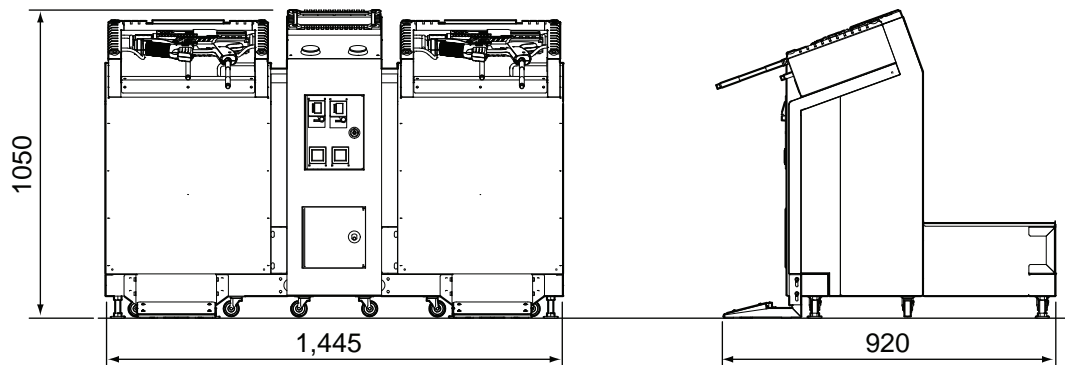


2. When divided

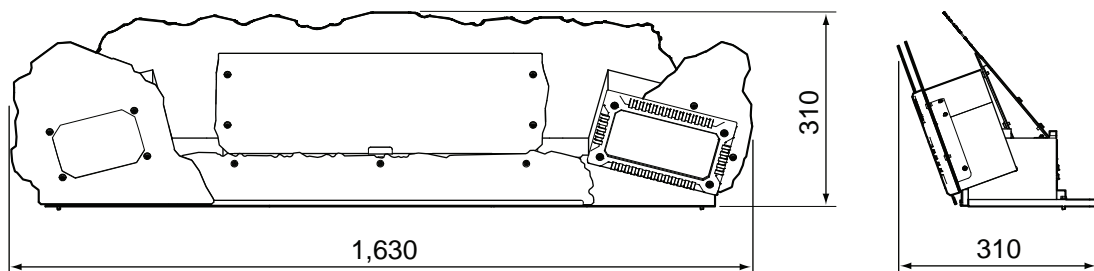
Projector Tower Assy 1,210 (W) x 770 (D) x 2,010 (H) [mm]



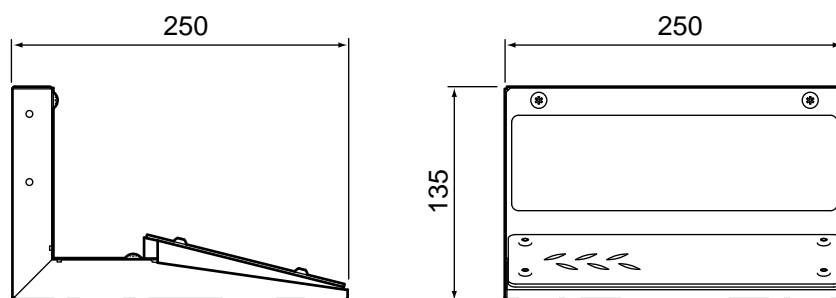
Control Assy      1,520 (W) x 540 (D) x 1,120 (H) [mm]



Signboard Assy      1,330 (W) x 390 (D) x 340 (H) [mm]



Pedal Assy      250 (W) x 250 (D) x 160 (H) [mm]



#### (7) Weight

1. As installed	341 kg
2. When divided	
Projector Assy	215 kg
Control Assy	94 kg
Signboard Assy	20 kg
Pedal Assy	6 kg x 2

### 3. CHECKING THE PACKAGE CONTENTS

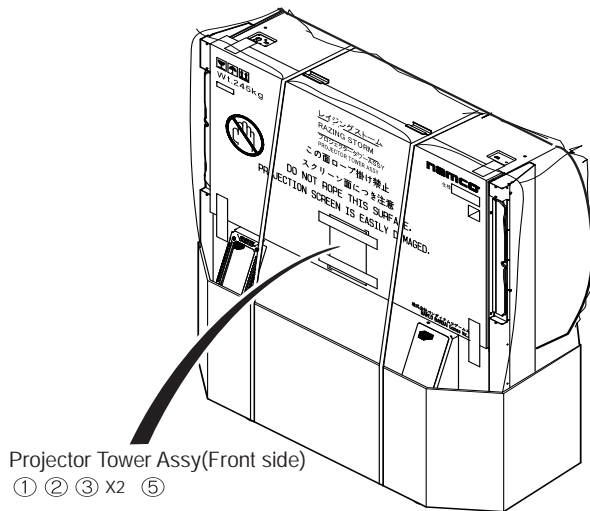
The product package shipped from the factory contains the following components and parts.



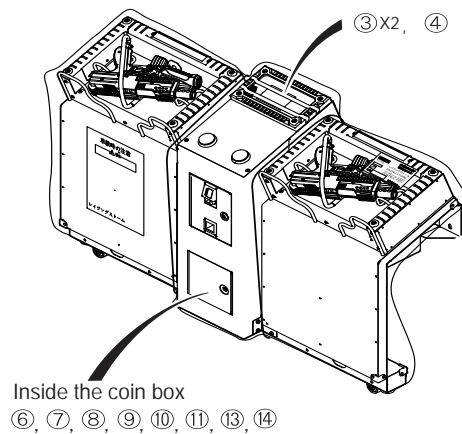
- Make sure that all items shown below are contained in the product package.
- If any item is missing, contact your distributor.

#### Packaging and accessories

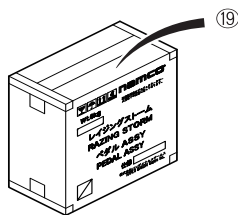
##### ●Projector Tower Assy



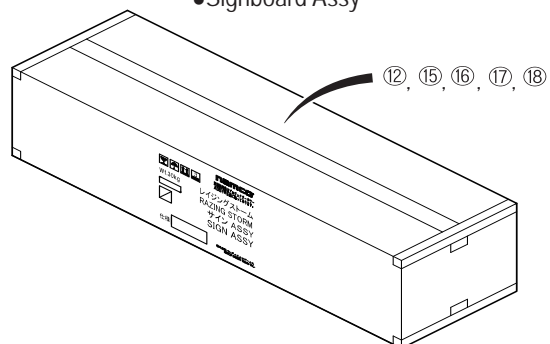
##### ●Control Assy



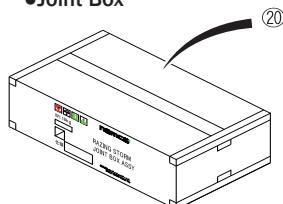
##### ●Pedal Assy



##### ●Signboard Assy

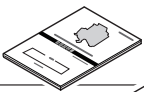




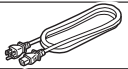









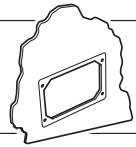



##### ●Joint Box



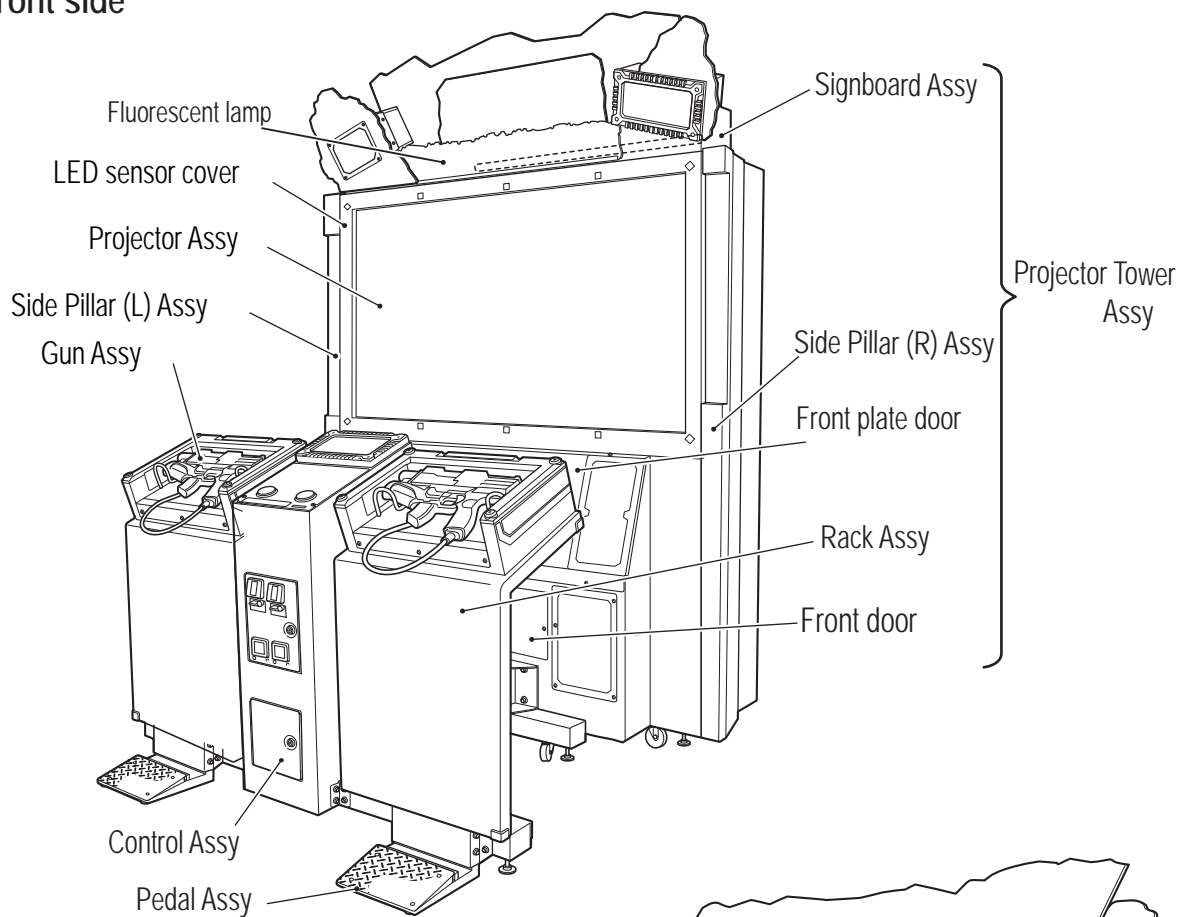


## Accessory list

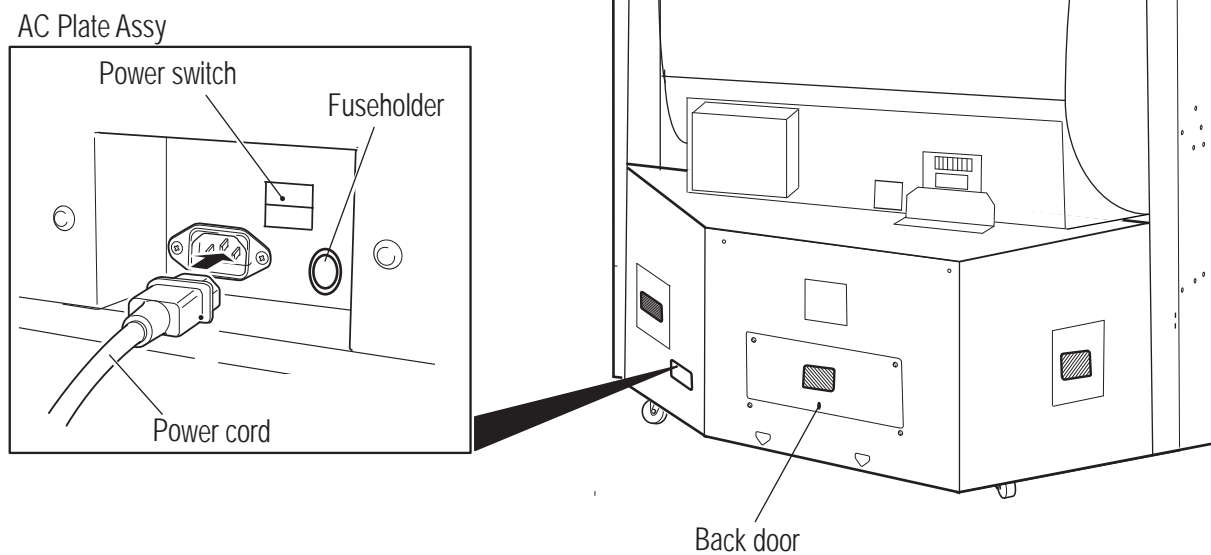
No.	Name	Description	Qty.
1	Razing Storm Operation Manual (this manual)		1
2	Projector Adjustment Manual		1
3	Maintenance key	 each (total: 4 keys)	
4	Coin box key	Shared use 	2
5	Coin insertion sticker (A)	1PLAY \$1.00 	1
6	Power cord	3 m 	1
7	Flange socket bolt (M8 x 40)	For Joint Assy mounting 	4
8	Flange socket bolt (M6 x 12)	For Pedal Assy mounting 	8
9	Hexagon head bolt (with flat and spring washers) (M6 x 30)		2
10	Projector remote control		1
11	Torx wrench	M5, 4 mm across flats 	1
12	Torx bolt (M5 x 10)	For center plate mounting For back plate mounting For side plate (L) mounting For side plate (R) mounting 	
13	Flat washer		14
14	Center plate		1
15	Back plate		1
16	Side plate (L)		1
17	Side plate (R)		1

## 4. OVERALL CONSTRUCTION (Names of Parts)

### Front side



### Rear side



## 5. INSTALLATION

---

### WARNING

- Install the machine according to the instructions and procedures specified in this operation manual. Failure to follow the specified procedures may result in a fire, electric shock, injury or machine malfunctions.
- Insert the power cord plug firmly into the AC outlet. Poor contact may cause overheating that can lead to a fire or burns.
- Be sure to connect the ground lead. If the ground lead is not connected, electric shock can result in case of electrical leakage. (See P. 33 "5-6 Connecting the power cord and ground lead.")
- Install the machine securely by using the level adjusters. Unstable machine installation can result in an accident or injury. (See P. 22 "5-3-1 Adjusting the level adjusters.")

## 5-1 Installation conditions

### 5-1-1 Locations to avoid

### WARNING

- The machine is designed for indoor use. Never install the machine outdoors or at any of the following locations:
  - ◆ Place in direct sunlight
  - ◆ Place exposed to rain or water leakage
  - ◆ Damp place
  - ◆ Dusty place
  - ◆ Close to heating devices
  - ◆ Hot place
  - ◆ Extremely cold place
  - ◆ Place where moisture condensation may occur due to temperature differences
  - ◆ Place where the machine may become an obstruction in emergencies (such as near emergency exit) and place where fire extinguisher or similar equipment is installed
  - ◆ Unstable place or location where vibrations are produced

### NOTICE

- Do not install the machine in any of the following places since those locations may disallow the sensors from detecting the positions of the Gun Assys.
  - ◆ Place where bright light such as sunlight or spot light can directly shine on the Gun Assys or screen surface
  - ◆ Provide a space of at least 50 cm between the rear side of the machine and the wall or other machine in order to turn the power switch ON/OFF and open the back door for maintenance.

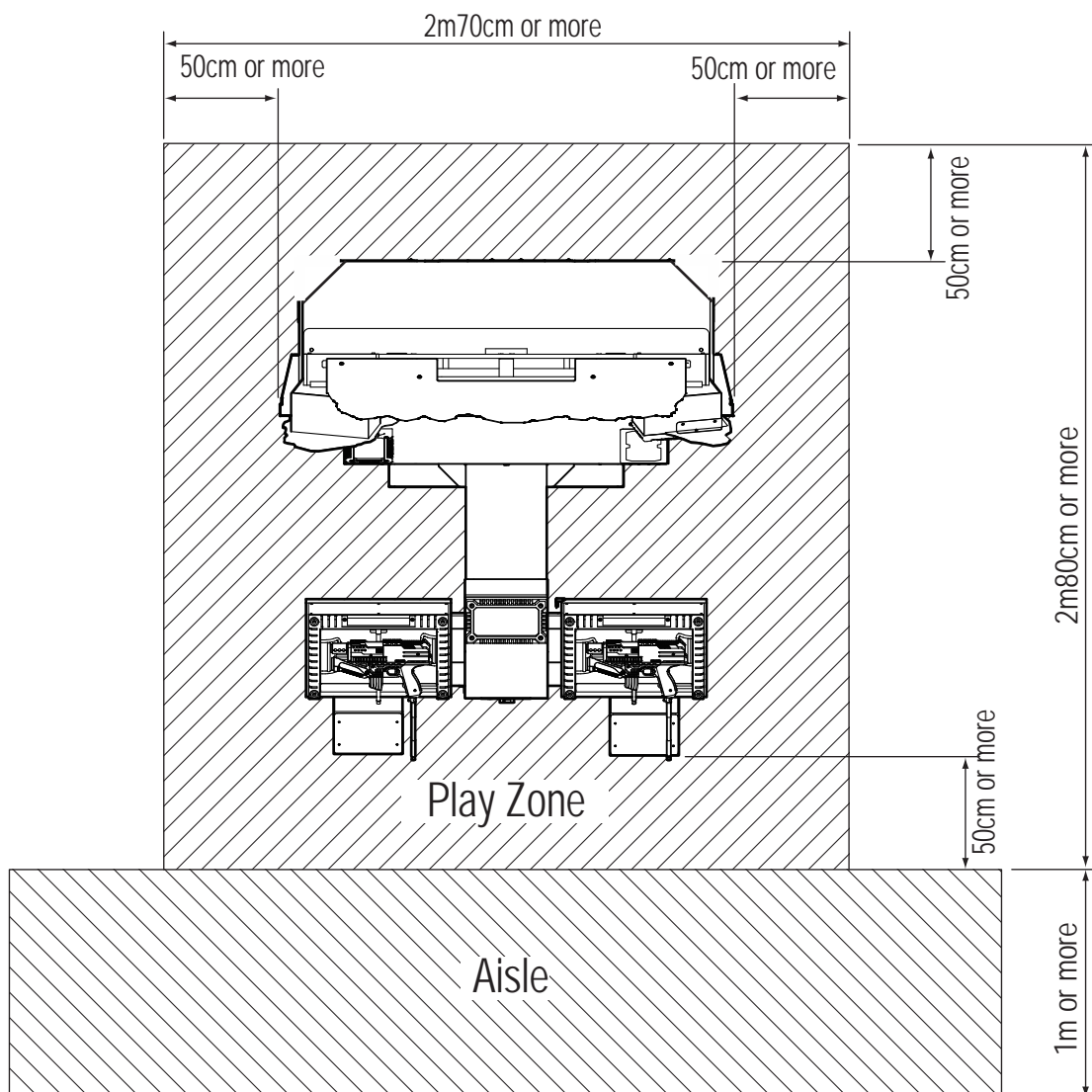
## 5-1-2 Play zone for installed machine

**WARNING**

- Provide a play zone shown below so that players do not accidentally bump into observers or passersby.

**NOTICE**

- The distance from the floor to the ceiling must be at least 2 m 40 cm.
- Provide a space of at least 50 cm between the rear side of the machine and the wall or other machine in order to turn the power switch ON/OFF and open the back door for maintenance.



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### 5-1-3 Prevention of detection interference

- If two or more units are installed next to each other, the aim detection systems of the Gun Assys can operate erroneously due to interference. To prevent this, position the game machines (player side) alternately.  
Using page 49 as a guide, set the Gun Sensor channel of the first game to "1". the Gun Sensor of the second game to "2", the Gun Sensor of the third game to "1" etc. By following this pattern, the emissions of adjacent games will not confuse signals sent by the target game.

## 5-2 Required dimensions of carry-in passage (such as doors and corridors)

The game machine is divided into Assys at the factory before shipment.  
The size of each Assy is as follows:

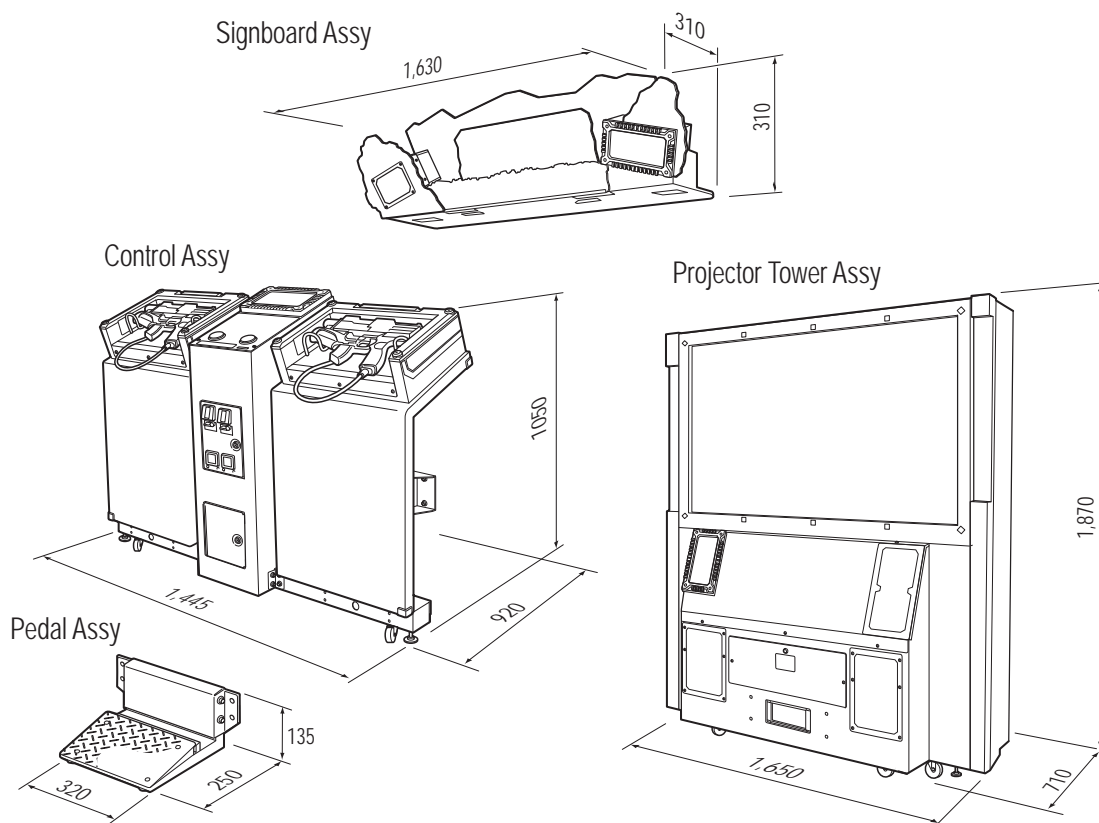
- Projector Tower Assy      1,650 (W) x 710 (D) x 1,870 (H) [mm]  
Weight: 215 kg
- Control Assy              1,445 (W) x 920 (D) x 1,050 (H) [mm]  
Weight: 94 kg
- Signboard Assy            1,620 (W) x 310 (D) x 310 (H) [mm]  
Weight: 20 kg
- Pedal Assy                250 (W) x 250 (D) x 160 (H) [mm]  
Weight: 6 kg

The carry-in passage must be larger than the dimensions indicated above.

The Projector Tower Assy can be further divided into the following two parts,  
if so required due to passage conditions.

- Projector                    1,367 (W) x 366 (D) x 932 (H) [mm]  
Weight: 31 kg
- Lower cabinet            1,650 (W) x 710 (D) x 938 (H) [mm]  
Weight: 40 kg

Regarding the separating method, refer to "5-2-1 Separating the Projector Tower Assy (when required due to passage conditions)" on page 19.



### 5-2-1 Separating the Projector Tower Assy (when required due to passage conditions)

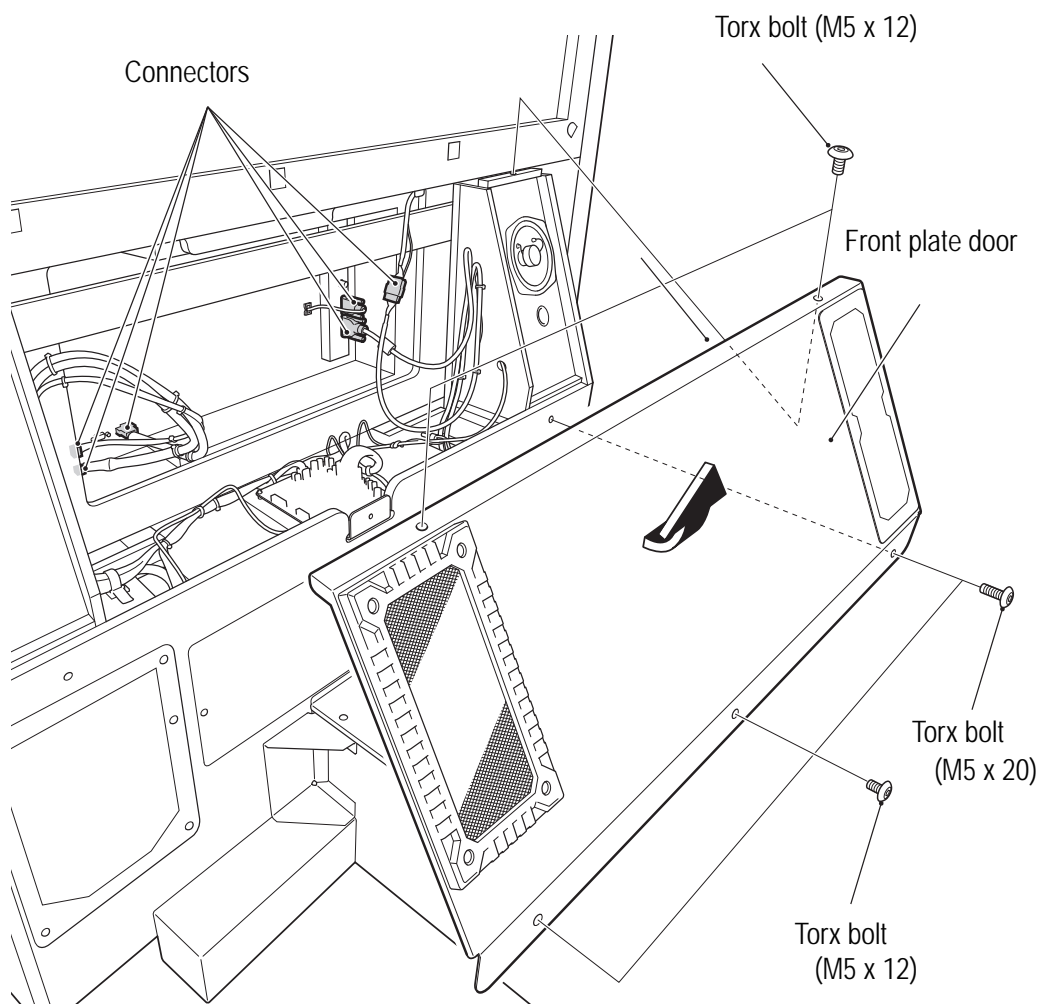
- To be conducted by a technician only -

\* If the carry-in passage is sufficiently tall, the following procedure is not necessary. In that case, proceed to "5-3 Assembly" on page 22.

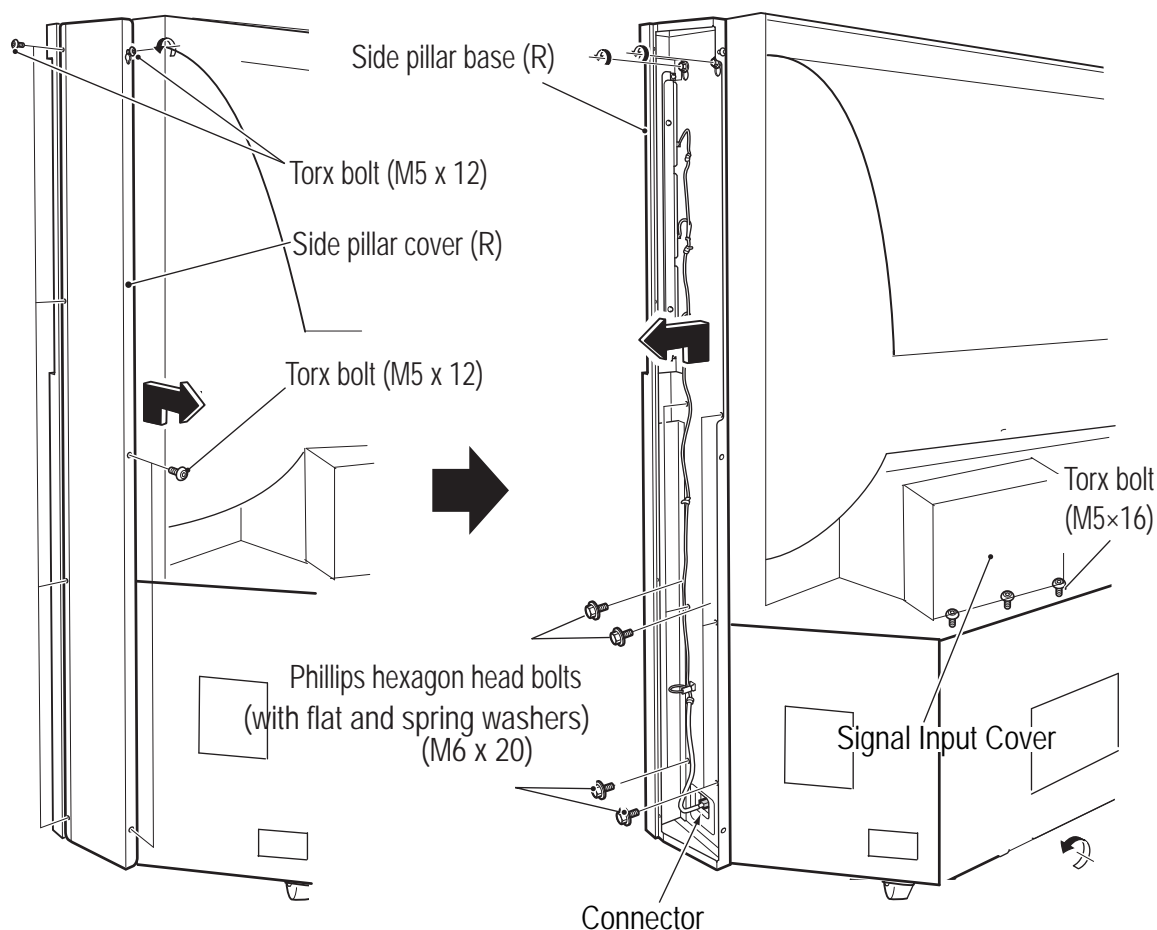
#### WARNING

- The projector weighs approximately 31 kg. Removal of the projector should be performed by at least three persons to prevent accidents.

- 1** Remove the three torx bolts (M5 X 12), then dismount the front plate door.
- 2** Using the Instructions on P. 79, 8-3-1(1) Replacing the LED Board steps **1** through **3** remove the LED Sensor cover from the game.



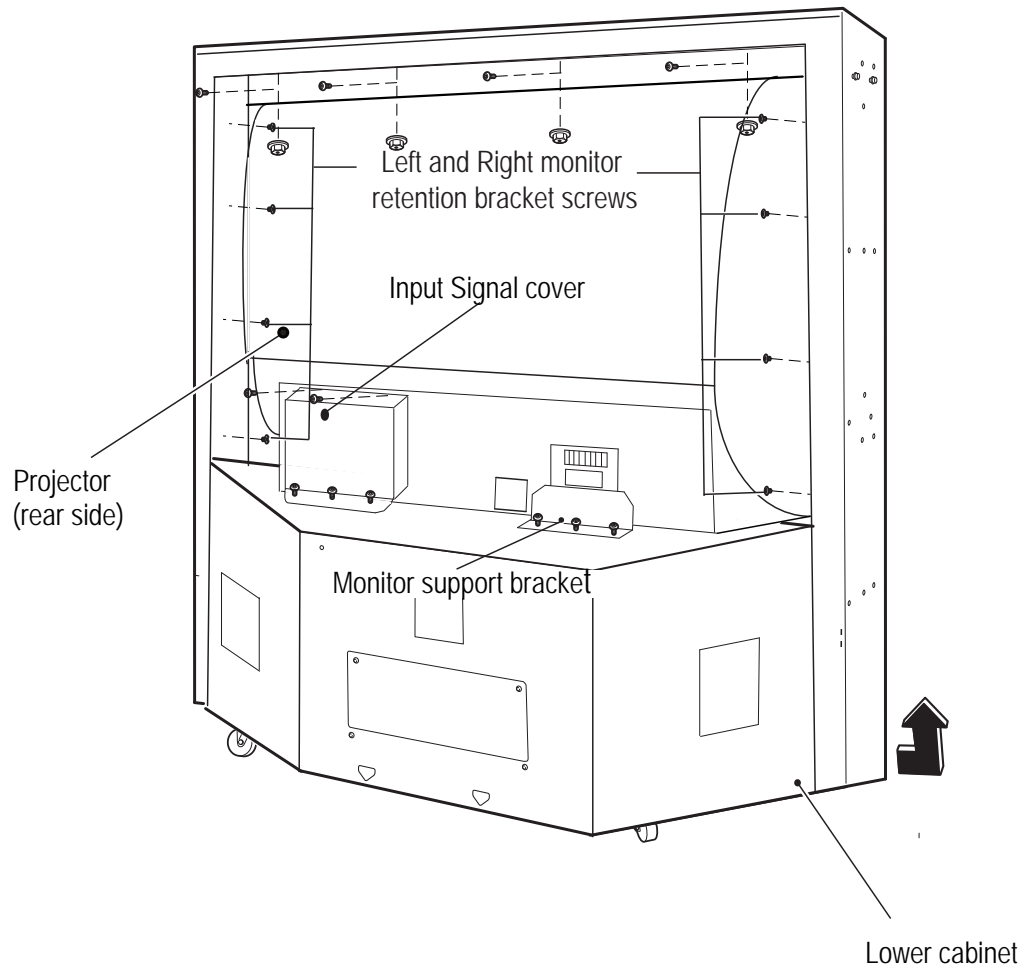
- 3** On the pillar, remove the six Torx bolts (M5 x 12) and loosen the bolt on the rear side at the top, then dismount the side pillar cover (R).
- 4** Disconnect the connector, then remove the four Hex head bolts (with flat and spring washers) (M6 x 20). Lift and dismount the side pillar base (R).
- 5** Remove the parts from the (L) side by following the above steps **3** through **4**.



- 6** Remove the four black phillips screws on each of the left and right monitor retention brackets.
- 7** Remove the four nuts securing the top monitor retention bracket to the top of the game and loosen the four torx screws on the top monitor retention bracket
- 8** Remove the Input Signal Cover on the back of the monitor (2- #8X16 sheet metal screw and 3- M5X16 Torx screws) and the Monitor Support bracket (Page 20) (3 - M5 X1 6 Torx screws) and disconnect the wires going into the monitor.



- 9** While one person disengages and lifts the left pillar approximately 25 cm. remove the top monitor retention bracket.
- 10** Next, remove the left monitor retention bracket and slide the projection monitor to the players left, thereby clearing the right retention bracket.

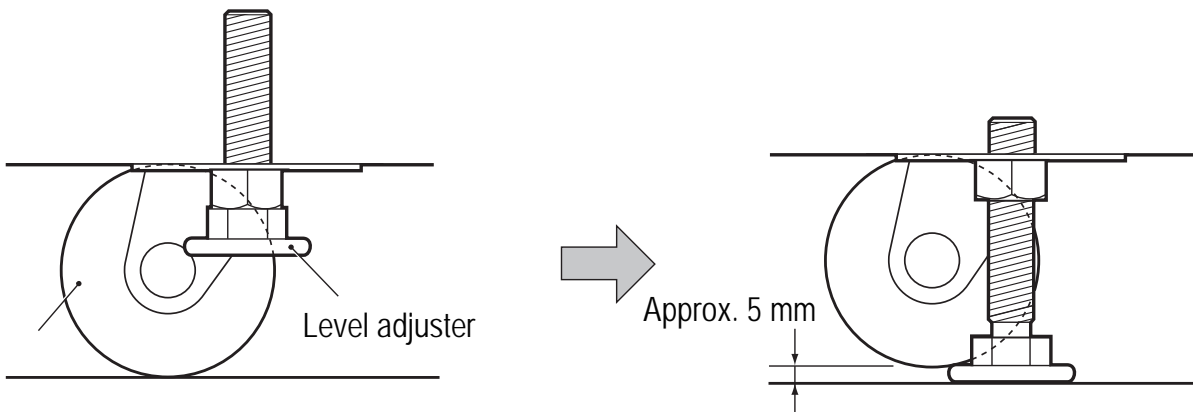


- 11** Lift the projector about 10 cm away from the lower cabinet, move it toward the back, and lower it slowly and gently onto the floor. This task must be performed by three or more persons.
- 12** To reassemble, follow the disassembly sequence in reverse.

## 5-3 Assembly

### 5-3-1 Adjusting the level adjusters

- 1 After positioning the Projector Assy according to the instructions in “5-1 Installation conditions” on page 15, lower the level adjusters (at 4 locations) until the casters are lifted about 5 mm from the floor (the casters should be able to swivel freely).



### 5-3-2 Assembling the Signboard Assy - To be conducted by a technician only -

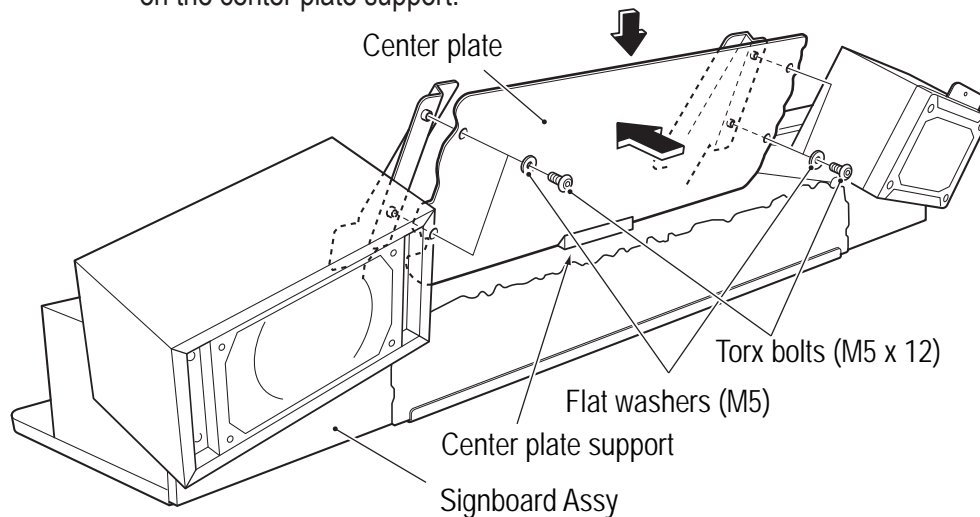
#### ⚠ WARNING

- The Signboard Assy weighs approximately 25 kg. The installation task should be performed by at least three persons in a sufficiently large work area to prevent accidents.

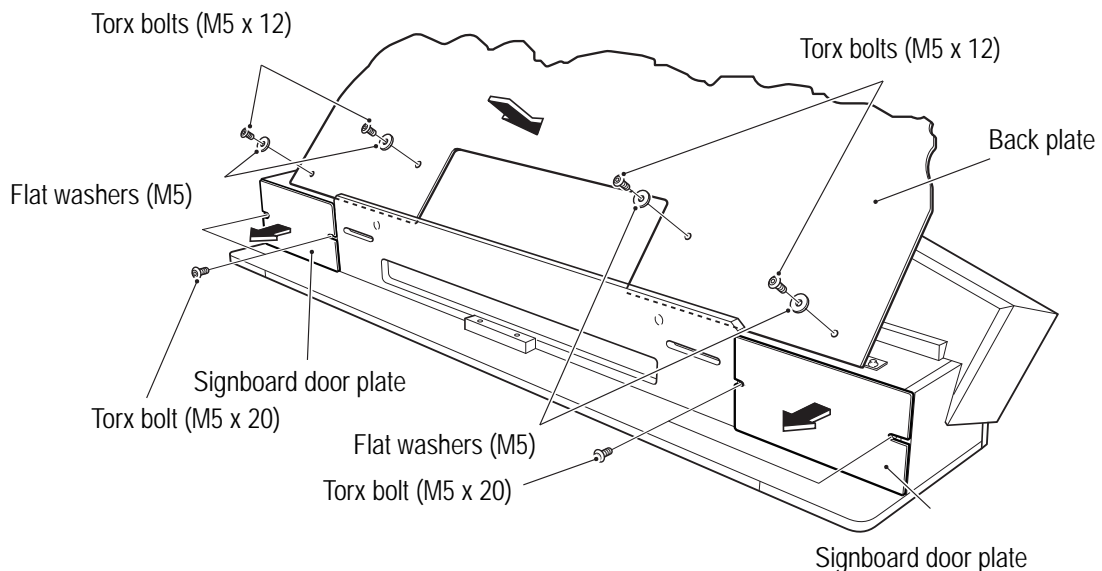
#### ⚠ CAUTION

- Since the installation of the Signboard Assy must be conducted at a height, prepare a step ladder or platform to stand on. Performing the task in an awkward position can result in injury or machine damage.

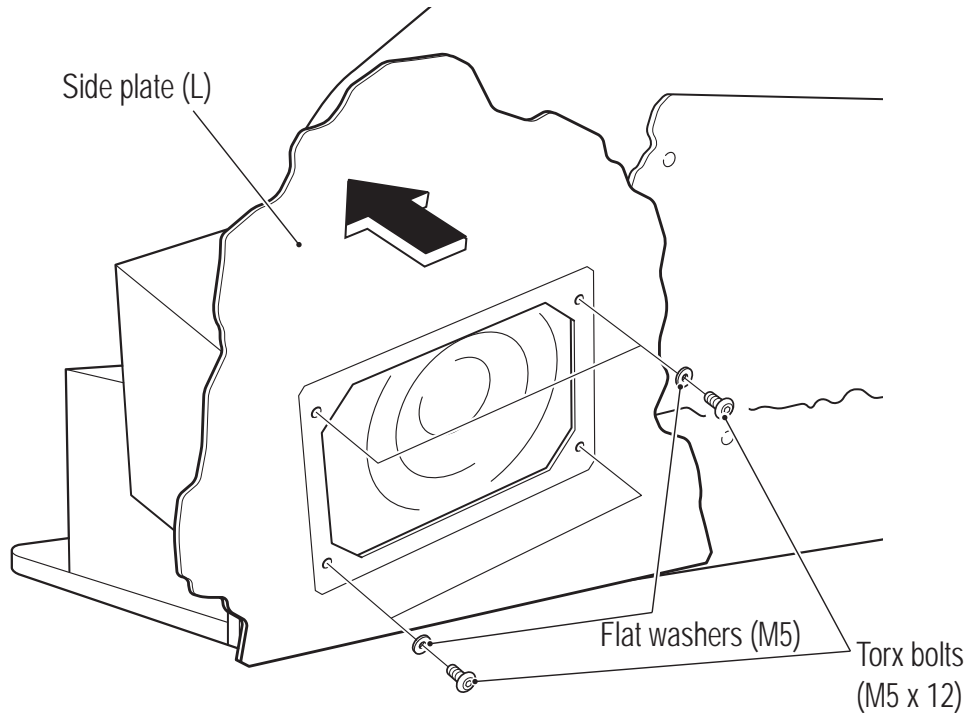
- 1** Using four Torx bolts (M5 x 12) and four flat washers (M5), install the center plate to the front side of the Signboard Assy, making sure that the center plate is positioned on the center plate support.



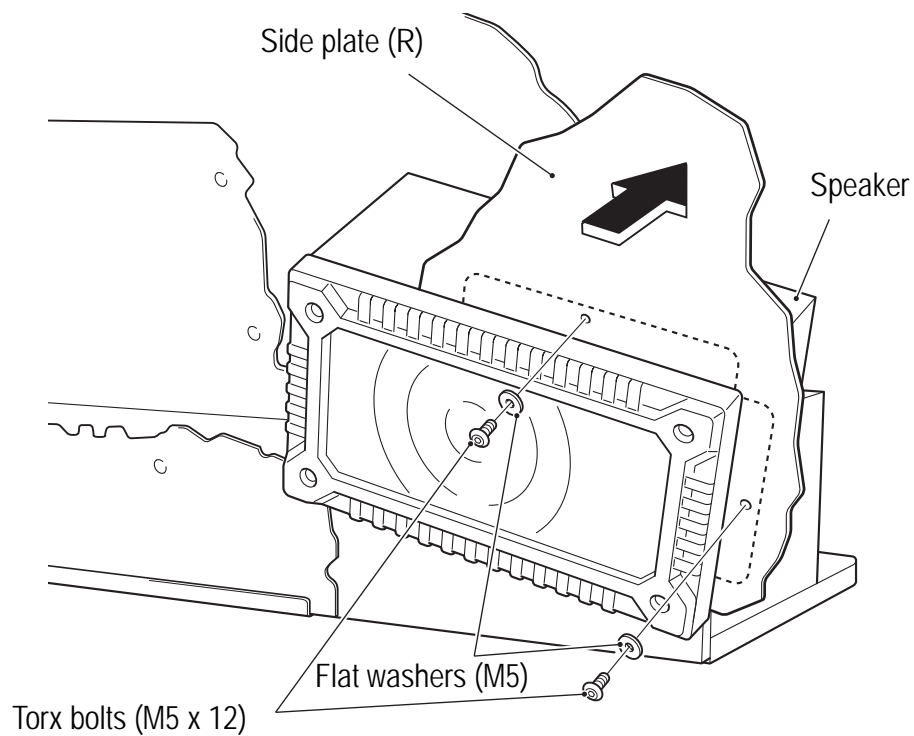
- 2** From the rear side of the Signboard Assy, install the back plate with four Torx bolts (M5 x 12) and four flat washers.
- 3** Dismount the signboard door plates by removing two Torx bolts (M5 x 20) from each plate (total of four bolts).



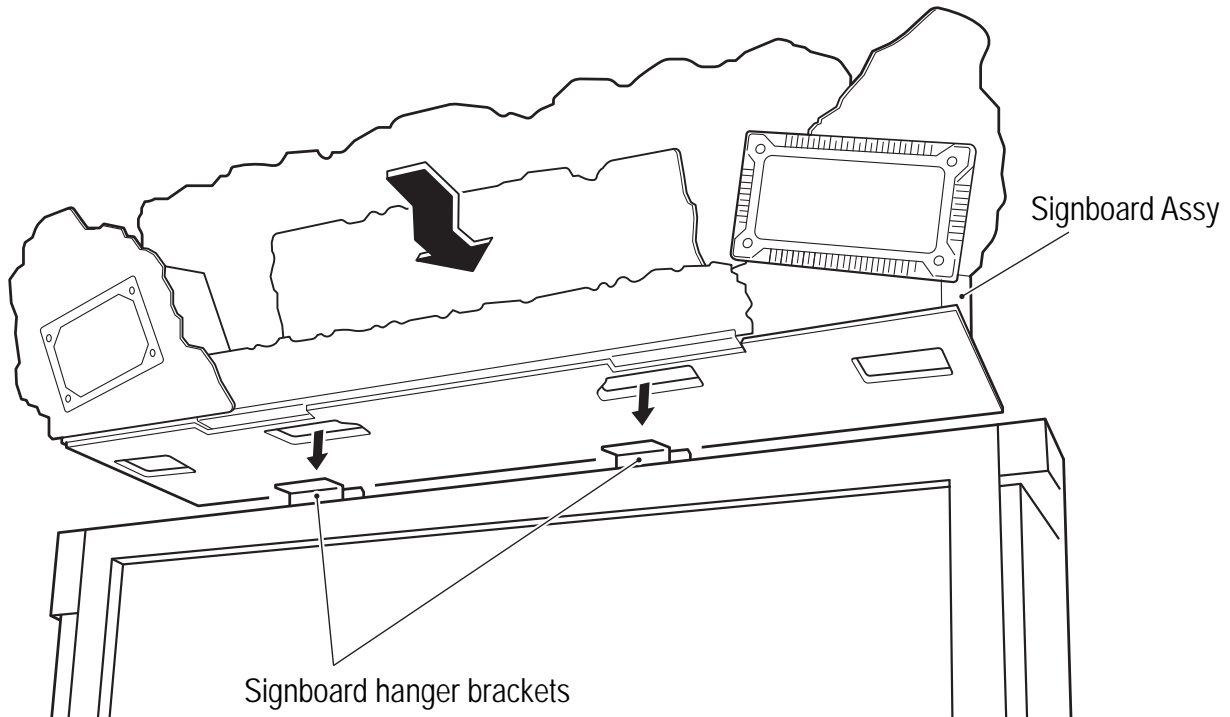
- 4** Using four Torx bolts (M5 x 12) and four flat washers (M5), install the side plate (L) to the front side of the left-side speaker.



- 5** Using two Torx bolts (M5 x 12), install the side plate (R) to the front side of the right-side speaker.

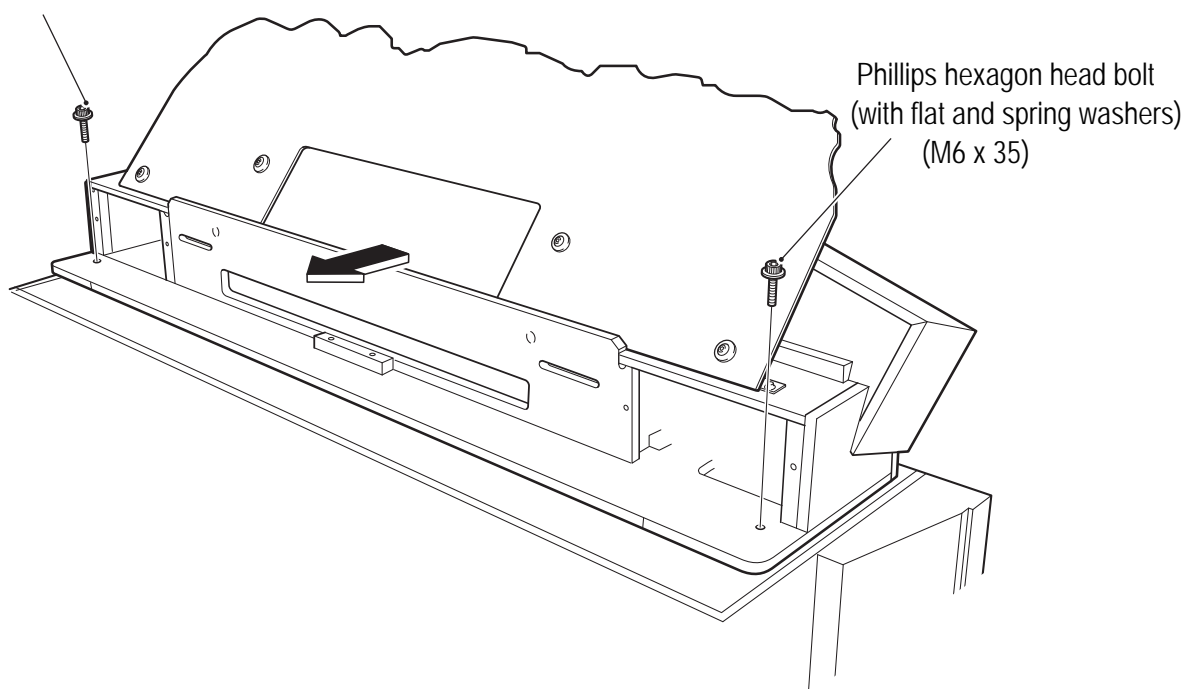


- 6** Place the Signboard Assy on the Projector Assy from the front side, making sure that signboard hanger brackets on the top panel of the Projector Assy enter the holes on the bottom surface of the Signboard Assy.



- 7** Move the Signboard Assy toward the back. When it cannot be moved back anymore, secure it in place by using two Phillips hexagon head bolts (with flat and spring washers) (M6 x 35).

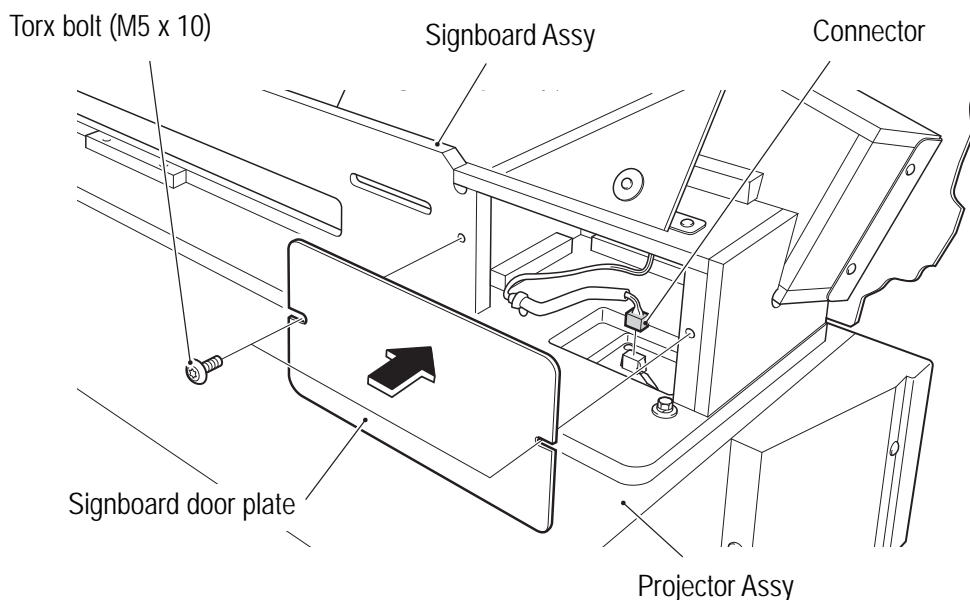
Phillips hexagon head bolt (with flat and spring washers) (M6 x 35)



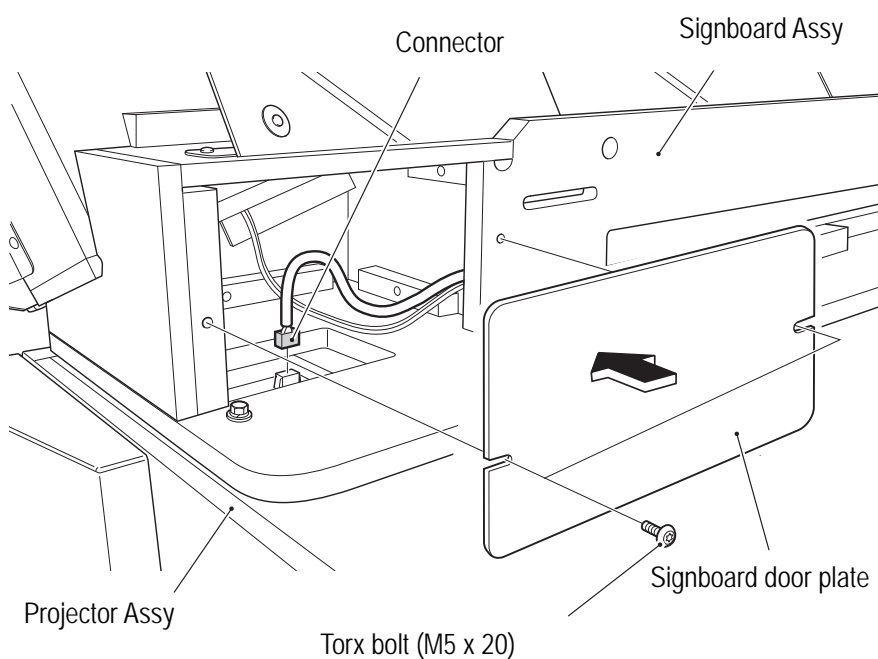
- 8** Connect the left-side connector of the Signboard Assy, and install the signboard door plate, which was removed in step **3**, with two Torx bolts (M5 x 20).



- Check the direction and shape of the connector carefully in order to prevent damage to electrical circuits due to incorrect connector connection.



- 9** Connect the right-side connector of the Signboard Assy, and install the signboard door plate, which was removed in step **3**, with two Torx bolts (M5 x 20).



- 10** To remove, follow the installation sequence in reverse.

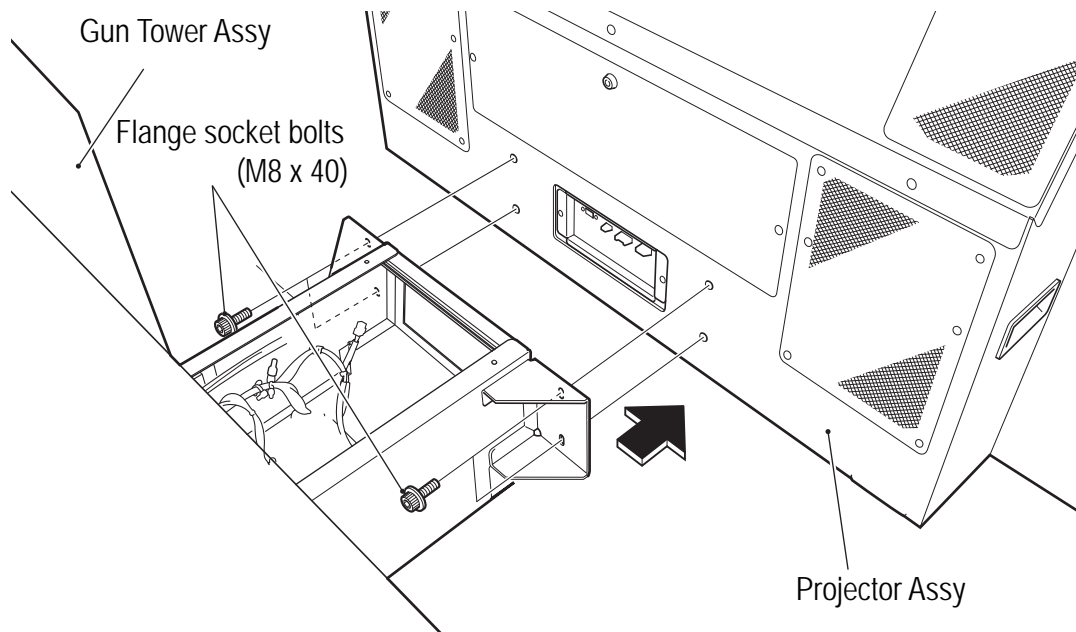
### 5-3-3 Connecting the Projector Tower Assy and Control Assy

- To be conducted by a technician only -

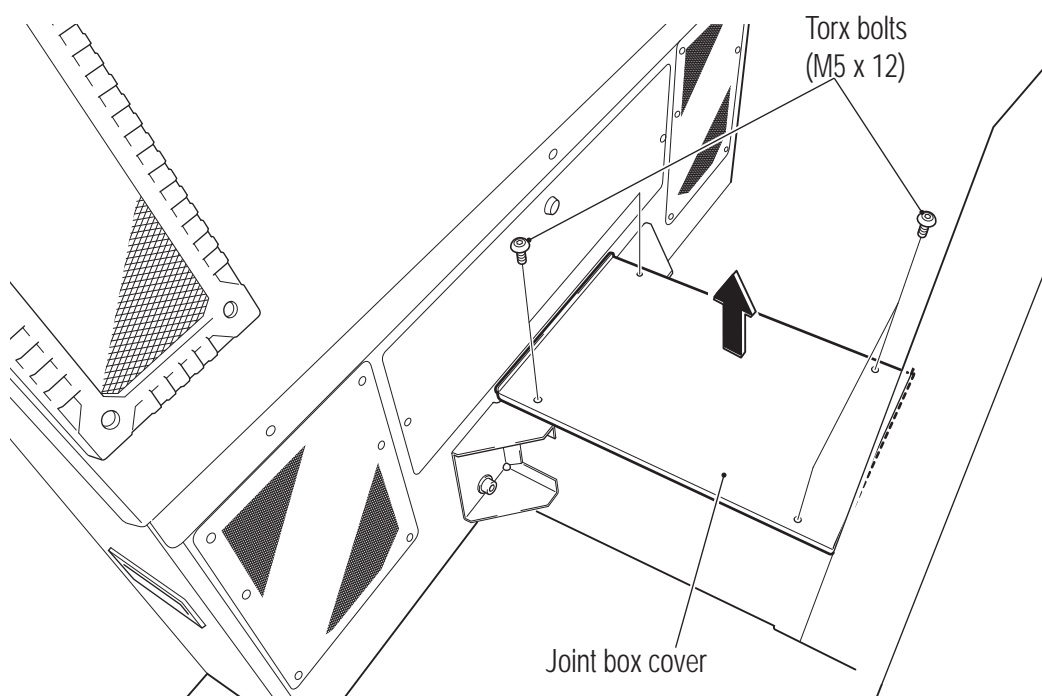


- Check the direction and shape of the connector carefully in order to prevent damage to electrical circuits due to incorrect connector connection.

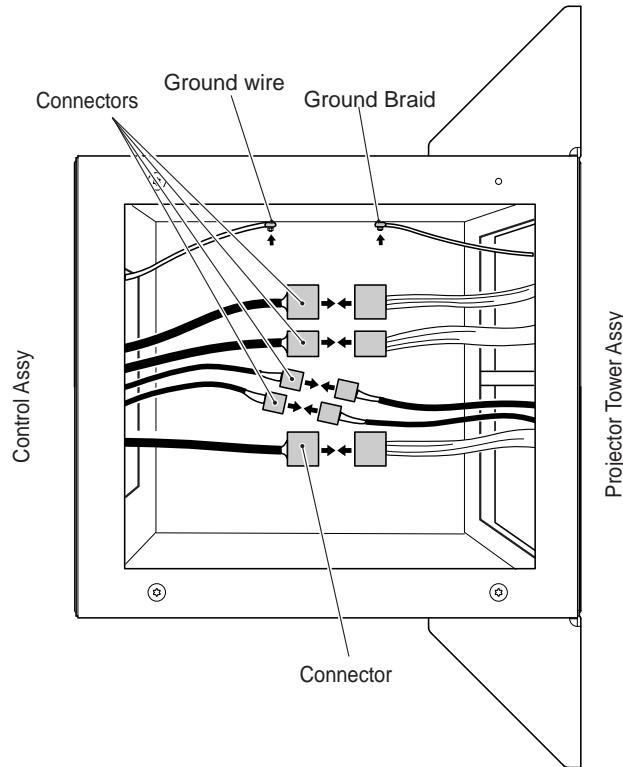
- 1** Adjust the level adjusters on the Control Assy and align the Projector Tower Assy with the Projector Tower Assy.
- 2** Secure the Control Assy to the Projector Tower Assy with four flange socket bolts (M8 x 40).



- 3** Remove the four Torx bolts (M5 x 12) and dismount the joint box cover.



- 4** Connect the eight connectors. (See the connection diagram below.) Using the nuts mounted to the studs, secure the ground braid and the ground wire (Green-Yellow) from each respective tower to the joint box.

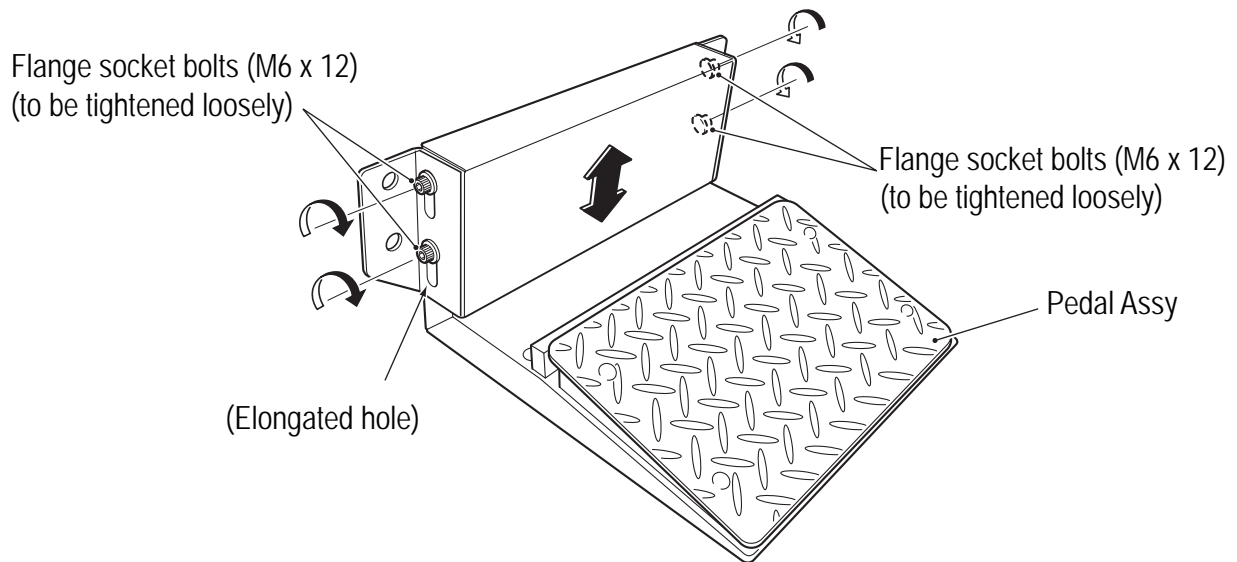


- 5** Using four Torx bolts (M5 x 12), install the joint box cover which was removed in step **3**.
- 6** To remove, follow the installation sequence in reverse.

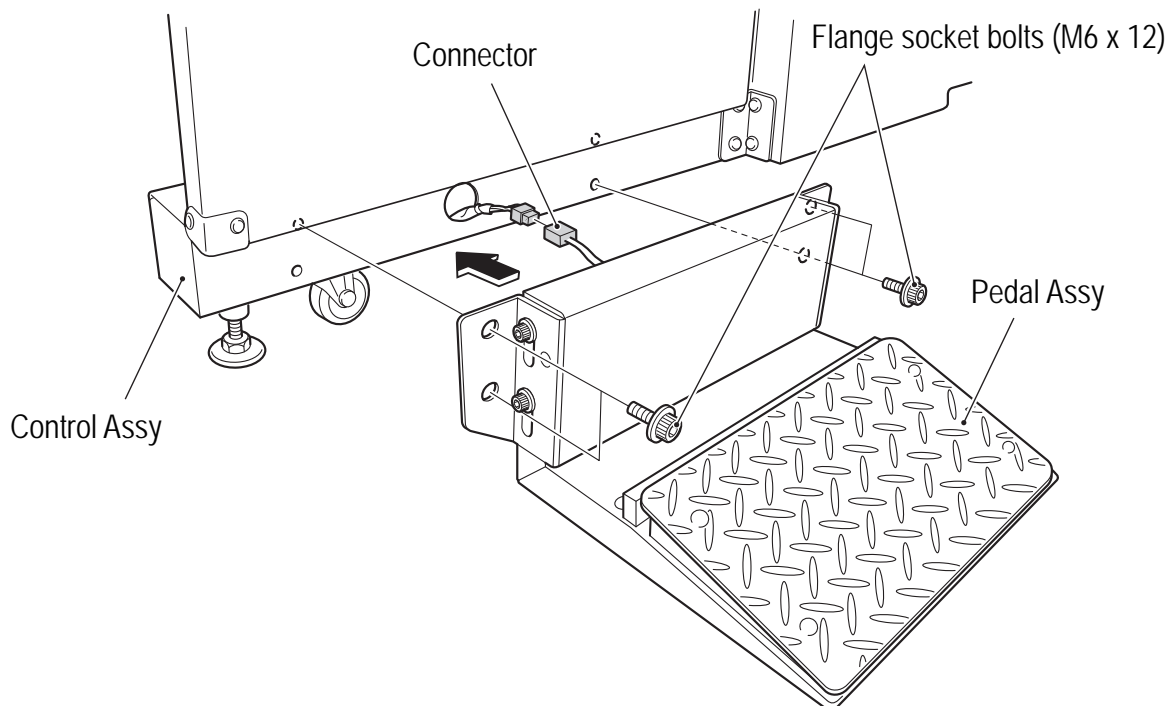


### 5-3-4 Installing the Pedal Assys - To be conducted by a technician only -

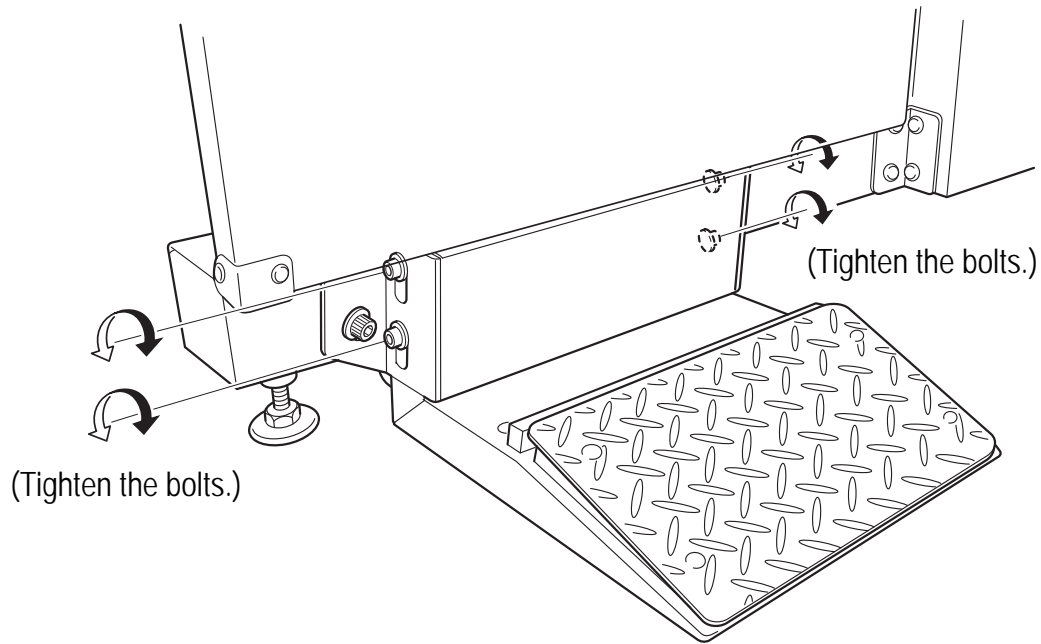
- 1** Using four flange socket bolts (M6 x 12) (2 on each side), mount the housing loosely to each Pedal Assy.



- 2** Connect the connector and attach the housing of each Pedal Assy to the Control Assy with four provided flange socket bolts (M6 x 12).



- 3** Press down on the Pedal Assy so that it contacts the floor firmly, and tighten the temporarily installed four flange socket bolts securely. (Make sure that the Pedal Assy is not lifted off the floor.)



- 4** To remove, follow the installation sequence in reverse.

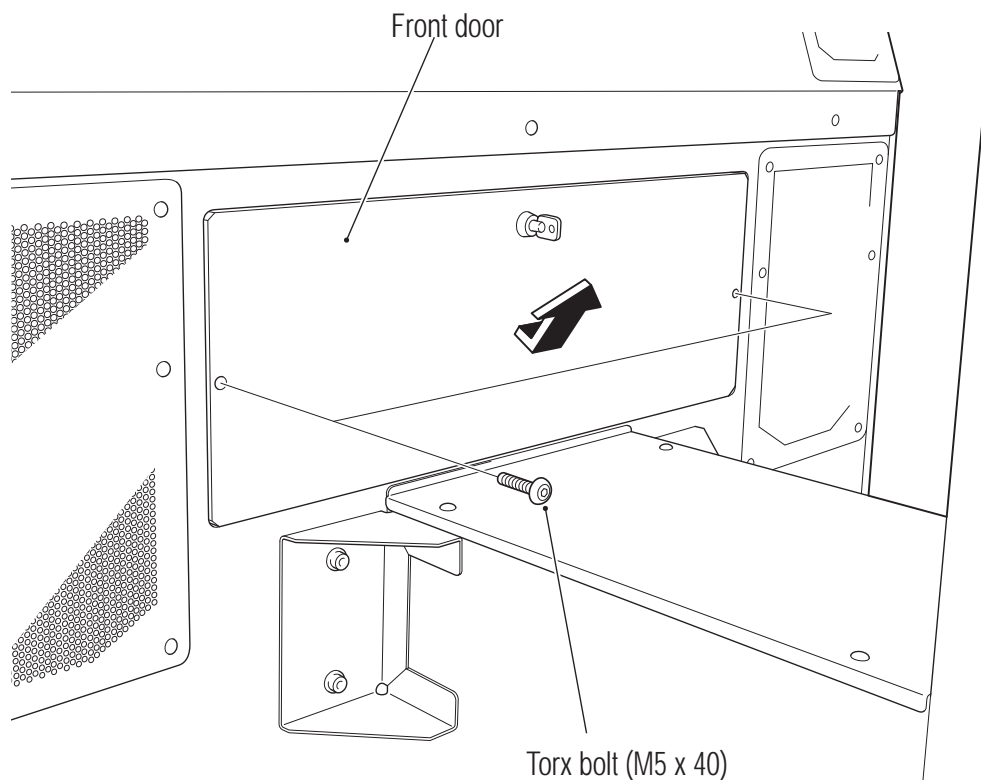
## 5-4 Removing and installing the front door

- To be conducted by a technician only -

### WARNING

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.

- 1** Remove the two Torx bolts (M5 x 40). Using the provided maintenance key, unlock the lock located at the center of the front door.
- 2** Dismount the front door.



- 3** To reinstall, follow the removal sequence in reverse.

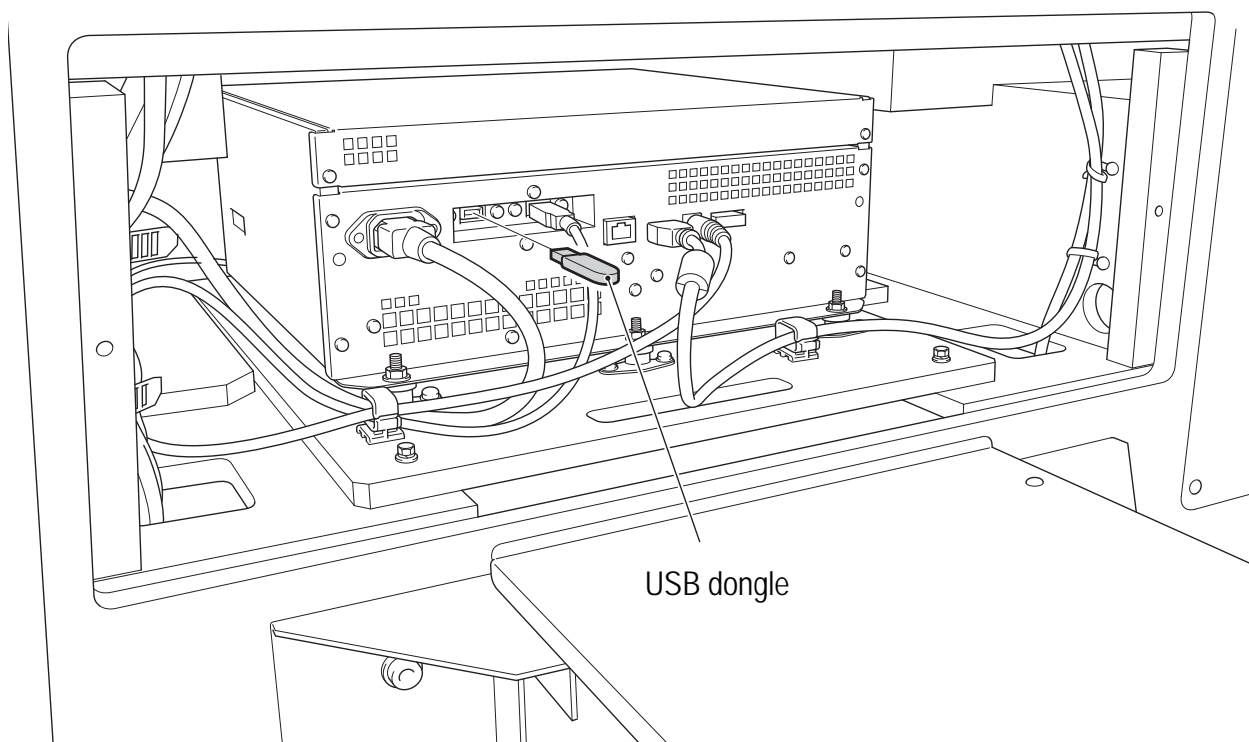
## 5-5 Inserting the dongle - To be conducted by a technician only -

### WARNING

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.
- The game is shipped with the dongle installed, this information is provided for re-installation purposes only.

### NOTICE

- The supplied dongle is designed exclusively for this game machine. Do not use this dongle in any other machine. Also, do not use the dongle of another machine in this game machine. Failure to observe this instruction can result in equipment malfunctions.
  - Be sure to turn off the power switch before inserting the dongle.
- 1** Make sure that the power switch on the Projector Tower Assy is turned off.
  - 2** Remove the front door.  
(See P. 31 “5-4 Removing and installing the front door.”)
  - 3** Insert the dongle into the slot on the left side, making sure that the barcode label on the dongle is facing upward. Push the dongle until it is held securely in the connector inside the slot.



- 4** Reinstall the front door.  
(See P. 31 “5-4 Removing and installing the front door.”)

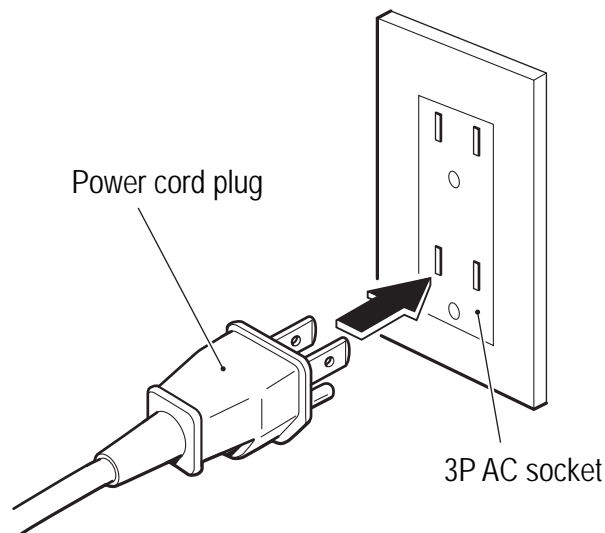
## 5-6 Connecting the power cord and ground lead

### WARNING

- Connect the ground lead using one of the following methods. If the machine is not grounded properly, electric shock can occur in case of electrical leakage.  
(1) Use only the 3P plug for grounding the machine. Do not attempt to defeat this connection. Do not use adaptors. Connect only to a properly grounded outlet.

#### (1) Using 3P AC socket

Insert the power cord plug directly into the AC outlet.



## 5-7 Optional Dollar Bill Acceptor

- The Coin Door Assembly used on RAZING STORM is equipped to utilize a dollar bill acceptor. All the required wiring connections are provided inside the game for this application.
- The Coin Door can accomodate the following Dollar Bill Acceptor:

MEI 2000 Series

## 6. MOVING AND TRANSPORTING

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### WARNING

- Do not leave the machine on a slope. If the machine is left on a slope, it may tip over and cause an unexpected accident.

### 6-1 Moving (on the floor)

#### NOTICE

- When moving the machine, separate the machine into the Projector Tower Assy, Control Assy and Pedal Assys.
- Be sure to raise the level adjusters all the way even when moving the machine for a short distance. (See P. 22 "5-3-1 Adjusting the level adjusters.")
- The overall height of the Projector Tower Assy is approximately 2,300 mm. Check the heights of doors and other openings in the carry-in passage.
- Carefully transport the machine in order to prevent damage to the machine.
- When carrying manually, secure the Gun Assys to the Control Assy by using tape or rope, or dismount the Gun Assys. If the Gun Assy drops, it can cause an accident or injury.
- Make sure that the Gun Assy tubes do not get caught or pulled during moving.

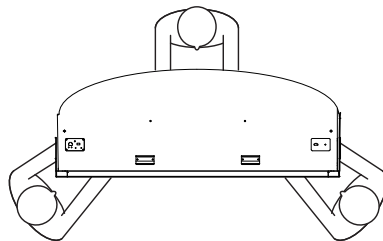
## 6-2 Transportation

### 6-2-10 Manual transportation (carrying on stairs, etc.)

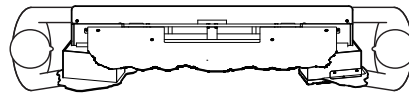


#### WARNING

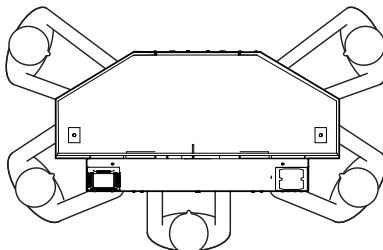
- When moving the machine, be sure to separate the machine into the Projector Assy, Signboard Assy, Control Assy and Pedal Assys. Moving the machine without disassembly can result in an accident or injury. (See P. 22 "5-3 Assembly.")
- When moving the machine manually, be sure to separate the machine into the projector, lower cabinet, Signboard Assy, Control Assy and Pedal Assys. Manually moving the machine without disassembly can result in an accident or injury. (See P. 18 "5-2 Required dimensions of carry-in passage (such as doors and corridors)" and P. 22 "5-3 Assembly.")
- Make sure that the following number of persons are available for manual transportation of Assys. Attempting to carry an Assy with a fewer persons can result in an accident or injury.
- When carrying manually, secure the Gun Assys to the Control Assy by using tape or rope, or dismount the Gun Assys. If the Gun Assy drops, it can cause an accident or injury.
  - ♦Projector (31 kg) : 3 persons or more
  - ♦Lower cabinet (184 kg) : 5 persons or more
  - ♦Signboard Assy (20 kg) : 2 persons or more
  - ♦Control Assy ( 94 kg) : 3 persons or more



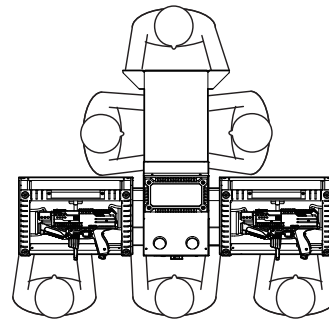
Projector



Signboard Assy



Lower cabinet



Control Assy



#### NOTICE

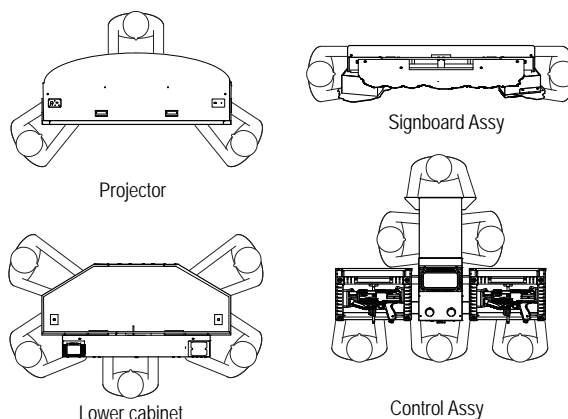
- Do not apply impact to the machine when lowering it onto the ground or floor.
- Carefully transport the machine to prevent damage.
- Be sure to raise the level adjusters on the Projector Assy all the way. (See P. 22 "5-3-1 Adjusting the level adjusters.")
- Be careful not to drop the Gun Assys.
- Make sure that the Gun Assy tubes do not get caught or pulled during moving.



## 6-2-2 Loading on or unloading from a vehicle

**! WARNING**

- When moving the machine, be sure to separate the machine into the Projector Assy, Signboard Assy, Control Assy and Pedal Assys. Moving the machine without disassembly can result in an accident or injury. (See P. 22 "5-3 Assembly.")
- When moving the machine manually, be sure to separate the machine into the projector, lower cabinet, Signboard Assy, Control Assy and Pedal Assys. Manually moving the machine without disassembly can result in an accident or injury. (See P. 18 "5-2 Required dimensions of carry-in passage (such as doors and corridors)" and P. 22 "5-3 Assembly.")
- When using a forklift to transport the Projector Assy, observe the following instructions. If they are not followed, the Assy can tip over and cause an unexpected accident.
  - ◆Insert the forks into the specified positions.
  - ◆Pay close attention to the balance.
- The Control Assy is not designed to be transported by a forklift. Do not use a forklift to move the Control Assy, since the use of a forklift can cause the Assy to tip over and cause an unexpected accident.
- Make sure that the following number of persons are available for manual transportation of Assys. Attempting to carry an Assy with a fewer persons can result in an accident or injury. (See P. 36 "6-2-1 Manual transportation (carrying on stairs, etc.).")
- When carrying manually, secure the Gun Assys to the Control Assy by using tape or rope, or dismount the Gun Assys. If the Gun Assy drops, it can cause an accident or injury.
  - ◆Projector (31 kg) : 3 persons or more
  - ◆Lower cabinet ( 184 kg) : 5 persons or more
  - ◆Signboard Assy (20 kg) : 2 persons or more
  - ◆Control Assy 94 ( kg) : 3 persons or more

**NOTICE**

- Carefully transport the machine to prevent damage.
- Be sure to raise the level adjusters on the Projector Assy all the way. (See P. 22 "5-3-1 Adjusting the level adjusters.")
- Do not apply impact when lowering an Assy over a ridge.
- Be careful not to drop the Gun Assys.
- Make sure that the Gun Assy tubes do not get caught or pulled during moving.

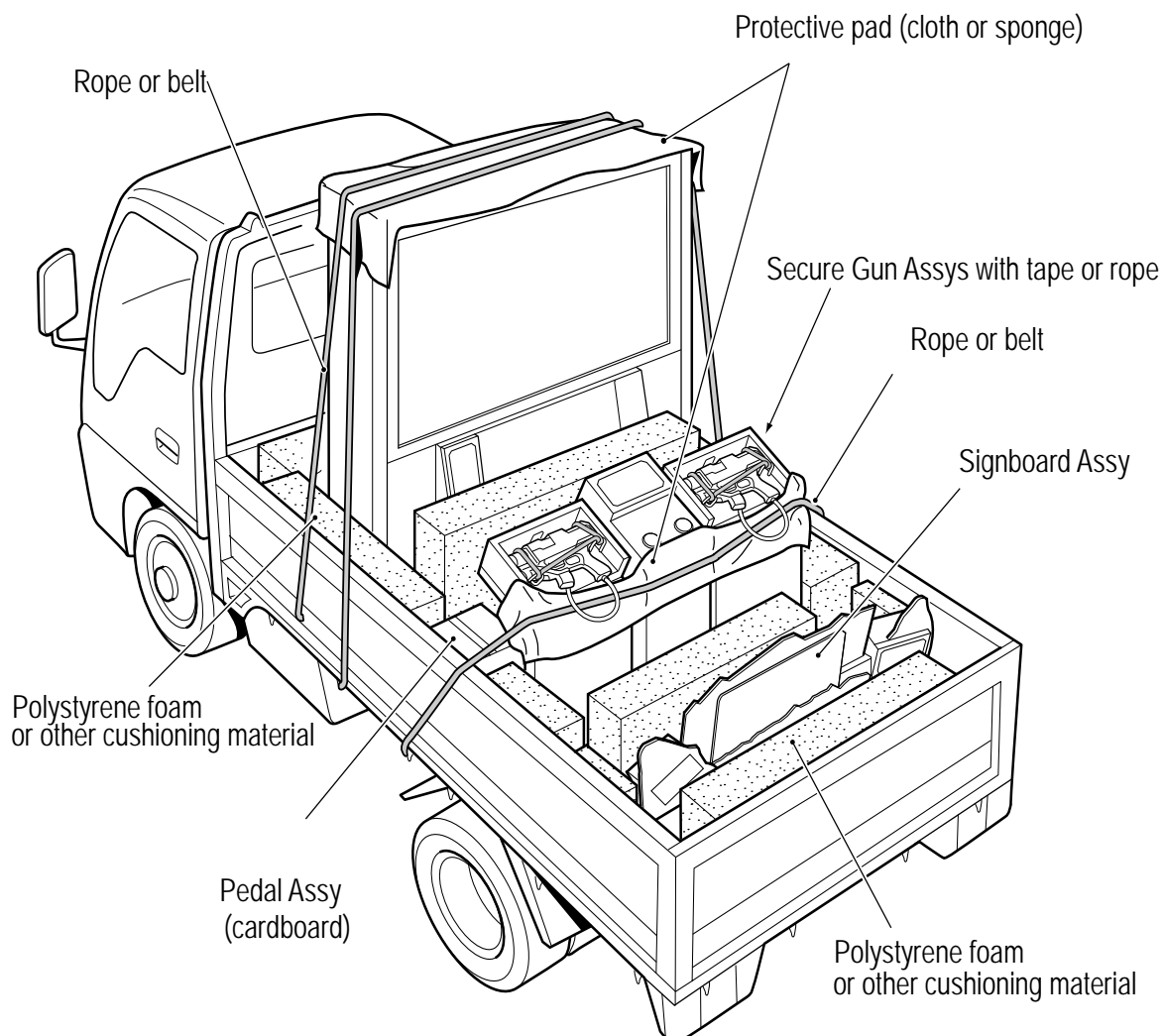
## 6-2-3 Trucking

**! WARNING**

- When transporting the machine on a vehicle, secure the machine to the vehicle in order to prevent it from moving due to acceleration or deceleration of the vehicle. Failure to tie the machine securely to the vehicle may result in an accident.

**NOTICE**

- Carefully transport the machine to prevent damage.
- Be sure to raise the level adjusters on the Projector Assy all the way. (See P. 22 "5-3-1 Adjusting the level adjusters.")
- Do not apply impact when lowering an Assy over a ridge.
- Secure the Gun Assys to the Control Assy by using tape or rope, or dismount the Gun Assys before transporting.



## 7. OPERATION

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### WARNING

- Should any abnormality occur, turn off the power switch immediately to stop operating the machine. Then, unplug the power cord plug from the AC outlet. **Operating the machine without correcting abnormalities can result in a fire or accident.**
- **Dust accumulated on the power cord plug may cause a fire. Check the power cord plug regularly and remove dust.**
- **Insert the power cord plug firmly into the AC outlet. Poor contact may cause overheating that can lead to a fire or burns.**
- **Be sure to check that the machine has been installed according to the instructions and procedures specified in this operation manual (see P. 15 "5. INSTALLATION") before operating the machine. If the machine is not installed properly, fire, electric shock or equipment malfunction can occur.**
- The warning labels describe important safety precautions. Observe the following:
  - ◆ To ensure that the warning labels attached to the machine are easily legible, **install the machine at a proper location with ample illumination and keep the labels clean at all times. Also, make sure that the labels are not hidden behind another game machine or other objects.**
  - ◆ Do not remove or alter the warning labels.
  - ◆ If the warning labels become excessively dirty or damaged, replace them with new labels. To order warning labels, contact your distributor.
- To ensure safe operation of the machine, be sure to conduct the pre-service check (see P. 40 "7-1 Pre-service check") and maintenance (see P. 70 "8. MAINTENANCE"). **Failure to perform the specified inspections and maintenance can result in unexpected accidents.**

## 7-1 Pre-service check

Check the items described below before commencing operation.

If any problem is found, take corrective measures by referring to "8-2 Troubleshooting" on page 73.

### 7-1-1 Safety check (before power ON)



#### WARNING

- **To prevent accidents and injury, be sure to check the following items before commencing operation.**

- (1) Are all warning indications legible?  
(See P. 4 "1-4 Description of warning labels attached to the machine.")
- (2) Are all level adjusters adjusted properly for stable machine installation? (Projector Tower Assy, Control Assy) (See P. 22 "5-3-1 Adjusting the level adjusters.")
- (3) Is the play zone established as specified?  
(See P. 16 "5-1-2 Play zone for installed machine.")
- (4) Are the Signboard Assy and Projector Assy connected securely?  
(See P. 23 "5-3-2 Assembling and installing the Signboard Assy.")
- (5) Are the Projector Tower Assy and Control Assy connected securely?  
(See P. 27 "5-3-3 Connecting the Projector Tower Assy and Control Assy.")
- (6) Are the Pedal Assys and Control Assy connected securely?  
(The Pedal Assys must be in firm contact with the floor.)  
(See P. 29 "5-3-4 Installing the Pedal Assys.")
- (7) Are both ends of each Gun Assy attached securely? Are they free of damage?  
(See P. 97 "8-3-4 Gun Assy.")
- (8) Are the screws on the Gun Assys tightened securely? (See P. 99 "8-3-4 Gun Assy.")
- (9) Is the power cord routed properly so that players and other people will not trip over the cable?
- (10) Is the power cord connected securely to the Cord Box Assy of the machine and the AC outlet? (See P. 33 "5-6 Connecting the power cord and ground lead.")

Check the following items after turning on the power switch. If any abnormality is found, turn off the power switch immediately, then unplug the power cord plug from the AC outlet and contact your distributor.

- (11) Is any part of the power cord or the plug abnormally hot?
- (12) Does touching the machine gives a minor electric shock?
- (13) Is there a burning smell, abnormal noise or vibration?
- (14) Is there any other sign of abnormality or malfunction?

## 7-1-2 Operation check (after power ON)

Check the following items after turning on the power switch.

- (1) Check sound reproduction. (Is sound produced by each speaker?) (See P. 60 "7-4-6 Sound test (SOUND TEST).")
- (2) Check the fluorescent lamp in the Signboard Assy. (Is the fluorescent lamp ON?)
- (3) Check the LED-Edge PC Board. (Are the LEDs ON?)  
(Two LEDs each on Gun Tower (L) and (R) Assys, and one LED each on Side Pillar (L) and (R) Assys)
- (4) Check images displayed on the screen. (Does the projector show images properly?)  
(See P. 59 "7-4-5 Monitor test (MONITOR TEST).")  
To check the following items, press the Service switch and play the game.  
(See P. 45 "7-3-1 Adjustment of display")
- (5) Check the Gun Assys for proper operation.  
\* If the gun aim is not accurate, conduct the gun aim setting. (See P. 51 "7-4-4 (b) GUN INITIALIZE 1P-2P (Gun Assy aim setting 1P-2P).")
- (6) Check the Gun vibration for proper operation.
- (7) Check the Pedal Assys for proper operation.
- (8) Check all switches for proper operation. (See P. 49 "7-4-4 Switch input/output tests (I/O TEST).")



- Do not install the machine in any of the following places since those locations may disallow the sensors from detecting the positions of the Gun Assys.
  - ◆ Place where bright light such as sunlight or spot light can directly shine on the Gun Assys or screen surface
  - ◆ Place where flashing light causes a large contrast between dark and light.
- Make sure that the pedals are not lifted off the floor.

## 7-2 How to play

### CAUTION

- If a player becomes sick due to game images or light stimulation, have the person stop playing the game immediately and let him/her rest.
- In rare cases, stimulation by lights or video images can cause convulsion or a loss of consciousness. If this happens, advise the player to consult a doctor as soon as possible. When pre-school children play, request their parents or guardians to keep an eye on the children.

In this gun shooting game machine, the player presses the pedal to protect himself/herself with a shield and uses a machine gun to shoot enemies.

#### (1) Operation

1. Pressing the pedal --- Offensive posture: The player can shoot the machine gun, and can also be shot by enemies.
2. Releasing the pedal --- Defensive posture: The player hides behind the shield and cannot be shot by enemies. Releasing the pedal reloads the machine gun.

#### (2) Start button

1. The game starts on the side of the machine on which the Start button is pressed.  
When the left-side Start button is for Alpha 1 (red), and the right-side Start button is for Alpha 2 (blue).
2. A player can join at anytime.

#### (3) Rules

1. A sight mark appears before an enemy launches a dead shot. When the sight mark lights up, a dead shot is launched.  
If the pedal is not released when a dead shot is launched, the player loses one "life."  
Some shots are launched without displaying a sight mark. If the player received such a shot, he/she also loses a "life."
2. When the time limit is reached, the player also loses one "life." If the player accidentally shoots a civilian, he/she loses a "1/2 life."  
The time limit recovers when the player destroys all enemies in a certain area or is attacked by enemies.  
When the number of "lives" decreases to 0, the game ends.
3. If the player helps an ally, he/she gains a "1/2 life."
4. In the case of solo game play, player's performance is indicated by the score. A numerically higher score is better. When two persons play simultaneously, performance is evaluated based on the number of medals obtained. A larger number of medals is better.
5. When the player destroys a certain environmental object, he/she obtains a dog tag.  
By obtaining multiple dog tags, the player can gain advantage in an event battle that occurs after Stage 3.

#### (4) Special weapons

When the player's points reach a certain level, the player's weapon automatically changes from the machine gun to a different weapon. When this weapon change occurs, a new weapon is shown on the screen.

The vibration that the player feels when using the weapon also changes according to the type of weapon used.

##### 1. Cluster shot

This weapon launches a multiple number of small missiles in each shot.

When the trigger is held in pulled position, the weapon continues firing but the shooting interval is longer than that of the machine gun.

The sight mark on screen changes when the weapon cannot be used.

In the same way as for the machine gun, the pedal is used to reload and activate the defense mode.

##### 2. Rocket launcher

This weapon launches a powerful rocket shot one by one.

When the trigger is held in pulled position, the weapon continues launching rockets but the shooting interval is longer than that of the machine gun.

The sight mark on screen changes when the weapon cannot be used.

In the same way as for the machine gun, the pedal is used to reload and activate the defense mode.

##### 3. Sniper rifle

This weapon is used to take one shot at a time by viewing a zoomed target image.

Unlike the machine gun, the trigger must be pulled to shoot each shot.

It takes a while before the rifle becomes ready to fire again. The sight mark on screen changes when the weapon cannot be used.

Striking an enemy's head (head shot) finishes the enemy with one shot.

Since the ammunition is unlimited, there is no need to reload the rifle. The pedal is used to activate the defense mode.

##### 4. Satellite beam gun

The satellite beam gun can be used after the gauge reaches a certain level.

The gauge level increases when the trigger is held pulled while an enemy mark remains within the sight.

In the same way as for the machine gun, the pedal is used to reload and activate the defense mode.

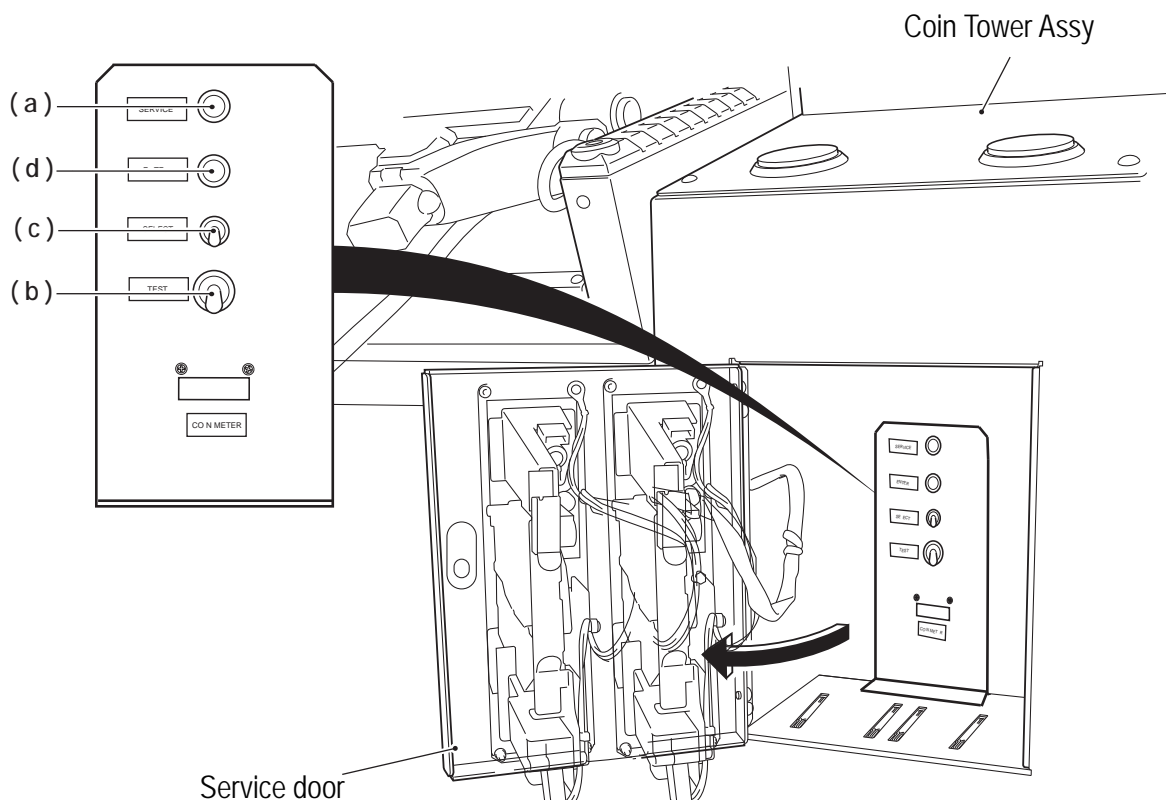
#### (5) Others

1. Demo scenes inserted between game scenes can be skipped by aiming the Gun Assy toward the screen and pulling the trigger.
2. The "Continue" counting advances quickly when the trigger of the Gun Assy on the participating side is pulled.

## 7-3 Adjustment

### 7-3-1 Adjustment switches

Open the service door on the Coin Tower Assy to access the adjustment switches.



(a) Service switch (red)

Press this switch to increase the credit count without activating the coin counter.

(b) Test switch

Set this switch to ON to enter the Test mode.

The Test mode allows the change of game fee and the execution of various tests.

(See P. 49 "7-4 Test mode.")

(c) Select switch

Flip this switch up or down to select an item in the Test mode.

(d) Enter switch (green)

After choosing an item with the Select switch, press this switch to finalize or execute the selected item.



- **Press the Service switch slowly and firmly.**  
Quick pressing may not activate the switch function.



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### 7-3-2 Adjustment of display

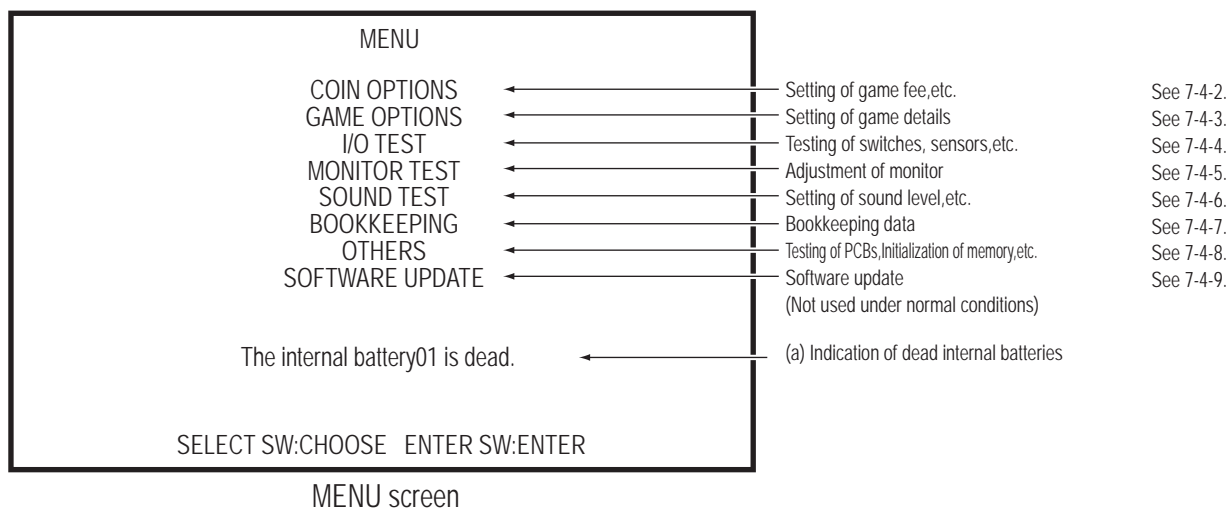


- The projector is adjusted for optimum condition for the game machine before shipment. Ordinarily the projector does not require readjustment at the installation site. **Please Note: If the projector does require readjustment, please contact Namco for the appropriate instructions.**

## 7-4 Test mode

### 7-4-1 Description of the Menu screen

- 1** Open the service door on the Coin Tower Assy and set the Test switch to ON. The Menu screen appears.



#### (a) Error message for dead internal batteries

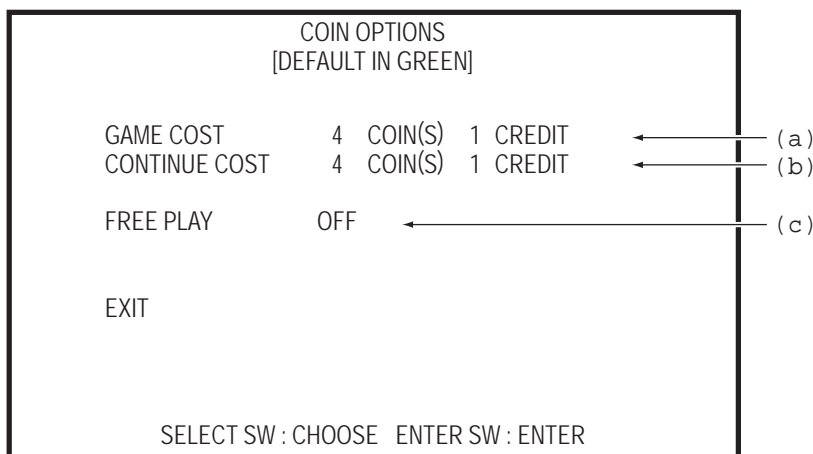
If this error message appears, turn off the power switch and wait for about 10 minutes. Then, turn on the power switch. If a "BACKUP MEMORY ERROR" message appears during the startup, set the Test switch to ON to activate the Test mode and initialize the backup memory. (See P. 63 "7-4-8 Others (OTHERS).") If the error message continues to appear when the power switch is turned off and then back on, the internal battery may be low in capacity or faulty. Contact your distributor.

- 2** Flip the Select switch up or down to select an item.  
The selected item is indicated by blinking.
- 3** Press the Enter switch to finalize the selection.
- 4** After adjustment, select "EXIT" and press the Enter switch to return to the Menu screen.
- 5** After completing all necessary adjustments, set the Test switch to OFF.  
The display returns to the game screen.

### 7-4-2 Game fee/free play setting (COIN OPTIONS)

This screen is used to set the game fee and free play option.

- 1** Select "COIN OPTIONS" in the Menu screen and press the Enter switch.  
The Coin Options screen appears.



COIN OPTIONS screen

Item	Description	Default
(a) GAME COST	The number of coins required for one game play ( 1 to 19 coins)	4
(b) CONTINUE COST *1	The number of coins required for one "Continue" game play (1 to 19 coins)	4
(c) FREE PLAY *2	ON (Free play available) OFF (Free play unavailable)	OFF

Coin options table

- 2** Using the Select switch, choose an item.  
The selected item is indicated by blinking.
- 3** Press the Enter switch to finalize the selection.
- 4** After selecting an item, change the setting by using the Select switch.
- 5** After the setting is changed, press the Enter switch to return to the item selection screen.
- 6** Select "EXIT" and press the Enter switch to return to the Menu screen.

\*1 The CONTINUE COST setting cannot be higher than the GAME COST setting.  
Because the CONTINUE COST value cannot be set higher than the GAME COST value, when the GAME COST value is lowered below the CONTINUE COST value, the CONTINUE COST setting will be automatically set to the same value as the GAME COST setting. value.

\*2 When FREE PLAY is set to ON, the GAME COST and CONTINUE COST indications will be grayed out and these setting items cannot be selected.

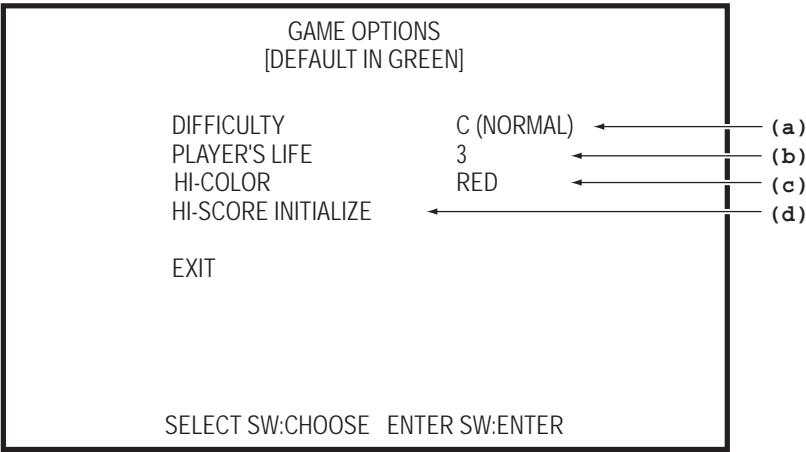
### 7-4-3 Game setting (GAME OPTIONS)

This screen is used to set game details.

**1** Select "GAME OPTIONS" in the Menu screen and press the Enter switch.

The Game Options screen appears.

Default settings are shown in green, except for HIT-COLOR. For the HIT-COLOR parameter, GREEN and RED indicate the color of damage display.



GAME OPTIONS screen

Item	Description	Default
(a) DIFFICULTY	A (VERY EASY) B (EASY) C (MEDIUM) D (HARD) E (VERY HARD)	C (NORMAL)
(b) PLAYER'S LIFE	The initial number of "lives" at startup 1 to 9	3
(c) HIT-COLOR	Player's damage color Red or green	RED
(d) HI-SCORE INIT	When this item is selected and entered, a message "HI-SCORE INITIALIZE?" appears, and "YES" or "NO" can be selected. NO: Does not execute HI-SCORE INITIALIZE and previous screen appears. YES: Initializes the high-score data.	

Game Options screen

**2** Using the Select switch, choose an item. The selected item is indicated by blinking.

**3** Press the Enter switch to finalize the selection.

**4** After selecting an item, change the setting by using the Select switch.

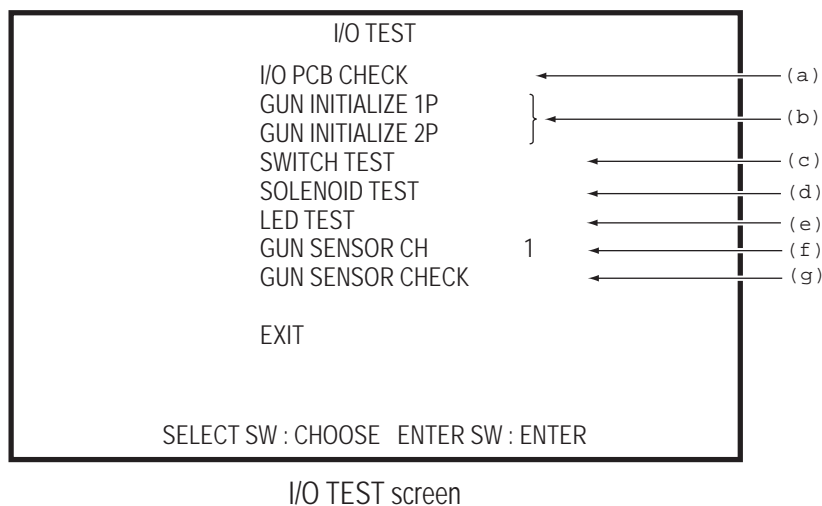
**5** After the setting is changed, press the Enter switch to return to the item selection screen.

**6** Select "EXIT" and press the Enter switch to return to the Menu screen.

### 7-4-4 Switch input/output tests (I/O TEST)

This screen is used to test the switches.

- 1** Select "I/O TEST" in the Menu screen and press the Enter switch.  
The I/O Test screen appears.



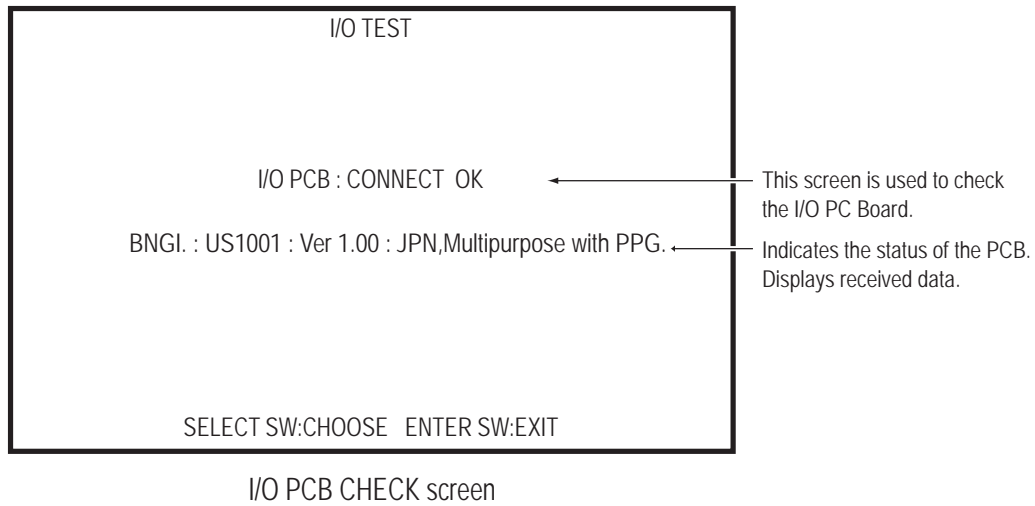
Item	Description	Default
(a) I/O PCB CHECK	Testing of the I/O PC Board	
(b) GUN INITIALIZE 1P GUN INITIALIZE 2P	Setting of the gun aim (1P) Setting of the gun aim (2P)	
(c) SWITCH TEST	Testing of switch inputs	
(d) SOLENOID TEST	Testing of the gun vibration function	
(e) LED TEST	Testing of LEDs	
(f) GUN SENSOR CH	Setting of the sensor channel	1
(g) GUN SENSOR CHECK	Testing of sensors	

- 2** Using the Select switch, choose an item.  
The selected item is indicated by blinking.
- 3** Press the Enter switch to activate the Test screen for the blinking item.
- 4** Select "EXIT" and press the Enter switch to return to the Menu screen.

---

**(a) I/O PCB CHECK**

This screen is used to check the I/O PC Board.



When the PCB check result is normal, "CONNECT OK" is indicated in green.

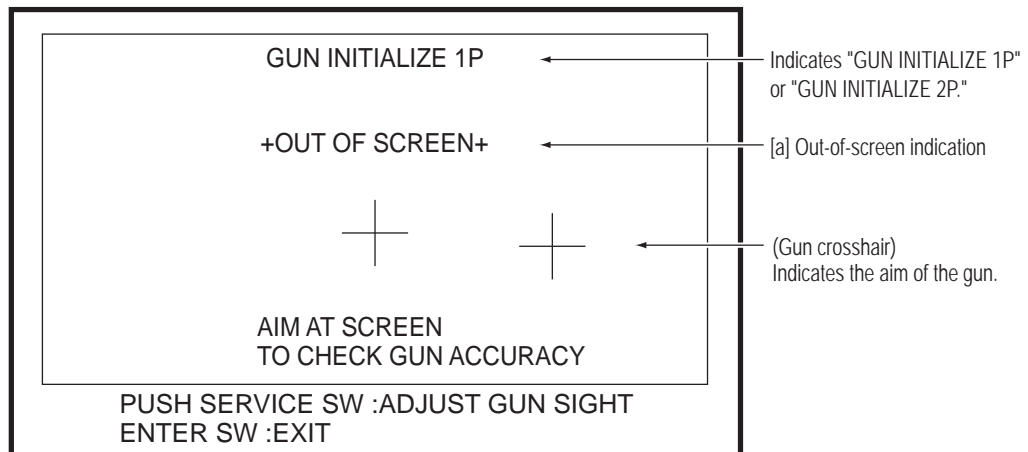
- ◆ Press the Enter switch to return to the I/O Test screen.

**(b) GUN INITIALIZE 1P-2P (Gun Assy aim setting 1P-2P)**

This screen is used to adjust the aim of the Gun Assys.

- 1** Select "GUN INITIALIZE 1P" or "GUN INITIALIZE 2P" in the I/O Test screen and press the Enter switch.

The Gun Initialize screen (1) appears.



GUN INITIALIZE screen (1)

- 2** The Gun Initialize screen (1) enables the confirmation of the aim of the Gun Assy. When the Gun Assy is pointed toward the screen, the aim of the Gun Assy is indicated by a crosshair. Make sure that the crosshair appears at a location where the gun is aimed. (By following the procedure described on the next page, make sure that the aim is accurate in the entire screen from edge to edge.) When the Gun Assy is pointed outside the screen, a message "+ OUT OF SCREEN +" is shown at location [a].

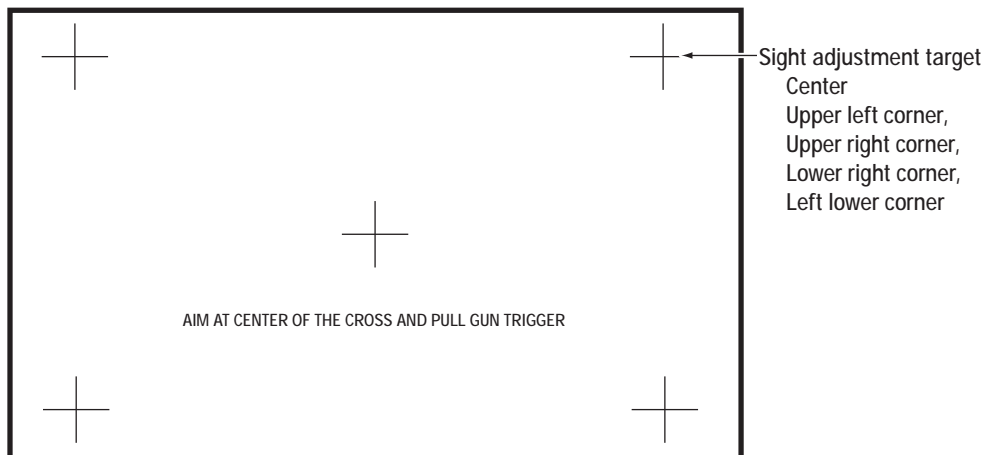
- 3** Press the Enter switch to return to the I/O Test screen.



- If the "+OUT OF SCREEN+" message continues to appear even if the Gun Assy is pointed toward the screen, the problem may be caused by one or more of the following reasons.
  - ◆ There are powerful light sources nearby.
  - ◆ **There are some objects in the surrounding area that reflect LED light.**
  - ◆ The Gun Assy is positioned too close to or too far from the screen.
  - ◆ The Gun Assy is pointed at the screen from a very large angle.

If this happens, change the machine installation location or aim from the correct location, and readjust the aim of the Gun Assy.

- 3** Press the Service switch (or press the pedal) while the display is showing the Gun Initialize screen (1) to activate to the Gun Initialize screen (2). Then, adjust the aim of the Gun Assy. This mode enables the adjustment of minor deviation resulting from the installation conditions or individual characteristics of the Gun Assy light receiving unit and LED Board.



Gun Initialize screen (2)

The aim of the Gun Assy is adjusted by shooting five locations on the screen.

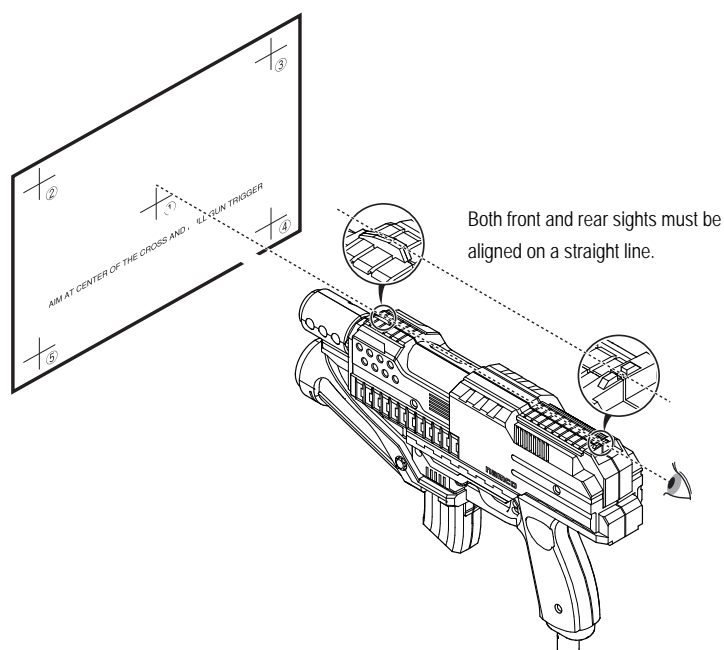
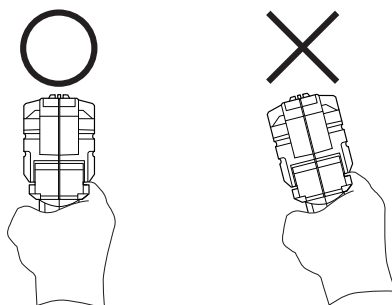
A crosshair appears at locations ① to ⑤ in order. Aim the center of the crosshair and pull the trigger of the Gun Assy.

\* If the aim is outside the screen, "NG, retry" appears on the screen and a crosshair does not appear at the next target position. See the next page regarding the gun aim adjustment procedure.





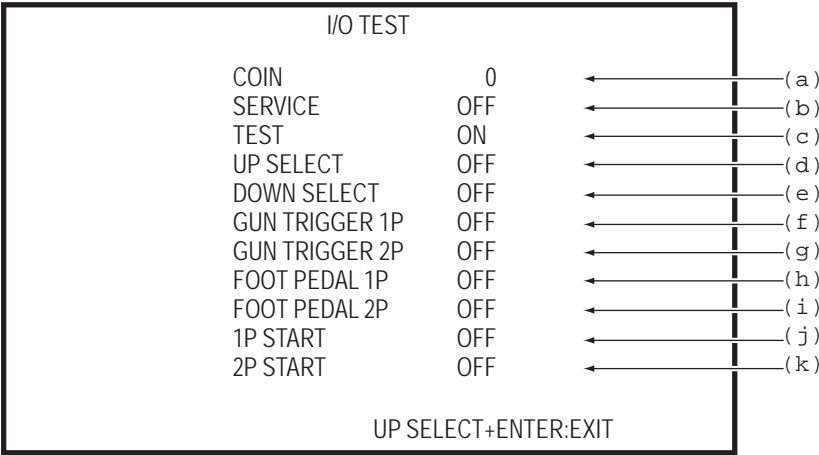
- To adjust the gun aim, follow the procedure described below.
  - ◆ Be sure to hold the Gun Assy straight. Do not tilt the Gun Assy.
  - ◆ Hold the Gun Assy toward the screen so that the rear sight notch aligns with the horizontal line of the cross hairs(+) on the screen.
  - ◆ Also align the front sight post at the tip of the Gun Assy with the horizontal line of the crosshairs(+) on the screen.
  - ◆ Make sure that the rear sight center and the front sight center are level with the cross hair(+) center. Then hold the Gun Assy vertically and fire a shot.



- 4 Each time the trigger is pulled, the crosshair moves in order from ① to ⑤. When the trigger is pulled while the crosshair is at position ⑤, "OK" appears on the screen and the gun aim adjustment starts. Then, the display returns to the "Gun INITIALIZE" screen (1).
- 5 Using the Gun Initialize screen (1), make sure that the gun aim is accurate in the entire screen from edge to edge.
- 6 If the gun aim is not accurate, press the Service switch (or press the pedal). When the "Gun INITIALIZE" screen (2) appears, conduct the adjustment again.
- 7 Press the Enter switch to return to the I/O Test screen.

### (c) SWITCH TEST

This screen is used to test the switches for proper operation.



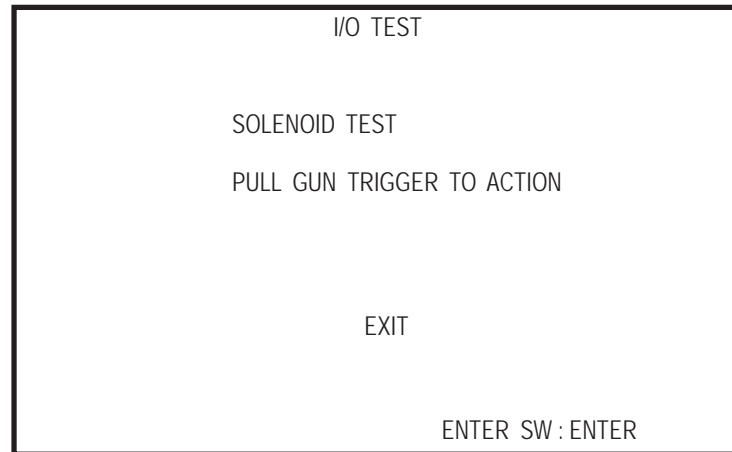
Switch Test screen

- 1** The Switch Test screen shows the statuses of the switches.
- 2** When a switch is operated, the indication for the corresponding switch changes.

Item	Description
(a) COIN	Coin switch Each input increments the counter indication by one. When the counter value reaches 255, it returns to 0.
(b) SERVICE	Service switch
(c) TEST	Test switch
(d) UP SELECT	Select switch (Up input)
(e) DOWN SELECT	Select switch (Down input)
(f) ENTER	Enter switch
(g) 1P GUN TRIGGER	1P-side gun trigger
(h) 2P GUN TRIGGER	2P-side gun trigger
(i) FOOT PEDAL 1P	1P-side pedal
(j) FOOT PEDAL 2P	2P-side pedal
(k) 1P START	1P Start button
(i) 2P START	2P Start button

- 3** While holding the Select switch in the Up position, press the Enter switch to return to the I/O Test screen.

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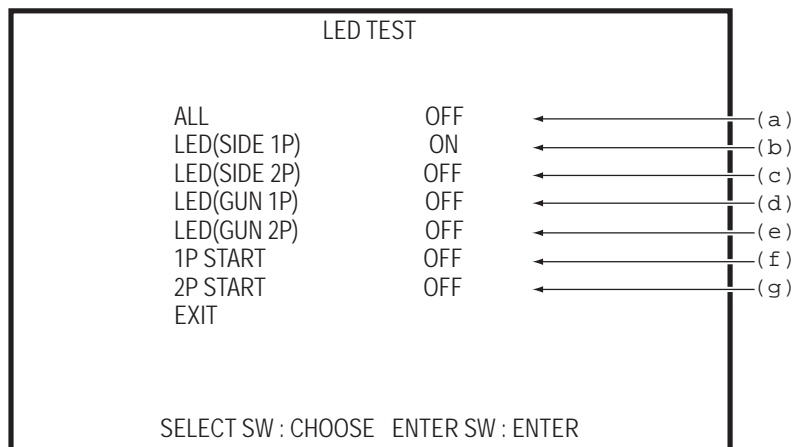
**(d) SOLENOID TEST**

Solenoid test screen

- 1** When the trigger of the Gun Assy is pulled, the vibration of the Gun Assy is activated.
- 2** Select "EXIT" and press the Enter switch to return to the  
This screen is used to test the vibration of the Gun Assy.

**(e) LED TEST**

This screen is used to test the LED-Edge PC Board and illuminated switches.



LED Test screen

- 1** Using the Select switch, choose an item to execute, then press the Enter switch.  
The selected item is indicated by blinking.
- 2** Press the Enter switch to finalize the selection.
- 3** Flipping the Select switch up or down toggles between ON and OFF and also turns the LED ON or OFF.

Item	Description
(a) ALL	Turns all LEDs ON/OFF.
(b) LED(SIDE 1P)	Turns the LED on the 1P side ON/OFF.
(c) LED(SIDE 2P)	Turns the LED on the 2P side ON/OFF.
(d) LED(GUN 1P)	Turns the LED on the 1P-side gun cradle ON/OFF.
(e) LED(GUN 2P)	Turns the LED on the 2P-side gun cradle ON/OFF.
(f) 1P START	Turns the LED in the 1P Start button ON/OFF.
(g) 2P START	Turns the LED in the 2P Start button ON/OFF.

\* "1P" indicates the left side and "2P" indicates the right side.

- 4** Press the Enter switch to return to the item selection screen.
- 5** Select "EXIT" and press the Enter switch to return to the I/O Test screen.

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### (f) GUN SENSOR CH

This screen is used to change the channel for the aim detection system of the Gun Assy.

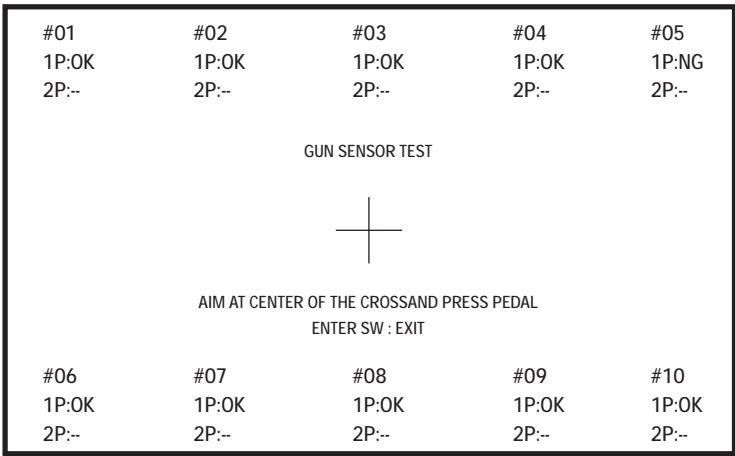
- 1** Select "GUN SENSOR CH" on the I/O Test screen and press the Enter switch.
- 2** Using the Select switch, change the setting of the item.
- 3** After changing the setting, press the Enter switch to return to the I/O Test screen.



- Change the GUN SENSOR CH setting when two or more units are installed next to each other.
- If the aim detection system operates erroneously, change the GUN SENSOR CH setting and also check the items described in "5-1-1 Locations to avoid" on page 15 and "8-2 Troubleshooting" on page 74.

### (g) GUN SENSOR CHECK

This screen is used to test the LED Boards.



Gun Sensor Test screen

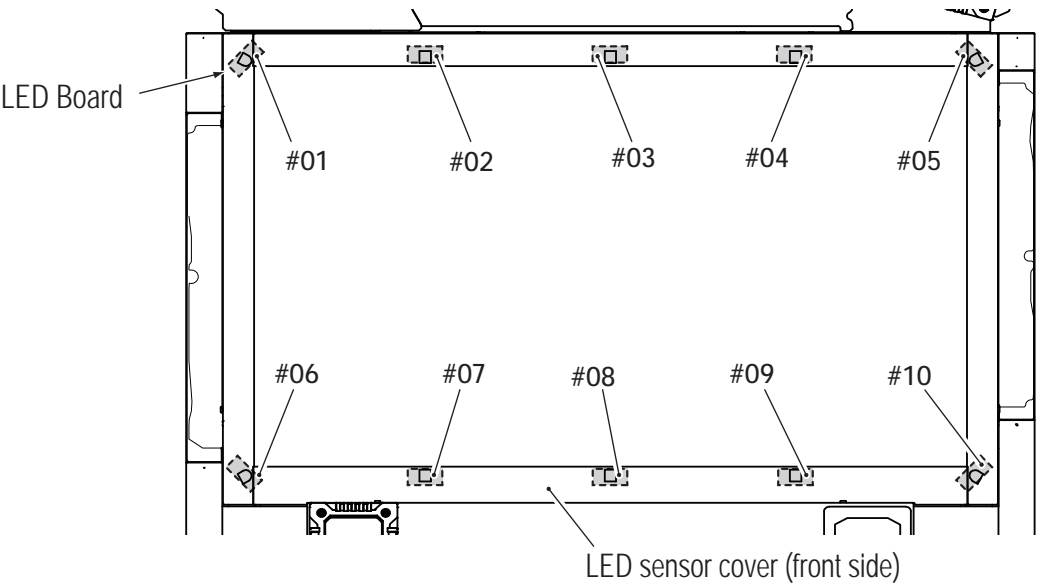
The screen indicates the No. of each LED Board and its status.

- #01 (1) LED Board No.
- 1P:-- (2) Status of 1P-side Gun Assy (--: Before check, OK: Detected, NG: Not detected)
- 2P:-- (3) Status of 2P-side Gun Assy (--: Before check, OK: Detected, NG: Not detected)

**1** Hold the 1P-side or 2P-side Gun Assy and aim the center of the screen. The LED is detected while the pedal is held pressed, and the status of each LED are indicated on the screen.

Before the check is conducted, "--" is indicated. When detected, "OK" (green) is indicated. When not detected, "NG" (red) is detected.

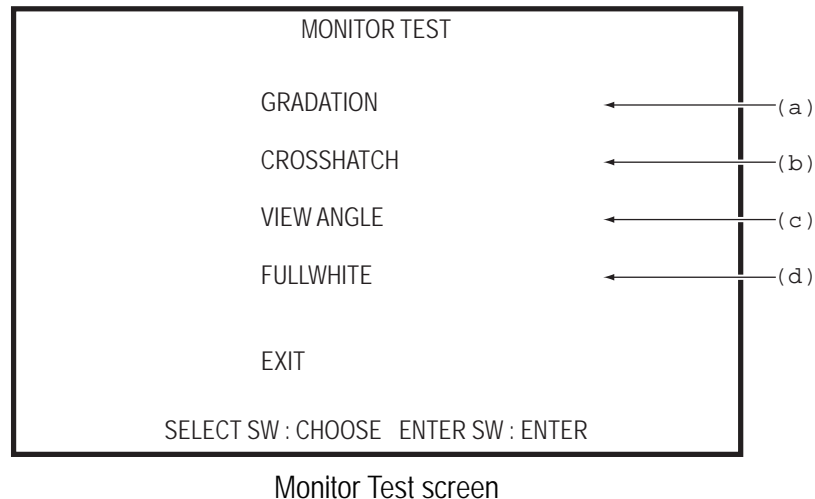
**2** Press the Enter switch to return to the I/O Test screen.



### 7-4-5 Monitor test (MONITOR TEST)

This screen is used to make various monitor adjustments.

- 1 Select "MONITOR TEST" in the Menu screen and press the Enter switch.  
The Monitor Test screen appears.

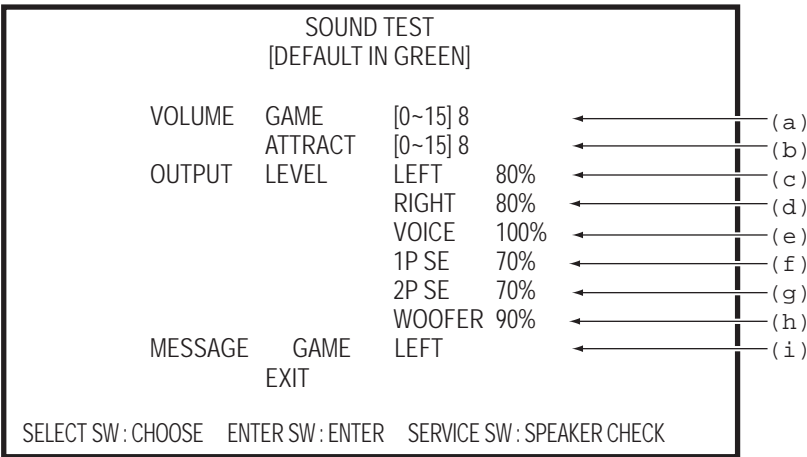


- 2 Using the Select switch, choose an item.  
The selected item is indicated by blinking.
- 3 Press the Enter switch to display the selected test pattern.  
To exit the test pattern screen, press the Enter switch again.
  - (a) Displays a gradation pattern.
  - (b) Displays a crosshatch pattern.
  - (c) Displays the adjustment screen.
  - (d) Displays a white screen.
- 4 Select "EXIT" and press the Enter switch to return to the Menu screen.

### 7-4-6 Sound test (SOUND TEST)

This screen is used to adjust the sound level and conduct a stereo check.

- 1** Select "SOUND TEST" in the Menu screen and press the Enter switch.



Sound Test Screen

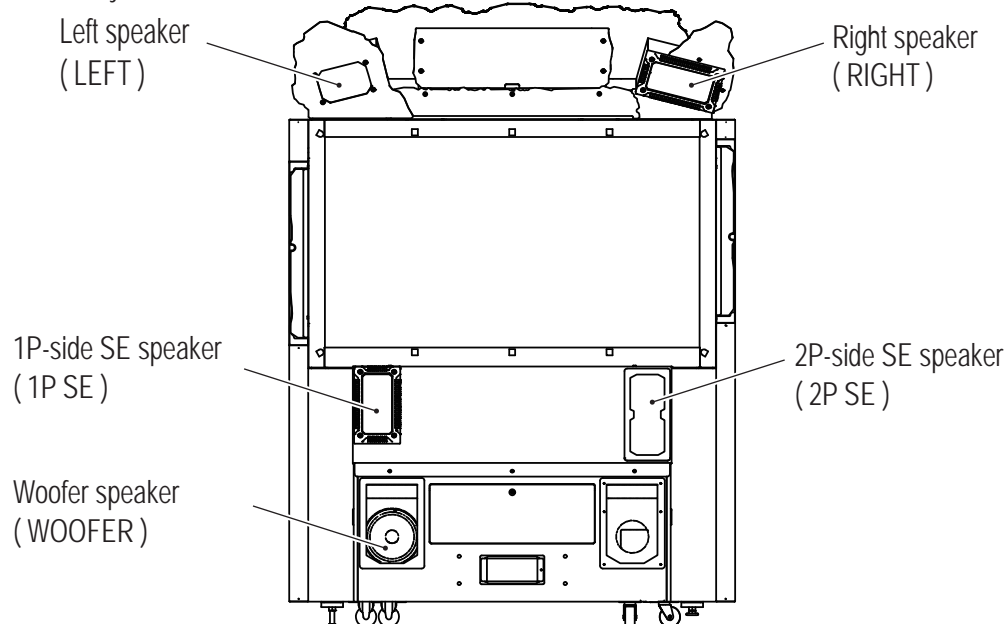
Item	Description	Default
( a ) VOLUME GAME	Volume level for game ( 0 ( mute ) ~ 15 ( Max ) )	8
( b ) VOLUME ATTRACT	Volume level for Attract mode ( 0 ( mute ) ~ 15 ( Max ) )	8
( c ) OUTPUT LEVEL LEFT	Output level for Left speaker ( 0% ( mute ) ~ 100% ( Max ) by 10% )	80%
( d ) OUTPUT LEVEL RIGHT	Output level for Right speaker ( 0% ( mute ) ~ 100% ( Max ) by 10% )	80%
( e ) OUTPUT LEVEL VOICE	Output level for Voice speaker ( 0% ( mute ) ~ 100% ( Max ) by 10% )	100%
( f ) OUTPUT LEVEL 1P SE	Output level for 1P-side SE Speaker ( 0% ( mute ) ~ 100% ( Max ) by 10% )	70%
( g ) OUTPUT LEVEL 2P SE	Output level for 1P-side SE Speaker ( 0% ( mute ) ~ 100% ( Max ) by 10% )	70%
( h ) OUTPUT LEVEL WOOFER	Output level for Woofer speaker ( 0% ( mute ) ~ 100% ( Max ) by 10% )	90%
( i ) MESSAGE	Location and Volume level for current active speaker (See next page ) <b>6</b>	

SOUND TEST settings

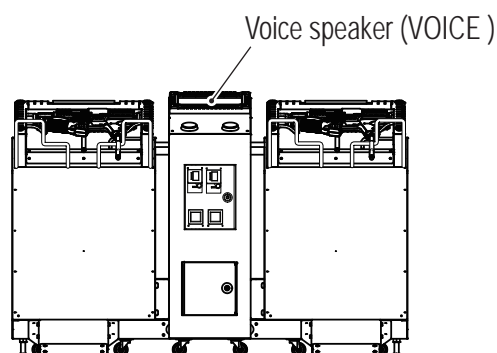
- 2** Using the Select switch, choose an item to be adjusted.  
The selected item is indicated by blinking.
- 3** Press the Enter switch to finalize the selection.
- 4** After finalizing the selection, move the Select switch up or down and change the setting of the item.



● Projector Tower Assy



● Control Assy



**5** After changing the setting, press the Enter switch to return to the item selection screen.

**6** When the Service switch is pressed, the speaker test starts, regardless of the location of the cursor. In this test, sound is reproduced according to the VOLUME GAME setting. However, when the item being selected is VOLUME ATTRACT, the sound is reproduced according to the VOLUME ATTRACT setting. The speaker check sound is reproduced in the following order:

LEFT ==> RIGHT ==> VOICE ==> 1P SE ==> 2P SE ==> WOOFER.

Performing the following action stops the reproduction of the speaker test sound.

- A. When the Service switch is pressed again
- B. When the display is returned to the Menu screen
- C. When the Test switch is set to OFF and the display returns to the Game screen

**7** Select "EXIT" and press the Enter switch to return to the Menu screen.

### 7-4-7 Game data display/initialization (BOOKKEEPING)

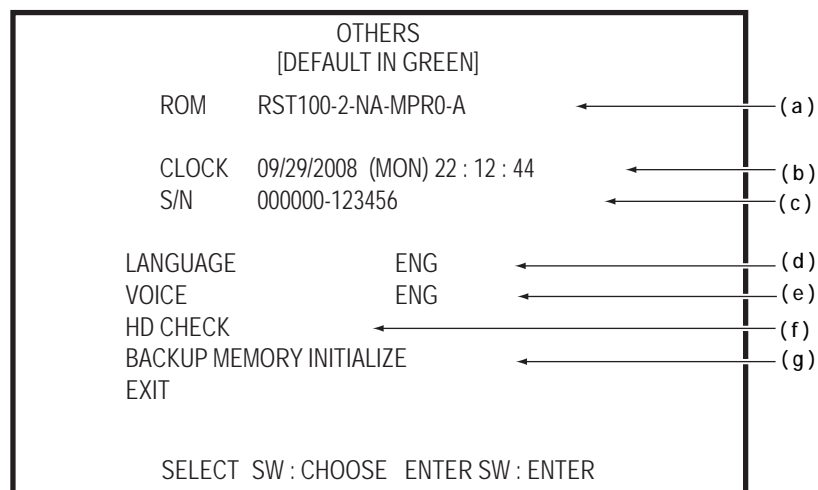
This screen is used to display various game data.

- 1** Select "BOOKKEEPING" in the Menu screen and press the Enter switch.  
The Bookkeeping screen appears.
- 2** Using the Select switch, choose "NEXT" or "PREVIOUS" and press the Enter switch to display the next or previous page.
- 3** Data will be initialized when "BOOKKEEPING INITIALIZE" or "BACKUP
- 4** MEMORY INITIALIZE" (in "OTHERS") is executed. After the confirmation, select "EXIT" and press the Enter switch to return to the Menu screen.

### 7-4-8 Others (OTHERS)

This screen is used to initialize the backup memory.

- 1** Select "OTHERS" in the Menu screen and press the Enter switch.  
The Others screen appears.



OTHERS screen

Item	Description	Default
(a) ROM	Software version	
(b) CLOCK	Internal clock time	
(c) S/N	Software serial number	
(d) LANGUAGE	Sets the display language from the following. ENG(English),ITA(Italian),SPA(Spanish),RUS(Russian)	ENG
(e) ATTRACT CUT	Sets "ON" to cut the Attract mode	OFF
(f) HD CHECK	Checks hard-disk and adjusts the internal clock. (See page 66.)	
(g) BACKUP MEMORY INITIALIZE	Initializes the backup memory . (see the next page <b>3</b> )	

OTHERS settings

- 2** Using the Select switch, choose an item to be executed.

The selected item is indicated by blinking

"YES" or "NO."

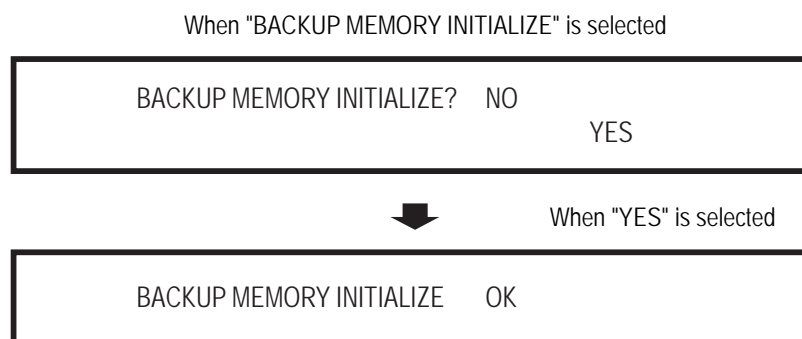
When "YES" is selected, initialization starts. When the initialization is completed, the display shows "OK" and returns to the previous screen.

- 3** Press the Enter switch to execute the selected item.

When "(a) HD CHECK" is selected and executed, the HD Check screen appears.  
(See page 65.)

When "BACKUP MEMORY INITIALIZE" is selected and executed, a message  
"BACKUP MEMORY INITIALIZE?" appears and the screen prompts for the input  
of "YES" or "NO."

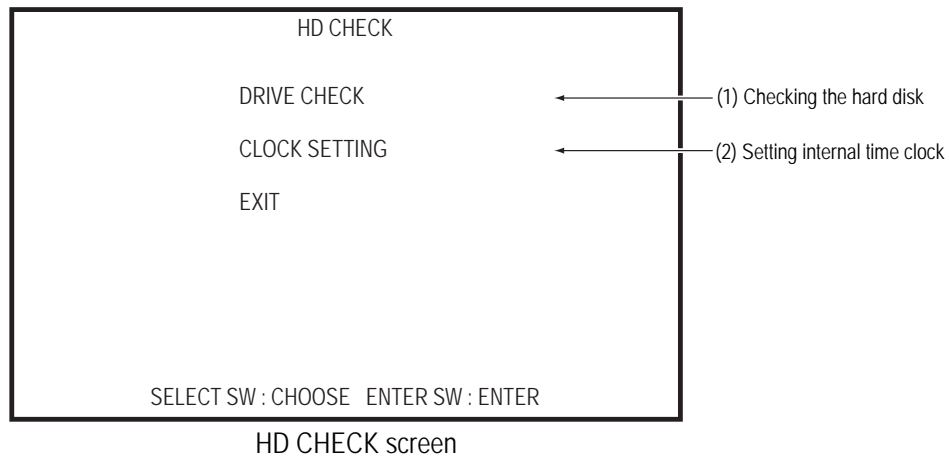
When "YES" is selected, initialization starts. When the initialization is completed, the  
display shows "OK" and returns to the previous screen.



- 4** Select "EXIT" and press the Enter switch to return to the Menu screen.
- 5** Set the Test switch to OFF. The Game screen appears. Then, turn off the sub-power switch.
- 6** After pasting over 30 seconds, turn off the sub-power switch.  
After the Game screen appeared, set the Test switch to ON to return the Menu screen again.

**(a) HD CHECK**

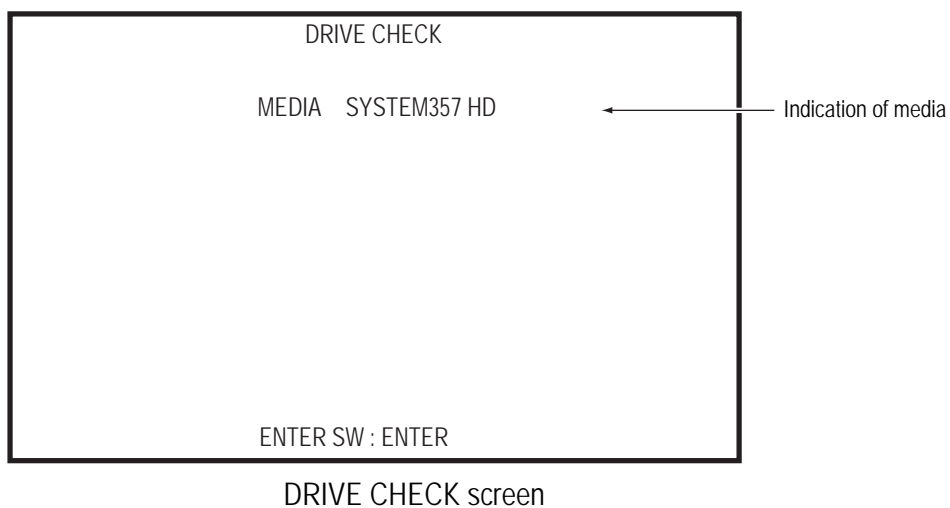
This screen is used to check the hard disk and set the internal clock.



- 1** Using the Select switch, choose an item.  
The selected item is indicated by blinking.
- 2** Press the Enter switch to activate the Test screen for the blinking item.
- 3** Select "EXIT" and press the Enter switch to return to the Menu screen.

**(1) DRIVE CHECK**

The hard disk check is executed automatically and the result is displayed.



Display	Status
SYSTEM357 HDD	Proper HDD is installed.

If the display does not show the Drive Check screen correctly, the hard disk or Rack Assy can be faulty. Contact your distributor.

Press the Enter switch to return to the HD Check screen.

## (2) CLOCK SETTING

This screen is used to set the internal clock.

The screenshot shows the 'CLOCK SETTING' screen. At the top, it displays 'CLOCK' followed by the date and time '09/14/2008 SUN 19:28:56'. Below this, there are five rows of settings: 'YEAR 08+2000', 'MONTH 09', 'DAY 14', 'HOUR 19', and 'MINUTE 28'. Each of these rows has a label (a) through (e) pointing to it from the right. Below these settings are two options: 'SET' and 'EXIT', with a label (f) pointing to 'SET'. At the bottom of the screen, it says 'SELECT SW : CHOOSE ENTER SW : ENTER'. The entire screen is titled 'CLOCK SETTING' at the top center.

CLOCK SETTING

CLOCK 09/14/2008 SUN 19:28:56

YEAR 08+2000 (a)

MONTH 09 (b)

DAY 14 (c)

HOUR 19 (d)

MINUTE 28 (e)

SET (f)

EXIT

SELECT SW : CHOOSE ENTER SW : ENTER

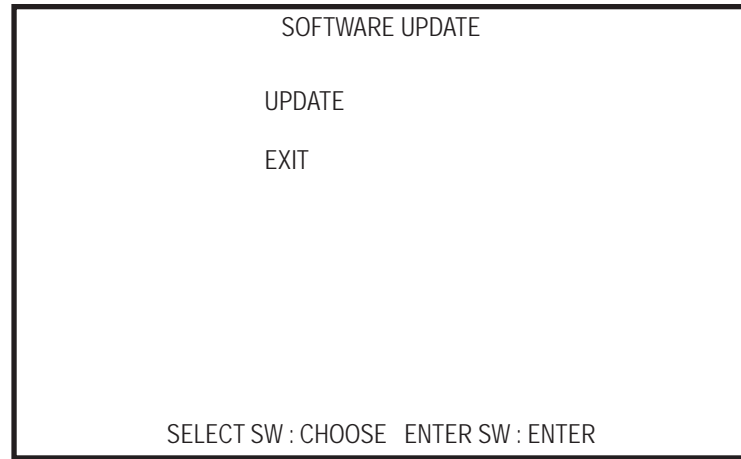
CLOCK SETTING screen

- 1** Flip the Select switch up or down and select an item to change.  
The selected item is indicated by blinking.
- 2** Select an item from (a) through (e) and press the Enter switch to finalize the selection.
- 3** After selecting an item, flip the Select switch up or down and change the setting of the item.
- 4** After changing the setting, press the Enter switch to return to the item selection screen.
- 5** After changing the settings of items (a) through (e), select "SET" and press the Enter switch to apply the settings to the internal clock. The clock restarts from "00" second.
- 6** Press the Enter switch to return to the HD Check screen.

---

### 7-4-9 Software update

This screen is used to update the software. (This mode is not used under normal conditions.)



A rectangular box representing the 'SOFTWARE UPDATE' screen. Inside the box, the text 'SOFTWARE UPDATE' is at the top. Below it are two options: 'UPDATE' and 'EXIT'. At the bottom of the box, the text 'SELECT SW : CHOOSE ENTER SW : ENTER' is displayed.

SOFTWARE UPDATE screen

- 1** Select "EXIT" and press the Enter switch to return to the Menu screen.

## 7-5 Cleaning



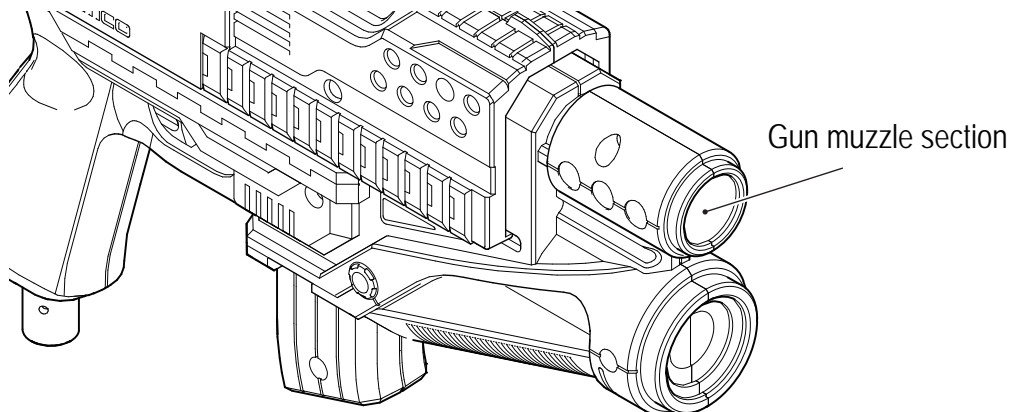
- Do not use organic solvents such as alcohol and acetone for cleaning. Organic solvents can cause deterioration of materials.
- Do not use alkaline or acidic detergents.

### 7-5-1 Cleaning the Gun Assys



- Do not use a detergent or chemical for cleaning sensor section.
- Be careful not to scratch the sensor section. If the sensor is scratched, the Gun Assy's detection performance will be affected.

- 1 To maintain accuracy of the Gun Assys, clean the gun sensor section on a daily basis. To clean the gun sensor section, wipe with a clean soft cloth.

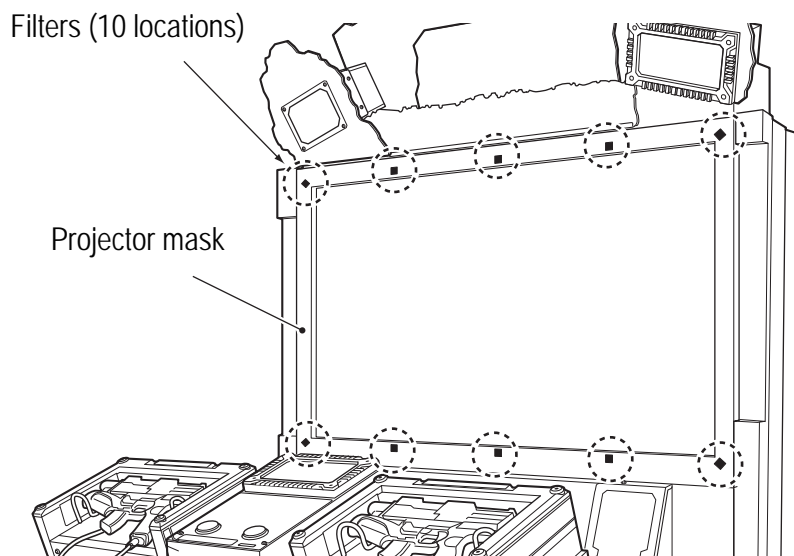


### 7-5-2 Cleaning the LED board filters



- Do not use a detergent or other chemical to clean the filters.
- Be careful not to scratch the filters. If the filters are scratched, the Gun Assy's detection performance will be affected.

- 1 To maintain accuracy of the Gun Assys, clean the LED board filters (10 locations) on a daily basis. To clean the LED board filters, wipe with a clean soft cloth.



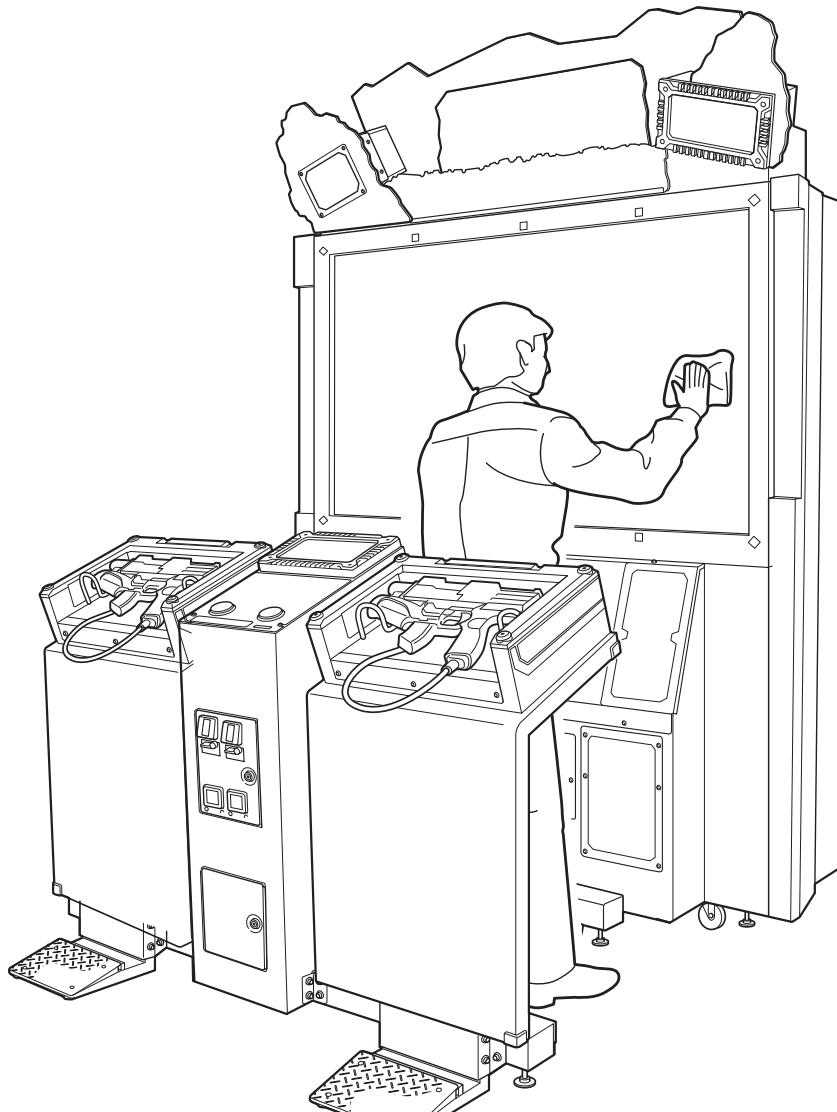


### 7-5-3 Cleaning the projector screen



- Do not use organic solvents such as alcohol and acetone for cleaning.
- Do not use alkali or acidic detergents.

- 1** The projector screen is made of acrylic resin and it can get scratched easily. To clean the projector screen, soak a soft cloth in cold or lukewarm (40 degC or lower) water, wring thoroughly, and wipe lightly along the direction of grooves.
- 2** If the projector screen does not become very clean by wiping with the cloth as described above, use a neutral detergent diluted with water (2 to 3% detergent) to remove stubborn dirt.



# 8.MAINTENANCE

---

## WARNING

- To protect the service staff and other people from electric shock, accident and injury, be sure to turn off the power switch before conducting maintenance work (troubleshooting, repair, etc.).

## 8-1 Inspection and maintenance

### WARNING

- Conduct maintenance periodically. Failure to conduct periodic inspection may result in unexpected accidents.
- Conduct a pre-service check everyday to prevent accidents. (See P. 40 "7-1 Pre-service check.")

### 8-1-1 Inspection items

Check the following inspection items regularly after performing the inspection described in "7-1 Pre-service check" on page 40:

#### (1) Inspecting the level adjusters

1. Make sure that the machine is installed stably. (See P. 22 "5-3-1 Adjusting the level adjusters.")

#### (2) Inspecting the power cord plug

1. Make sure that the power cord is plugged firmly into the Cord Box Assy of the machine and the AC outlet.
2. If the connector sections are dusty, clean them.
3. Check the power cord for cracks and dirty sheath. If there is any abnormality in the power cord, replace it with a new cord.

#### (3) Inspecting fasteners for tightness

Check the following screws and bolts for tightness. If any of them is loose, tighten firmly.

1. Projector Tower Assy fastening screws (See P. 19 "5-2-1 Separating the Projector Tower Assy.")
2. Signboard Assy fastening screws (See P. 23 "5-3-2 Assembling the Signboard Assy.")
3. Control Assy fastening screws (See P. 27 "5-3-3 Connecting the Projector Tower Assy and Control Assy.")
4. Pedal Assy fastening screws (See P. 29 "5-3-4 Installing the Pedal Assys.")
5. Gun Assy and gun cover fastening screws (See P. 97 "8-3-4 Gun Assy.")

## 8-1-2 Maintenance items

(1) Supplying grease to the plungers in the Pedal Assys - To be conducted by a technician only -

\* The following describes the procedures to remove and reinstall parts on the (L) side.  
The parts on the (R) side can be removed and reinstalled by following the same procedures.

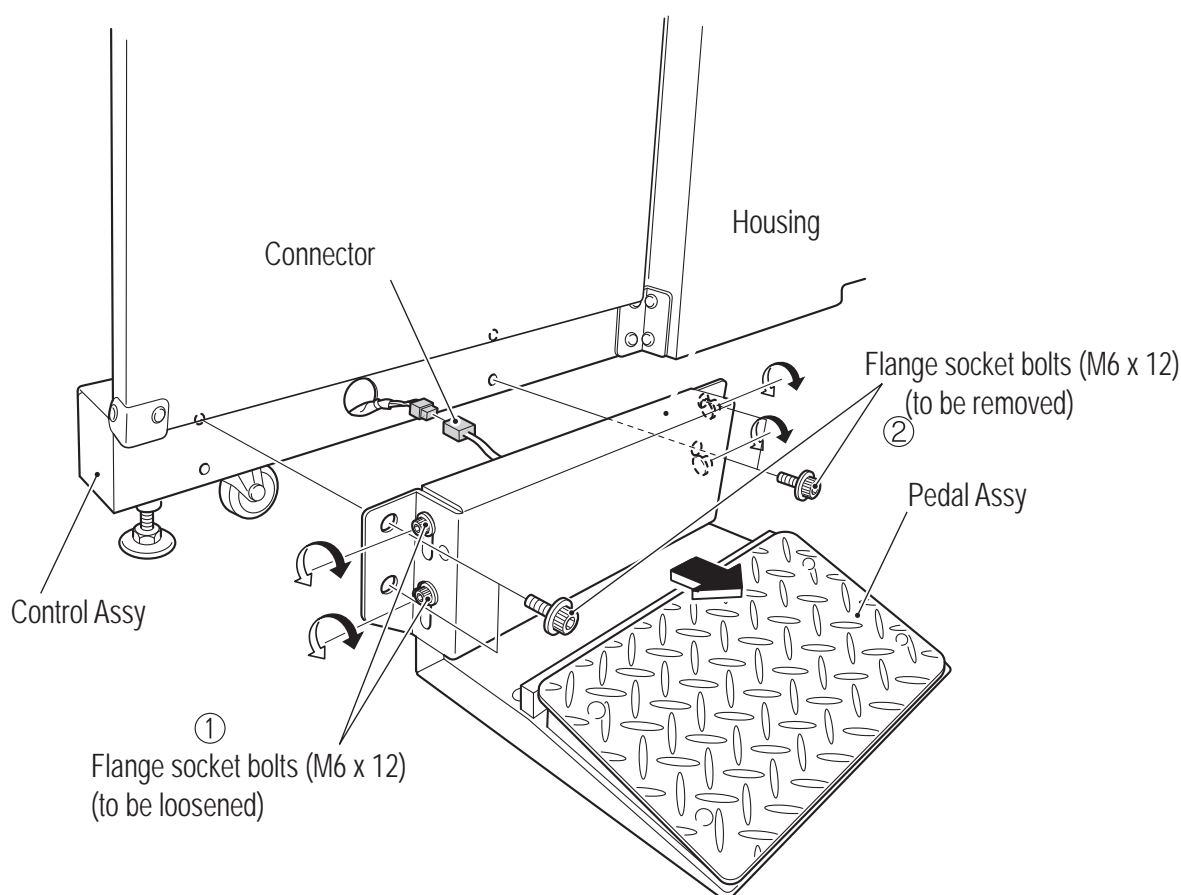
### WARNING

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.

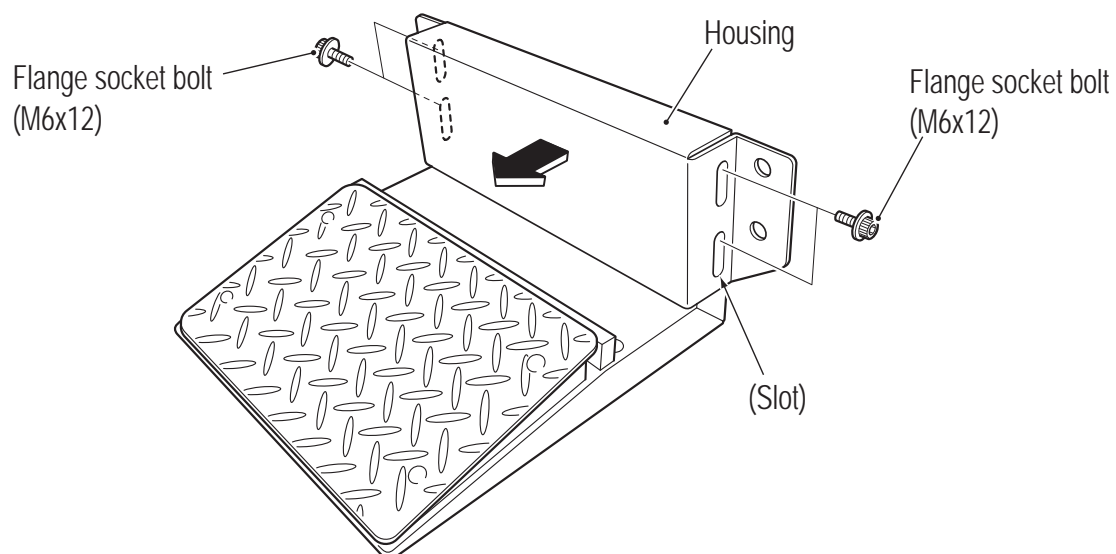
### NOTICE

- Supply grease to the plungers once every six months.
- Be careful not to allow grease or dust to get on the photosensors.
- To prevent damage to electrical circuits due to incorrect connector connection, check the direction of the connector carefully when connecting.

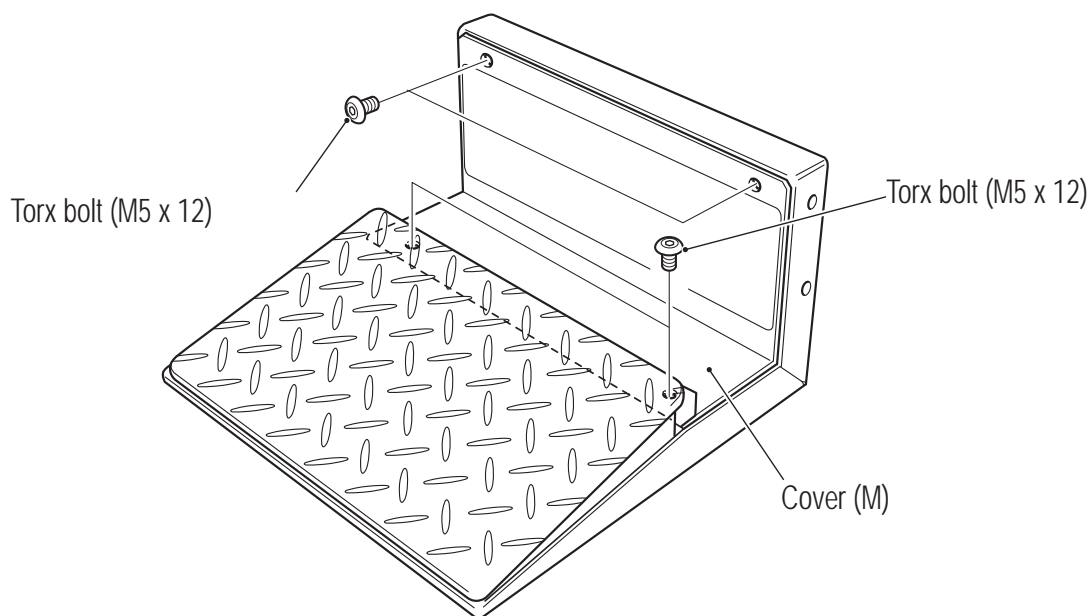
- 1** Turn off the power switch.
- 2** Loosen the four flange socket bolts (M6 x 12) on the Pedal Assy side(1).
- 3** Remove the four flange socket bolts (M6 x 12) on the Control Assy side, disconnect the connector, then dismount the Pedal Assy(2).



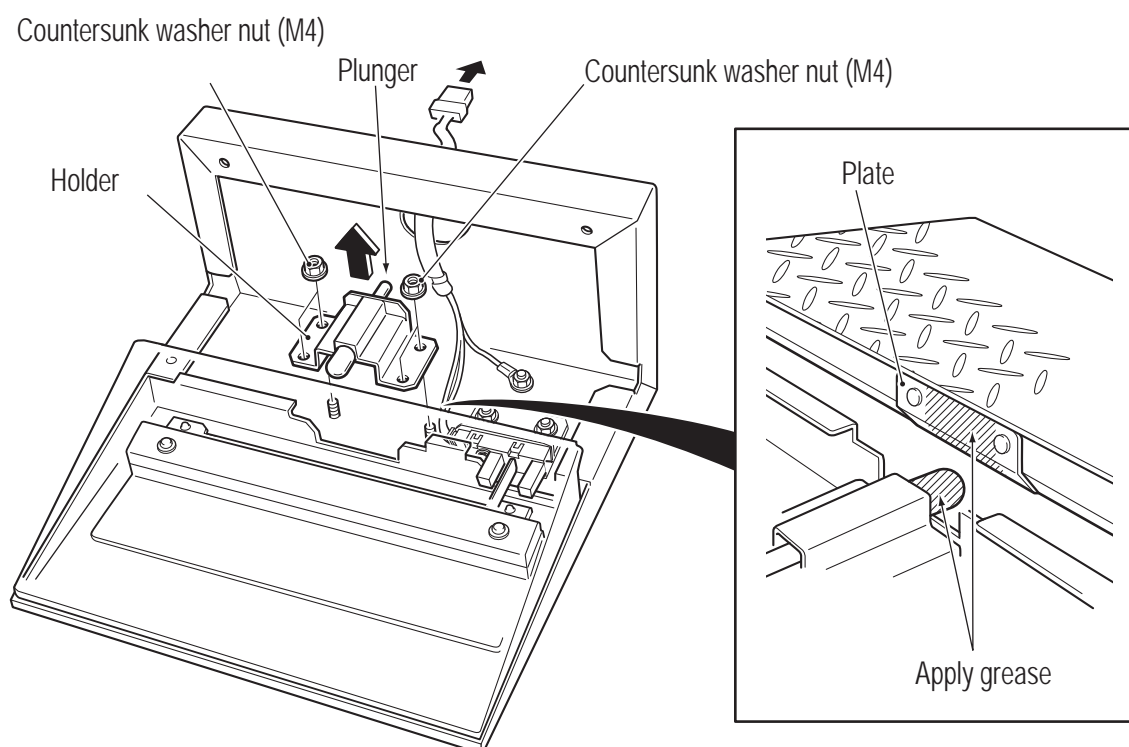
- 4** Remove the four flange socket bolts (M6 x 12), which were loosened in step **2**, and dismount the housing.



- 5** Remove the four Torx bolts (M5 x 12) and dismount the cover.



- 5 Remove the four countersunk washer nuts (M4) from the holder, then lift the holder while pulling the plunger.
- 6 Wipe off grease from the plunger and the plate on the pedal side.
- 7 Apply grease to the plate and the plunger surface areas that contact the holder and plate.
  - ♦ Designated grease: Alvania Grease No. 2 (Showa Shell)
- 8 To reinstall, follow the removal sequence in reverse.



- Be sure to conduct an operation check after assembling the Pedal Assy. (See P. 54 "7-4-4 (c) SWITCH TEST.")

## 8-2 Troubleshooting

### WARNING

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.
- If the generated problem does not apply to any symptom described in "8-2 Troubleshooting" or if the action taken does not result in an improvement, turn off the power switch immediately to stop operating the machine, then contact your distributor. Operating the machine without correcting problems can result in an unexpected accident.

### NOTICE

- In the event a problem occurs, first check to make sure that all connectors are connected securely
- If there is a problem in any of the PC boards, contact your distributor. Never use a tester to conduct a continuity test. Internal voltage of a tester can damage ICs.
- When sending parts for repair, pack them carefully to protect them from damage during transportation. When sending the Rack Assy, wrap it with sponge or bubble wrap and place it in a corrugated cardboard box for protection against external impact.

### 8-2-1 General - To be conducted by a technician only -

Symptom	Cause	Remedy	Page
•The machine does not start up.	•The USB dongle is not inserted correctly.	•Insert the USB dongle correctly.	Page 32
	•The connector is disconnected.	•Connect the connector.	Page 28 and 81
	•The Rack Assy is faulty.	•Contact your distributor.	_____
•The machine does not operate stably or it malfunctions.	•The supply voltage is outside the range of 105 to 125 VAC.	•Disconnect large power consuming equipment (air conditioners, large rides, etc.) from the same power line, and ensure that the game machine receives the specified power supply voltage.	_____
•The machine turns off in the middle of operation.	•The main fuse opens during the course of game play. *The fuse is designed to open the circuit to the power supply when an abnormal current flows.	• With the power off, replace the fuse. Then turn on the power switch again. If the fuse opens again, there is a problem in the machine. Contact your distributor.	_____

### 8-2-2 Projector Tower Assy - To be conducted by a technician only -

Symptom	Cause	Remedy	Page
•The projector does not display images.	•The connector that connects the projector to the Rack Assy is disconnected.	•Open the maintenance door and connect the connector.	Page 19 and 81
	•The projector is faulty.	•Replace the projector.	Page 19
	•The Rack Assy is faulty.	•Replace the Rack Assy.	Page 81
•There is no sound from the speaker.	•The sound level is very low.	•Adjust the sound volume.	Page 60
	•The connector is disconnected.	•Connect the connector.	Page 81 and 83
	•The MCD AMP PC Board is faulty.	•Replace the MCD AMP PC Board.	Page 83
	•The Rack Assy is faulty.	•Replace the Rack Assy.	Page 81
•The LED-Edge PC Board does not light up.	•The connector is disconnected.	•Connect the connector.	Page 84,85 and 94
	•The LED-Edge PC Board is faulty.	•Replace the LED-Edge PC Board.	Page 84 and 85
	•The USIO PC Board is faulty.Replace the USIO PC Board.	•Replace the USIO PC Board.	Page 94

### 8-2-3 Signboard Assy - To be conducted by a technician only -

Symptom	Cause	Remedy	Page
•The fluorescent lamp does not light.	•The connector is disconnected.	•Connect the connector.	Page 26
	•The fluorescent lamp is burned out.	•Replace the fluorescent lamp.	Page 87
	•The glow lamp is burned out.	•Replace the glow lamp.	Page 87

### 8-2-4 Control Assy - To be conducted by a technician only -

Symptom	Cause	Remedy	Page
•The LED-Edge PC Board does not light up. (inside the control panel, inside the gun tower)	•The connector is disconnected.	•Connect the connector.	Page 28, 81, 90 & 94
	•The LED-Edge PC Board is faulty.	•Replace the LED-Edge PC Board.	Page 90
	•The USIO PC Board is faulty.	•Replace the USIO PC Board.	Page 94
•There is no sound from the speaker.	•The sound level is very low.	•Adjust the sound volume.	Page 60
	•The connector is disconnected.	•Connect the connector.	Page 28 & 83
	•The MCD AMP PC Board is faulty.	•Replace the MCD AMP PC Board.	Page 83
	•The Rack Assy is faulty.	•Replace the Rack Assy.	Page 81



### 8-2-5 Gun Assy - To be conducted by a technician only -

Symptom	Cause	Remedy	Page
•Gun shots are not normal.	•The gun aim is misaligned.	•Adjust the gun aim.	Page 51
	•The gun muzzle section is dirty.	•Clean.	Page 68
	•The filter sections are dirty.	•Clean.	Page 68
	•The gun muzzle is positioned too close to the screen.	•Keep a sufficient distance from the screen during the game play. (The distance between screen and gun muzzle should be at 60 cm or more.)	_____
	•Two or more units are installed next to each other.	•Check the sensor channel setting.	Page 17
	•The connector is disconnected.	•Connect the connector.	Page 96 & 97
	•The LED Board is faulty.	•Replace the LED Board.	Page 80
	•The light receiving unit is faulty.	•Replace the light receiving unit.	Page 101
	•The CPU Board is faulty.	•Replace the CPU Board.	Page 92
	•The USIO PC Board is faulty.	•Replace the USIO PC Board.	Page 94
	•The GUN DRIVE PC Board is faulty.	•Replace the GUN DRIVE PC Board.	Page 96
•The trigger does not operate.	•The connector is disconnected.	•Connect the connector.	Page 96, 97 and 108
	•The microswitch is defective.	•Replace the microswitch.	Page 102 and 107
	•The USIO PC Board is faulty.	•Replace the USIO PC Board.	Page 94
	•The GUN DRIVE PC Board is faulty.	•Replace the GUN DRIVE PC Board.	Page 96
•Vibration is not produced.	•The connector is disconnected.	•Connect the connector.	Page 94, 97 104 and 108
	•The rotary solenoid is damaged.	•Replace the solenoid.	Page 104
	•The USIO PC Board is faulty.	•Replace the USIO PC Board.	Page 94
	•The GUN DRIVE PC Board is faulty.	•Replace the GUN DRIVE PC Board.	Page 96

### 8-2-6 Pedal Assy - To be conducted by a technician only -

Symptom	Cause	Remedy	Page
•The pedal does not function.	•The connector is disconnected.	•Connect the connector.	Page 29, 94 and 110
	•The photosensor is faulty.	•Replace the photosensor.	Page 110
	•The plunger is worn.	•Replace the plunger.	Page 112
	•The USIO PC Board is faulty.	•Replace the USIO PC Board.	Page 94

### 8-2-7 Error display - To be conducted by a technician only -

Symptom	Cause	Remedy	Page
NOT CONNECT USIO-PCB	• The connector is disconnected.	• Connect the connector securely.	Page 81, 94
	• The USIO PC Board is faulty.	• Replace the USIO PC Board.	Page 94
USB-KEY ERROR (INVALID KEY)	• Incorrect USB key is inserted.	• Insert the "Razing Storm" USB key.	Page 32
USB-KEY ERROR (NO KEY)	• The USB is not inserted.	• Insert the "Razing Storm" USB key.	Page 32
USB-KEY ERROR (IO ERROR)	• USB - The USB key is faulty.	• Replace the USB key.	Page 32
	• The Rack Assy is faulty.	• Replace the Rack Assy.	Page 81
BACKUP MEMORY ERROR	• The backup memory is damaged.	• Initialize the backup memory.	Page 63
	• The battery in the USIO PC Board is dead.	• Replace the battery.	Page 95
	• The USIO PC Board is faulty.	• Replace the USIO PC Board.	Page 94
MEMORY ERROR	• The USIO PC Board is faulty.	• Replace the USIO PC Board.	Page 94
SYSTEM ERROR	• The USIO PC Board is faulty.	• Replace the USIO PC Board.	Page 94
ERROR (INVALID DATA)	• Incorrect hard-disk drive is connected. • The hard-disk drive is faulty.	• Contact your distributor.	Page 81

## 8-3 Removing and installing Assys and parts

### 8-3-1 Projector Tower Assy

(1) Replacing the LED Board - To be conducted by a technician only -

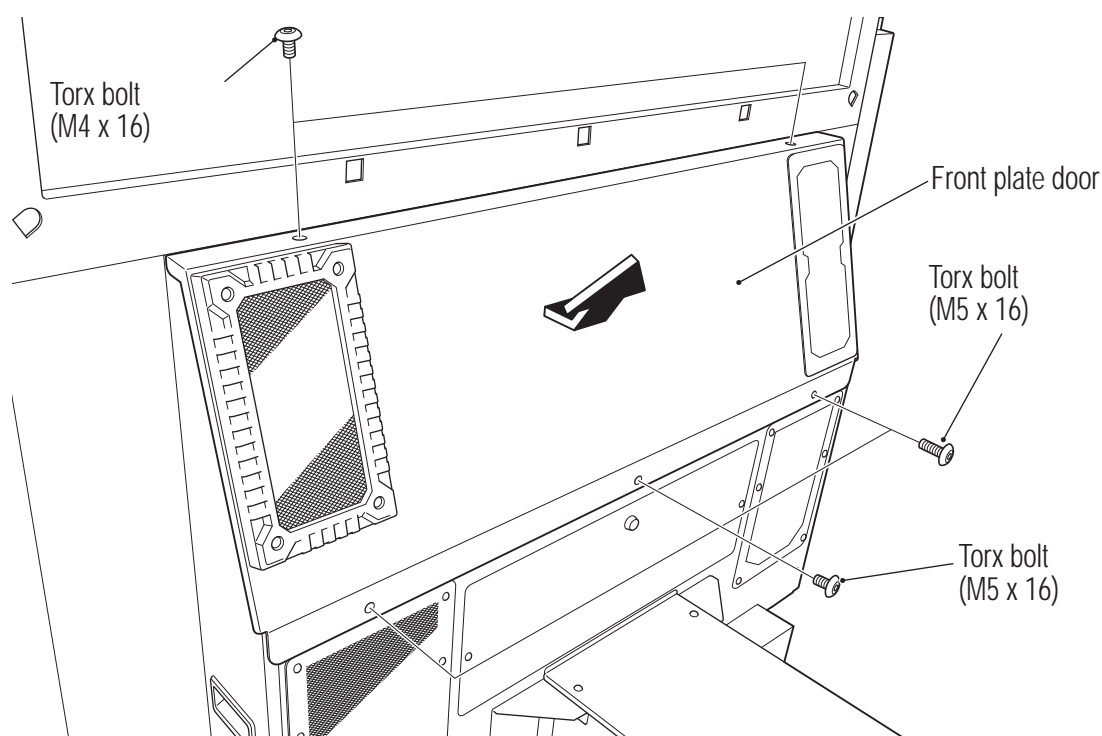
#### WARNING

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.

#### NOTICE

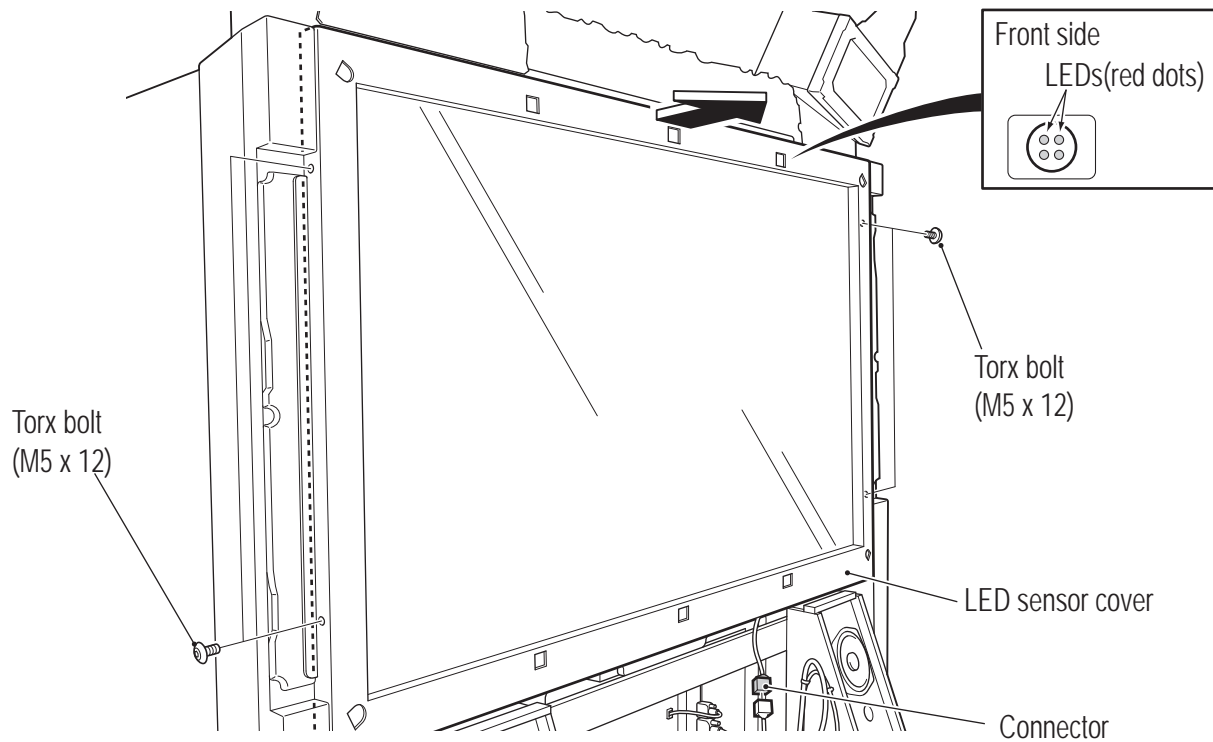
- To prevent damage to electrical circuits due to incorrect connector connection, check the direction of the connector carefully when connecting.
- The LED Board can be easily damaged by static electricity. If the LED Board is handled by a person charged with static electricity, parts mounted on the LED Board can become damaged. Before touching the LED Board, be sure to remove static electricity from your body by touching a grounded metal

- 1** Turn off the power switch.
- 2** Remove the three Torx bolts (M5 x 16) and two Torx bolts (M4 x 16), then dismount the front plate door.

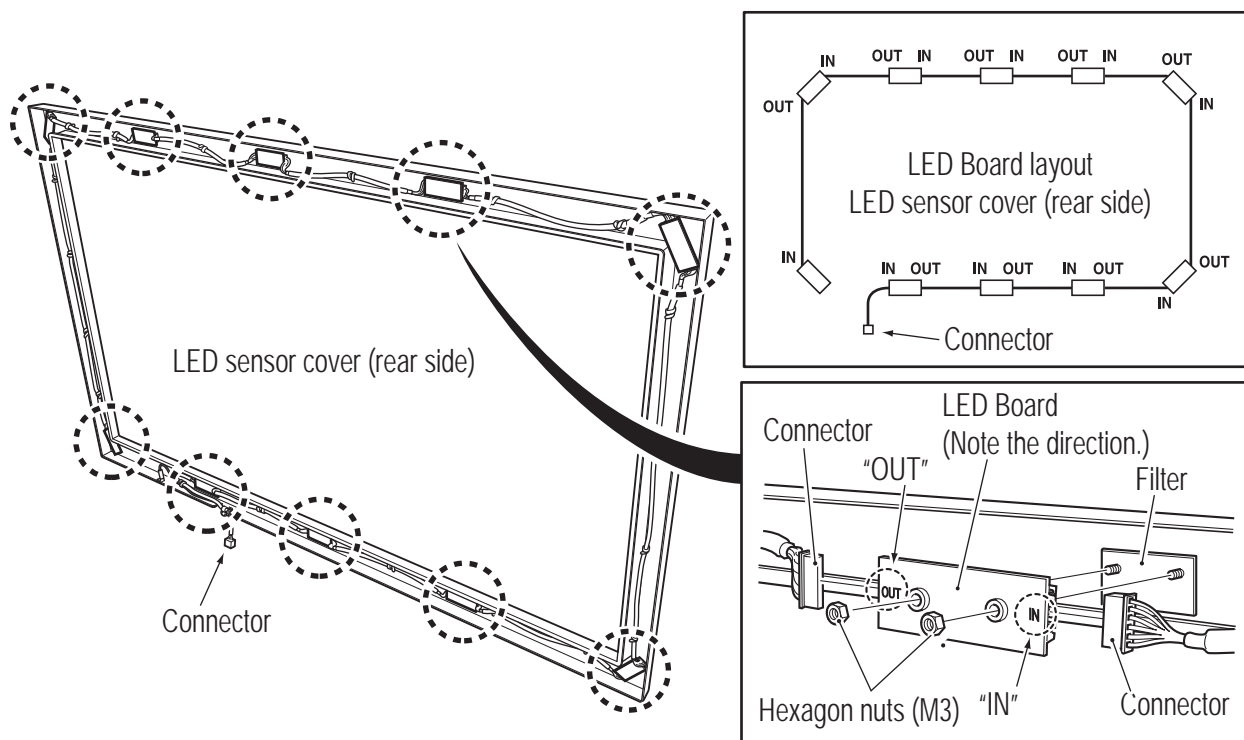


**3** Disconnect the connector, remove the four Torx bolts (M5 x 12), then dismount the LED sensor cover.

**4** Remove the two hexagon nuts (M3) from the LED Board to be replaced and disconnect the two connectors, then dismount the LED Board.



**5** To reinstall, follow the removal sequence in reverse.



## (2) Replacing the Rack Assy - To be conducted by a technician only -

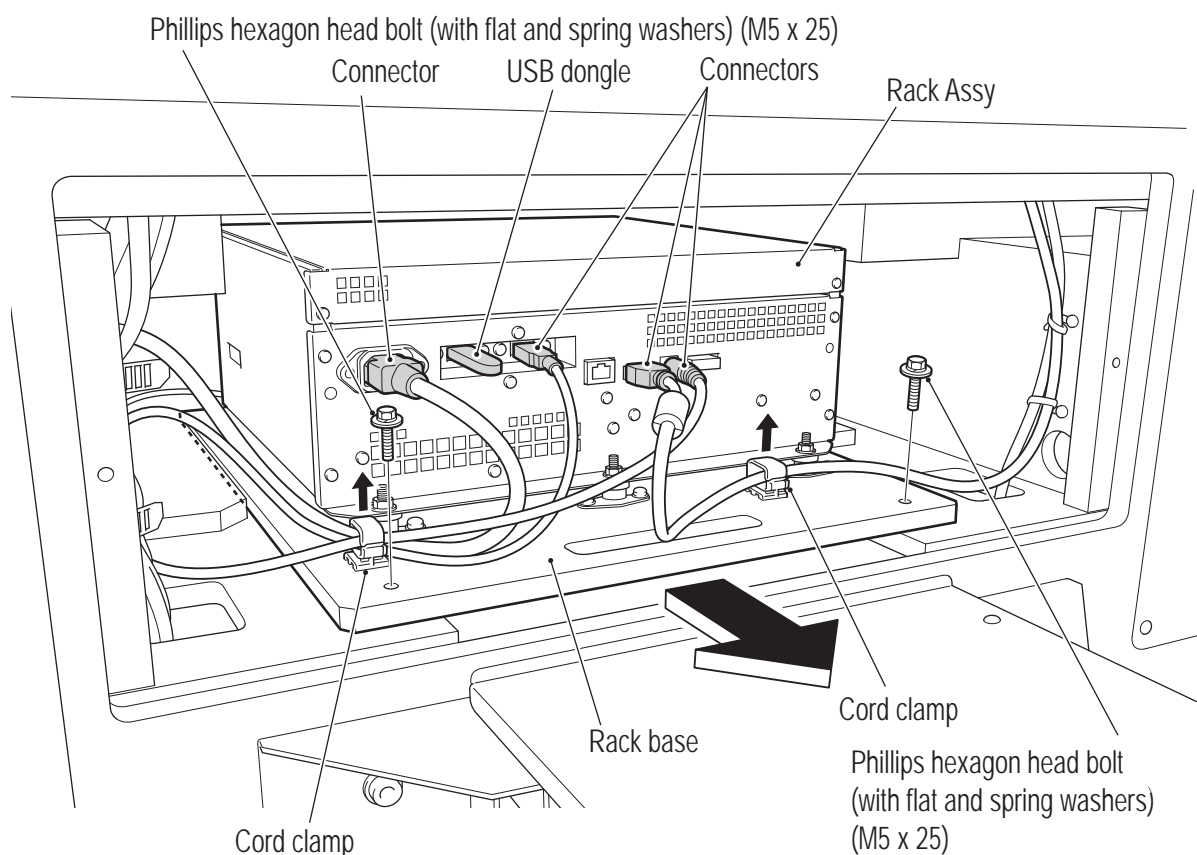
**! WARNING**

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.

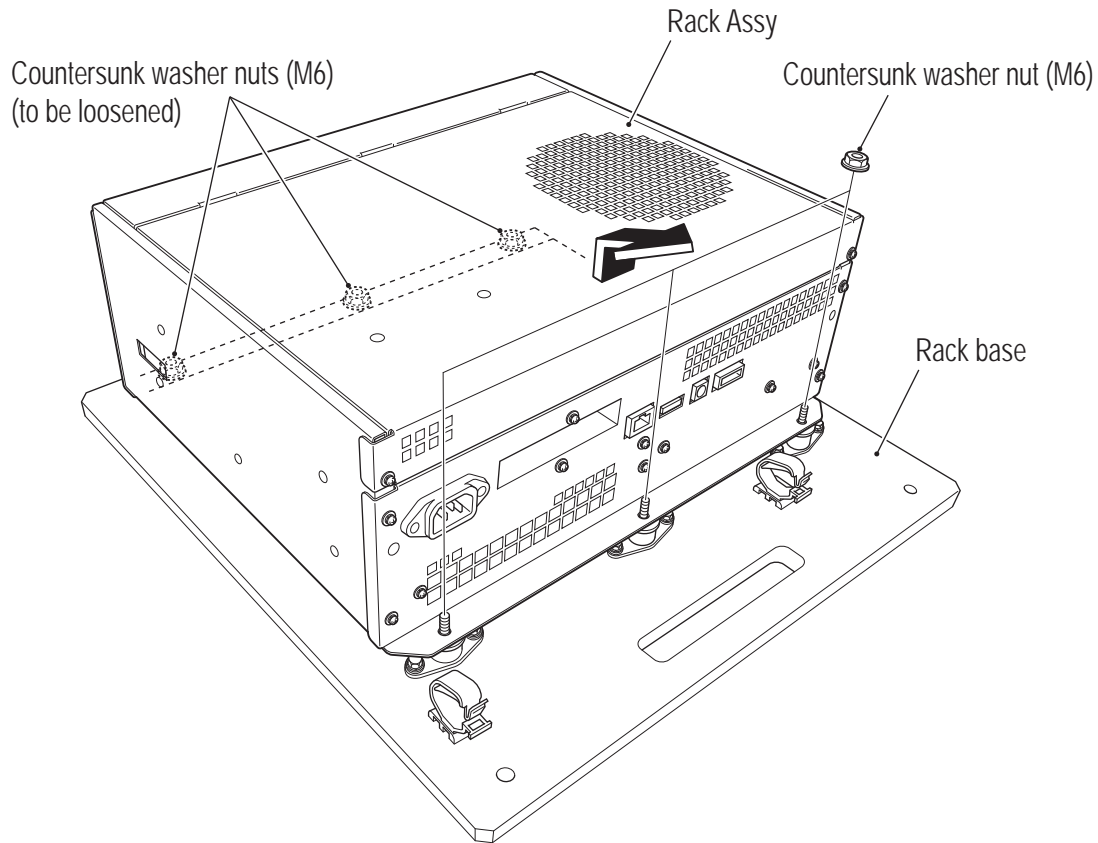
**NOTICE**

- To prevent damage to electrical circuits due to incorrect connector connection, check the direction of the connector carefully when connecting.
- The PC board can be easily damaged by static electricity. If the PC board is handled by a person charged with static electricity, parts mounted on the PC board can become damaged. Before touching the PC board, be sure to remove static electricity from you body by touching a grounded metal.

- 1** Turn off the power switch.
- 2** Dismount the maintenance door. (See P. 31 "5-4 Removing and installing the front door.")
- 3** Remove the USB dongle, open the two cord clamps, then disconnect the four connectors.
- 4** Remove the two Phillips hexagon head bolts (with flat and spring washers) (M5 x 25) and dismount the rack base together with the Rack Assy.



- 5** Loosen the three countersunk washer nuts (M6) in the back, remove the three countersunk washer nuts (M6) from the front side, then dismount the Rack Assy.



- 6** To reinstall, follow the removal sequence in reverse.



- Be sure to conduct an operation check and settings check after the replacement. (See P. 46 "7-4 Test mode.")

## (3) Replacing the MCD AMP PC Board - To be conducted by a technician only -

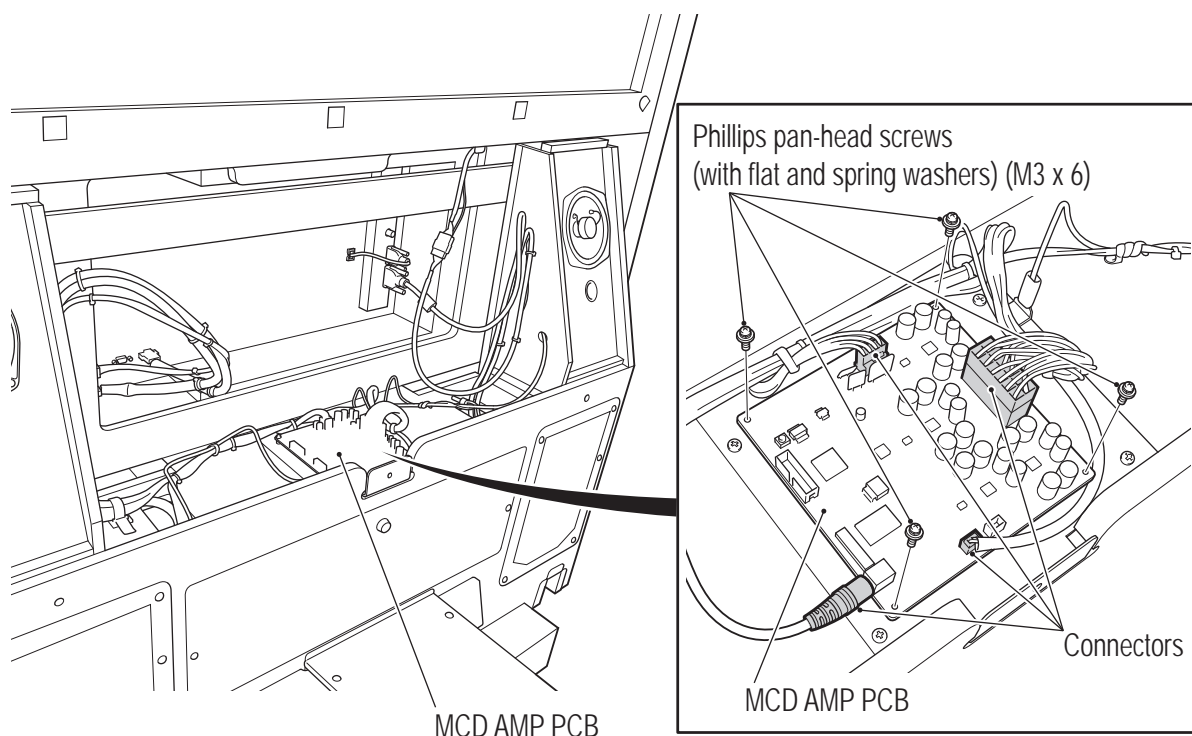
**⚠ WARNING**

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.

**NOTICE**

- To prevent damage to electrical circuits due to incorrect connector connection, check the direction of the connector carefully when connecting.
- The PC board can be easily damaged by static electricity. If the PC board is handled by a person charged with static electricity, parts mounted on the PC board can become damaged. Before touching the PC board, be sure to remove static electricity from your body by touching a grounded metal.

- 1 Turn off the power switch.
- 2 Dismount the front plate door. (See P. 79 "8-3-1 (1) Replacing the LED Board" [2].)
- 3 Disconnect the four connectors, remove the four Phillips pan-head screws (with flat and spring washers) (M3 x 6), then dismount the MCD AMP PC Board.
- 4 To reinstall, follow the removal sequence in reverse.

**NOTICE**

- Be sure to conduct an operation check and settings check after the replacement. (See P. 46 "7-4 Test mode.")

## (4) Replacing the LED-Edge PC Board - To be conducted by a technician only -

\* The following describes the procedures to remove and reinstall parts on the (R) side.  
The parts on the (R) side can be removed and reinstalled by following the same procedures.

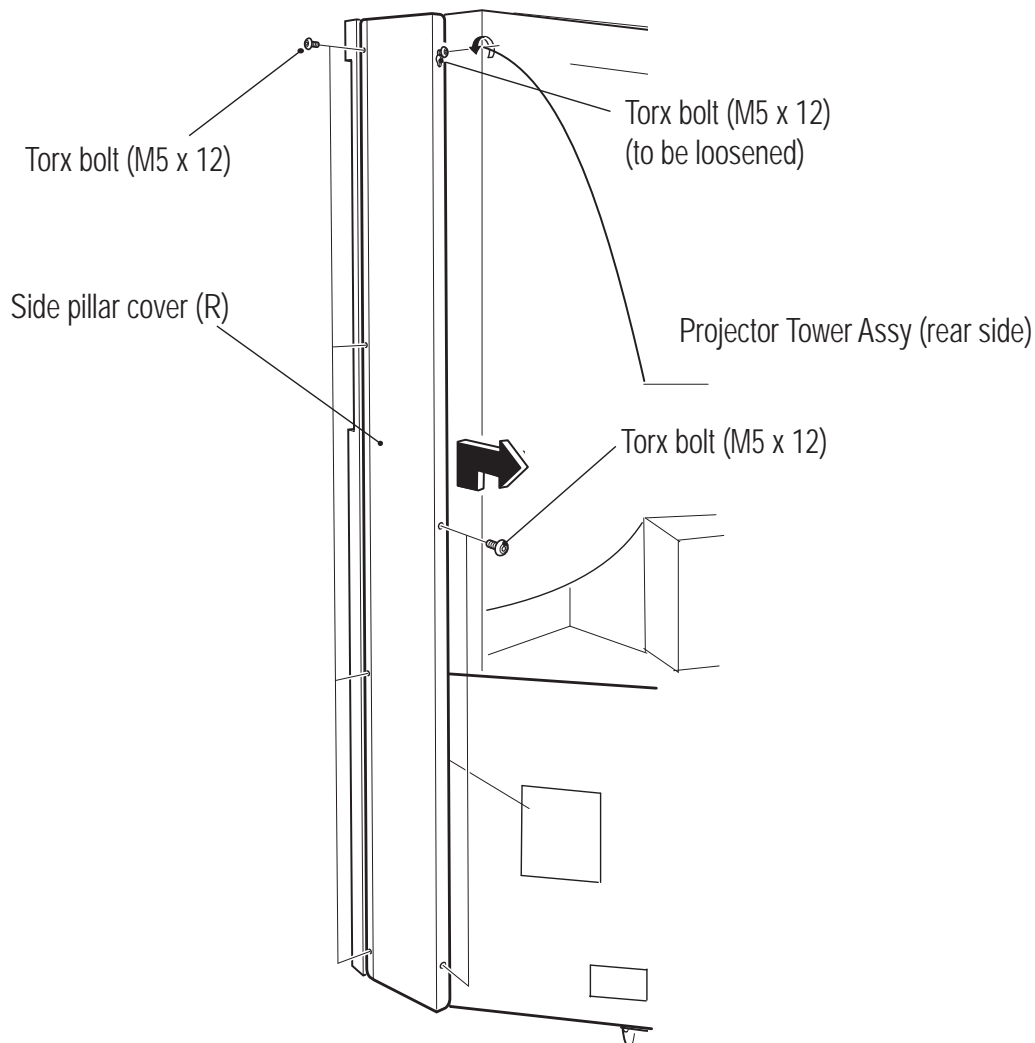
**⚠ WARNING**

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.

**NOTICE**

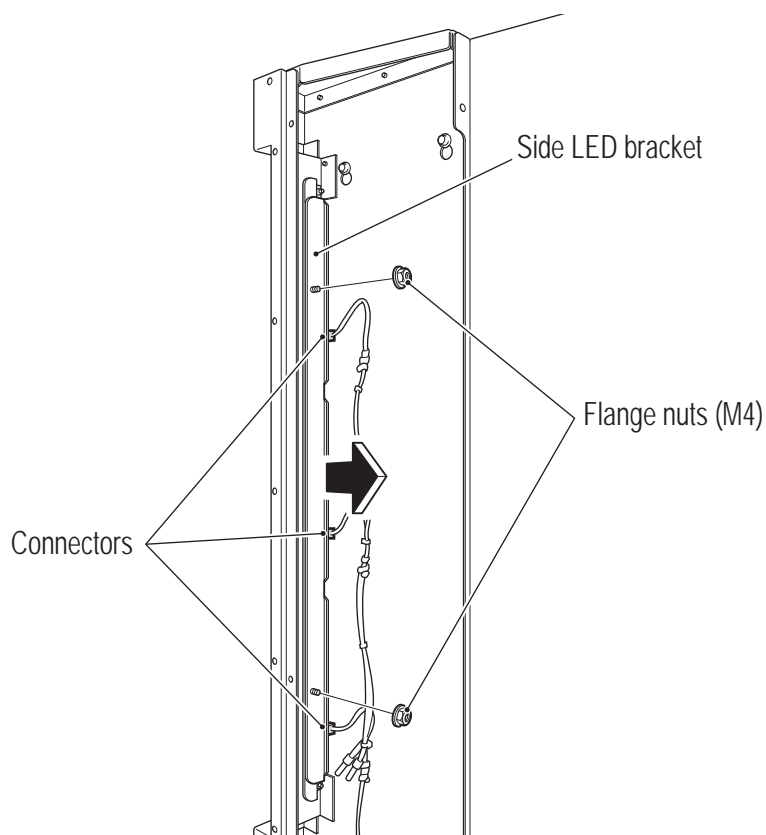
- To prevent damage to electrical circuits due to incorrect connector connection, check the direction of the connector carefully when connecting.
- The PC board can be easily damaged by static electricity. If the PC board is handled by a person charged with static electricity, parts mounted on the PC board can become damaged. Before touching the PC board, be sure to remove static electricity from you body by touching a grounded metal.

- 1 Turn off the power switch.
- 2 Remove the six Torx bolts (M5 x 12), loosen the bolt at the top, then dismount the side pillar cover (R).

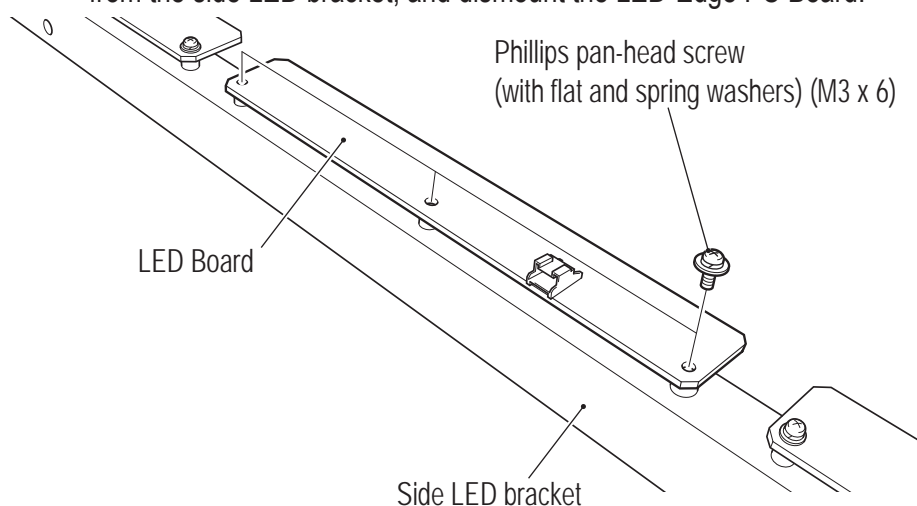




- 3** Disconnect the three connectors.
- 4** Remove the two flange nuts (M4) and dismount the side LED bracket.



- 5** Remove the three Phillips pan-head screws (with flat and spring washers) (M3 x 6) from the side LED bracket, and dismount the LED-Edge PC Board.



- 6** To reinstall, follow the removal sequence in reverse.
- 7** The LED-Edge PC Board on the (L) side can be replaced by following the same procedure.



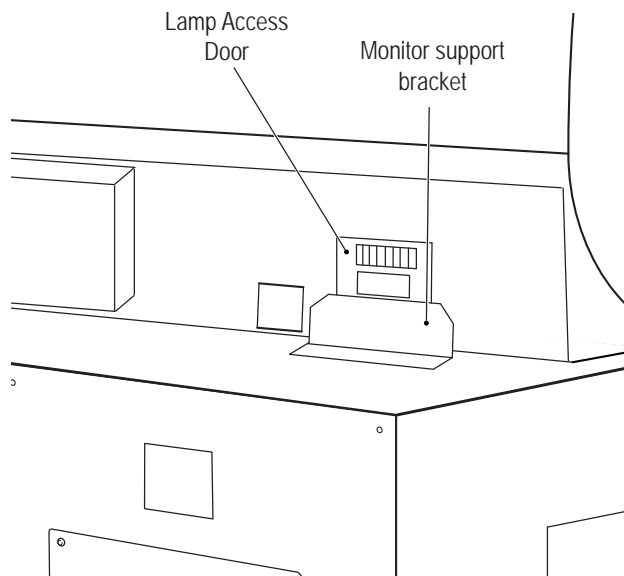
- Be sure to conduct an operation check and settings check after the replacement. (See P. 46 "7-4 Test mode.")

(5) Replacing the lamp unit - To be conducted by a technician only -

**⚠ WARNING**

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.

- 1** Turn off the power switch.
- 2** Dismount the rear monitor support bracket by removing the three M5 X 16 Torx head screws holding it in place.



- 3** Follow the instructions in the projection monitor manual, taking all necessary precautions: safety or otherwise in accessing the lamp unit.
- 4** When the lamp has been replaced, tested and the access door has been secured re-install the rear monitor support bracket using the 3 screws removed earlier.

## 8-3-2 Signboard Assy

(1) Replacing the fluorescent/glow lamp - To be conducted by a technician only -

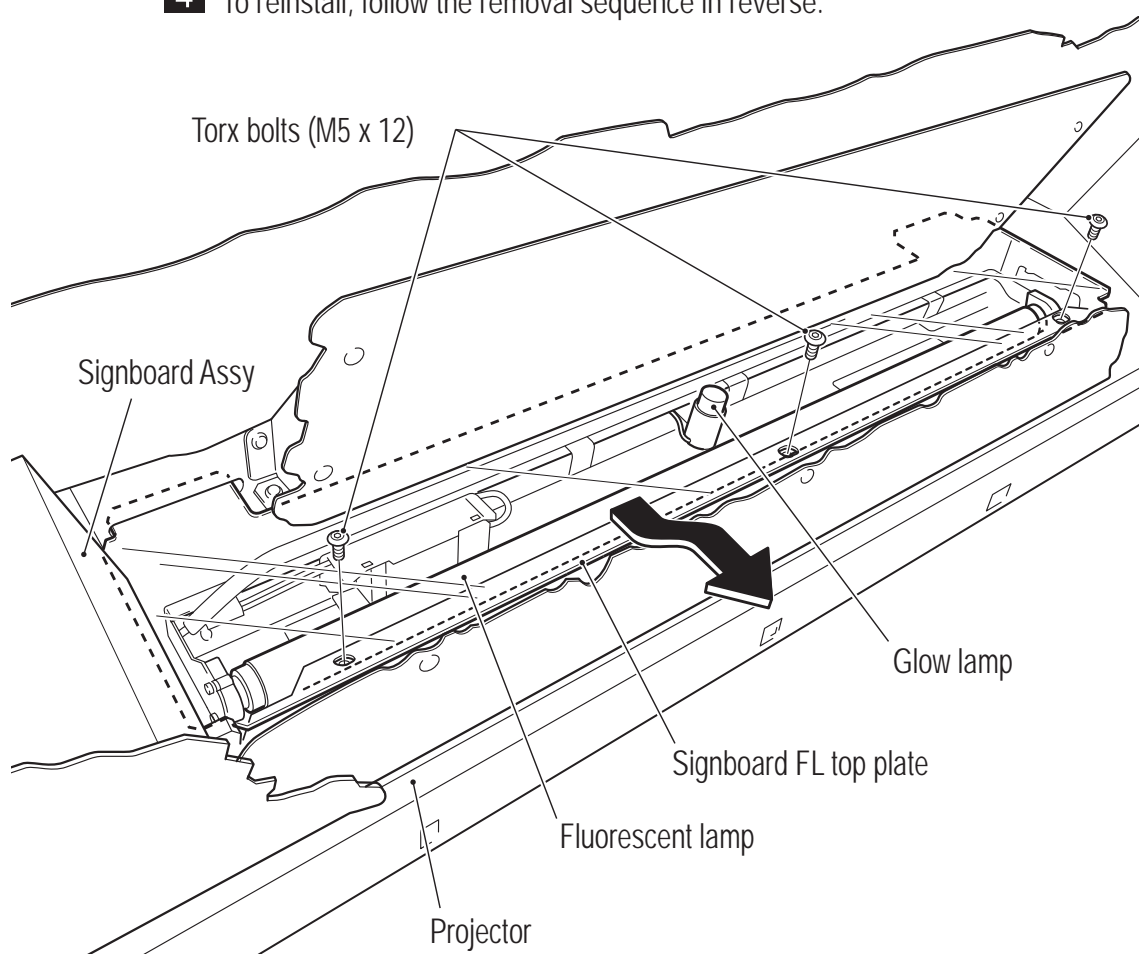
### **! WARNING**

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.

### **! CAUTION**

- The fluorescent lamp becomes hot. Be careful not to get burned when removing.
- Since the replacement of the fluorescent lamp or glow lamp must be conducted at a height, exercise caution.

- 1 Turn off the power switch.
- 2 Remove the three Torx bolts (M5 x 12) and dismount the signboard FL top plate.
- 3 Replace the fluorescent lamp (30W) and/or glow lamp (FG-4P).
- 4 To reinstall, follow the removal sequence in reverse.



### 8-3-3 Control Assy

(1) Replacing the illuminated switch/LED - To be conducted by a technician only -

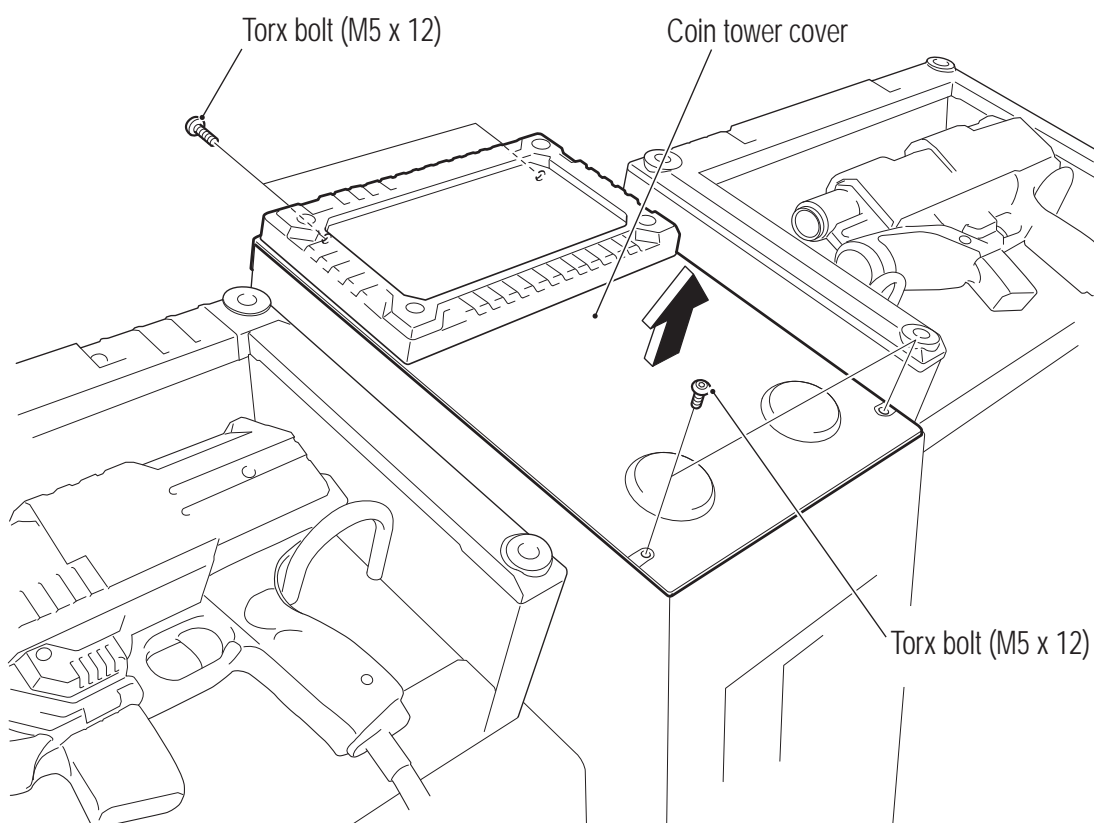
#### WARNING

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.

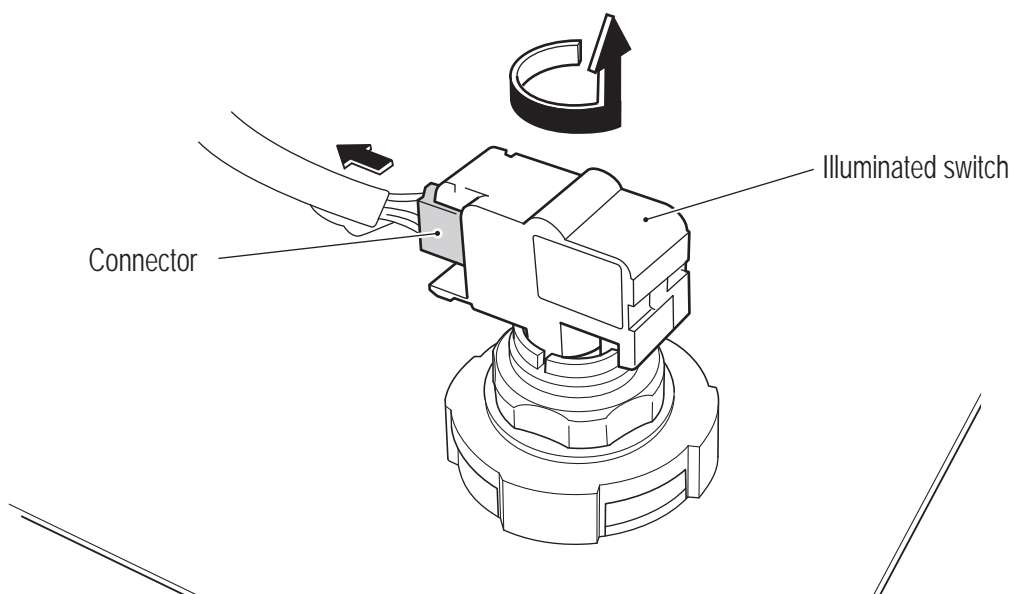
#### NOTICE

- To prevent damage to electrical circuits due to incorrect connector connection, check the direction and shape of the connector carefully when connecting.

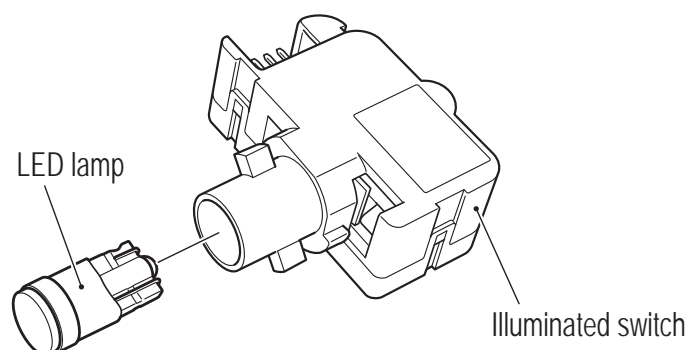
- 1** Turn off the power switch.
- 2** Remove the four Torx bolts (M5 x 12) and dismount the coin tower cover, then turn it over.



- 3** Disconnect the connector from the illuminated switch to be replaced, and turn the illuminated switch to the left to remove.



- 4** Pull out the LED lamp from the illuminated switch.



- 5** Replace the illuminated switch or LED lamp, and reinstall the switch by following the removal sequence in reverse. During the installation, make sure that the red connector is located at the position where a red sticker is adhered on the control panel.



- Be careful not to pinch connectors or harnesses during installation.
- **After the replacement, be sure to confirm that the illuminated switch operates and the LED lamp lights up. (See P. 54 "74-4 (c) SWITCH TEST.")**

## (2) Replacing the LED-Edge PC Board - To be conducted by a technician only -

\* The following describes the procedures to remove and reinstall parts on the (L) side. The parts on the (R) side can be removed and reinstalled by following the same procedures.

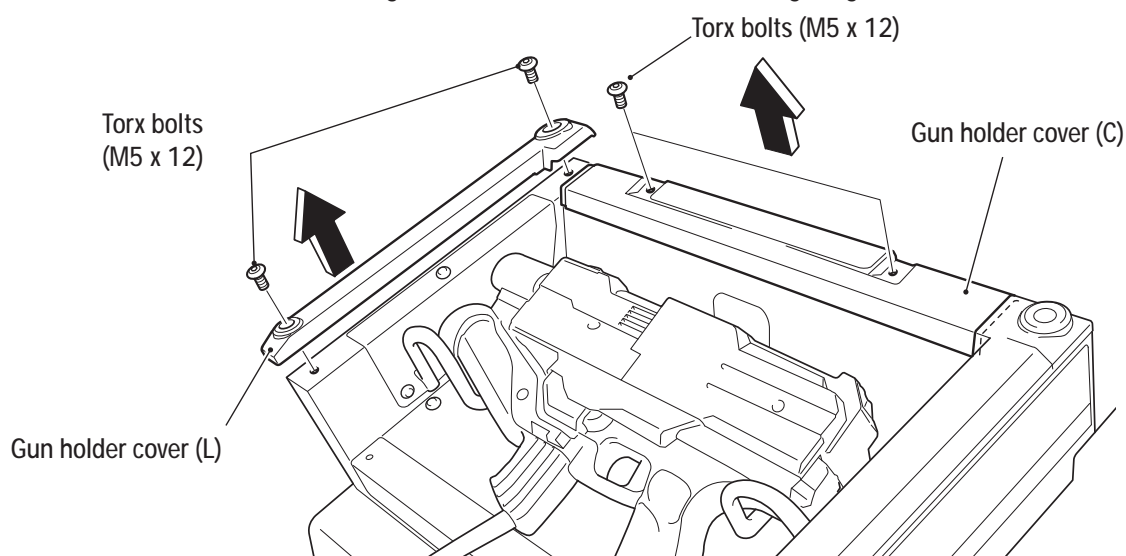
### ! WARNING

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.

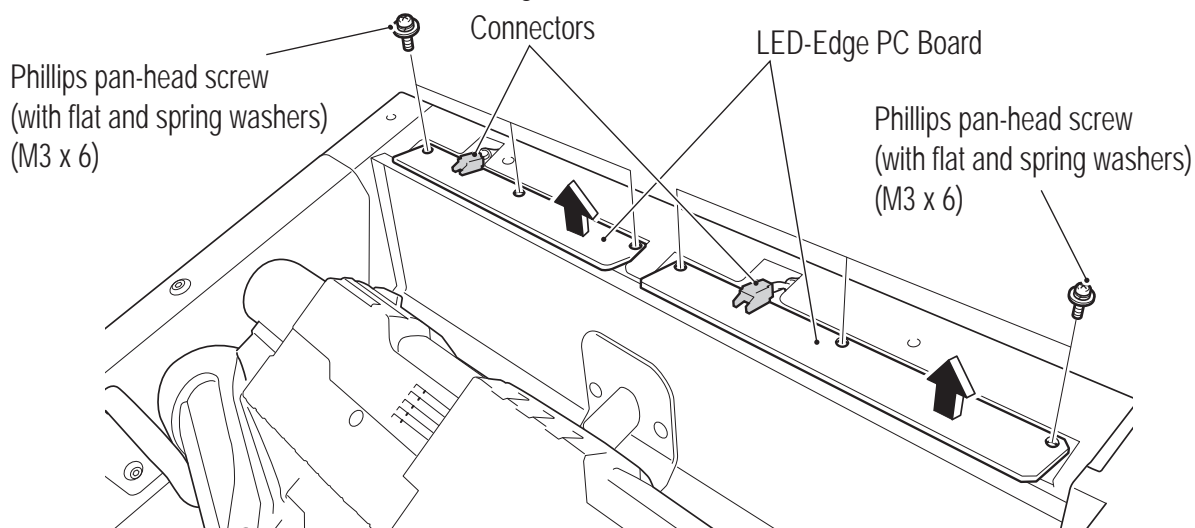
### NOTICE

- To prevent damage to electrical circuits due to incorrect connector connection, check the direction and shape of the connector carefully when connecting.

- 1 Turn off the power switch.
- 2 Replace the upper LED-Edge PC Boards according to the following directions. Remove the four Torx bolts (M5 x 12) in total and dismount the gun holder cover (L) or (R) and the gun holder cover (C). (The following diagram shows the (L) side.)

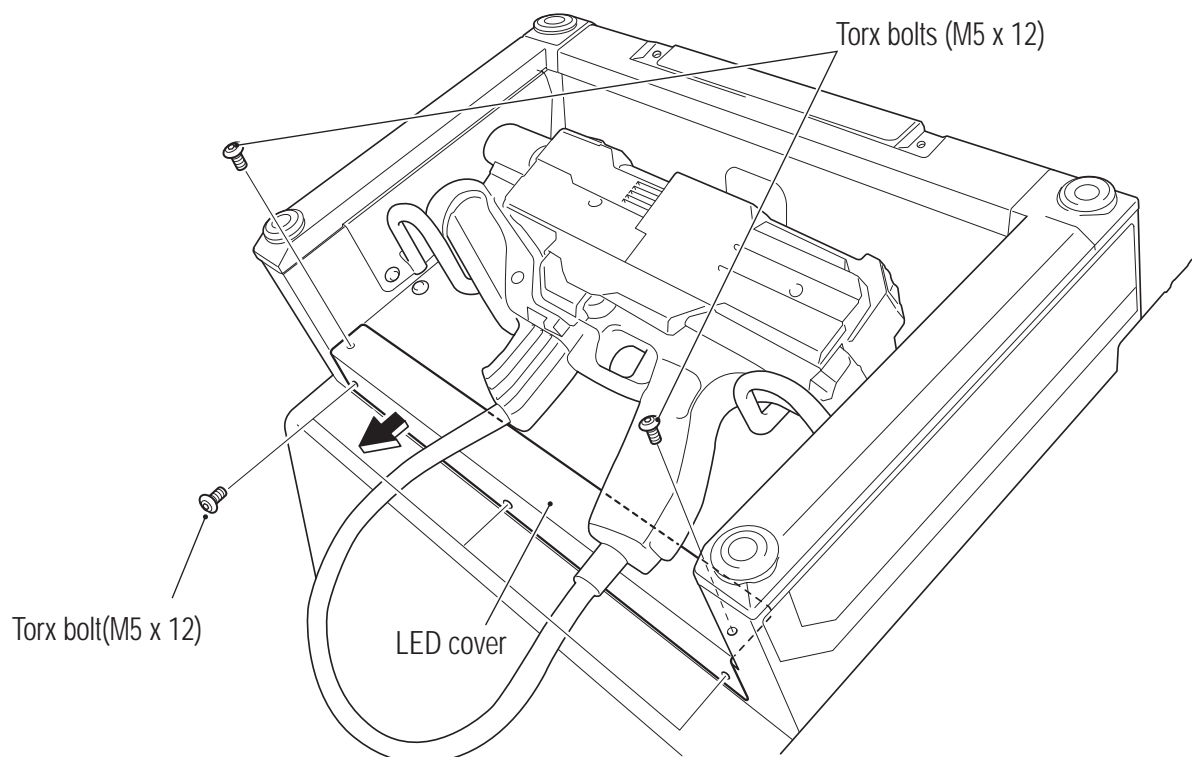


- 3 Remove the three Phillips pan-head bolts (with flat and spring washers (M3 x 6), dismount each LED-Edge PC Board, and disconnect the connector.

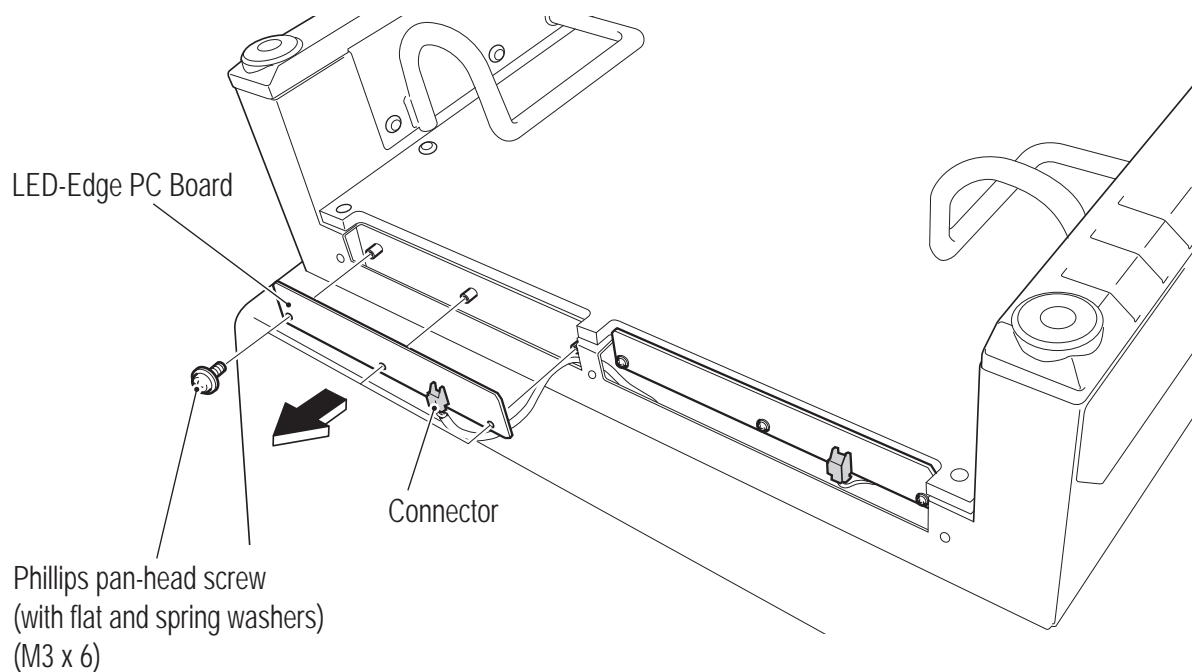


- 4 To reinstall, follow the removal sequence in reverse.

- 5** Replace the lower LED-Edge PC Boards according to the following directions. Remove the three Torx bolts (M5 x 12) and two Torx bolts (M5 x 20), and dismount the LED cover.



- 6** Remove the three Phillips pan-head screws (with flat and spring washers) (M3 x 6), dismount each LED-Edge PC Board, and disconnect the connector.



- 7** To reinstall, follow the removal sequence in reverse.

## (3) Replacing the CPU Board - To be conducted by a technician only -

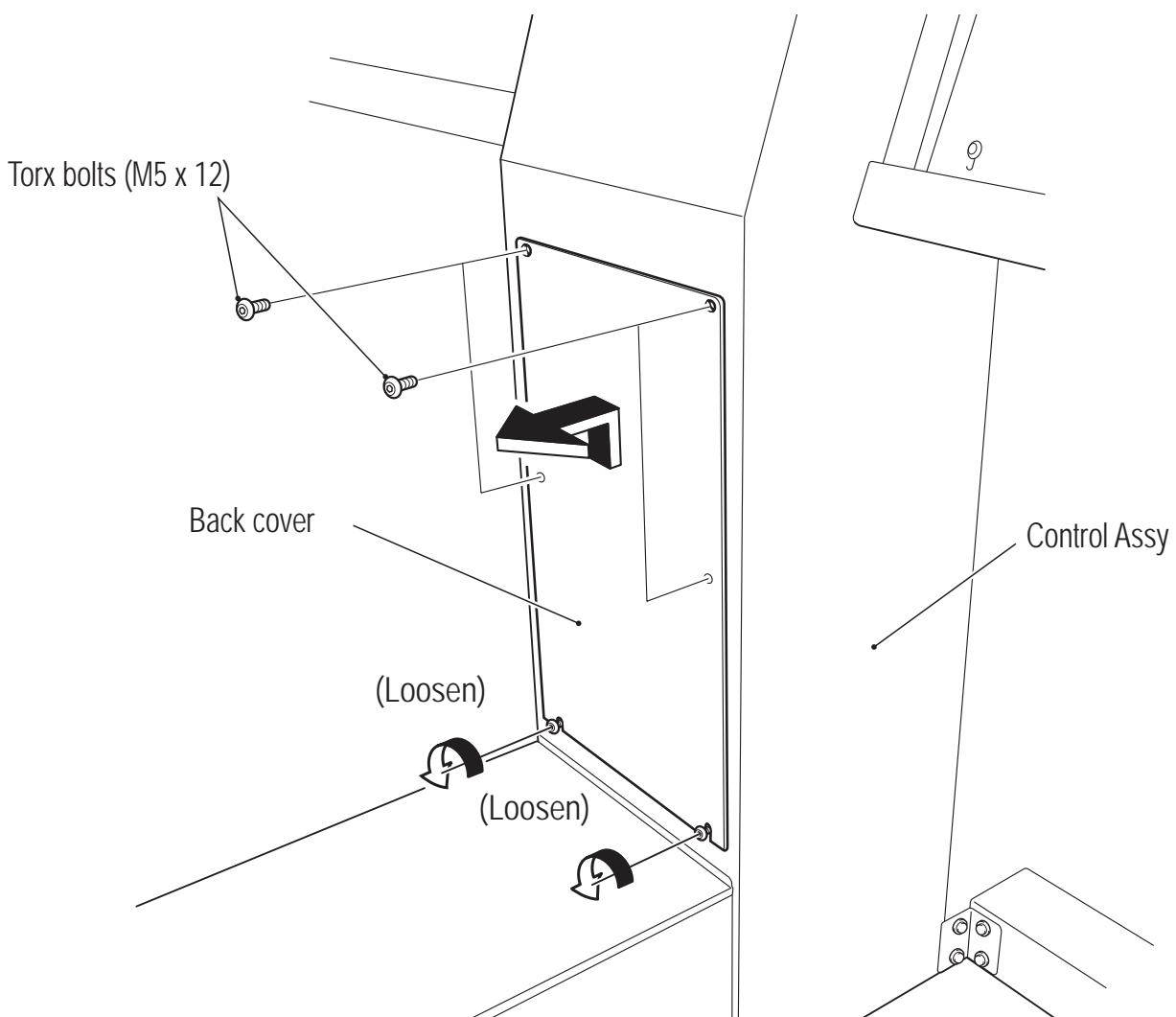
**! WARNING**

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.

**NOTICE**

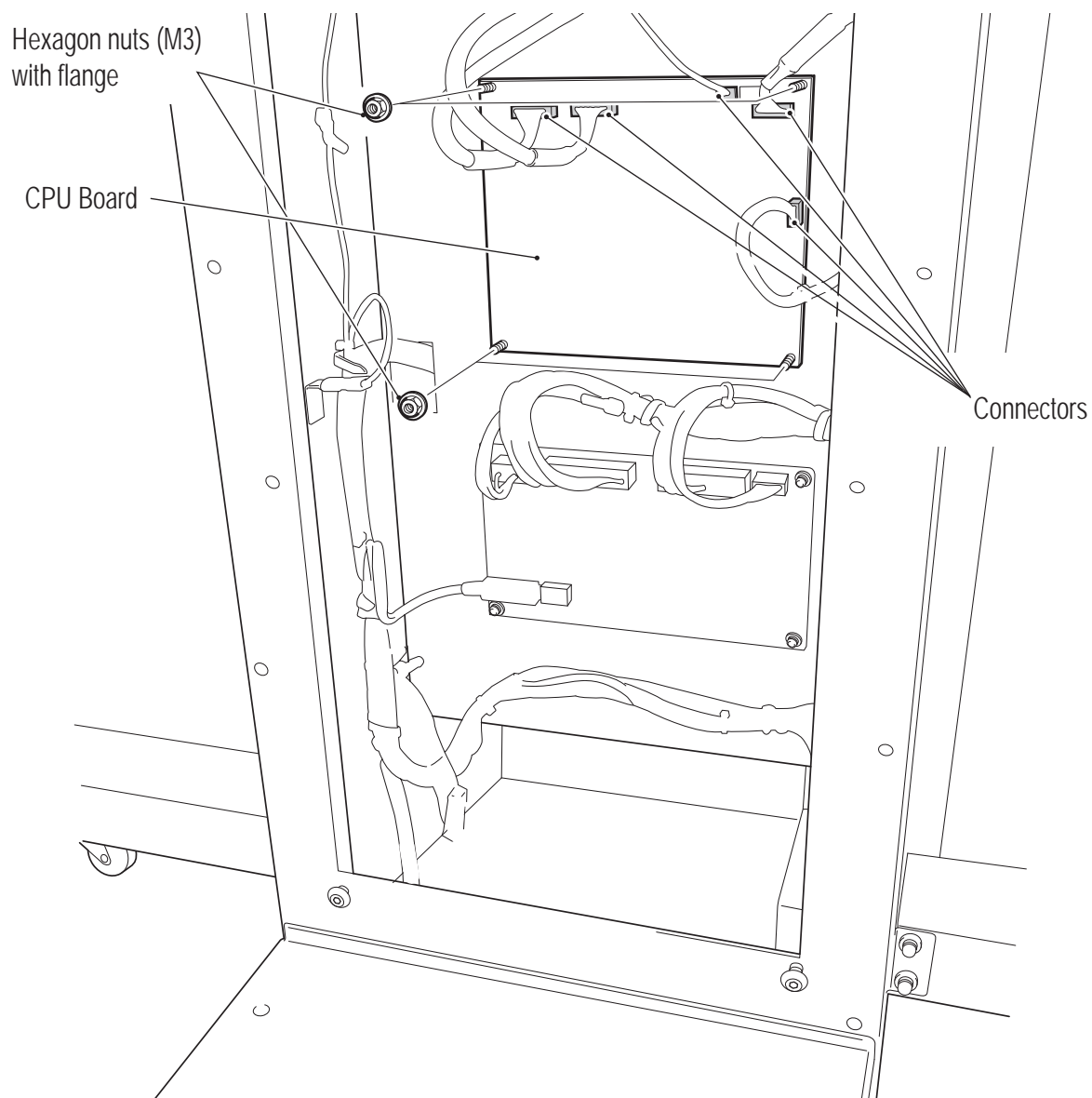
- To prevent damage to electrical circuits due to incorrect connector connection, check the direction of the connector carefully when connecting.
- The PC board can be easily damaged by static electricity. If the PC board is handled by a person charged with static electricity, parts mounted on the PC board can become damaged. Before touching the PC board, be sure to remove static electricity from your body by touching a grounded metal.

- 1** Turn off the power switch.
- 2** Loosen the bottom two Torx bolts (M5 x 12) and remove the top four bolts, then dismount the back cover.





- 3** Disconnect the five connectors, remove the four hexagon nuts (M3) with flange, then take out the CPU Board.



- 4** To reinstall, follow the removal sequence in reverse.



- Be sure to adjust the aim of the Gun Assys after completing the replacement work. (See P. 51 "7-4-4 (b) GUN INITIALIZE 1P-2P (Gun Assy aim setting 1P-2P).")

## (4) Replacing the USIO PC Board - To be conducted by a technician only -

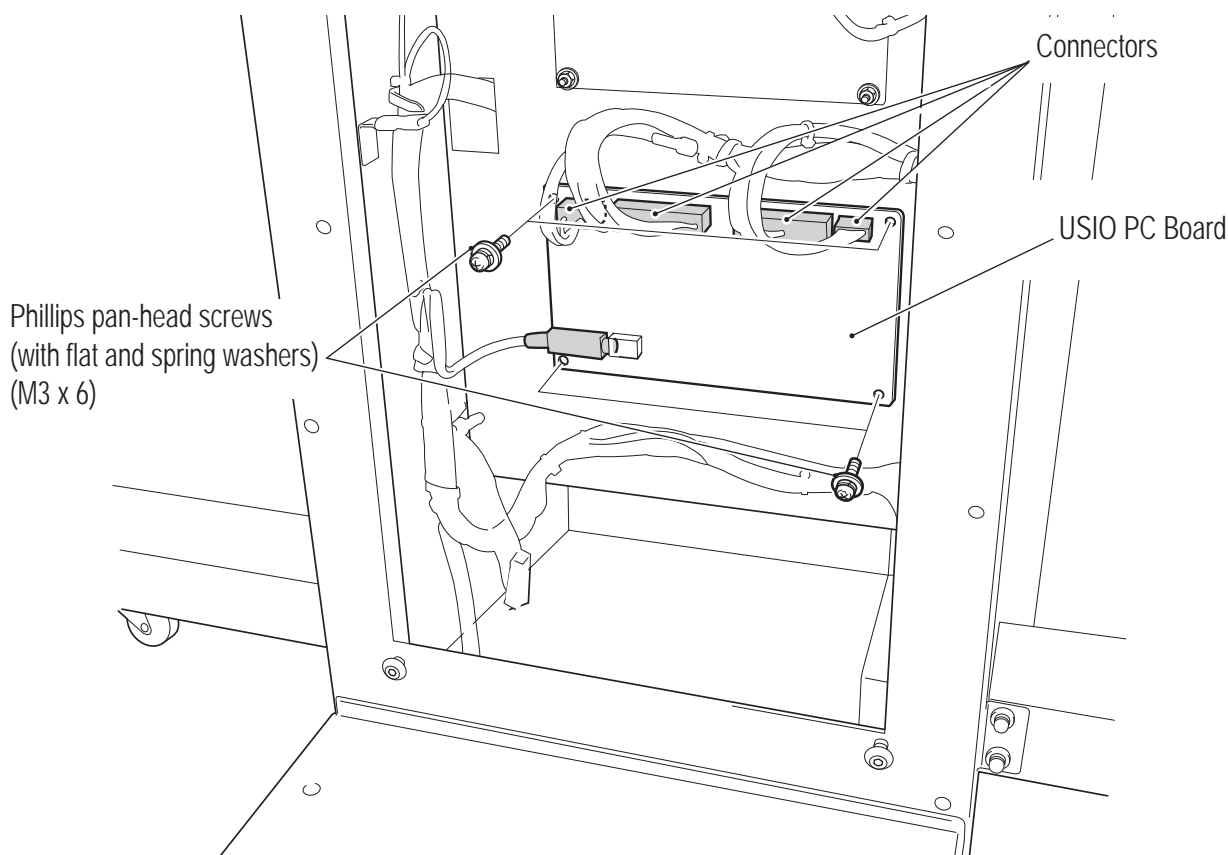
**! WARNING**

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.

**NOTICE**

- To prevent damage to electrical circuits due to incorrect connector connection, check the direction of the connector carefully when connecting.
- The PC board can be easily damaged by static electricity. If the PC board is handled by a person charged with static electricity, parts mounted on the PC board can become damaged. Before touching the PC board, be sure to remove static electricity from you body by touching a grounded metal.

- 1** Turn off the power switch.
- 2** Dismount the back cover. (See P. 92 "8-3-3 (3) Replacing the CPU Board" **2**.)
- 3** Disconnect the four connectors, remove the three Phillips pan-head screws (with flat and spring washers) (M3 x 6), then dismount the USIO PC Board.
- 4** To reinstall, follow the removal sequence in reverse.

**NOTICE**

- Be sure to adjust the aim of the Gun Assys after completing the replacement work. (See P. 51 "7-4-4 (b) GUN INITIALIZE 1P-2P (Gun Assy aim setting 1P-2P).")

## (5) Replacing the backup battery for the USIO PC Board - To be conducted by a technician only -

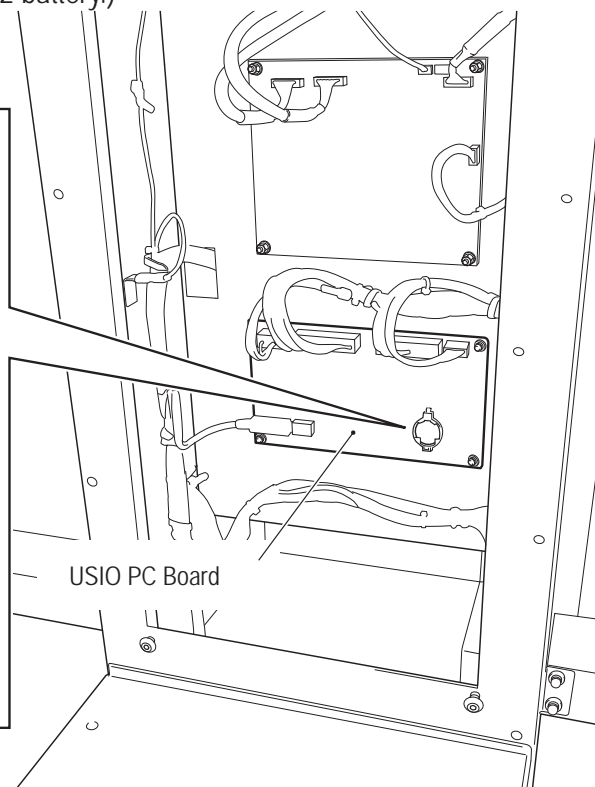
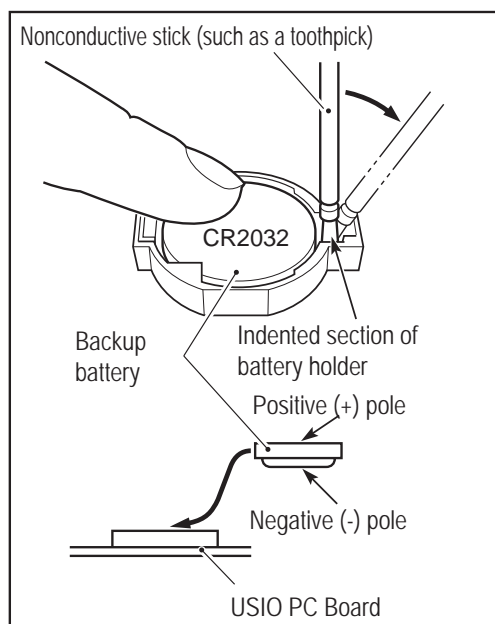
**! WARNING**

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.
- **Use the specified backup battery (lithium battery) and be sure to install it correctly. Use of incorrect battery type or improper installation of backup battery can cause the battery to catch a fire or explode.**

**NOTICE**

- The PC board can be easily damaged by static electricity. If the PC board is handled by a person charged with static electricity, parts mounted on the PC board can become damaged. Before touching the PC board, be sure to remove static electricity from your body by touching a grounded metal.
- When disposing of lithium batteries, insulate the positive (+) and negative (-) terminals of each battery by wrapping tape. If the exposed terminals of a battery contact a metal or another battery, a fire or explosion may result.

- 1** Dismount the USIO PC Board. (See P. 94 "8-3-3 (4) Replacing the USIO PC Board.")
- 2** Place the USIO PC Board on a flat surface such as on a desk.
- 3** Insert a nonconductive stick (such as a toothpick) into the indented section of the battery holder and use it as a leverage to remove the backup battery. When performing this, place a finger over the backup battery to prevent it from popping out suddenly. (Use the CR2032 battery.)



- 4** To reinstall, follow the removal sequence in reverse.

**NOTICE**

- Be sure to conduct an operation check after the described work is completed. (See P. 49 "7-4-4 Switch input/output tests (I/O TEST)")

## (6) Replacing the GUN DRIVE PC Board - To be conducted by a technician only -

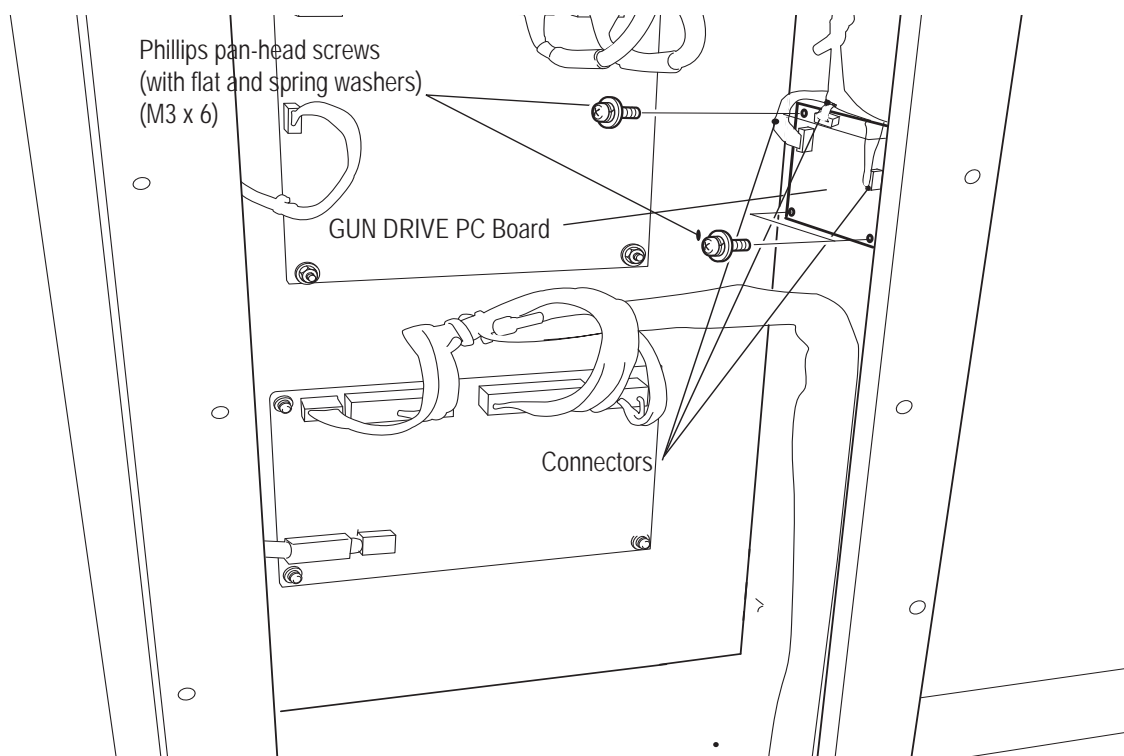
**⚠ WARNING**

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.

**NOTICE**

- To prevent damage to electrical circuits due to incorrect connector connection, check the direction of the connector carefully when connecting.
- The PC board can be easily damaged by static electricity. If the PC board is handled by a person charged with static electricity, parts mounted on the PC board can become damaged. Before touching the PC board, be sure to remove static electricity from your body by touching a grounded metal.

- 1 Turn off the power switch.
- 2 Dismount the back cover. (See P. 92 "8-3-3 (3) Replacing the CPU Board" **2**.)
- 3 Disconnect the two connectors, remove the three Phillips pan-head screws (with flat and spring washers) (M3 x 6), then dismount the GUN DRIVE PC Board.
- 4 To reinstall, follow the removal sequence in reverse.

**NOTICE**

- Be sure to adjust the aim of the Gun Assys after completing the replacement work. (See P. 51 "7-4-4 (b) GUN INITIALIZE 1P-2P (Gun Assy aim setting 1P-2P).")

## 8-3-4 Gun Assy

(1) Replacing the Gun Assy - To be conducted by a technician only -

\* The following describes the procedures to remove and reinstall parts on the (L) side.  
The parts on the (R) side can be removed and reinstalled by following the same procedures.

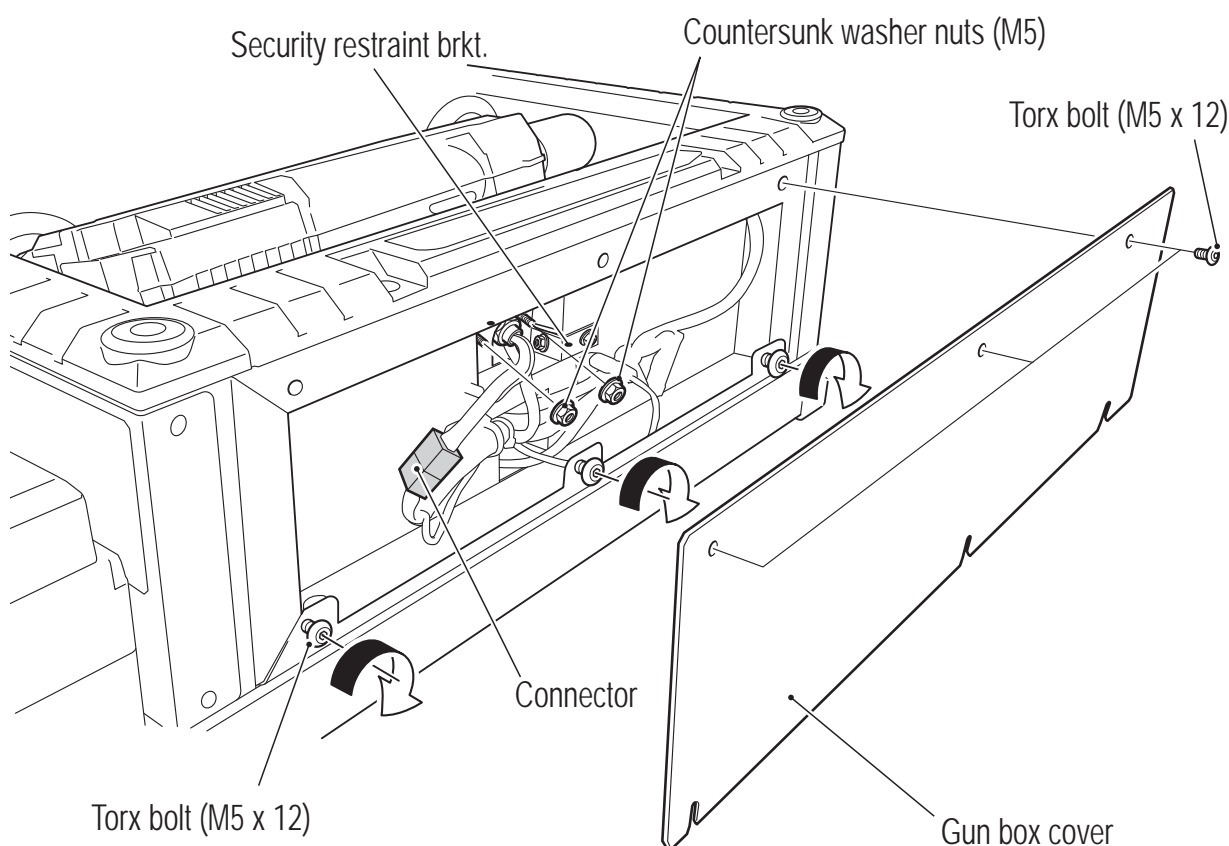
### WARNING

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.

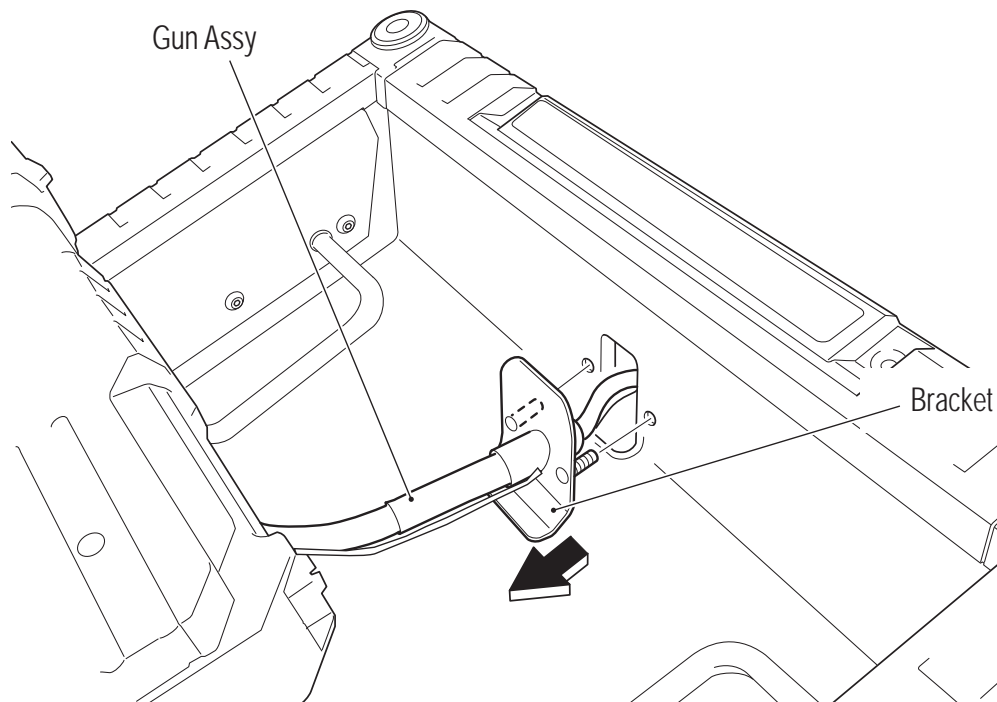
### NOTICE

- To prevent damage to electrical circuits due to incorrect connector connection, check the direction of the connector carefully when connecting.

- 1** Turn off the power switch.
- 2** Dismount the gun box cover from the rear side of the Control Assy by loosening the bottom three Torx bolts (M5 x 12) and removing the top three bolts.
- 3** Disconnect the connector and remove the two countersunk washer nuts (M5) and release the security restraint bracket by removing the nut securing it to the cabinet .



- 4** From the front side of the machine, remove the Gun Assy together with the bracket.



- 5** To reinstall, follow the removal sequence in reverse.



- Be sure to conduct the operation check after replacing the Gun Assys. (See P. 49 "7-4-4 Switch input/output tests (I/O TEST)" and P. 51 "7-4-4 (b) GUN INITIALIZE 1P-2P (Gun Assy aim setting 1P-2P).")

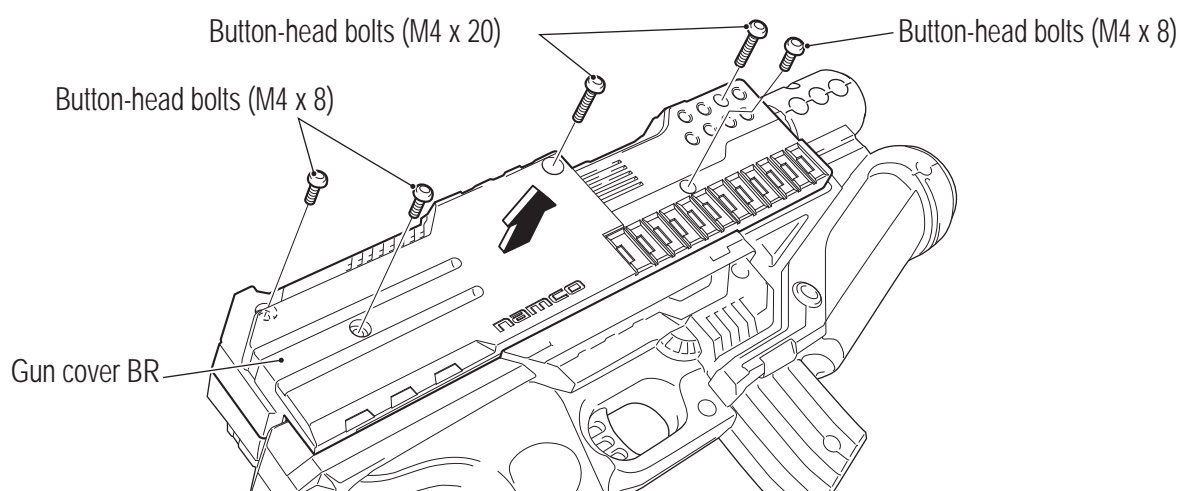
## (2) Replacing gun cover B - To be conducted by a technician only -

**! WARNING**

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.

## I How to remove gun cover BR

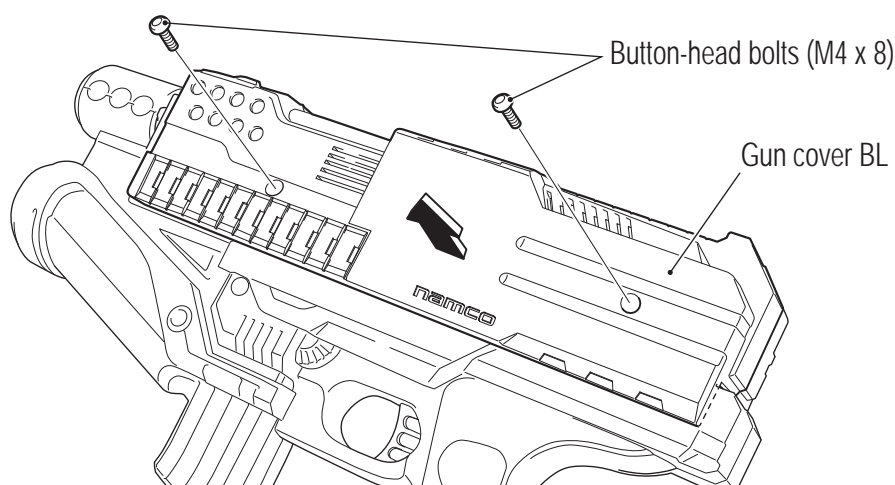
- 1** Turn off the power switch.
- 2** Remove the three button-head bolts (M4 x 8) and two button-head bolts (M4 x 20), then dismount gun cover BR.



- 3** To reinstall, follow the removal sequence in reverse.

## ● How to remove gun cover BL

- 1** Turn off the power switch.
- 2** Remove the two button-head bolts (M4 x 8) and dismount gun cover BL.



- 3** To reinstall, follow the removal sequence in reverse.



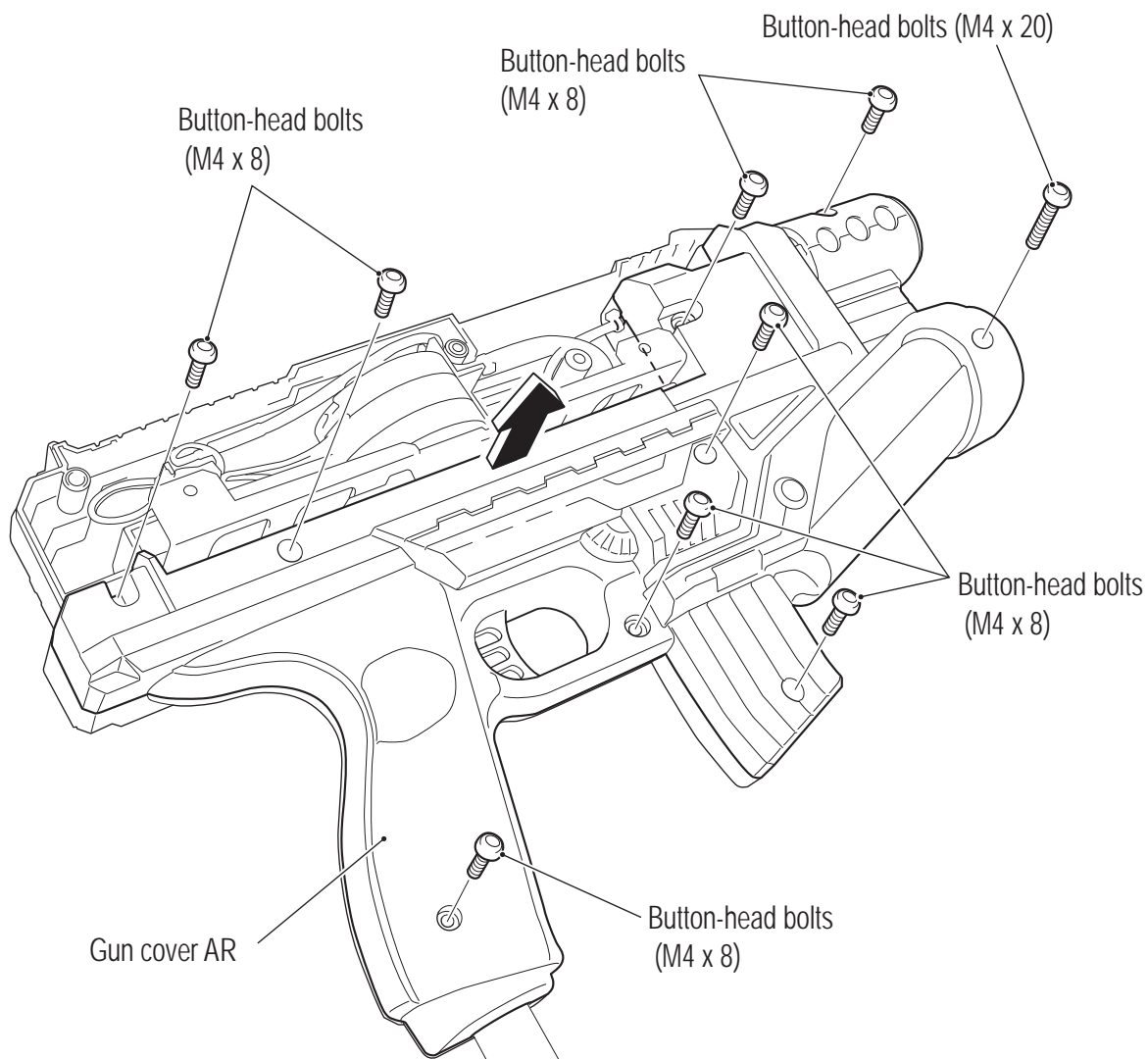
- Check the Gun Harness 2 Assy installation method carefully during the installation. (See P. 108 "8-3-4 (10) Replacing the Gun Harness 2 Assy.")

## (3) Replacing gun cover A - To be conducted by a technician only -

**! WARNING**

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.

- 1** Turn off the power switch.
- 2** Dismount gun cover BR. (See P. 99 "8-3-4 (2) Replacing gun cover B ? How to remove gun cover BR" **2**.)
- 3** Remove the eight button-head bolts (M4 x 8) and one button-head bolt (M4 x 20), then dismount gun cover AR.



- 4** To reinstall, follow the removal sequence in reverse.



## (4) Replacing the light receiving unit - To be conducted by a technician only -

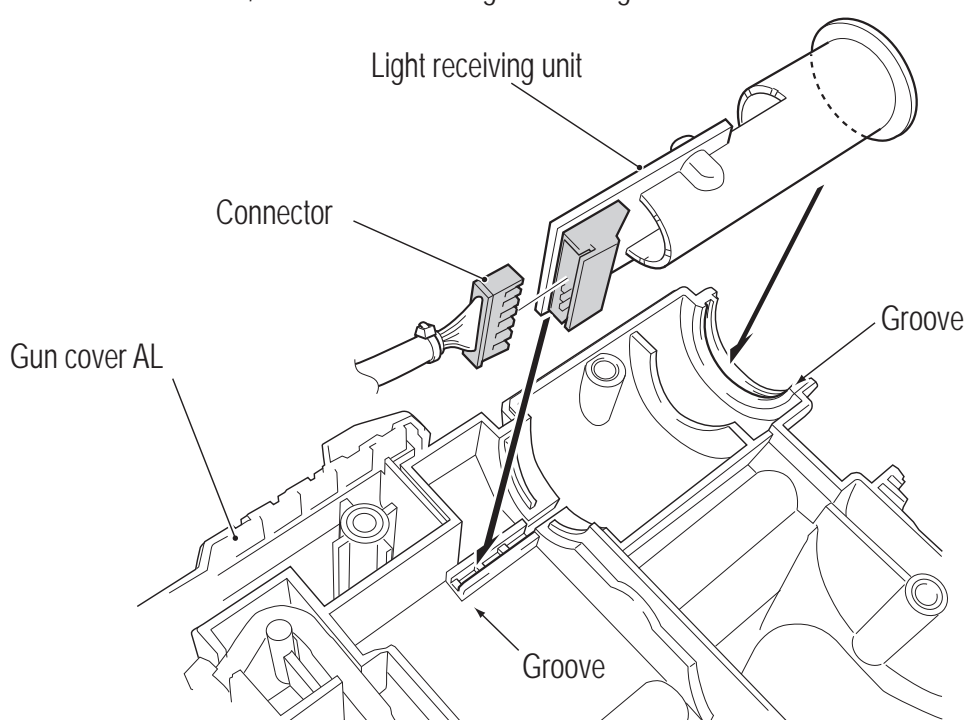
**! WARNING**

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.

**NOTICE**

- Be sure to turn off the power switch before disconnecting the connector of the light receiving unit. If the connector is disconnected while the power is ON, damage will occur in the receiving unit.
- The light receiving unit can be easily damaged by static electricity. If the light receiving unit is handled by a person charged with static electricity, parts in the light receiving unit can become damaged. Before touching the light receiving unit, be sure to remove static electricity from your body by touching a grounded metal.
- Never disassemble the light receiving unit. Do not touch the knob on the light receiving unit. Disassembling the unit or touching the knob can result in a malfunction.
- Check the direction and shape of the connector carefully in order to prevent damage to electrical circuits due to incorrect connector connection.

- 1 Turn off the power switch.
- 2 Dismount gun cover AR. (See P. 100 "8-3-4 (3) Replacing gun cover A.")
- 3 Detach the light receiving unit from the grooves on the gun body, disconnect the connector, and dismount the light receiving unit.



- 4 To reinstall, follow the removal sequence in reverse.

**NOTICE**

- After replacing the light receiving unit, be sure to adjust the Gun Assy aim. (See P. 51 "7-4-4 (b) GUN INITIALIZE 1P-2P (Gun Assy aim setting 1P-2P).")

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(5) Replacing the microswitch - To be conducted by a technician only -

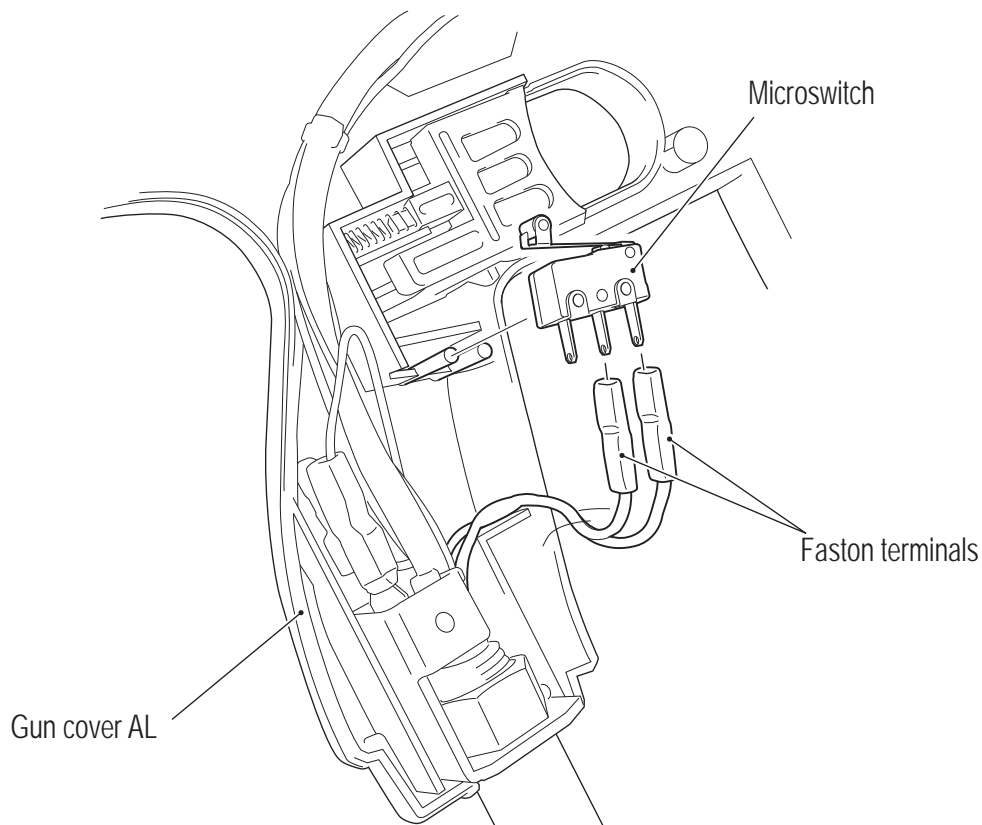
**⚠ WARNING**

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.

**NOTICE**

- To prevent damage to electrical circuits due to incorrect connector connection, check the direction and shape of the connector carefully when connecting.

- 1** Turn off the power switch.
- 2** Dismount gun cover AR. (See P. 100 "8-3-4 (3) Replacing gun cover A.")
- 3** Disconnect the two Faston terminals and replace the microswitch.



- 4** To reinstall, follow the removal sequence in reverse.

**NOTICE**

- Be sure to conduct an operation check after replacing the microswitch. (See P. 54 "7-4-4 (c) SWITCH TEST.")

## (6) Replacing the vibrating unit - To be conducted by a technician only -

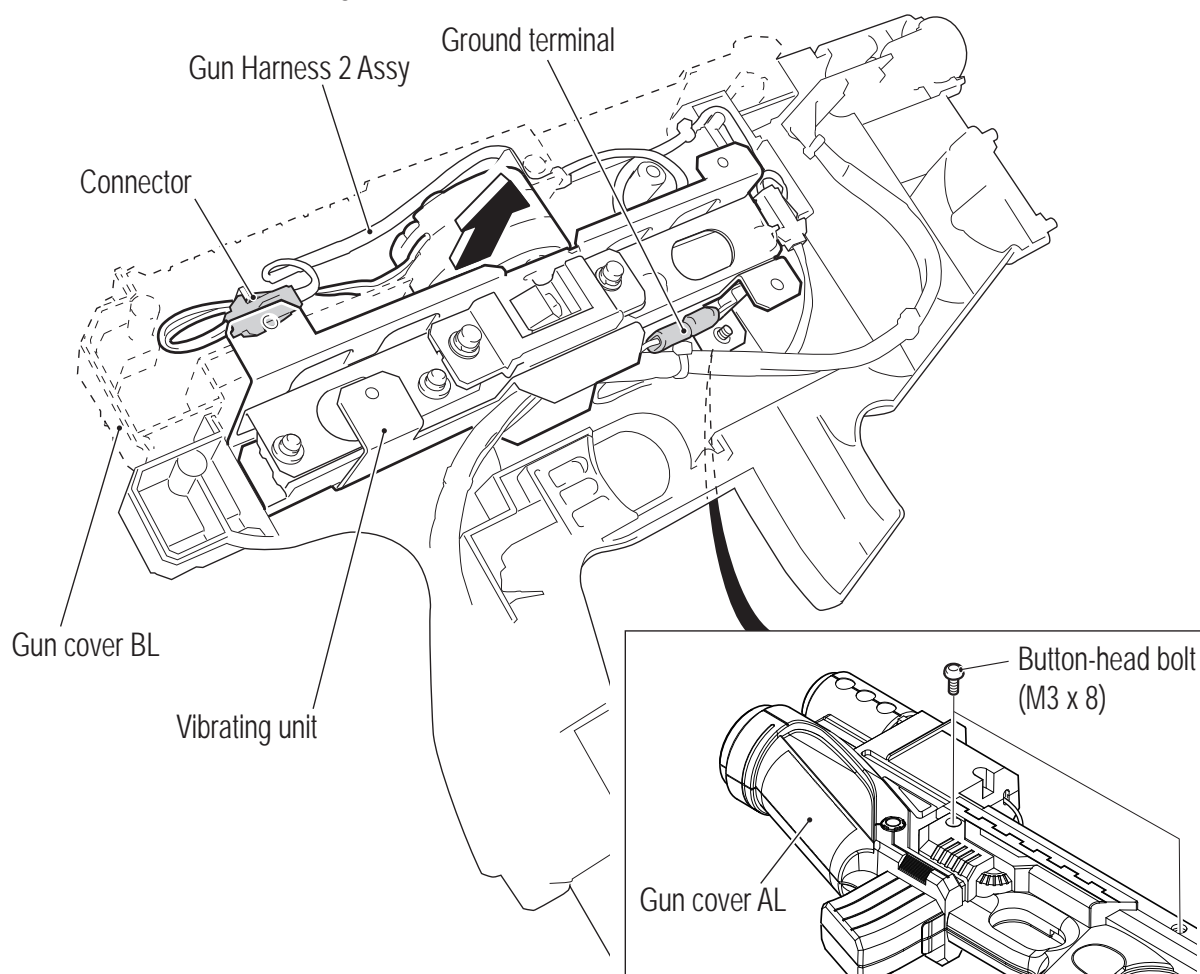
**! WARNING**

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.

**NOTICE**

- To prevent damage to electrical circuits due to incorrect connector connection, check the direction and shape of the connector carefully when connecting.

- 1 Turn off the power switch.
- 2 Dismount gun cover AR. (See P. 100 "8-3-4 (3) Replacing gun cover A.")
- 3 Disconnect the connector and ground terminal, remove the two button-head bolts (M4 x 8), then dismount gun cover BL. (See P. 99 "8-3-4 (2) Replacing the gun cover B **2** .")
- 4 Remove the two button-head bolts (M4 x 8) from gun cover AL and dismount the vibrating unit.



- 5 To reinstall, follow the removal sequence in reverse.

**NOTICE**

- Be sure to conduct an operation check after replacing the solenoid. (See P. 55 "7-4-4 (d) SOLENOID TEST.")

## (7) Replacing the rotary solenoid - To be conducted by a technician only -

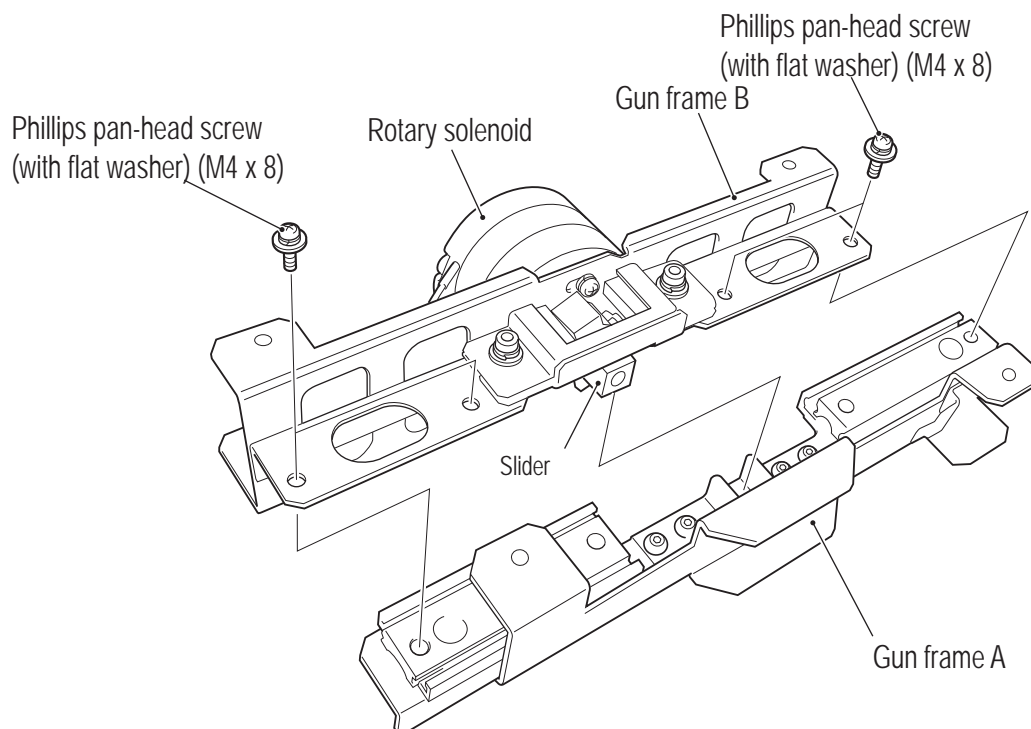
**⚠ WARNING**

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.

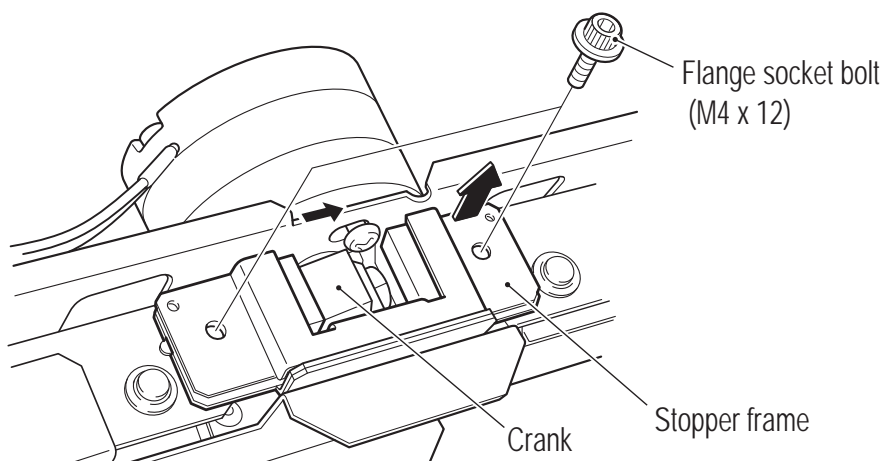
**NOTICE**

- To prevent damage to electrical circuits due to incorrect connector connection, check the direction and shape of the connector carefully when connecting.

- 1 Turn off the power switch.
- 2 Dismount the vibrating unit. (See P. 103 “8-3-4 (6) Replacing the vibrating unit.”)
- 3 Remove the four Phillips pan-head screws (with flat and spring washers) (M4 x 8), pull out the slider, then dismount gun frame A.

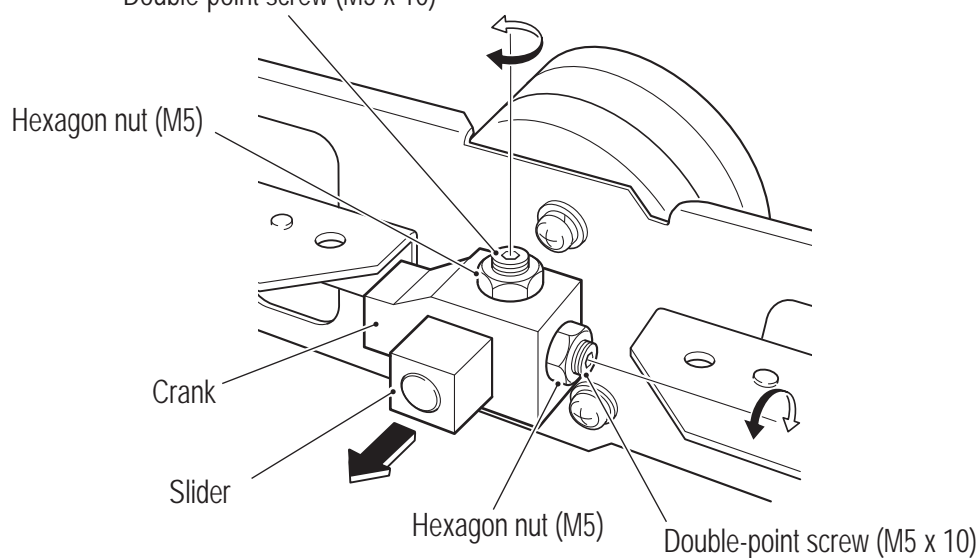


- 4 Remove the four flange socket bolts (M4 x 12) and dismount the stopper frame.



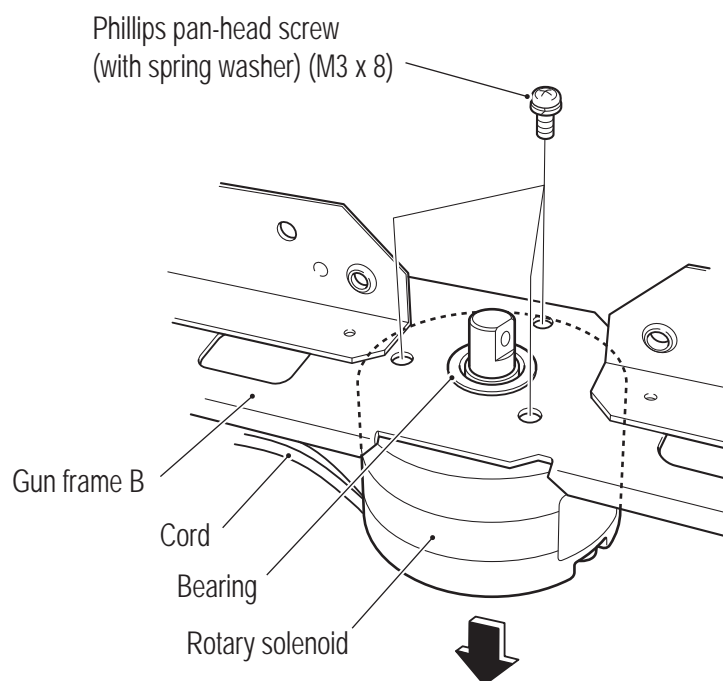
- 5** Loosen the two hexagon nuts (M5) on the crank, then loosen the two double-point screws (M5 x 10) and dismount the crank.

- 6** Turn over gun frame B, remove the three Phillips pan-head screws (with spring washer) (M3 x 8)



washer) (M4 x 8), then dismount the rotary solenoid.

- 7** To reinstall, follow the removal sequence in reverse.



- Check the direction of the rotary solenoid carefully when installing.
- Be sure to conduct an operation check after replacing the solenoid. (See P. 55 "7-4-4 (d) SOLENOID TEST.")

(8) Replacing the slider - To be conducted by a technician only -

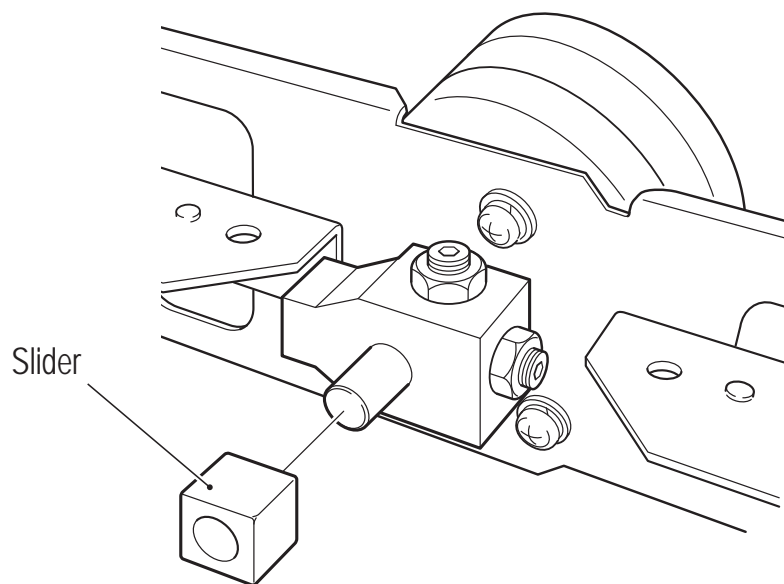
**! WARNING**

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.

**NOTICE**

- To prevent damage to electrical circuits due to incorrect connector connection, check the direction and shape of the connector carefully when connecting.

- 1** Turn off the power switch.
- 2** Dismount the vibrating unit and detach gun frame A. (See P. 103 "8-3-4 (7) Replacing the rotary solenoid" **1** through **3**.)



- 3** Install a new slider to gun frame A.

**NOTICE**

- Apply silicon grease (Shin-Etsu silicon G-40M) to the outside surface of the new slider and the inside hole surface when installing.

- 4** To reinstall, follow the removal sequence in reverse.

## (9) Replacing the stopper rubber - To be conducted by a technician only -

**! WARNING**

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.

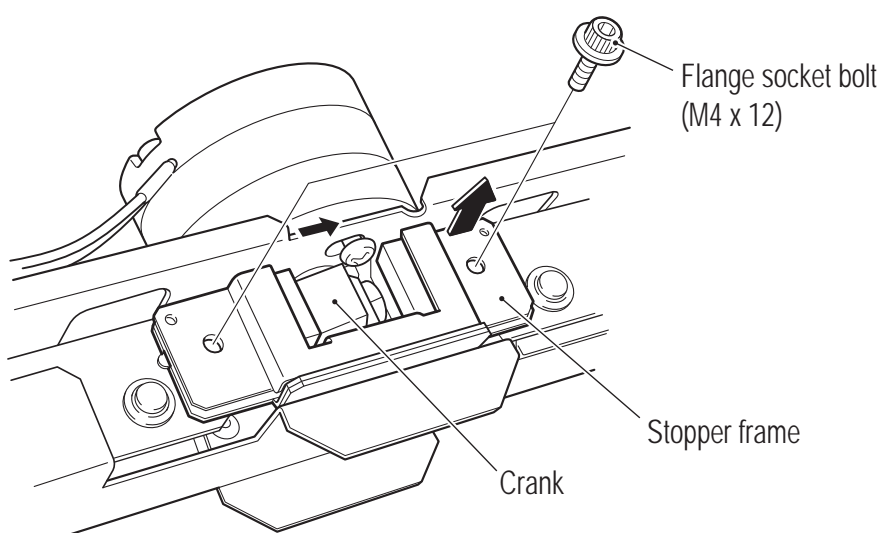
**NOTICE**

- To prevent damage to electrical circuits due to incorrect connector connection, check the direction and shape of the connector carefully when connecting.

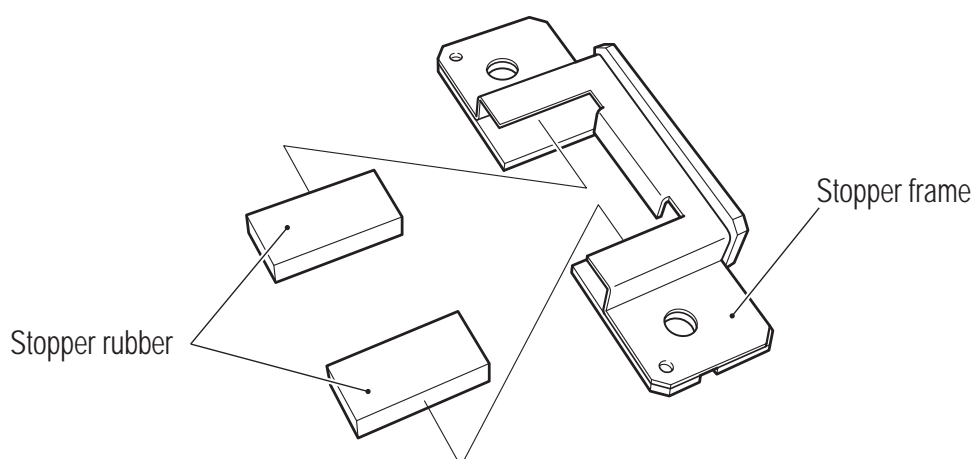
- 1 Turn off the power switch.
- 2 Dismount gun cover AR. (See P. 100 "8-3-4 (3) Replacing gun cover A.")
- 3 Remove the two flange socket bolts (M4 x 12) and dismount the stopper frame.

**NOTICE**

- Insert the crank into the stopper frame during the installation.



- 4 Take out the stopper rubber from the stopper frame and replace with new parts.



- 5 To reinstall, follow the removal sequence in reverse.

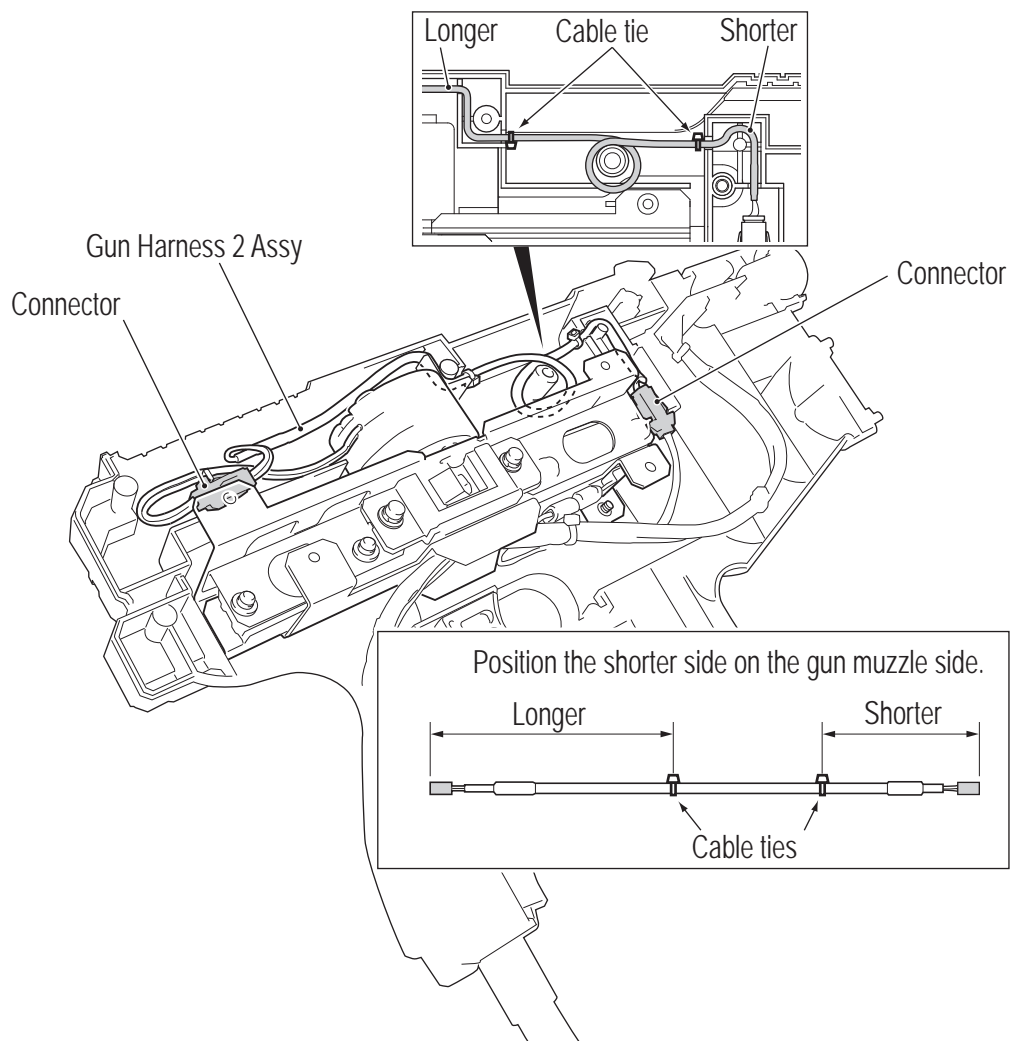
## (10) Replacing the Gun Harness 2 Assy - To be conducted by a technician only -

**! WARNING**

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.

**NOTICE**

- To prevent damage to electrical circuits due to incorrect connector connection, check the direction and shape of the connector carefully when connecting.
- 1 Turn off the power switch.
  - 2 Dismount gun cover AR. (See P. 100 "8-3-4 (3) Replacing gun cover A.")
  - 3 Disconnect the two connectors and replace the Gun Harness 2 Assy. In this process, position the side of the new relay harness with a shorter distance between the connector and cable tie on the gun muzzle side, and make a loop as shown in the diagram below.



- 4 To reinstall, follow the removal sequence in reverse.



## (11) Replacing the gun tube unit - To be conducted by a technician only -

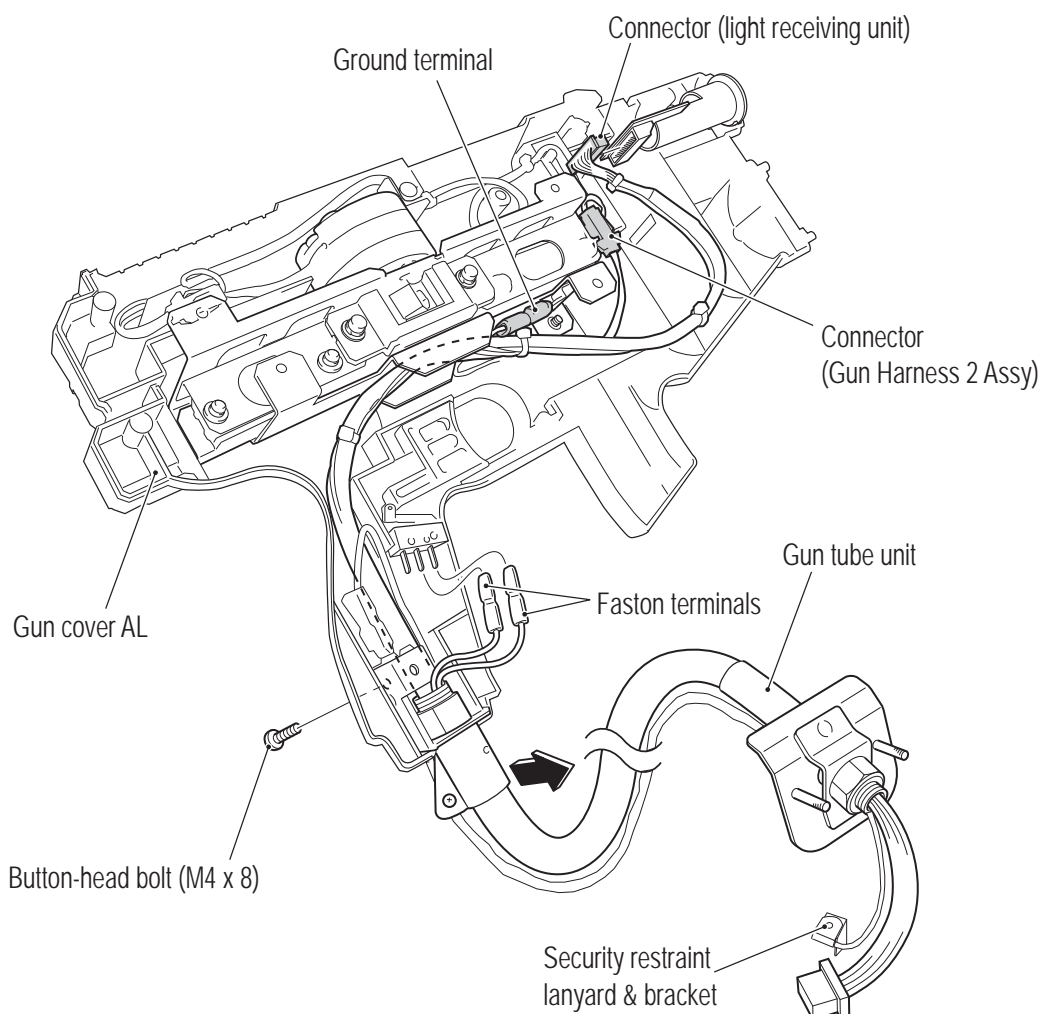
**! WARNING**

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.

**NOTICE**

- To prevent damage to electrical circuits due to incorrect connector connection, check the direction and shape of the connector carefully when connecting.

- 1 Turn off the power switch.
- 2 Dismount the Gun Assy. (See P. 97 "8-3-4 (1) Replacing the Gun Assy.")
- 3 Dismount gun cover AR. (See P. 100 "8-3-4 (3) Replacing gun cover A.")
- 4 Disconnect the two connectors, two Faston terminals, and one ground terminal, remove the button-head bolt (M4 x 8) from the gun cover AL side, then replace the gun tube unit.



- 5 To reinstall, follow the removal sequence in reverse.

**NOTICE**

- Be sure to conduct an operation check and settings check after the replacing the **Gun Harness Assy.** (See P. 49 "7-4-4 Switch input/output tests.")

### 8-3-5 Pedal Assy

(1) Replacing the photosensor - To be conducted by a technician only -

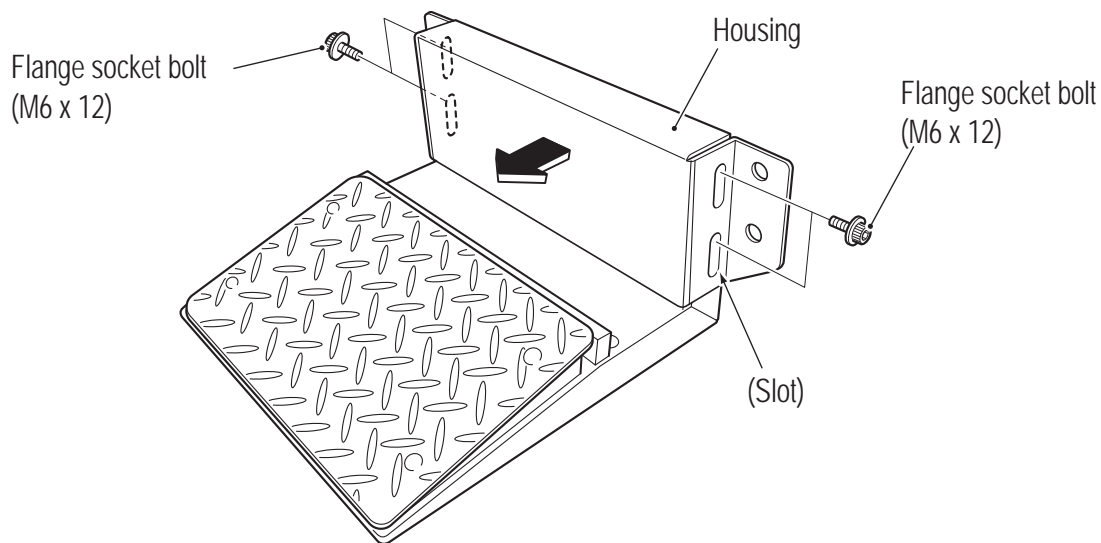
#### WARNING

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.

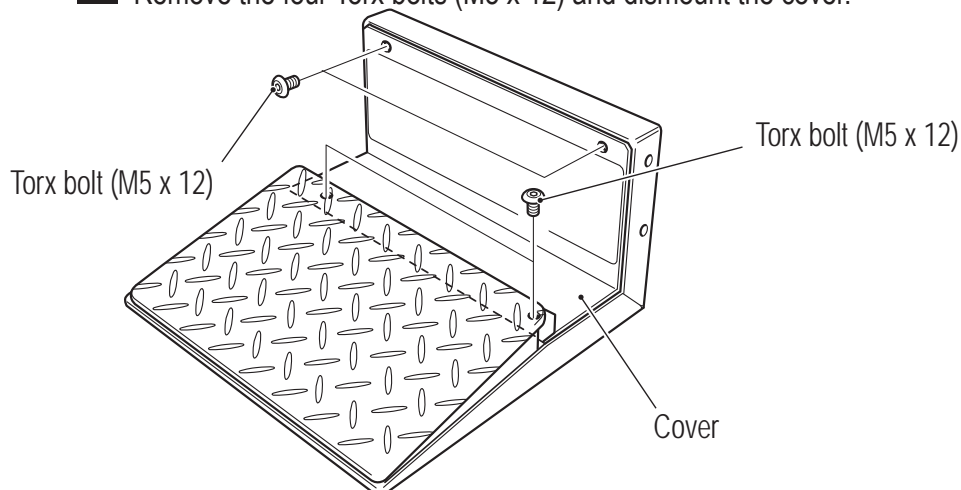
#### NOTICE

- To prevent damage to electrical circuits due to incorrect connector connection, check the direction and shape of the connector carefully when connecting.
- Be careful not to allow grease or dust to get on the photosensor.

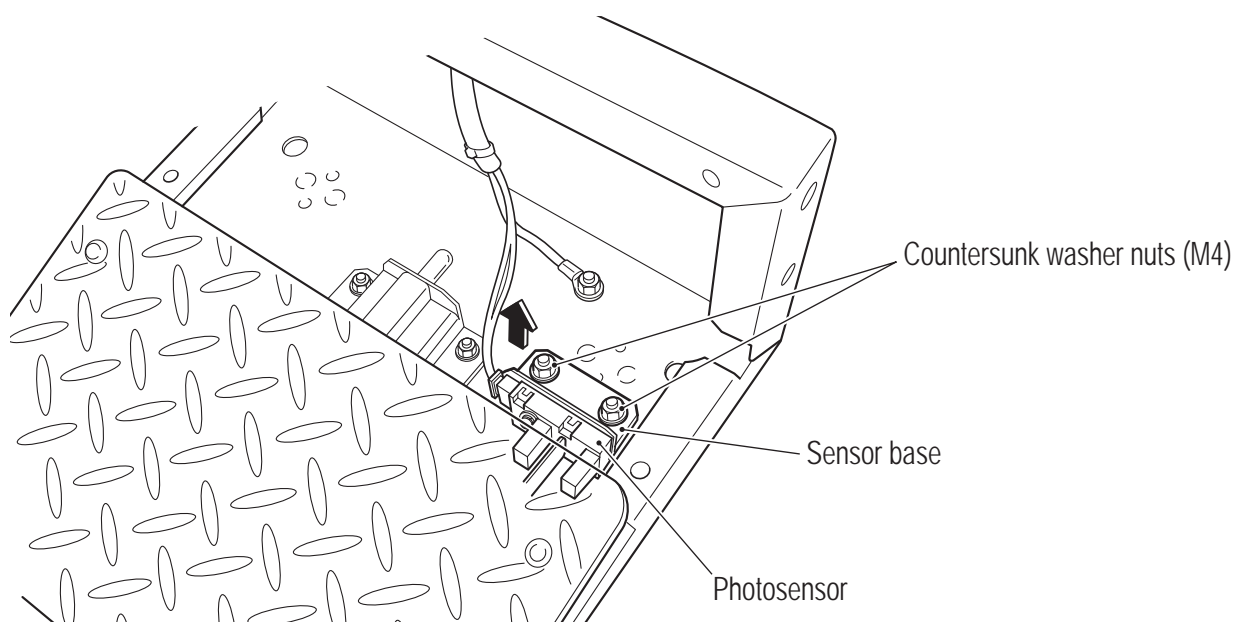
- 1** Turn off the power switch.
- 2** After confirming that the power switch is OFF, dismount the Pedal Assy from the Control Assy. (See P. 71 "8-1-2 (1) Supplying grease to the plungers in the Pedal Assys.")
- 3** Remove the four flange socket bolts (M6 x 12) and dismount the housing.



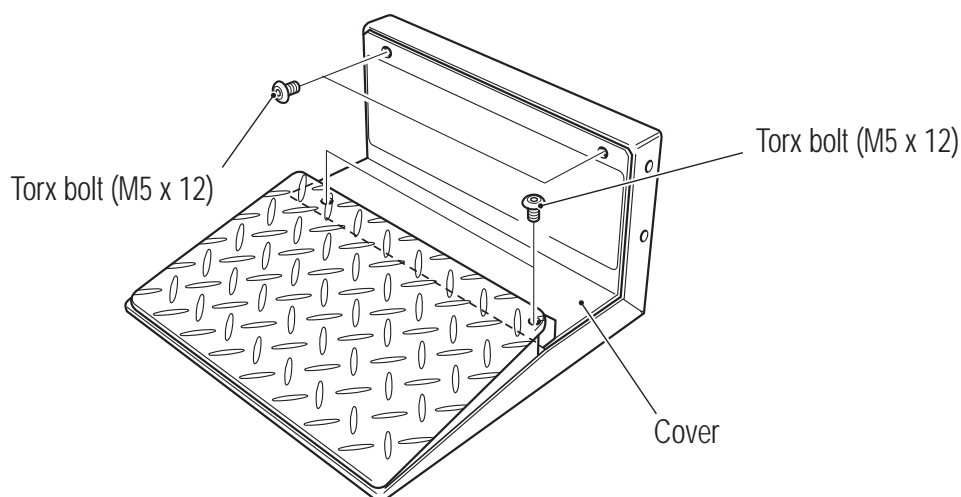
- 4** Remove the four Torx bolts (M5 x 12) and dismount the cover.



- 5** Remove the two countersunk washer nuts (M4) and dismount the sensor base together with the photosensor.



- 6** Disconnect the connector, remove the Phillips pan-head screw (with flat and spring washers) (M3 x 12), and dismount the photosensor from the sensor base.



- 7** To reinstall, follow the removal sequence in reverse.



- Be sure to conduct an operation check after replacing the photosensor. (See P. 54 "7-4-4 (c) SWITCH TEST.")

## (2) Replacing the plunger - To be conducted by a technician only -

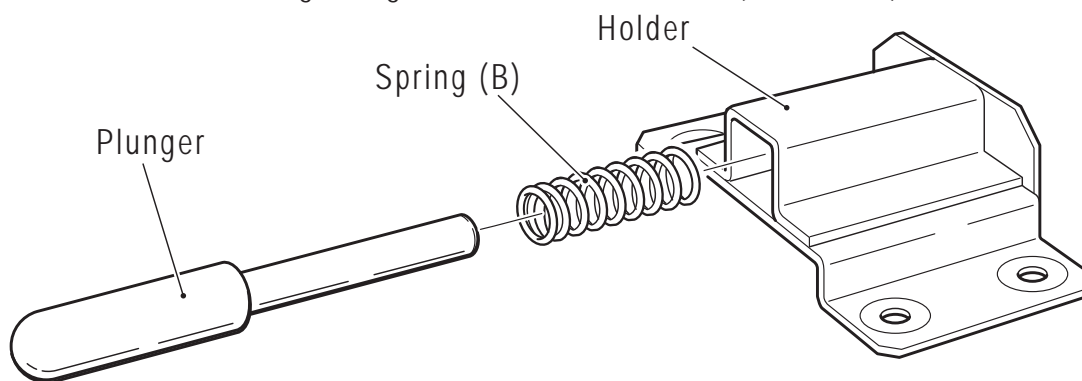


- To prevent damage to electrical circuits due to incorrect connector connection, check the direction and shape of the connector carefully when connecting.

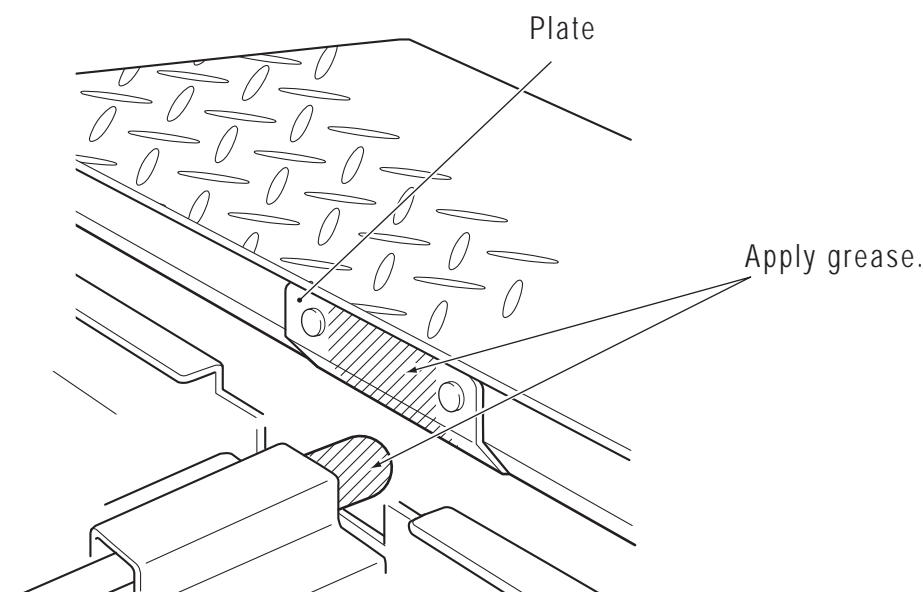
**WARNING**

- To protect the service staff and other people from electric shock, accident and injury and to prevent damage to the electric circuitry of the machine, be sure to turn off the power switch before initiating the described task.

- 1 Turn off the power switch.
- 2 After confirming that the power switch is OFF, dismount the Pedal Assy, and take out the holder. (See P. 71 "8-1-2 (1) Supplying grease to the plungers in the Pedal Assys.")
- 3 Pull out the plunger from the holder and install a new plunger. In this process, apply grease to the plunger surface areas that contact the holder and plate.
  - Designated grease: Alvania Grease No. 2 (Showa Shell)



- 4 Wipe off old grease from the plate surface on the pedal side, and apply new grease.



- 5 To reinstall, follow the removal sequence in reverse.



- Be sure to conduct an operation check after replacing the plunger. (See P. 54 "7-4-4 (c) SWITCH TEST.")

## 9. DISCARDING THE MACHINE

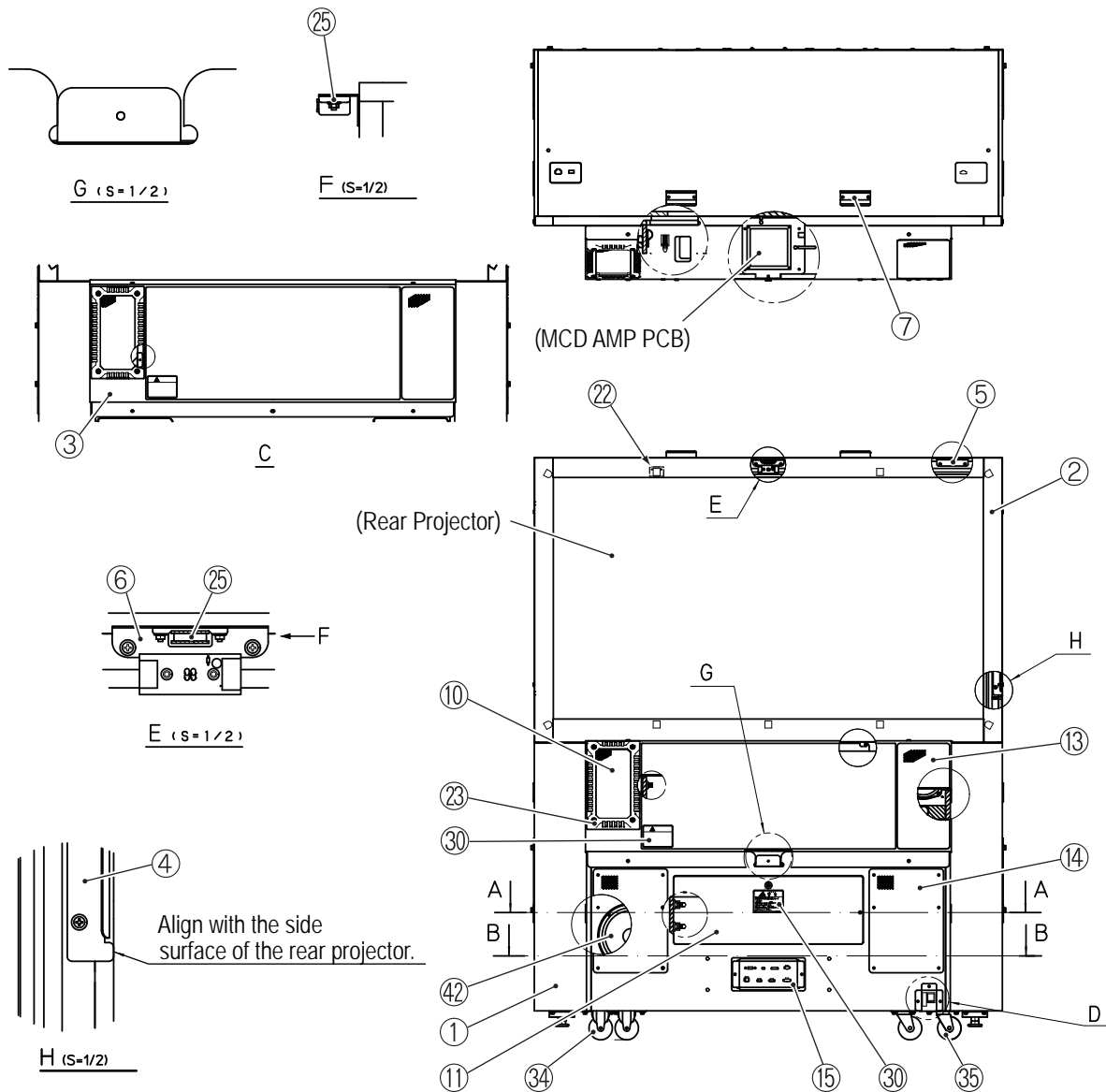
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### **WARNING**

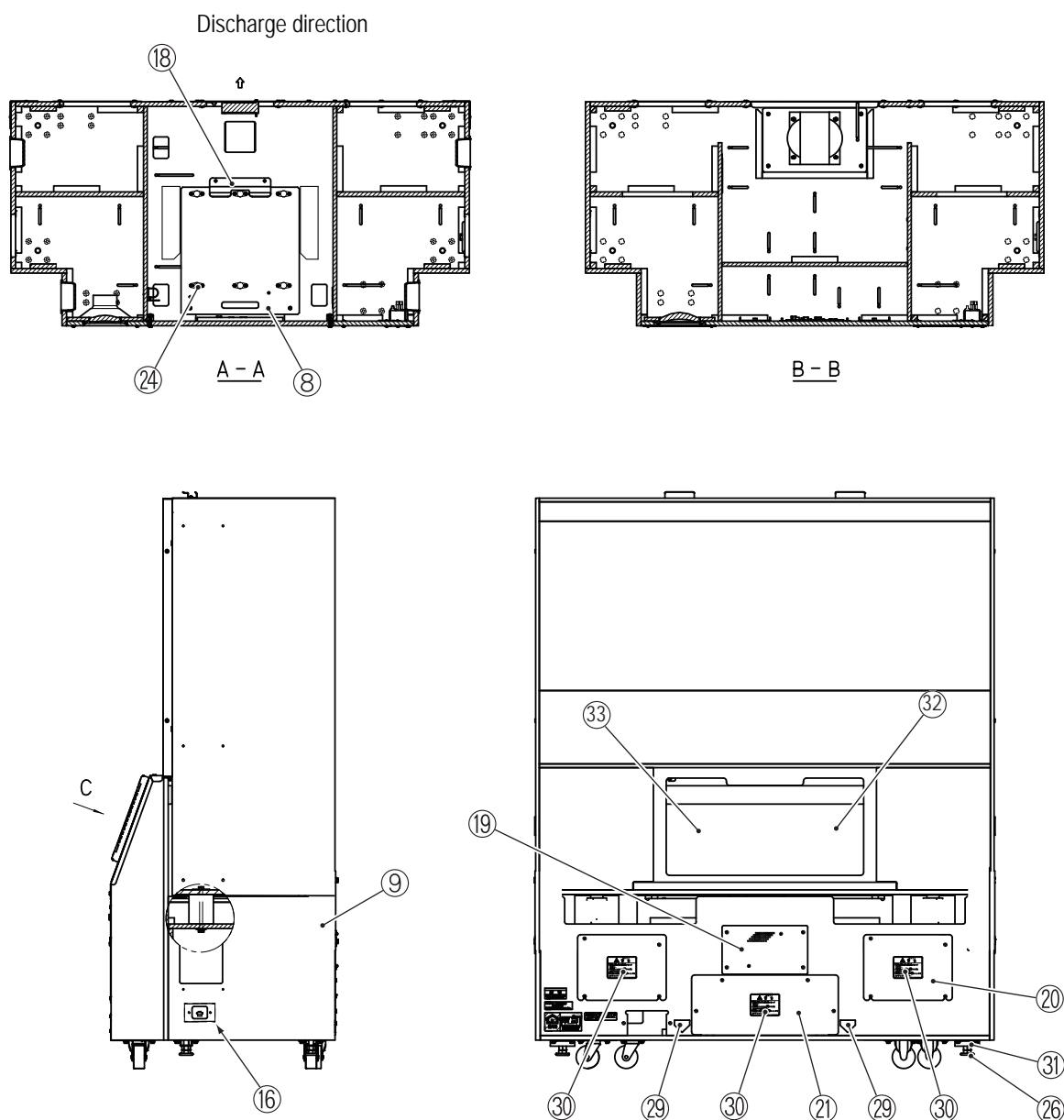
- When the machine is discarded, it must be collected, transported and discarded in accordance with the laws and regulations.
- When entrusting third-party companies to collect, transport and discard the machine, be sure to use specialized companies to perform those tasks.

# 10. PARTS LISTS

## 10-1 Projector Assy

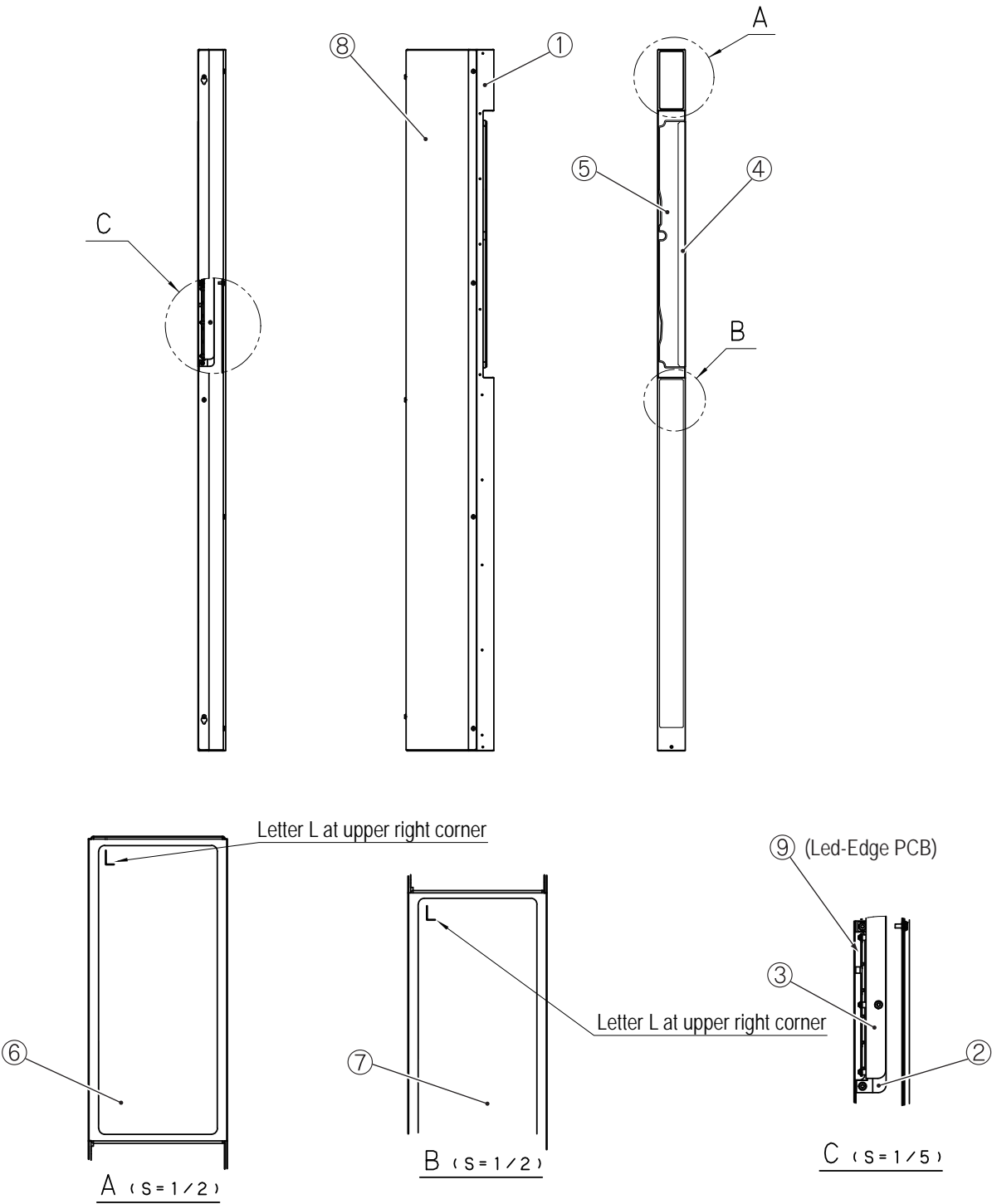


No.	Name	Qty.	Part No.	No.	Name	Qty.	Part No.
1	Lower cabinet	1	RM63-12459-00	10	Speaker plate	1	RM10-12468-00
2	LED sensor cover	1	RM10-12460-00	11	Lower cabinet front door	1	RM63-12469-00
3	Front plate door	1	RM10-12461-00	13	Front speaker plate	1	RM10-12470-00
4	Sensor cover bracket (L)	2	RM10-12462-00	14	Woofer plate	2	RM10-12471-00
5	Sensor cover holder (side)	2	RM10-12463-00	15	Connector panel bracket	1	RM10-12472-00
6	Sensor cover holder (MG)	1	RM10-12464-00	16	Side connector bracket	2	RM10-12473-00
7	Signboard hanger bracket	2	RM10-12465-00	17	Sub-switch box	1	RM10-12474-00
8	Rack base board	1	RM63-12466-00	18	Rack hook bracket	1	RM10-12475-00
9	Joint cover bracket	2	RM10-12467-00				



No.	Name	Qty.	Part No.	No.	Name	Qty.	Part No.
19	Fan bracket	1	RM10-12476-00	26	Leg Leveler	4	RM21-12480-00
20	Lower rear plate (B)	2	RM10-12477-00	29	Fork position sticker	2	VG40-06882-00
21	Lower rear plate (C)	2	RM10-12478-00	30	Warning sticker Maintenance (B) EXP	5	VG40-10599-00
22	Filter (B)	10	RM03-12257-00	31	Leg Leveler plate assy.	4	RM10-12481-00
23	Speaker CV	1	RM03-12261-00	32	+5 V Power Supply	1	RM88-12565-00
24	Round vibration insulation rubber	6	RM96-12602-00	33	+12 V Power Supply	1	RM88-12612-00
25	Magnet catch	1	RM10-12479-00				

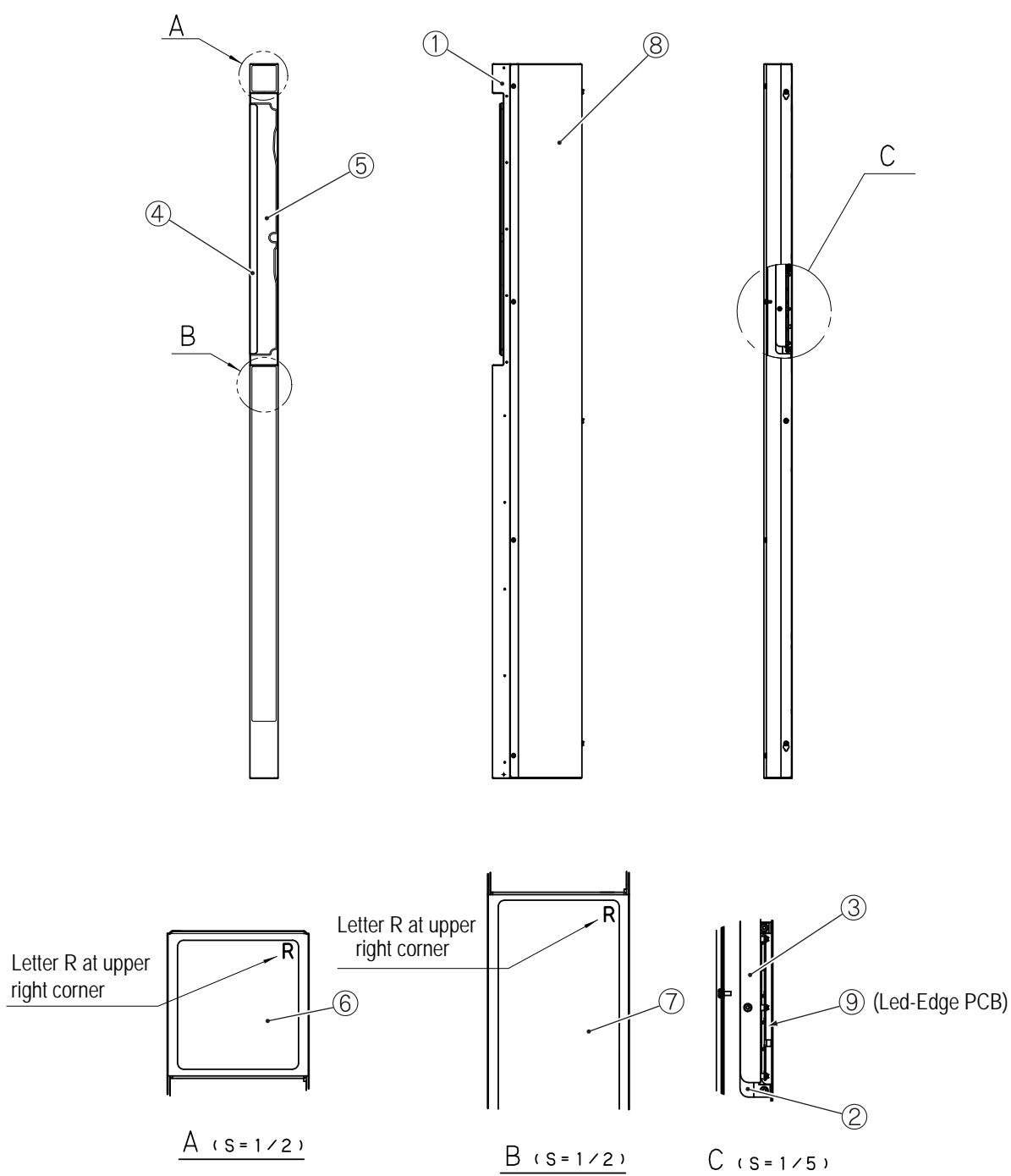
# 10-2 Side Pillar (L) Assy



No.	Name	Qty.	Part No.	No.	Name	Qty.	Part No.
1	Side pillar base (L)	1	RM10-12482-00	6	Pillar sticker (LU)	1	RM40-12487-00
2	Side pillar base support	1	RM10-12483-00	7	Pillar sticker (LD)	1	RM40-12488-00
3	Side pillar LED base	1	RM10-12484-00	8	Side pillar cover (R)	1	RM10-12489-00
4	Side pillar panel bracket	1	RM10-12485-00	9	V349 LED-Edge PCB Assy	3	RM03-12267-00
5	Pillar panel	1	RM40-12486-00				

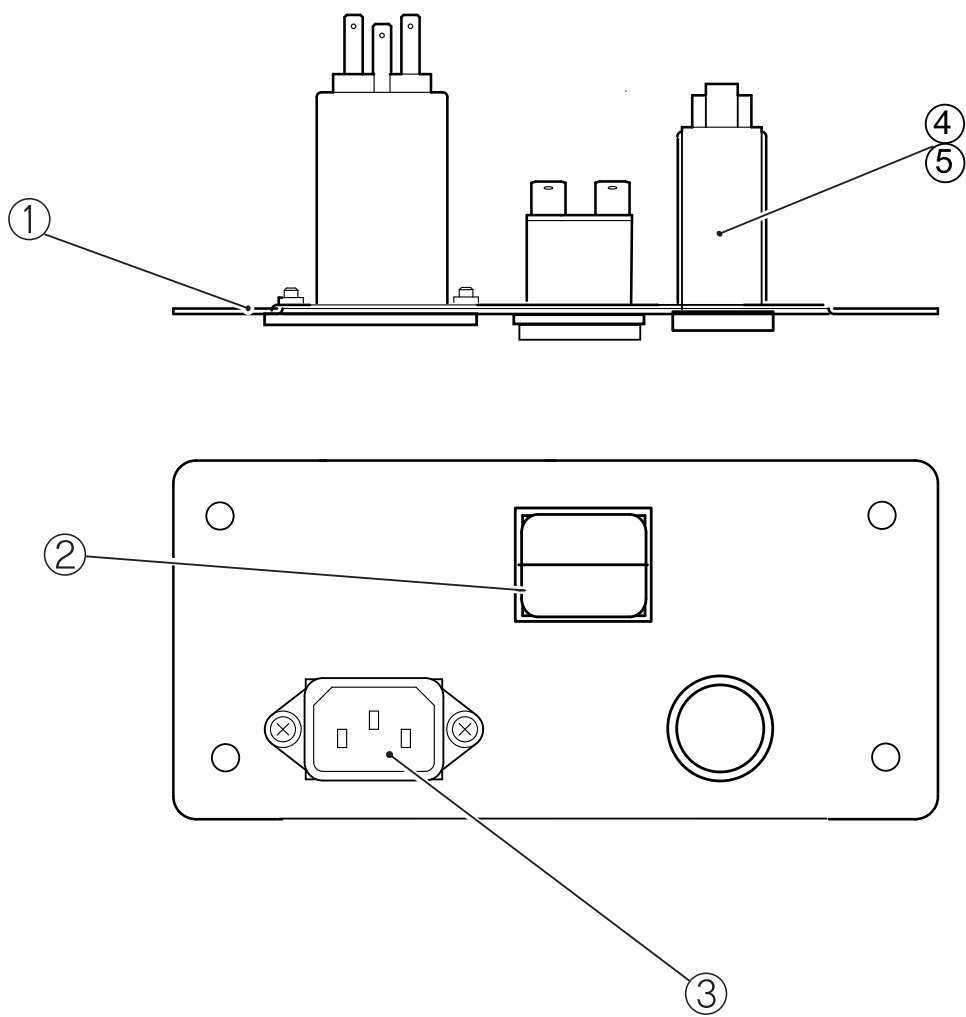


## 10-3 Side Pillar (R) Assy



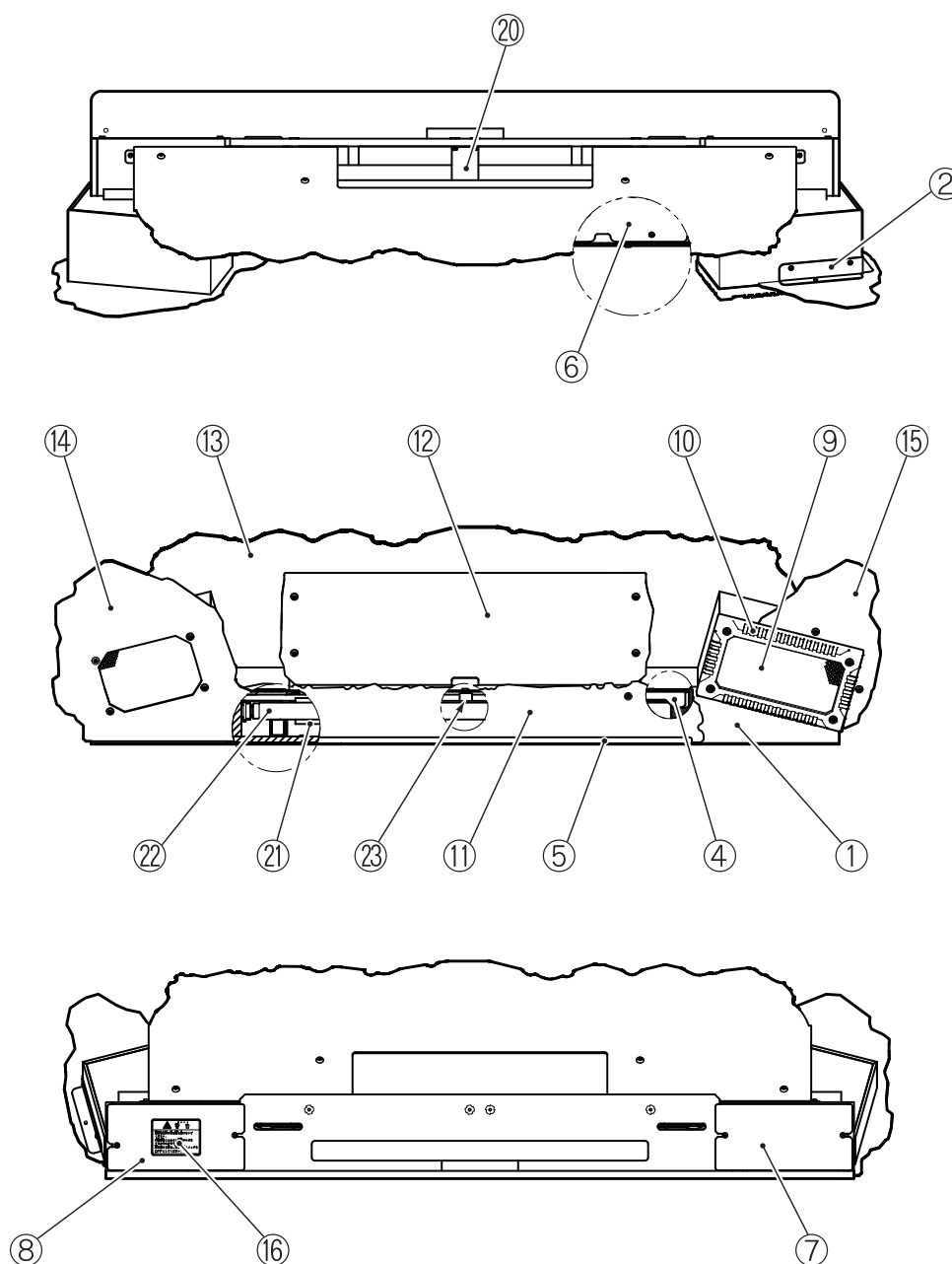
No.	Name	Qty.	Part No.	No.	Name	Qty.	Part No.
1	Side pillar base (R)	1	RM10-12490-00	6	Pillar sticker (RU)	1	RM40-12491-00
2	Side pillar base support	1	RM10-12483-00	7	Pillar sticker (RD)	1	RM40-12492-00
3	Side pillar LED base	1	RM10-12484-00	8	Side pillar cover (R)	1	RM10-12489-00
4	Side pillar panel bracket	1	RM10-12485-00	9	V349 LED-Edge PCB Assy	3	RM03-12267-00
5	Pillar panel	1	RM40-12486-00				

10-4 Cord Box Assy

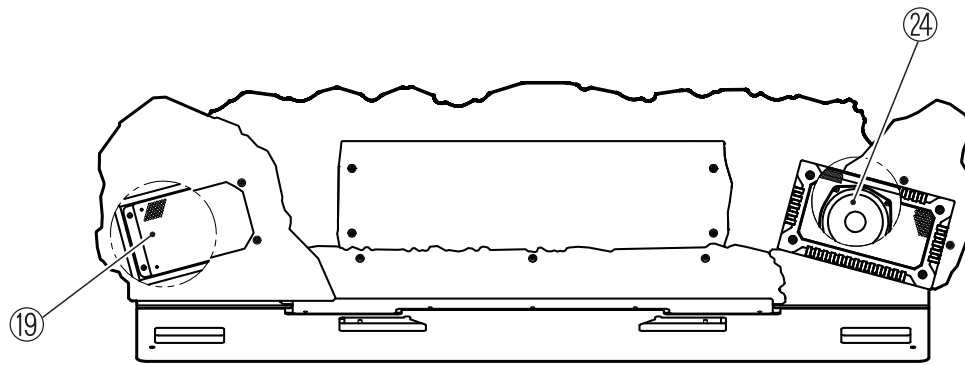


No.	Name	Qty	Type and rating	Parts No.
1	AC Plate	1	AC Plate, Detach Cord	RM10-12493-00
2	On/Off Switch	1	ON/OFF Switch	RM53-12494-00
3	Noise filter	1	Filter, EMI 10Amp	RM78-12495-00
4	Fuse	1	6.3 Amp Slo-Blow	RM52-12603-00
5	Fuseholder	1	10A 250V	RM52-12604-00

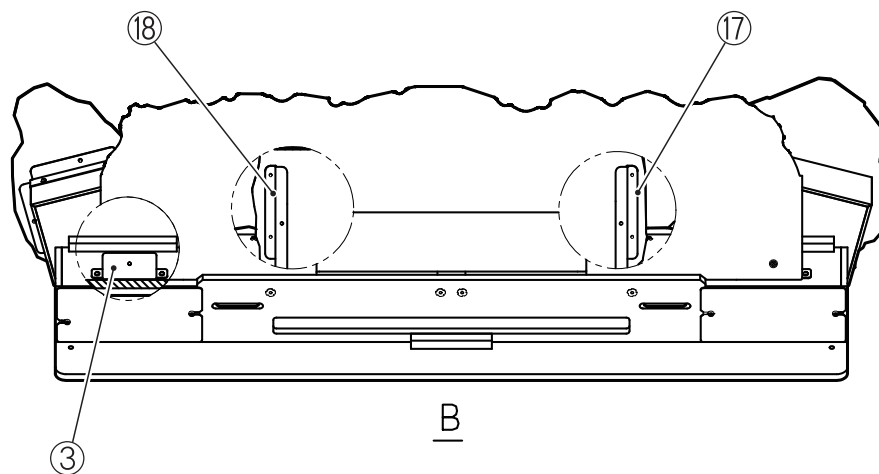
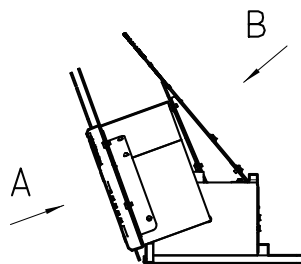
## 10-5 Signboard Assy



No.	Name	Qty.	Part No.	No.	Name	Qty.	Part No.
1	Signboard cabinet	1	RM63-12496-00	8	Signboard door plate (R)	1	RM10-12502-00
2	Side plate support (R)	1	RM10-12497-00	9	Speaker plate	1	RM10-12503-00
3	Back plate bracket	2	RM10-12498-00	10	Speaker cover	1	RM90-12609-00
4	Front plate bracket (U)	1	RM10-12499-00	11	Front plate	1	RM40-12610-00
5	Front plate bracket (D)	1	RM10-12500-00	12	Center plate	1	RM40-12606-00
6	Signboard FL top plate	1	RM10-12501-00	13	Back plate	1	RM40-12607-00
7	Signboard door plate (L)	1	RM10-12502-00	14	Side plate (L)	1	RM40-12608-00



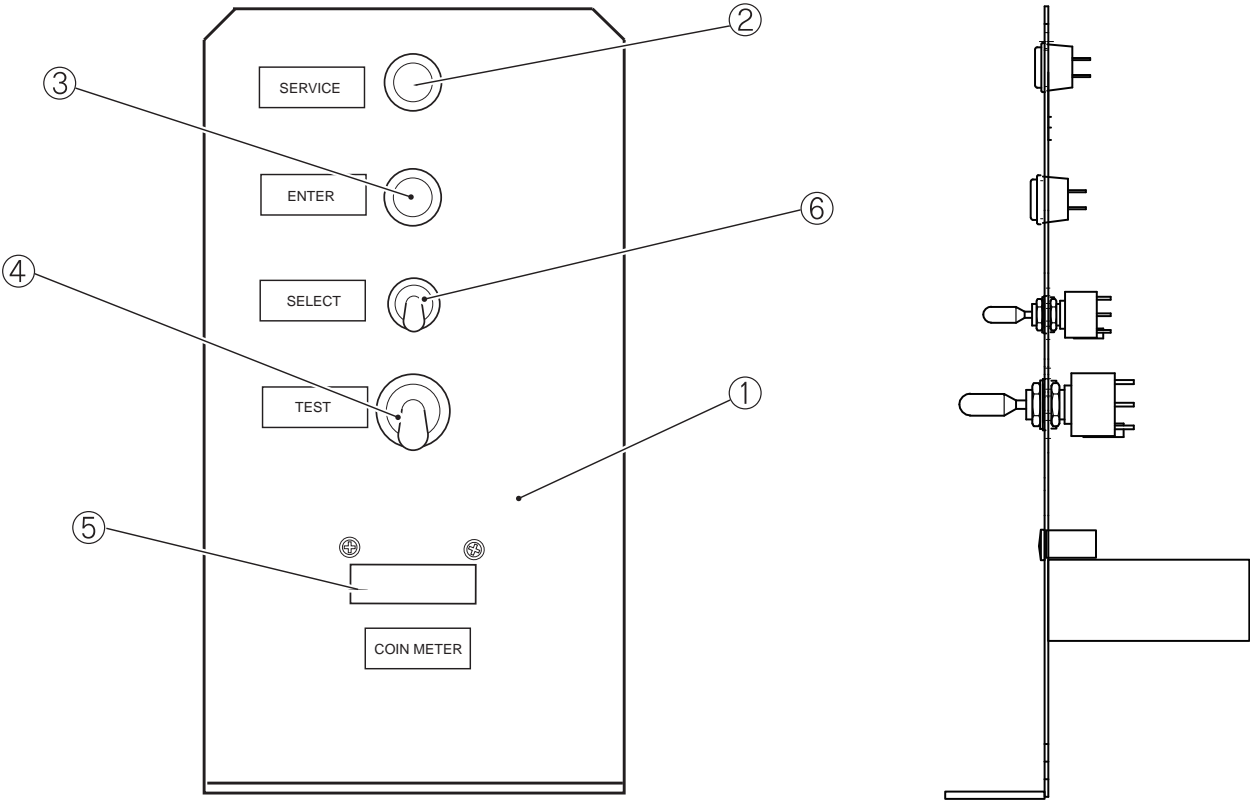
A



B

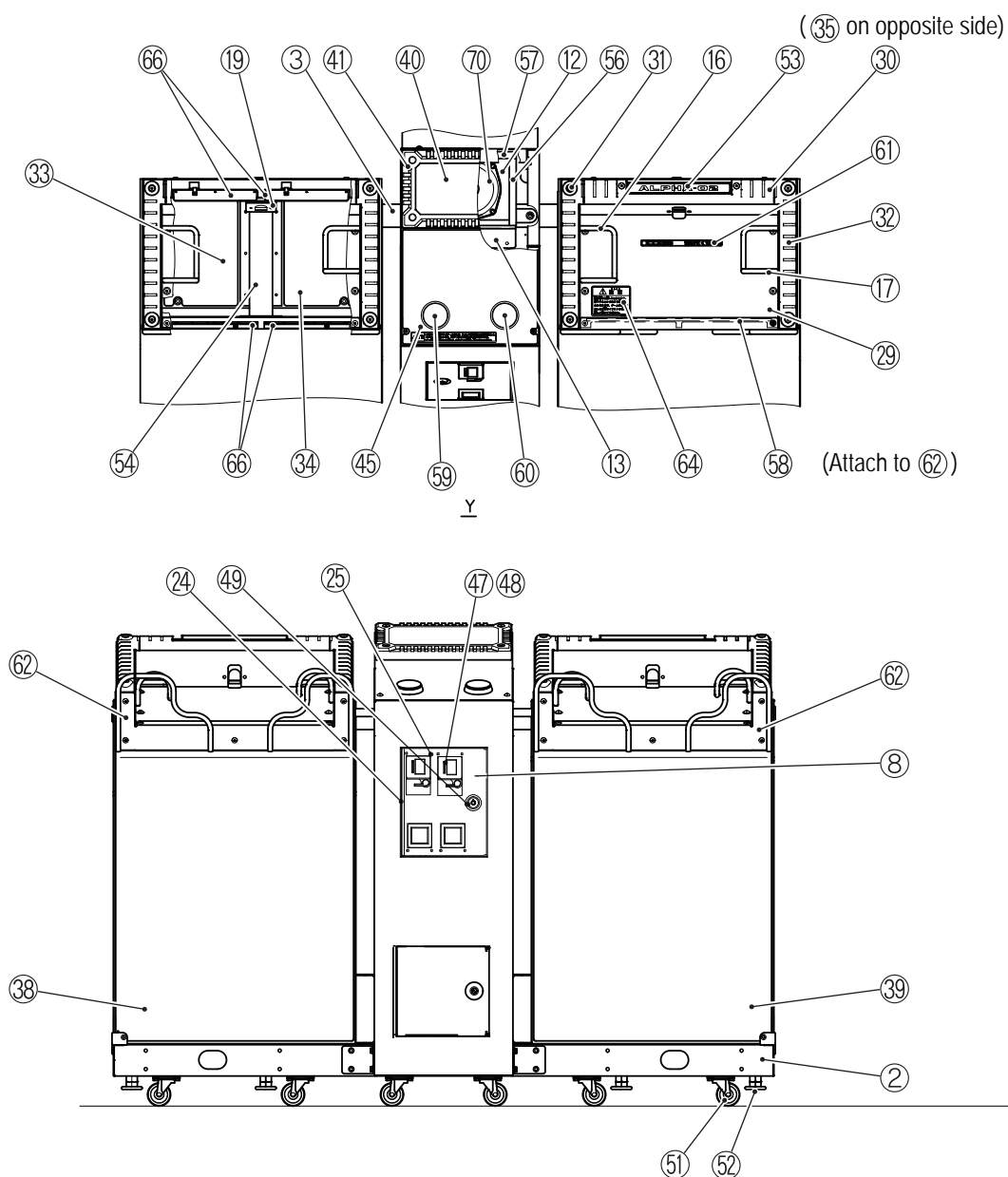
No.	Name	Qty.	Part No.	No.	Name	Qty.	Part No.
15	Side plate (R)	1	RM40-12504-00	20	Center plate support	1	RM10-12508-00
16	Warning sticker Maintenance (B) EXP	1	VG40-105-9900	21	24-W fluorescent lamp unit	1	RM57-12509-00
17	Center plate bracket (L)	1	RM10-12505-00	22	Fluorescent lamp 3-band daylight color	1	RM57-12510-00
18	Center plate bracket (R)	1	RM10-12506-00	23	Glow lamp	1	RM57-12511-00
19	Side plate (L) base	1	RM10-12507-00	24	Speaker	2	RM54-12512-00

10-6 Service Plate Assy



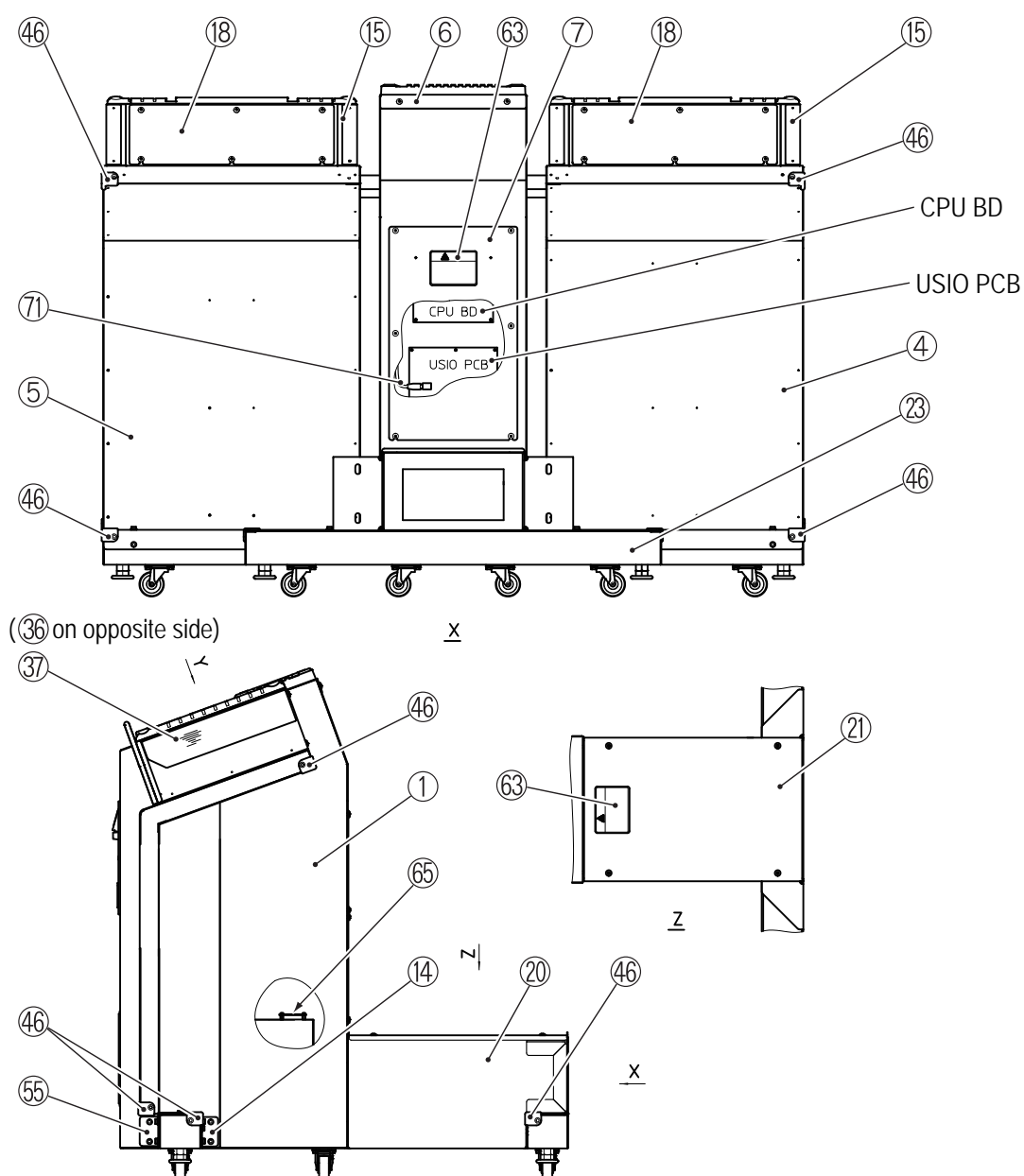
No.	Name	Qty.	Type and rating	Part No.
1	Service plate	1		RM10-12513-00
2	Service Switch	1		RM53-12514-00
3	Enter Switch	1		RM53-12515-00
4	Test Switch	1		RM53-12516-00
5	Coin Meter	1		RM53-12517-00
6	Select Switch	1		RM53-12518-00

## 10-7 Gun Tower Assy 1/4



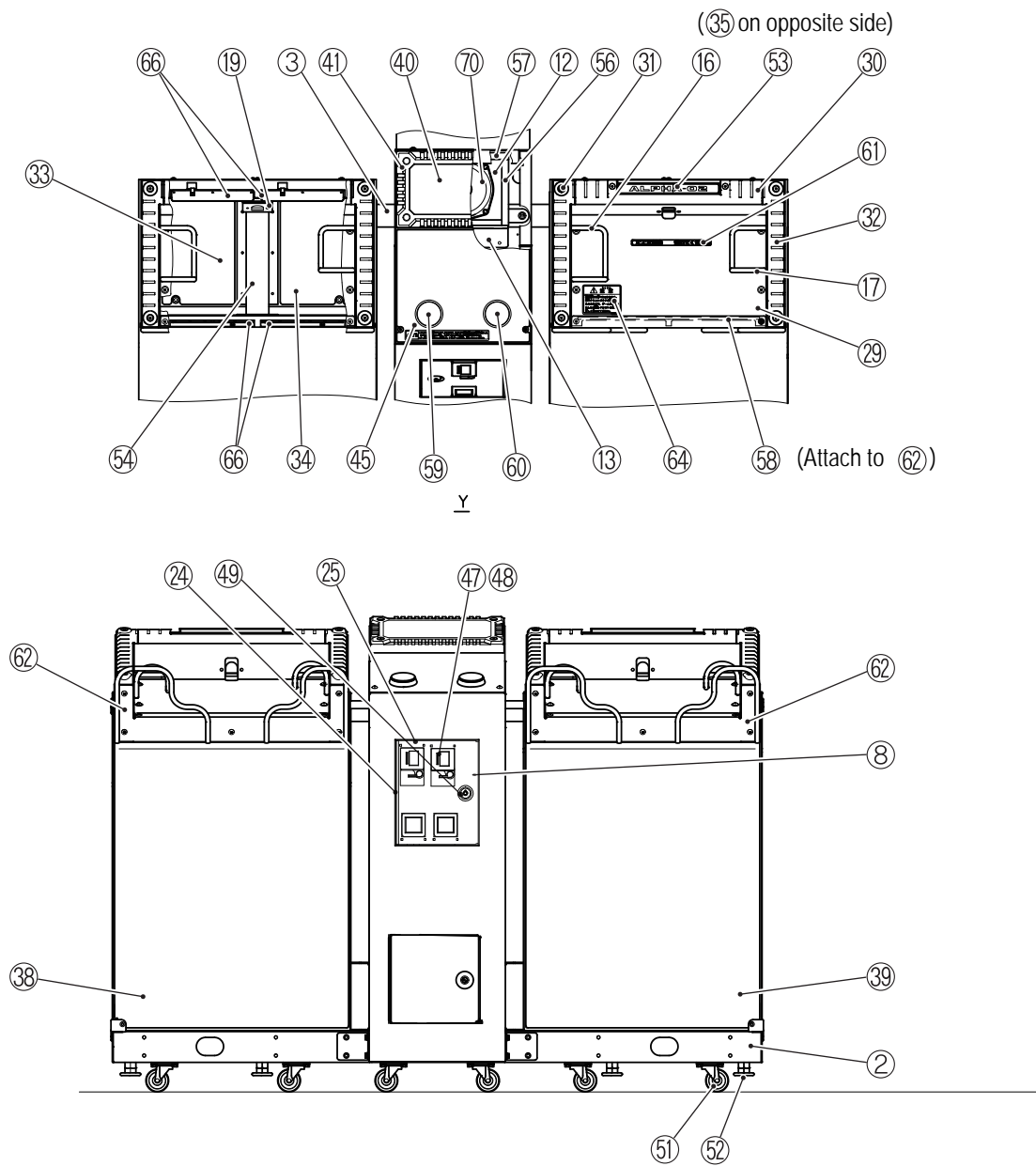
No.	Name	Qty.	Part No.	No.	Name	Qty.	Part No.
1	Coin tower Assy.	1	RM10-12519-00	13	Speaker box bracket	1	RM10-12528-00
2	Lower pipe F	1	RM10-12520-00	14	Under pipe bracket	2	RM10-12529-00
3	Top bar	1	RM10-12521-00	15	Gun box	2	RM10-12530-00
4	Box base L	1	RM10-12522-00	16	Gun holder L	2	RM10-12531-00
5	Box base R	1	RM10-12523-00	17	Gun holder R	2	RM10-12532-00
6	Coin tower cover	1	RM10-12524-00	18	Gun box cover	2	RM10-12533-00
7	Back cover	1	RM10-12525-00	19	Gun tube support	2	RM10-12534-00
8	Service door Assy.	1	RM83-12526-00	20	Joint box	1	RM10-12535-00
12	Speaker box	1	RM63-12527-00				

## 10-7 Gun Tower Assy 2/4



No.	Name	Qty.	Part No.	No.	Name	Qty.	Part No.
21	Joint box cover	1	RM10-12536-00	34	Gun panel sticker (R)	2	RM40-12544-00
22	Regulator base	1	RM10-12537-00	35	Gun holder sticker 1	1	RM40-12545-00
23	Under pipe R	1	RM10-12538-00	36	Gun holder sticker (L)	2	RM40-12546-00
29	Gun panel	2	RM40-12539-00	37	Gun holder sticker (R)	2	RM40-12547-00
30	Gun holder cover (C)	2	RM90-12540-00	38	Gun sticker (L)	1	RM40-12548-00
31	Gun holder cover (L)	2	RM90-12541-00	39	Gun sticker (R)	1	RM40-12549-00
32	Gun holder cover (R)	2	RM90-12542-00	40	Speaker plate	1	RM10-12550-00
33	Gun panel sticker (L)	2	RM40-12543-00				

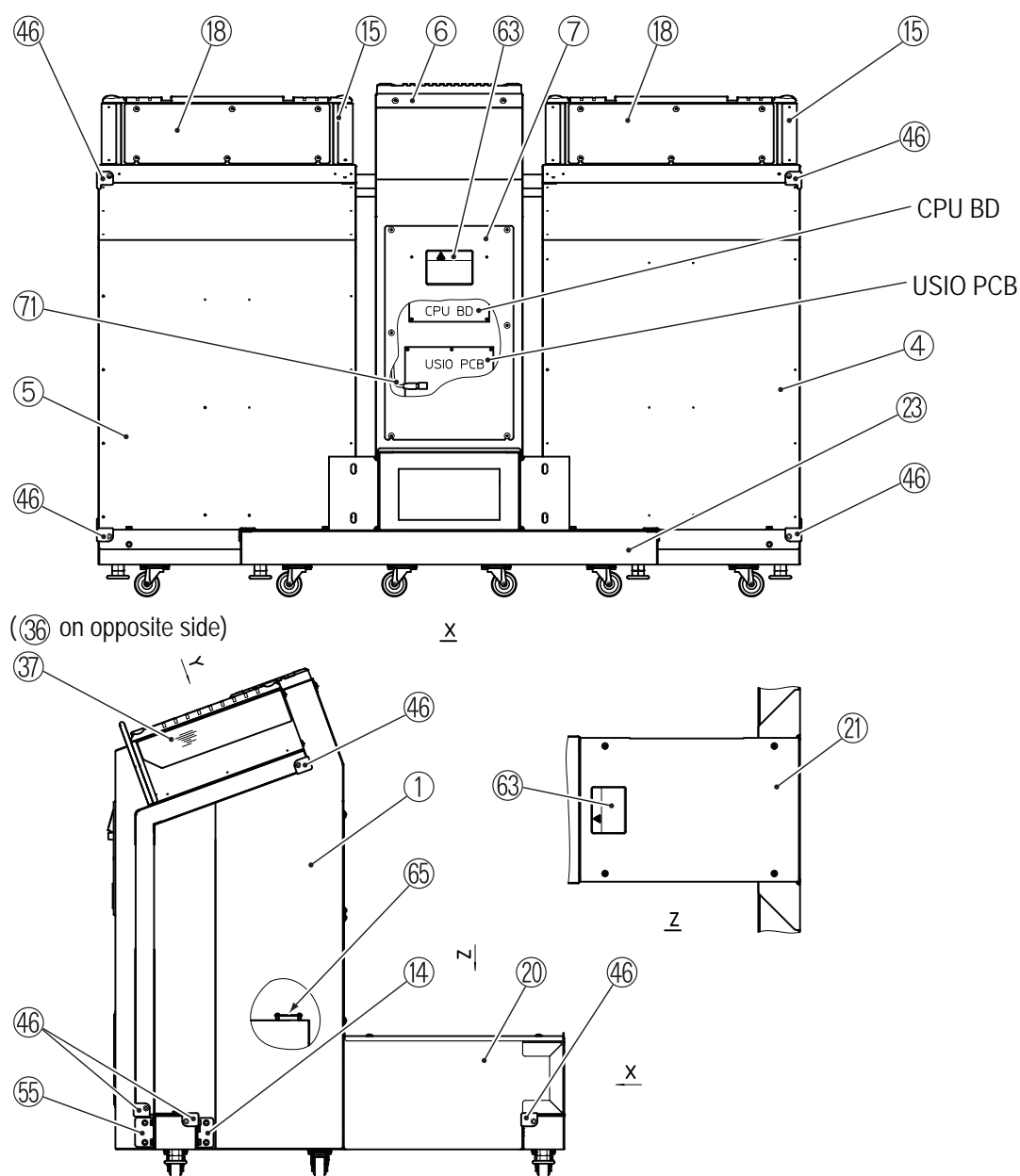
# 10-7 Gun Tower Assy 3/4



No.	Name	Qty.	Part No.	No.	Name	Qty.	Part No.
41	Speaker cover	1	RM90-12551-00	54	Panel support C	2	RM10-12556-00
45	Instruction sticker EXP	1	RM40-12552-00	55	Under pipe bracket B	2	RM10-12557-00
46	Point cover (S)	6	RM90-12553-00	56	Sealing sponge A	2	RM16-12558-00
51	Caster (swivel type)	6	RM24-12554-00	57	Sealing sponge B	2	RM16-12559-00
52	Leg Leveler	4	RM21-12480-00	58	Sealing sponge C	2	RM16-12560-00
53	Gun holder sticker 2	1	RM40-12555-00				

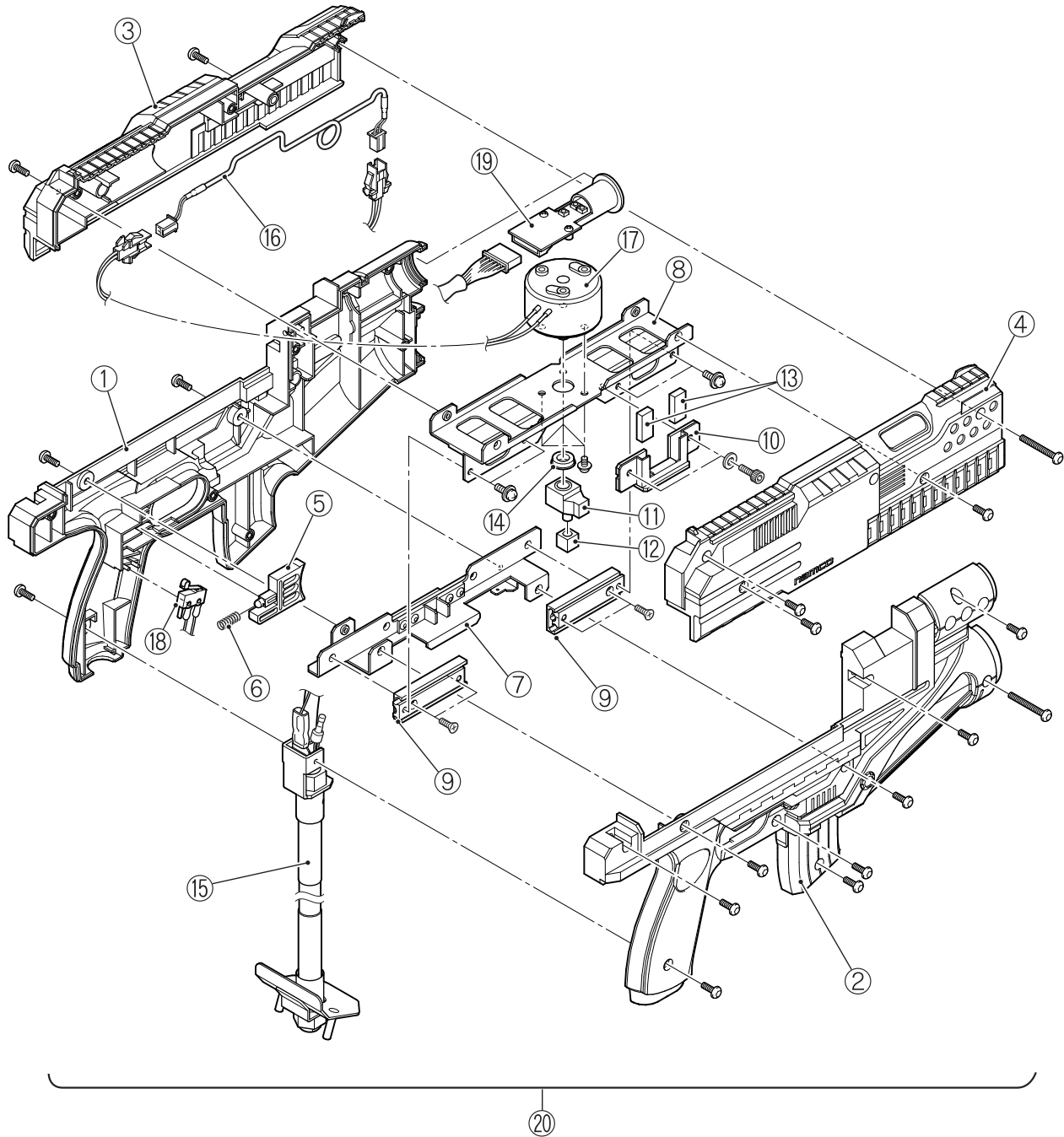


## 10-7 Gun Tower Assy 4/4



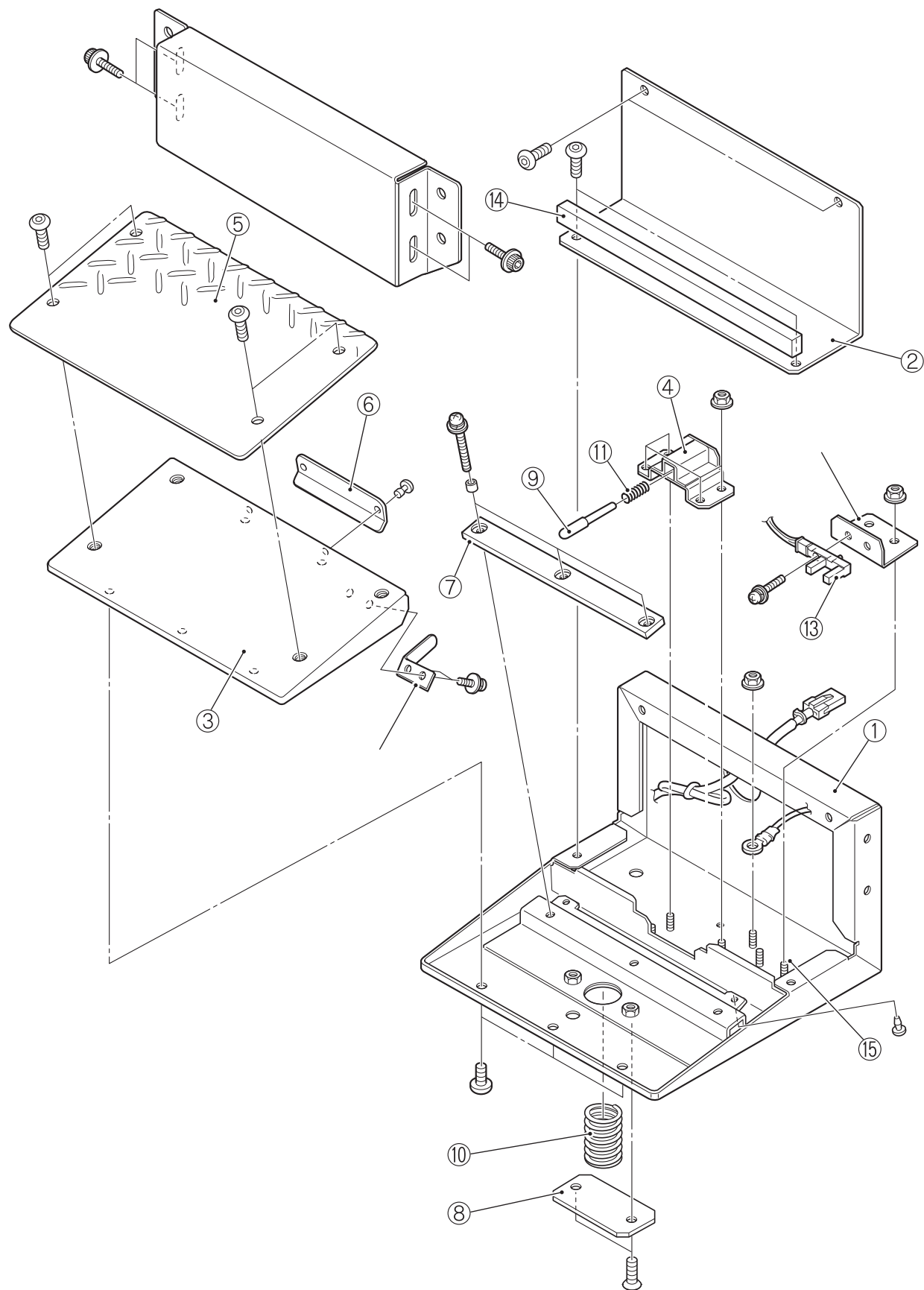
No.	Name	Qty.	Part No.	No.	Name	Qty.	Part No.
59	Button switch 1	1	RM53-12561-00	66	V349 Led-Edge PCB Assy	8	RM03-12267-00
60	Button switch 2	1	RM53-12561-00	70	Speaker	1	RM54-12566-00
61	Notice sticker Gun EXP	2	RM40-12562-00	71	USB 2.0 cable	1	RM50-12567-00
62	Fence bar	2	RM10-12563-00				
63	Warning sticker Maintenance (B) EXP	2	VG40-105-9900				
64	Caution sticker Gun fall EXP	2	RM40-12564-00				
65	V349 GUNDRIVE PCB Assy kit	1	RM03-12266-00				

## 10-8 Gun Assy



No.	Name	Qty.	Type and rating	Part No.
1	Gun cover AL	1	Set of parts for L and R sides	RM09-12568-00
2	Gun cover AR	1		RM09-12569-00
3	Gun cover BL	1	Set of parts for L and R sides	RM09-12570-00
4	Gun cover BR	1		RM09-12571-00
5	Trigger	1		RM09-12572-00
6	Trigger spring	1		RM22-12573-00
7	Gun frame A	1		RM10-12574-00
8	Gun frame B	1		RM10-12575-00
9	Slide rail	2	AR 2-60	RM05-12576-00
10	Stopper frame	1		RM10-12577-00
11	Crank	1		RM11-12578-00
12	Slider	1		RM95-12579-00
13	Stopper rubber	2		RM96-12580-00
14	Miniature bearing	1	MF148ZZ	RM59-12581-00
15	Gun tube unit	1		RM32-12582-00
16	Gun Harness 2 Assy	1		RM50-12583-00
17	Rotary solenoid	1		RM09-12584-00
18	Microswitch	1	SS-01GL2T	RM53-12585-00
19	Light receiving unit	1		RM05-12586-00
20	Gun Assy	1		RM05-12587-00

# 10-9 Pedal Assy



## PEDAL ASSY -RM05-12277-00

No.	Name	Qty.	Type and rating	Part No.
1	Pedal base (M)	1		RM10-12588-00
2	Cover (M)	1		RM10-12589-00
3	Foot base	1		RM10-12590-00
4	Holder	1		RM10-12591-00
5	Pedal plate	1		RM10-12592-00
6	Plate	1		RM10-12593-00
7	Stopper rubber	1		RM96-12594-00
8	Spring cover	1		RM10-12595-00
9	Plunger	1		RM59-12596-00
10	Spring (A)	1		RM22-12597-00
11	Spring (B)	1		RM22-12598-00
13	Photosensor	1	KI1249-AALF 000-664	RM09-12599-00
14	EPT-SEALER sealant	1	EE-910 W10×t15×L248	RM16-12600-00
15	Plug cushion rubber	2	TM-96	RM16-12601-00

Those are also used for Time Crisis 4.

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## MEMO

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Seller warrants that its printed circuit boards and parts thereon are free from defects in materials and workmanship under normal use and service for a period of ninety (90) days from the date of shipment. Seller warrants that its video displays (in games supplied with video displays) are free from defects in material and workmanship under normal use and service for a period of thirty (30) days from the date of shipment. None of the Seller's other products or parts thereof are warranted. Seller's sole liability shall be, at its option, to repair, replace, or credit Buyer's account for such products which are returned to Seller during said warranty period, provided:

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- b) Such products are returned prepaid to Seller's plant; and
- c) Seller's examination of said products discloses to Seller's satisfaction that such alleged defects existed and were not caused by accident, misuse, neglect, alteration, improper repair, improper installation, or improper testing.

In no event shall Seller be liable for loss of profits, loss of use, incidental or consequential damages.

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