

# Goldstorm Pirates

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## OPERATION MANUAL

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

### DANGER

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

# Introduction

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Thank you for purchasing a Goldstorm Pirates game machine.

**This operation manual includes the following information (hereafter referred to as the “machine”).**

- Explanations to help you understand the machine correctly
- Instructions for installing, moving, transporting, operating, servicing, and disposing of the machine safely
- Instructions for operating the machine correctly and making full use of its features
- Instructions for ensuring safety of players and bystanders

**Machine inquiries or service requests**

- For inquiries or to request service, contact your distributor.

# 1. Safety Precautions – Be sure to read these instructions to ensure safety –

## Owner instructions

Before any workers install, move, transport, operate, service, or dispose of the machine, request them to read the corresponding section of the manual carefully and follow the precautions.

### 1-1 Magnitudes of risk

On machine labels and in this manual, precautions to ensure safety and avoid property damage are classified as follows according to magnitude of risk.

 **WARNING** : Failure to avoid the hazard poses a risk of death or serious injury

 **CAUTION** : Failure to avoid the hazard poses a risk of minor injury or property damage

Non-safety-related precautions about machine functionality are indicated by the following symbol.

 : Note on product functionality or protection

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

#### NOTICE

Although this manual is intended mainly for arcade personnel, the section labeled “To be conducted by a technician only” is intended only for the technicians assigned to do that work.

**Technicians:** Those involved in design, production, inspection, or maintenance services at an amusement machine manufacturer, or those with technical knowledge of electrical, electronic, or mechanical engineering at or above a technical high school level who are routinely involved in amusement machine maintenance (including repair).

## 1-3 High-priority safety precautions

### WARNING

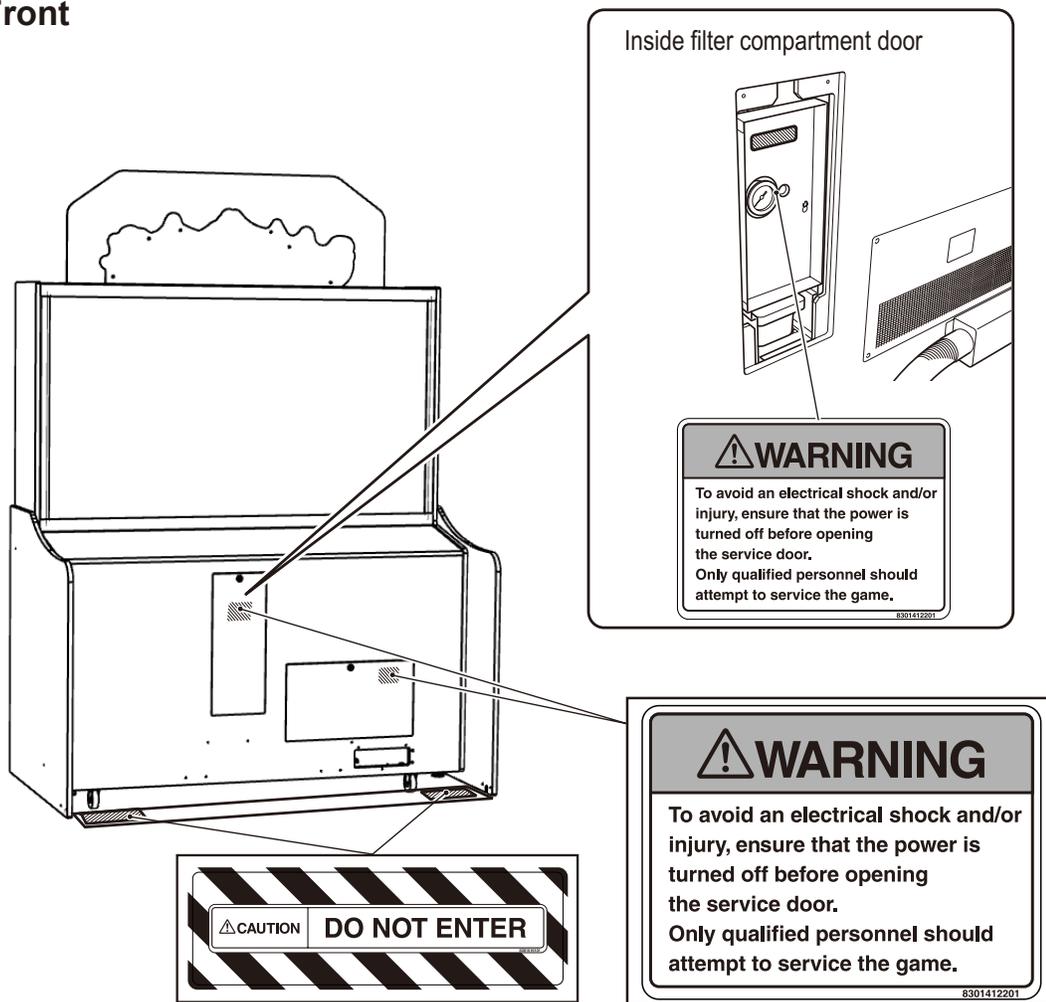
- In case of problems, immediately turn off the power switch to stop operation. After this, always unplug the machine. Continuing to operate the machine without responding to problems may result in fire or accidents.
- Do not allow dust to build up on the power cord plug, which may result in fire. Check the plug regularly and remove any dust.
- Plug the power cord firmly into the outlet. If the cord is not firmly plugged in, it may generate heat and result in fire or burns.
- To ensure safe operation, be sure to conduct the pre-service check (see “6-4 Pre-service check,” p. 26) and maintenance (see “7B Service,” p. 82). Failure to conduct the pre-service check or maintenance may result in accidents.
- A damaged power cord may result in fire, electric shock, or electrical fault. Follow these precautions.
  - Keep the cord away from heaters.
  - Do not twist the cord.
  - Do not bend the cord by force.
  - Do not modify the cord.
  - Do not bundle the cord.
  - Do not pull by the cord. (Always hold by the plug when unplugging the cord.)
  - Do not place anything on the cord.
  - Do not allow the cord to be pinched against the machine, other equipment, or a wall.
  - Do not do anything else that may damage the cord.
- Do not allow the plug or power cord to get wet. This may result in electric shock or electrical fault.
- Do not touch the plug with wet hands. This may result in electric shock.
- The machine has a rated power supply voltage of 100 V AC and maximum current consumption of 13 A. To avoid risks of malfunction, fire, or electric shock, use indoor wiring that conforms to these specifications.
- Use a power supply voltage in the range of 90–110 V AC. Using voltage outside the specified range may result in malfunction, fire, or electric shock. For optimal operation, use 100 V AC to the extent possible.
- For consumables and replacement parts (including screws), use the parts indicated. Contact your distributor to order parts.
- Refrain from unauthorized modification, and do not perform any work that is not described in this manual. Modification may result in accidents.
- When the machine is transferred, be sure to include this manual.
- Some monitor sections remain hot and have high voltage even after the machine is turned off. Be careful not to touch these areas accidentally, which may result in electric shock or burns.
- The machine includes key parts to ensure player and bystander safety. Immediately replace or reinstall these parts correctly if they are damaged, broken, worn out, or incorrectly installed, which may result in injury to players or bystanders. Contact your distributor to order parts.

## 1-4 Description of warning labels on the machine

### ! WARNING

- The warning labels indicate important safety precautions. Follow these guidelines.
  - To ensure that the labels are clearly visible, install the machine in a suitable location with enough lighting and keep the labels clean. Also make sure the labels are not hidden behind other game machines or objects.
  - Do not remove or alter the labels.
  - Replace any labels that have become dirty or damaged. Contact your distributor to order new labels.

### Front assembly Front



## Front assembly

Rear

**⚠ WARNING**

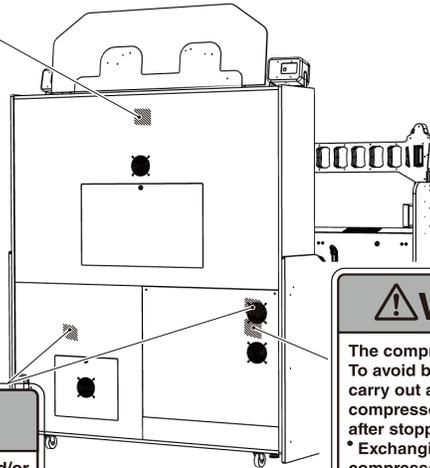
To avoid an electrical shock and/or injury, ensure that the power is turned off before opening the service panel. Only qualified personnel should attempt to service the game.

8301412301

**⚠ WARNING**

To avoid an electrical shock and/or injury, ensure that the power is turned off before opening the service door. Only qualified personnel should attempt to service the game.

8301412201



**⚠ WARNING**

The compressor may become hot. To avoid burn injuries, please carry out any work on the compressor at least 1 hour after stopping the compressor.

- Exchanging the filter of the compressor.
- Exchanging the filters around the air tubes.
- Any other service on the compressor.

8301417201

## Ride assembly

Front

**2 Players Max**

Only single or 2 passengers are allowed per game.

**⚠ CAUTION**

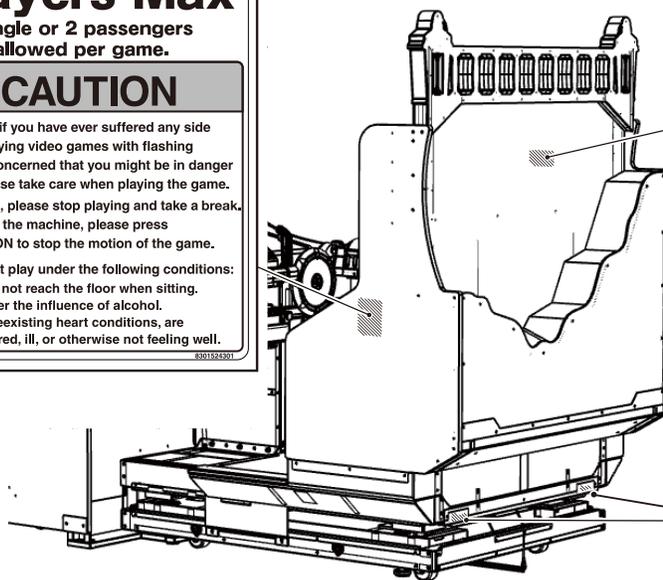
Please be aware if you have ever suffered any side effects when playing video games with flashing screens or are concerned that you might be in danger or doing so. Please take care when playing the game.

If you feel unwell, please stop playing and take a break. When getting off the machine, please press the STOP BUTTON to stop the motion of the game.

For safety, do not play under the following conditions:

- If your feet do not reach the floor when sitting.
- If you are under the influence of alcohol.
- If you have preexisting heart conditions, are pregnant, injured, ill, or otherwise not feeling well.

8301524301



**⚠ CAUTION**

This game machine moves during use. Do not touch the game when it is in use.

8301513001

**⚠ WARNING**

When disassembling this machine, please refer to the operation manual. Failure to do so may result in the cabinet falling over and becoming difficult to transport properly. DO NOT LOSE THIS PIECE.

8301423501

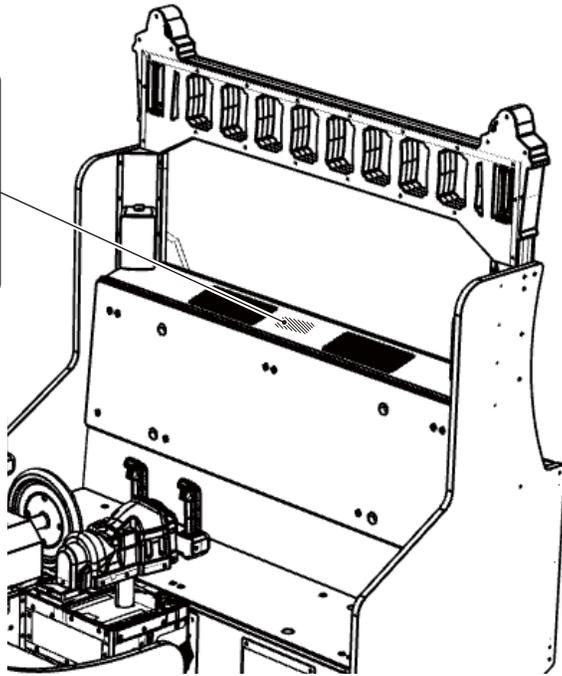
## Ride assembly

### Rear

**⚠ CAUTION**

This game machine moves during use. Do not place objects here or lean/climb on this part of the machine.

8301417801



## Compressor

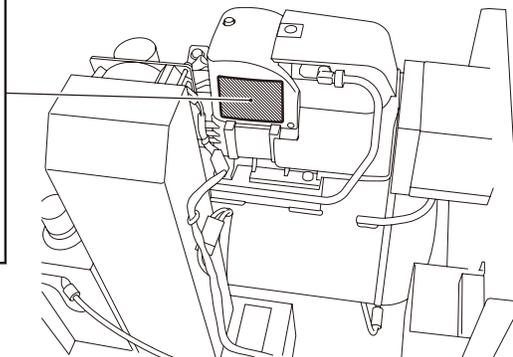
**REQUEST**

Please empty the bucket every day.

- After turning off the power, water is discharged from the tank to the bucket.
- It takes 2 minutes to fully discharge.

Please do not open the door until it is finished.

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7A

7B

8

9

10

Safety Precautions

Test mode

Troubleshooting

# Contents

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## Introduction

1. Safety Precautions – Be sure to read these instructions to ensure safety – .....	1
1-1 Magnitudes of risk .....	1
1-2 Definition of the term “technician” .....	1
1-3 High-priority safety precautions.....	2
1-4 Description of warning labels on the machine.....	3
Contents .....	6
2. Specifications .....	10
3. Overall Structure (Part Names) .....	13
4. Building Access and Installation Requirements.....	15
4-1 Installation requirements .....	15
4-1-1 Locations to avoid .....	15
4-1-2 Play zone and work area .....	16
4-2 Required dimensions for building access (doors, corridors) .....	17
5. Moving and Transporting .....	18
5-1 Moving (on the floor) .....	18
5-1-1 Monitor assy.....	19
5-1-2 Base and control assys.....	20
5-2 Transportation .....	21
5-2-1 Manual transportation (carrying on stairs, etc.).....	21
5-2-2 Loading and unloading from vehicles .....	22
6. Operation.....	23
6-1 People who shouldn't play .....	23
6-2 Safety precautions to be observed by players .....	24
6-3 Explanation of critical parts for safety of players and bystanders .....	25
6-4 Pre-service check.....	26
6-4-1 Safety check (before turning the power switch on) .....	26
6-4-2 Operation check (after turning the power switch on) .....	27
6-4-3 Compressor check.....	27
(1) Disposing of drained water from the compressor .....	27
(2) Checking for excessive compressor noise, vibration, or odors.....	28
(3) Checking the filter regulator pressure setting .....	29
(4) Compressor maintenance timing check display at startup .....	29
6-5 How to play .....	30
(1) Basic rules .....	30
(2) Game controls .....	30
(3) Description of game system .....	30
(4) Start button .....	31

(5) Stop button .....	31
6-6 Explanation of the power switch and adjustment switches .....	32
6-6-1 Power switch location and turning on the switch .....	32
6-6-2 Adjustment switches .....	33
6-7 Test mode.....	34
6-7-1 Description of menu screen (Menu).....	34
6-7-2 Coin Options: Setting the cost of playing, etc. ....	36
6-7-3 Game Options: Setting game details .....	37
6-7-4 Card Reader-Writer Test: Card reading/writing settings.....	39
6-7-5 I/O Test: Testing switches, sensors, etc. ....	40
(a) I/O Board Check .....	41
(b) Switch Test.....	42
(c) Gun Test .....	45
(d) Wheel Test.....	47
(e) Fan Test.....	48
(f) Lamp Output Test .....	49
(g) Motion Test .....	50
(h) Auto Motion Test.....	52
6-7-6 Monitor Test: Monitor adjustment.....	53
6-7-7 Sound Test: Sound adjustment .....	54
6-7-8 Clock/Close Time Setting: Adjusting the time .....	56
6-7-9 Bookkeeping: Displaying and initializing game data.....	57
6-7-10 Others: Other information, initialization, etc. ....	58
(f) Motion Setting.....	59
(g) Compressor Timer .....	60
(h) Backup Data Initialize .....	61
6-8 Gun assy adjustment (initialization) after parts replacement .....	62
6-8-1 Gun assy volume initialization.....	62
7. Manual For The Technician -To be conducted by a technician only- .....	63
7A. Installation and Assembly.....	63
7A-1 Assembly.....	63
7A-1-1 Assembling the Front Assy .....	63
7A-1-2 Assembling the Ride Assy .....	66
7A-1-3 Connecting the Front Assy to the Ride Assy and adjusting the level adjusters .....	74
7A-1-4 Connecting the power cord and ground lead .....	77
7A-1-5 Power switch location and turning on the switch .....	78
7A-2 Disassembly (when the carry-in passage is narrow).....	79
7A-2-1 Separating the Base Assy and the Control Assy.....	79
7B-1 Inspection and Service.....	82
7B. Service .....	82
7B-1-1 Inspection items .....	82
7B-1-2 Compressor maintenance.....	83

(1) Discharging the drained water from the compressor .....	84
(2) Check for extreme noise, vibrations, or strange odors from the compressor .....	84
(3) Inspection of the filter regulator pressure setting .....	85
(4) Check the compressor pressure and startup time .....	87
(7) Inspection of the solenoid valve for drained water discharge .....	89
(8) Inspection of the filter regulator element .....	90
(9) Overhaul .....	90
7B-2 Troubleshooting .....	91
7B-2-1 General .....	91
7B-2-2 Front Assy (monitor, compressor, etc.) .....	92
7B-2-3 Ride Assy .....	93
7B-2-4 Gun Assy .....	94
7B-2-5 Wheel Assy .....	94
7B-3 Error display .....	95
7B-4 Removing and installing Assys and parts .....	96
7B-4-1 Front Assy .....	96
(2) Replacing the switching regulator (24V) .....	99
(3) Replacing the switching regulator (12V) .....	100
(4) Replacing the switching regulator (5V) .....	101
(5) Replacing the AMP PC board .....	102
(6) Replacing the USIO PC board .....	105
(7) Replacing the compressor .....	106
(8) Removing and installing the compressor filter .....	109
(9) Removing and installing the solenoid valve for drained water discharge .....	110
(10) Removing and installing the Y-type strainer .....	111
(11) Replacing the filter regulator .....	112
(12) Replacing the element .....	115
(13) Replacing the LCD monitor .....	117
7B-4-2 Base and Control Assys .....	120
(1) Replacing the USIO PC board .....	120
(2) Replacing the GUN DRIVE PC board .....	121
(3) Replacing the tape LED .....	122
(4) Replacing the coin selector .....	125
(5) Replacing the bellows .....	126
(6) Replacing the pneumatic valves (front) .....	133
(7) Replacing the pneumatic valves (rear) .....	135
(8) Replacing the height sensor (rear) .....	137
(9) Replacing the height sensor (front) .....	139
(10) Replacing the STOP button illuminated switch and LED lamp .....	141
7B-4-3 Seat Assy .....	143
(1) Replacing the tape LED (rear) .....	143
7B-4-4 Gun Assy .....	145
(1) Removing and installing the Gun Assy .....	145

(2) Replacing the START button illuminated switch and LED lamp .....	146
(3) Replacing the potentiometers (left and right side) .....	148
(4) Replacing the potentiometers (upper and lower).....	151
(5) Replacing the microswitch .....	153
(6) Replacing the trigger and spring.....	154
(7) Replacing the vibration unit .....	155
(8) Replacing the gun harness 2.....	158
(9) Replacing the gun solenoid harness .....	160
7B-4-5 Wheel Assy .....	161
(1) Removing and installing the Wheel Assy.....	161
(2) Replacing the photosensor (wheel).....	162
(3) Replacing the wheel .....	164
(4) Replacing the hinge.....	164
(5) Replacing the roller.....	166
8. Disposal.....	167
9. Parts Lists.....	168
9-1 General assembly .....	168
9-2 Front Assy .....	169
9-3 Monitor Assy.....	170
9-3 Monitor Assy .....	171
9-3 Monitor Assy .....	172
9-3 Monitor Assy .....	173
9-5 Cord Box Assy.....	174
9-6 Rack Assy .....	175
9-7 Ride Assy .....	176
9-8 Base Assy .....	177
9-8 Base Assy.....	178
9-9 Control Assy.....	179
9-9 Control Assy .....	180
9-9 Control Assy .....	181
9-9 Control Assy .....	182
9-10 Seat Assy .....	183
9-10 Seat Assy.....	184
9-11 Gun Assy.....	185
9-11 Gun Assy .....	186
9-12 Wheel Assy .....	187
9-13 Service Plate Assy .....	188
10-1 Warranty policy .....	189
10-2 Requests, orders, and procedures.....	189
10-3 Supply period for service parts .....	189

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2

3

4

5

6

7A

7B

8

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CONTENTS

Test mode

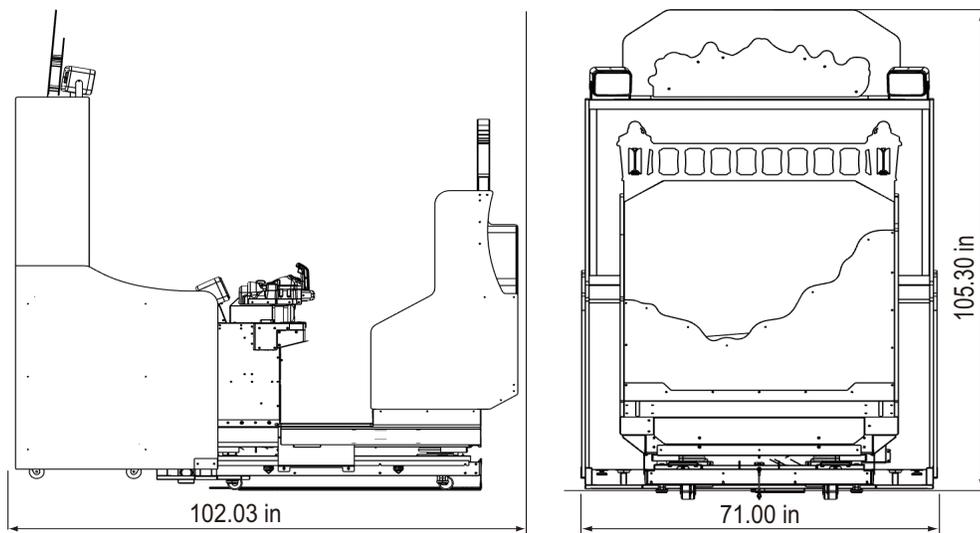
Troubleshooting

# 2. Specifications

- (1) Rated power supply 100V AC  $\pm$ 10V (50/60 Hz)
- (2) Rated power consumption 1,200 W
- (3) Maximum current consumption 13 A
- (4) Monitor LCD monitor
- (5) Dimensions

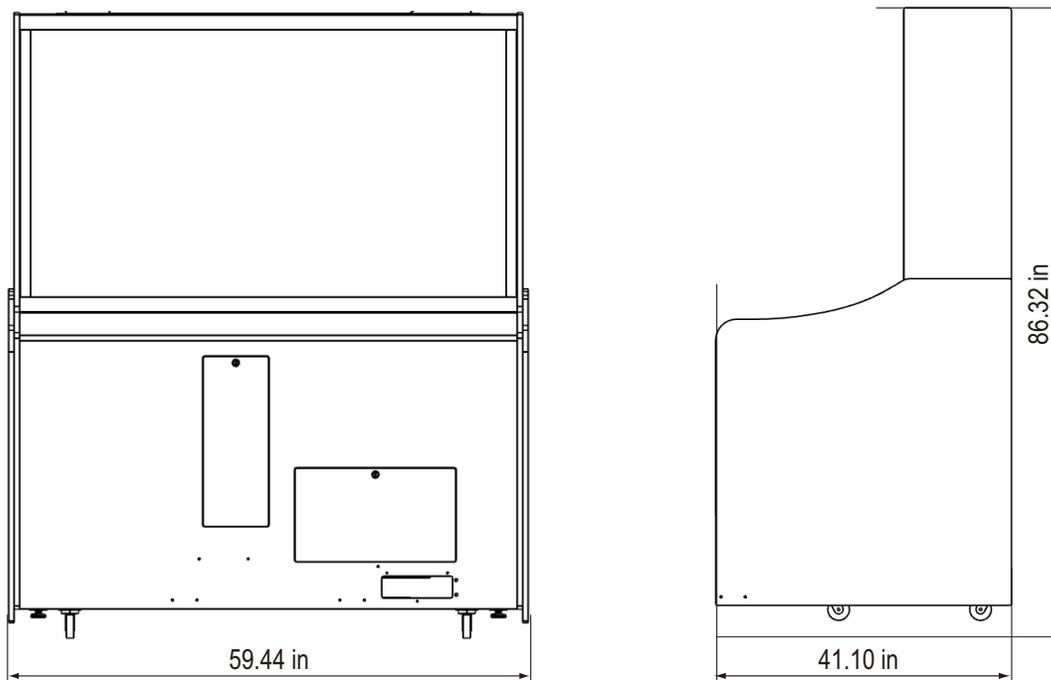
① As installed

71 (W)  $\times$  102 (D)  $\times$  105.30 (H) [IN]



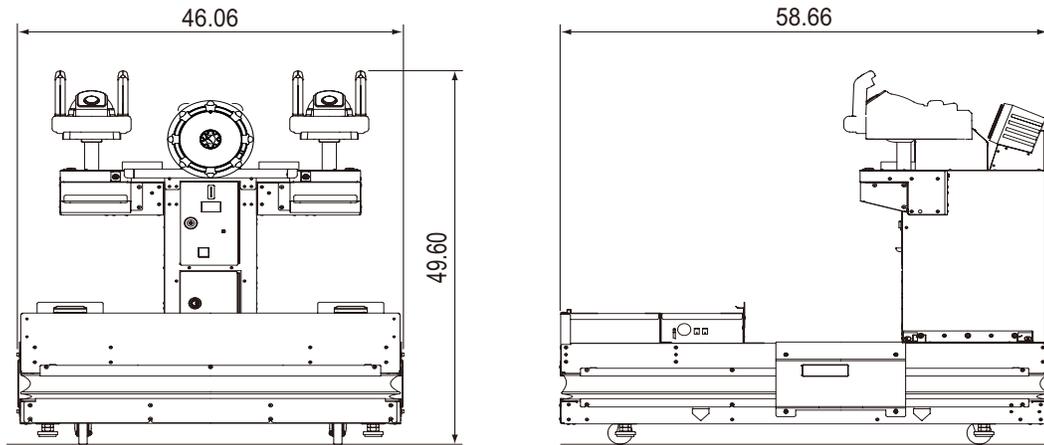
② When separated  
Monitor assy

71.00 (W)  $\times$  41.10 (D)  $\times$  86.32 (H) [in]



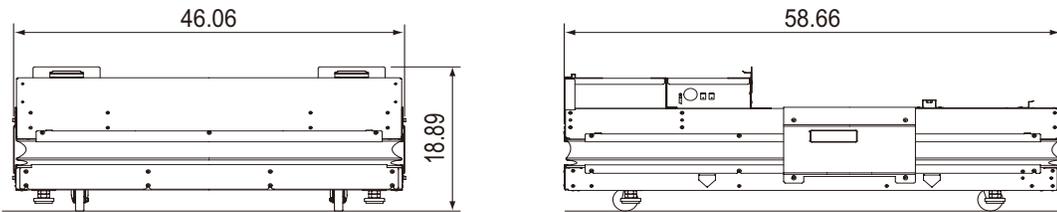
Base and control assys

46.06 (W) × 58.66 (D) × 49.60 (H) [in]



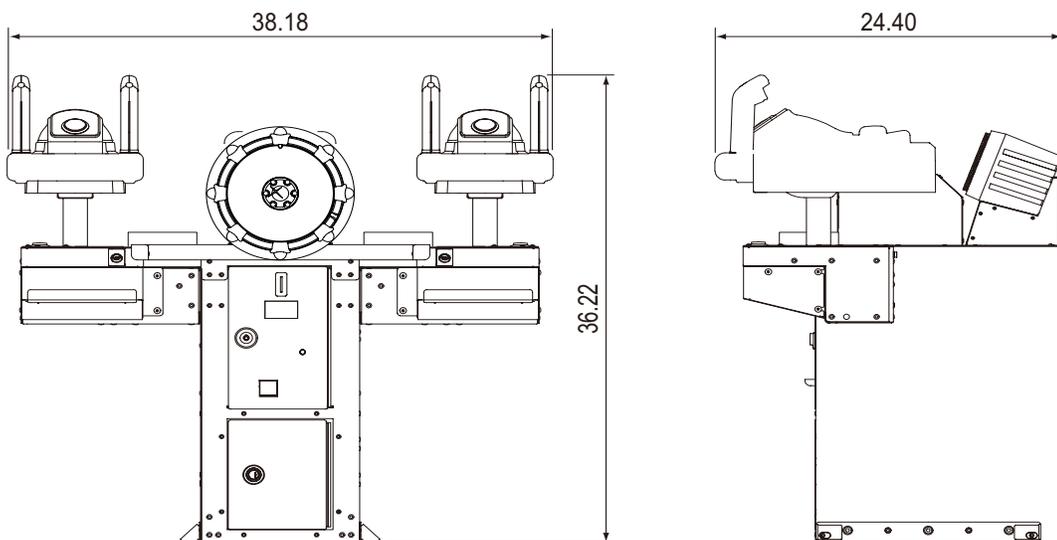
Base assy 9when base and conrol assys are separated)

46.06 (W) × 58.66 (D) × 18.89 (H) [in]



Control assy (when base and control assys are separated)

38.18 (W) × 24.40 (D) × 36.22 (H) [in]



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Specifications

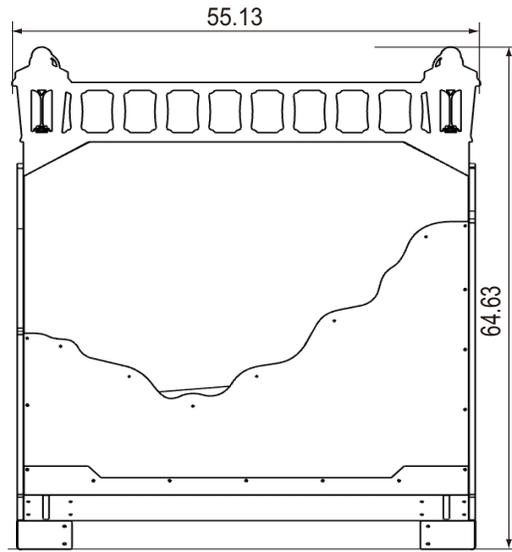
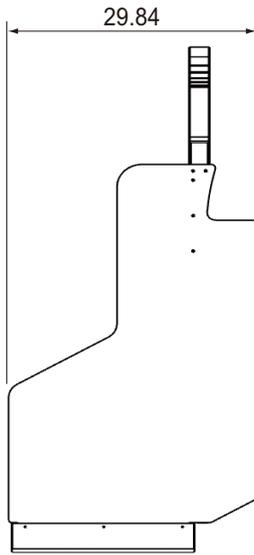
Test mode  
Troubleshooting

## 2. Specifications

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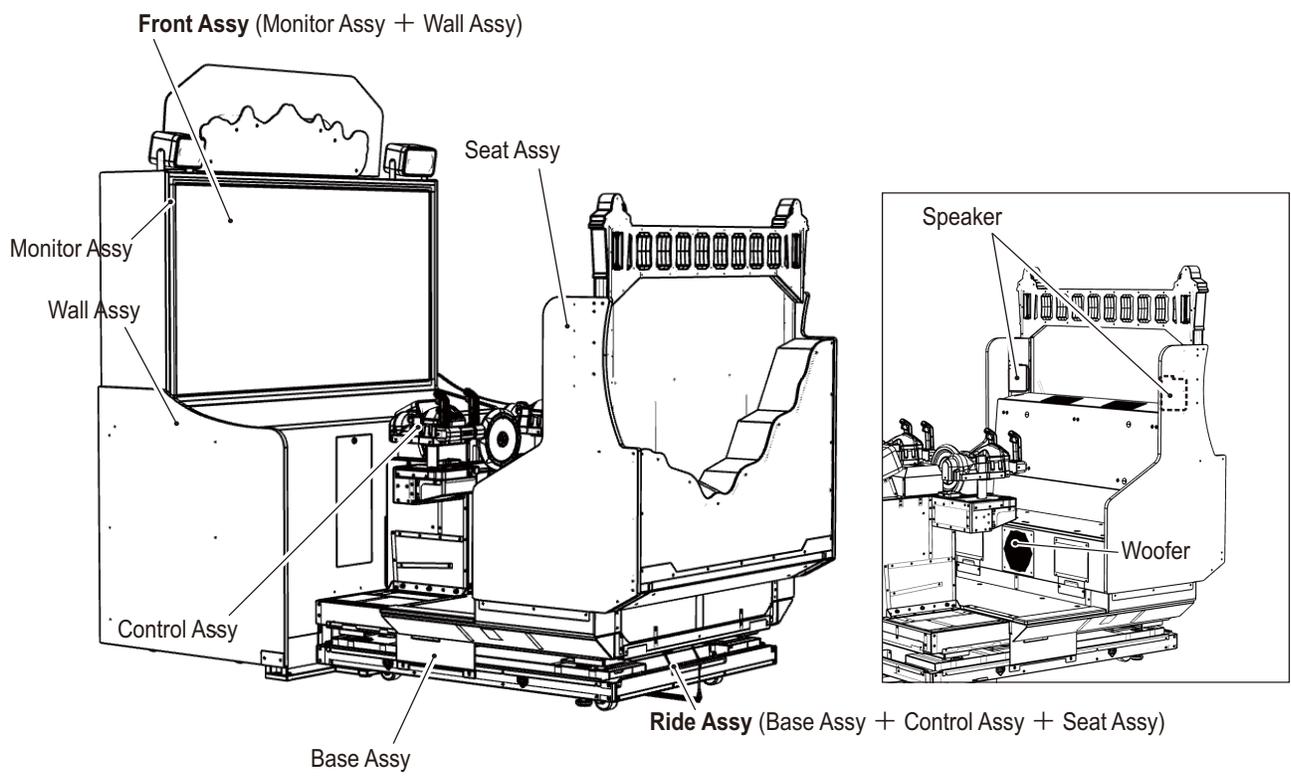
Seat assy

55.13 (W) × 29.84 (D) × 64.63 (H) [in]

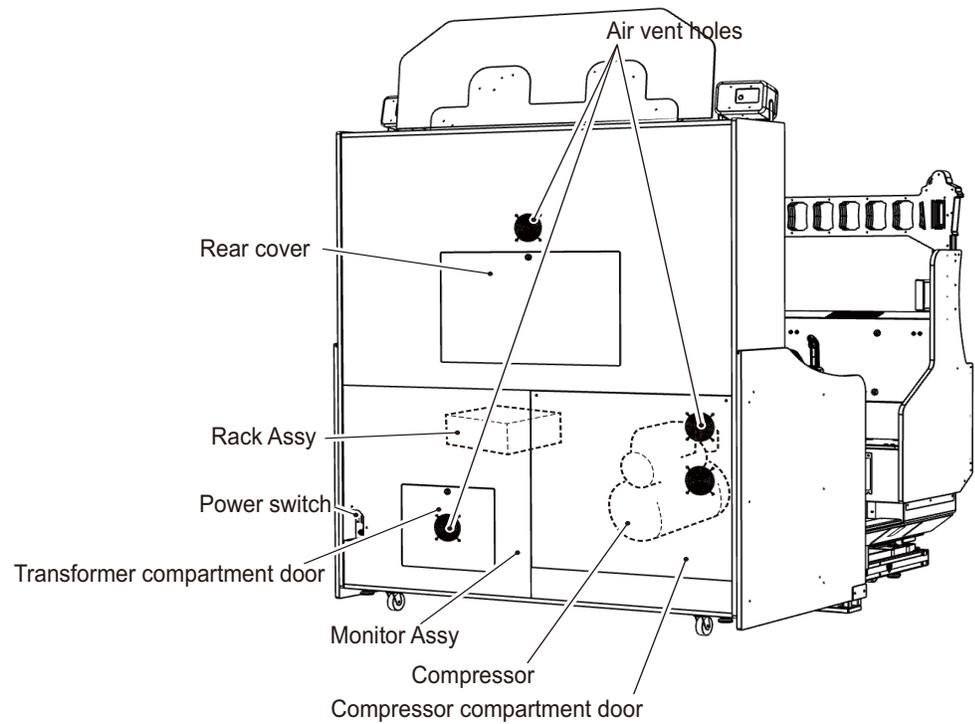


# 3. Overall Structure (Part Names)

## Overall Front



## Rear



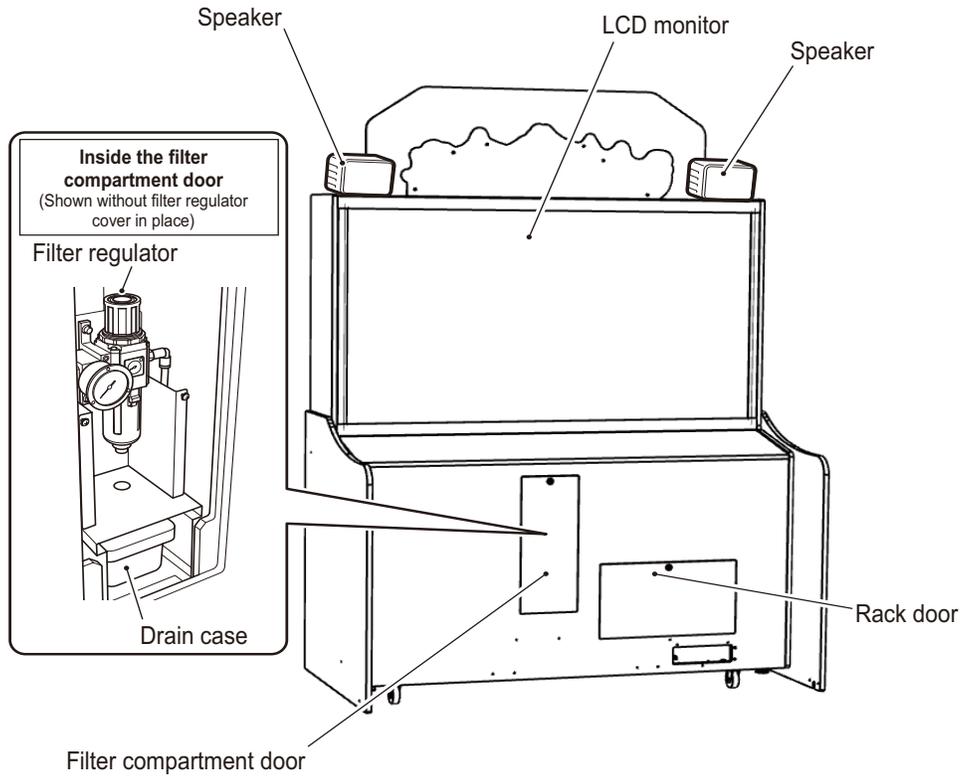
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Overall Structure (Part Names)

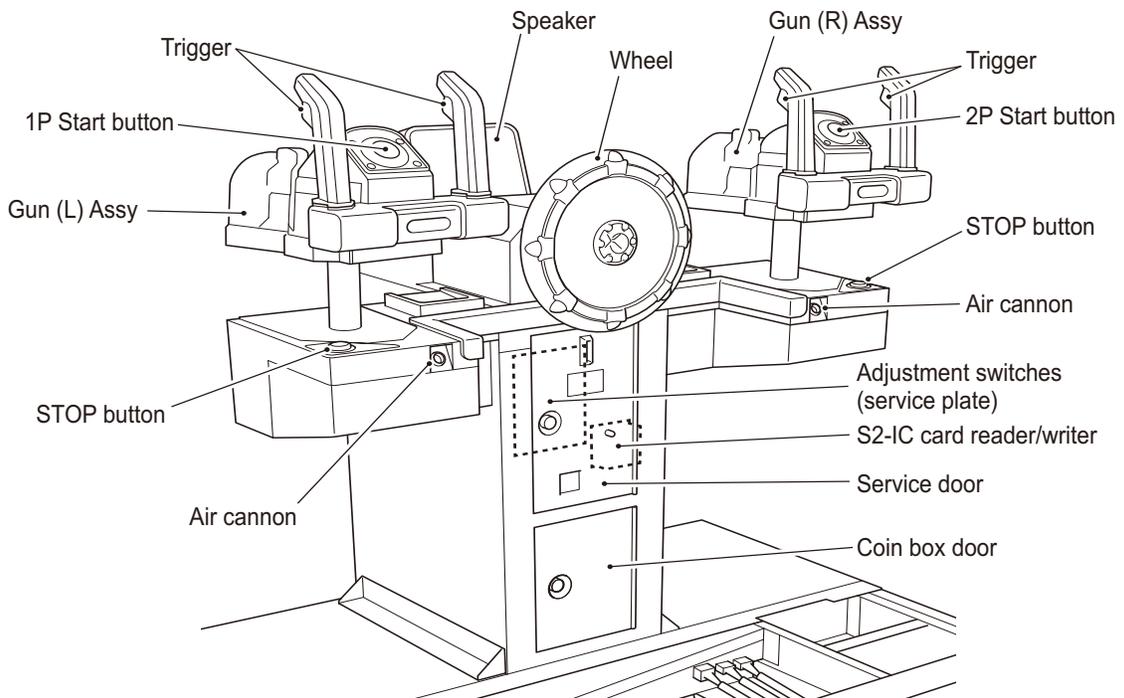
Test mode
Troubleshooting

### 3. Overall Structure (Part Names)

#### Front assembly



#### Control assembly



# 4. Building Access and Installation Requirements

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**⚠ WARNING**

- Follow the instructions in this manual to install the machine. Failure to follow the instructions may result in fire, electric shock, injury, or malfunction.
- Plug the power cord firmly into the outlet. If the cord is not firmly plugged in, it may generate heat and result in fire or burns.
- Be sure to ground the machine. Failure to connect the ground wire may result in electric shock from any electrical fault that occurs. (See “7A-1-4 Connecting the power cord and ground lead,” p. 77.)
- Be sure to install the machine securely by using the level adjusters. Unstable installation may result in accident or injury. (See “7A-1-3 Connecting the Front Assy to the Ride Assy and adjusting the level adjusters,” p. 74.)

## 4-1 Installation requirements

**⚠ WARNING**

- Do not place objects near the air vent holes on the back of the monitor assy or block them with a wall or other obstruction. Blocking the holes will increase the internal temperature, which may result in fire or malfunction.

### 4-1-1 Locations to avoid

**⚠ WARNING**

- The machine is designed for indoor use. Never install it outdoors or in the following places.
  - Places exposed to direct sunlight
  - Places exposed to rain or water leakage
  - Damp places
  - Dusty places
  - Near heaters
  - Hot places
  - Extremely cold places
  - Places where condensation may form due to temperature differences
  - Places where the machine may obstruct access to exits or fire-fighting equipment in emergencies
  - Unstable places, or places subject to vibration

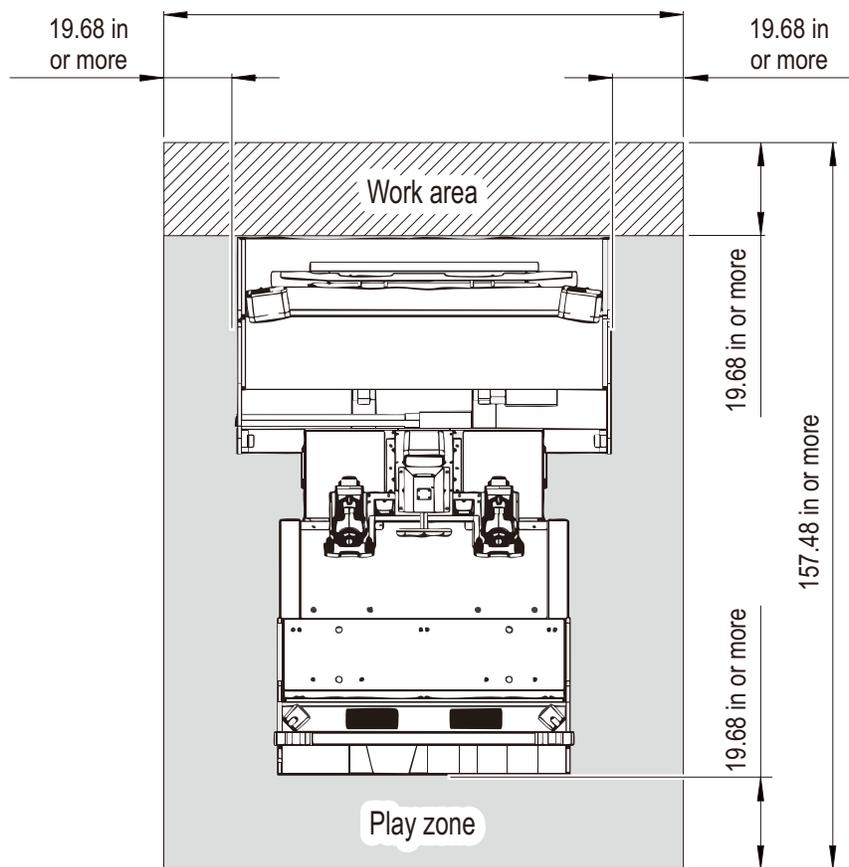
### 4-1-2 Play zone and work area

#### **⚠ WARNING**

- The ride assy is a moving part. Failure to ensure space for the play zone may result in injury if users are wedged against a wall or other game machine.

#### **NOTICE**

- Leave at least 19.68 in of clearance between the rear of the machine and walls or other machines to enable removal of the compressor compartment door, rear cover, and transformer compartment door during maintenance.
- Do not block the air vent holes. (See “3. Overall Structure (Part Names),” p. 13.)
- Floor-to-ceiling height must be at least 100.39 in.



## 4-2 Required dimensions for building access (doors, corridors)

The machine is shipped unassembled. Assembly sizes and weights are as follows.

- **Monitor assy**  
59.44 (W) × 29.92 (D) × 74.01 (H) [in]  
Weight: 507 lbs
- **Base and control assys**  
46.06 (W) × 58.66 (D) × 49.60 (H) [in]  
Weight: 507 lbs
- **Seat assy**  
55.90 (W) × 31.88 (D) × 67.71 (H) [in]  
Weight: 264.55 lbs

Doors and corridors that the machine passes through must be larger than these dimensions. If necessary for delivery, base and control assys can also be separated into sections with the following dimensions.

- **Base assy**  
46.06 (W) × 58.66 (D) × 18.89 (H) [in]  
Weight: 374.78 lbs
- **Control assy**  
38.18 (W) × 24.40 (D) × 36.22 (H) [in]  
Weight: 291.60 lbs

For disassembly instructions, see “7A-2-1 Separating the Base Assy and the Control Assy,” p. 79.

# 5. Moving and Transporting

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## WARNING

- Do not leave the machine on a slope. It may start sliding or rolling by itself, which may result in accidents.

## 5-1 Moving (on the floor)

### CAUTION

- Before moving the machine indoors, separate it into the front and ride assys, and then disassemble the wall assy on the front assy into sizes small enough to carry by hand. Failure to separate the machine may result in accidents such as damaging the floor or, because the surrounding area cannot be seen, hitting people or objects. (See “7A-1 Assembly,” p. 63.)

### NOTICE

- Be careful to avoid damaging the machine when moving it.
- Do not apply excessive force to plastic parts, which may break them.
- Always fully raise the level adjusters, even when moving the machine only a short distance. (See “7A-1-3 Connecting the Front Assy to the Ride Assy and adjusting the level adjusters,” p. 74.)
- Be sure to turn off the power before moving the machine.
- Handle the power cord with care. (See “7A-1-4 Connecting the power cord and ground lead,” p. 77.)

## 5-1-1 Monitor assy

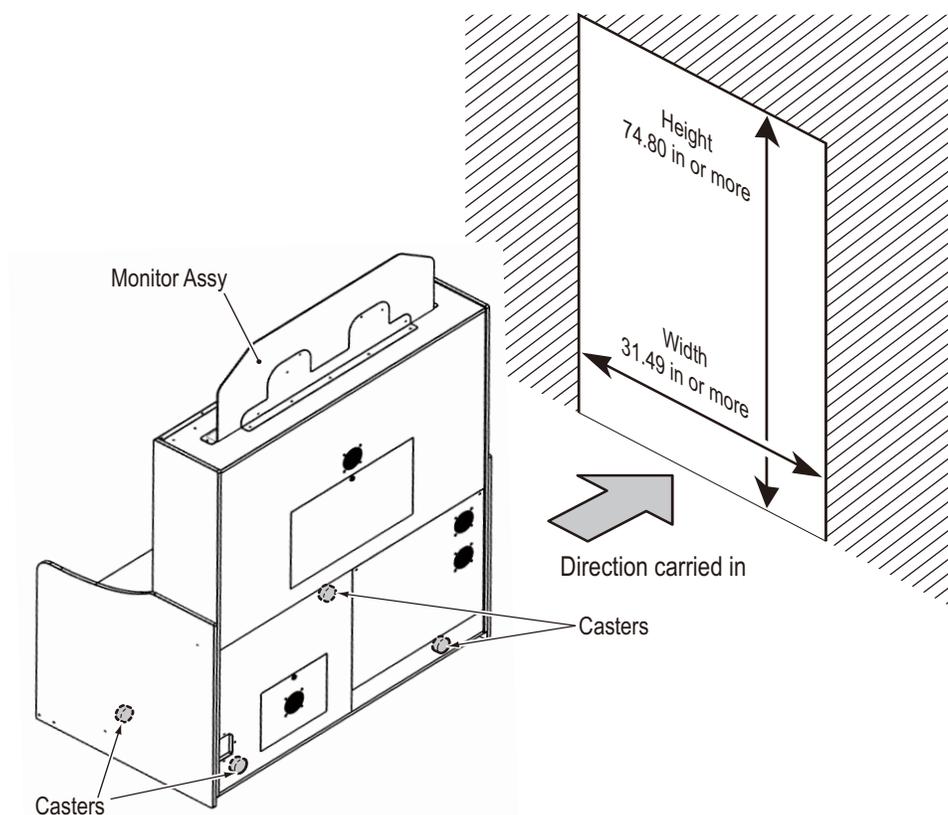
**! WARNING**

- Do not leave the monitor assy on a slope. It may start sliding or rolling by itself, which may result in accidents.

**NOTICE**

- Be careful to avoid damaging the machine when moving it.

- 1 Separate the machine into the front and ride assys, and then remove the wall assy from the front assy. (See "7A-1 Assembly," p. 63.)



- 2 After moving the machine, follow the instructions in reverse to reassemble it. (See "7A-1 Assembly," p. 63.)

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Moving and Transporting

Test mode

Troubleshooting

### 5-1-2 Base and control assys

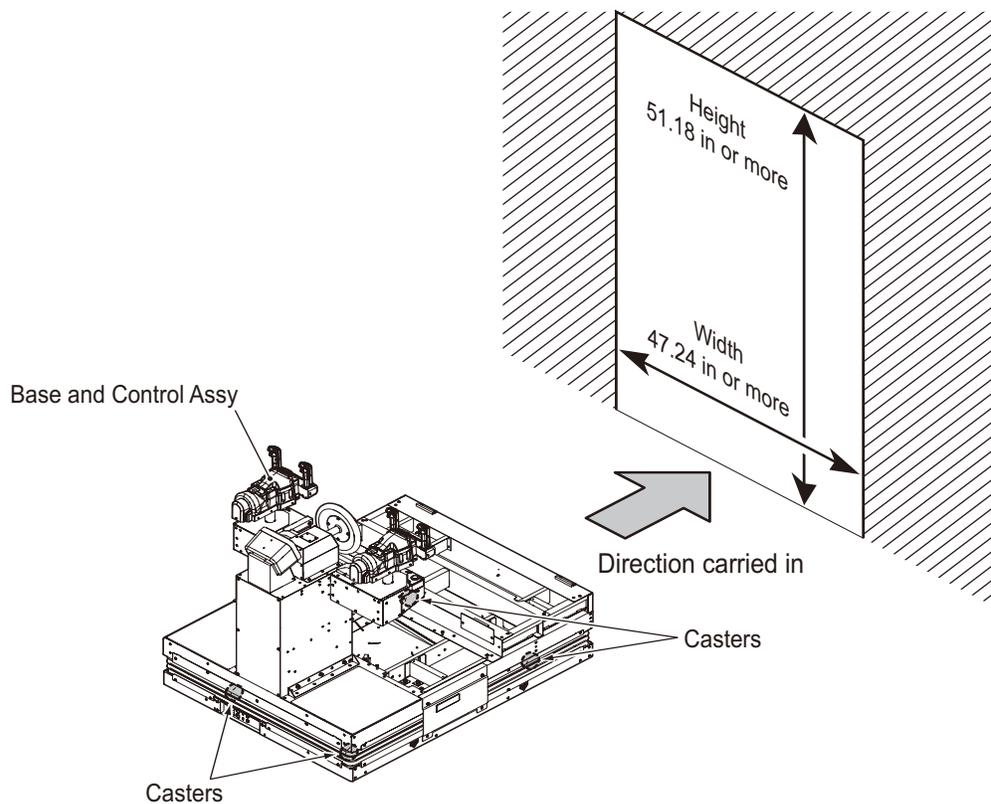
#### WARNING

- Do not leave the base or control assy on a slope. It may start sliding or rolling by itself, which may result in accidents.

#### NOTICE

- Be careful to avoid damaging the machine when moving it.
- Do not apply excessive force to plastic parts.

- 1 Separate the machine into the front and ride assys, and then remove the seat assy from the ride assy. (See “7A-1 Assembly,” p. 63.)



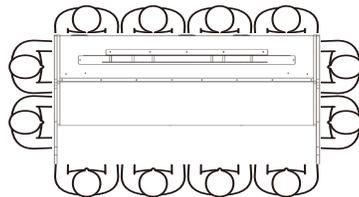
- 2 After moving the machine, follow the instructions in reverse to reassemble it. (See “7A-1 Assembly,” p. 63.)

## 5-2 Transportation

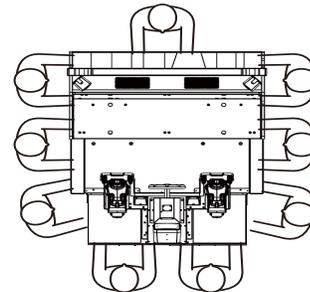
### 5-2-1 Manual transportation (carrying on stairs, etc.)

#### ⚠ WARNING

- Before manually carrying the machine, be sure to separate it into monitor assy, base and control assys, seat assy, wall assy, and fully raise all level adjusters. (Disassemble the wall assy into sizes small enough to carry by hand.) (See “7A-1 Assembly,” p. 63.) Carrying these parts without disassembling them may result in accidents.
- When separating the seat assy, be sure to install the transport casters (2 pcs.) in the indicated positions. Failure to install them may result in accidents such as the assy tipping over. (See steps **8-9** in “7A-1-2 Assembling the Ride Assy,” p. 71.)
- When manually carrying the machine, be sure to have the following number of people involved. Attempting to carry it without enough people may result in accidents.
  - Monitor assy (approx. 507 lbs): 10 people or more
  - Base and control assys (approx. 507 lbs): 9 people or more

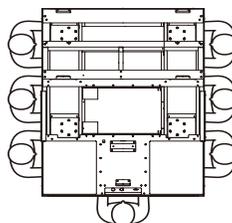


Monitor Assy

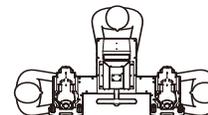


Base and Control Assy

- If it is difficult to carry the machine on stairs or in similar situations, separate the base and control assys and have the following number of people carry them. Attempting to carry it without enough people may result in accidents. (See “7A-2-1 Separating the Base Assy and the Control Assy,” p. 79.)
  - Base Assy (approx. 374.78 lbs): 7 people or more
  - Control Assy (approx. 132.27 lbs): 3 people or more



Base Assy



Control Assy

#### NOTICE

- When lowering the machine down steps, do not subject it to impact.

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Moving and Transporting

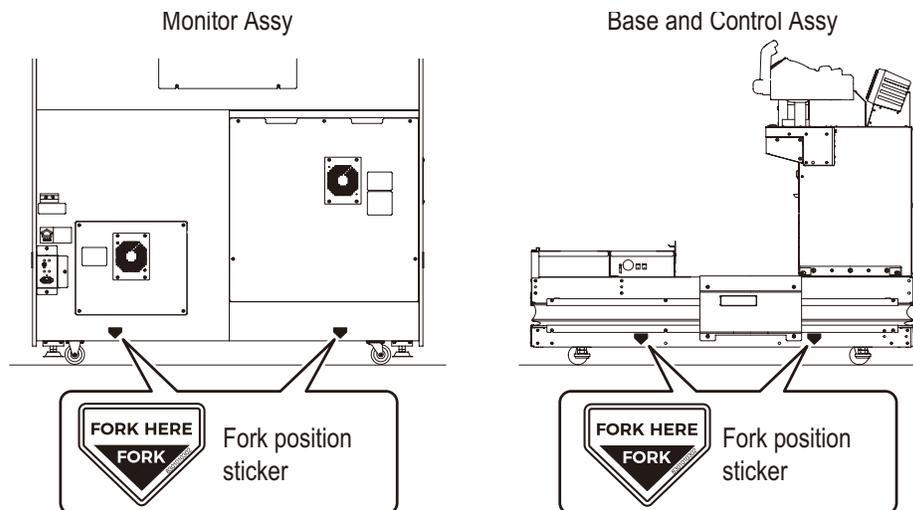
Test mode

Troubleshooting

## 5-2-2 Loading and unloading from vehicles

### **⚠ WARNING**

- Before loading or unloading the machine from vehicles, be sure to separate it into monitor assy, base and control assys, seat assy, wall assy, and fully raise all level adjusters. (Disassemble the wall assy into sizes small enough to carry by hand.) (See “7A-1 Assembly,” p. 63.)  
Failure to separate the machine may result in accidents.
- When separating the seat assy, be sure to install the transport casters (2 pcs.) in the indicated positions. Failure to install them may result in accidents such as the assy tipping over. (See steps **8-9** in “7A-1-2 Assembling the Ride Assy,” p. 71.)
- When using a forklift to transport the machine, follow these precautions.  
Failure to do so may result in accidents such as the machine tipping over.
  - Be sure to attach the base clamp (transport bracket) to the base assy. (See “7A-1-2 Assembling the Ride Assy,” p. 66.)
  - Be sure to insert the forklift forks at the specified positions.
  - Be careful to keep the machine balanced while doing this work.



- When manually carrying the machine, be sure to have the specified number of people involved. Attempting to carry it without enough people may result in accidents. (See “5-2-1 Manual transportation (carrying on stairs, etc.),” p. 21.)

### **NOTICE**

- When lowering the machine down steps, do not subject it to impact.

# 6. Operation

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Operation

## WARNING

- In case of problems, immediately turn off the power switch to stop operation. After this, always unplug the machine.  
Continuing to operate the machine without responding to problems may result in fire or accidents.
- Do not allow dust to build up on the power cord plug, which may result in fire. Check the plug regularly and remove any dust.
- Plug the power cord firmly into the outlet. If the cord is not firmly plugged in, it may generate heat and result in fire or burns.
- Before operation, be sure to confirm that the machine has been installed as described in the instructions and following specified procedures (“7A. Installation and Assembly,” p. 63). Incorrect installation may result in accidents.
- The warning labels indicate important safety precautions. Follow these guidelines. (For details on label positions, see “1-4 Description of warning labels on the machine,” p. 3.)
  - To ensure that the labels are clearly visible, install the machine in an suitable location with enough lighting and keep the labels clean. Also make sure the labels are not hidden behind other game machines or objects.
  - Do not remove or alter the labels.
  - Replace any labels that have become dirty or damaged. Contact your distributor to order new labels.
- To ensure safe operation, be sure to conduct the pre-service check (see “6-4 Pre-service check,” p. 26) and maintenance (see “7B-1 Inspection and Service,” p. 82). Failure to conduct the pre-service check or maintenance may result in accidents.
- Failure to clean the machine over extended periods when dust has accumulated inside may result in fire or failure. After purchase, clean inside the machine regularly.

## 6-1 People who shouldn't play

### CAUTION

- For player safety, make sure the following people do not play the game. Failure to do so may result in accidents.
  - People whose feet do not reach the step (floor) when seated
  - People who are injured or ill
  - People with a weak heart
  - People in poor physical condition
  - People who are intoxicated
  - People who are pregnant
  - People who violate the warnings on the machine

Test mode

Troubleshooting

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## 6-2 Safety precautions to be observed by players

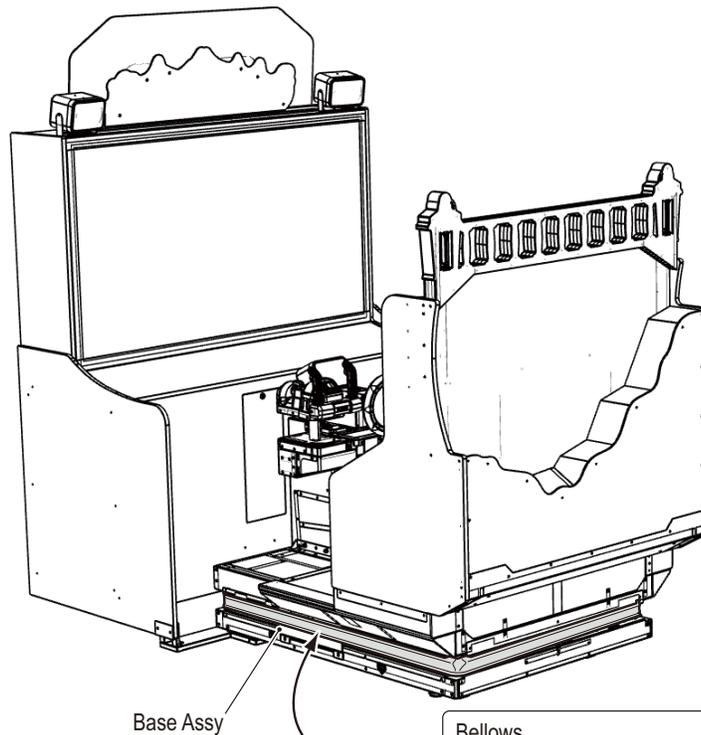
 **CAUTION**

- Warn players in the following cases in order to prevent accidents. Failure to respond appropriately may result in accidents.
  - Three or more people are playing the game together.
  - During gameplay, people other than players are in an area indicated as hazardous by warning labels.
- Help any players who feel unwell from game images or light stimulation to stop playing immediately and rest.
- In very rare cases, some people may faint or have convulsions from video games or light stimulation. Advise anyone with these symptoms to see a doctor immediately. Especially for players who are younger than elementary school age, be sure to ask parents or guardians to supervise their children.

## 6-3 Explanation of critical parts for safety of players and bystanders

### ! WARNING

- The machine includes key parts to ensure player and bystander safety. Immediately replace or reinstall these parts correctly if they are damaged, broken, worn out, or incorrectly installed, which may result in injury to players or bystanders. Contact your distributor to order parts.



Base Assy

Bellows  
Part No.: GSP97-23693-00  
Prevents bystanders from getting hands or feet caught between moving and fixed parts during gameplay.

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Operation

Test mode

Troubleshooting

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## 6-4 Pre-service check

Check the following items before operation.

Troubleshoot any problems as described in “7B-2 Troubleshooting,” p. 91.

### 6-4-1 Safety check (before turning the power switch on)

#### **WARNING**

- Immediately replace or reinstall parts correctly if they are damaged, broken, worn out, or incorrectly installed, which may result in injury to players or bystanders. Contact your distributor to order parts.
- Before operation, check the points listed below. This is necessary to prevent accident or injury.
- Before operation, check “4-1-1 Locations to avoid,” p. 15. This is necessary to prevent accident or injury.

- (1) Warning labels are intact.  
(See “1-4 Description of warning labels on the machine,” p. 3.)
- (2) Warning labels are clearly visible.  
(See “1-4 Description of warning labels on the machine,” p. 3.)
- (3) All level adjusters have been adjusted correctly. (See “7A-1-3 Connecting the Front Assy to the Ride Assy and adjusting the level adjusters,” p. 74.)
- (4) Space has been provided for the play zone.  
(See “4-1-2 Play zone and work area,” p. 16.)
- (5) The power cord has been routed to prevent players and bystanders from tripping over it.
- (6) The power cord is firmly plugged in and connected to the machine.  
(See “7A-1-4 Connecting the power cord and ground lead,” p. 77.)
- (7) The plug is free of dust.  
(See “7A-1-4 Connecting the power cord and ground lead,” p. 77.)
- (8) The base assy bellows is intact.  
(See “6-3 Explanation of critical parts for safety of players and bystanders,” p. 25.)

Check the following items after turning the power switch on. In case of problems, immediately turn off the power switch, unplug the machine, and contact your distributor.

- (10) No part of the power cord or plug is abnormally hot.
- (11) Touching the machine does not cause a tingling sensation from electricity.
- (12) There are no burning odors, abnormal noises, or vibration.
- (13) There are no other signs of abnormality or malfunction.
- (14) The Stop button works correctly.  
(See “6-7-5 (B) Switch Test,” p. 42.)

## 6-4-2 Operation check (after turning the power switch on)

Check the following items in test mode. (See “6-6-2 Adjustment switches,” p. 33.)

- (1) Lamp check (to confirm illumination of LED, Stop, and Start buttons)  
(See “6-7-5 (F) Lamp Output Test,” p. 49.)
- (2) Start button operation check  
(See “6-7-5 (B) Switch Test,” p. 42.)
- (3) Wheel operation check  
(See “6-7-5 (D) Wheel Test,” p. 47.)
- (4) Gun operation check  
(See “6-7-5 (C) Gun Test,” p. 45.)
- (5) Air canon operation check  
(See “6-7-5 (E) Fan Test,” p. 48.)
- (6) Display check (to confirm monitor operation)  
(See “6-7-6 Monitor Test: Monitor adjustment,” p. 53.)
- (7) Audio check (to confirm sound from each speaker)  
(See “6-7-7 Sound Test: Sound adjustment,” p. 54.)

## 6-4-3 Compressor check

Daily inspection and maintenance items are as follows.

- Dispose of drained water from the compressor
- Check for excessive compressor noise, vibration, or odors
- Check the filter regulator pressure setting

Other inspection should be performed by a technician.

(See “7B-1-2 Compressor maintenance,” p. 83.)

### (1) Disposing of drained water from the compressor

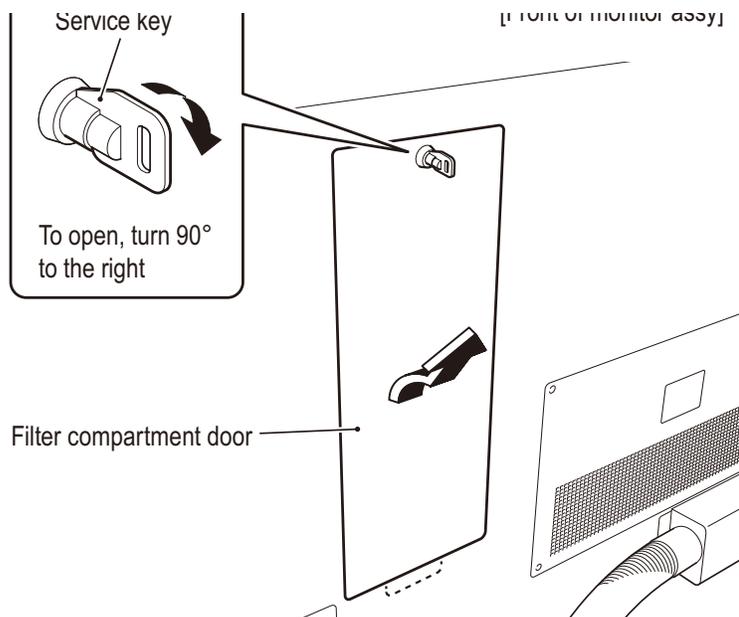
Failure to dispose of drained water from the compressor may result in water entering pneumatic parts and causing malfunction.

Rust or other substances may also remain in the air tank, which may result in malfunction of pneumatic parts such as the filter regulator.

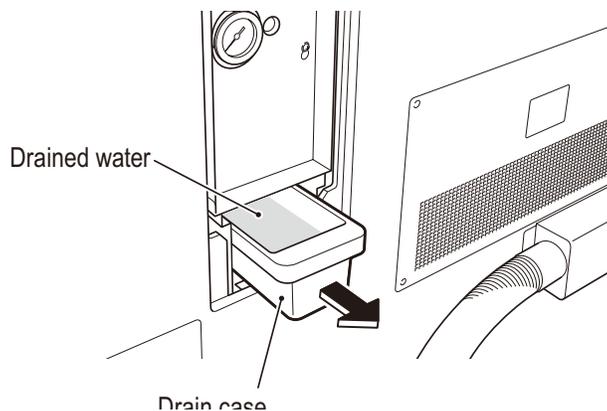
- 1** Turning the power switch off (see “8-6-1 Power switch location and turning on the switch,” p. 32) automatically discharges compressed air and drained water from the compressor.

- 2 Wait about 2 minutes. After this, use the included service key to unlock and open the filter compartment door.

Note: Drained water may splash out if you open the filter compartment door while you can still hear discharging in progress.



- 3 Dispose of the drained water in the drain case.

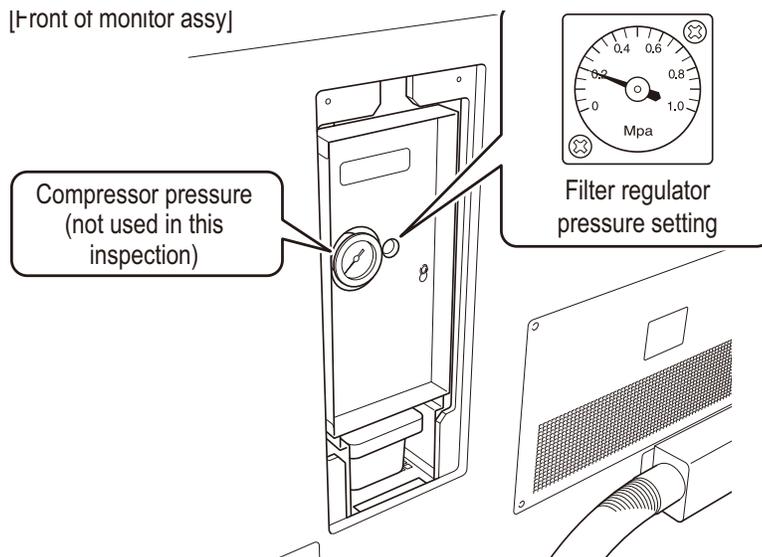


## (2) Checking for excessive compressor noise, vibration, or odors

- 1 Check for excessive noise or vibration during compressor operation.
- 2 In case of noise or vibration, turn the power switch off (see "6-6-1 Power switch location and turning on the switch," p. 32) and make sure compressor mounting parts, bolts, and nuts are tight. (See "7B-4-1 (7) Replacing the compressor," p. 106.)  
In case of noise or vibration after retightening, contact your distributor.

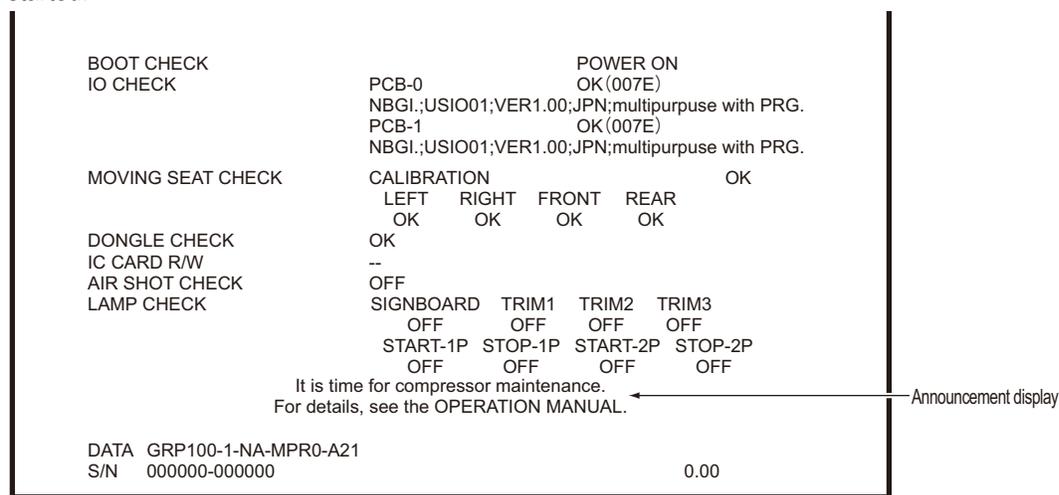
### (3) Checking the filter regulator pressure setting

- 1 Turn the power switch on (see “6-6-1 Power switch location and turning on the switch,” p. 32) and wait until the compressor stops. (About 4 minutes.)
- 2 Using the included service key, open the filter compartment door. Check the indicator position on the filter regulator. The normal range is 0.15–0.20 MPa.



### (4) Compressor maintenance timing check display at startup

When it is time for compressor maintenance, the following message is displayed when the game is started.



Startup Check screen

After the countdown on this screen ends, press the gun assy Start button to access the title screen.

Check the compressor timer in test mode.  
(See “6-7-10 (G) Compressor Timer,” p. 60.)

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Operation

Test mode

Troubleshooting

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## 6-5 How to play

### (1) Basic rules

1. Shoot approaching enemy pirates and monsters.
2. Avoid being cut or bitten by enemies, which reduces your life level.  
The life level is also reduced if the wheel is not turned as instructed in steering scenes. When the life level reaches 0, the game is over.
3. Also shoot targets on enemies or thrown weapons to defeat or destroy them.
4. Besides normal targets, gold targets appear on powerful, difficult enemies. Use “dual shots” for these enemies. (See “6-5 (3) Description of game system,” p. 30.)
5. A score for combined play is shown on the result screen when two players play together. Higher scores are possible by using dual shots well to defeat enemies, or by steering with the wheel to evade danger.

### (2) Game controls

1. Shooting with the golden gun  
Pull the trigger of the gun-shaped controller (gun assy) to shoot. Hold down the trigger to shoot continuously.  
Note: To accommodate players who pull the trigger repeatedly instead of holding it down, pressing the trigger fires continuously for a few seconds.
2. Shooting with other weapons (cannon, crossbow)  
In scenes where the weapon changes, pulling the trigger fires from the new weapon. Unlike using the golden gun, there is a slight delay before the next shot is fired.
3. Steering with the wheel  
Gameplay sometimes involves steering with the wheel to control ships, avoid enemy attacks, and so on. Evade danger by following the on-screen instructions to steer.

### (3) Description of game system

1. Dual shot  
Shooting with both gunsights aligned creates a dual shot with stronger firepower. Dual shooting is indicated by a larger, combined gunsight, and the color and sound of shots changes.  
Use dual shots to defeat enemies with gold targets.  
Dual shots are also an easy way to defeat other enemies.
2. Red barrel  
Shooting red barrels on ships or in pirate hideouts causes them to explode.  
You can shoot a barrel when enemies are near it to catch all of them in the explosion.
3. Treasure chest  
Shooting treasure chests on ships or in pirate hideouts increases your score.
4. Gold rush  
Shooting the golden gems that appear during the game powers up your gun, enabling it to destroy many enemies at once.  
Enemies destroyed this way also turn into gold, giving you chances to get more gold.
5. Golden treasure  
Destroying obstacles set up in various places in the game gives you access to areas filled with treasure. Shooting as many pieces of treasure as possible in the time available earns large amounts of gold.

6. Health regeneration bonus  
After each stage, the gold you have earned is used to restore your health.  
Get lots of gold to restore your health for the next stage.
7. Continue roulette  
If one player continues gameplay after a two-player game, their partner also recovers some of their health. The amount restored is determined by a spinning roulette wheel displayed when gameplay is continued. After a while, the wheel stops spinning.

#### (4) Start button

1. Gameplay starts on the side where the Start button is pressed.  
Pressing the left Start button starts as Elle (red) and pressing the right one starts as Radd (blue).
2. Another player can join a game at any time.
3. Scenes between gameplay can be skipped by pressing the Start button while [Press Start to Skip] is displayed.

#### (5) Stop button

1. To stop seat motion during the game, press the Stop button.
2. Press the Stop button again to resume seat motion.

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Operation

Test mode

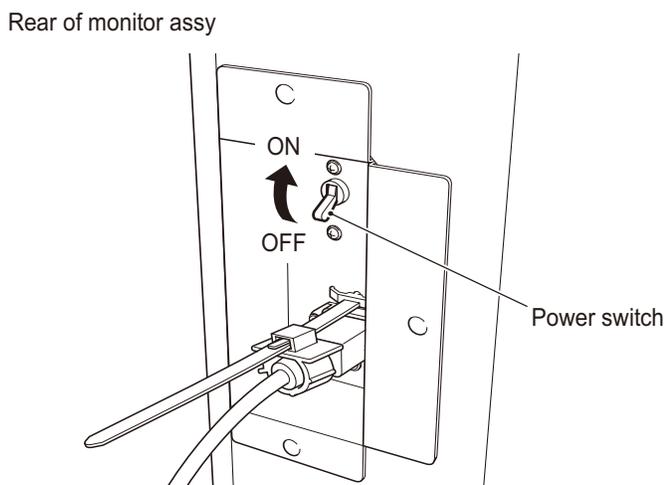
Troubleshooting

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## 6-6 Explanation of the power switch and adjustment switches

### 6-6-1 Power switch location and turning on the switch

Set to ON to turn the machine on.



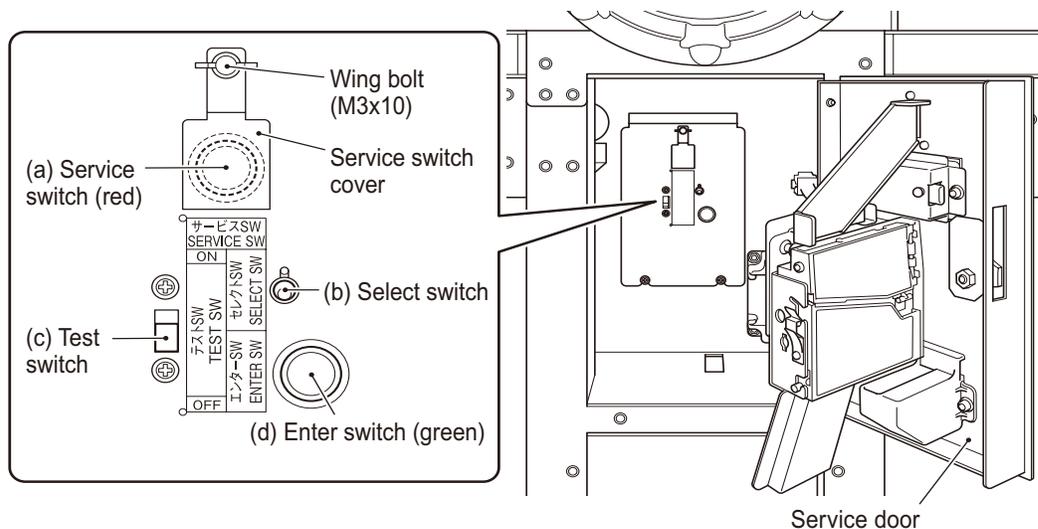
**NOTICE**

- Only turn on the power switch after installation is complete.
- Wait at least 30 seconds after turning the machine on or off to turn it off or on again. Avoid turning the machine on and off excessively, which may result in backup memory corruption. (When draining the compressor, wait at least 2 minutes between turning the machine on and off. See “6-4-3 (1) Disposing of drained water from the compressor,” p. 27.)

## 6-6-2 Adjustment switches

Adjustment switches are available behind the service door.

- 1** Use the included service key to open the service door.



### (a) Service switch (red)

To increase the credit count without activating the coin counter, loosen the wing bolt (M3x10), slide the service switch cover aside, and press this switch.

Note: When there is a charge for operation (Yu-ai), the service switch increases the number of credits, which incur a charge when used.

### (b) Select switch

To select setting items or options (values) in test mode, flip the switch up or down.

### (c) Test switch

To activate test mode, set to ON. Test mode enables testing of each part, such as monitor testing. (See "6-7 Test mode," p. 34.)

### (d) Enter switch (green)

After selecting a setting item or option (value) with the Select switch, press this switch to enter or execute the selection.

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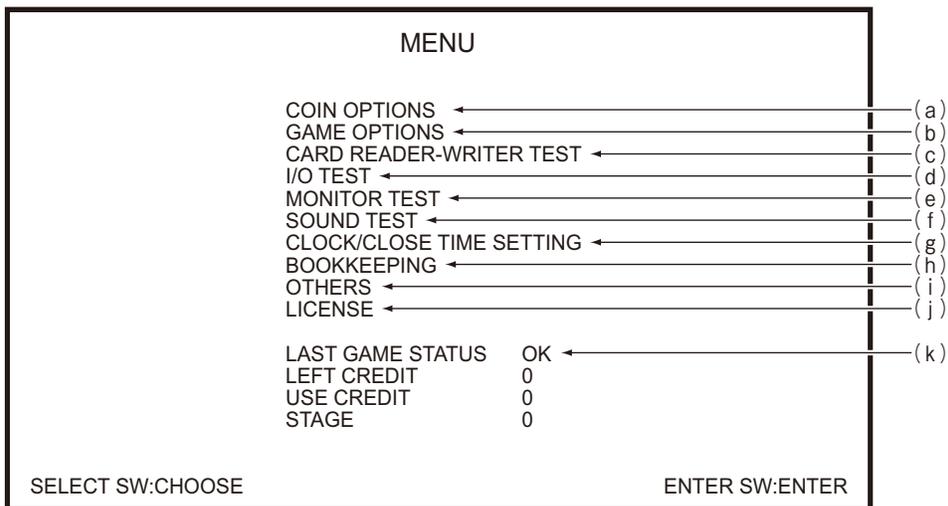
Test mode

Troubleshooting

## 6-7 Test mode

### 6-7-1 Description of menu screen (Menu)

- 1** Open the service door and set the Test switch to ON. (See “6-6-2 Adjustment switches,” p. 33.)  
The Menu screen is displayed.



Menu screen

Options and information on this screen are as follows.

Item	Description	For Reference
(a) Coin Options	Set the cost of playing, etc.	See 6-7-2, p. 36
(b) Game Options	Set game details.	See 6-7-3, p. 37
(c) Card Reader-Writer Test	Test card reading/writing.	See 6-7-4, p. 39
(d) I/O Test	Test switches, sensors, etc.	See 6-7-5, p. 40
(e) Monitor Test	Adjust the monitor.	See 6-7-6, p. 53
(f) Sound Test	Adjust the volume, etc.	See 6-7-7, p. 54
(g) Clock/Close Time Setting	Set the time, etc.	See 6-7-8, p. 56
(h) Bookkeeping	Check game data.	See 6-7-9, p. 57
(i) Others	Test PCBs, initialize memory, etc.	See 6-7-10, p. 58
(j) License	License information	—
(k) Last Game Status	Information about previous gameplay	—

- 
- 2** Navigate the menu by flipping the Select switch up or down.  
The current item blinks.  
Note: On screens that include an [Exit] option, after configuring settings, you can select [Exit] to return to the previous screen.
  - 3** When the item is selected, press the Enter switch.  
Setting options are displayed.
  - 4** After all adjustments are finished, set the Test switch to OFF.  
The display returns to the game screen.

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Operation

Test mode

Troubleshooting



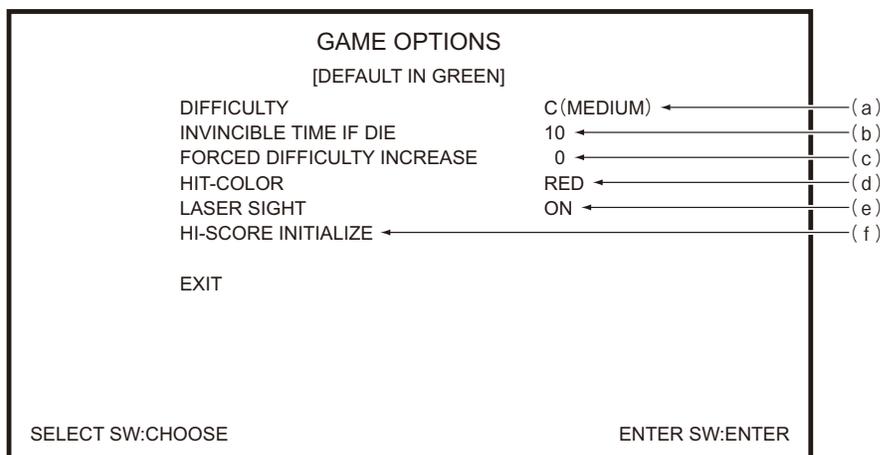
### 6-7-3 Game Options: Setting game details

Set game details and perform similar tasks.

- 1 On the Menu screen, select [Game Options] and press the Enter switch. (See “6-7-1 Description of menu screen (Menu),” p. 34.)

The Game Options screen is displayed.

Setting options are shown in green if they are the default values.



Game Options screen

Setting items on this screen are as follows.

Item	Description	Default
(a) Difficulty	Set the game difficulty level. A (Very Easy) B (Easy) C (Medium) D (Hard) E (Very Hard)	C (Medium)
(b) Invincible Time If Die	Set the time for the remaining player to be invincible after one player in a 2-player game dies.	10
(c) Forced Difficulty Increase	Set to force the highest difficulty level after your specified number of seconds.	0
(d) Hit-Color	Set the color representing blood that is displayed when damage is inflicted. Red: Red effect Green: Green effect	Red
(e) Laser Sight	Set whether to assist players by showing a line from the barrel of their gun at the bottom of the screen. On: Assist line Off: No assist line	On

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Operation

Test mode

Troubleshooting

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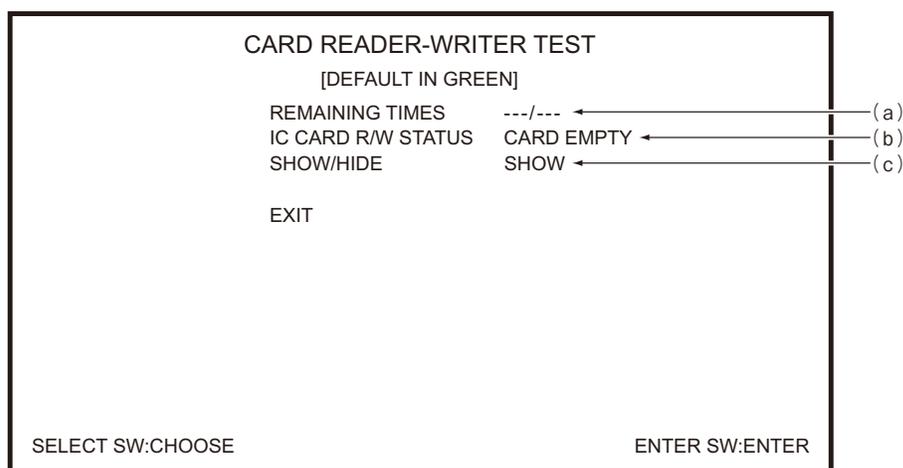
Item	Description	Default
(F) Hi-Score Initialize	Set whether to initialize high score data. After this item is selected, [Yes] and [No] options are displayed. To initialize the data, select [Yes]. Select [No] to return to the menu and maintain the original state.	-

- 2** Navigate the menu by flipping the Select switch up or down.  
The current item blinks.
- 3** When the item is selected, press the Enter switch.
- 4** After the item is ready to configure, use the Select switch to change the setting to your preferred option.
- 5** After changing the setting option, press the Enter switch to return to the menu.
- 6** To return to the main Menu screen, select [Exit] and press the Enter switch.

## 6-7-4 Card Reader-Writer Test: Card reading/writing settings

Configure settings related to the card reader/writer.

- 1** On the Menu screen, select [Card Reader-Writer Test] and press the Enter switch. (See “6-7-1 Description of menu screen (Menu),” p. 34.)  
The Card Reader-Writer Test screen is displayed.  
Setting options are shown in green if they are the default values.



Card Reader-Writer Test screen

Options and information on this screen are as follows.

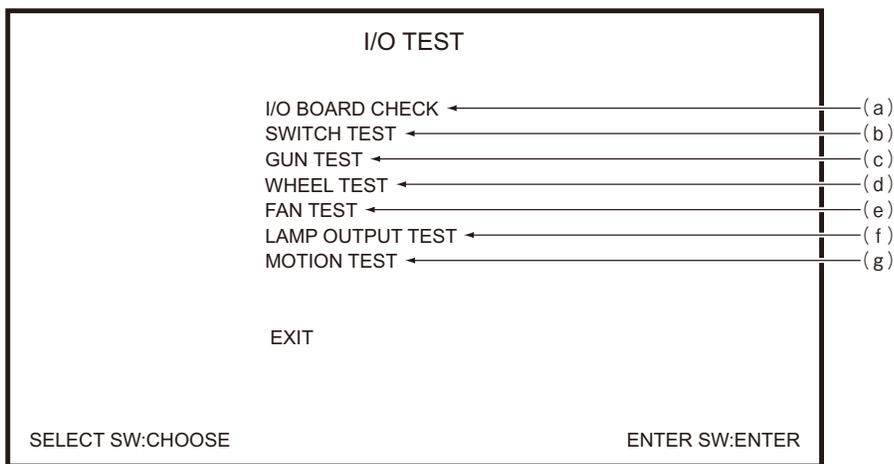
Item	Description	Default
(a) Remaining Times	Shows the credit left on the card. Remaining credit is shown on the left of the slash and remaining plays on the right.	–
(b) IC Card R/W Status	Shows card reader/writer information. Connect OK: Communication with the card reader/writer is possible, and no errors have occurred Connect NG: Cannot communicate with the card reader/writer Card Data Error: Invalid card detected (such as a card for other products) Card Empty: Card not inserted (for reader/writers that can detect cards) Initializing: Currently initializing the card reader/writer	Card Empty
(c) Show/Hide	Activates or deactivates in-game display of plays left on the card.	Show

- 2** Navigate the menu by flipping the Select switch up or down.  
The current item blinks.
- 3** When the item is selected, press the Enter switch.
- 4** After the item is ready to configure, use the Select switch to change the setting to your preferred option.
- 5** After changing the setting option, press the Enter switch to return to the menu.
- 6** To return to the main Menu screen, select [Exit] and press the Enter switch.

### 6-7-5 I/O Test: Testing switches, sensors, etc.

Test input/output of switches and other parts.

- 1** On the Menu screen, select [I/O Test] and press the Enter switch.  
 (See “6-7-1 Description of menu screen (Menu),” p. 34.)  
 The I/O Test screen is displayed.  
 Setting options are shown in green if they are the default values.



I/O Test screen

Setting items on this screen are as follows.

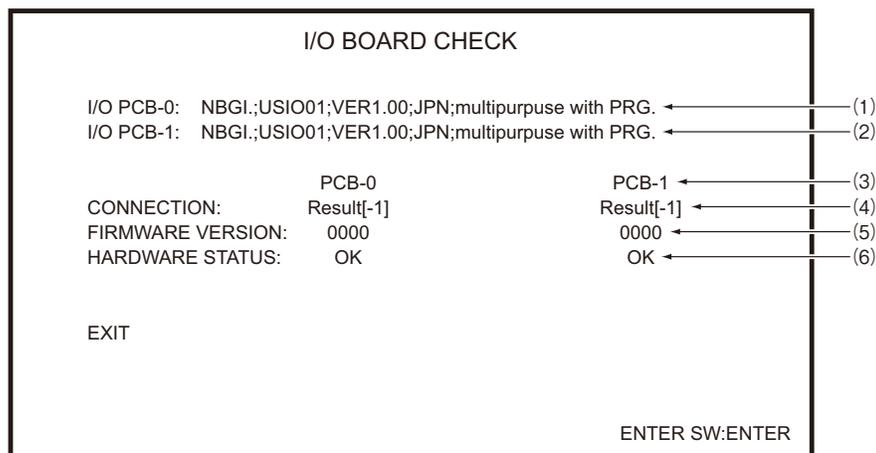
Item	Description	For Reference
(a) I/O Board Check	I/O PCB check	p. 41
(b) Switch Test	Switch input test	p. 42
(c) Gun Test	Gun assy testing, calibration	p. 45
(d) Wheel Test	Wheel test	p. 47
(e) Fan Test	Air cannon test	p. 48
(f) Lamp Output Test	Button and LED illumination tests	p. 49
(g) Motion Test	Ride assembly movement test	p. 50

- 2** Navigate the menu by flipping the Select switch up or down.  
 The current item blinks.
- 3** When the item is selected, press the Enter switch.  
 After your selection is entered, setting options are displayed.
- 4** To return to the main Menu screen, select [Exit] and press the Enter switch.

## (a) I/O Board Check

Checks USIO PCB status.

- 1 On the Menu screen, select [I/O Board Check] and press the Enter switch. (See “6-7-5 I/O Test: Testing switches, sensors, etc.,” p. 40.)  
The I/O Board Check screen is displayed.



I/O Board Check screen

Information on this screen is as follows.

Item	Description	Display When Normal
(1) I/O PCB-0	The ID no. of I/O PCB-0 is shown if results are normal.	NBGL.;USIO01;VER1.00; JPN;multipurpose with PRG
(2) I/O PCB-1	The ID no. of I/O PCB-1 is shown if results are normal.	NBGL.;USIO01;VER1.00; JPN;multipurpose with PRG
(3) PCB-0 PCB-1	Status of I/O PCB-0 and I/O PCB-1 is listed below each name.	-
(4) Connection	Shows PCB connection status Connected: Connected Result[-1]: Not connected	Connected
(5) Firmware Version	Shows the firmware version 007E: Connected 0000: Not connected	007E
(6) Hardware Status	Shows hardware status Green when normal, red when abnormal OK: Normal Error code display: Abnormal	OK

- 2 To return to the I/O Test screen, select [Exit] and press the Enter switch.

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Operation

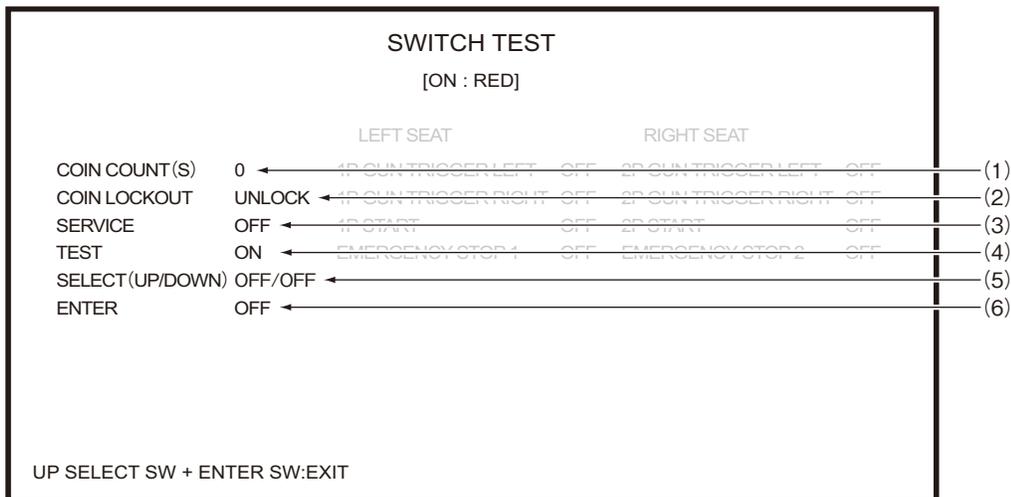
Test mode

Troubleshooting

## (b) Switch Test

Test various switches.

- 1 On the I/O Test screen, select [Switch Test] and press the Enter switch.  
 (See “6-7-5 I/O Test: Testing switches, sensors, etc.,” p. 40.)  
 The Switch Test screen is displayed.  
 Parameters set to ON are shown in red.



Switch Test screen (left)

Options and information on this screen are as follows.

Item	Description
(1) Coin Count (S)	Each coin switch input increases the count by 1. After 255, the count returns to 0. The coin counter is also activated.
(2) Coin Lockout	Shows coin lockout status. Each press of the Enter switch changes the status as follows: Lock → Unlock → Lock...
(3) Service	Changes to ON while the Service switch is pressed. (Credit is not added when the switch is pressed in test mode.)
(4) Test	Changes to ON when the Test switch is set to ON. (ON is always displayed, because this is a test mode screen.)
(5) Select (Up/Down)	Shows up/down input status of the Select switch. “Up” status is shown on the left side of the slash and “down” status on the right, with ON indicating that the Select switch is in that position.
(6) Enter	Changes to ON while the Enter switch is pressed.

SWITCH TEST					
[ON : RED]					
			LEFT SEAT		RIGHT SEAT
COIN COUNT(S)	0	1P GUN TRIGGER LEFT	OFF	←	1P GUN TRIGGER LEFT OFF (7)
COIN LOCKOUT	UNLOCK	1P GUN TRIGGER RIGHT	OFF	←	1P GUN TRIGGER RIGHT OFF (8)
SERVICE	OFF	1P START	OFF	←	1P START OFF (9)
TEST	ON	EMERGENCY STOP 1	OFF	←	EMERGENCY STOP 2 OFF (10)
SELECT (UP/DOWN)	OFF/OFF				
ENTER	OFF				

UP SELECT SW + ENTER SW:EXIT

Switch Test screen (center)

Item	Description
(7) 1P Gun Trigger Left	Changes to ON while the trigger on the 1P gun assy on the left is pulled.
(8) 1P Gun Trigger Right	Changes to ON while the trigger on the 1P gun assy on the right is pulled.
(9) 1P Start	Changes to ON while the 1P Start button is pressed.
(10) Emergency Stop 1	Changes to ON while the 1P Stop button is pressed.

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Operation

Test mode

Troubleshooting

SWITCH TEST						
[ON : RED]						
			LEFT SEAT	RIGHT SEAT		
COIN COUNT(S)	0	1P GUN TRIGGER LEFT	OFF	2P GUN TRIGGER LEFT	OFF	← (11)
COIN LOCKOUT	UNLOCK	1P GUN TRIGGER RIGHT	OFF	2P GUN TRIGGER RIGHT	OFF	← (12)
SERVICE	OFF	1P START	OFF	2P START	OFF	← (13)
TEST	ON	EMERGENCY STOP 1	OFF	EMERGENCY STOP 2	OFF	← (14)
SELECT (UP/DOWN)	OFF/OFF					
ENTER	OFF					

UP SELECT SW + ENTER SW:EXIT

Switch Test screen (right)

Item	Description
(11) 2P Gun Trigger Left	Changes to ON while the trigger on the 2P gun assy on the left is pulled.
(12) 2P Gun Trigger Right	Changes to ON while the trigger on the 2P gun assy on the right is pulled.
(13) 2P Start	Changes to ON while the 2P Start button is pressed.
(14) Emergency Stop 2	Changes to ON while the 2P Stop button is pressed.

- 2** Press each switch and button to check operation.
- 3** To return to the I/O Test screen, hold the Select switch in the up position and press the Enter switch .

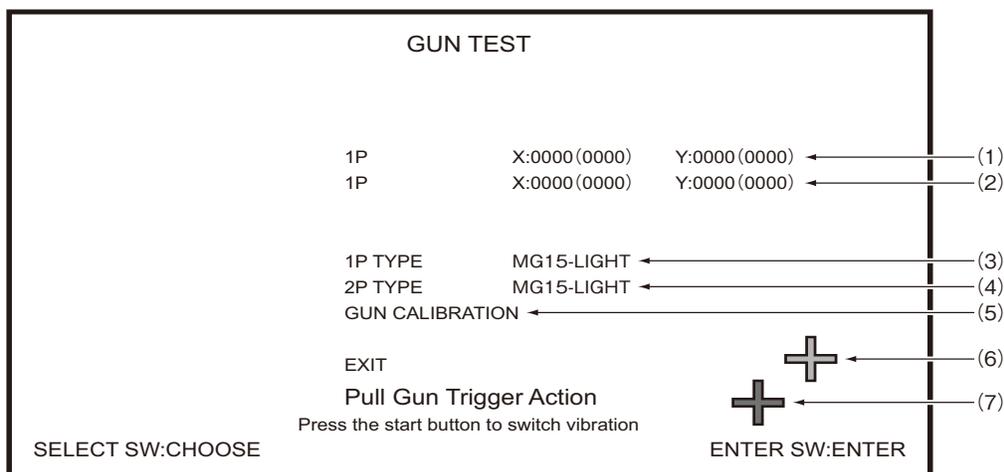
## (c) Gun Test

Check or initialize the gun assy gunsights and check gun vibration unit operation.

### NOTICE

- Be sure to perform gun calibration after gun assy or USIO PCB maintenance or replacement.

- 1 On the I/O Test screen, select [Gun Test] and press the Enter switch.  
(See "6-7-5 I/O Test: Testing switches, sensors, etc.," p. 40.)  
The Gun Test screen is displayed.



Gun Test screen

Options and information on this screen are as follows.

Item	Description
(1) 1P	Shows the X and Y coordinates of the 1P gunsight.
(2) 2P	Shows the X and Y coordinates of the 2P gunsight.
(3) 1P Type	Shows the vibration pattern of the 1P gun assy. To change the type of vibration, press the 1P Start button.*1
(4) 2P Type	Shows the vibration pattern of the 2P gun assy. To change the type of vibration, press the 2P Start button.*1
(5) Gun Calibration	Calibrates the 1P and 2P gun assy. Procedure ① [Left Arrow]: Move the gun assy all the way to the left and pull the trigger once. ② [Right Arrow]: Move the gun assy all the way to the right and pull the trigger once. ③ [Up Arrow]: Move the gun assy all the way up and pull the trigger once. ④ [Down Arrow]: Move the gun assy all the way down and pull the trigger once. ⑤ [Return to original gunsight]: Calibration is finished. Calibration data is saved and the gunsight is displayed.

\*1: The vibration unit is activated when the gun assy trigger is pulled.

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Operation

Test mode

Troubleshooting

Item	Description
(6) Gun crosshairs (blue)	Shows where the 1P gun assy is aimed.*2
(7) Gun crosshairs (red)	Shows where the 2P gun assy is aimed.*2

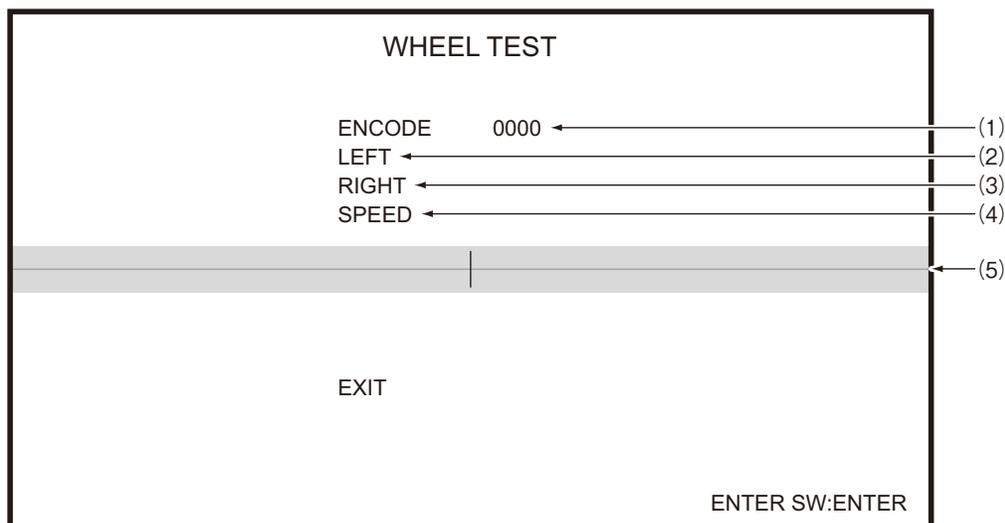
\*2: The gunsight follows movement of the gun assy in all directions.

- 2** Navigate the menu by flipping the Select switch up or down.  
The current item blinks.
- 3** When the item is selected, press the Enter switch.
- 4** To return to the I/O Test screen, select [Exit] and press the Enter switch.

## (d) Wheel Test

Test the sensor that detects wheel rotation.

- 1** On the I/O Test screen, select [Wheel Test] and press the Enter switch.  
(See “6-7-5 I/O Test: Testing switches, sensors, etc.,” p. 40.)  
The Wheel Test screen is displayed.



Wheel Test screen

Information on this screen is as follows.

Item	Description
(1) Encode	Shows the encoded value of the wheel.
(2) Left	Indicates wheel rotation to the left. ■ is displayed when rotation is detected (when the wheel angle changes). More ■ marks indicates a faster turning speed.
(3) Right	Indicates wheel rotation to the right. ■ is displayed when rotation is detected (when the wheel angle changes). More ■ marks indicate a faster turning speed.
(4) Speed	Indicates the wheel turning speed, which is calculated from the encoded value.
(5) Wheel bar (blue horizontal line)	Horizontal movement of the vertical line indicates wheel movement detected by the sensor.

- 2** To return to the I/O Test screen, select [Exit] and press the Enter switch.

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Operation

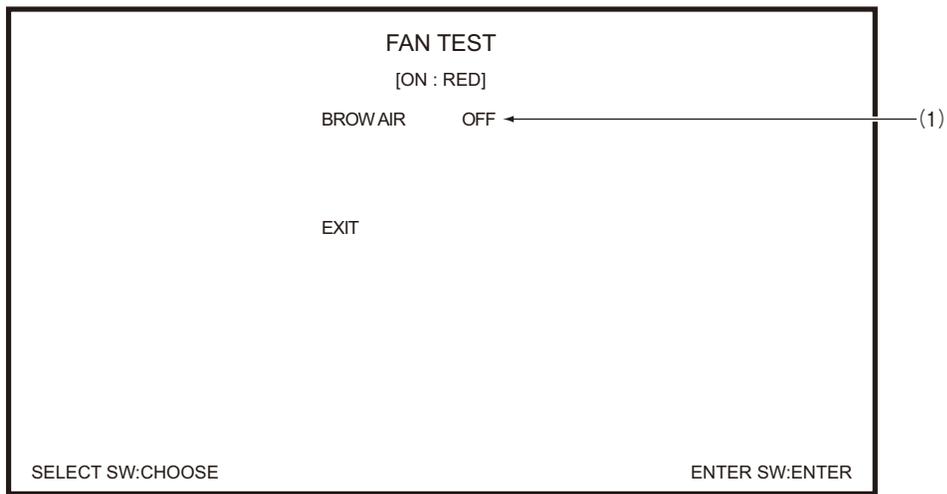
Test mode

Troubleshooting

### (e) Fan Test

Test the air cannon.

- 1** On the I/O Test screen, select [Fan Test] and press the Enter switch.  
 (See “6-7-5 I/O Test: Testing switches, sensors, etc.,” p. 40.)  
 The Fan Test screen is displayed.  
 Parameters set to ON are shown in red.



Fan Test screen

Setting items on this screen are as follows.

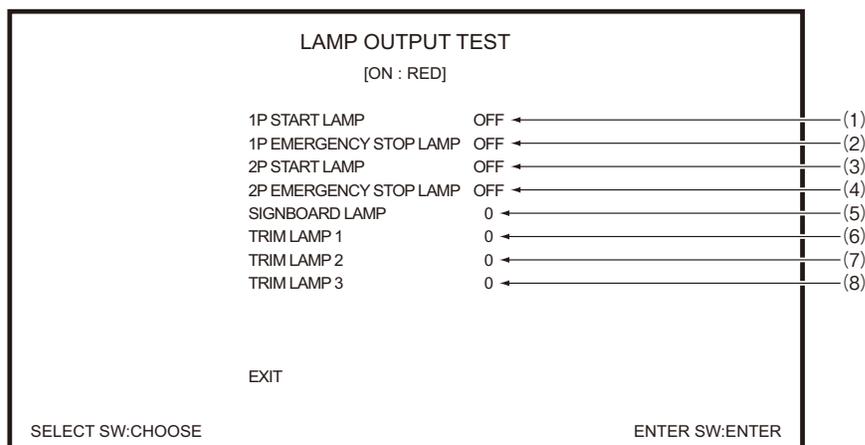
Item	Description
(1) Blow Air	Activates the air cannon, which produces a blast of air. After firing air for a certain period, the air cannon automatically turns off.

- 2** Navigate the menu by flipping the Select switch up or down.  
The current item blinks.
- 3** When the item is selected, press the Enter switch.
- 4** To return to the I/O Test screen, select [Exit] and press the Enter switch.

## (f) Lamp Output Test

Test illumination of various lights.

- 1** On the I/O Test screen, select [Lamp Output Test] and press the Enter switch. (See “6-7-5 I/O Test: Testing switches, sensors, etc.,” p. 40.)  
The Lamp Output Test screen is displayed.  
Parameters set to ON are shown in red.



Lamp Output Test screen

Options and information on this screen are as follows.

Item	Description
(1) 1P Start Lamp	Set to ON to illuminate the 1P gun assy Start button lamp.
(2) 1P Emergency Stop Lamp	Set to ON to illuminate the 1P gun assy Stop button lamp.
(3) 2P Start Lamp	Set to ON to illuminate the 2P gun assy Start button lamp.
(4) 2P Emergency Stop Lamp	Set to ON to illuminate the 2P gun assy Stop button lamp.
(5) Signboard Lamp	Illuminates the signboard assy lamp on the top of the seat assy at the specified brightness. The setting range is 1–15. (0 is off.)
(6) Trim Lamp 1	Illuminates lamp 1 on the bottom of the seat assy at the specified brightness. The setting range is 1–15. (0 is off.)
(7) Trim Lamp 2	Illuminates lamp 2 on the bottom of the seat assy at the specified brightness. The setting range is 1–15. (0 is off.)
(8) Trim Lamp 3	Illuminates lamp 3 on the bottom of the seat assy at the specified brightness. The setting range is 1–15. (0 is off.)

- 2** Navigate the menu by flipping the Select switch up or down.  
The current item blinks.
- 3** When the item is selected, press the Enter switch.
- 4** After the item is ready to configure, use the Select switch to change the setting to your preferred option.
- 5** After changing the setting option, press the Enter switch to return to the menu.
- 6** To return to the I/O Test screen, select [Exit] and press the Enter switch.

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Operation

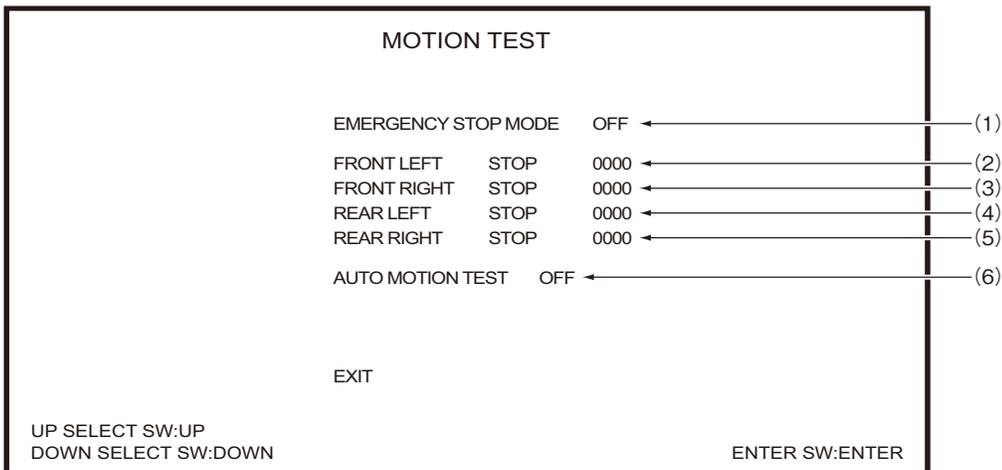
Test mode

Troubleshooting

### (g) Motion Test

Test the pneumatic system that moves the base assy.

- 1** On the I/O Test screen, select [Motion Test] and press the Enter switch.  
 (See “6-7-5 I/O Test: Testing switches, sensors, etc.,” p. 40.)  
 The Motion Test screen is displayed.



Motion Test screen

Options and information on this screen are as follows.

Item	Description
(1) Emergency Stop Mode	Shows Stop button status. Changes to ON when the Stop button is pressed, and the seat stops moving.
(2) Front Left*	Flipping the Select switch up raises the front left section of the base assy. [Up] is displayed. Flipping the Select switch down lowers the front left section of the base assy. [Down] is displayed.
(3) Front Right*	Flipping the Select switch up raises the front right section of the base assy. [Up] is displayed. Flipping the Select switch down lowers the front right section of the base assy. [Down] is displayed.
(4) Rear Left*	Flipping the Select switch up raises the rear left section of the base assy. [Up] is displayed. Flipping the Select switch down lowers the rear left section of the base assy. [Down] is displayed.
(5) Rear Right*	Flipping the Select switch up raises the rear right section of the base assy. [Up] is displayed. Flipping the Select switch down lowers the rear right section of the base assy. [Down] is displayed.

\* The four digits to the right are the height sensor values at each position.

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Item	Description
(6) Auto Motion Test	Test the base assy pneumatic system continuously. (See "Auto Motion Test," p. 52.)

- 2** Navigate the menu by flipping the Select switch up or down.  
The current item blinks.
- 3** When the item is selected, press the Enter switch.
- 4** After the item is ready to configure, flip the Select switch up or down to check operation.
- 5** After checking operation, press the Enter switch to return to the menu.
- 6** To return to the I/O Test screen, select [Exit] and press the Enter switch.

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Operation

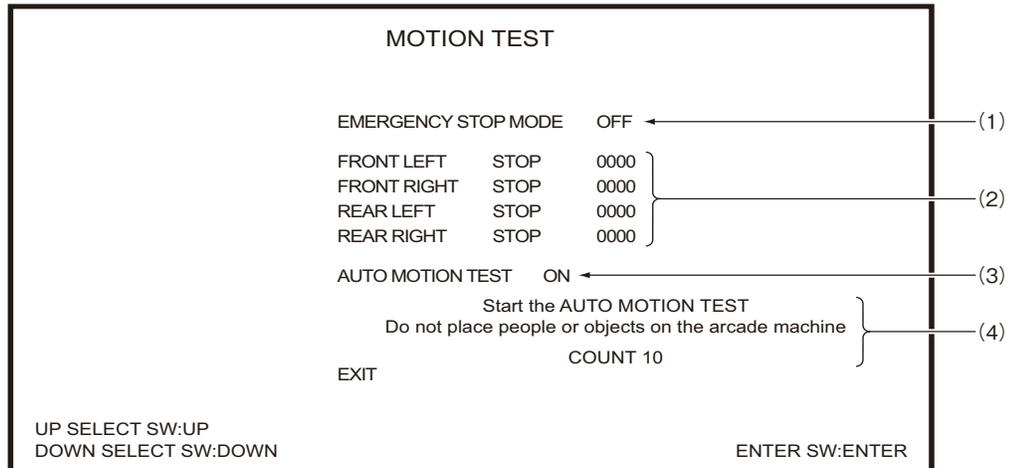
Test mode

Troubleshooting

## (h) Auto Motion Test

Continuously test the pneumatic system that moves the base assy.

- 1** On the Motion Test screen, select [Auto Motion Test] and press the Enter switch. (See “6-7-5 (G) Motion Test,” p. 50.)  
Execute [Auto Motion Test].



Motion Test screen (AUTO MOTION TEST)

Information on this screen is as follows.

Item	Description
(1) Emergency Stop Mode	Shows Stop button status. Changes to ON when the Stop button is pressed, and the seat stops moving.
(2) Front Left Front Right Rear Left Rear Right	The front left, front right, rear left, and rear right of the base assy move up and down, and the height sensor test results are shown.
(3) Auto Motion Test	[On] is displayed during auto motion testing.
(4) Warning message and countdown display	This message is displayed when Auto Motion Test is executed, along with the time until testing begins. Auto motion testing starts after the timer elapses.

- 2** Auto motion testing follows this sequence.
  - ① Base assy is lowered (no change if already at minimum height)
  - ② Countdown begins and after 10 seconds, [Start] is displayed for several seconds
  - ③ Entire base assy is raised to the maximum height → lowered to the minimum height → tilted left → tilted right → tilted backward → tilted forward → lowered to the minimum height

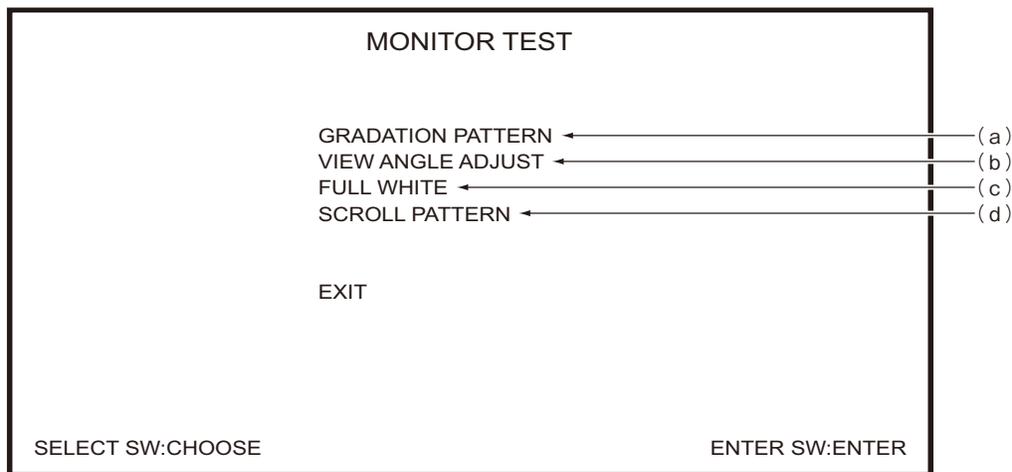
Note: The Stop button can be pressed to stop testing in progress.  
(See “3. Overall Structure (Part Names): Control assembly,” p. 14.)

- 3** Auto motion testing ends when all operations described above are finished.  
Operation is normal if all testing is performed without problems.
- 4** To return to the I/O Test screen, select [Exit] and press the Enter switch.

## 6-7-6 Monitor Test: Monitor adjustment

Adjust the monitor as needed.

- 1** On the Menu screen, select [Monitor Test] and press the Enter switch. (See “6-7-1 Description of menu screen (Menu),” p. 34.)  
The Monitor Test screen is displayed.



Motion Test screen

Information on this screen is as follows.

Item	Description
(a) Gradation Pattern	Displays a pattern with 16 levels of color gradation.
(b) View Angle Adjust	Displays a reference line to check for discrepancies at various viewing angles.
(c) Full White	Fills the screen with white.
(d) Scroll Pattern	Displays a pattern that scrolls from left to right.

- 2** Navigate the menu by flipping the Select switch up or down.  
The current item blinks.
- 3** Press the Enter switch to access the test screen for the selected item.
- 4** To return to the Monitor Test screen, press the Enter switch again.
- 5** To return to the main Menu screen, select [Exit] and press the Enter switch.

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Operation

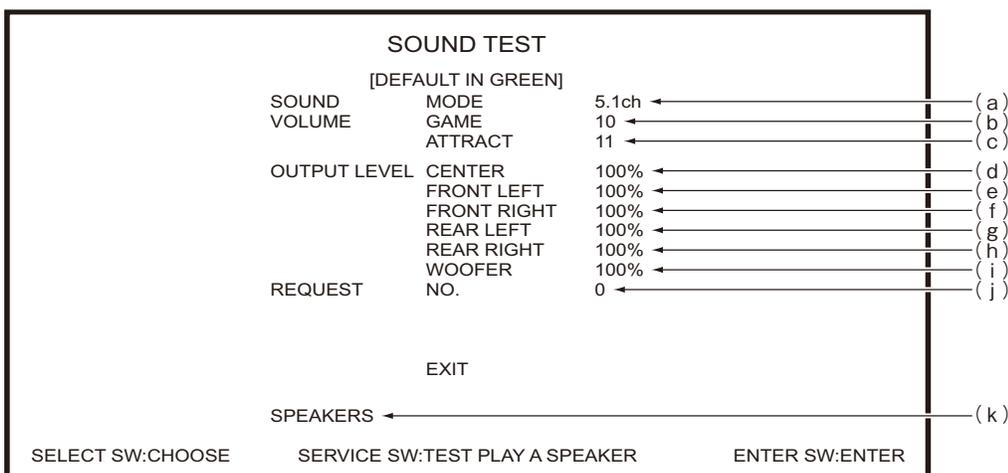
Test mode

Troubleshooting

### 6-7-7 Sound Test: Sound adjustment

Configure volume and left/right output levels, and check the sound level (stereo check).

- 1** On the Menu screen, select [Sound Test] and press the Enter switch.  
 (See “6-7-1 Description of menu screen (Menu),” p. 34.)  
 The Sound Test screen is displayed.  
 Setting options are shown in green if they are the default values.



Sound Test screen

Setting items on this screen are as follows.

Item	Description	Default
(a) Sound Mode	5.1 ch / 2.1 ch (normally not changed)	5.1 ch
(b) Volume Game	Set the general sound level for gameplay. 0 (no sound) to 15 (max.)	10
(c) Volume Attract	Set the general sound level for attract mode. 0 (no sound) to 15 (max.)	10
(d) Output Level Center	Set the volume for the center speaker. 0% (no sound) to 100% (max.)	100%
(e) Output Level Front Left	Set the volume for the front left speaker. 0% (no sound) to 100% (max.)	100%
(f) Output Level Front Right	Set the volume for the front right speaker. 0% (no sound) to 100% (max.)	100%
(g) Output Level Rear Left	Set the volume for the rear left speaker. 0% (no sound) to 100% (max.)	100%
(h) Output Level Rear Right	Set the volume for the rear right speaker. 0% (no sound) to 100% (max.)	100%

Item	Description	Default
(i) Woofer	Set the woofer volume. 0% (no sound) to 100% (max.)	100%
(j) Request No.	Pressing the Service switch plays the sound of the specified number. 0–5 No. 0 is silent.	0
(k) Speakers	Shows the name of the speaker or sound being played during playback of the sound selected in Request No. Note: With Request No. 1 selected, pressing the Service switch changes the display in this order: center → front left → front right → rear left → rear right → woofer. Playback from each speaker matches display.	–

- 2** Navigate the menu by flipping the Select switch up or down.  
The current item blinks.
- 3** When the item is selected, press the Enter switch.
- 4** After the item is ready to configure, use the Select switch to change the setting to your preferred option.
- 5** After changing the setting option, press the Enter switch to return to the menu.
- 6** To return to the main Menu screen, select [Exit] and press the Enter switch.

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Operation

Test mode

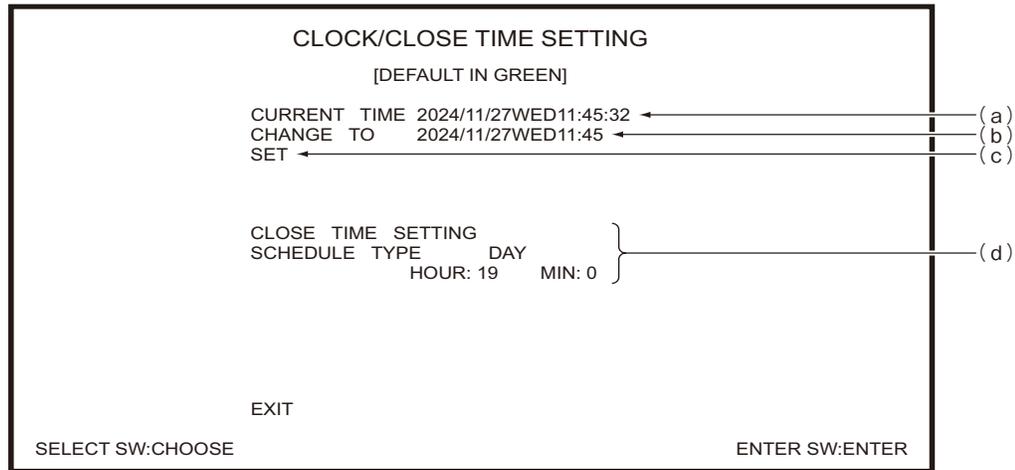
Troubleshooting

## 6-7-8 Clock/Close Time Setting: Adjusting the time

Set the current time and arcade closing time.

- 1 On the Menu screen, select [Clock/Close Time Setting] and press the Enter switch. (See “6-7-1 Description of menu screen (Menu),” p. 34.)

The Clock/Close Time Setting screen is displayed.



Clock/Close Time Setting screen

Setting items on this screen are as follows.

Item	Description
(a) Current Time	Shows the current time.
(b) Change To	Set the new time to use. After selecting this item, set the year, month, day, and time, one after another toward the right.
(c) Set	Select and confirm this item to apply the time set in [Change To] in the internal clock.
(d) Close Time Setting (Schedule) Type	<p><b>Note: By default, this setting is not set.</b>  <b>Note: If you will set a closing time, make sure the current time is set correctly.</b></p> <p>Setting this time prevents players from starting a new game to continue gameplay after your specified time.            (This can help prevent customer complaints, encourage customers to leave on time, and make it easier to close the arcade.)</p> <ul style="list-style-type: none"> <li>• Week: Set a certain day of the week for the closing time.</li> <li>• Day: Set the closing time to use every day.</li> <li>• Off: Set if you will not use a closing time.</li> </ul> <p>To specify a closing time, after specifying [Week] or [Day], set the hour in [Hour] and the minute in [Min].</p>

- 2 Navigate the menu by flipping the Select switch up or down.  
The current item blinks.
- 3 When the item is selected, press the Enter switch.
- 4 After the item is ready to configure, use the Select switch to change the setting to your preferred option.
- 5 After changing the setting option, press the Enter switch to return to the menu.
- 6 To return to the main Menu screen, select [Exit] and press the Enter switch.

## 6-7-9 Bookkeeping: Displaying and initializing game data

Display various game data.

- 1** On the Menu screen, select [Bookkeeping] and press the Enter switch. (See “6-7-1 Description of menu screen (Menu),” p. 34.)  
The Bookkeeping screen is displayed.
- 2** To access other pages, select [Next] or [Previous] with the Select switch, and then press the Enter switch.
- 3** Select [Bookkeeping Initialize] and press the Enter switch. [No] and [Yes] are displayed. To clear the data and restore defaults, select [Yes] and press the Enter switch.  
Note: You can also initialize game data from [Backup Data Initialize] on the [Others] screen (see “6-7-10 Others: Other information, initialization, etc.,” p. 58).
- 4** To return to the main Menu screen, select [Exit] and press the Enter switch.

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Operation

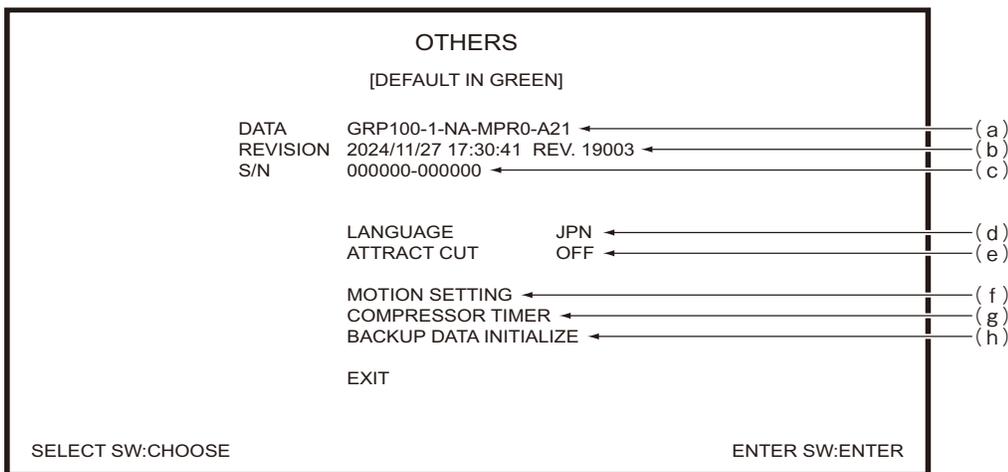
Test mode

Troubleshooting

### 6-7-10 Others: Other information, initialization, etc.

Initialize bookkeeping data (Bookkeeping) and configure other settings.

- 1** On the Menu screen, select [Others] and press the Enter switch.  
(See “6-7-1 Description of menu screen (Menu),” p. 34.)  
The Others screen is displayed.



Others screen

Options and information on this screen are as follows.

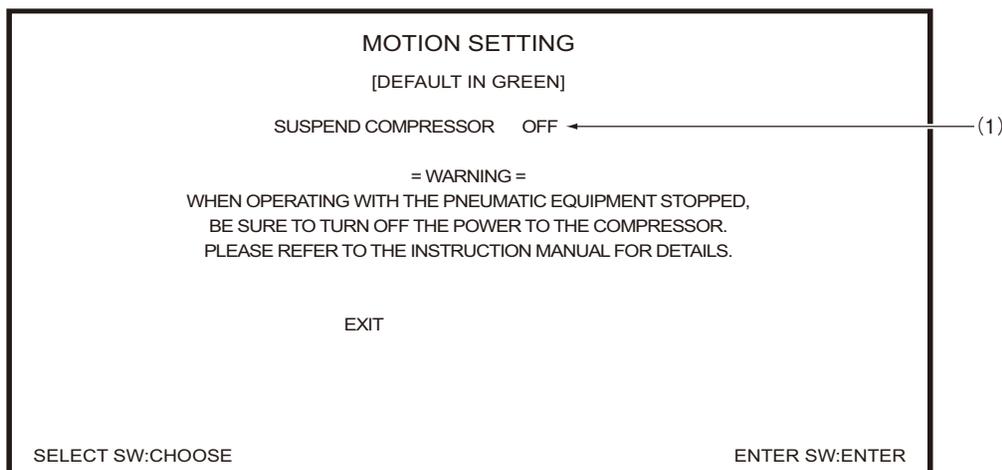
Item	Description	For Reference
(a) Data	Shows the version of the program on the hard disk.	-
(b) Revision	Shows the version of the system software.	-
(c) S/N	Shows software serial number.	-
(d) Language	Shows the language setting. ([ENG]/English)	-
(e) Attract Cut	Set whether to display the attract mode.	-
(f) Motion Setting	Enable or disable movement by the machine.	P-59
(g) Compressor Timer	Display the compressor running time and reset it as needed.	P-60
(h) Backup Data Initialize	Initialize various information in backup memory.	P-61

- 2** Navigate the menu by flipping the Select switch up or down.  
The current item blinks.
- 3** When the item is selected, press the Enter switch.  
If you selected (F), (G), or (H), setting options are displayed.
- 4** After the item is ready to configure, use the Select switch to change the setting to your preferred option.
- 5** After changing the setting option, press the Enter switch to return to the menu.
- 6** To return to the main Menu screen, select [Exit] and press the Enter switch.

**(f) Motion Setting**

Enable or disable compressor movement.

- 1** On the Others screen, select [Motion Setting] and press the Enter switch. (See “6-7-10 Others: Other information, initialization, etc.,” p. 58.)  
The Motion Setting screen is displayed.  
The setting option is shown in green if it is the default value.



Motion Setting screen

Setting items on this screen are as follows.

Item	Description
(1) Suspend Compressor	Enable or disable compressor movement. On: Compressor movement Off: No compressor movement

- 2** Flip the Select switch up or down to select [Suspend Compressor].  
The current item blinks.
- 3** With [Suspend Compressor] selected, press the Enter switch.
- 4** Flip the Select switch up or down to select [On] or [Off], and then press the Enter switch.  
When this setting is set to [Off], turn off the compressor.  
(See “7B-4-1 (7) Replacing the compressor,” p. 106.)  
Note: Setting to [Off] prevents air cannon and base assy movement even in test mode.
- 5** To return to the Others screen, select [Exit] and press the Enter switch.

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Operation

Test mode

Troubleshooting

### (g) Compressor Timer

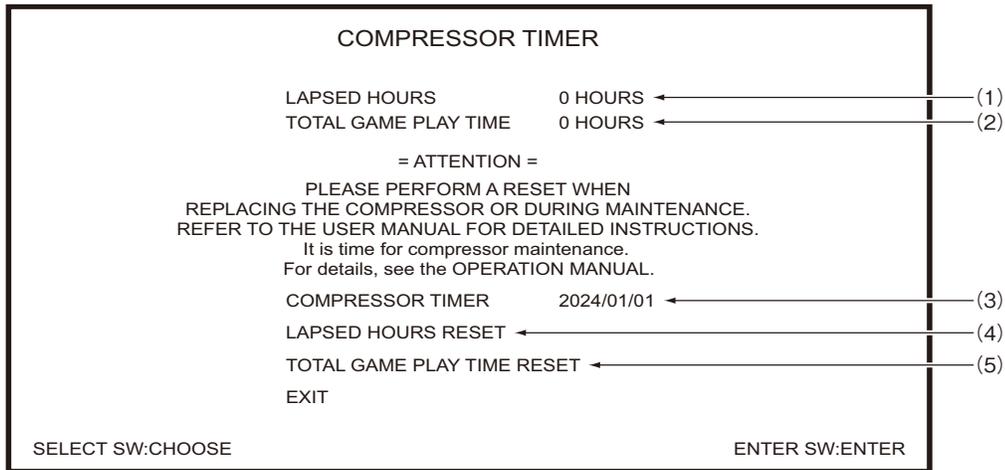
Shows how many hours the compressor has been used.

Execute [Lapsed Hours Reset] or [Total Game Play Time Reset] after compressor replacement or specified maintenance.

**NOTICE**

- **Be sure to manage the time correctly when performing compressor maintenance or similar work. Note that failure to perform maintenance or other required tasks may result in failure.**

- 1 On the Others screen, select [Compressor Timer] and press the Enter switch. (See “6-7-10 Others: Other information, initialization, etc.,” p. 58.)  
The Compressor Timer screen is displayed.



Compressor Timer screen

Options and information on this screen are as follows.

Item	Description
(1) Lapsed Hours	Shows cumulative elapsed time since initial startup of the machine.
(2) Total Game Play Time	Shows the hours of gameplay since the last maintenance.
(3) Compressor Timer	Set the timing for compressor service/inspection notification display. Set in this format: 4-digit year/2-digit month/2-digit day
(4) Lapsed Hours Reset	Reset the cumulative elapsed time.
(5) Total Game Play Time Reset	Resets the hours of gameplay since the last maintenance.

- 2 Navigate the menu by flipping the Select switch up or down.  
The current item blinks.
- 3 When the item is selected, press the Enter switch.
- 4 After the item is ready to configure, use the Select switch to change the setting to your preferred option.  
The options [No] and [Yes] are displayed when [Lapsed Hours Reset] or [Total Game Play Time Reset] is selected.  
Select [Yes] to reset. After the resetting, [OK] is displayed and the corresponding time is 0.
- 5 To return to the Others screen, select [Exit] and press the Enter switch.

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## (h) Backup Data Initialize

Initialize information in backup memory.

- 1** On the Others screen, select [Backup Data Initialize] and press the Enter switch. (See “6-7-10 Others: Other information, initialization, etc.,” p. 58.)
- 2** Selecting [Backup Data Initialize] will display [BACKUP DATA INITIALIZE?] along with Yes and No options.  
Select [Yes] to reset. After the resetting, [OK] is displayed and defaults are restored.
- 3** To return to the Others screen, select [Exit] and press the Enter switch.

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Operation

Test mode

Troubleshooting

## 6-8 Gun assy adjustment (initialization) after parts replacement

### NOTICE

- Be sure to perform gun assy initialization after rack assy, USIO PCB, or gun assy replacement or backup data initialization. Failure to perform gun assy initialization will prevent correct gameplay.
- After gun assy initialization, try using the guns in the switch test (see “6-7-5 (C) Gun Test,” p. 45) to confirm correct operation.

### 6-8-1 Gun assy volume initialization

Perform gun assy initialization (calibration) as described in “6-7-5 (C) GUN TEST,” p. 45.

## 7A. Installation and Assembly

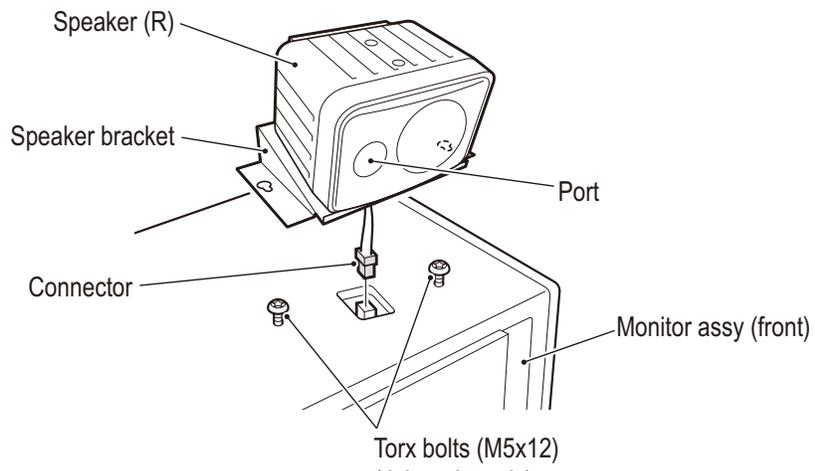
### ⚠ WARNING

- Refer to this OPERATION MANUAL regarding the installation as well as disassembly and assembly for moving and transporting of the machine. Such procedures should be conducted by a technician who fully understands the details of such operations. Performance of the installation operations by an unqualified technician who lacks the required understanding may lead to unforeseen accidents.
- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.
- After the installation work is complete, perform a safety inspection of the machine once again. For the inspection details, see P.26 "6-4-1 Safety check (before turning the power switch on)" in this OPERATION MANUAL.

### 7A-1 Assembly

#### 7A-1-1 Assembling the Front Assy

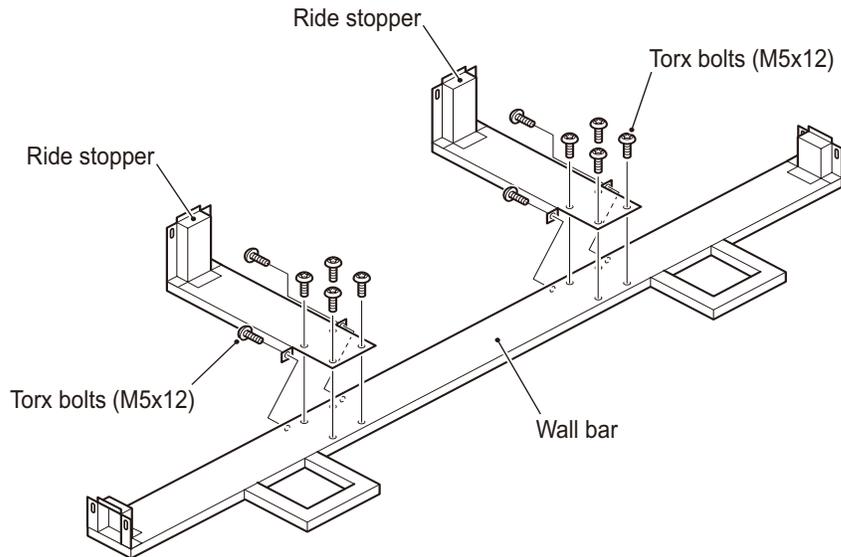
- 1 Temporarily fasten the two Torx bolts (M5 x 12) on the right and left and attach the speaker connector to each side.  
\* The speakers are installed with different (L) and (R) orientations. Attach the speakers so that the ports face inward.



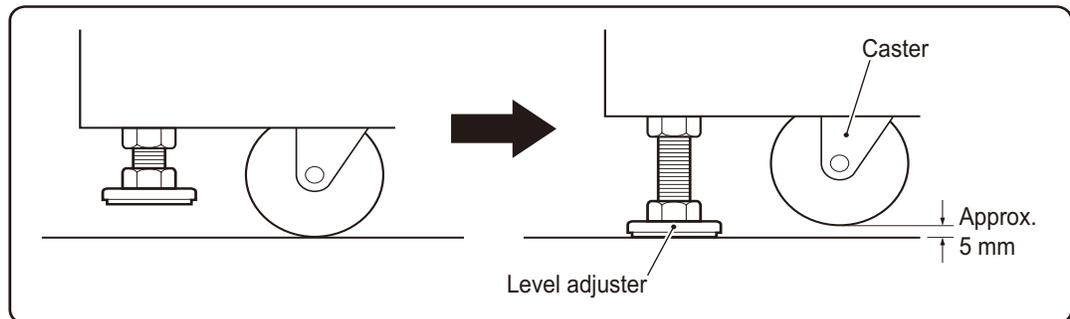
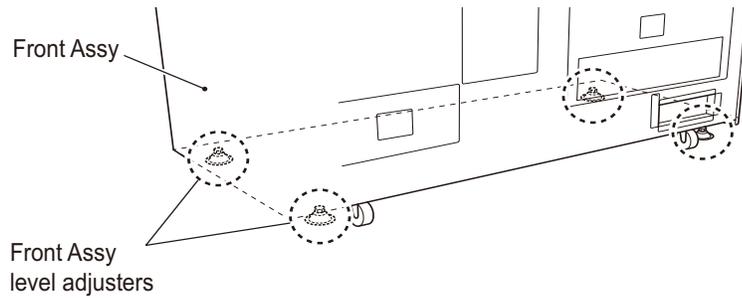
## 7A. Installation and Assembly

- To be conducted by a technician only -

- 2 Attach the two ride stoppers to the wall bar with the six Torx bolts (M5 x 12).

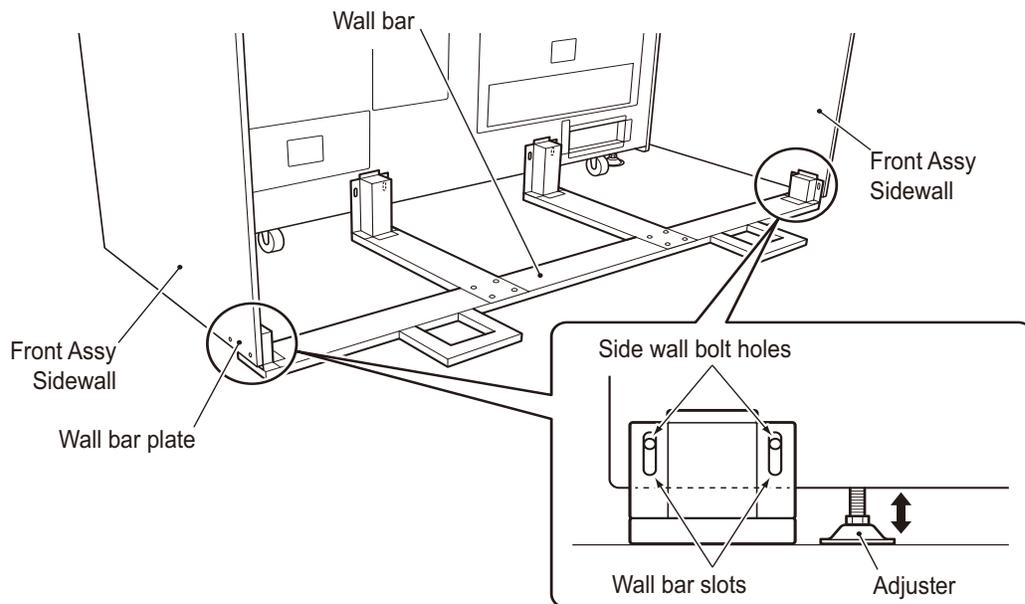


- 3 Lower the Front Assy level adjusters in four locations to raise the height of the casters to approx. 5 mm from the floor.



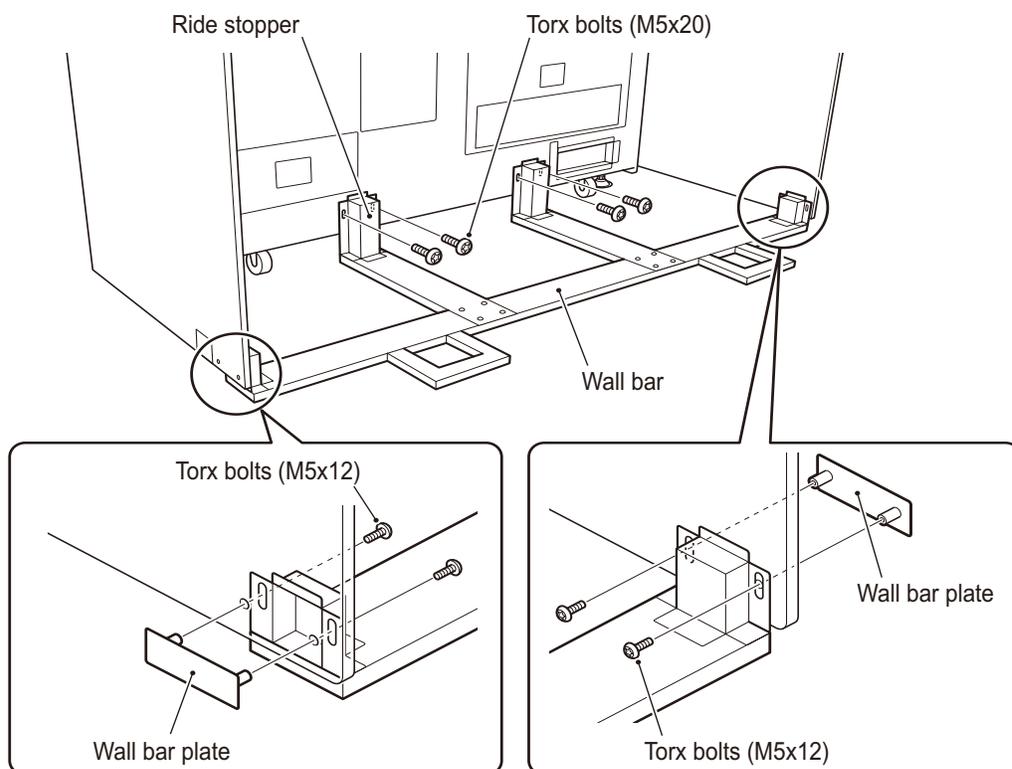
- To be conducted by a technician only -

- 4** Pass each wall bar plate through the outside of the Front Assy Sidewall on the left and right sides and place the wall bar assembled in **2** in the position shown in the diagram.



- 5** Lower the level adjusters and adjust the height so that the adjusters are flush with the floor.  
\* Adjust the height so that the screw holes of the wall bar plate that was passed through the Front Assy Sidewall are visible through the screw holes of the wall bar.

- 6** Attach each of the ride stoppers to the Front Assy with two Torx bolts (M5 x 20) and attach the wall bar to the left and right wall bar plates with two Torx bolts (M5 x 12).



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Installation and Assembly

Test mode

Troubleshooting

## 7A-1-2 Assembling the Ride Assy

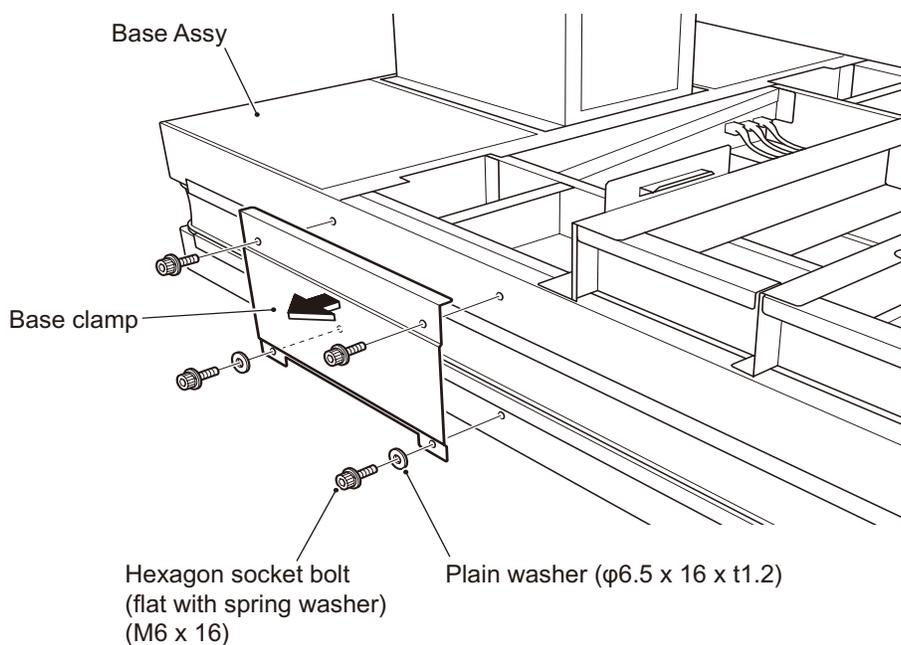
### ⚠ CAUTION

- The Seat Assy weighs approx. 120 kg. To prevent accidents during assembly, ensure that the work is performed by five or more people with sufficient working space.

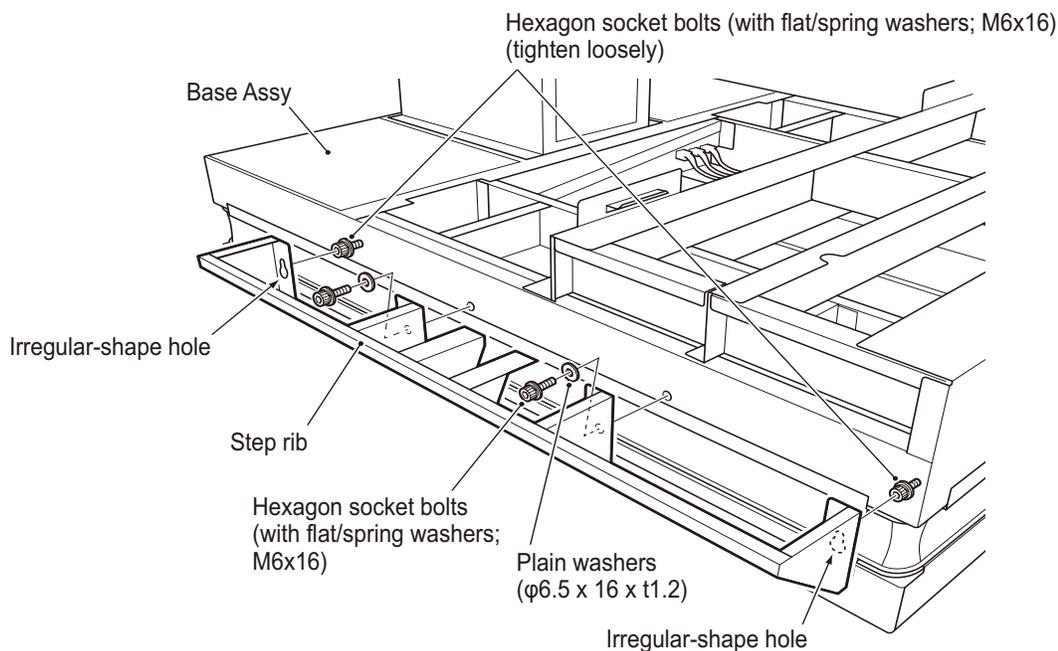
- 1 Unfasten the four hexagon socket bolts (flat with spring washers) (M6 x 16) and the two plain washers ( $\varnothing 6.5 \times 16 \times t 1.2$ ) and detach the two base clamps.  
\* Reuse the four unfastened hexagon socket bolts (flat with spring washers) (M6 x 16) and the two plain washers ( $\varnothing 6.5 \times 16 \times t 1.2$ ) in step 2.

### NOTICE

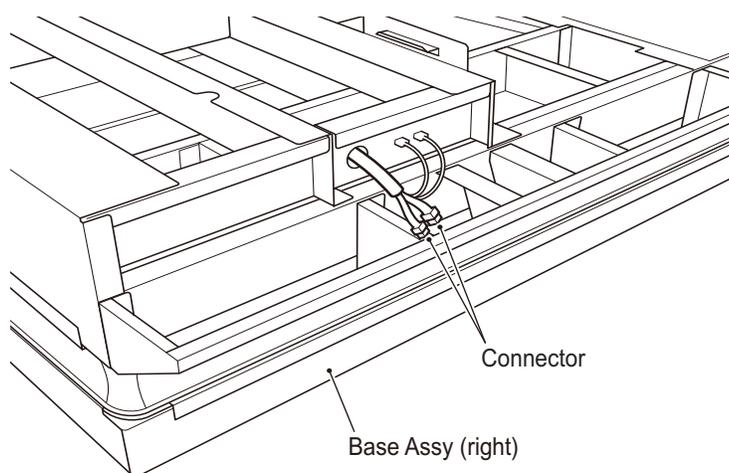
- Use the base clamps when transporting the machine. Store the base clamps in a safe place so as not to lose them.



- 2** Install the two step ribs with the four hexagon socket bolts (flat with spring washers) (M6 x 16) and two plain washers ( $\phi 6.5 \times 16 \times t 1.2$ ) unfastened in step **1**. Before installing the step ribs, first temporarily fasten the two hexagon socket bolts (flat with spring washers) (M6 x 16) on the left and right ends, hook the step rib on to the bolts, attach the inner two hexagon socket bolts (flat with spring washers) (M6 x 16) and the two plain washers ( $\phi 6.5 \times 16 \times t 1.2$ ), and tighten all four bolts to secure the step rib in place.  
\* Install the step rib on the right side using the same procedure.



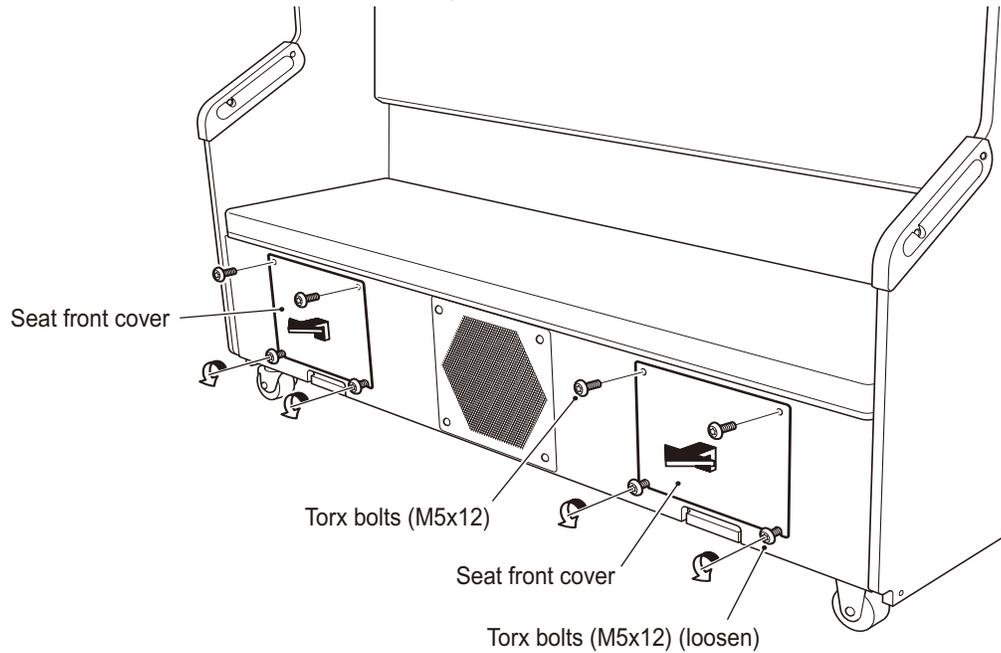
- 3** Pull out the two connectors on the right side of the Base Assy.



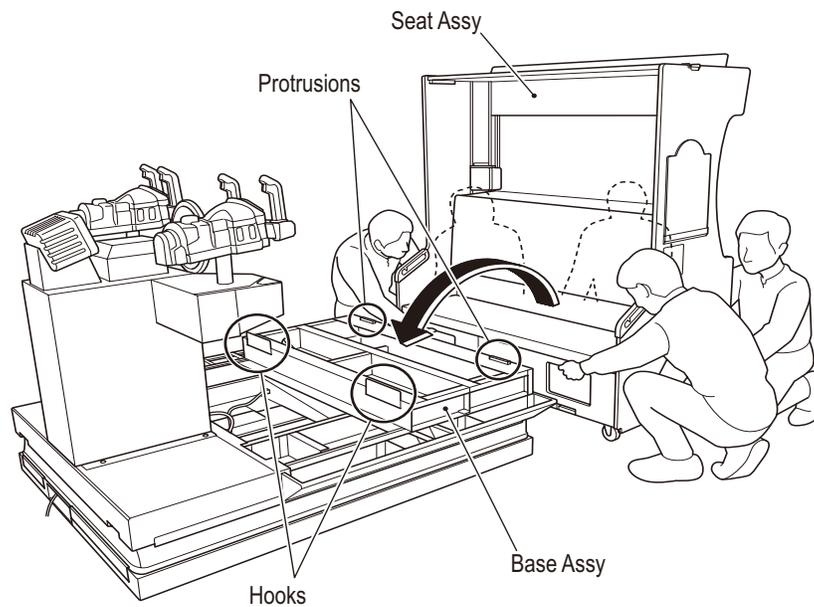
## 7A. Installation and Assembly

- To be conducted by a technician only -

- 4 Loosen two of the Torx bolts (M5 x 12), remove two of the Torx bolts, and detach the two seat front covers from the Seat Assy.

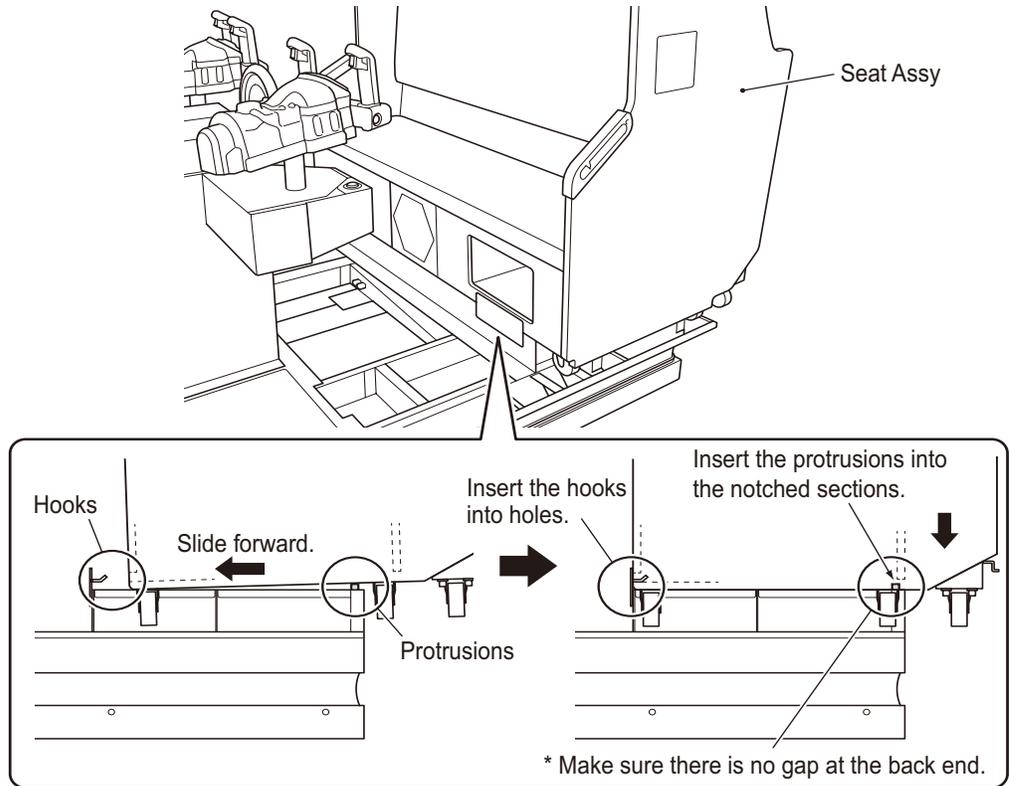


- 5 Lift up the Seat Assy with two people on either side of the Seat Assy and one person at the rear (total of five people) and put it down just behind the Base Assy hooks.  
\* If the Base Assy shifts while placing the Seat Assy, have an additional person hold the Base Assy steady or lower the adjusters to secure the Base Assy in place.

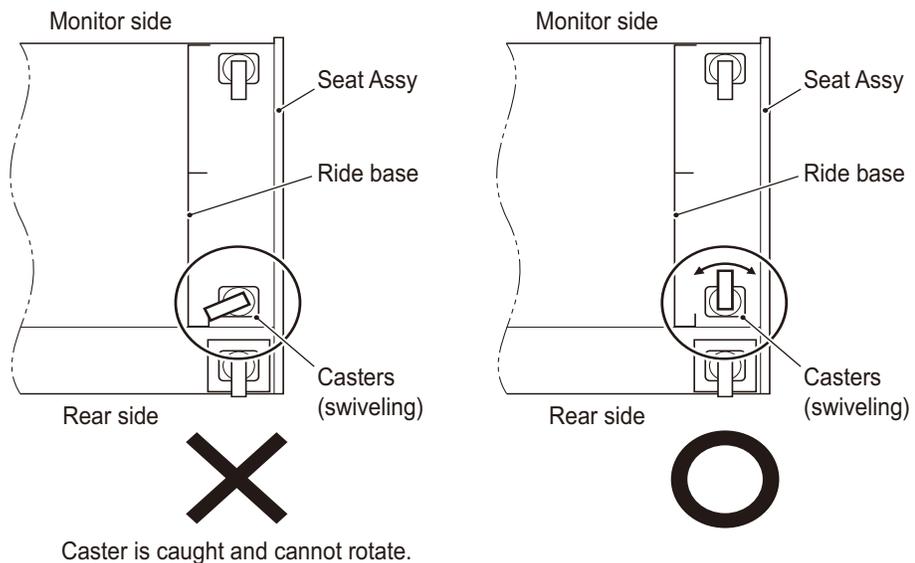


Adjust the position so that the Base Assy hooks fit into the holes on the front of the Seat Assy. Slide the Seat Assy forward in place to insert the protrusions on the rear of the Base Assy into the notched sections on the rear of the Seat Assy.

\* Check that there are no gaps between the Base Assy and the rear of the Seat Assy.



\* Check that the caster (swivel) on the right side of the Seat Assy is not caught on the inside corner of the Base Assy.



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Installation and Assembly

Test mode

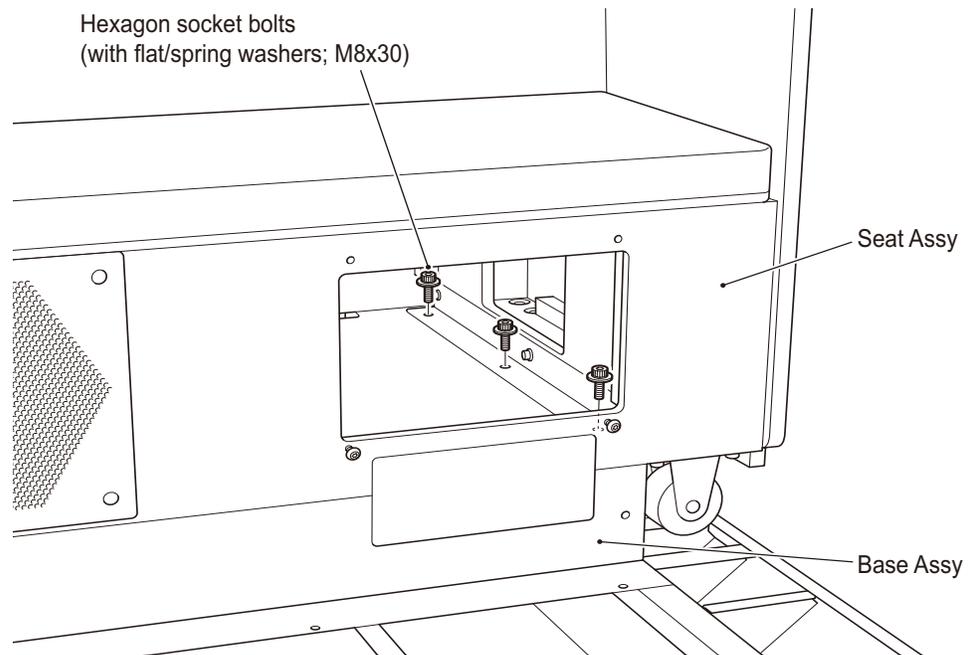
Troubleshooting

## 7A. Installation and Assembly

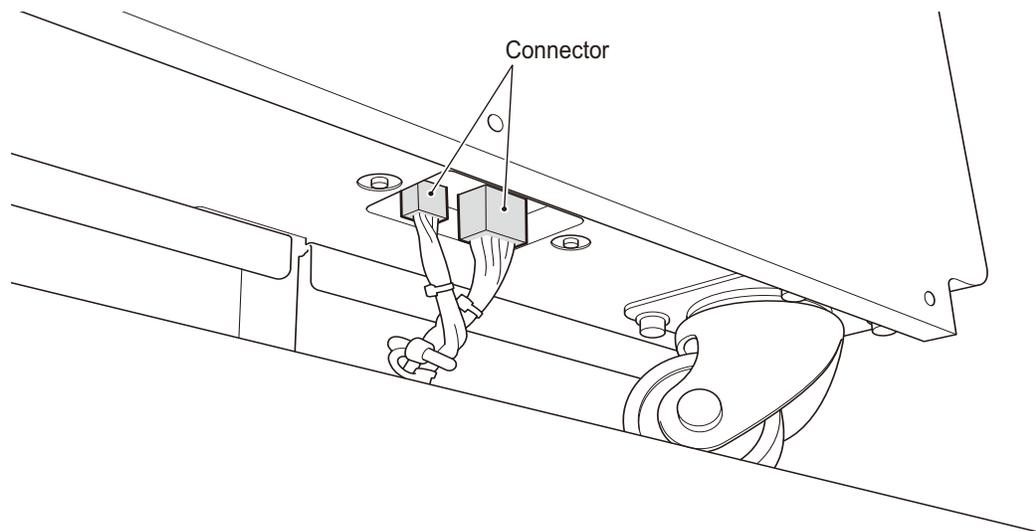
- To be conducted by a technician only -

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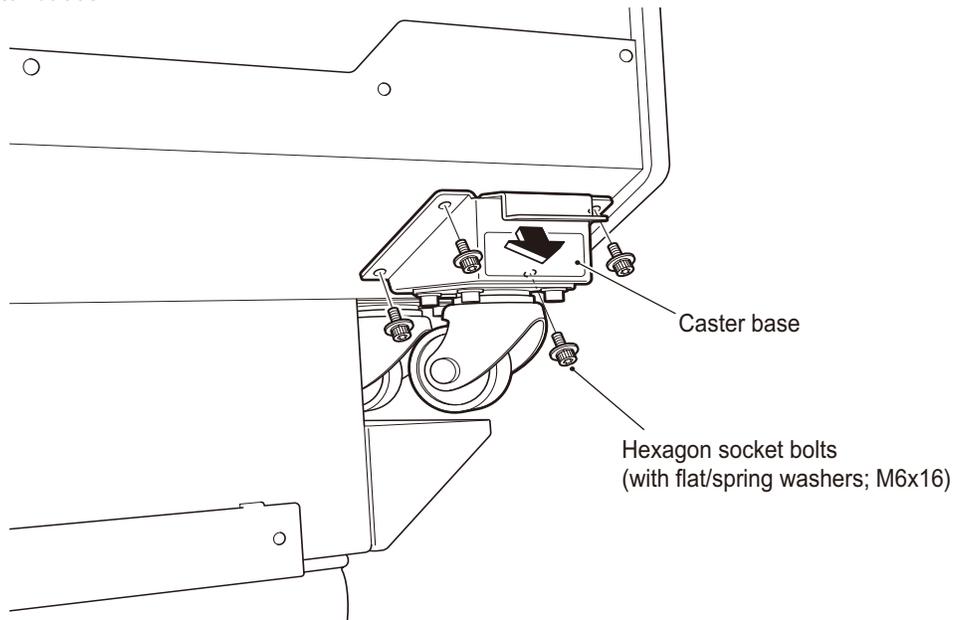
- Secure the Seat Assy to the Base Assy with three hexagon socket bolts (flat with spring washers) (M8 x 30) on the left and right sides.



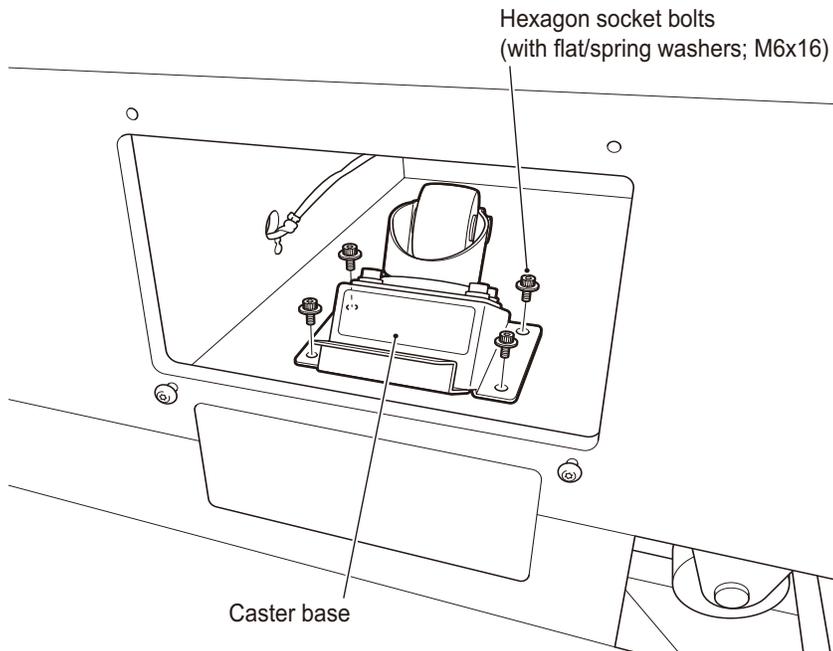
- Plug the two connectors pulled out in step 3 into the connectors underneath the Seat Assy.



- 8** Remove the four hexagon socket bolts (flat with spring washers) (M6 x 16) and detach the two caster bases.



- 9** Install the two removed caster bases in the interior of the Seat Assy with the four hexagon socket bolts (flat with spring washers) (M6 x 16).



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Installation and Assembly

Test mode

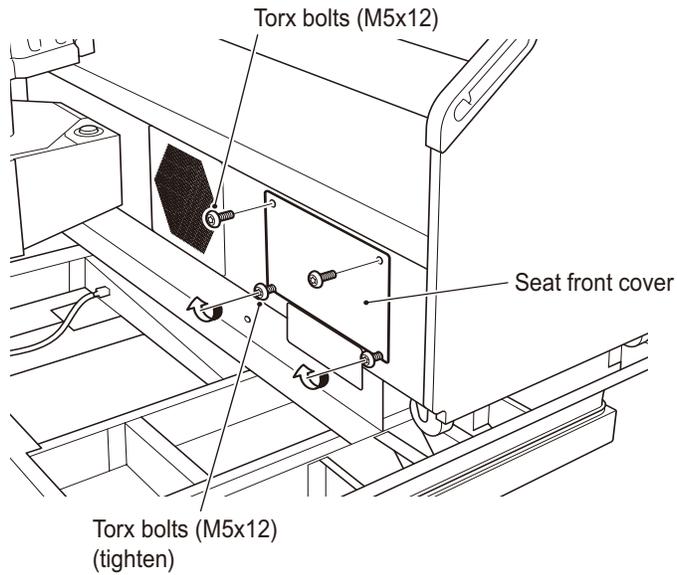
Troubleshooting

## 7A. Installation and Assembly

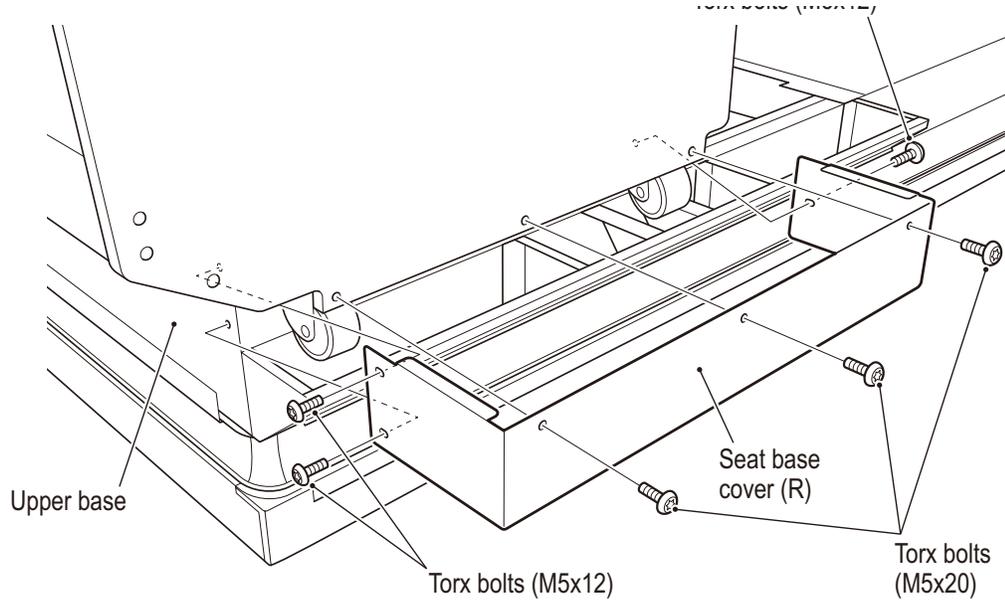
- To be conducted by a technician only -

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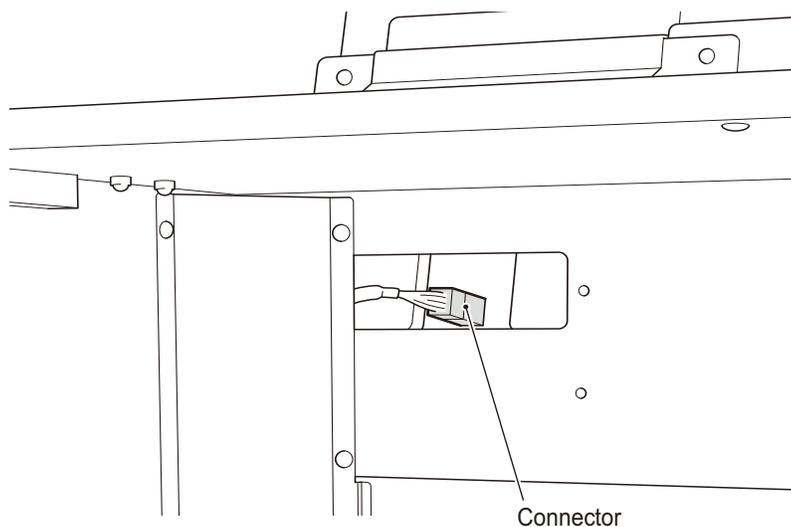
- 10** Install the two seat front covers removed in step **4** in the Seat Assy with four Torx bolts (M5 x 12).



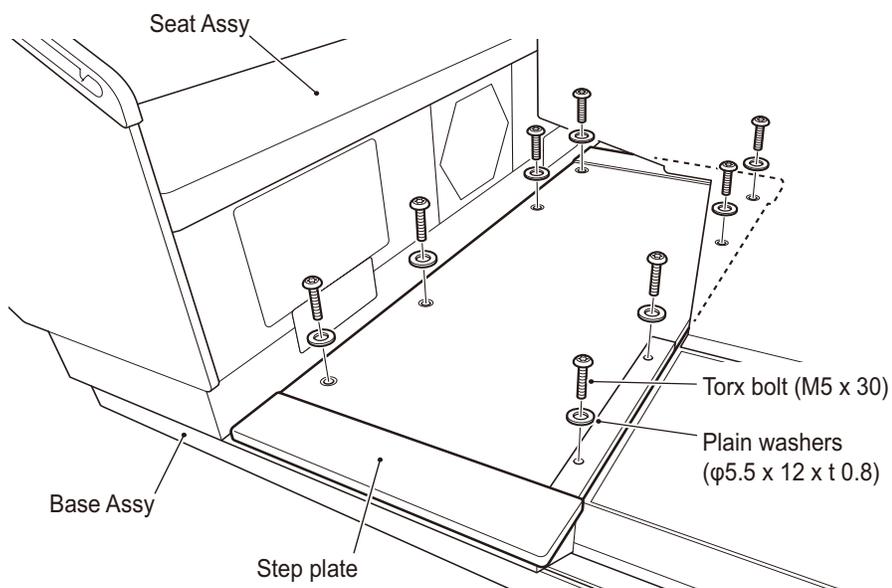
- 11** Install the seat base cover (L) and seat base cover (R) with three Torx bolts (M5 x 12) and three Torx bolts (M5 x 20) each.  
\* Place the seat base covers over the outside of the upper base.



- 12** **13** Plug the connector pulled out in step 13 into the connector on the Signboard Assy.



- 13** **12** Install the connector cover removed in step 12 using the reverse procedure.
- 14** Install the step plate with eight Torx bolts (M5 x 30) and eight plain washers ( $\phi 5.5 \times 12 \times t 0.8$ ) on to the Base Assy.



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Installation and Assembly

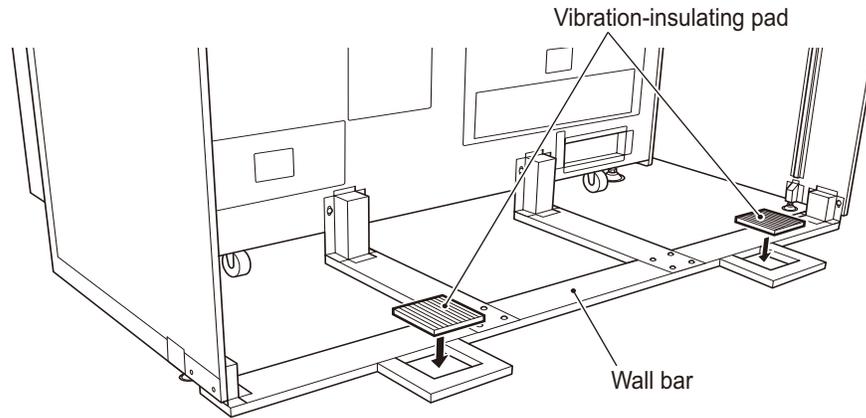
Test mode

Troubleshooting

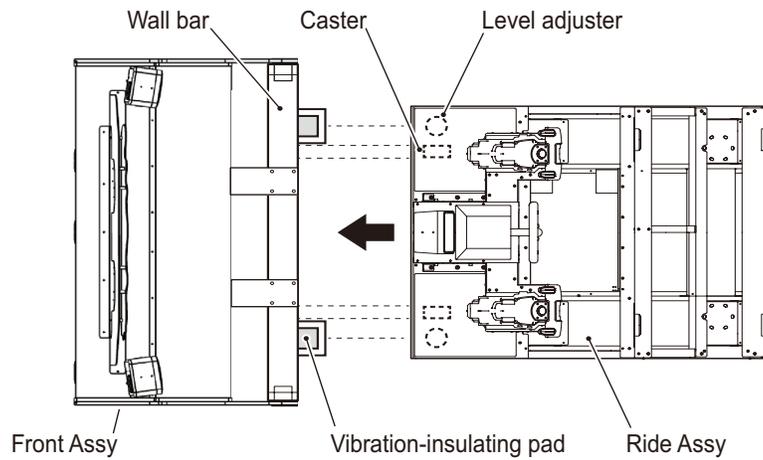
- To be conducted by a technician only -

### 7A-1-3 Connecting the Front Assy to the Ride Assy and adjusting the level adjusters

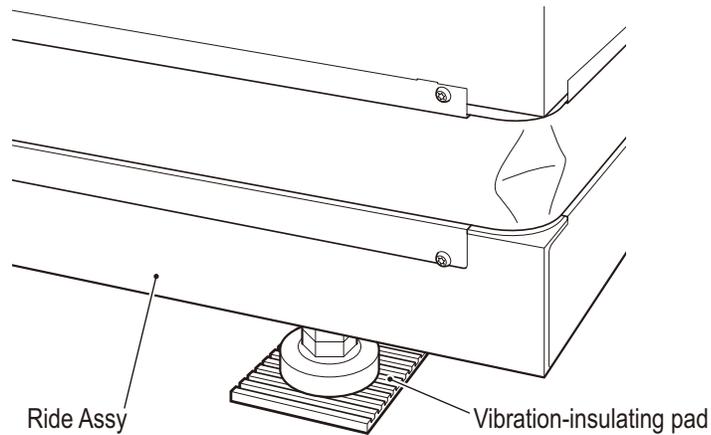
- 1 Install the two vibration-insulating pads on the wall bar.



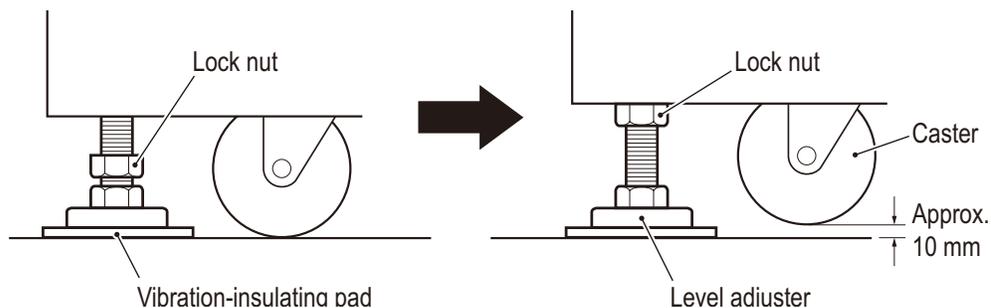
- 2 Move the Ride Assy so that the level adjusters rest on the vibration-insulating pads.



- 3 Place a vibration-insulating pad under each level adjuster at the rear of the Ride Assy.

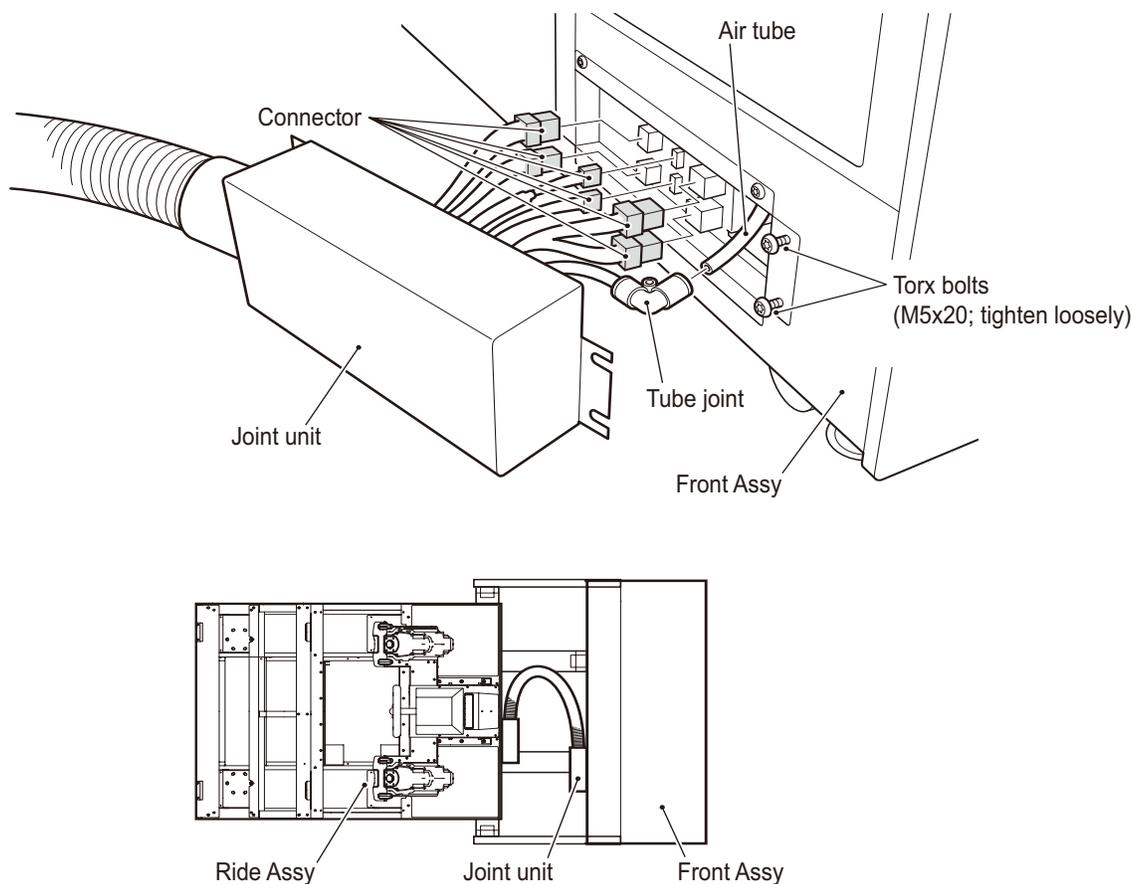


- 4** Lower the level adjusters in four locations, adjust the height until the casters are approx. 10 mm from the floor, and turn the lock nuts to lock the level adjusters in place.



- 5** Temporarily fasten two Torx bolts (M5 x 20) to the Front Assy. Insert the one Front Assy air tube into the tube joint of the joint unit and plug the six connectors into the Front Assy.

\* The joint unit junction is the same on the front side and the ride side.



**NOTICE**

- When installing the air tube, be sure to insert the air tube all the way. If the air tube is not properly inserted, air may leak and prevent normal game operation.

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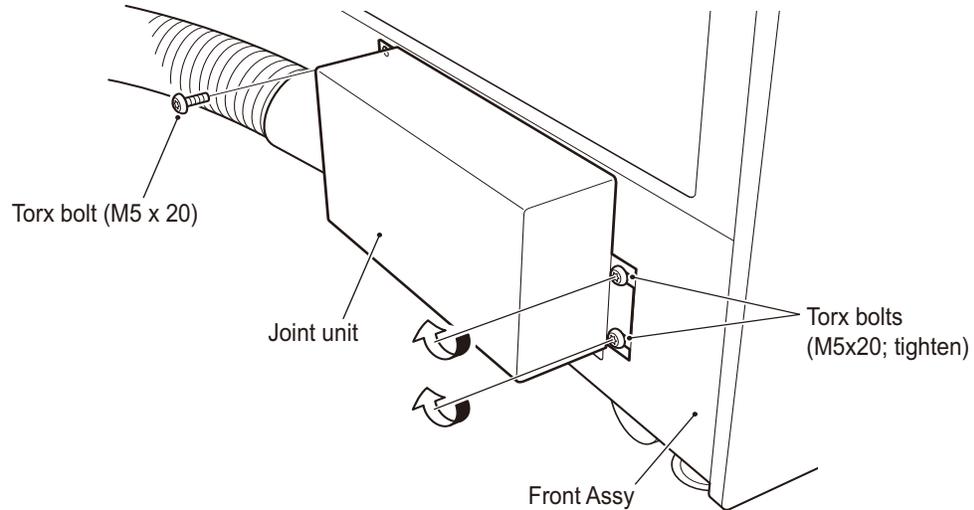
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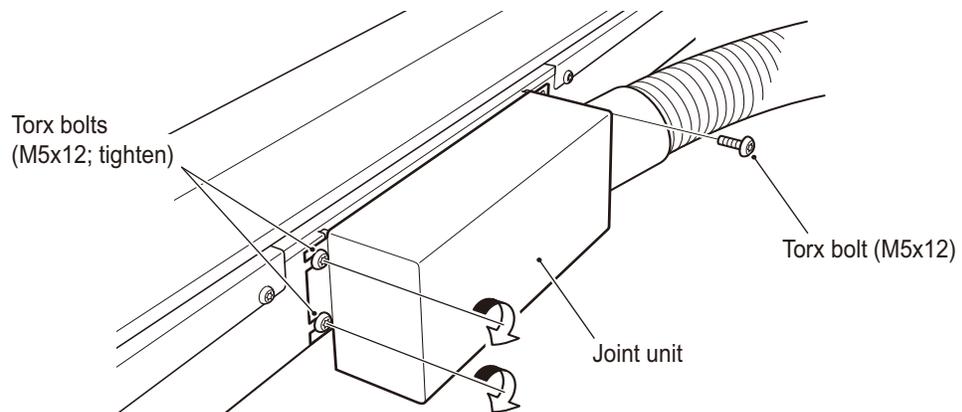
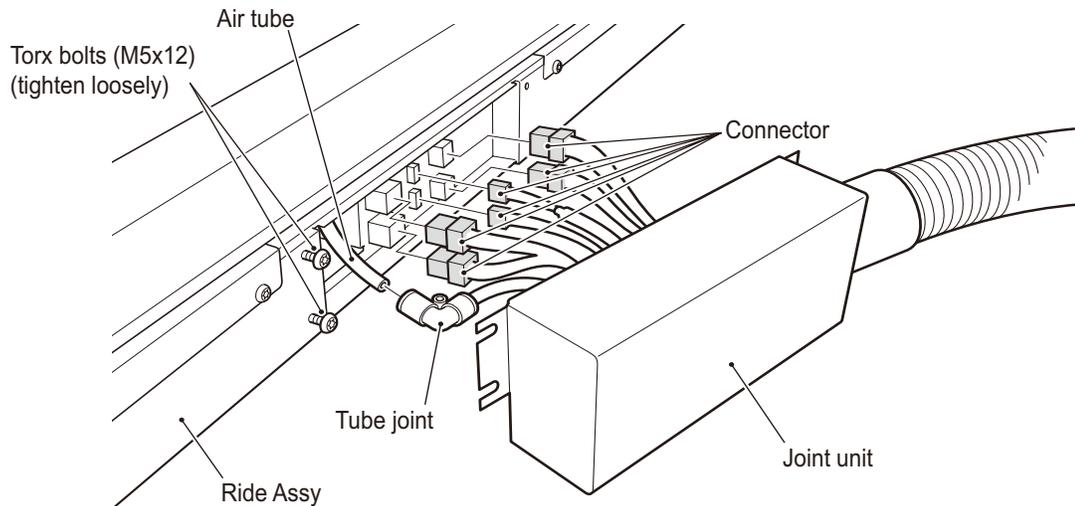
## 7A. Installation and Assembly

- To be conducted by a technician only -

- 6** Tighten the one Torx bolt (M5 x 20) and the two Torx bolts (M5 x 20) temporarily fastened in step **5** to install the joint unit.
- \* Be careful not to pinch the connector cables and air tube.
  - \* Install one Torx bolt (M5 x 20) in the upper hole.



- 7** Follow steps **5** and **6** to install the joint unit in the Ride Assy with three Torx bolts (M5 x 12).



## 7A-1-4 Connecting the power cord and ground lead

### ⚠ WARNING

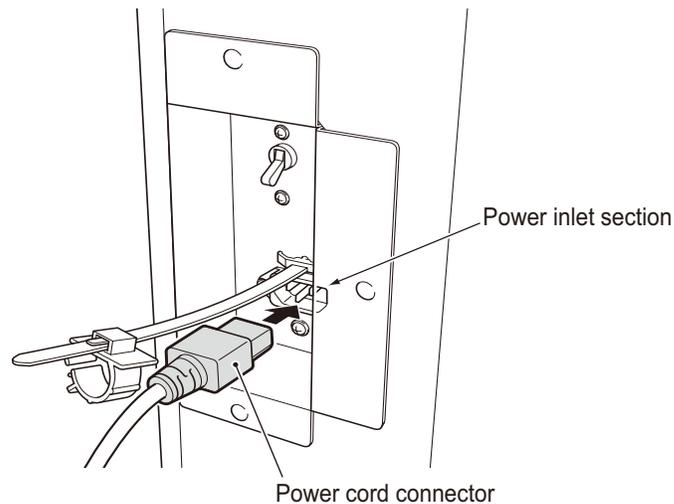
- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.
- To connect the provided three-prong power cord, connect it to a two-pole grounded outlet (15A125V) or a two-pole grounded outlet (20A125V) and properly ground it. Improper grounding may lead to a current leak or electric shock. Moreover, it is recommended that you use a plug-retaining outlet to prevent the plug from falling out.
- Be sure to fully insert the power plug into the outlet. Poor contact may generate heat and lead to fire or burns.

### ⚠ CAUTION

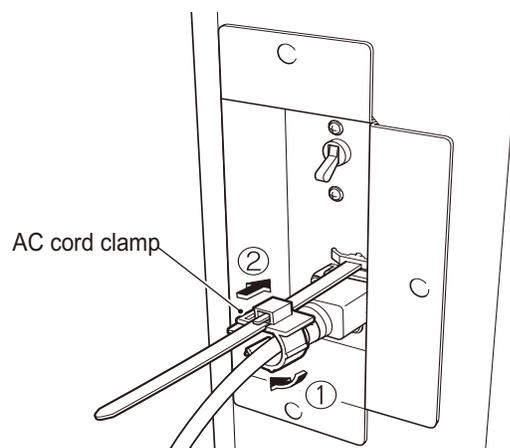
- Wire the power cord so that the players, spectators, and passersby do not trip on it.

- 1** Insert the power cord connector into the power input section on the lower rear of the Monitor Assy.

Rear of monitor assy



- 2** Attach the AC cord clamp to the power cord connector and adjust the length so that it does not fall out.

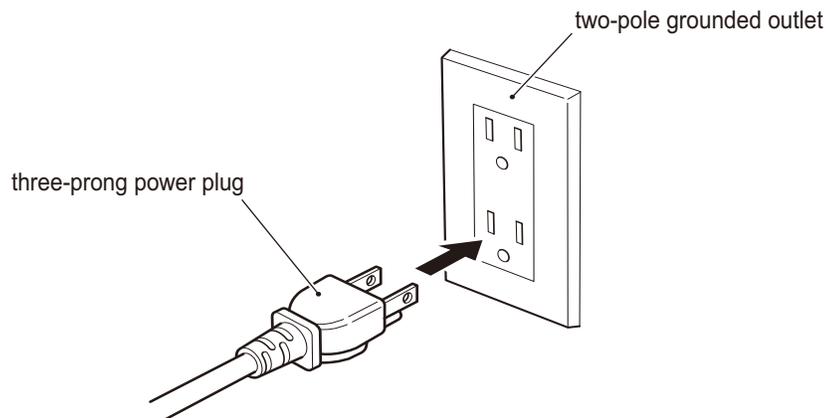


## 7A. Installation and Assembly

- To be conducted by a technician only -

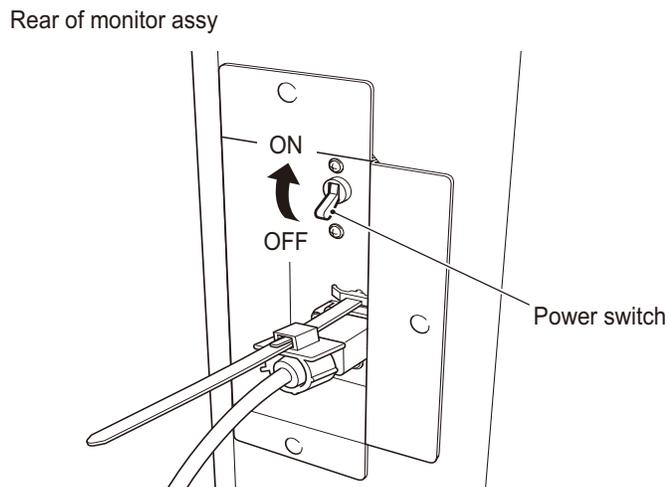
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- 3 Insert the three-prong power plug into the two-pole grounded outlet.



### 7A-1-5 Power switch location and turning on the switch

Turn on the machine power switch.



#### NOTICE

- When the installation is complete, turn the power switch on.
- When turning the power switch on and off, wait 30 seconds or more before flipping the switch. Do not turn the power switch on and off excessively. Doing so may damage the contents of the backup memory. (When draining the compressor, wait two minutes or more between the on and off cycles. See P. 27 "6-4-3 (1) Discharging the drained water from the compressor")

## 7A-2 Disassembly (when the carry-in passage is narrow)

### 7A-2-1 Separating the Base Assy and the Control Assy

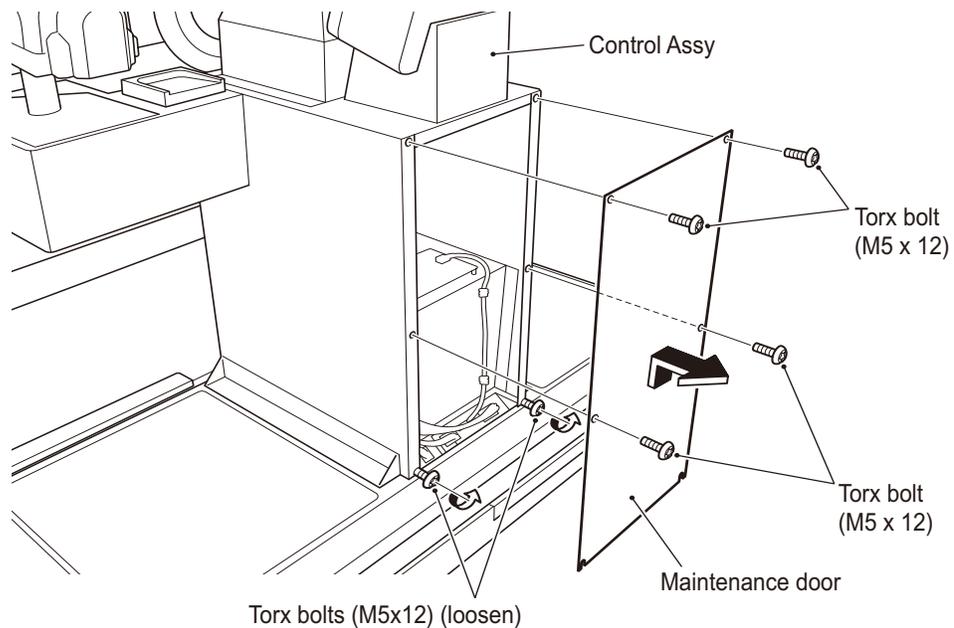
#### ⚠ WARNING

- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

#### ⚠ CAUTION

- The Control Assy weighs approx. 60 kg. To prevent accidents during removal, ensure that the work is performed by two or more people with sufficient working space.

- 1 Turn off the power switch. (See P. 78 “7A-1-5 Power switch location and turning on the switch”)
- 2 Remove the step plate. (See step 14 on P. 66 “7A-1-2 Assembling the Ride Assy”)
- 3 Loosen the two lower Torx bolts (M5 x 12) and remove the four upper Torx bolts (M5 x 12) to detach the maintenance door.



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Installation and Assembly

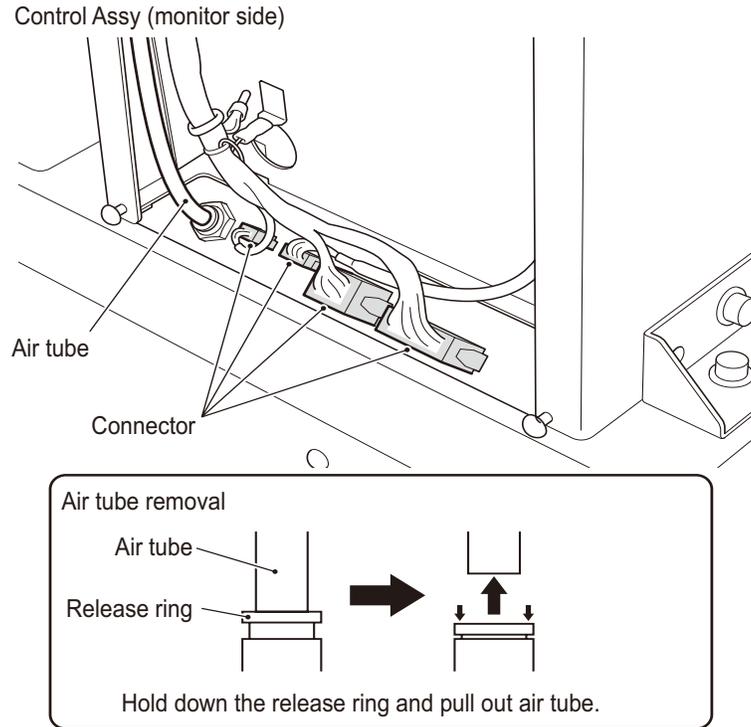
Test mode

Troubleshooting

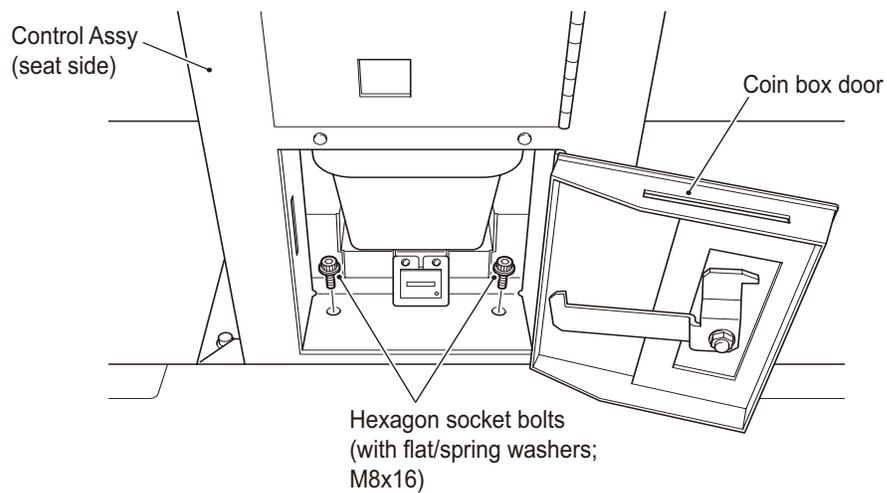
## 7A. Installation and Assembly

- To be conducted by a technician only -

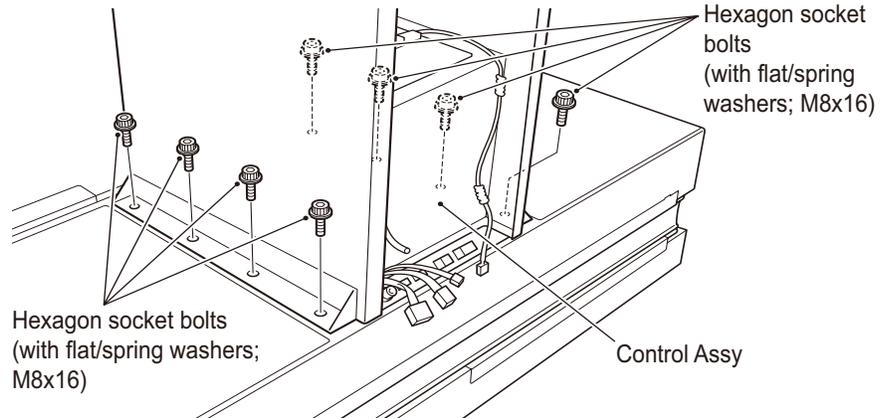
- 4 Unplug the four connectors and the one air tube.



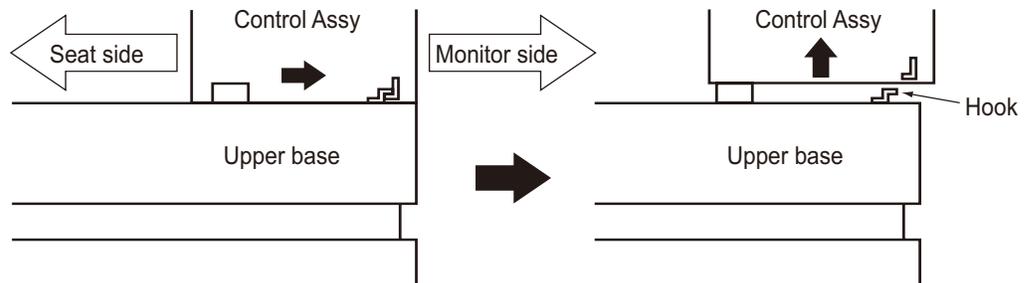
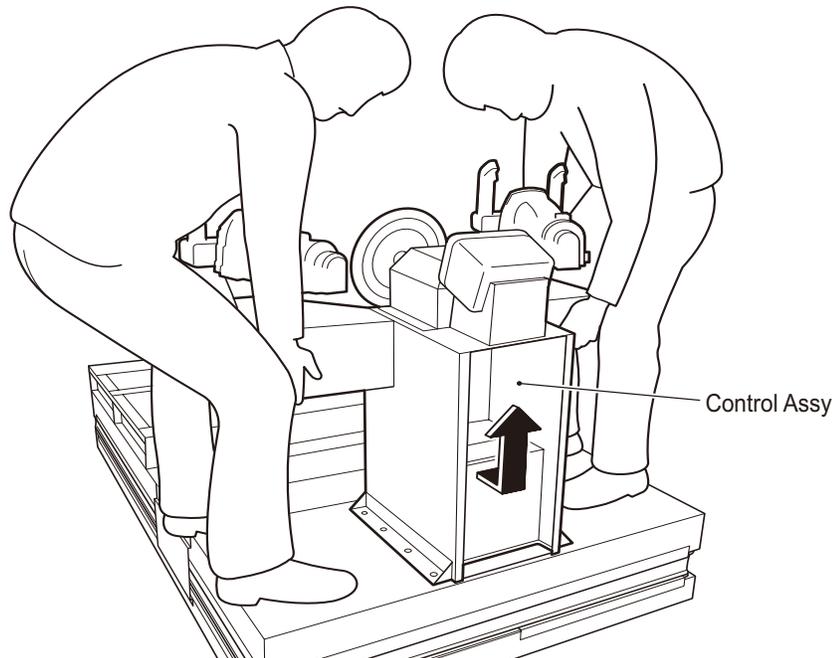
- 5 Unlock and open the coin box door with the provided cash box key and remove the two hexagon socket bolts (flat with spring washers) (M8 x 16) on the inside of the Control Assy.



- 6** Remove a total of eight hexagon socket bolts (flat with spring washers) (M8 x 16) on the left and right sides of the outside of the Control Assy.



- 7** Close the coin box door and lock it with the provided cash box key.
- 8** Lift the Control Assy by about 2 mm and pull it toward the monitor side. After disengaging the hooks, lift it up to detach it.



- 9** To install the Control Assy, perform the removal sequence in reverse.  
\* Be careful not to pinch the connector cables and air tube.

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Test mode
Troubleshooting

# 7B. Service

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## WARNING

- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits when performing maintenance work (troubleshooting, repairs, and replacement, etc.), be sure to turn the power switch off.
- Some areas of the monitor section may remain hot or charged with a high voltage even if the power switch is turned off.  
Due to the risk of electric shock and burns, be careful not to inadvertently touch the monitor section.
- Some areas of the compressor may remain hot even if the power switch is turned off. To prevent burns when conducting maintenance on or around the compressor, wait at least one hour after the compressor is stopped to allow the temperature to sufficiently cool before conducting maintenance.

## 7B-1 Inspection and Service

### CAUTION

- Conduct maintenance work on a regular basis. Failure to do so may lead to unforeseen accidents.
- Perform a pre-service check each day. Such checks are necessary to prevent accidents.  
(See P. 26 “6-4 Pre-service check”)

### 7B-1-1 Inspection items

Check the following inspection items for anomalies on a regular basis.

#### (1) Level adjuster inspection

- Check that the level adjusters are securely fixed. (See P. 74 “7A-1-3 Connecting the Front Assy to the Ride Assy and adjusting the level adjusters”)

#### (2) Power cord inspection

- Check that the cord box and outlet sections of the machine are firmly inserted.
- Clean the connector sections if they are dusty.
- Check the power cord for cracking or a dirty sheath. If the power cord is not working properly, be sure to replace it with a new cord.

#### (3) Loose screw inspection

Check the tightness of the following screws. Firmly retighten any screws that are loose.

- Gun Assy fixing screws  
(See P. 145 “7B-4-4 (1) Removing and installing the Gun Assy”)
- Wheel (steering wheel) fixing screws  
(See P. 161 “7B-4-5 (1) Removing and installing the Wheel Assy”)
- Ride stopper fixing screws (Front Assy and Ride Assy connecting screws)  
(See P. 63 “7A-1-1 Assembling the Front Assy”)
- Seat Assy fixing screws  
(See P. 66 “7A-1-2 Assembling the Ride Assy”)
- Other

## 7B-1-2 Compressor maintenance

### ⚠ WARNING

- To prevent electric shock, accidents, or injuries to workers and other personnel, be sure to turn the power switch off.
- Some areas of the compressor may remain hot even if the power switch is turned off. To prevent burns when conducting maintenance on or around the compressor, wait at least one hour after the compressor is stopped to allow the temperature to sufficiently cool before conducting maintenance.

#### NOTICE

- Failure to conduct maintenance may significantly reduce the lifespan of the compressor. Conduct maintenance and overhauling of the compressor using the number of game play hours as a reference.  
(A message appears on the screen when it is time for maintenance)
- When storing the machine in a warehouse or other location for a long period of time, conduct maintenance and overhauling according to the storage period by referring to the following table.
- After conducting the compressor maintenance and overhauling, be sure to reset the compressor timer. (See P. 60 “6-7-10 (g) Compressor Timer”)

Maintenance item	Maintenance time	Work conducted in test mode
(1) Discharging the drained water from the compressor (See P. 84)	Every day	None
(2) Check for extreme noise, vibrations, or strange odors from the compressor (see P. 84)		
(3) Inspection of the filter regulator pressure setting (see P. 85)		
(4) Check the compressor startup and shutdown (See P. 87)	Every 1,500 hours of game play or six months of elapsed days	After the work is complete, execute the “TOTAL GAME PLAY TIME RESET.” (See P. 60 “6-7-10 (g) Compressor Timer”)
(5) Inspection of the compressor filter (See P. 88, P. 109)		
(6) Inspection of the Y-type strainer (see P. 88)		
(7) Inspection of the solenoid valve for the drained water discharge (See P. 89)		
(8) Inspection of the filter regulator element (see P. 90)		
(9) Overhaul	Every 8,000 hours of game play or three years of elapsed days	After the work is complete, execute the “LAPSED HOURS RESET.” (See P. 60 “6-7-10 (g) Compressor Timer”)

\* You can check the game play hours with the “COMPRESSOR TIMER” in Test mode.  
(See P. 60 “6-7-10 (g) Compressor Timer”)  
Game play hours = GAME PLAY TIME.

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Service

Test mode

Troubleshooting

- To be conducted by a technician only -

## (1) Discharging the drained water from the compressor

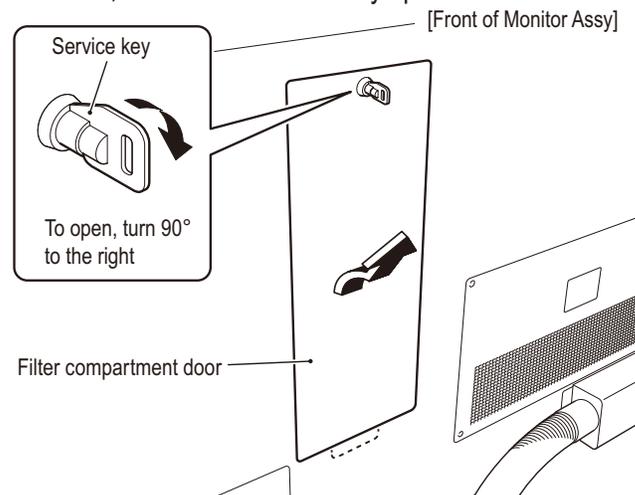
Failure to discharge the drained water may lead to a malfunction due to water entering the pneumatic moving parts.

Furthermore, rust and other contaminants will not be discharged from the air tank, causing the filter regulator, Y-type strainer, and the solenoid valve for the drained water discharge to become clogged, leading to a malfunction.

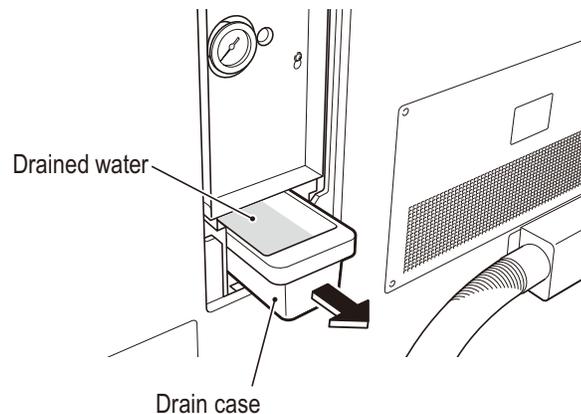
**1** Turn the power switch off (see P. 78 “7A-1-5 Power switch location and turning on the switch”) and discharge the compressed air and drained water inside the compressor.

**2** Wait approx. two minutes after the power is turned off to unlock and open the filter compartment door with the provided service key.

\* If the filter compartment door is opened while the sound of water discharging is audible, the drained water may splash.



**3** Dispose of the drained water inside the drain case.



## (2) Check for extreme noise, vibrations, or strange odors from the compressor

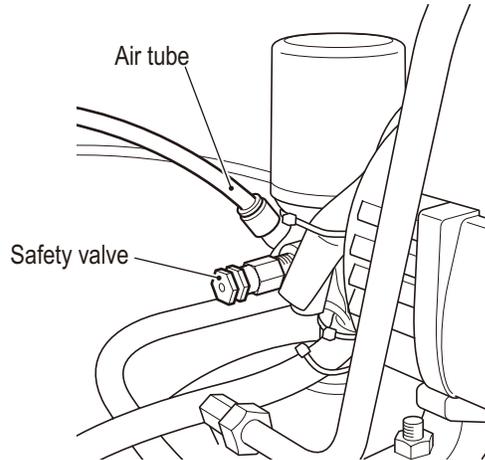
**1** Check that the compressor does not emit extreme noise or vibrate during operation.

**2** If the compressor produces unusual sounds or vibrates, turn the power switch off (see P. 78 “7A-1-5 Power switch location and turning on the switch”) and check the tightness of the compressor installed parts, bolts, and nuts. (See P. 106 “7B-4-1 (7) Replacing the compressor”)

If the compressor continues to produce unusual sounds or vibrates even after retightening the bolts and other parts, contact your distributor.

**(3) Inspection of the filter regulator pressure setting****⚠ WARNING**

- There is a risk of electric shock, entanglement, and burns when working with the compressor. Be careful not to inadvertently touch the following areas.
  - Compressor unit, copper pipes, and other high-temperature areas
  - Fan and other rotating parts
- The safety valve may be activated when the compressor is in operation, so please keep your face away from the compressor.

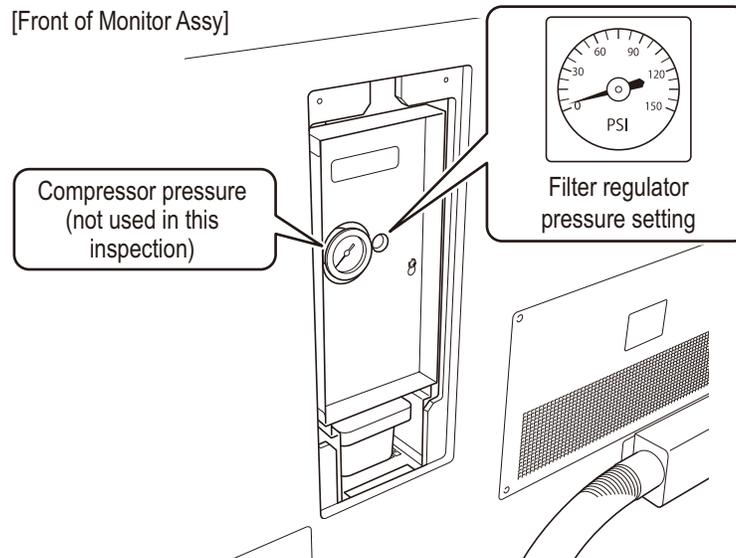


The pressure is set to a range between 21 and 29 PSI. If the pressure is lower than the specified pressure setting, the movement of the cabinet may become sluggish and the gaming sensation will diminish.

If the machine is used with a pressure that is higher than the specified pressure setting, the applied load may lead to a malfunction.

- 1** Turn the power switch on (see P. 98 “7A-1-5 Power switch location and turning on the switch”) and wait until the compressor stops. (Approx. 4 minutes)
- 2** Open the filter compartment door with the provided service key and check the position of the filter regulator needle. A pressure setting between 21 and 29 PSI is normal.

[Front of Monitor Assy]



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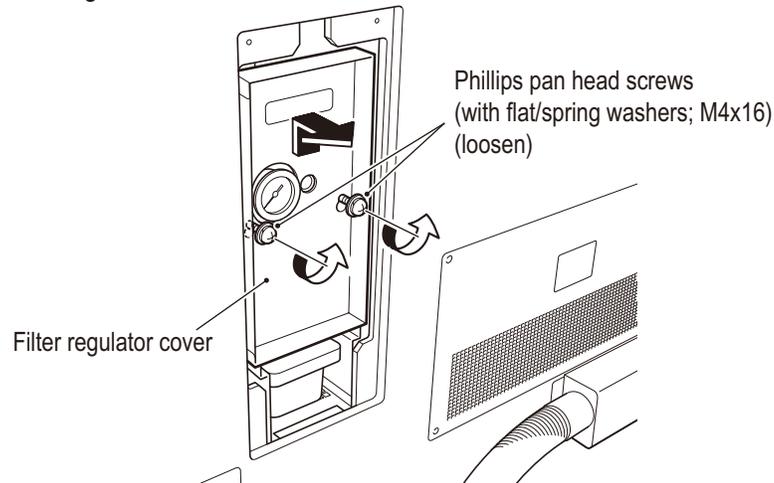
Service

Test mode

Troubleshooting

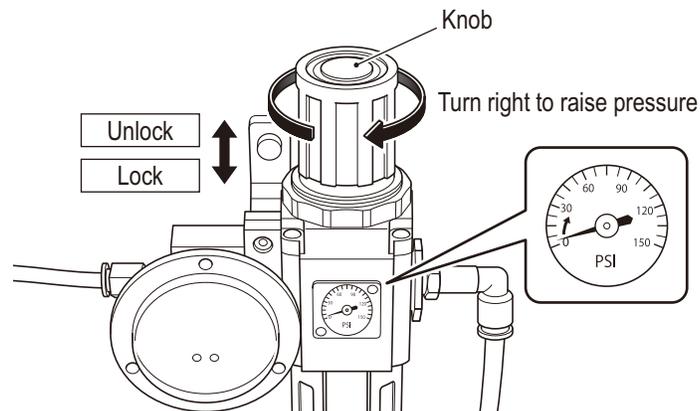
**- To be conducted by a technician only -**

- 3** If the needle indicates a value that is outside of the specified range, adjust the pressure using the following method.  
Loosen the two (+) pan head screws (flat with spring washers) (M4 x 16) and detach the filter regulator cover.



- (a) If the needle indicates a value that is lower than the specified range  
Pull the knob up, turn it to the right as shown in the diagram below, align the needle to a pressure setting between 21 and 29 PSI, and press the knob down until you hear a clicking sound.  
\* If you exceed the specified pressure value by mistake, set the correct pressure using the method described in “(b) If the needle indicates a value higher than the specified value.” If the pressure is fine-tuned by turning the knob to the left, the pressure value will change shortly after.

If pressure is lower than specified value

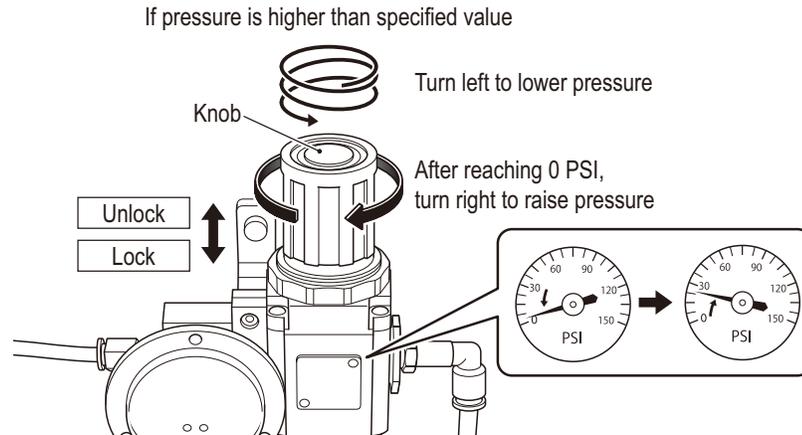


- To be conducted by a technician only -

(b) If the needle indicates a value higher than the specified value

Pull the knob up and turn it to the left as shown in the diagram below. After setting the needle to 0 PSI one time, turn it to the right to align the needle to a pressure setting between 21 and 29 PSI, and press the knob down until you hear a clicking sound.

\* If you exceed the specified pressure value by mistake, set it to 0 PSI before resetting it to the correct pressure. If the pressure is fine-tuned by turning the knob to the left, the pressure value will change shortly after.



**4** To attach the filter regulator cover and filter compartment door, perform the sequence in steps **2**, **3** in reverse.

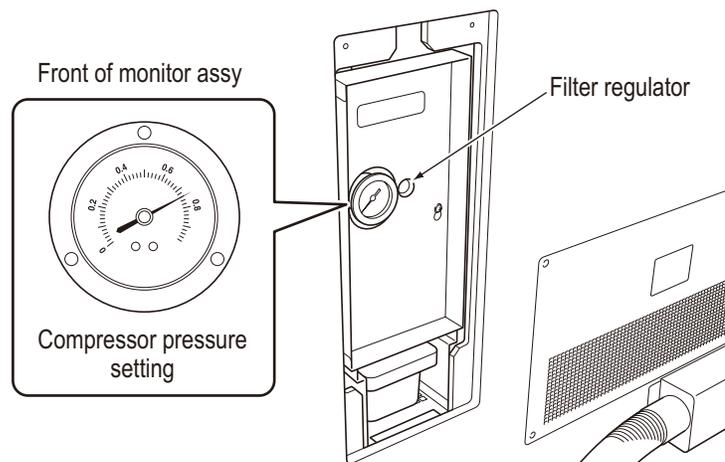
#### (4) Check the compressor pressure and startup time

**1** Turn the power switch on (see P. 78 “7A-1-5 Power switch location and turning on the switch”) and wait until the compressor stops. (Approx. 4 minutes)

**2** Open the filter compartment door with the provided service key and check the compressor pressure. A compressor pressure of 101 PSI or higher is normal.

\* If the compressor pressure falls below 101 PSI and the compressor does not stop, turn the power switch off (see P. 78 “7A-1-5 Power switch location and turning on the switch”) and inspect the connection between the Front Assy and the Ride Assy air tube (see P. 74 “7A-1-3 Connecting the Front Assy to the Ride Assy and adjusting the level adjusters”).

\* If the air tube is securely connected but the compressor does not operate normally, contact your distributor.



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Service

Test mode

Troubleshooting

- 3** After completing other maintenance work (steps (5) through (8)), execute the “TOTAL GAME PLAY TIME RESET” in Test mode.  
(See P. 60 “6-7-10 (g) Compressor Timer”)

#### (5) Inspection of the compressor filter

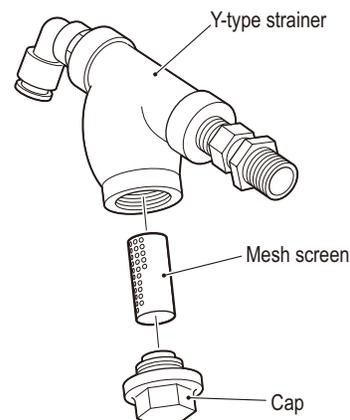
If the compressor is used with a dirty filter, the pressure may decrease due to clogging and lead to a malfunction.

- 1** Turn off the power switch. (See P. 78 “7A-1-5 Power switch location and turning on the switch”)
- 2** Detach the compressor filter. (See P. 109 “7B-4-1 (8) Removing and installing the compressor filter”)
- 3** Blow compressed air, etc. through the filter to remove any foreign substances. If there are any foreign substances that cannot be removed, replace it with a new filter.
- 4** When other maintenance work is complete (steps (4) and (6) through (8)), execute the “TOTAL GAME PLAY TIME RESET” in Test mode. (See P. 60 “6-7-10 (g) Compressor Timer”)

#### (6) Inspection of the Y-type strainer

If debris, etc. builds up in the Y-type strainer, it may prevent the normal operation of the drained water discharge and lead to a malfunction due to water entering the pneumatic moving parts. Furthermore, rust and other contaminants will not be discharged from the air tank and cause the filter regulator to become clogged, leading to a malfunction.

- 1** Turn off the power switch. (See P. 78 “7A-1-5 Power switch location and turning on the switch”)
- 2** Remove the Y-type strainer and pull out the mesh screen.  
(See P. 111 “7B-4-1 (10) Removing and installing the Y-type strainer”)
- 3** Wash the mesh screen in water to remove the foreign substances. If there are any foreign substances that cannot be removed, replace it with a new mesh screen.
- 4** After completing other maintenance work (steps (4), (5), (7), and (8)), execute the “TOTAL GAME PLAY TIME RESET” in Test mode. (See P. 60 “6-7-10 (g) Compressor Timer”)

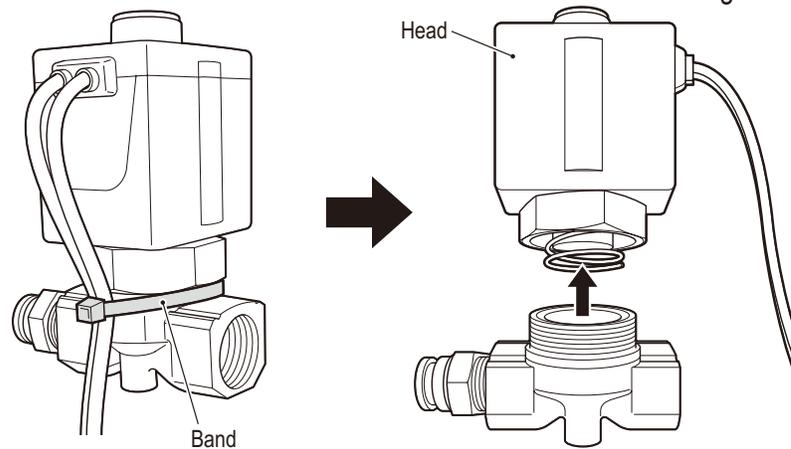


- To be conducted by a technician only -

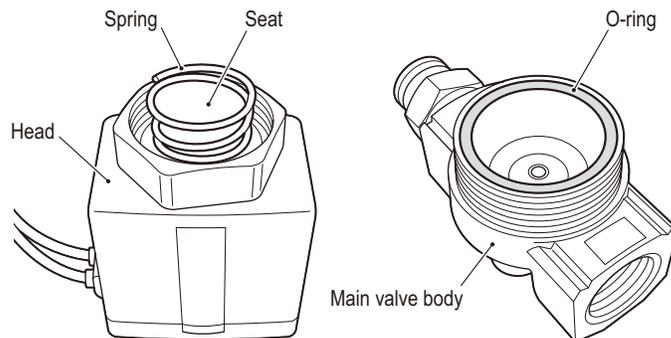
**(7) Inspection of the solenoid valve for drained water discharge**

If the solenoid valve for drained water discharge does not function normally, failure to properly discharge the drained water may lead to a malfunction due to water entering the pneumatic moving parts. Furthermore, rust and other contaminants will not be discharged from the air tank and cause the filter regulator to become clogged, leading to a malfunction.

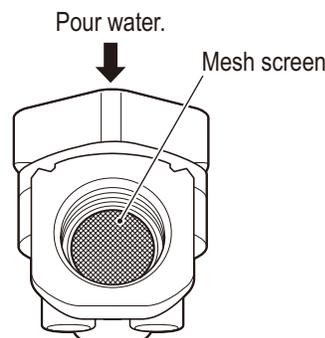
- 1** Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2** Detach the solenoid valve for drained water discharge. (See P. 110 "7B-4-1 (9) Removing and installing the solenoid valve for drained water discharge")
- 3** Cut the band around the solenoid valve for drained water discharge and detach the head.



- 4** After removing the head, check that the spring, seat, and O-ring are attached. If the O-ring is broken, replace the solenoid valve.



- 5** Pour water from the top of the unit and wash off the debris from the mesh screen.



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Service

Test mode

Troubleshooting

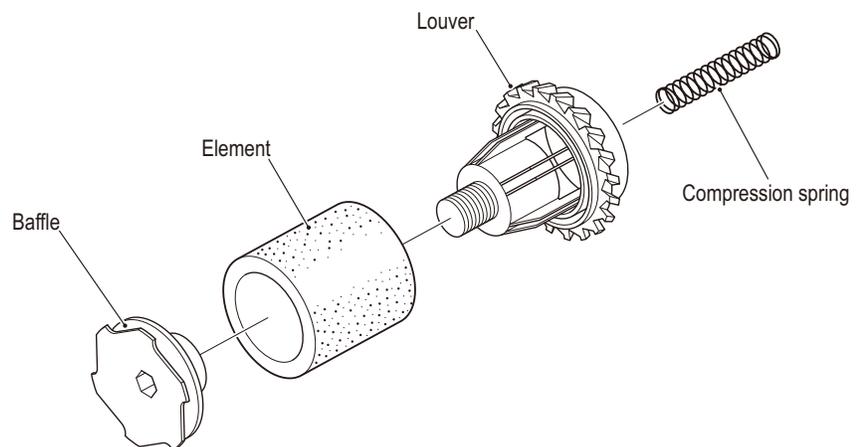
- To be conducted by a technician only -

- 6** Check for scratches or damage on the O-ring, debris adhering to the seat, and make sure that the spring is fully inserted.
- 7** To install, perform the removal sequence in reverse.
- 8** After completing other maintenance work (steps (4) through (6), and (8)), execute the "TOTAL GAME PLAY TIME RESET" in Test mode. (See P. 60 "6-7-10 (g) Compressor Timer")

## (8) Inspection of the filter regulator element

If the filter regulator is used with a dirty element, the pressure may decrease due to clogging and lead to a malfunction.

- 1** Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2** Detach the element. (See P. 115 "7B-4-1 (12) Replacing the element")
- 3** Blow compressed air, etc. through the element to remove any foreign substances. If there are any foreign substances that cannot be removed, replace it with a new element.
- 4** When other maintenance work is complete (steps (4) through (7)), execute the "TOTAL GAME PLAY TIME RESET" in Test mode. (See P. 60 "6-7-10 (g) Compressor Timer")



### NOTICE

- Do not wash the element with water. Doing so may lead to a malfunction due to water entering the pneumatic moving parts.

## (9) Overhaul

If 8,000 hours of game play time or three years have elapsed, the compressor must be overhauled.

For details, contact your distributor.

- \* After the work is complete, execute the "LAPSED HOURS RESET."  
(See P. 60 "6-7-10 (g) COMPRESSOR TIMER")

## 7B-2 Troubleshooting

### WARNING

- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.
- If items 7B-2-1 through 7B-2-6 are not applicable to the malfunction or no improvement is seen as a result of corrective action, immediately turn off the power switch to stop operation of the machine and contact your distributor. Continuing to operate the machine under such conditions may lead to unforeseen accidents.

#### NOTICE

- In the event of a malfunction, first check that each connector is securely connected.
- The PC board is a part which is susceptible to static electricity. If the PC board is handled while a worker's body is charged with static electricity, the parts on the PC board may be damaged.  
Before handling the PC board, touch a grounded metal surface, etc. to remove any static electricity from your body.
- The PC board must be repaired by our company, so do not under any circumstances perform a continuity check with a tester, etc. The integrated circuit may be damaged by the internal voltage of the tester.
- When sending parts for repair, be sure to pack them carefully. In particular, when sending the PC board, wrap it in a conductive or anti-static sponge or bubble wrap, etc. and place it in a cardboard box, etc. to protect it from external force.

### 7B-2-1 General

#### NOTICE

- If you suspect a malfunction, check that each connector is securely connected.

Symptom	Primary cause	Troubleshooting	Reference page
• The machine does not start up.	• The Rack Assy connector is unplugged.	• Securely insert the connector.	P. 96, P. 98
	• The Rack Assy is defective.	• Contact your distributor.	-
• The machine operation is unstable or malfunctions.	• The power supply voltage is not in the range between 90 to 110 VAC.	• Remove any high-capacity equipment (air conditioners, large-sized rides, etc.) on the same line and ensure the specified power supply voltage.	-
• The power supply turns off during operation.	• The circuit protector activated and turned the power switch off. * The circuit protector turns the current off when an abnormal current flows.	• Turn the power switch on once again. If the circuit protector activates frequently, there is a problem with the machine. Contact your distributor.	-

- To be conducted by a technician only -

**7B-2-2Front Assy (monitor, compressor, etc.)**

Symptom	Primary cause	Troubleshooting	Reference page
• The speakers do not produce any sound.	• The volume is set very low.	• Reset the volume.	P. 54
	• The Rack Assy connector is unplugged.	• Securely insert the connector.	P. 96, P. 98
	• The AMP PC board is defective.	• Replace the AMP PC board.	P. 102
	• The Rack Assy is defective.	• Contact your distributor.	-
• The monitor screen does not display anything.	• The connector is unplugged.	• Securely insert the connector.	P. 118
	• The monitor is defective.	• Replace the monitor.	P. 117
	• The Rack Assy is defective.	• Contact your distributor.	-
• The monitor displays a blue screen.	• The Rack Assy is experiencing a startup error.	• Turn the power off and wait at 30 seconds or more before turning the power on once again.	P. 78
• There is a burning or bad smell.	• The motor is overheating due to the application of an excessive load.	• Turn the power switch off, unplug the power plug, and contact your distributor.	P. 77, P. 78
• The compressor frequently turns off.	• An excessive current is flowing due to a compressor abnormality.		
• The compressor does not work.	• The power cord is unplugged.	• Securely insert the power cord.	P. 77, P. 107
	• The thermal protector was activated.	• Press the protector reset button.	-
	• The compressor is defective.	• Turn the power switch off, unplug the power plug, and contact your distributor.	-
• The thermal protector frequently activates.	• The compressor is defective.	• Turn the power switch off, unplug the power plug, and contact your distributor.	-
• The machine operation is unstable or malfunctions.	• The power supply voltage is not in the range between 90 to 110 VAC.	• Remove any high-capacity equipment (air conditioners, large-sized rides, etc.) on the same line and ensure the specified power supply voltage.	-
• The compressor emits extreme noise, vibrations, or strange odors.	• The screws are loose.	• Retighten the screws.	P. 106 ~ P. 108
	• The compressor is defective.	• Turn the power switch off, unplug the power plug, and contact your distributor.	-

- To be conducted by a technician only -

Symptom	Primary cause	Troubleshooting	Reference page
• The compressor frequently activates even when the game is not being played.	• The air tube is disconnected or is not securely inserted.	• Securely insert the air tube.	P. 107
	• The compressor is defective.	• Turn the power switch off, unplug the power plug, and contact your distributor.	-
• The air tube is inflated.	• The air tube is clogged with debris or rust.	• Replace the air tube.	-

### 7B-2-3Ride Assy

Symptom	Primary cause	Troubleshooting	Reference page
• The STOP button does not work or light up.	• The connector is unplugged.	• Securely insert the connector.	P. 142
• The speakers do not produce any sound.	• The speaker volume is set very low.	• Reset the speaker volume.	P. 54
	• The connector is unplugged.	• Securely insert the connector.	P. 70, P. 75, P. 76, P. 80
	• The AMP PC board is defective.	• Replace the AMP PC board.	P. 102
• The Base Assy does not move.	• The air tube is disconnected or is not securely inserted.	• Securely insert the air tube.	P. 75, P. 76, P. 80, P. 135, P. 136
	• The pneumatic valve is defective.	• Replace the pneumatic valve.	P. 134, P. 136
	• The compressor is defective.	• Turn the power switch off, unplug the power plug, and contact your distributor.	-
	• The height sensor is defective.	• Replace the height sensor.	P. 137, P. 139

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Service

Test mode

Troubleshooting

- To be conducted by a technician only -

**7B-2-4 Gun Assy**

Symptom	Primary cause	Troubleshooting	Reference page
• The gun does not work.	• The potentiometer has not been initialized.	• Initialize the potentiometer.	P. 45
	• The connector is unplugged.	• Securely insert the connector.	P. 145
	• The potentiometer is incorrectly installed.	• Correctly install the potentiometer.	P. 148, P. 151
	• The potentiometer is defective.	• Replace the potentiometer.	P. 148, P. 151
• The trigger does not work.	• The connector is unplugged.	• Securely insert the connector.	P. 153
	• The trigger microswitch is defective.	• Replace the microswitch.	P. 153
• The START button does not work.	• The connector is unplugged.	• Securely insert the connector.	P. 147
	• The button is defective.	• Replace the START button.	P. 146
• The gun does not vibrate.	• The GUN DRIVE PC board is defective.	• Replace the GUN DRIVE PC board.	P. 121
	• The vibration unit is defective.	• Replace the vibration unit.	P. 155

**7B-2-5 Wheel Assy**

Symptom	Primary cause	Troubleshooting	Reference page
• The wheel (steering wheel) does not work.	• The connector is unplugged.	• Securely insert the connector.	P. 162
	• The photosensor (for the wheel) is defective.	• Replace the photosensor.	P. 162

## 7B-3 Error display

**NOTICE**

- If the error display remains on the screen after taking the appropriate action, turn the test switch on and off to cancel the error display.

Symptom	Primary cause	Troubleshooting	Reference page
1-1 COIN ERROR 1	• Coin selector error.	• Replace the coin selector.	P. 125
1-2 COIN ERROR 2	• The service switch is defective.	• Replace the service switch.	-
	• The USIO PC board is defective.	• Replace the USIO PC board.	P. 105, P. 120
2-3 BACKUP DATA ERROR	• Backup data error.	• Turn the test switch on and execute "BACKUP DATA INITIALIZE" under "OTHERS" in the Test mode.	P. 58
3-11 I/O PCB ERROR 1	• The USIO PC board connector of the Monitor Assy is unplugged.	• Check the USIO PC board connector of the Monitor Assy.	P. 105
3-12 I/O PCB ERROR 2	• The USIO PC board of the Monitor Assy is defective.	• Replace the USIO PC board of the Monitor Assy.	P. 105
3-21 I/O PCB ERROR 1	• The USIO PC board connector of the Control Assy is unplugged.	• Check the USIO PC board connector of the Control Assy.	P. 120
3-22 I/O PCB ERROR 2	• The USIO PC board of the Control Assy is defective.	• Replace the USIO PC board of the Control Assy.	P. 120
12-1 IC CARD R/W EMPTY	• The IC card is not inserted.	• Insert the IC card.	-
12-2 OUT OF IC CARD	• The IC card has no remaining points.	• Insert an IC card with points.	-
12-3 IC CARD R/W DISCONNECT	• The connector of the S2-IC card reader/writer is unplugged.	• Check the connector of the S2-IC card reader/writer.	-
12-4 IC CARD DATA ERROR	• IC card error.	• Insert the proper IC card.	-
12-6 IC CARD R/W SYSTEM ERROR	• The S2-IC card reader/writer is defective.	• Replace the S2-IC card reader/writer.	-
19-11 DONGLE ERROR 1	• USB dongle error.	• Check that the dedicated dongle for this machine is correctly inserted. Next, turn the power off and then on again after 30 seconds. If the same error appears, contact your distributor.	-
19-* SYSTEM ERROR			

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Service

Test mode

Troubleshooting

## 7B-4 Removing and installing Assys and parts

### 7B-4-1 Front Assy

#### (1) Replacing the Rack Assy

#### ⚠ WARNING

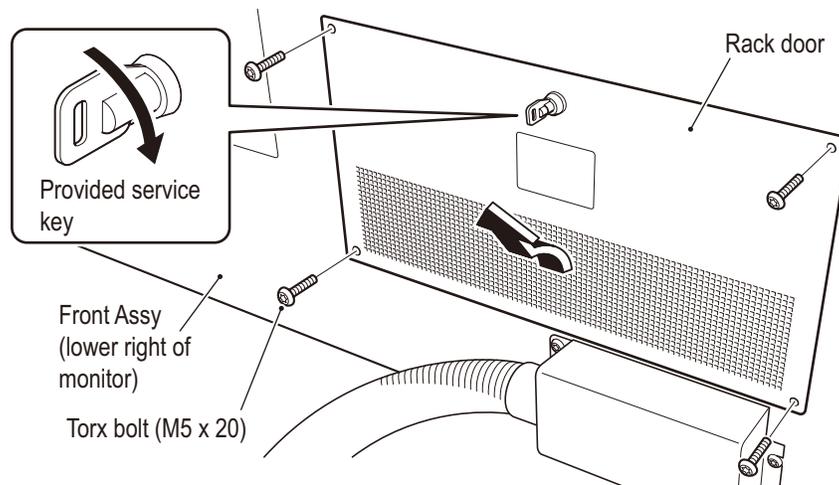
- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

#### NOTICE

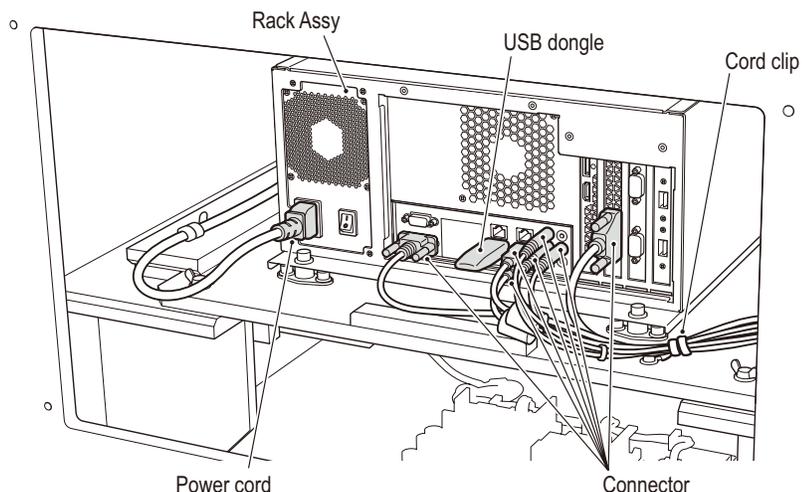
- The PC board is a part which is susceptible to static electricity. If the PC board is handled while a worker's body is charged with static electricity, the PC board may be damaged.

Before handling the PC board, touch a grounded metal surface, etc. to remove any static electricity from your body.

- 1 Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2 Unlock the rack door with the provided service key and remove the four Torx bolts (M5 x 20) to detach the rack door.

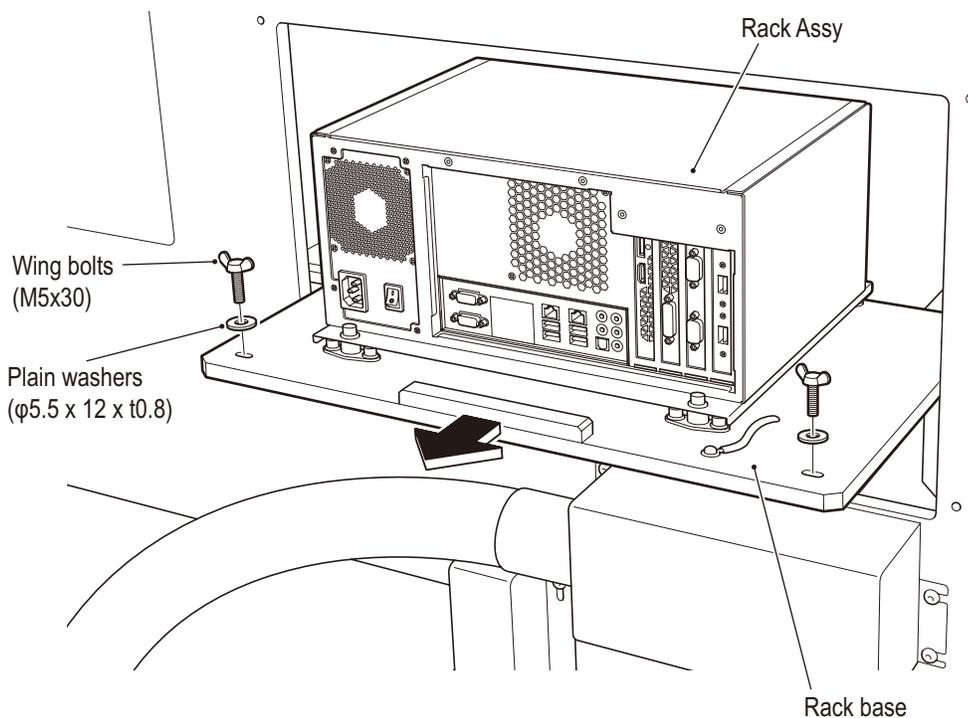


- 3 Remove the one cord clip, seven connectors, one USB dongle, and the one power cord.

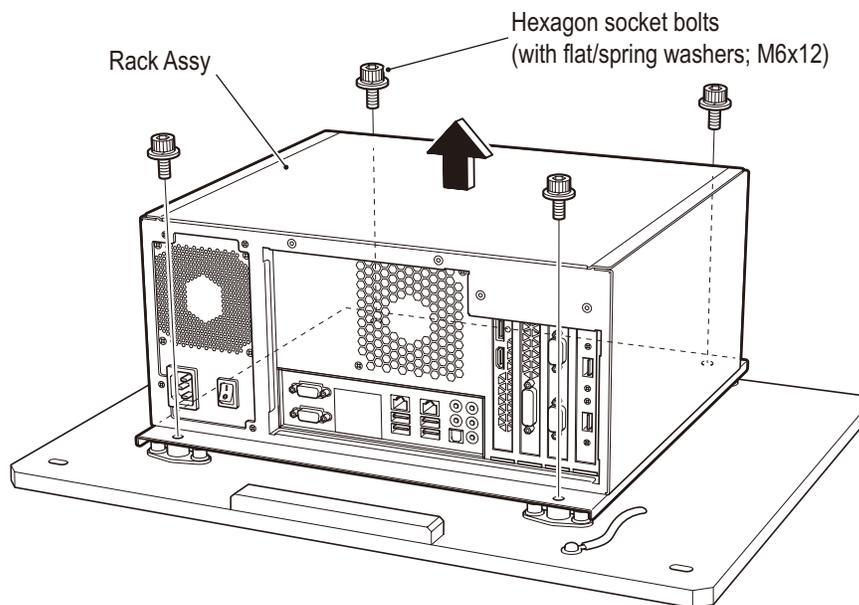


- To be conducted by a technician only -

- 4** Remove the two wing bolts (M5 x 30) and the two plain washers ( $\phi 5.5 \times 12 \times t0.8$ ) to detach the rack base.



- 5** Remove the four hexagon socket bolts (flat with spring washers) (M6 x 12) and detach the Rack Assy.

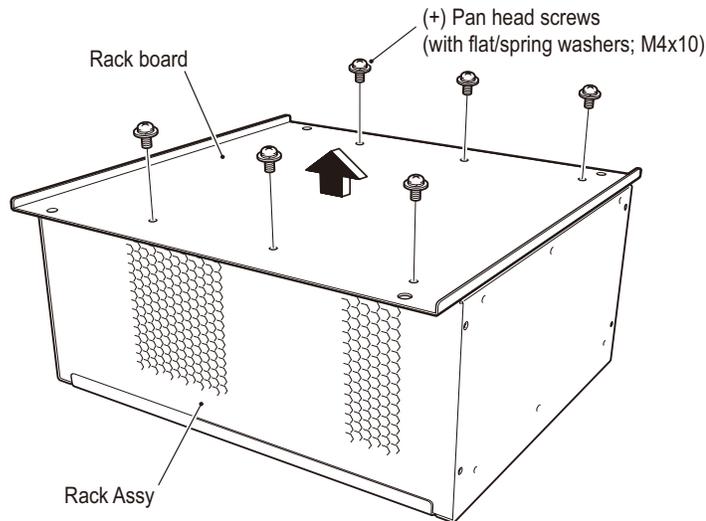


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Troubleshooting

**- To be conducted by a technician only -**

- 6** Turn the Rack Assy over and remove the six (+) pan head screws (flat with spring washers) (M4 x 10) to detach the rack board.

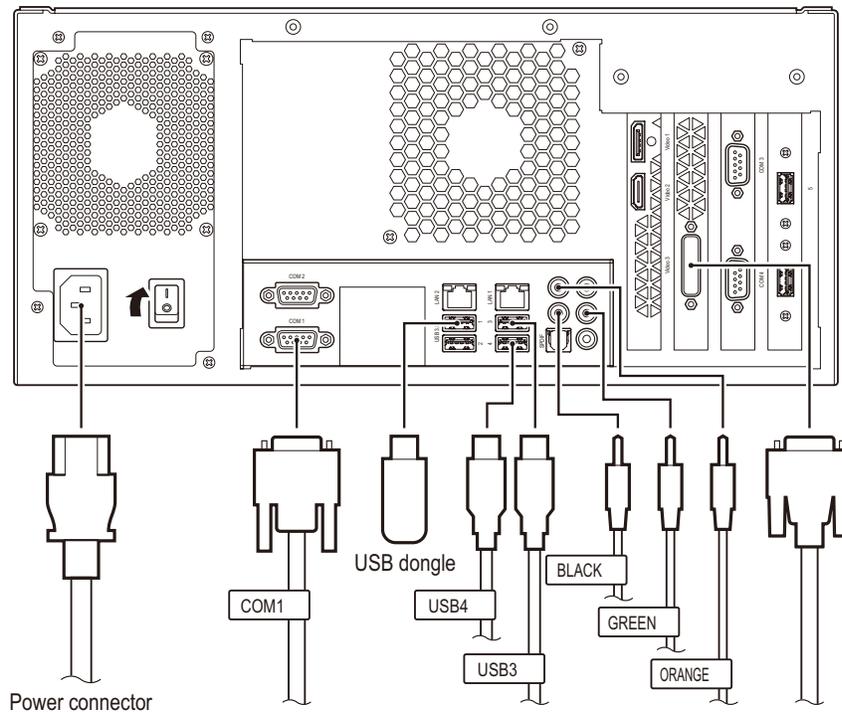


- 7** Replace the Rack Assy.
- 8** To install, perform the removal sequence in reverse.

**NOTICE**

- When installing the Rack Assy, fully insert the connector according to the tag.
- Be careful not to pinch the connector or harness during installation.
- After replacing the parts, be sure to perform an initialization. (See P. 62 “6-8 Gun assy adjustment (initialization) after parts replacement”)

Connection diagram



**(2) Replacing the switching regulator (24V)****⚠ WARNING**

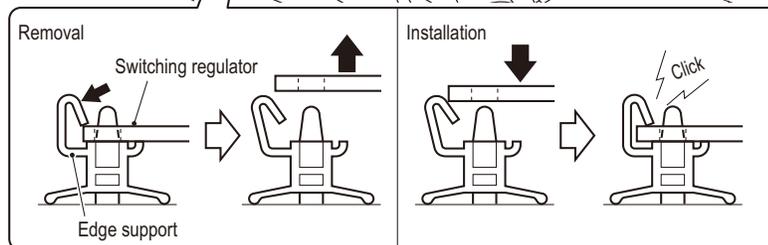
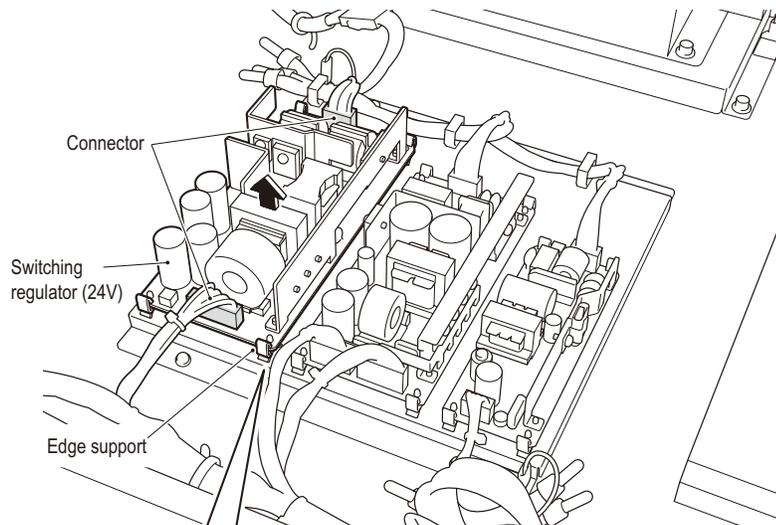
- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

**NOTICE**

- The PC board is a part which is susceptible to static electricity. If the PC board is handled while a worker's body is charged with static electricity, the PC board may be damaged.

Before handling the PC board, touch a grounded metal surface, etc. to remove any static electricity from your body.

- 1** Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2** Detach the rack base. (See P. 96 "7B-4-1 (1) Replacing the Rack Assy")
- 3** Unplug the two connectors.
- 4** Remove the four edge supports to detach and replace the switching regulator (24V).



- 5** To install, perform the removal sequence in reverse.

**NOTICE**

- Be sure to fully insert the connectors.

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Service

Test mode

Troubleshooting

**(3) Replacing the switching regulator (12V)****⚠ WARNING**

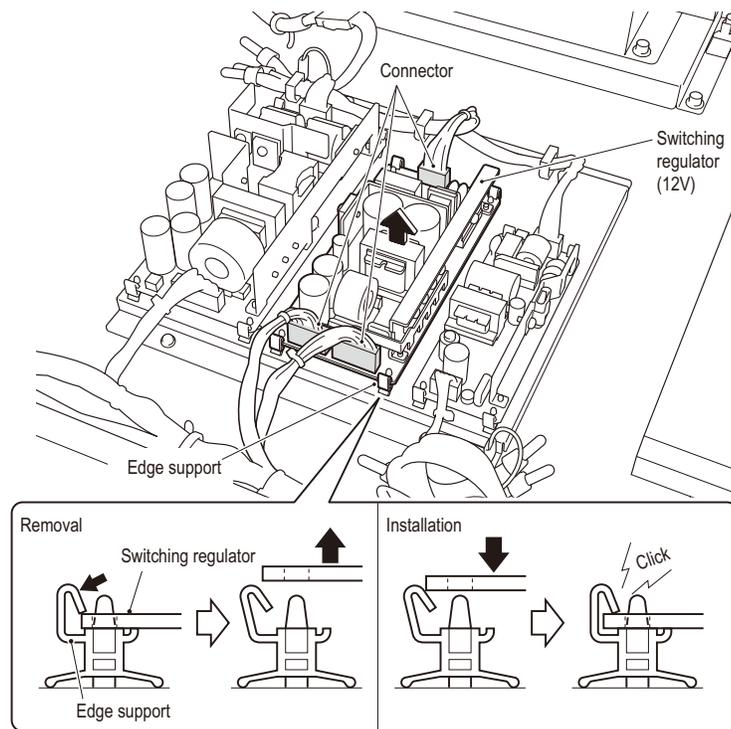
- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

**NOTICE**

- The PC board is a part which is susceptible to static electricity. If the PC board is handled while a worker's body is charged with static electricity, the PC board may be damaged.

Before handling the PC board, touch a grounded metal surface, etc. to remove any static electricity from your body.

- 1** Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2** Detach the rack base. (See P. 96 "7B-4-1 (1) Replacing the Rack Assy")
- 3** Unplug the three connectors.
- 4** Remove the four edge supports to detach and replace the switching regulator (12V).



- 5** To install, perform the removal sequence in reverse.

**NOTICE**

- Be sure to fully insert the connectors.

**(4) Replacing the switching regulator (5V)****⚠ WARNING**

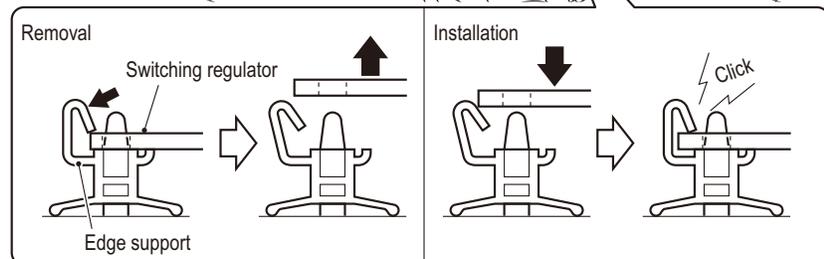
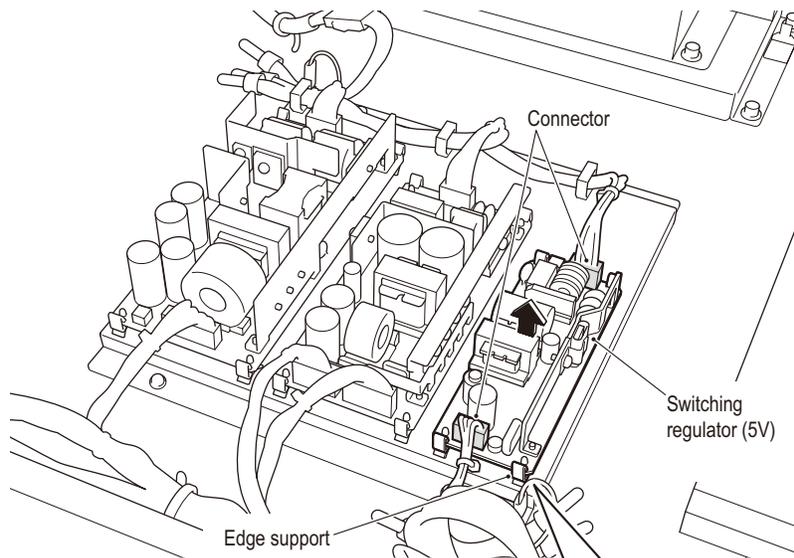
- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

**NOTICE**

- The PC board is a part which is susceptible to static electricity. If the PC board is handled while a worker's body is charged with static electricity, the PC board may be damaged.

Before handling the PC board, touch a grounded metal surface, etc. to remove any static electricity from your body.

- 1** Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2** Detach the rack base. (See P. 96 "7B-4-1 (1) Replacing the Rack Assy")
- 3** Unplug the two connectors.
- 4** Remove the four edge supports to detach and replace the switching regulator (5V).



- 5** To install, perform the removal sequence in reverse.

**NOTICE**

- Be sure to fully insert the connectors.

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Service

Test mode

Troubleshooting

**(5) Replacing the AMP PC board****! WARNING**

- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

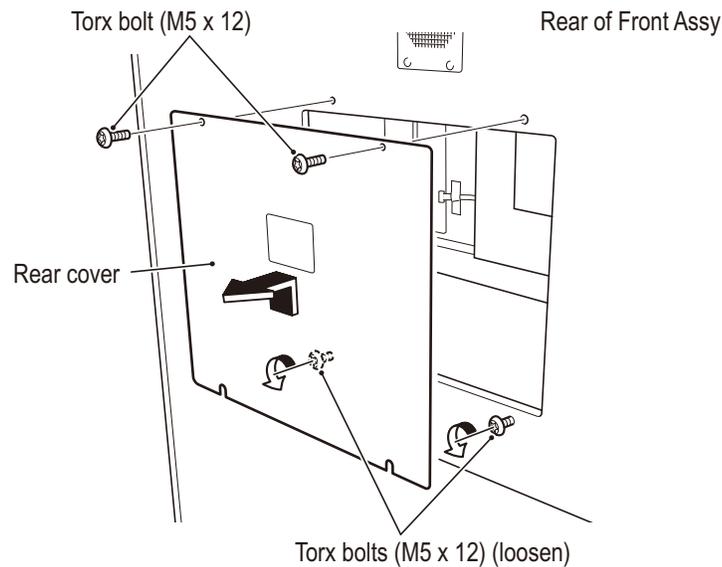
**NOTICE**

- The PC board is a part which is susceptible to static electricity. If the PC board is handled while a worker's body is charged with static electricity, the PC board may be damaged.

Before handling the PC board, touch a grounded metal surface, etc. to remove any static electricity from your body.

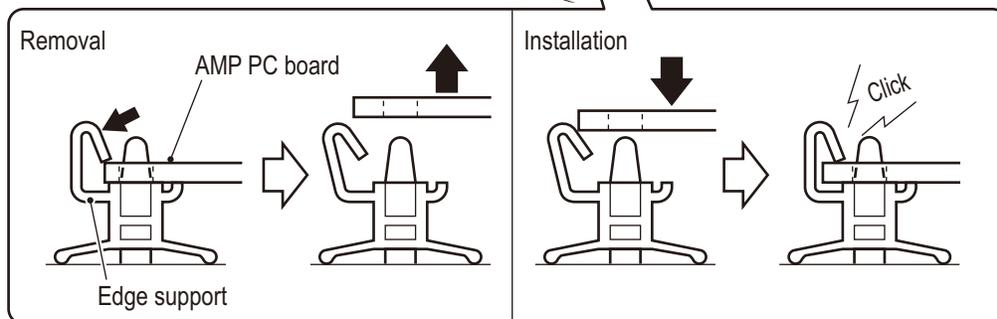
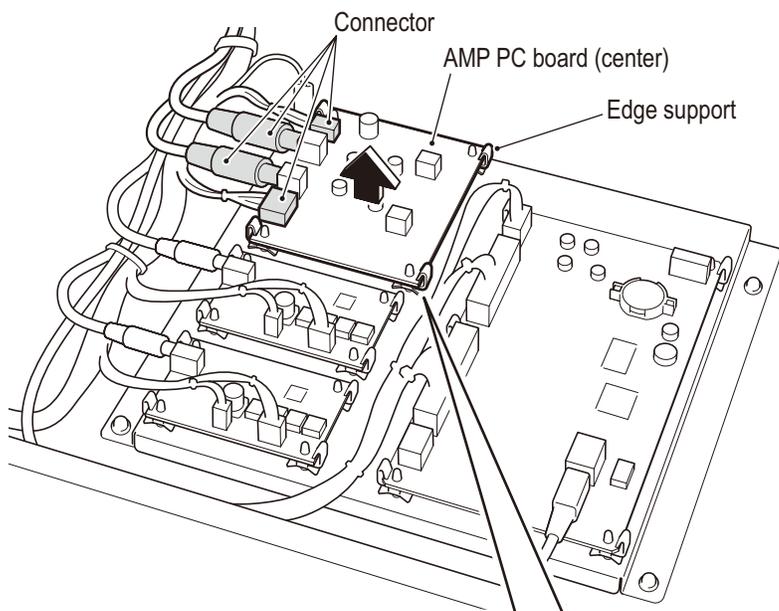
**<AMP PC board (CENTER)>**

- 1** Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2** Loosen the two lower Torx bolts (M5 x 12), remove the two upper Torx bolts, and detach the rear cover from the Front Assy.



- To be conducted by a technician only -

- 3** Unplug the four connectors and remove the four edge supports to detach and replace the AMP PC board.



- 4** To install, perform the removal sequence in reverse.

**NOTICE**

- Be sure to fully insert the connectors.

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Service

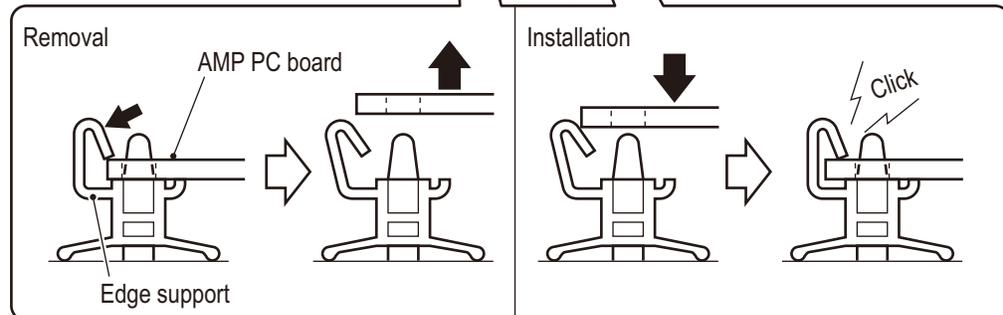
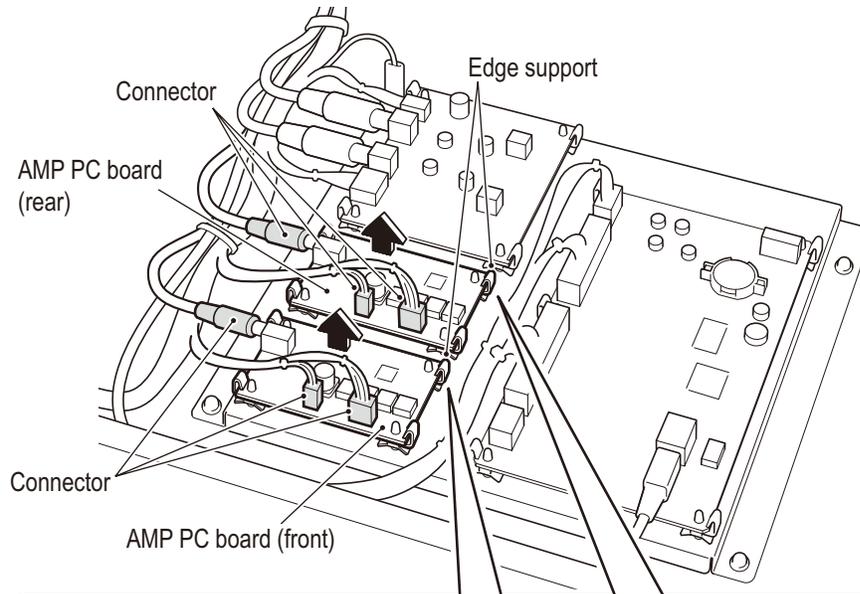
Test mode

Troubleshooting

- To be conducted by a technician only -

### <AMP PC board (FRONT, REAR)>

- 1** Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2** Detach the rear cover. (See P. 102 "7B-4-1 (5) Replacing the AMP PC board")
- 3** Unplug the three connectors on the board to be replaced and remove the four edge supports to detach and replace the AMP PC board.



- 4** To install, perform the removal sequence in reverse.

#### NOTICE

- Be sure to fully insert the connectors.

## (6) Replacing the USIO PC board

### ⚠ WARNING

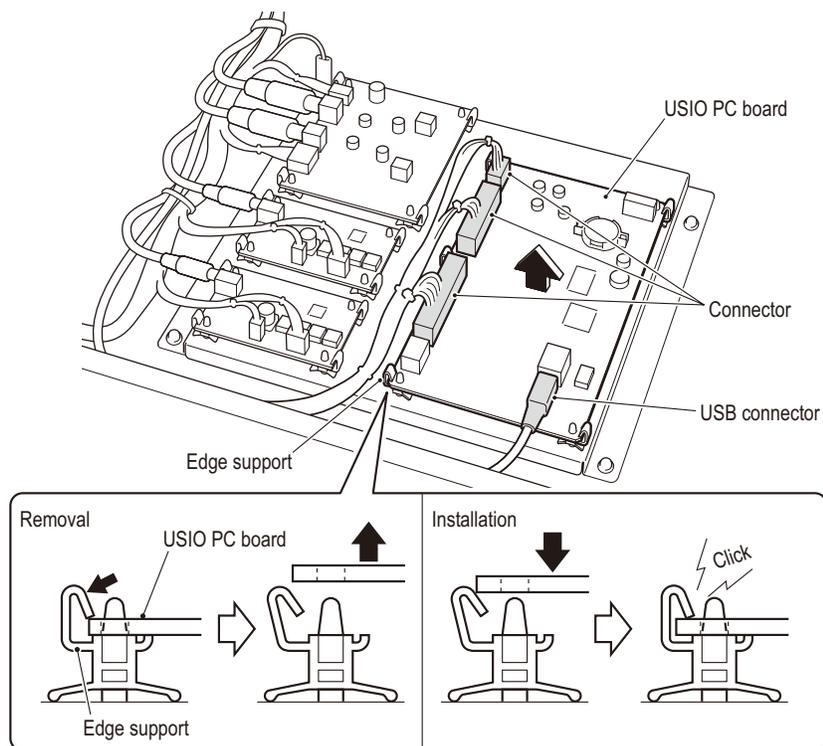
- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

#### NOTICE

- The PC board is a part which is susceptible to static electricity. If the PC board is handled while a worker's body is charged with static electricity, the PC board may be damaged.

Before handling the PC board, touch a grounded metal surface, etc. to remove any static electricity from your body.

- 1 Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2 Detach the rear cover. (See P. 102 "7B-4-1 (5) Replacing the AMP PC board")
- 3 Unplug the three connectors, one USB connector, and the four edge supports to detach and replace the USIO PC board.



- 4 To install, perform the removal sequence in reverse.

#### NOTICE

- Be sure to fully insert the connectors.

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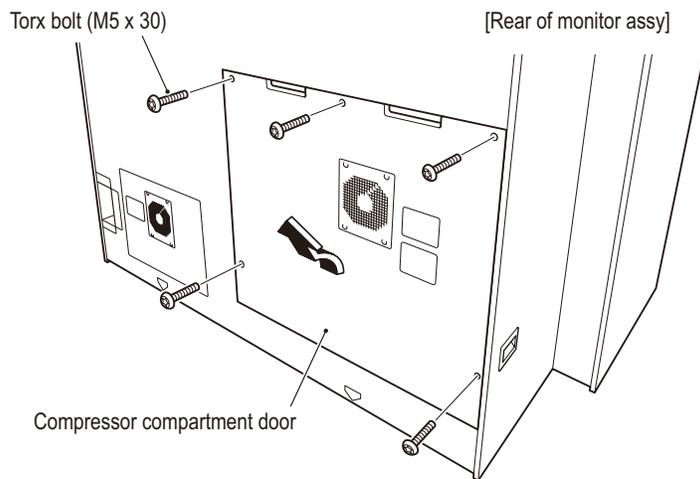
Test mode

Troubleshooting

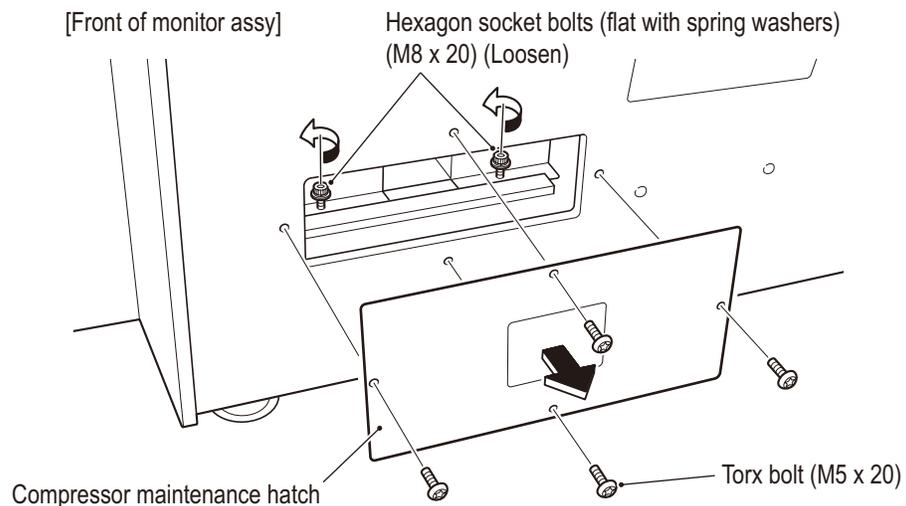
**(7) Replacing the compressor****⚠ WARNING**

- Some areas of the compressor may remain hot even if the power switch is turned off. To prevent burns when conducting maintenance on or around the compressor, wait at least one hour after the compressor is stopped to allow the temperature to sufficiently cool before conducting maintenance.
- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

- 1** Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2** Remove the five Torx bolts (M5 x 30) to detach the compressor compartment door.

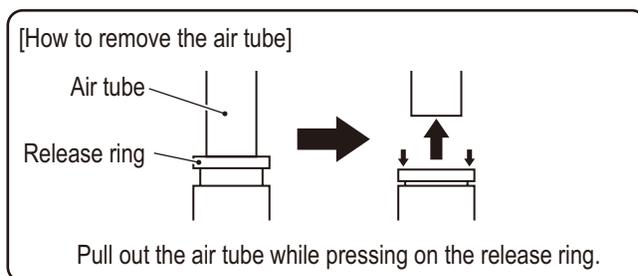
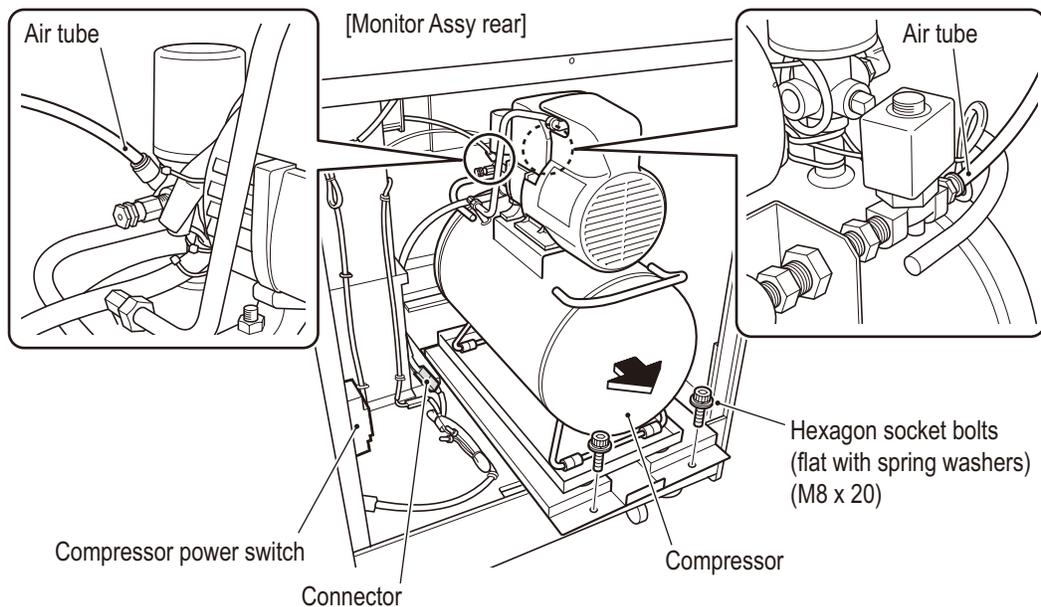


- 3** Remove the four Torx bolts (M5 x 20), detach the compressor maintenance hatch, and loosen the two hexagon socket bolts (flat with spring washers) (M8 x 20).

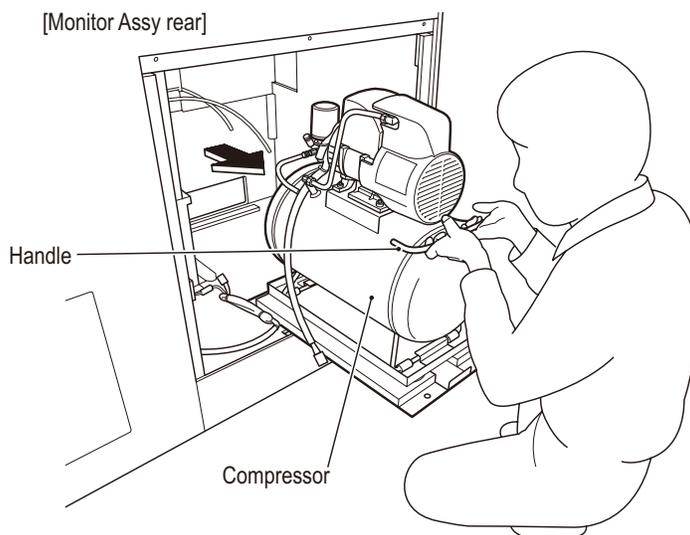


- To be conducted by a technician only -

- 4 Turn the compressor power off, unplug the one connector (larger one), and remove the two hexagon socket bolts (flat with spring washers) (M8 x 20).
- 5 Pull the compressor out slightly and disconnect the two air tubes on the back side of the compressor.



- 6 Grab the handles to pull the compressor out.



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Service

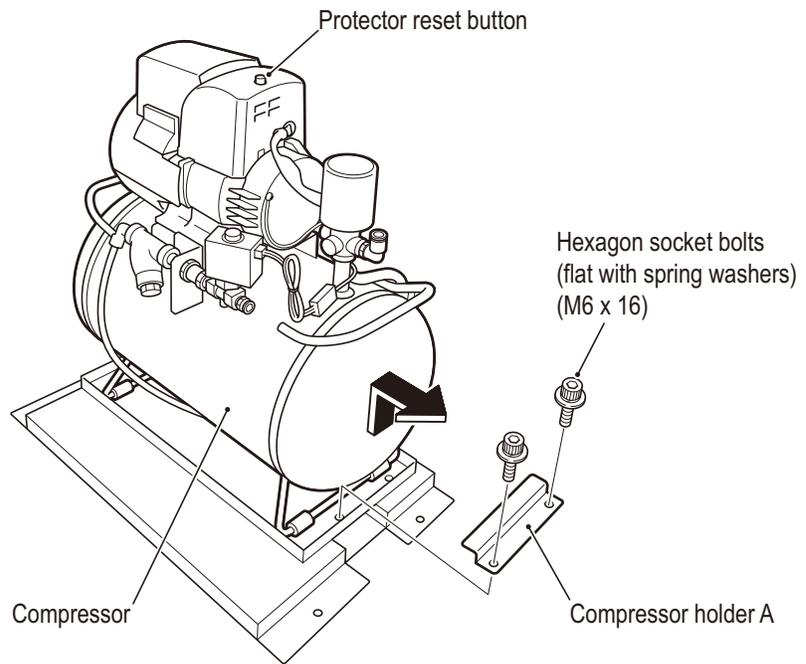
Test mode

Troubleshooting

- To be conducted by a technician only -

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- 7 Remove the two hexagon socket bolts (flat with spring washers) (M6 x 16) and detach compressor holder A.



- 8 Replace the compressor.
- 9 To install, perform the removal sequence in reverse.

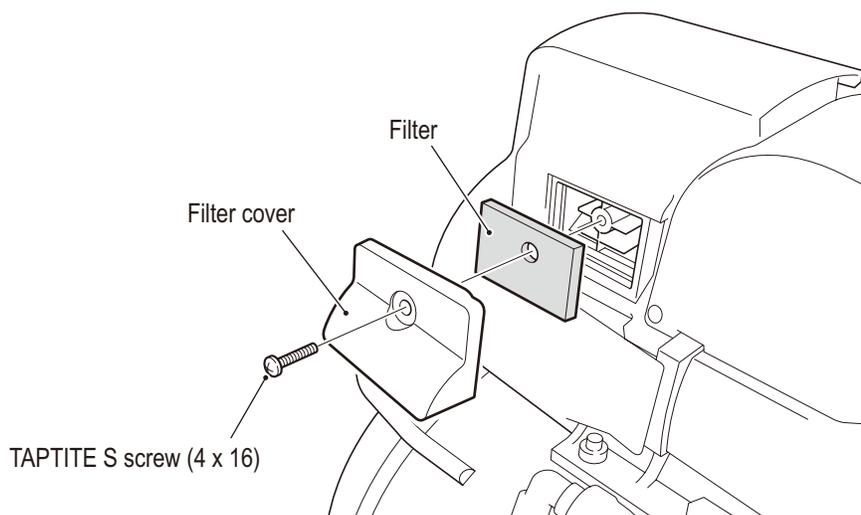
**NOTICE**

- When installing the air tube, be sure to insert the air tube all the way. If the air tube is not correctly inserted, air may leak and prevent normal game operation.
- Be sure to fully insert the connectors.
- After replacing the parts, be sure to reset the compressor timer. (See P. 60 "6-7-10 (g) Compressor Timer")

**(8) Removing and installing the compressor filter****⚠ WARNING**

- Some areas of the compressor may remain hot even if the power switch is turned off. To prevent burns when conducting maintenance on or around the compressor, wait at least one hour after the compressor is stopped to allow the temperature to sufficiently cool before conducting maintenance.
- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

- 1** Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2** Detach the compressor compartment door. (See P. 106 "7B-4-1 (7) Replacing the compressor" step **2**)
- 3** Remove the one TAPTITE S screw (4 x 16) to detach the filter cover and filter.



- 4** To install, perform the removal sequence in reverse.

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Service

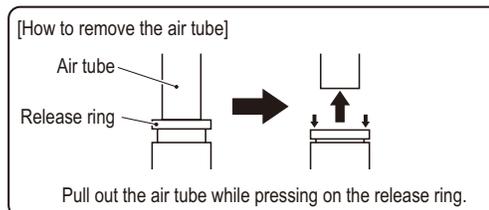
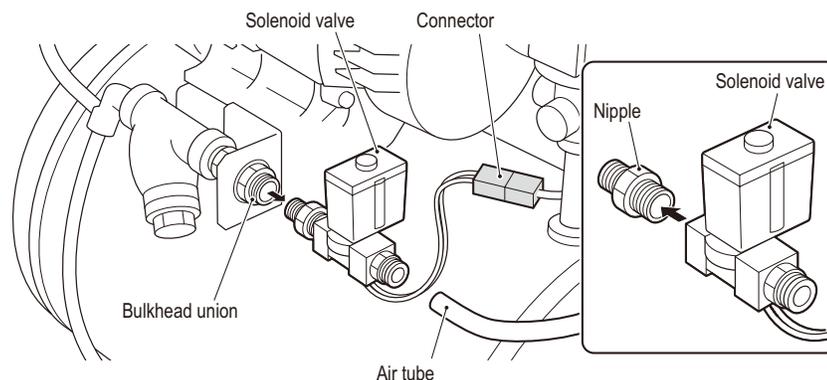
Test mode

Troubleshooting

**(9) Removing and installing the solenoid valve for drained water discharge****⚠ WARNING**

- Some areas of the compressor may remain hot even if the power switch is turned off. To prevent burns when conducting maintenance on or around the compressor, wait at least one hour after the compressor is stopped to allow the temperature to sufficiently cool before conducting maintenance.
- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

- 1** Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2** Remove the compressor. (See P. 106 "7B-4-1 (7) Replacing the compressor" **2** through **6**)
- 3** Unplug the one connector and disconnect the one air tube.
- 4** Remove the nipple from the bulkhead union and remove the nipple and solenoid valve.



- 5** To install, perform the removal sequence in reverse.

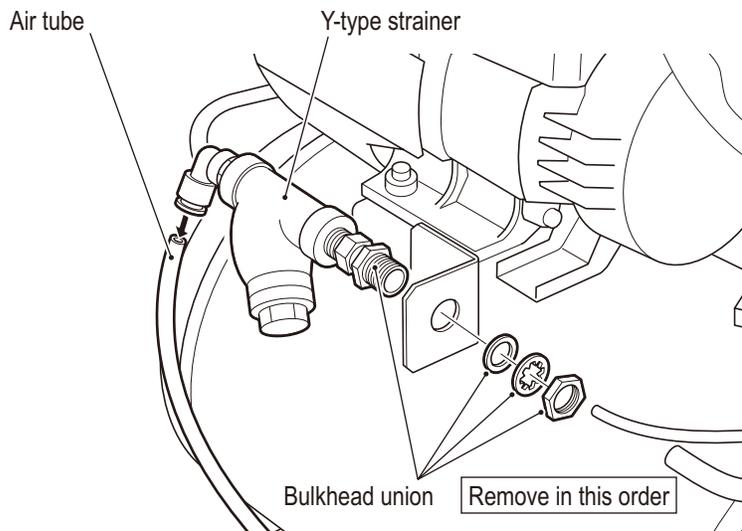
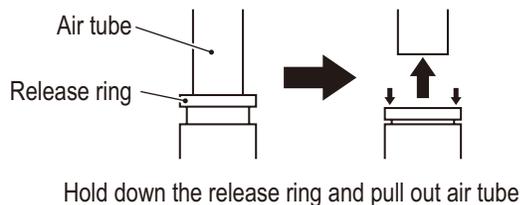
**NOTICE**

- When installing the air tube, be sure to insert the air tube all the way. If the air tube is not correctly inserted, air may leak and prevent normal game operation.
- Be sure to fully insert the connectors.

**(10) Removing and installing the Y-type strainer****⚠ WARNING**

- Some areas of the compressor may remain hot even if the power switch is turned off. To prevent burns when conducting maintenance on or around the compressor, wait at least one hour after the compressor is stopped to allow the temperature to sufficiently cool before conducting maintenance.
- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

- 1** Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2** Remove the compressor. (See P. 106 "7B-4-1 (7) Replacing the compressor" **2** through **6**)
- 3** Detach the solenoid valve for drained water discharge.  
(See P. 110 "7B-4-1 (9) Removing and installing the solenoid valve for drained water discharge")
- 4** Disconnect the one air tube, disassemble the bulkhead union, and detach the Y-type strainer.

**Air tube removal**

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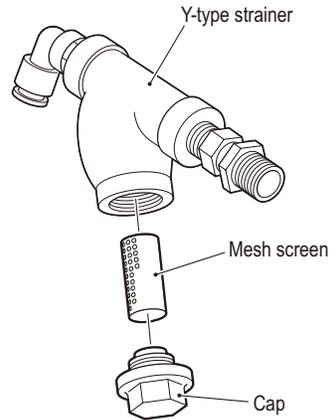
Service

Test mode

Troubleshooting

- To be conducted by a technician only -

- 5** Remove the cap and detach the mesh screen.



- 6** To install, perform the removal sequence in reverse.

**NOTICE**

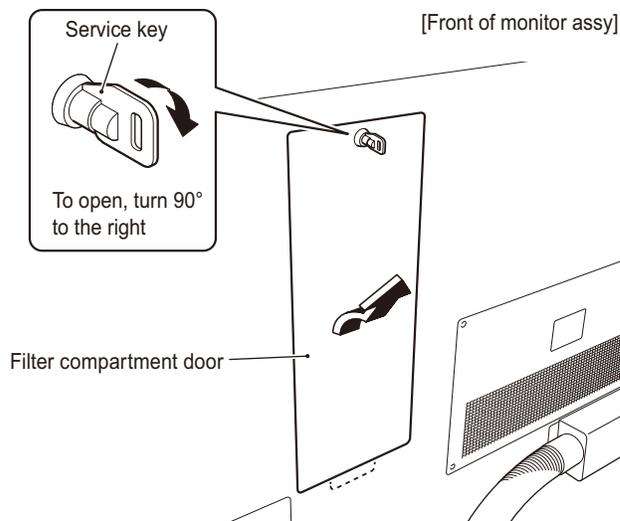
- When installing the air tube, be sure to insert the air tube all the way. If the air tube is not correctly inserted, air may leak and prevent normal game operation.

**(11) Replacing the filter regulator**

**! WARNING**

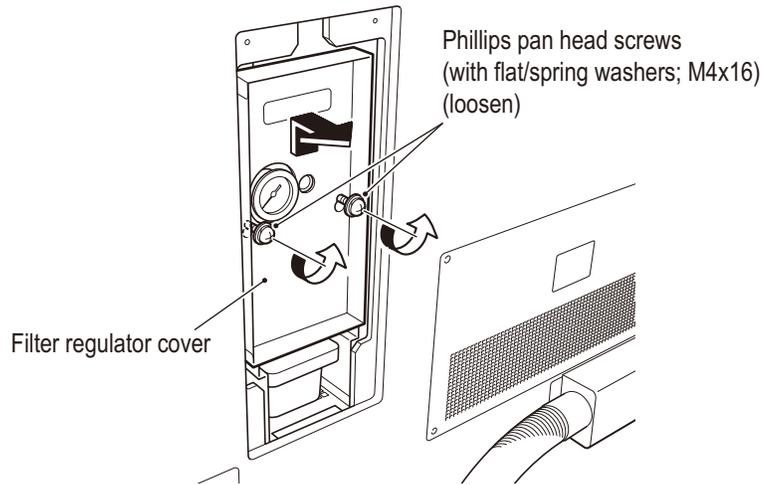
- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

- 1** Turn off the power switch. (See P. 78 “7A-1-5 Power switch location and turning on the switch”)
- 2** Unlock and detach the filter compartment door with the provided service key.

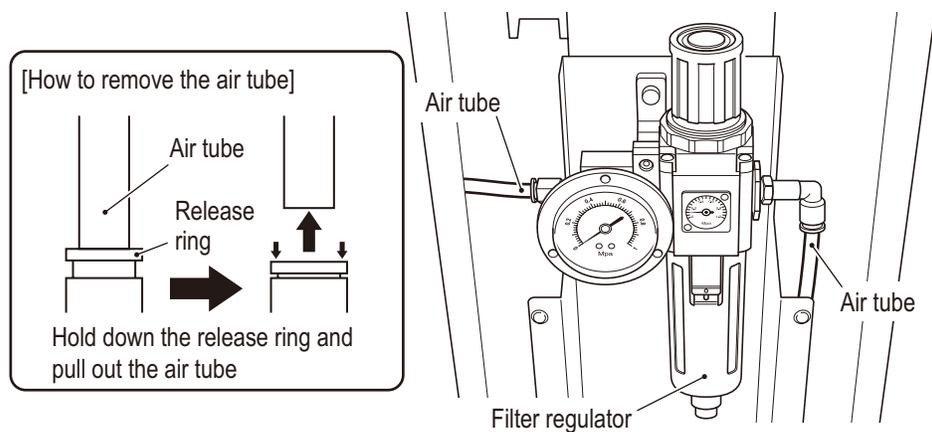


- To be conducted by a technician only -

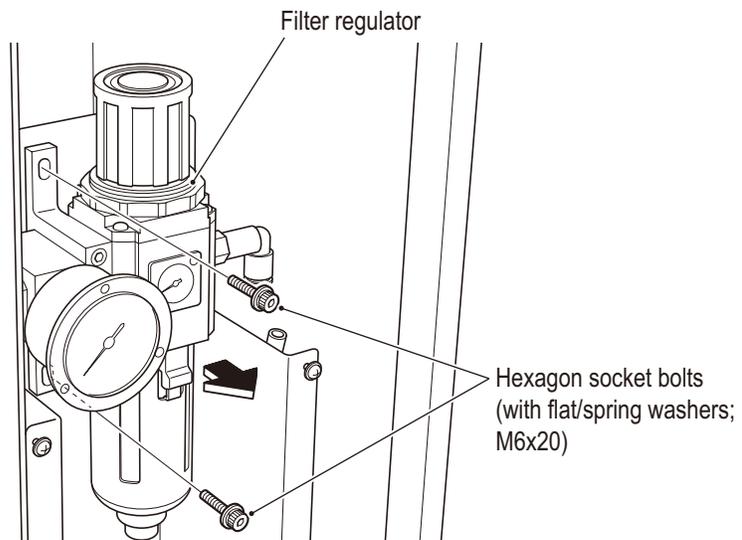
- 3** Loosen the two (+) pan head screws (flat with spring washers) (M4 x 16) and detach the filter regulator cover.



- 4** Disconnect the two air tubes connected to the left and right sides of the filter regulator.



- 5** Remove the two hexagon socket bolts (flat with spring washers) (M6 x 20) and detach the filter regulator.



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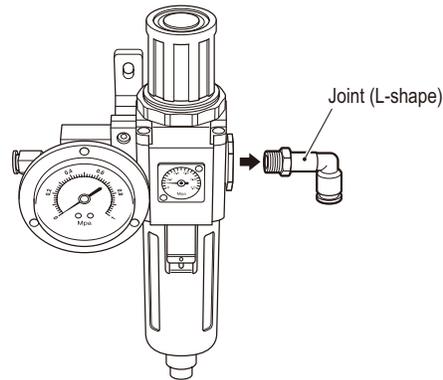
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Service

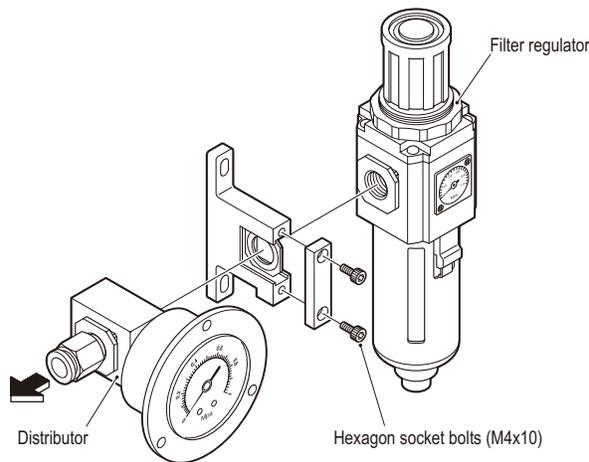
Test mode

Troubleshooting

- 6** Turn the joint (L-type) to detach it.



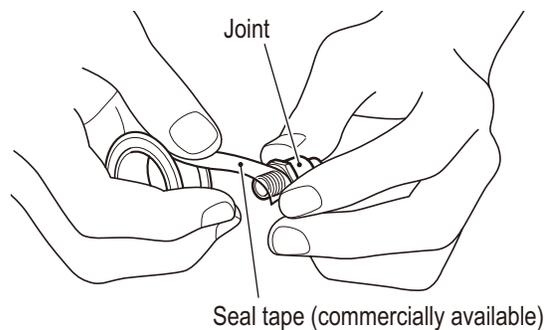
- 7** Remove the two hexagon socket bolts (M4 x 10), detach the distributor, and replace the filter regulator.



- 8** To install, perform the removal sequence in reverse.

**NOTICE**

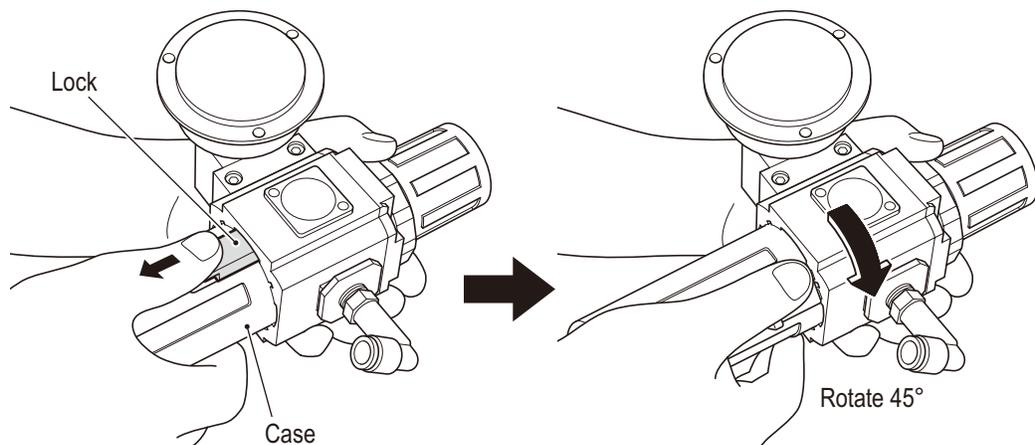
- When installing the air tube, be sure to insert the air tube all the way. If the air tube is not correctly inserted, air may leak and prevent normal game operation.
- When installing the joint (L-type) on the filter regulator, wrap sealing tape (commercial product\*) around the threaded part of the joint.  
\*Product example: Teflon Tape)



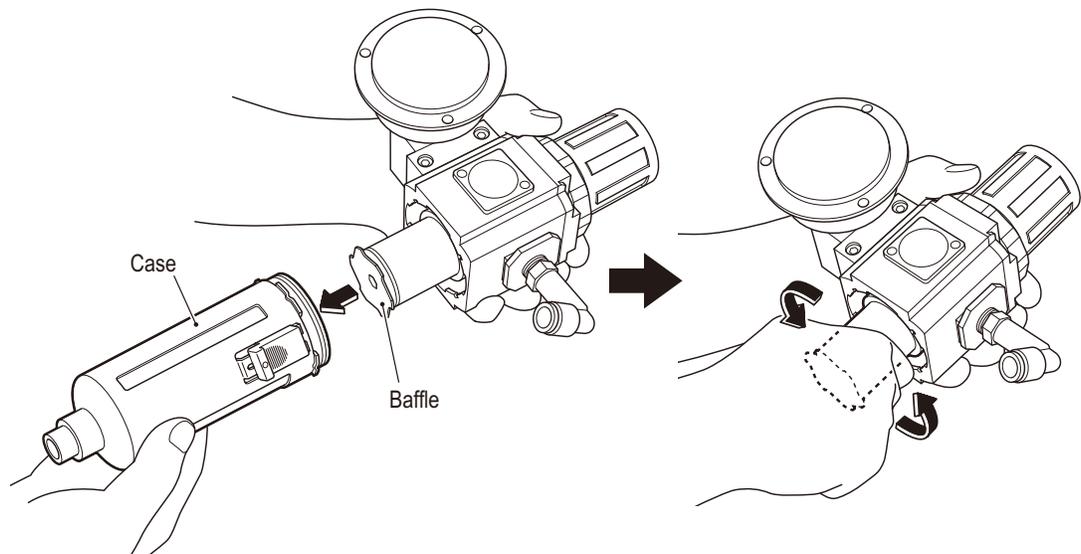
**(12) Replacing the element****⚠ WARNING**

- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

- 1** Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2** Detach the filter regulator.  
(See P. 112 "7B-4-1 (11) Replacing the filter regulator" steps **1** through **5**)
- 3** While pulling the filter regulator case lock with your finger, turn the filter regulator by 45°.
  - \* The meter section and joint do not need to be detached.



- 4** Pull the case out.
- 5** Turn the baffle to the left to detach it.



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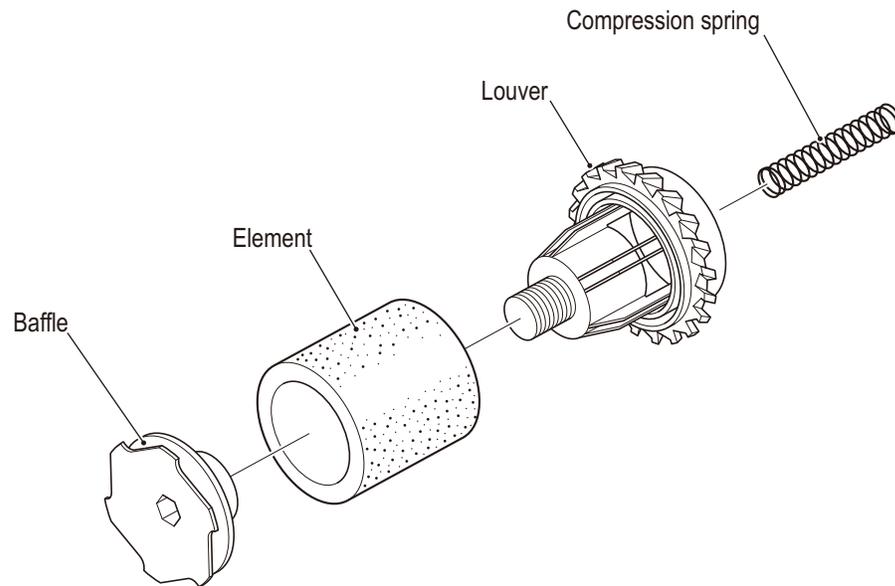
Test mode

Troubleshooting

- To be conducted by a technician only -

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- 6 Turn the baffle to the left, remove it from the louver, and replace the element.



**NOTICE**

- Note that the compression spring may pop out during disassembly.

- 7 To install, perform the removal sequence in reverse.

**(13) Replacing the LCD monitor****⚠ WARNING**

- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.
- Some areas of the LCD monitor may remain hot even if the power switch is turned off. To prevent burns, check that the temperature has sufficiently cooled before working on the LCD monitor.

**⚠ CAUTION**

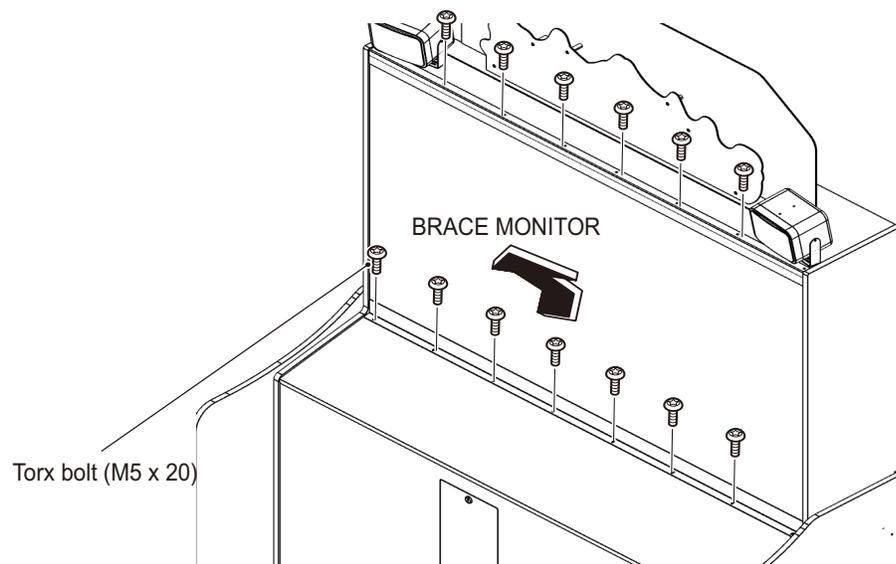
- The LCD monitor weighs approx. 88 lbs. To prevent accidents during removal, ensure that the work is performed by two or more people with sufficient working space.

**NOTICE**

- The PC board is a part which is susceptible to static electricity. If the PC board is handled while a worker's body is charged with static electricity, the PC board may be damaged.

Before handling the PC board, touch a grounded metal surface, etc. to remove any static electricity from your body.

- 1** Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2** Raise the Ride Assy level adjusters and detach the joint unit on the Monitor Assy side. (See P. 74 "7A-1-3 Connecting the Front Assy to the Ride Assy and adjusting the level adjusters")
- 3** Move the Ride Assy and secure the work space in front of the Monitor Assy.
- 4** Using 2 people, brace the monitor then remove the upper (M5 x 20) torx bolts and remove the four lower Torx bolts, and remove the monitor brackets.



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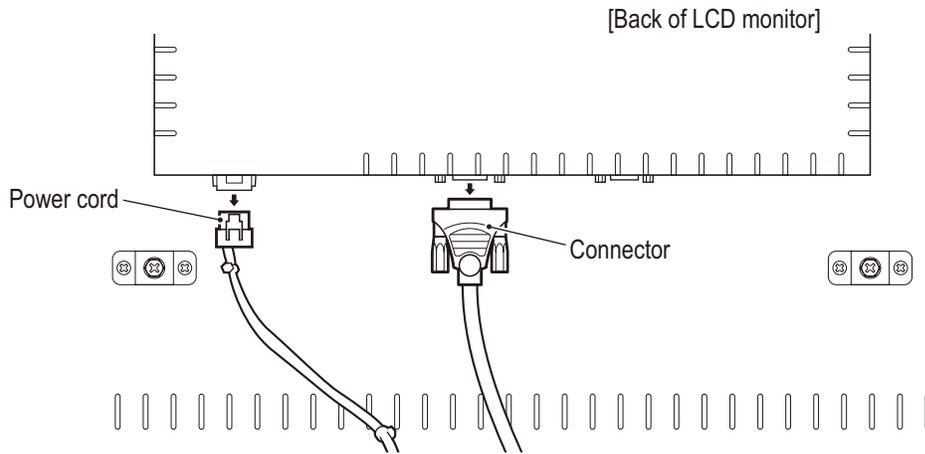
Service

Test mode

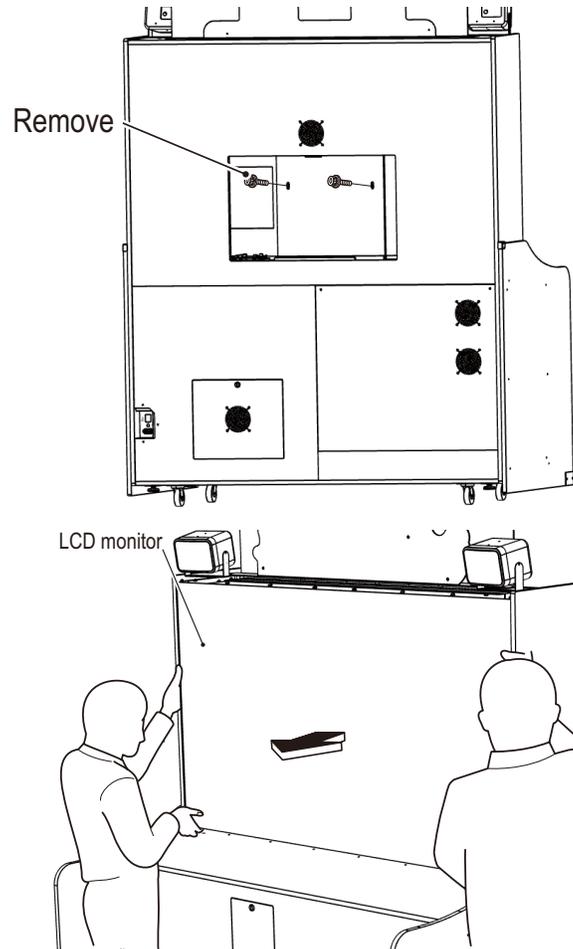
Troubleshooting

**- To be conducted by a technician only -**

- 5** Detach the rear cover from the rear of the Monitor Assy.  
(See P. 102 “7B-4-1 (5) Replacing the AMP PC board”)
- 6** Unplug the one connector and one power cord from the rear of the LCD monitor.



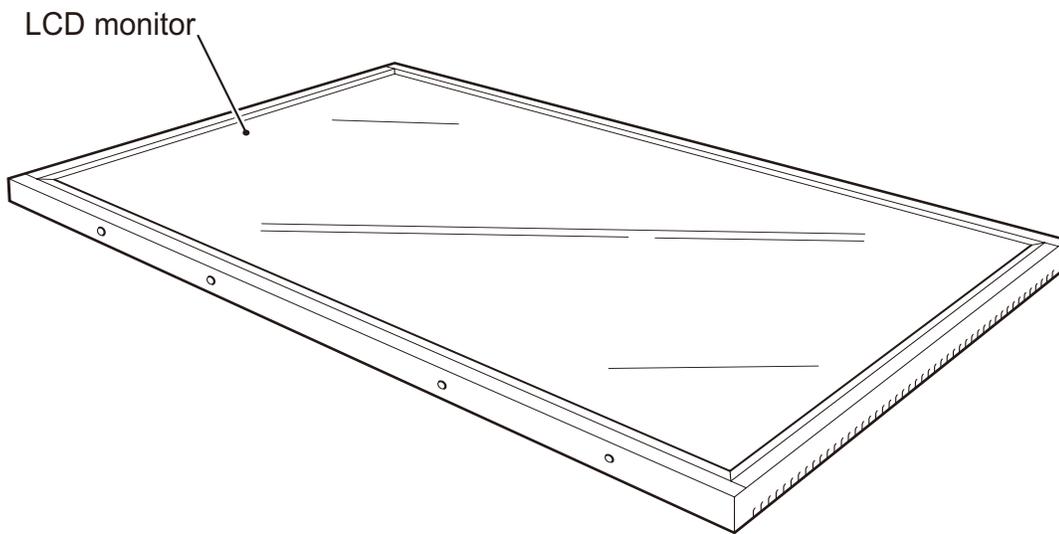
- 7** Remove the two bolts in the back of the assy holding the LCD monitor in place while the front is braced and detach the LCD monitor.



**NOTICE**

- Place the LCD monitor on bubble wrap, etc. to avoid scratching the surface when setting it down.

**8** To install, perform the removal sequence in reverse



**NOTICE**

- Be sure to fully insert the connectors.

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Service

Test mode

Troubleshooting

- To be conducted by a technician only -

## 7B-4-2 Base and Control Assys

### (1) Replacing the USIO PC board

#### ⚠ WARNING

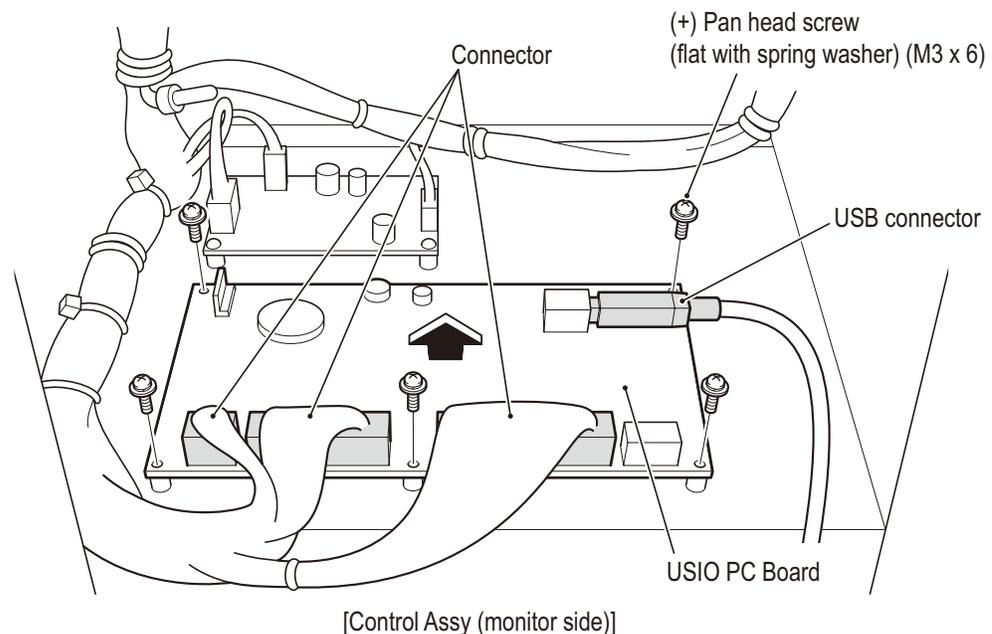
- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

#### NOTICE

- The PC board is a part which is susceptible to static electricity. If the PC board is handled while a worker's body is charged with static electricity, the PC board may be damaged.

Before handling the PC board, touch a grounded metal surface, etc. to remove any static electricity from your body.

- 1 Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2 Detach the maintenance door. (See P. 79 "7A-2-1 Separating the Base Assy and the Control Assy")
- 3 Unplug the three connectors and the one USB connector.
- 4 Remove the five (+) pan head screws (flat with spring washers) (M3 x 6) and detach the USIO PC board.



- 5 To install, perform the removal sequence in reverse.

#### NOTICE

- Be sure to fully insert the connectors.
- After replacing the parts, be sure to perform an initialization (see P. 62 "6-8 Gun assy adjustment (initialization) after parts replacement").

**(2) Replacing the GUN DRIVE PC board****⚠ WARNING**

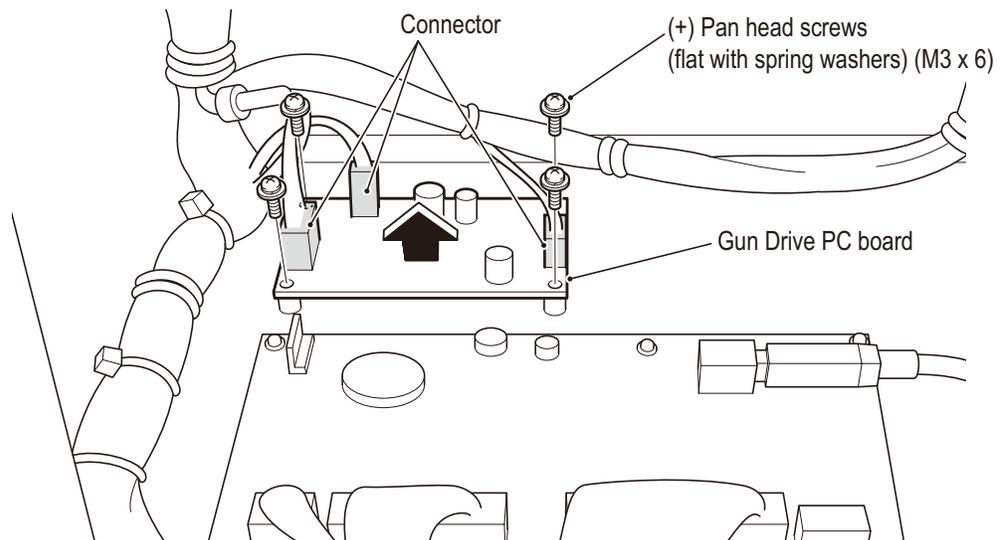
- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

**NOTICE**

- The PC board is a part which is susceptible to static electricity. If the PC board is handled while a worker's body is charged with static electricity, the PC board may be damaged.

Before handling the PC board, touch a grounded metal surface, etc. to remove any static electricity from your body.

- 1** Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2** Detach the maintenance door. (See P. 79 "7A-2-1 Separating the Base Assy and the Control Assy")
- 3** Unplug the three connectors.
- 4** Remove the four (+) pan head screws (flat with spring washers) (M3 x 6) and detach the GUN DRIVE PC board.



[Control Assy (monitor side)]

- 5** To install, perform the removal sequence in reverse.

**NOTICE**

- Be sure to fully insert the connectors.

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Service

Test mode

Troubleshooting

### (3) Replacing the tape LED

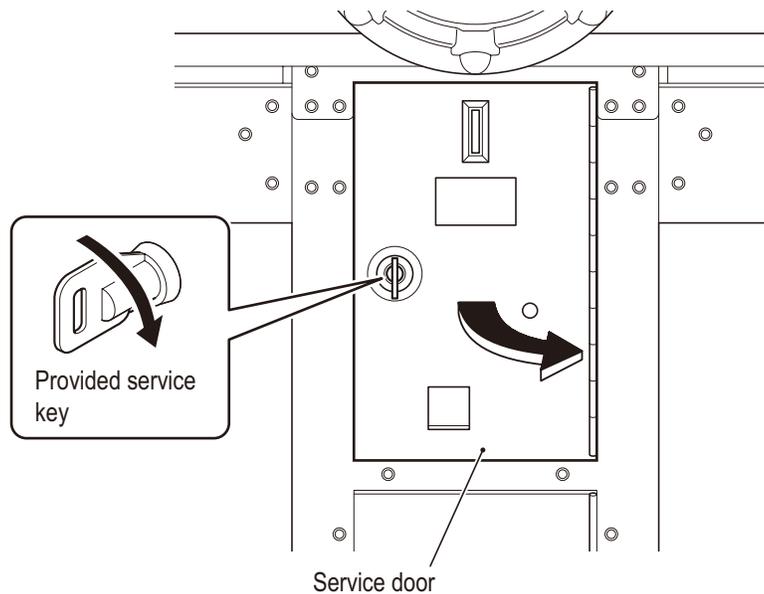
#### WARNING

- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

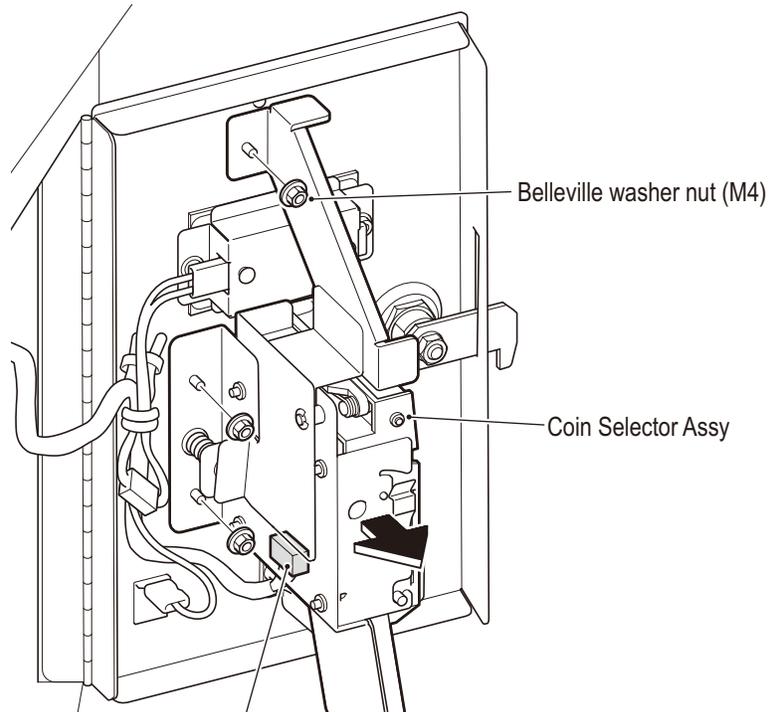
#### NOTICE

- The LED is a part which is susceptible to static electricity. If the LED is handled while a worker's body is charged with static electricity, the LED may be damaged. Before handling the LED, touch a grounded metal surface, etc. to remove any static electricity from your body.

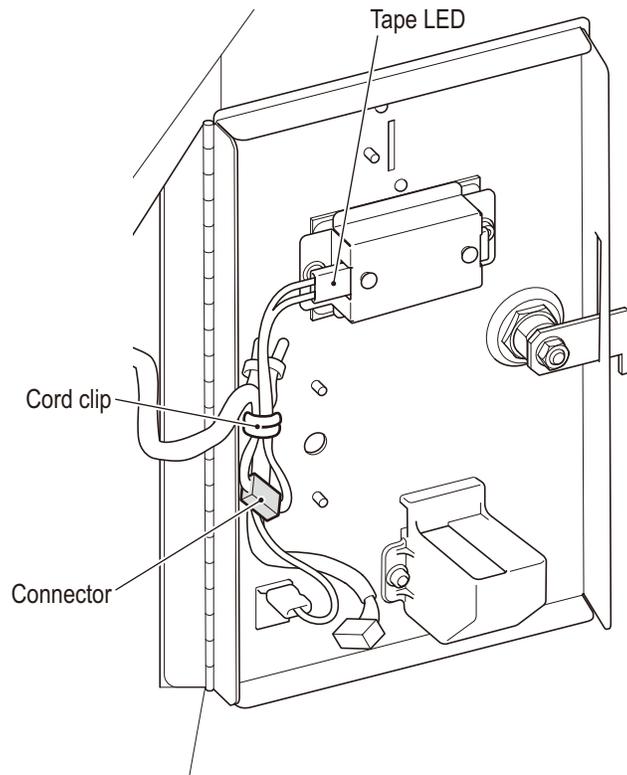
- 1** Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2** Unlock and open the service door with the provided service key.



- 3** Unplug the one connector, remove the three Belleville washer nuts (M4) and detach the Coin Selector Assy.



- 4** Remove the one cord clip holding the harness in place and unplug the one tape LED connector.



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**7B**

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Service

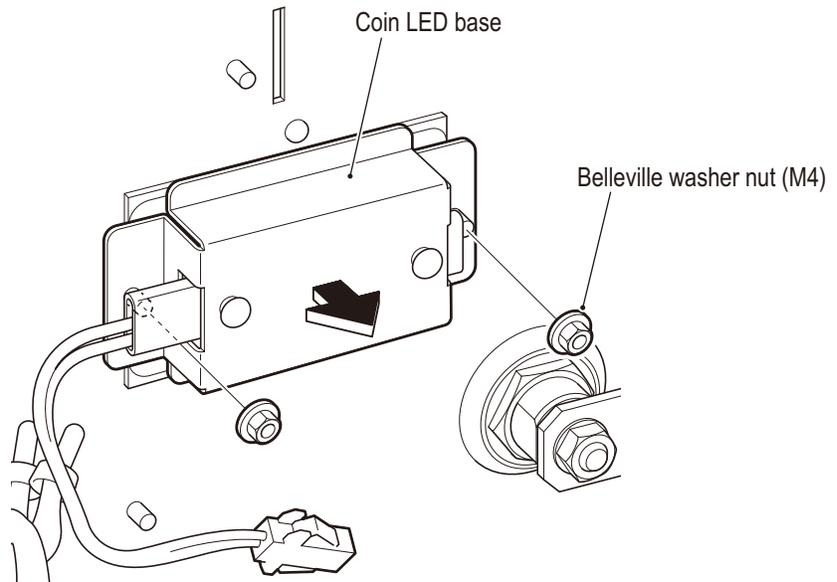
Test mode

Troubleshooting

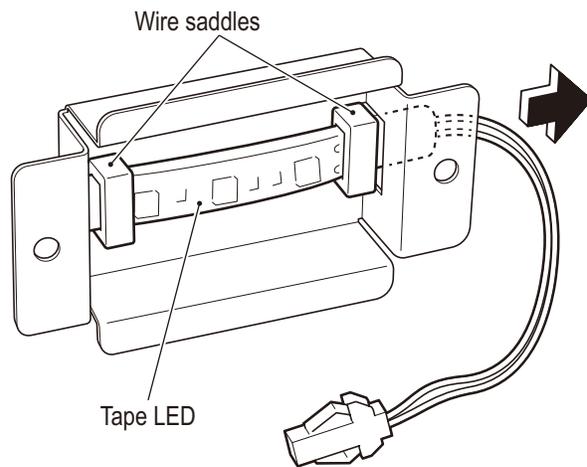
- To be conducted by a technician only -

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- 5** Remove the two Belleville washer nuts (M4) and detach the Coin LED base.



- 6** Remove the two wire saddles and detach the tape LED.



- 7** To install, perform the removal sequence in reverse.

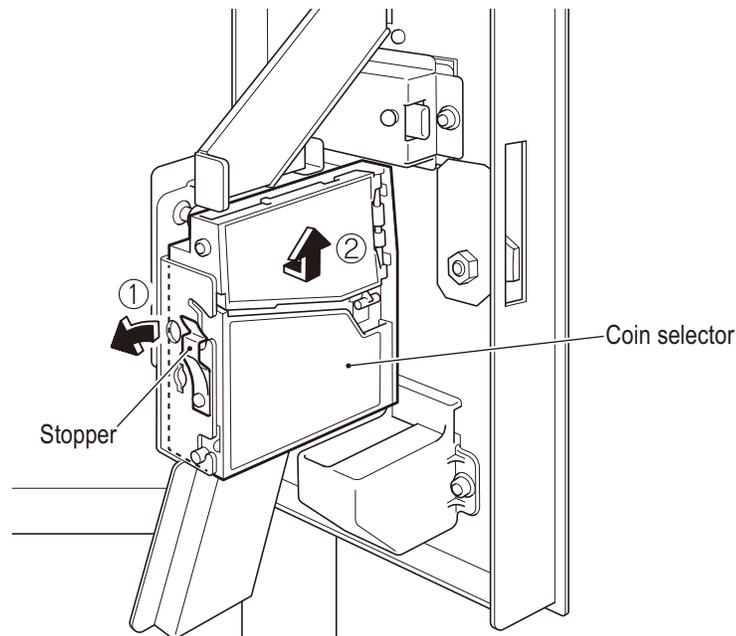
**NOTICE**

- When installing the Coin LED base on the service door, install it so that the tape LED connector is on the left side.
- Be sure to fully insert the connectors.

**(4) Replacing the coin selector****⚠ WARNING**

- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

- 1** Turn off the power switch. (See P. 78 “7A-1-5 Power switch location and turning on the switch”)
- 2** Open the service door. (See P. 122 “7B-4-2 (3) Replacing the tape LED” step **2**)
- 3** Unplug the one connector. (See P. 123 “7B-4-2 (3) Replacing the tape LED” step **3**)
- 4** Slide the stopper to the side and detach the coin selector.



- 5** To install, perform the removal sequence in reverse.

**NOTICE**

- When installing the coin selector, be careful that the coin selector lever does not get caught and check that the stopper is securely fastened.
- Be sure to fully insert the connectors.

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Service

Test mode

Troubleshooting

## (5) Replacing the bellows

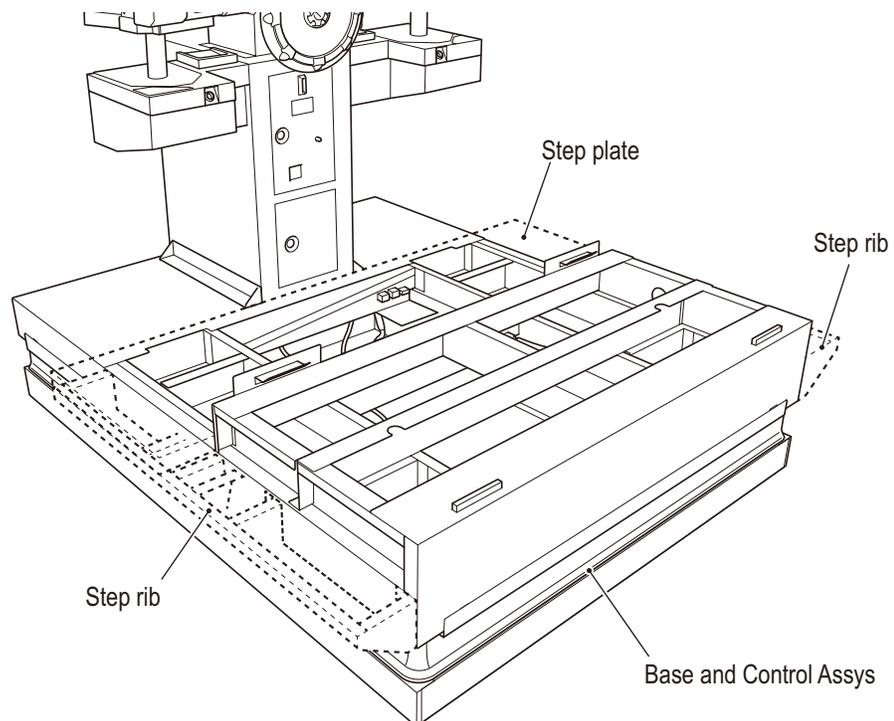
### ⚠ WARNING

- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

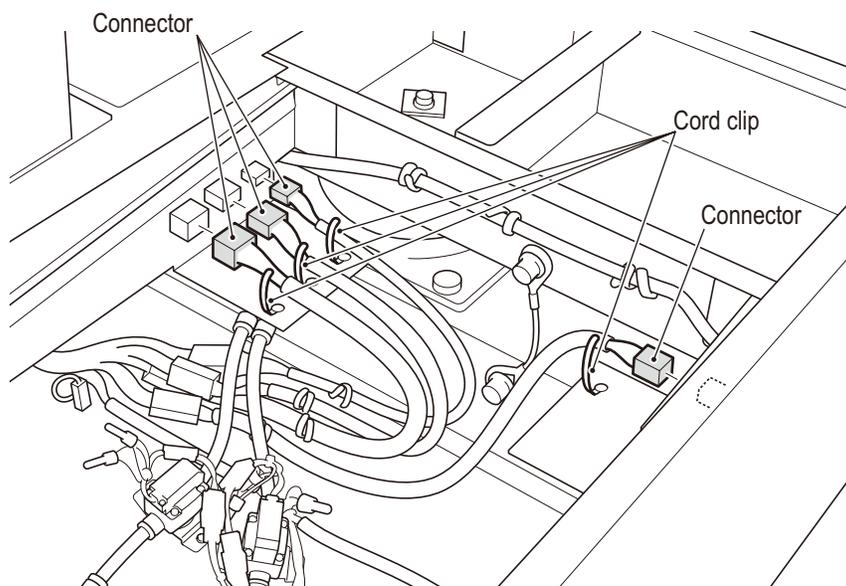
### ⚠ CAUTION

- The weight of the upper base part to be removed in disassembly is approx. 120 kg. To prevent accidents during removal, ensure that the work is performed by five or more people with sufficient working space.

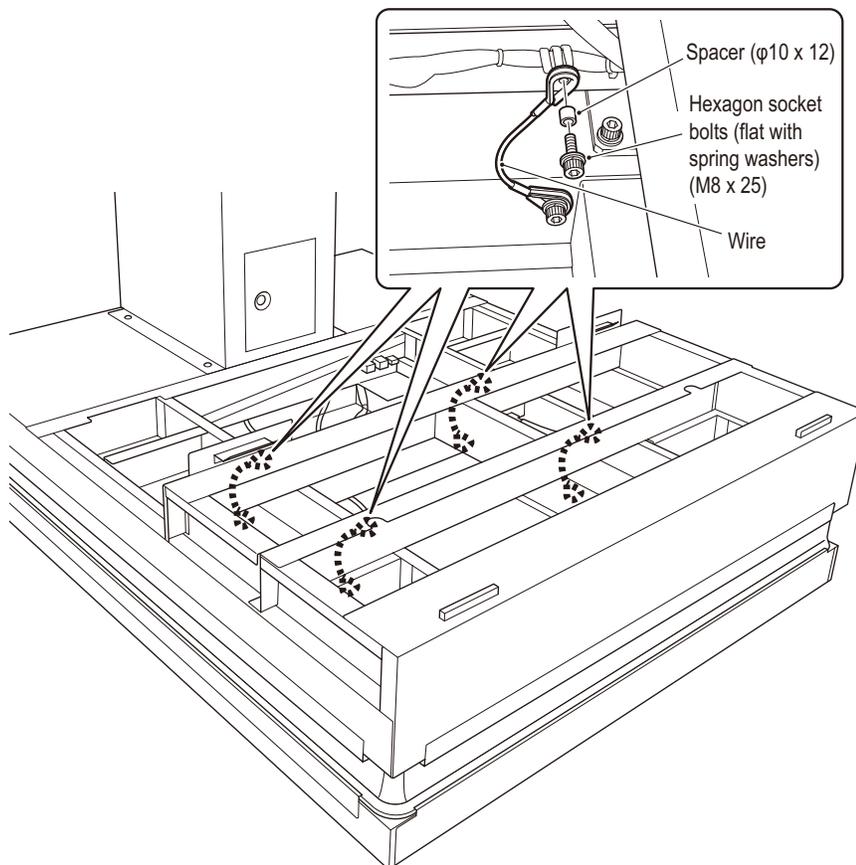
- 1** Turn off the power switch. (See P. 78 “7A-1-5 Power switch location and turning on the switch”)
- 2** Detach the Ride Assy side of the joint unit. (See P. 74 “7A-1-3 Connecting the Front Assy to the Ride Assy and adjusting the level adjusters”)
- 3** Raise the Ride Assy adjusters and move the Ride Assy to a location that is large enough to perform the work.
- 4** Detach the Seat Assy, step plate, and step ribs. (See P. 66 “7A-1-2 Assembling the Ride Assy”)



- 5** Remove the cord clips in four locations and unplug the four connectors.



- 6** Remove the one upper hexagon socket bolt (flat with spring washers) (M8 x 25) and the one spacer ( $\phi 10 \times 12$ ) to detach the four wires.



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Service

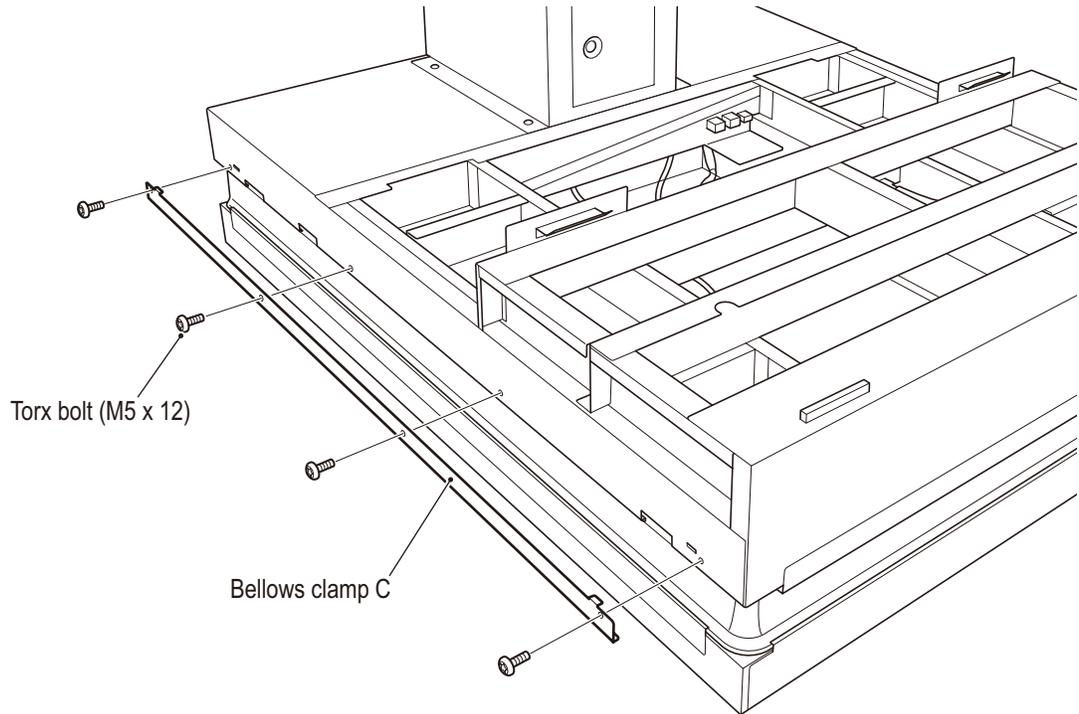
Test mode

Troubleshooting

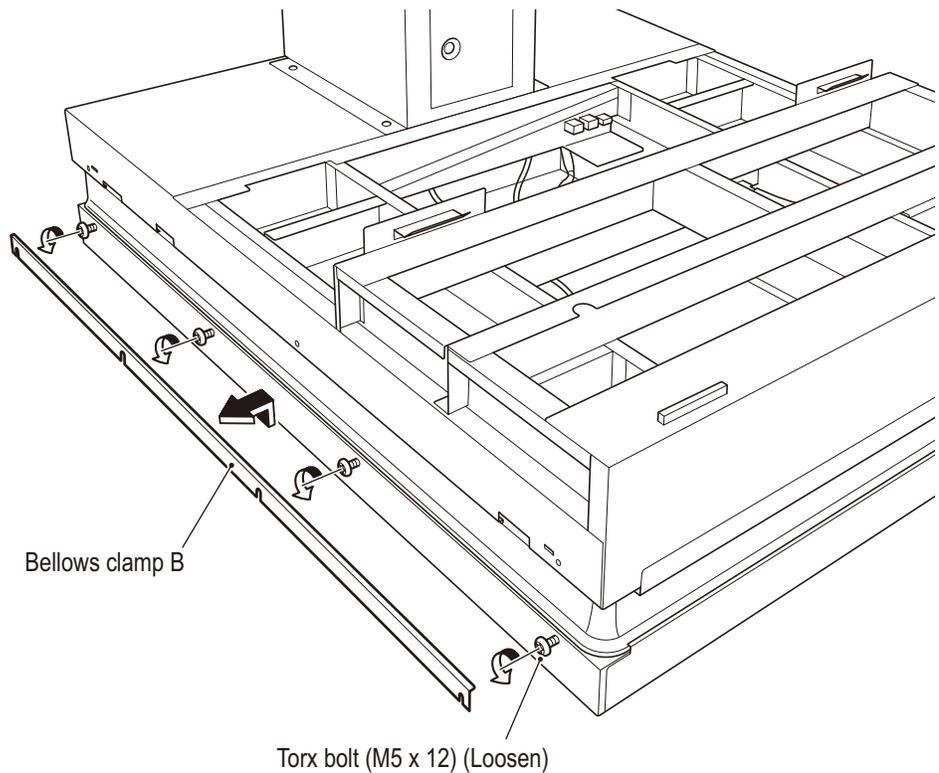
- To be conducted by a technician only -

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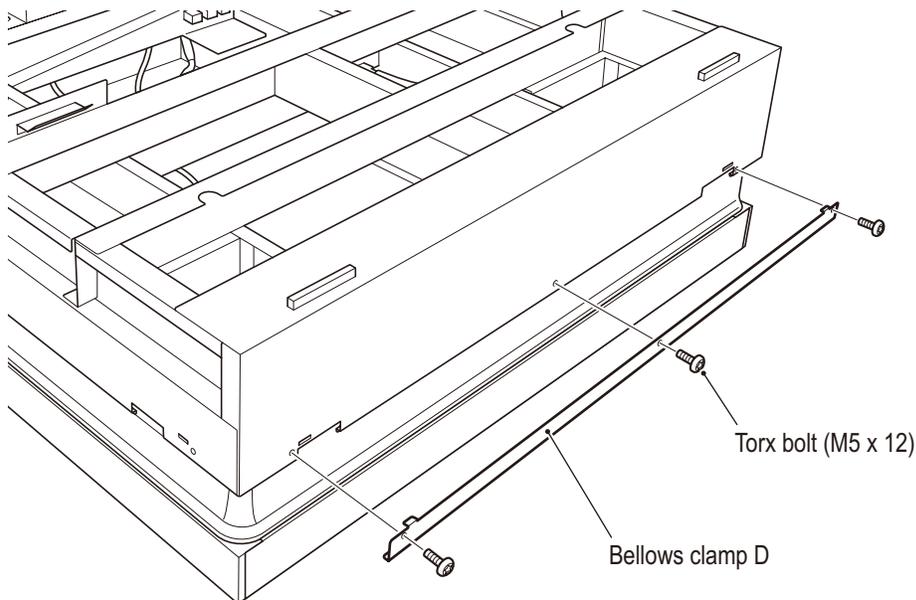
- 7** Remove the four Torx bolts (M5 x 12) to detach bellows clamp C on the left and right sides.



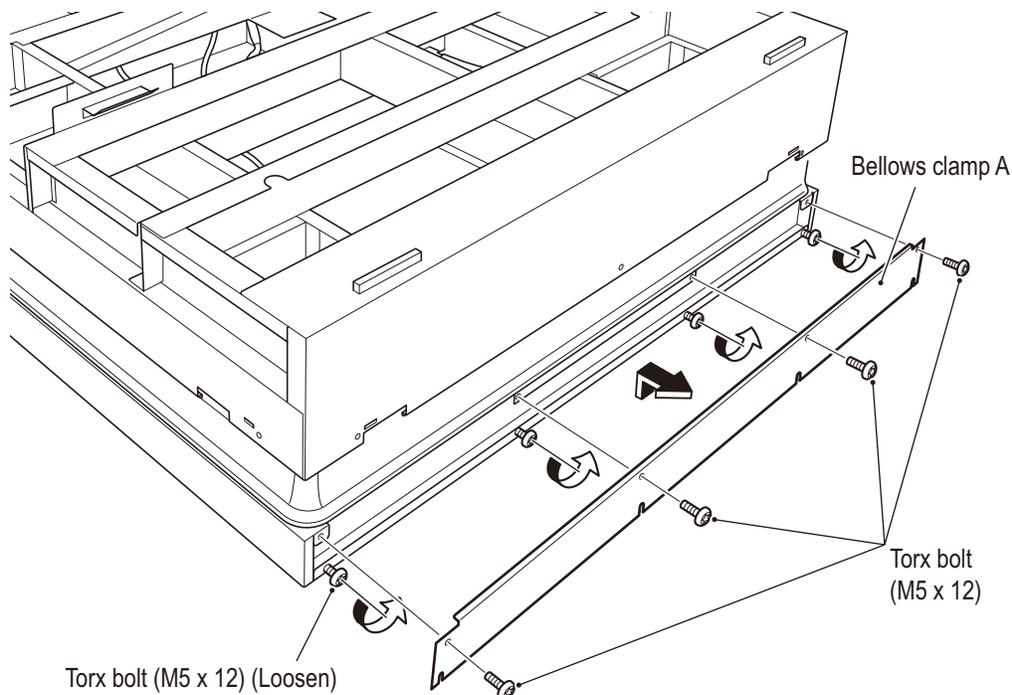
- 8** Loosen the four Torx bolts (M5 x 12) to detach bellows clamp B on the left and right sides.



- 9 Remove the three Torx bolts (M5 x 12) to detach bellows clamp D.



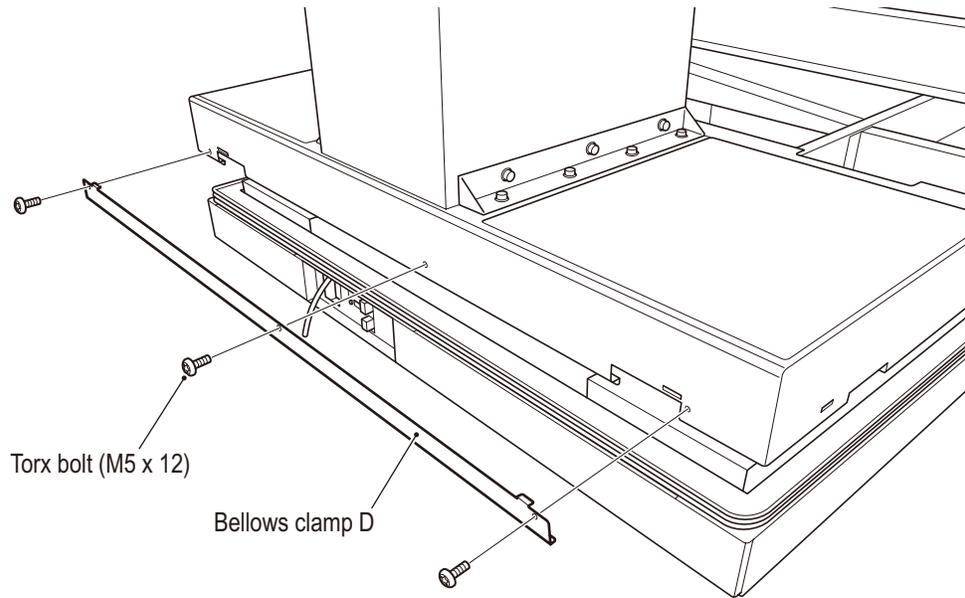
- 10 Loosen the four lower Torx bolts (M5 x 12), remove the four upper Torx bolts, and detach bellows clamp A.



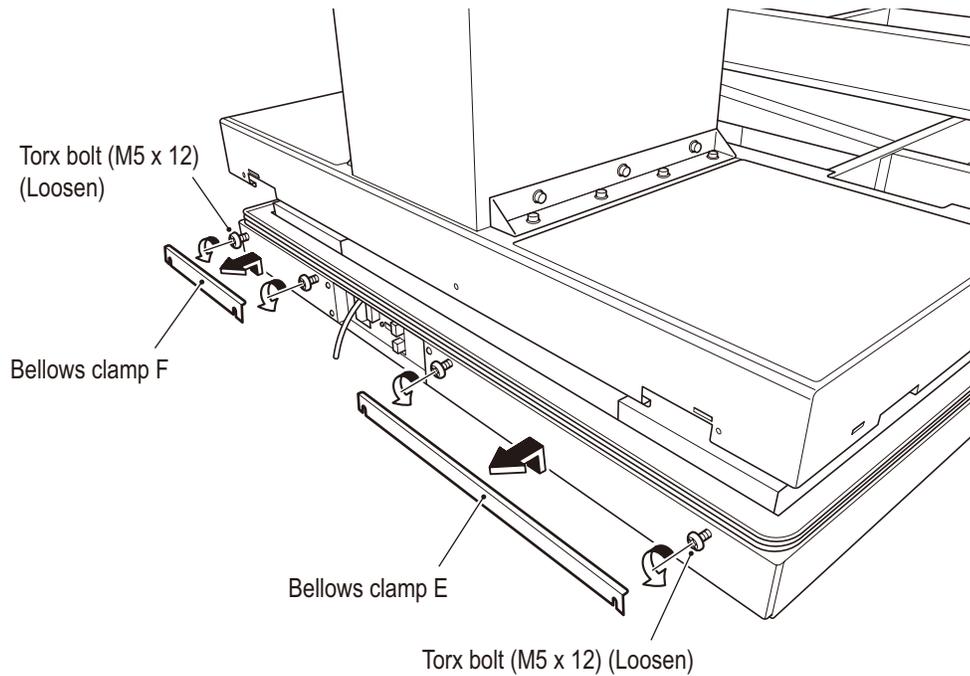
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Service

Test mode
Troubleshooting

- 11** Remove the three Torx bolts (M5 x 12) to detach bellows clamp D.

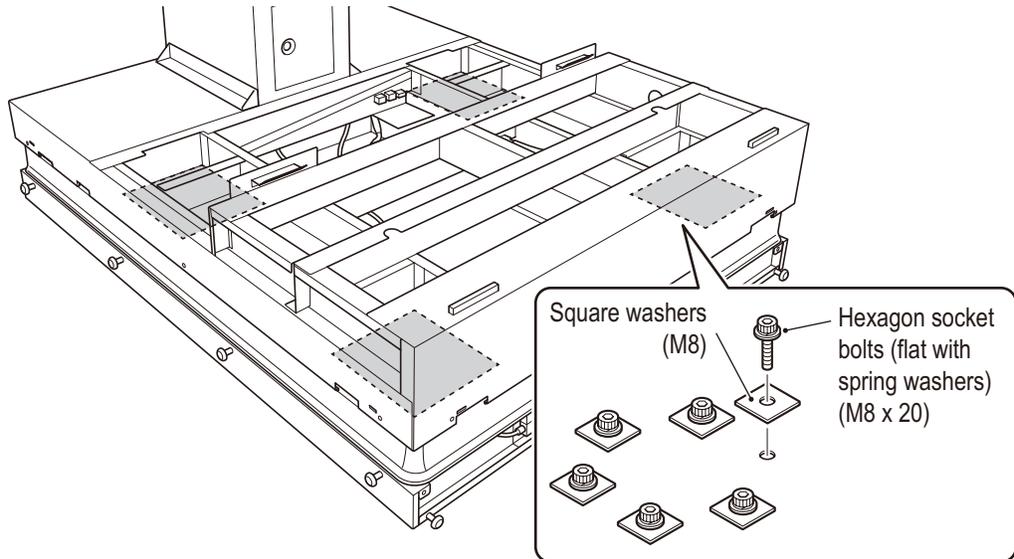


- 12** Loosen the two Torx bolts (M5 x 12) and detach bellows clamps E and F.



- To be conducted by a technician only -

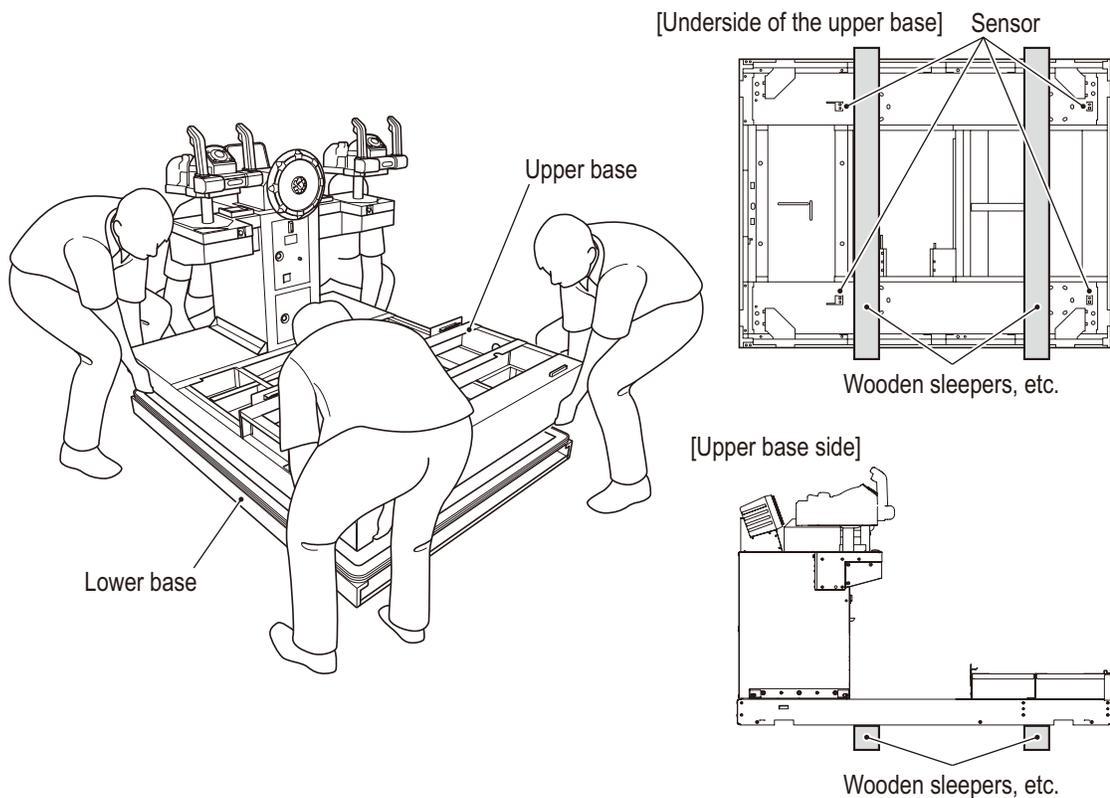
- 13** Remove the six hexagon socket bolt (flat with spring washers) (M8 x 20) and square washer (M8) pairs in four locations.



- 14** Five people should hold the front and rear of the upper base to detach it.  
(The weight of the upper base is approx. 265 lbs.)  
\* There are sensors on the underside of the upper base. To avoid damaging the sensors, place the upper base on top of a wooden sleepers, etc.

### ⚠ CAUTION

- Be careful that your fingers do not get caught when placing the upper base.



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Service

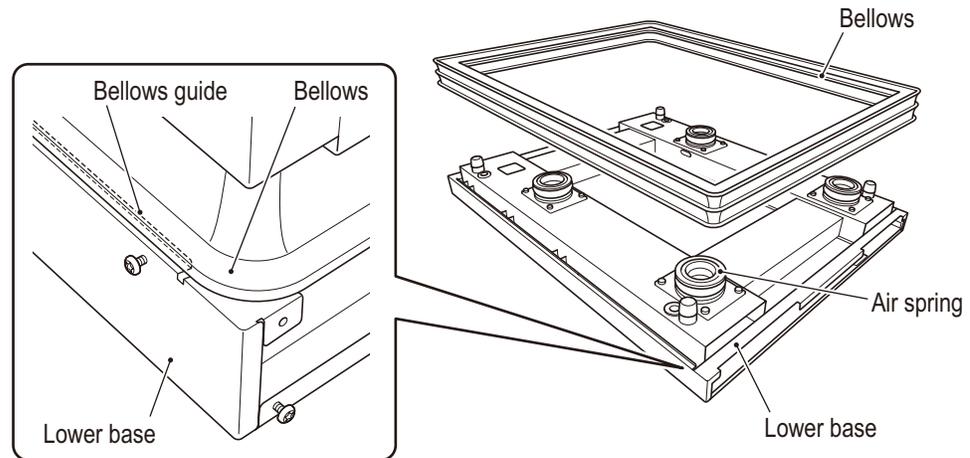
Test mode

Troubleshooting

- To be conducted by a technician only -

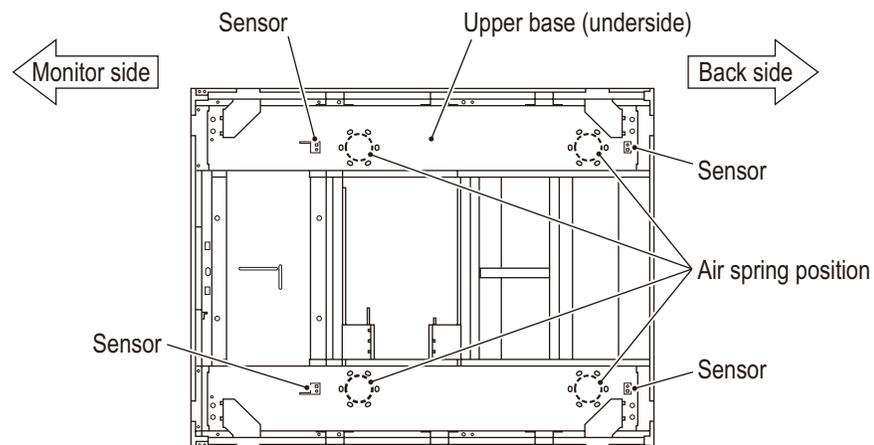
**15** Replace the bellows.

\* When installing the bellows, place them on the outside of the bellows guide.

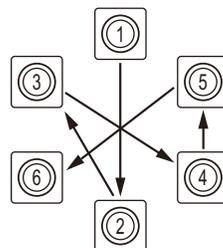


**16** Place the upper base on the air springs and make minor adjustments to the position so that the 24 bolt holes are visible.

\* When placing the upper base, be careful not to bump and damage the sensors located on the underside.



**17** Temporarily fasten the six hexagon socket bolts (flat with spring washers) (M8 x 20) and square washers (M8) pairs in each of the four locations on the base in order from (1) to (6) as shown below. (Reference torque: 12.3 Nm)



**18** Use a torque wrench to tighten the hexagon socket bolts in the same order as step **17**. (Reference torque: 15.0 Nm)

**NOTICE**

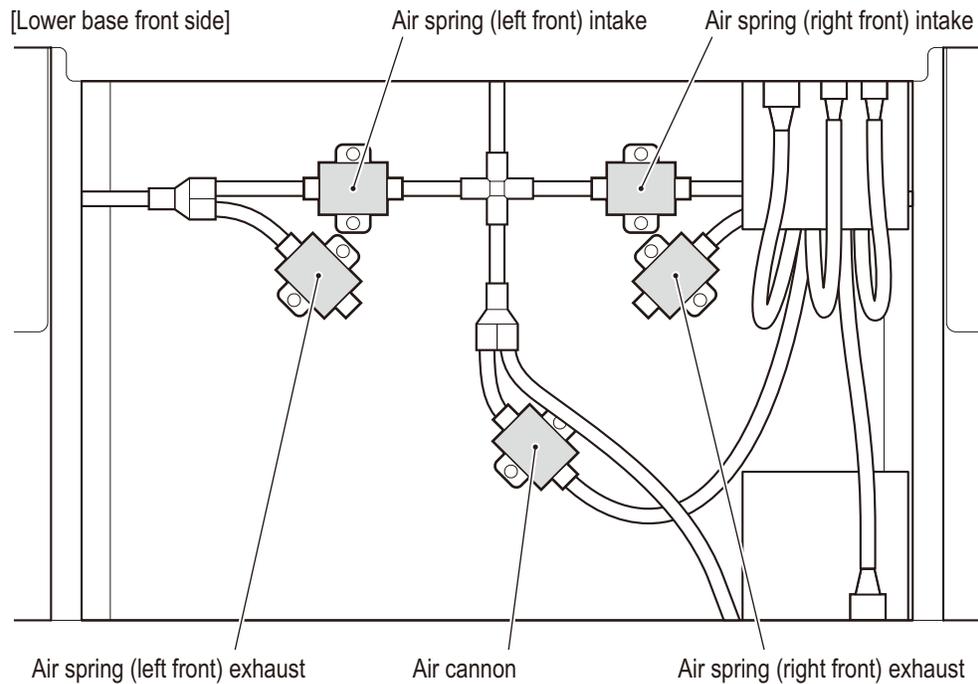
**19** To carry out the installation prior to step **12**, perform the sequence in reverse.

- Be sure to fully insert the connectors.

**(6) Replacing the pneumatic valves (front)****⚠ WARNING**

- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

There are five pneumatic valves (front) which are for the air spring (right front) intake, air spring (right front) exhaust, air spring (left front) intake, air spring (left front) exhaust, and the air cannon.



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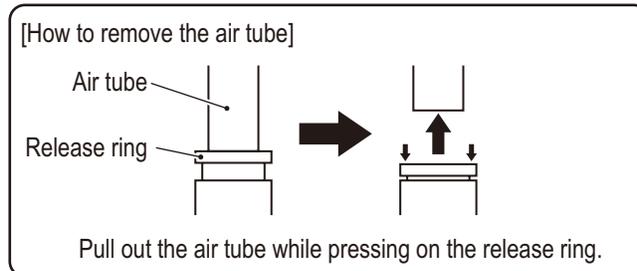
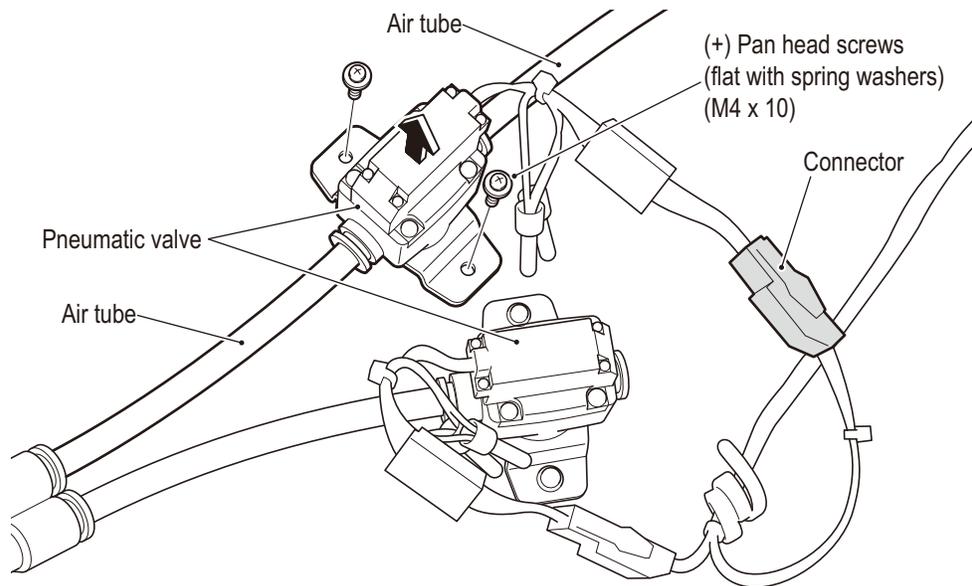
Service

Test mode

Troubleshooting

**- To be conducted by a technician only -**

- 1** Turn off the power switch. (See P. 102 “7A-1-5 Power switch location and turning on the switch”)
- 2** Detach the step plate. (See step **14** on P. 73 “7A-1-2 Assembling the Ride Assy”)
- 3** Unplug the one connector and disconnect the one or two air tubes for the pneumatic valve to be replaced.
- 4** Remove the two (+) pan head screws (flat with spring washers) (M4 x 10) to detach and replace the pneumatic valve.



- 5** To install, perform the removal sequence in reverse.

**NOTICE**

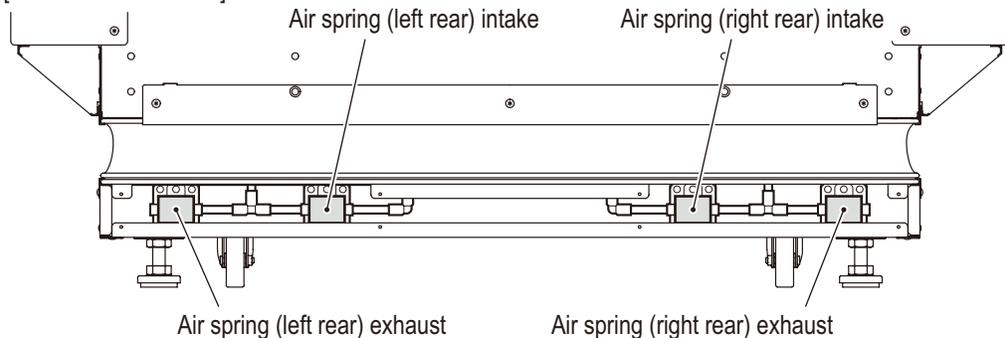
- Be sure to fully insert the connectors.
- When installing the air tube, be sure to insert the air tube all the way. If the air tube is not correctly inserted, air may leak and prevent normal game operation.
- After replacing the parts, be sure to check the operation in Test mode. (See P. 50 “6-7-5 (g) Motion Test”)

**(7) Replacing the pneumatic valves (rear)****⚠ WARNING**

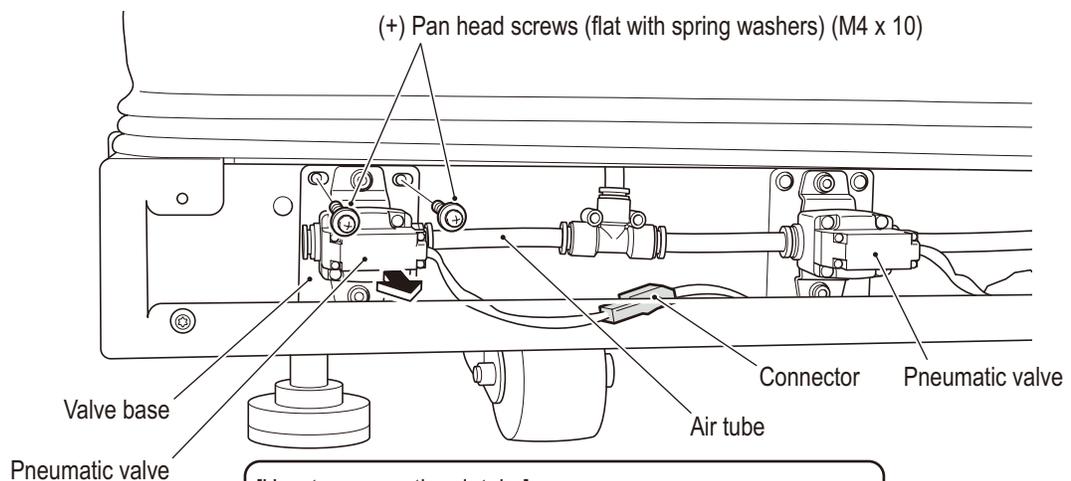
- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

There are four pneumatic valves (rear) which are for the air spring (right rear) intake, air spring (right rear) exhaust, air spring (left rear) intake, and the air spring (left rear) exhaust.

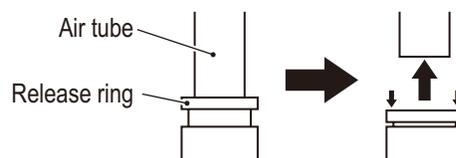
[Lower base back side]



- 1** Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2** Detach bellows clamp A. (See. P. 129 "7B-4-2 (5) Replacing the bellows" step **10**)
- 3** Unplug the one connector and disconnect the one or two air tubes for the pneumatic valve to be replaced.
- 4** Remove the two (+) pan head screws (flat with spring washers) (M4 x 10) and detach the valve base.



[How to remove the air tube]



Pull out the air tube while pressing on the release ring.

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Service

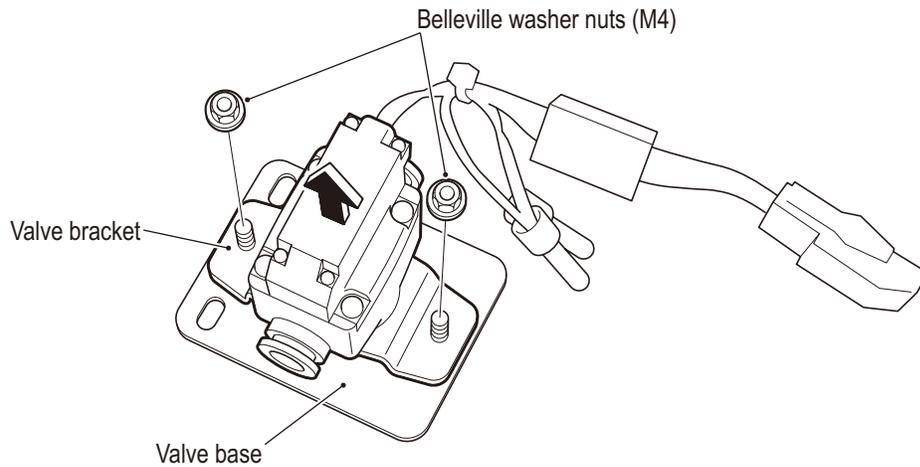
Test mode

Troubleshooting

- To be conducted by a technician only -

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- 5** Remove the two Belleville washer nuts (M4) to detach and replace the pneumatic valve.



- 6** To install, perform the removal sequence in reverse.

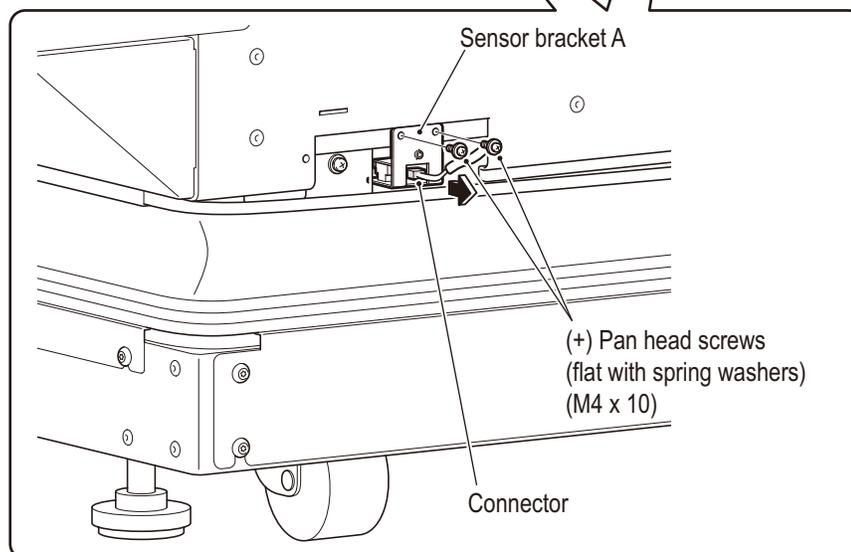
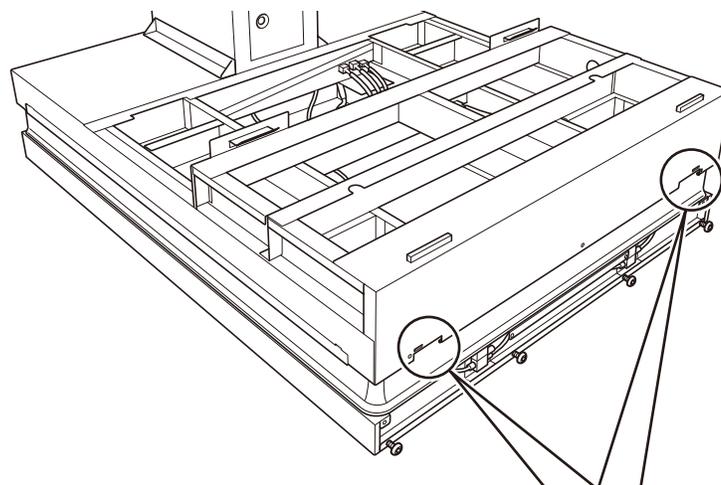
**NOTICE**

- Be sure to fully insert the connectors.
- When installing the air tube, be sure to insert the air tube all the way. If the air tube is not correctly inserted, air may leak and prevent normal game operation.
- After replacing the parts, be sure to check the operation in Test mode. (See P. 50 “6-7-5 (g) Motion Test”)

**(8) Replacing the height sensor (rear)****⚠ WARNING**

- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

- 1** Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2** Detach bellows clamp D. (See. P. 129 "7B-4-2 (5) Replacing the bellows" step **9**)
- 3** Unplug the one connector and remove the two (+) pan head screws (flat with spring washers) (M4 x 10) of the height sensor to be replaced and detach sensor bracket A.



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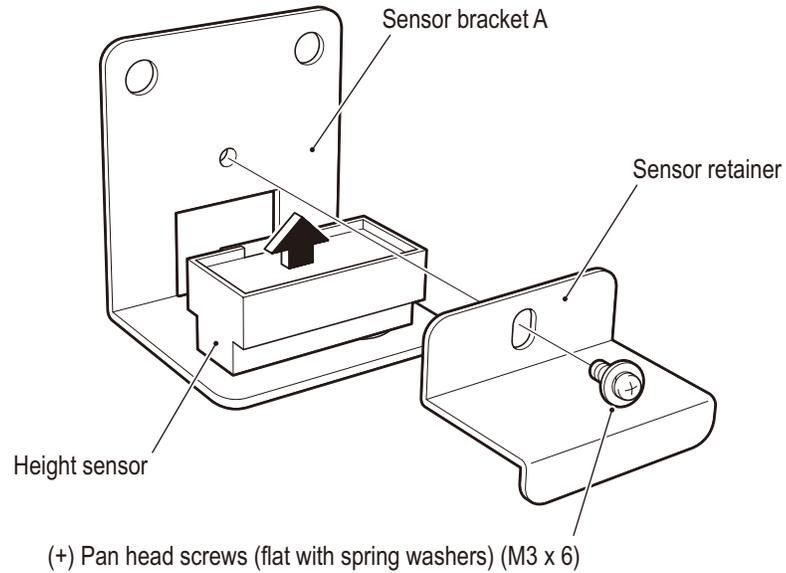
Test mode

Troubleshooting

- To be conducted by a technician only -

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- 4 Remove the one (+) pan head screw (flat with spring washer) (M3 x 6) and the sensor retainer to detach and replace the height sensor.



- 5 To install, perform the removal sequence in reverse.

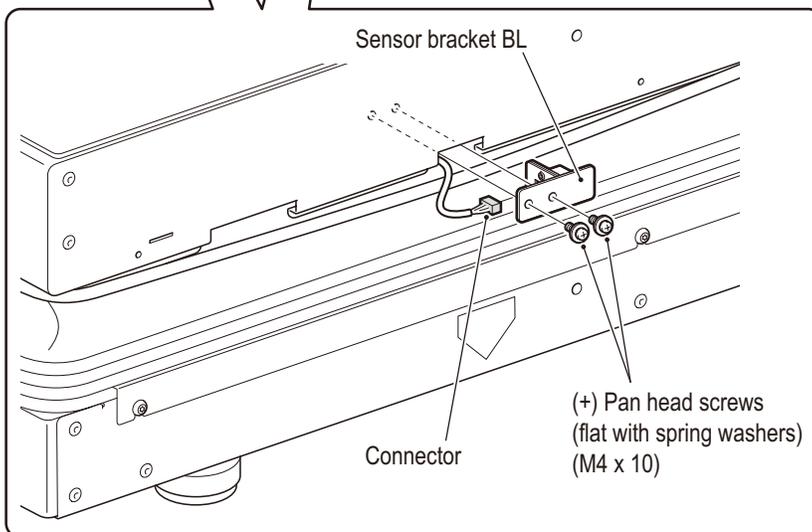
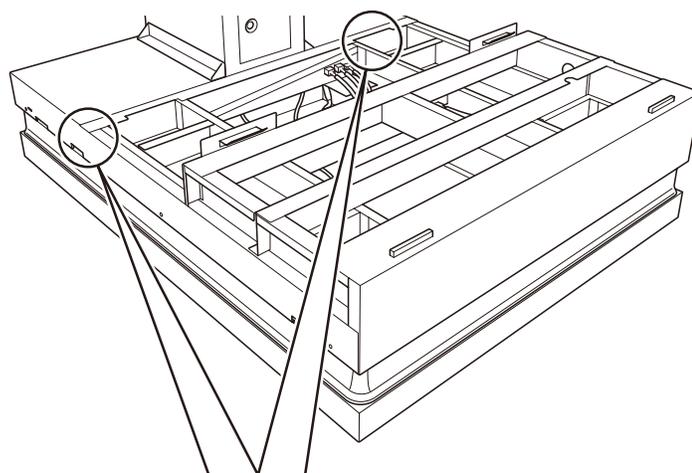
**NOTICE**

- Be sure to fully insert the connectors.
- After replacing the parts, be sure to check the operation in Test mode. (See P. 50 “6-7-5 (g) Motion Test”)

**(9) Replacing the height sensor (front)****⚠ WARNING**

- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

- 1** Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2** Detach the seat base cover, step plate, step rib, and bellows clamp C on the side to be replaced. (See. P. 66 "7A-1-2 Assembling the Ride Assy" and P. 126 "7B-4-2 (5) Replacing the bellows")
- 3** Unplug the one connector and remove the two (+) pan head screws (flat with spring washers) (M4 x 10) to detach sensor bracket BL or sensor bracket BR.
  - \* The (+) pan head screws (flat with spring washers) (M4 x 10) are way in the back, so be careful not to drop them.



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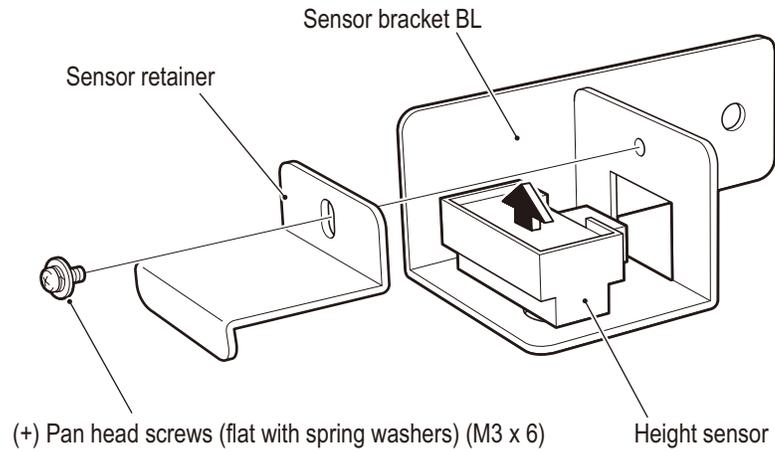
Test mode

Troubleshooting

- To be conducted by a technician only -

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- 4 Remove the one (+) pan head screw (flat with spring washer) (M3 x 6) and the sensor retainer to detach and replace the height sensor.



- 5 To install, perform the removal sequence in reverse.

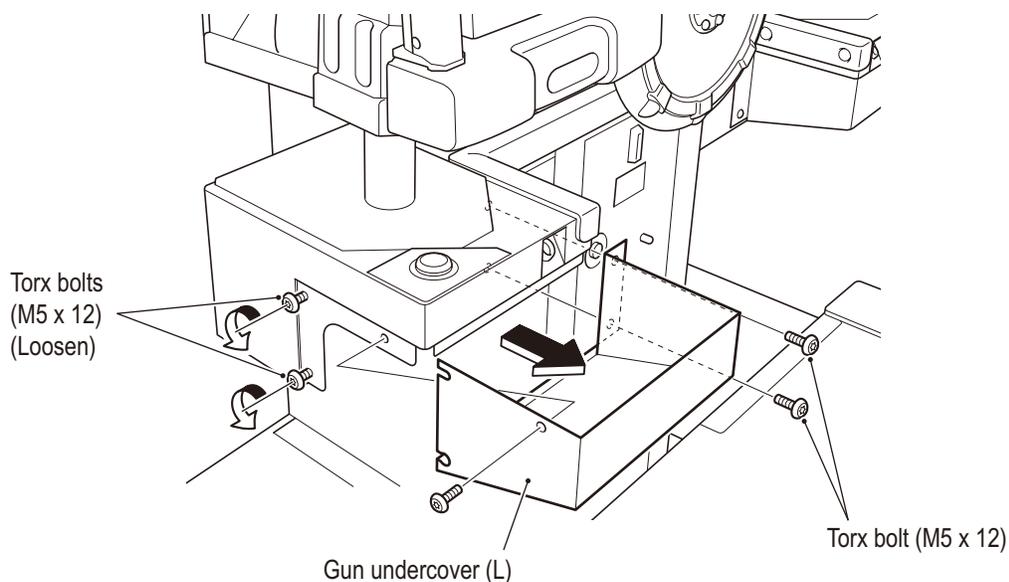
**NOTICE**

- Be sure to fully insert the connectors.
- After replacing the parts, be sure to check the operation in Test mode. (See P. 50 "6-7-5 (g) Motion Test")

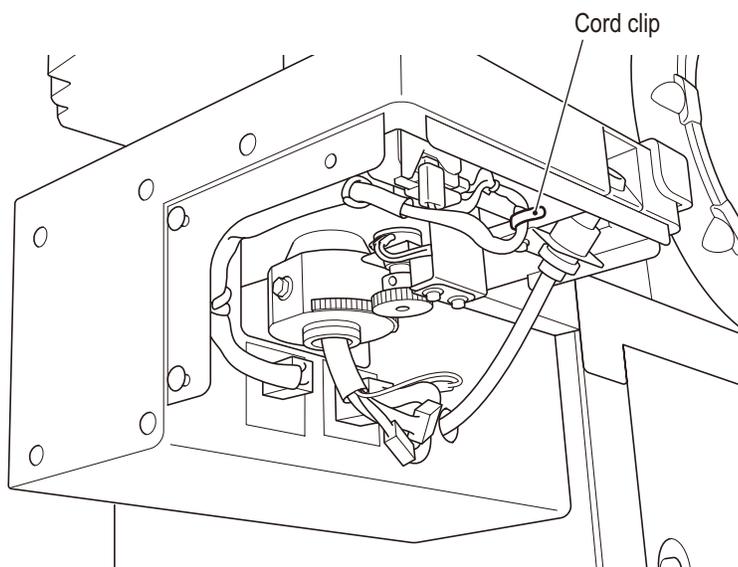
**(10) Replacing the STOP button illuminated switch and LED lamp****⚠ WARNING**

- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

- 1** Turn off the power switch. (See P. 78 “7A-1-5 Power switch location and turning on the switch”)
- 2** Loosen the two outer Torx bolts (M5 x 12) and remove the three Torx bolts (M5 x 12) to detach the Gun undercover (L) or Gun undercover (R).



- 3** Remove the cord clip in one location.



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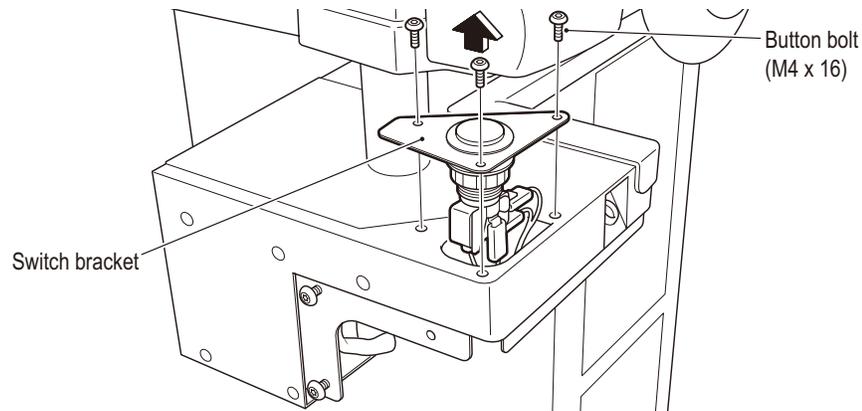
Service

Test mode

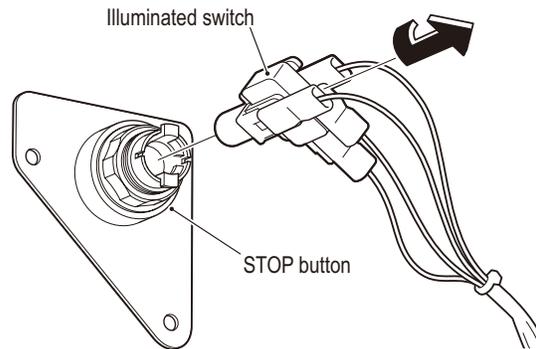
Troubleshooting

- To be conducted by a technician only -

- 4** Remove the three button bolts (M4 x 16) and pull the switch bracket upwards.

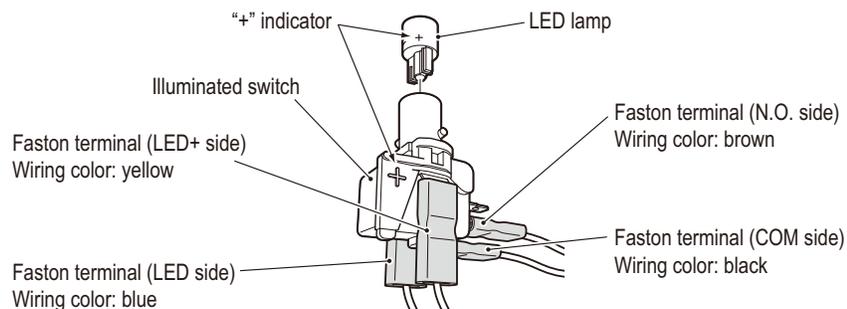


- 5** Turn the illuminated switch 45° to the left and detach it from the STOP button.



- 6** When replacing the LED lamp, pull the LED lamp out and replace it.

- 7** When replacing the illuminated switch, remove the four Faston terminals and replace it.



- 8** To install, perform the removal sequence in reverse.

**NOTICE**

- Insert the LED lamp so that the + side of the LED lamp matches the + side of the illuminated switch.
- Be careful not to incorrectly connect the Faston terminals.
- Be sure to fully insert the Faston terminals and connectors.
- Be careful not to pinch the connector or harness during installation.
- After replacing the parts, be sure to check the switch operation. (See P. 42 “6-7-5 (b) Switch Test” and P. 49 “6-7-5 (f) Lamp Output Test”)

## 7B-4-3 Seat Assy

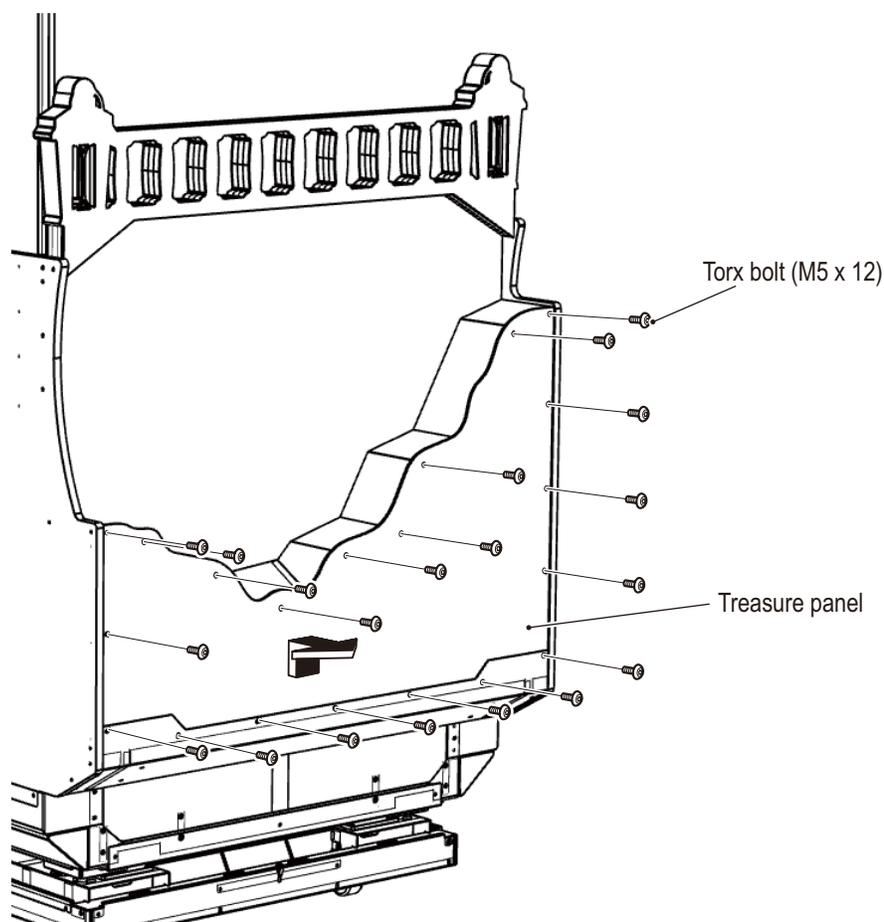
### (1) Replacing the tape LED (rear)

#### ⚠ WARNING

- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

#### NOTICE

- The LED is a part which is susceptible to static electricity. If the LED is handled while a worker's body is charged with static electricity, the LED may be damaged. Before handling the LED, touch a grounded metal surface, etc. to remove any static electricity from your body.
- 1 Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
  - 2 Remove the 19 Torx bolts (M5 x 12) on the rear of the Seat Assy and detach the treasure panel.



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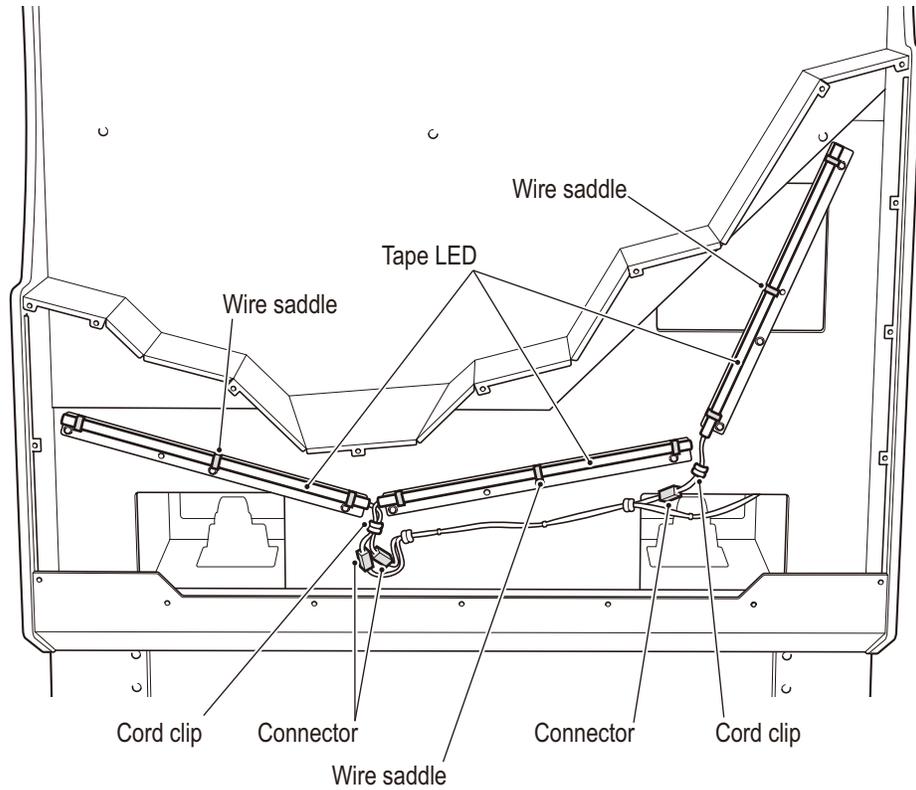
Service

Test mode

Troubleshooting

- To be conducted by a technician only -

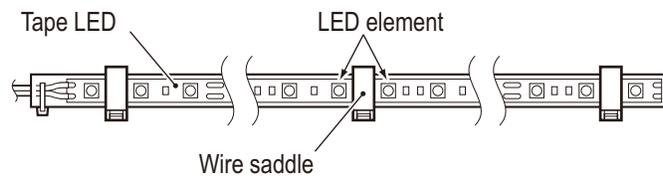
- 3** Remove the cord clip holding the harness in place, unplug the one connector, and remove the three wire saddles of the tape LED to be replaced to detach and replace the tape LED.



- 4** To install, perform the removal sequence in reverse.

**NOTICE**

- Be sure to fully insert the connectors.
- Be careful that the wire saddles do not cover the LED element during installation. (See the diagram below)



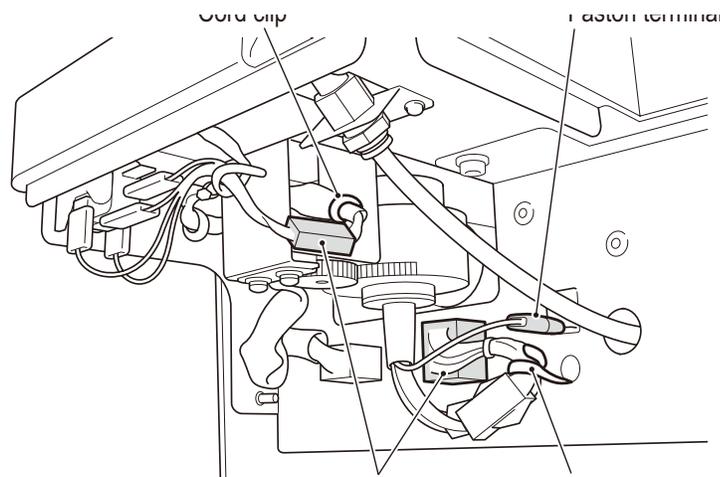
## 7B-4-4 Gun Assy

### (1) Removing and installing the Gun Assy

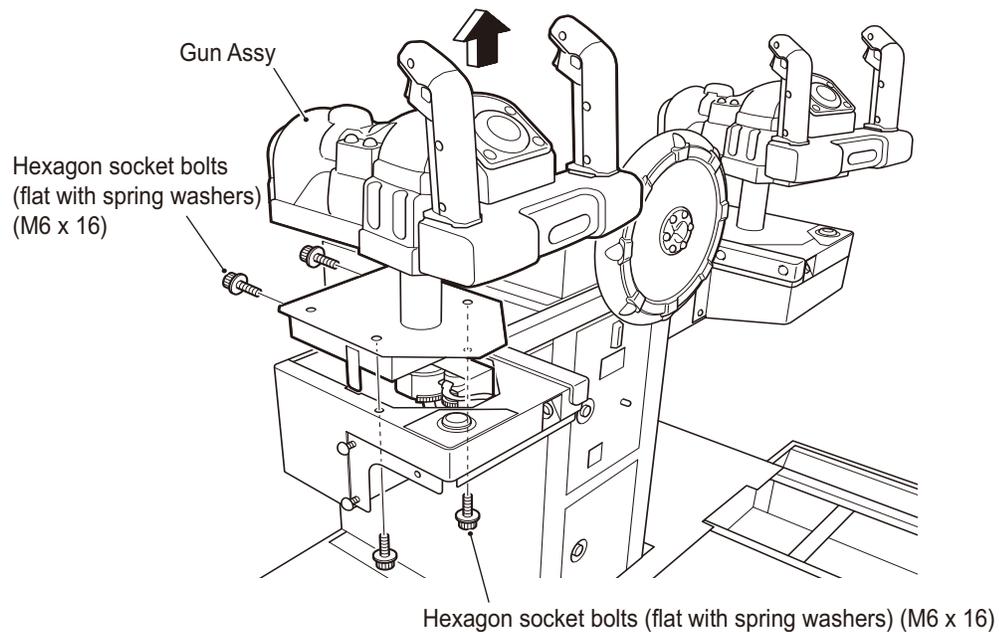
#### ⚠ WARNING

- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

- 1 Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2 Detach the Gun undercover (L) or Gun undercover (R).  
(See P. 141 "7B-4-2 (10) Replacing the STOP button illuminated switch and LED lamp" step 2)
- 3 Loosen the cord clips in two locations, unplug the two connectors, and remove the one Faston terminal.



- 4 Remove the four hexagon socket bolts (flat with spring washers) (M6 x 16) and detach the Gun (L) Assy or Gun (R) Assy.



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Service

Test mode

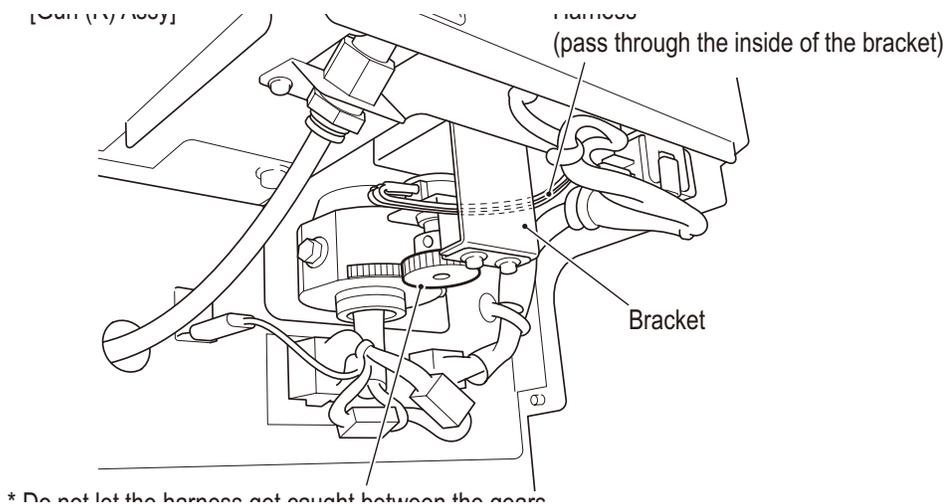
Troubleshooting

- To be conducted by a technician only -

**5** To install, perform the removal sequence in reverse.

**NOTICE**

- Be sure to fully insert the connectors.
- When installing, make sure not to pinch the connector or harness.



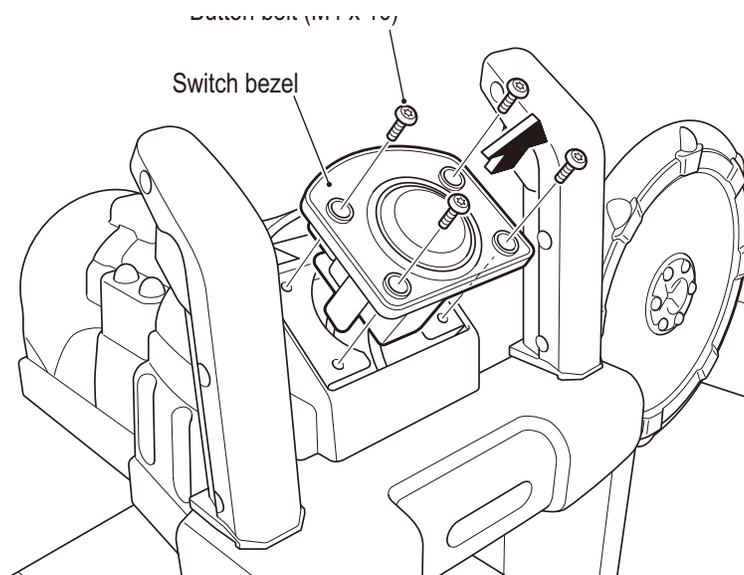
- After replacing the parts, be sure to perform an initialization. (See P. 62 “6-8 Gun assy adjustment (initialization) after parts replacement”)

**(2) Replacing the START button illuminated switch and LED lamp**

**⚠ WARNING**

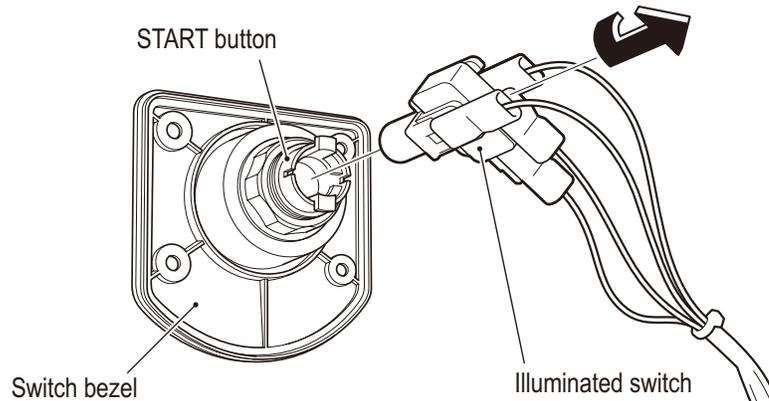
- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

- 1** Turn off the power switch. (See P. 78 “7A-1-5 Power switch location and turning on the switch”)
- 2** Remove the four button bolts (M4 x 10) and detach the switch bezel.

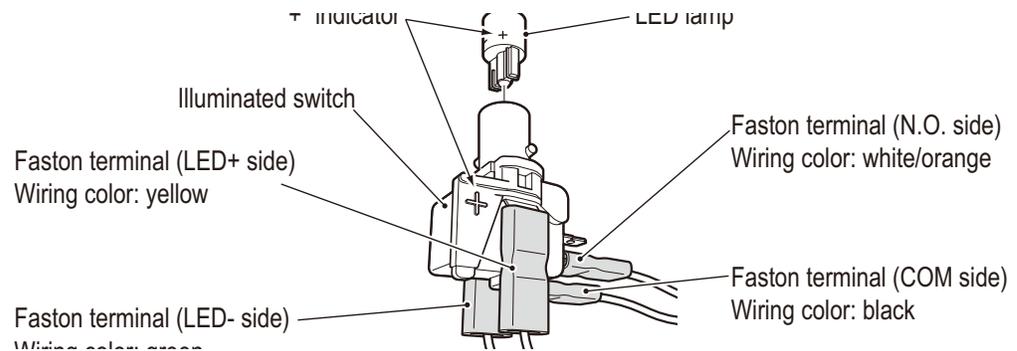


- To be conducted by a technician only -

- 3** Flip the switch bezel over, turn the illuminated switch 45° to the left, and detach the illuminated switch from the START button.



- 4** When replacing the LED lamp, pull the LED lamp out and replace it.
- 5** When replacing the illuminated switch, remove the four Faston terminals and replace it.



- 6** To install, perform the removal sequence in reverse.

**NOTICE**

- Insert the LED lamp so that the + side of the LED lamp matches the + side of the illuminated switch.
- Be careful not to incorrectly connect the Faston terminals.
- Be sure to fully insert the Faston terminals and connectors.
- Be careful not to pinch the connector or harness during installation.
- After replacing the parts, be sure to check the switch operation. (See P. 42 “6-7-5 (b) Switch Test” and P. 49 “6-7-5(f) Lamp Output Test”)

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Service

Test mode

Troubleshooting

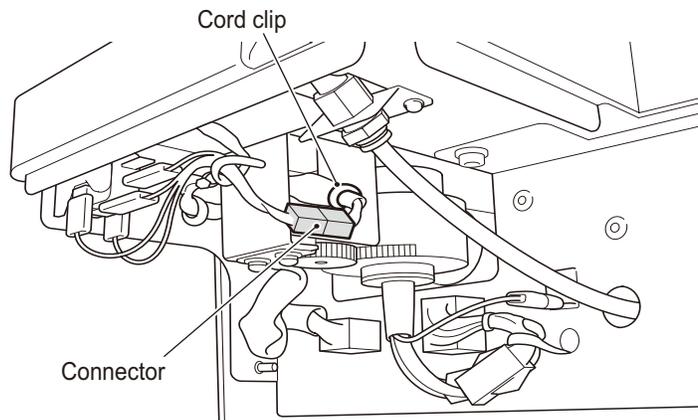
- To be conducted by a technician only -

### (3) Replacing the potentiometers (left and right side)

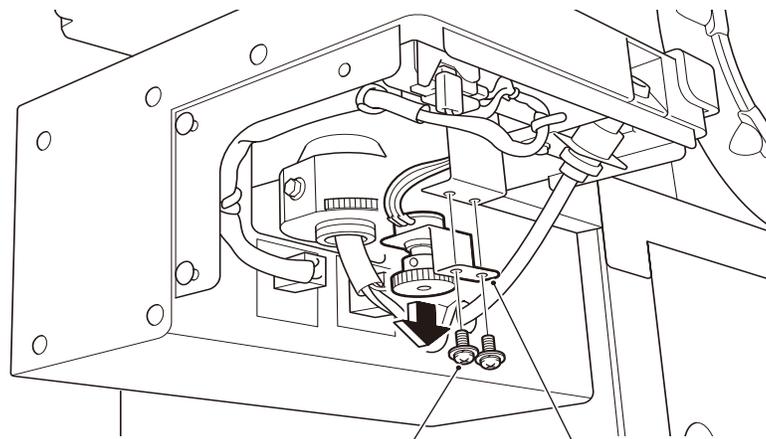
#### ⚠ WARNING

- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

- 1** Turn off the power switch. (See P. 78 “7A-1-5 Power switch location and turning on the switch”)
- 2** Detach the Gun undercover (L) or Gun undercover (R).  
(See P. 141 “7B-4-2 (10) Replacing the STOP button illuminated switch and LED lamp” step **2**)
- 3** Loosen the cord clip in one location and unplug the one connector.



- 4** Remove the two (+) pan head screws (flat with spring washers) (M4 x 12) and detach the potentiometer bracket.



(+) Pan head screws (flat with spring washers) (M4 x 12)

Potentiometer bracket



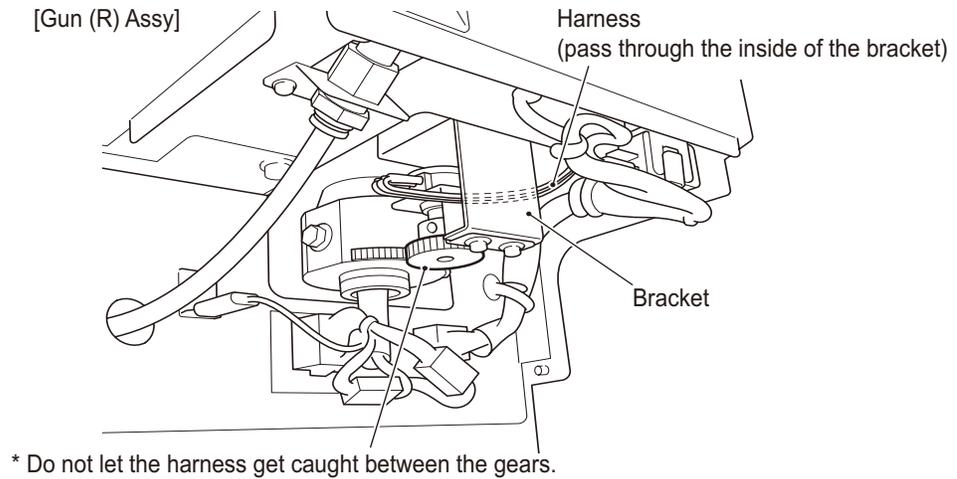
- To be conducted by a technician only -

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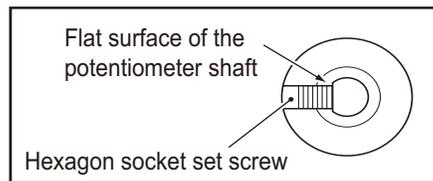
**7** To install, perform the removal sequence in reverse.

**NOTICE**

- Be sure to fully insert the connectors.
- When installing, make sure that the gear does not pinch the harness.



- When installing the potentiometer, align the flat surface of the potentiometer shaft with the position of the hexagon socket set screw.

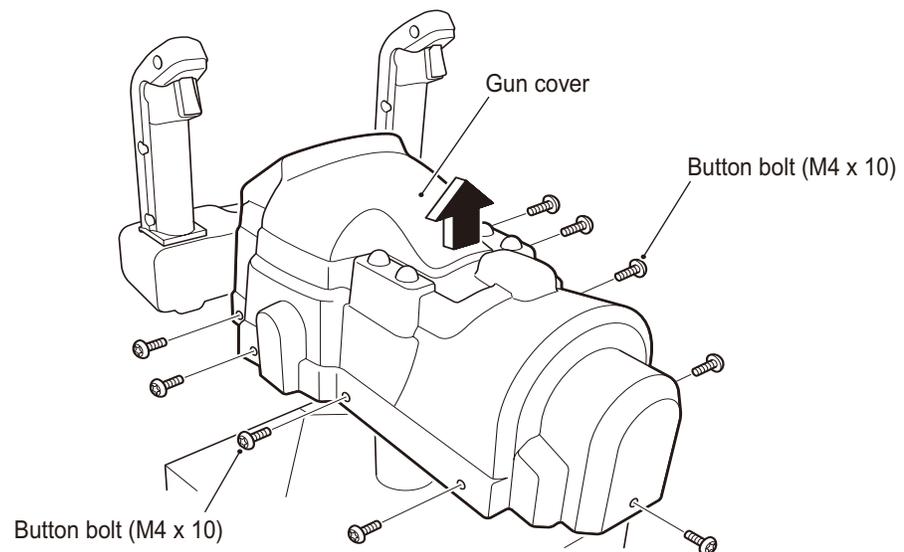


- After replacing the parts, be sure to perform an initialization. (See P. 62 “6-8 Gun assy adjustment (initialization) after parts replacement”)

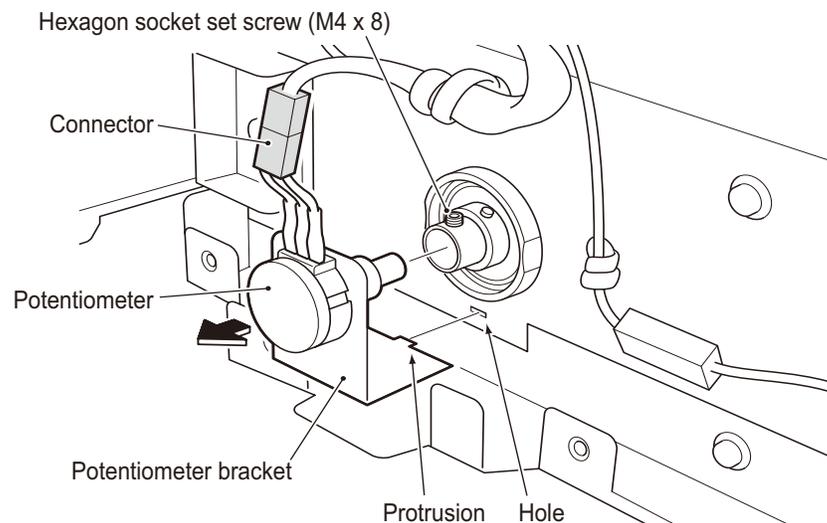
**(4) Replacing the potentiometers (upper and lower)****⚠ WARNING**

- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

- 1** Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2** Detach the switch bezel.  
(See P. 146 "7B-4-4 (2) Replacing the START button illuminated switch and LED lamp")
- 3** Remove the nine button bolts (M4 x 10) and detach the gun cover.



- 4** Unplug the one connector, remove the one hexagon socket set screw (M4 x 8) with a hexagonal wrench, and detach the potentiometer together with the potentiometer bracket.



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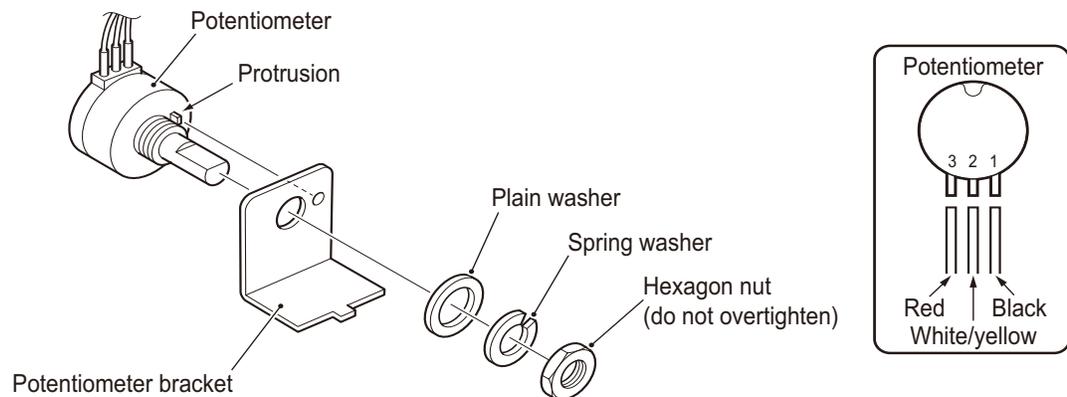
Service

Test mode

Troubleshooting

- To be conducted by a technician only -

- 5** Remove the one hexagon nut, one spring washer, and one plain washer to detach the potentiometer from the potentiometer bracket and replace it.  
\* Install the potentiometer with the terminal facing up.

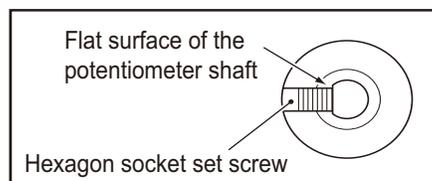
**NOTICE**

- The external appearance of the potentiometer is the same as the left and right potentiometers. Check the harness color before replacing the potentiometer.

- 6** To install, perform the removal sequence in reverse.

**NOTICE**

- Be sure to fully insert the connectors.
- When installing the potentiometer, align the flat surface of the potentiometer shaft with the position of the hexagon socket set screw.



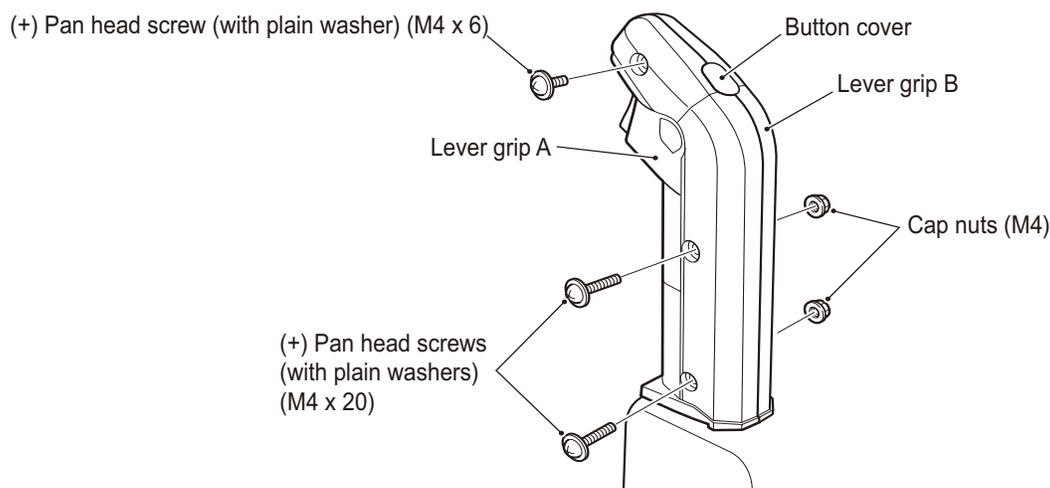
- After replacing the parts, be sure to perform an initialization. (See P. 62 “6-8 Gun assy adjustment (initialization) after parts replacement”)

## (5) Replacing the microswitch

**! WARNING**

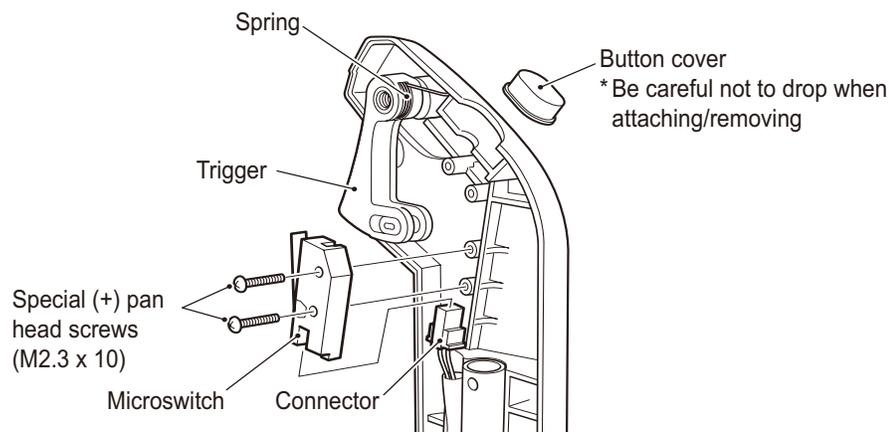
- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

- 1 Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2 Remove the two (+) pan head screws (with plain washers) (M4 x 20), two cap nuts (M4), and one (+) pan head screw (with plain washers) (M4 x 6) to detach lever grip A.

**NOTICE**

- There is one button cover on the upper part of the lever grip. Be careful not to lose the button cover.

- 3 Unplug the one connector and remove the two special (+) pan head screws (M2.3 x 10) to detach and replace the microswitch.



- 4 To install, perform the removal sequence in reverse.

**NOTICE**

- Be sure to fully insert the connectors.
- When installing, make sure not to pinch the connector or harness.
- After replacing the parts, be sure to check the operation in Test mode. (See P. 42 "6-7-5 (b) Switch Test")

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Service

Test mode

Troubleshooting

## (6) Replacing the trigger and spring

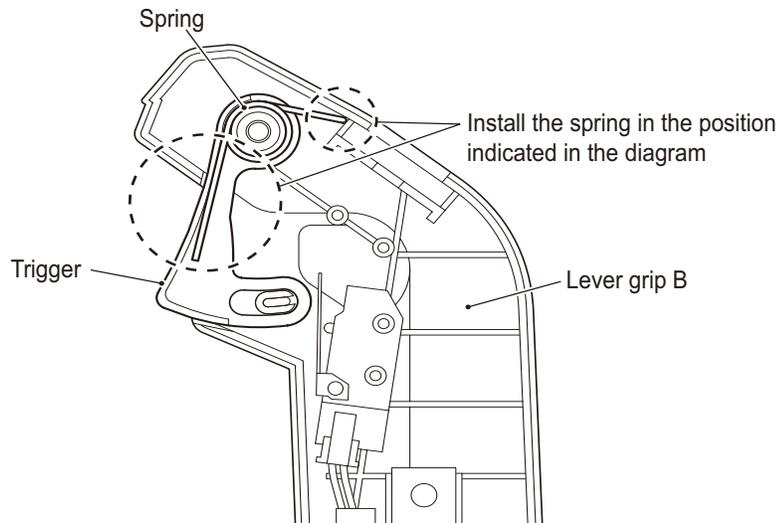
### **⚠ WARNING**

- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

- 1** Turn off the power switch. (See P. 78 “7A-1-5 Power switch location and turning on the switch”)
- 2** Disassemble the lever grip. (See P. 153 “7B-4-4 (5) Replacing the microswitch” steps **2** and **3**)
- 3** Detach and replace the trigger and spring if they are defective. (See P. 153 “7B-4-4 (5) Replacing the microswitch” step **3**)
- 4** To install, perform the removal sequence in reverse.

### **NOTICE**

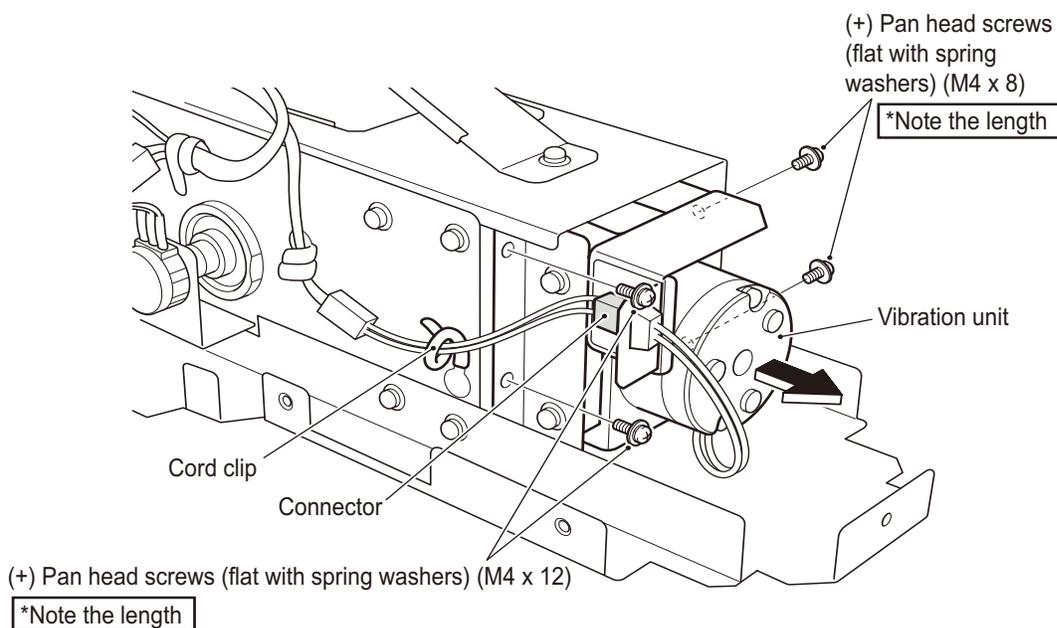
- Install the spring as shown in the diagram and make sure that the spring is securely connected to the trigger and lever grip B.



**(7) Replacing the vibration unit****⚠ WARNING**

- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

- 1** Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2** Detach the switch bezel.  
(See P. 146 "7B-4-4 (2) Replacing the START button illuminated switch and LED lamp")
- 3** Detach the gun cover.  
(See P. 179 "7B-4-4(4) Replacing the potentiometers (upper and lower)")
- 4** Remove the cord clip in one location and unplug the one connector.
- 5** Remove the two (+) pan head screws (flat with spring washers) (M4 x 12) and the two (+) pan head screws (flat with spring washers) (M4 x 8) and detach the vibration unit.



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Service

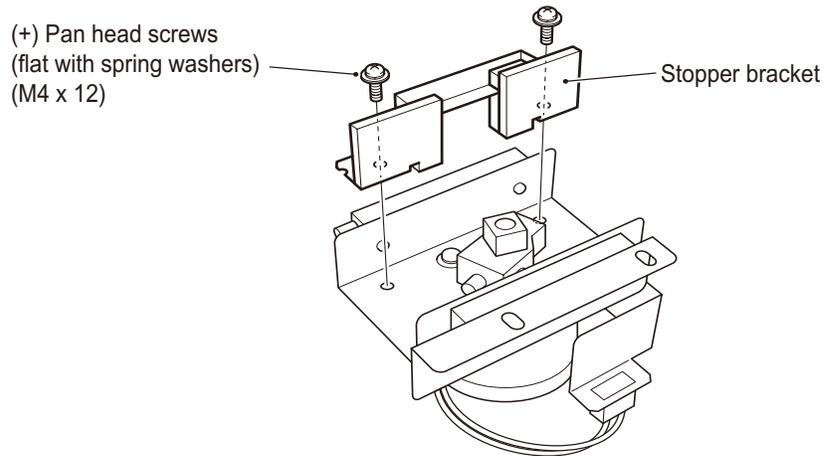
Test mode

Troubleshooting

- To be conducted by a technician only -

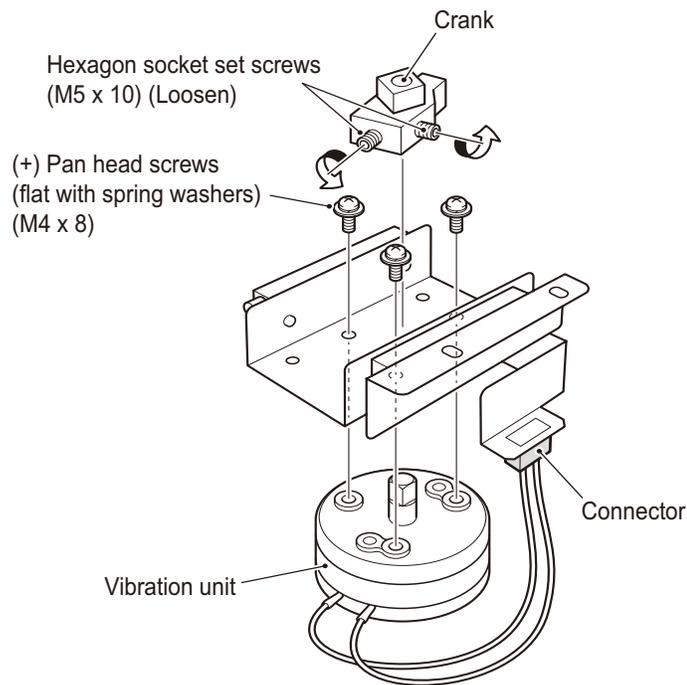
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- 6** Remove the two (+) pan head screws (flat with spring washers) (M4 x 12) and detach the stopper bracket.



- 7** Loosen the two hexagon socket set screws (M5 x 10) with a hexagonal wrench and detach the crank.

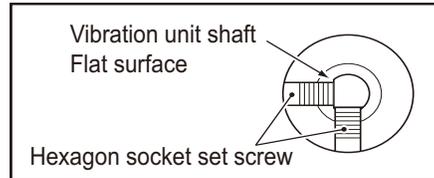
- 8** Unplug the one connector and remove the three (+) pan head screws (flat with spring washers) (M4 x 8) to detach and replace the vibration unit.



- 9** To install, perform the removal sequence in reverse.

**NOTICE**

- Be sure to fully insert the connectors.
- When installing the vibration unit, align the flat surface of the vibration unit shaft (two locations) with the positions of the hexagon socket set screws.



- When installing, make sure not to pinch the connector or harness.
- After replacing the parts, be sure to perform an initialization. (See P. 45 “6-7-5 (c) Gun Test”)

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Service

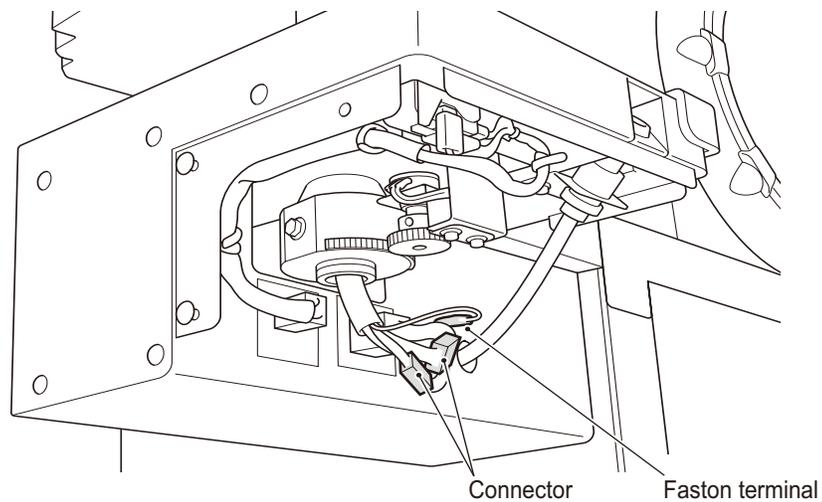
Test mode

Troubleshooting

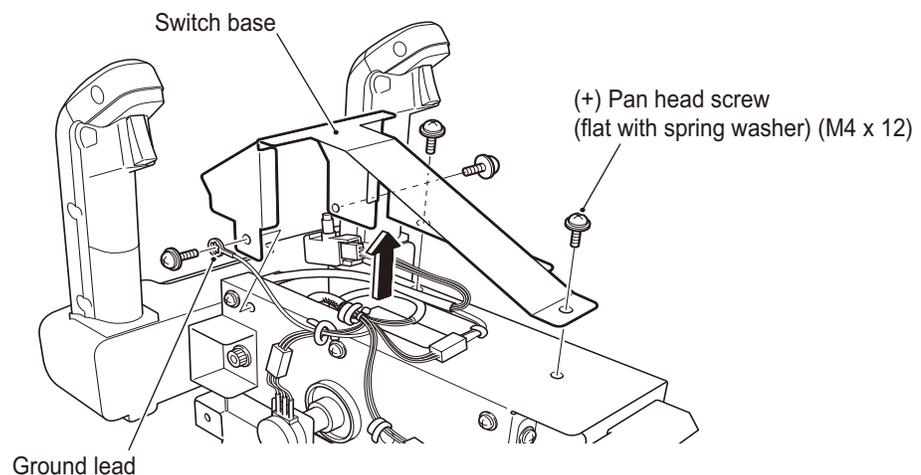
**(8) Replacing the gun harness 2****⚠ WARNING**

- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

- 1** Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2** Detach the Gun undercover (L) or Gun undercover (R).  
(See P. 141 "7B-4-2 (10) Replacing the STOP button illuminated switch and LED lamp" step **2**)
- 3** Unplug the two connectors and remove the one Faston terminal.

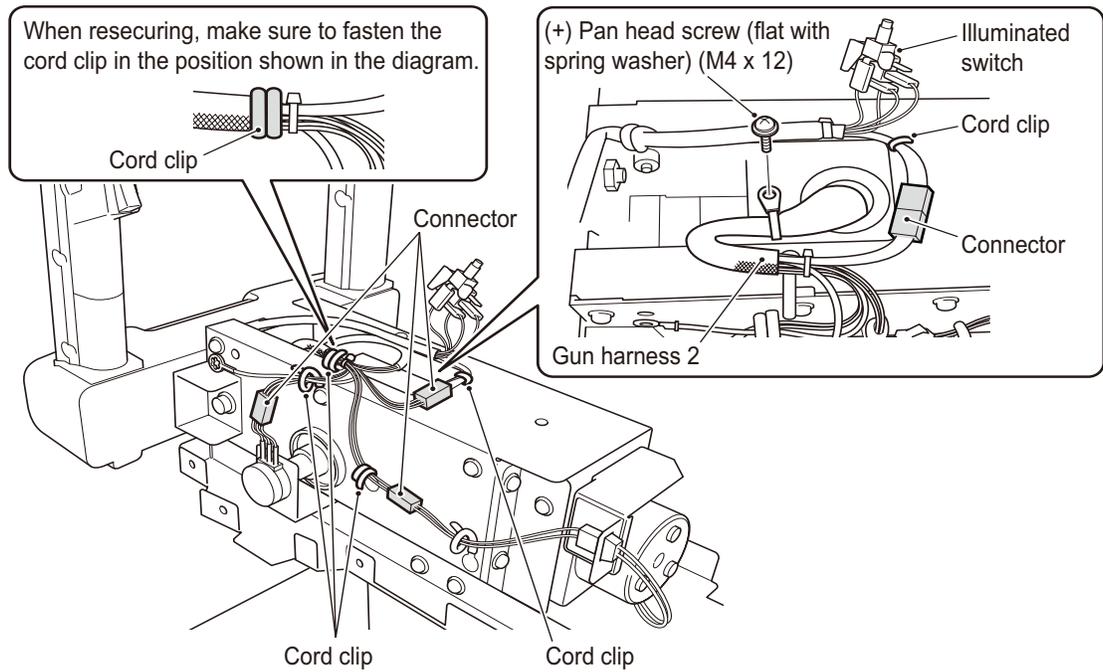


- 4** Detach the gun cover.  
(See P. 151 "7B-4-4(4) Replacing the potentiometers (upper and lower)")
- 5** Remove the four (+) pan head screws (flat with spring washers) (M4 x 12) and detach the switch base.

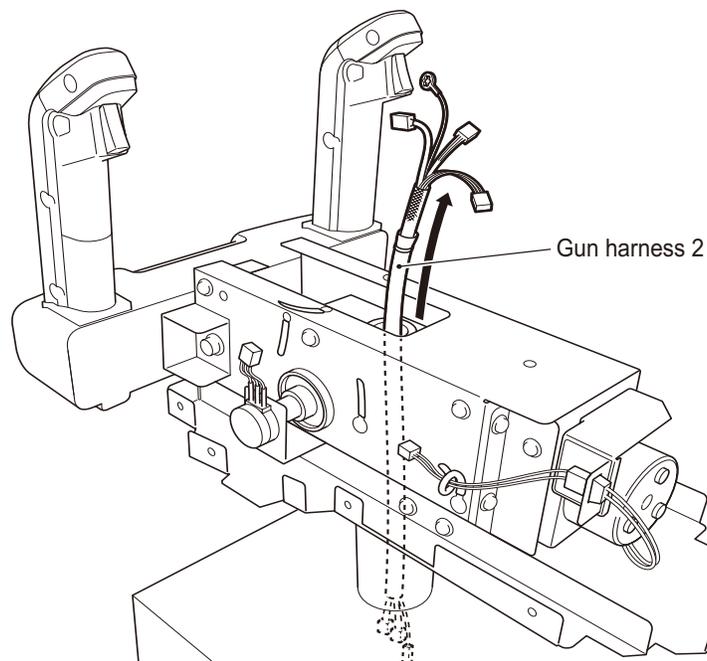


- To be conducted by a technician only -

- 6** Unplug the three connectors and remove the cord clips in four locations and the one (+) pan head screw (M4 x 12) of the gun harness 2.



- 7** Pull out and replace the gun harness 2.



- 8** To install, perform the removal sequence in reverse.

**NOTICE**

- Be sure to fully insert the connectors.

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Service

Test mode

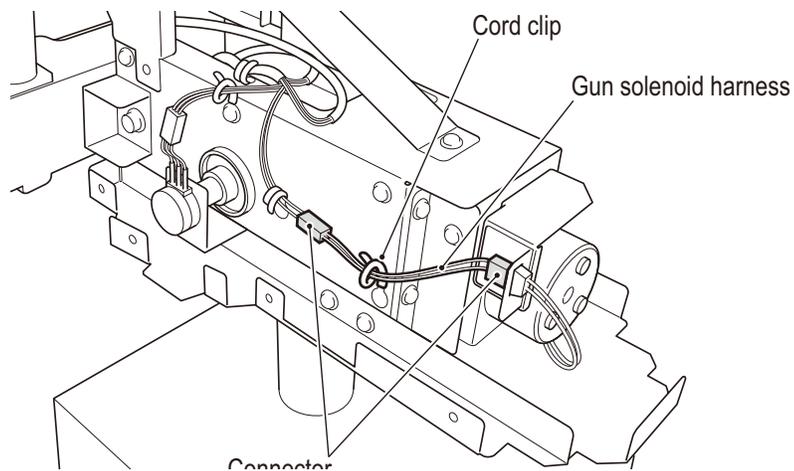
Troubleshooting

## (9) Replacing the gun solenoid harness

### **⚠ WARNING**

- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

- 1** Turn off the power switch. (See P. 78 “7A-1-5 Power switch location and turning on the switch”)
- 2** Detach the gun cover.  
(See P. 151 “7B-4-4(4) Replacing the potentiometers (upper and lower)”)
- 3** Unplug the two connectors and remove the cord clip in one location to detach and replace the gun solenoid harness.



- 4** To install, perform the removal sequence in reverse.

### **NOTICE**

- Be sure to fully insert the connectors.

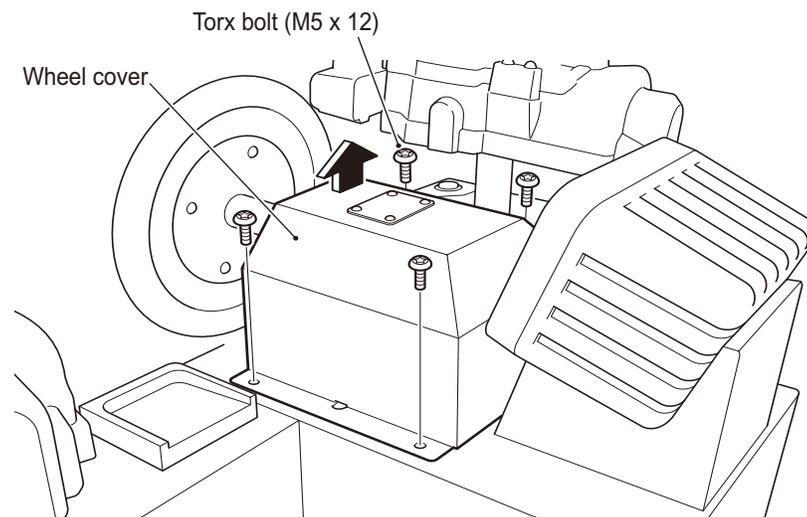
## 7B-4-5 Wheel Assy

### (1) Removing and installing the Wheel Assy

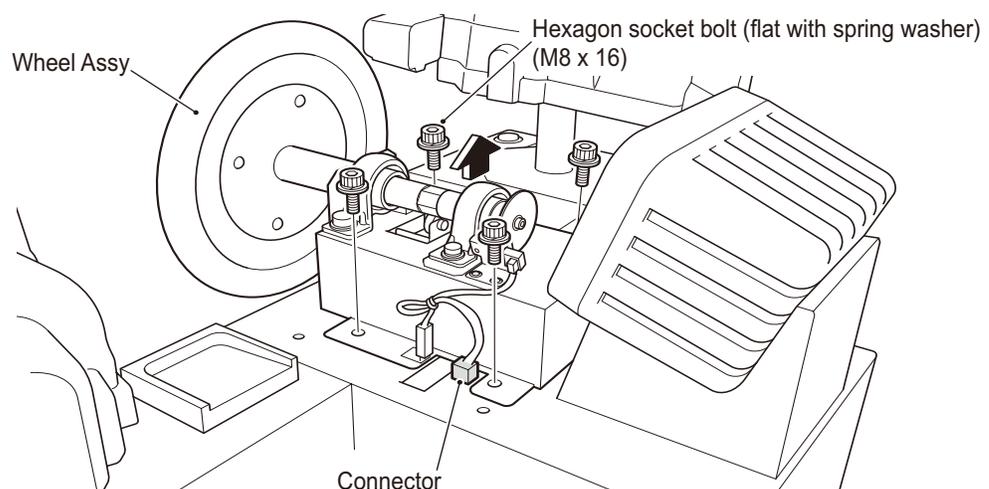
#### ⚠ WARNING

- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

- 1 Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2 Remove the four Torx bolts (M5 x 12) and detach the wheel cover.



- 3 Unplug the one connector, remove the four hexagon socket bolts (flat with spring washers) (M8 x 16) and detach the Wheel Assy.
  - \* When removing the hexagon socket bolts (flat with spring washers) (M8 x 16), the Wheel Assy may become unstable due to the weight of the wheel, so make sure to support the wheel section.



- 4 To install, perform the removal sequence in reverse.

#### NOTICE

- Be sure to fully insert the connectors.
- When installing, make sure not to pinch the connector or harness.

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Service

Test mode

Troubleshooting

- To be conducted by a technician only -

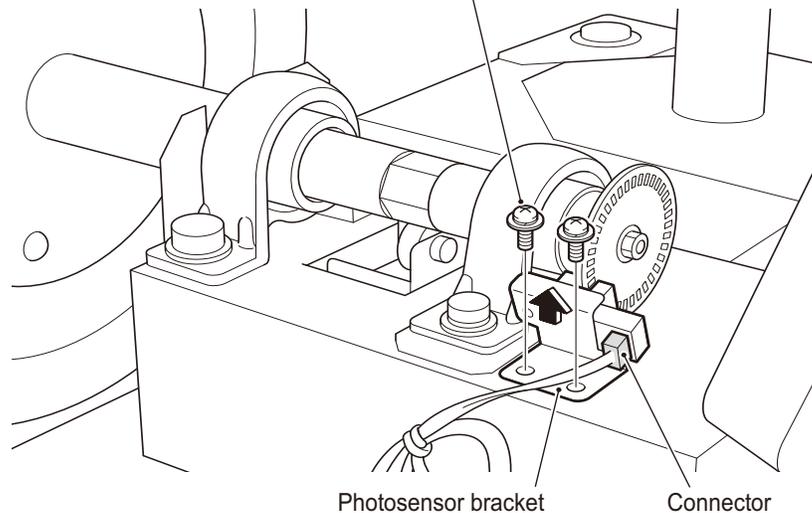
## (2) Replacing the photosensor (wheel)

### WARNING

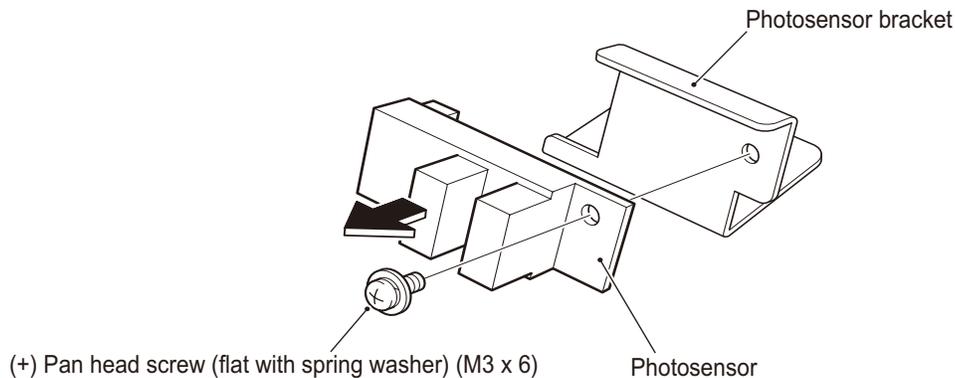
- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

- 1** Turn off the power switch. (See P. 78 "7A-1-5 Power switch location and turning on the switch")
- 2** Detach the wheel cover. (See P. 161 "7B-4-5 (1) Removing and installing the Wheel Assy" step **2**)
- 3** Unplug the one connector and remove the two (+) pan head screws (flat with spring washers) (M4 x 10) to detach the photosensor bracket.

(+) Pan head screws (flat with spring washers) (M4 x 10)



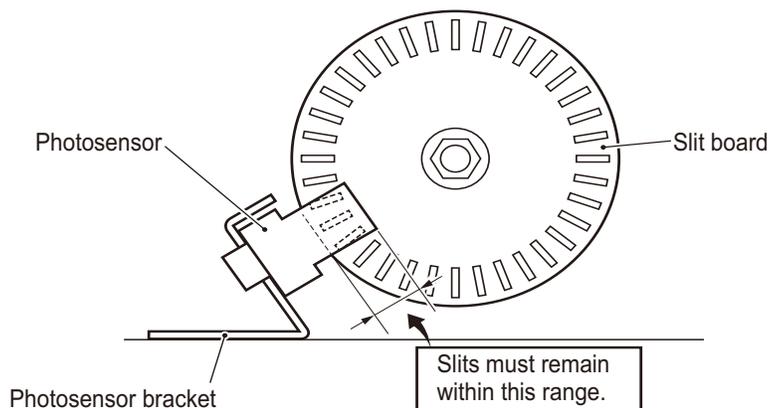
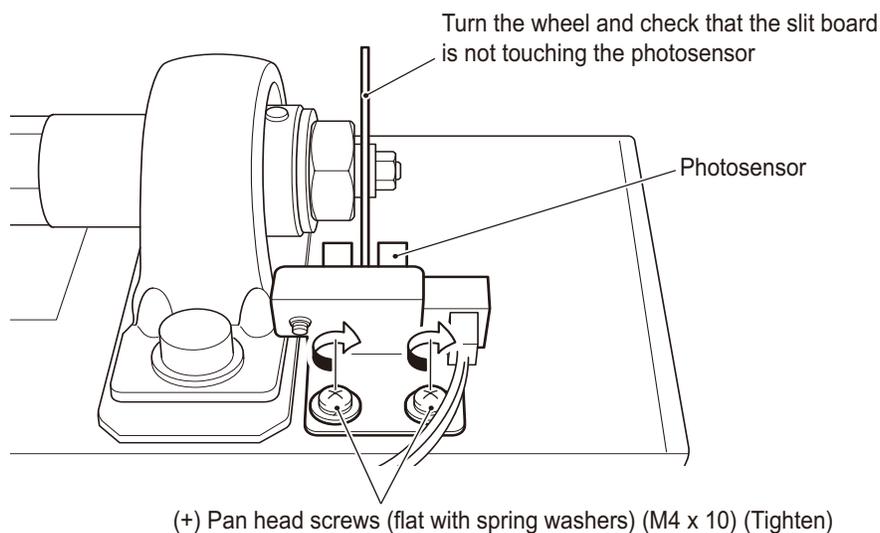
- 4** Remove the one (+) pan head screw (flat with spring washer) (M3 x 6) to detach and replace the photosensor.



(+) Pan head screw (flat with spring washer) (M3 x 6)

- To be conducted by a technician only -

- 5** To install the photosensor, temporarily fasten the photosensor bracket with the two (+) pan head screws (flat with spring washers) (M4 x 10), align the slit with the photosensor position as shown in the diagram below, and tighten the (+) pan head screws (flat with spring washers) (M4 x 10). After fixing the photosensor, turn the wheel and check that the slit board does not hit the photosensor.

**NOTICE**

- Be sure to fully insert the connector.
- When installing, make sure not to pinch the connector or harness.
- After replacing the parts, be sure to check the operation in Test mode. (See P. 47 "6-7-5 (d) Wheel Test")

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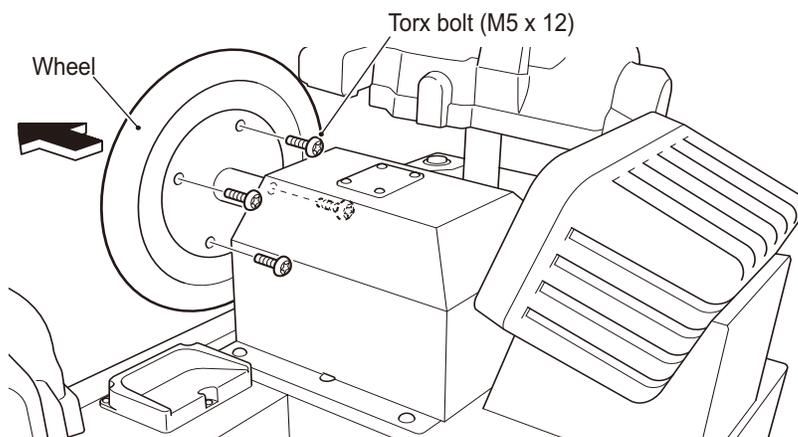
Test mode

Troubleshooting

- To be conducted by a technician only -

### (3) Replacing the wheel

- 1 Remove the four Torx bolts (M5 x 12) to detach and replace the wheel.



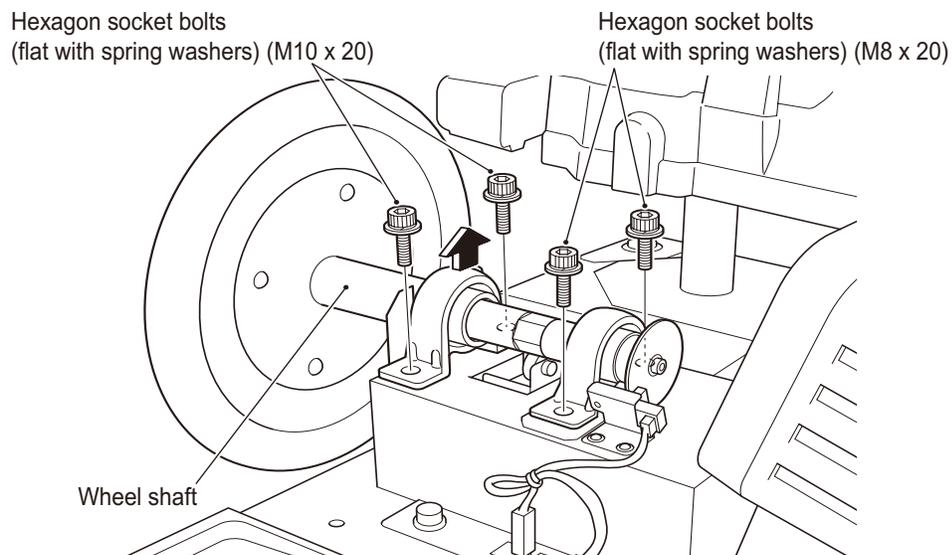
- 2 To install, perform the removal sequence in reverse.

### (4) Replacing the hinge

#### ⚠ WARNING

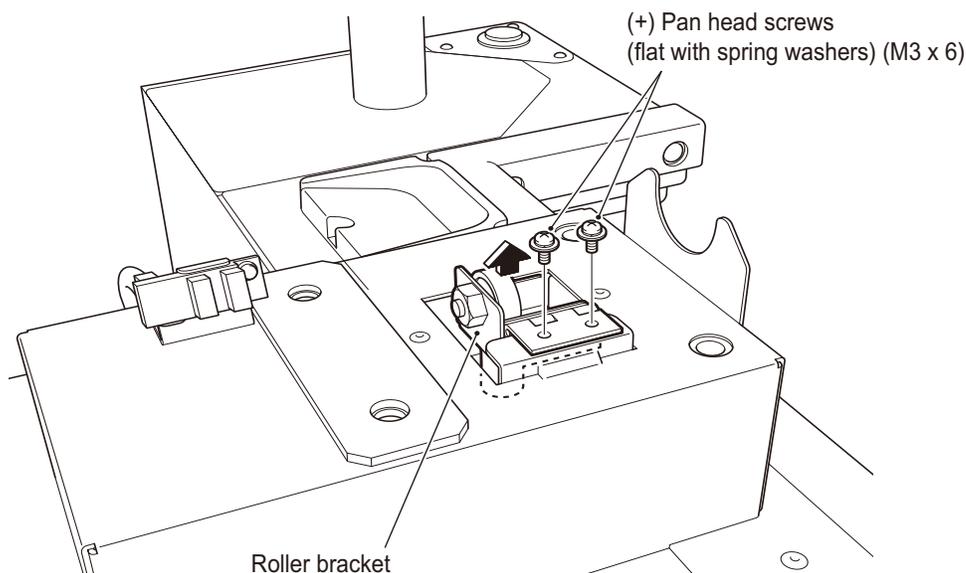
- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

- 1 Turn off the power switch. (See P. 78 “7A-1-5 Power switch location and turning on the switch”)
- 2 Detach the wheel cover. (See P. 161 “7B-4-5 (1) Removing and installing the Wheel Assy” step 2)
- 3 Remove the two hexagon socket bolts (flat with spring washers) (M10 x 20) and the two hexagon socket bolts (flat with spring washers) (M8 x 20) to detach the wheel shaft.

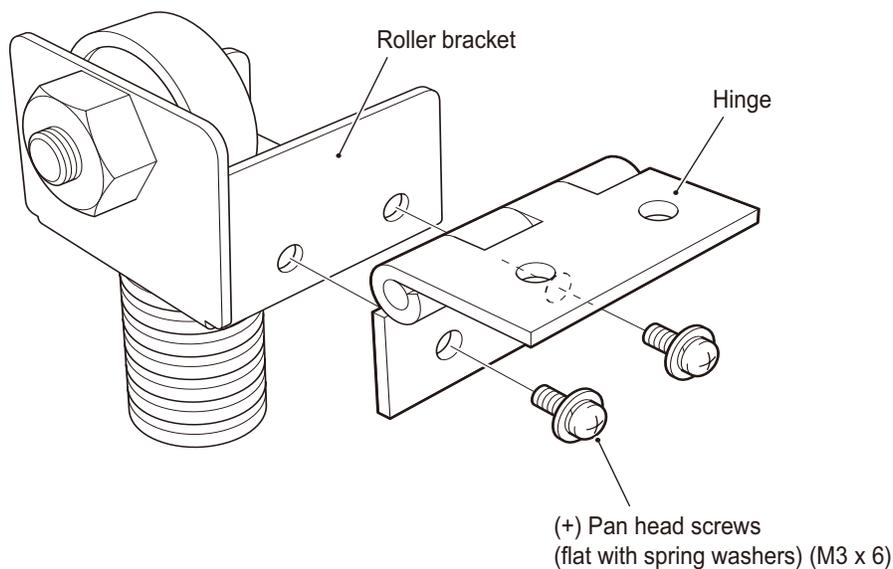


**- To be conducted by a technician only -**

- 4** Remove the two (+) pan head screws (flat with spring washers) (M3 x 6) and detach the roller bracket and spring.



- 5** Remove the two (+) pan head screws (flat with spring washers) (M3 x 6) to detach and replace the hinge.



- 6** To install, perform the removal sequence in reverse.  
\* Adjust the position of the photosensor if its position is incorrect and it hits the slit board, etc.  
(See P. 163 "7B-4-5 (2) Replacing the photosensor (wheel)" step **5**)

**NOTICE**

- After replacing the parts, be sure to check the operation in Test mode.  
(See P. 47 "6-7-5 (d) Wheel Test")

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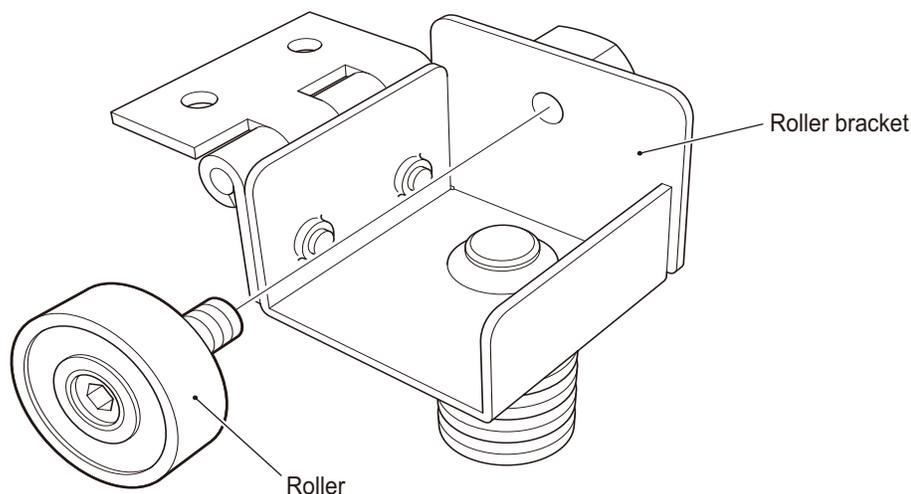
Test mode

Troubleshooting

**(5) Replacing the roller****⚠ WARNING**

- To prevent electric shock, accidents, or injuries to workers and other personnel as well as damage to the electrical circuits, be sure to turn the power switch off.

- 1** Turn off the power switch. (See P. 78 “7A-1-5 Power switch location and turning on the switch”)
- 2** Detach the roller bracket and spring.  
(See P. 164 “7B-4-5 (4) Replacing the hinge” steps **2** through **4**)
- 3** Detach and replace the roller with a hexagonal wrench.



- 4** To install, perform the removal sequence in reverse.  
\* Adjust the position of the photosensor if its position is incorrect and it hits the slit board, etc.  
(See P. 163 “7B-4-5 (2) Replacing the photosensor (wheel)” step **5**)

**NOTICE**

- After replacing the parts, be sure to check the operation in Test mode.  
(See P. 47 “6-7-5 (d) Wheel Test”)

# 8. Disposal

## WARNING

- The machine must be collected, transported, and disposed of in accordance with applicable laws and ordinances.
- When outsourcing the collection, transportation, and disposal of the machine, be sure to outsource the work to specialized vendors.
- The following part contains industrial waste requiring special treatment which must be collected, transported, and disposed of in a particular manner in accordance with applicable laws and ordinances. Please contact your distributor when disposing this part.
  - 55-inch LCD monitor (see P. 117 “7B-4-1 (13) Replacing the LCD monitor”)
  - \* In some cases, the regulations, etc. of local municipalities may stipulate special methods for the collection, transportation, and disposal of industrial waste requiring special treatment.

### NOTICE

- The software included in the machine is protected by copyright law. Please refrain from copying, adapting, publicly transmitting, or using this software for any purposes other than the commercial use of this machine. Violations of copyright law may be subject to criminal penalties.
- Please refrain from using the recording media on which the software is recorded in other units. Doing so may cause the machine to malfunction.

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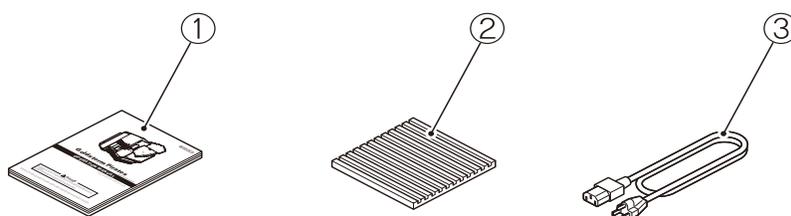
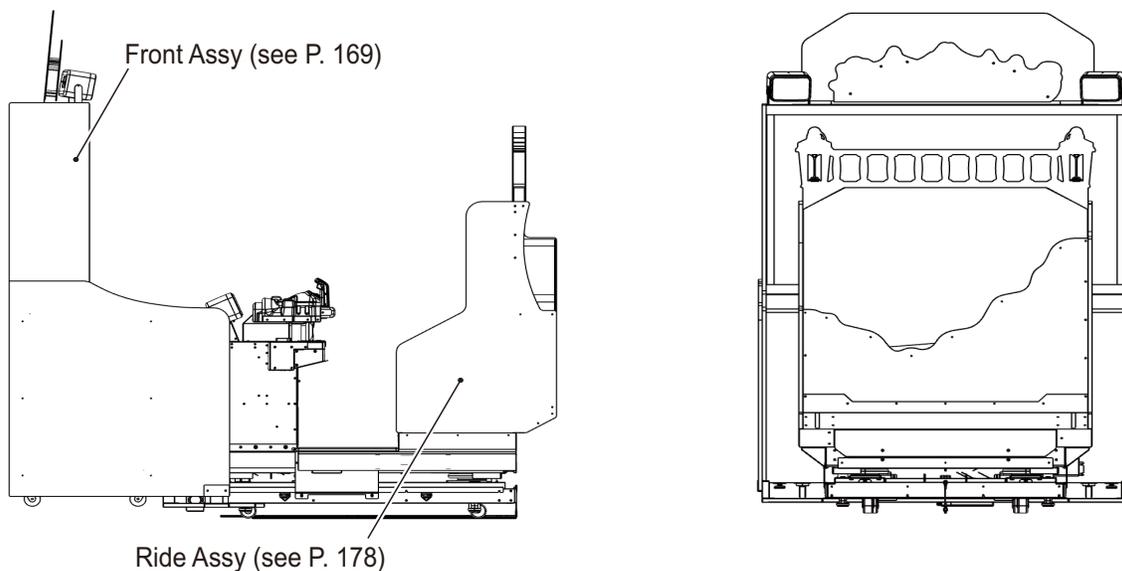
Disposal

Test mode

Troubleshooting

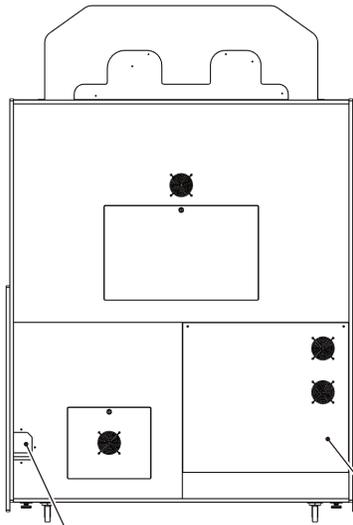
# 9. Parts Lists

## 9-1 General assembly



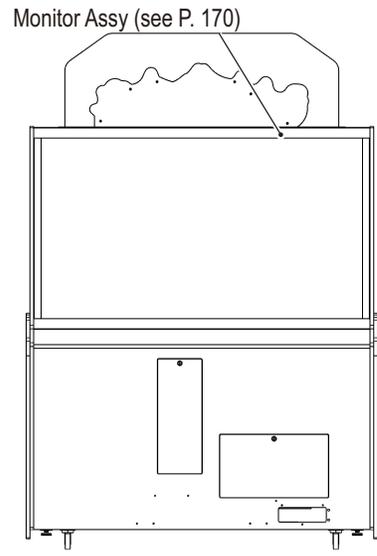
No.	Name	Qty.	Type and rating	Part No.
1	OPERATION MANUAL	1		GSP45-23709-00
2	Vibration-insulating pad	4	KHL-10-100-0001	DE496-15425-00
3	Power cord (3 m)	1		

# 9-2 Front Assy



Cord Box Assy (see P. 176)

Rack Assy (see P. 177)



Monitor Assy (see P. 170)

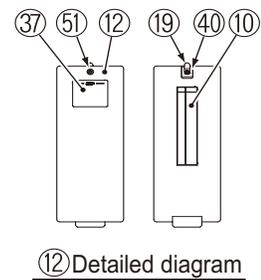
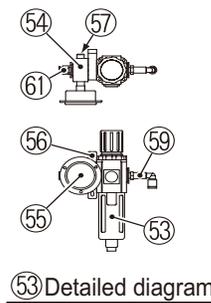
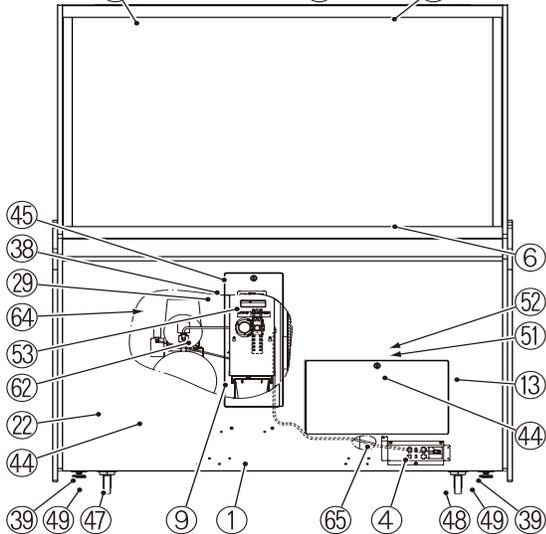
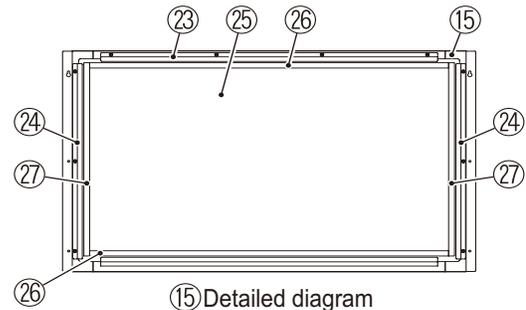
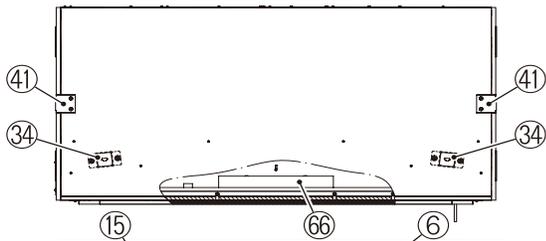
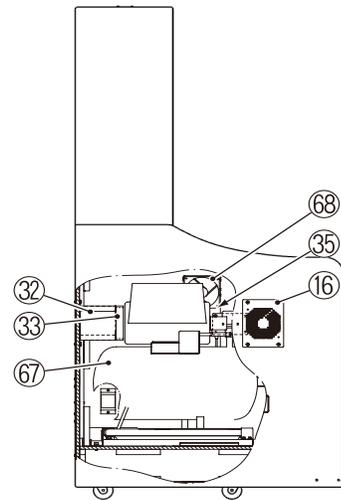
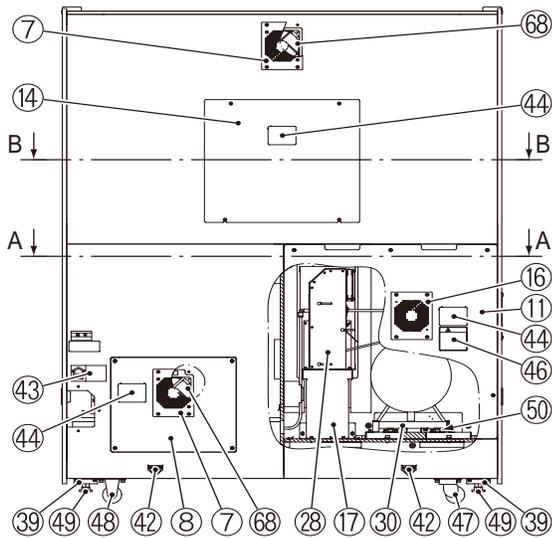
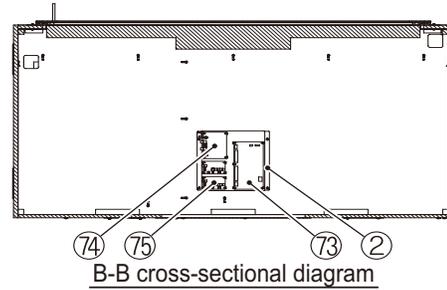
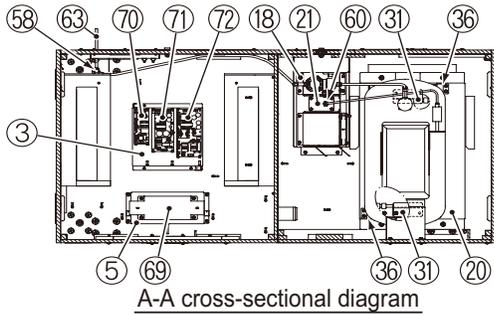
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Parts Lists

Test mode

Troubleshooting

# 9-3 Monitor Assy



## 9-3 Monitor Assy

No.	Name	Qty.	Type and rating	Part No.
1	Monitor base	1		-
2	PCB base	1		GSP03-23594-00
3	Regulator base	1		-
4	Connector box	1		GSP10-23646-00
5	Transformer base	1		-
6	Monitor bracket T	2		-
7	Fan plate F	2		-
8	Transformer compartment door	1		-
9	Cash box (K)	1		-
10	Checksheet sticker	1		-
11	Compressor compartment door	1		-
12	Filter compartment door	1		-
13	Rack door	1		-
14	Rear cover	1		-
15	Monitor mask	1		-
16	Fan plate	2		-
17	Catch case	1		-
18	Filter bracket	1		-
19	Key plate	1		-
20	Compressor base	1		-
21	Bulkhead plate	1		-
22	Compressor maintenance hatch	1		-
23	Panel bracket U	1		-
24	Panel bracket side	2		-
25	Monitor panel	1		VG85-20598-01
26	Monitor panel cushion A	2		-
27	Monitor panel cushion B	2		-
28	Fan tower	1		-
29	Filter regulator cover	1		-
30	Compressor tray	1		GSP10-23643-00
31	Compressor holder A	2		-
32	Duct A	1		-
33	Duct sponge	1		-
34	Connector bracket	2		-
35	Valve bracket	1		-
36	Compressor stopper	2		-
37	Compressor sticker V371	1		-
38	Pressure sticker	1		-
39	Adjuster bracket	4		-
40	Key washer	1		-
41	Rope hook (D)	2		-9
42	Fork sticker PH	2		-
43	Rating B sticker V (B)	1		-
44	Warning sticker maintenance (B)	5		-
45	Warning sticker maintenance (S)	1		-
46	Warning sticker compressor	1		-
47	Caster (swivel)	2	3-330762	GSP10-23737-00
48	Caster (stationary)	2	3-330763	GSP10-23738-00

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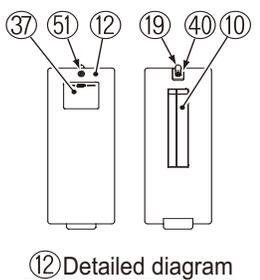
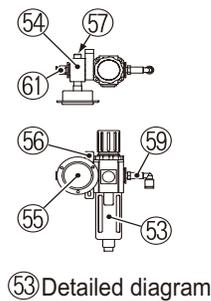
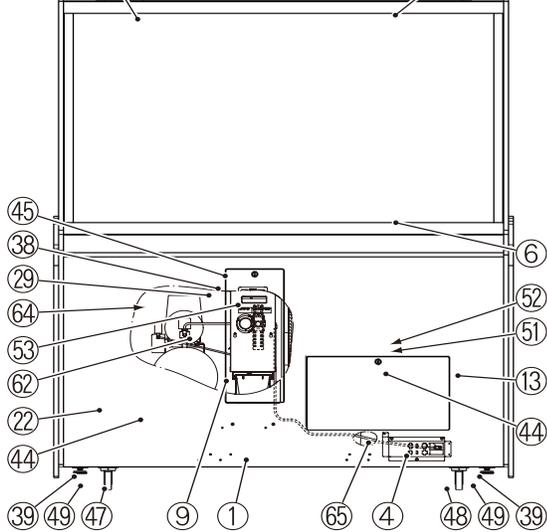
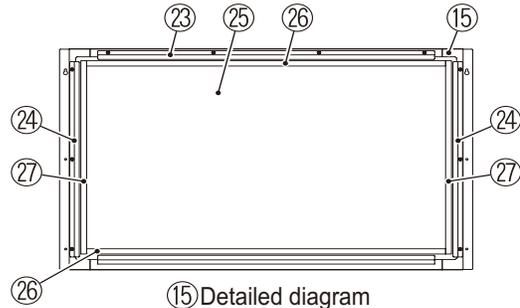
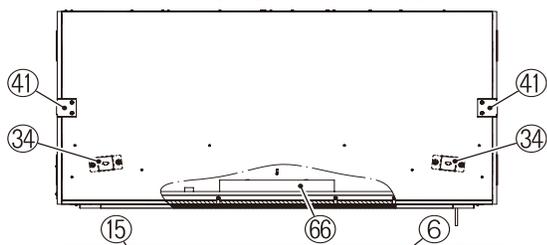
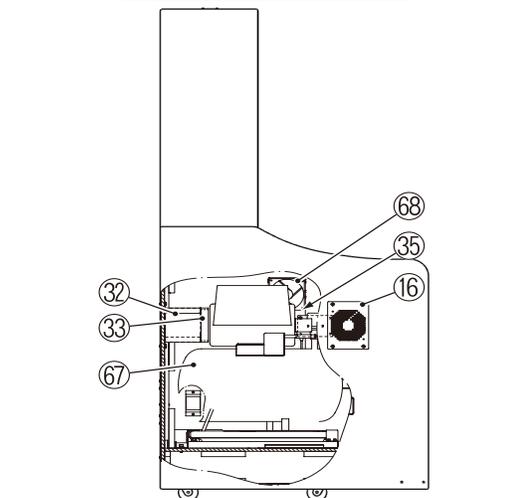
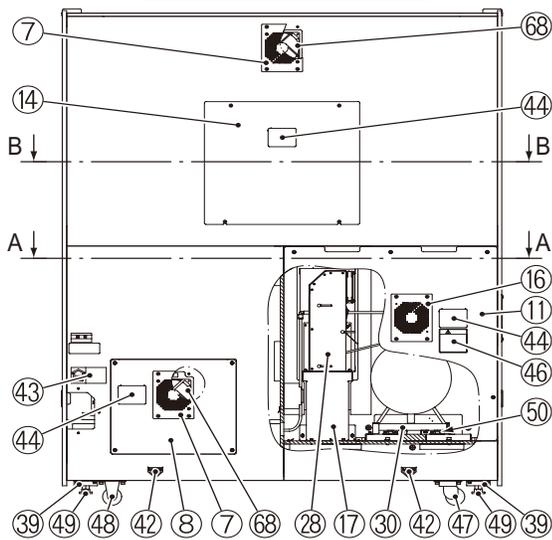
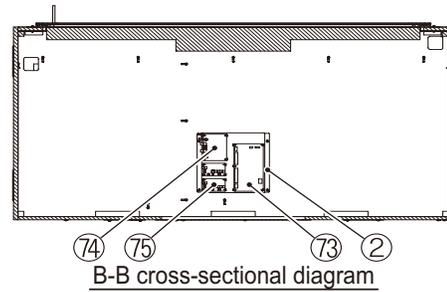
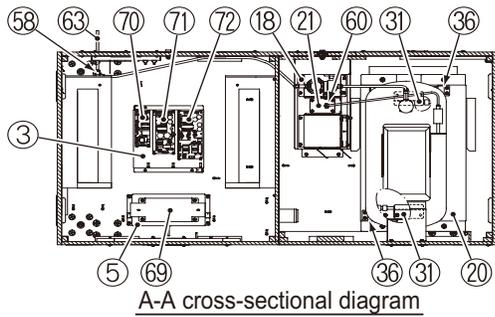
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Parts Lists

Test mode

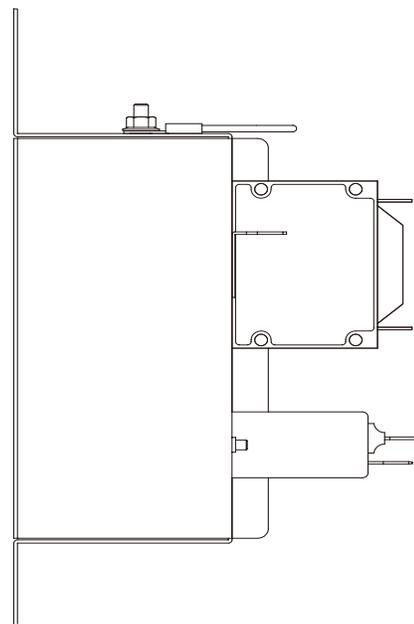
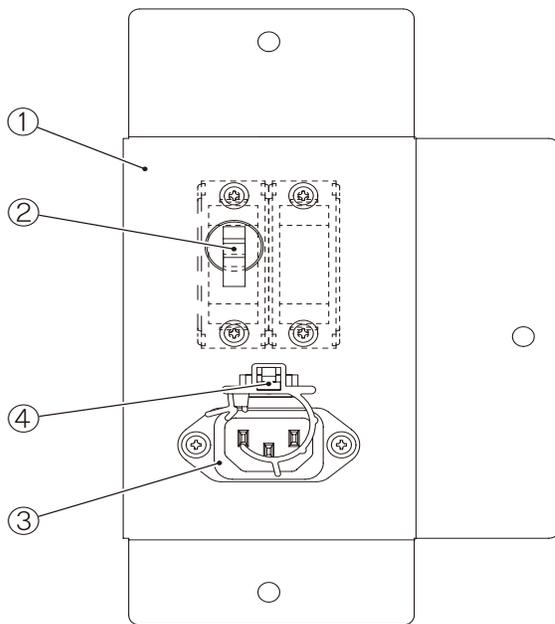
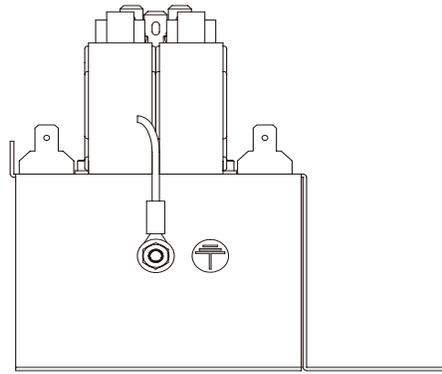
Troubleshooting

### 9-3 Monitor Assy





# 9-5 Cord Box Assy

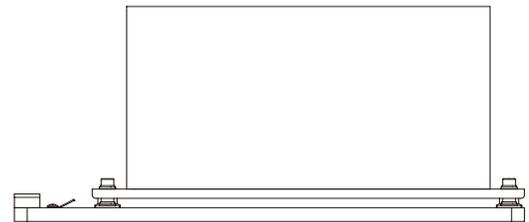
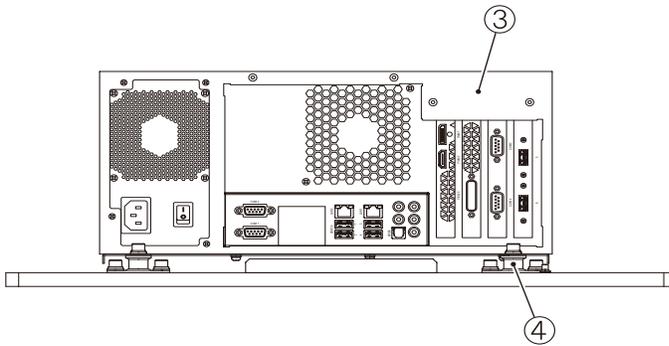
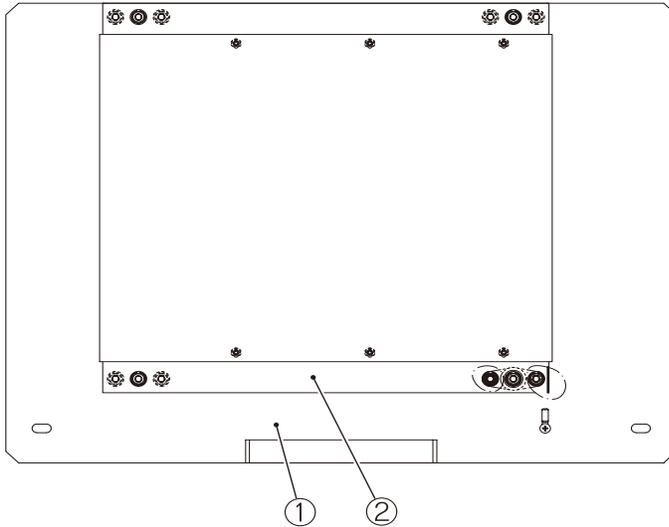


No.	Name	Qty.	Type and rating	Part No.
1	Cord box	1		-
2	Circuit protector	1		-
3	Noise filter	1		-
4	Cord clamp	1		-

# 9-6 Rack Assy

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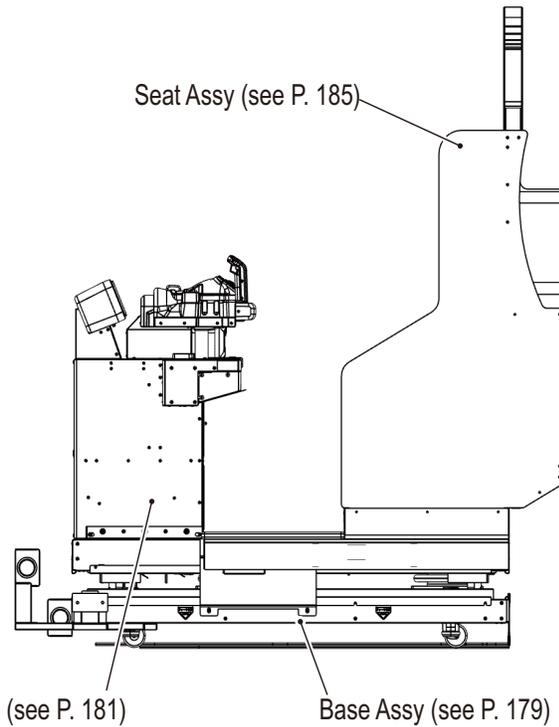
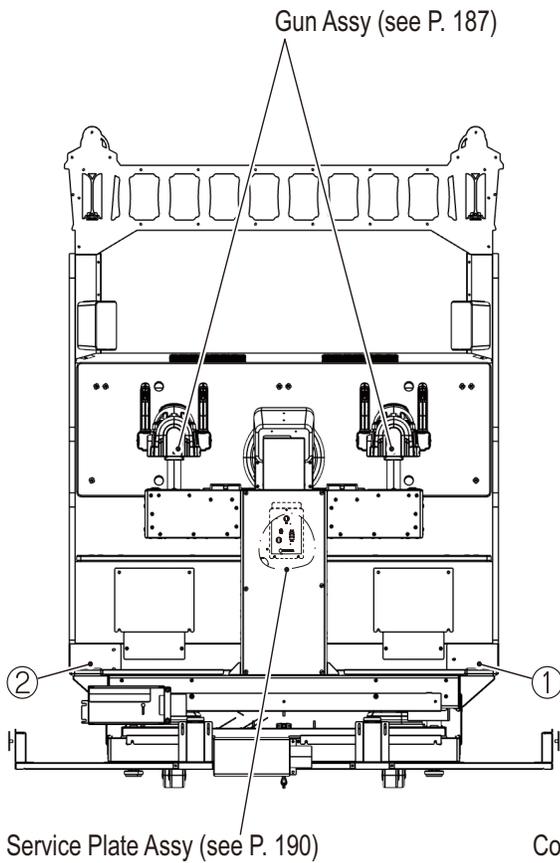
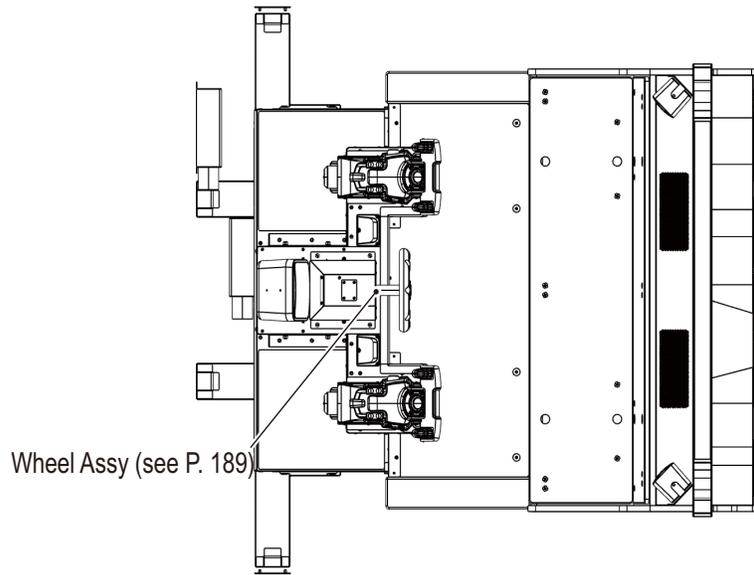
Parts Lists



No.	Name	Qty.	Type and rating	Part No.
1	Rack base	1		-
2	Rack board	1		-
3	BNA1 Rich rack	1		-
4	Vibration-insulating rubber	4		-

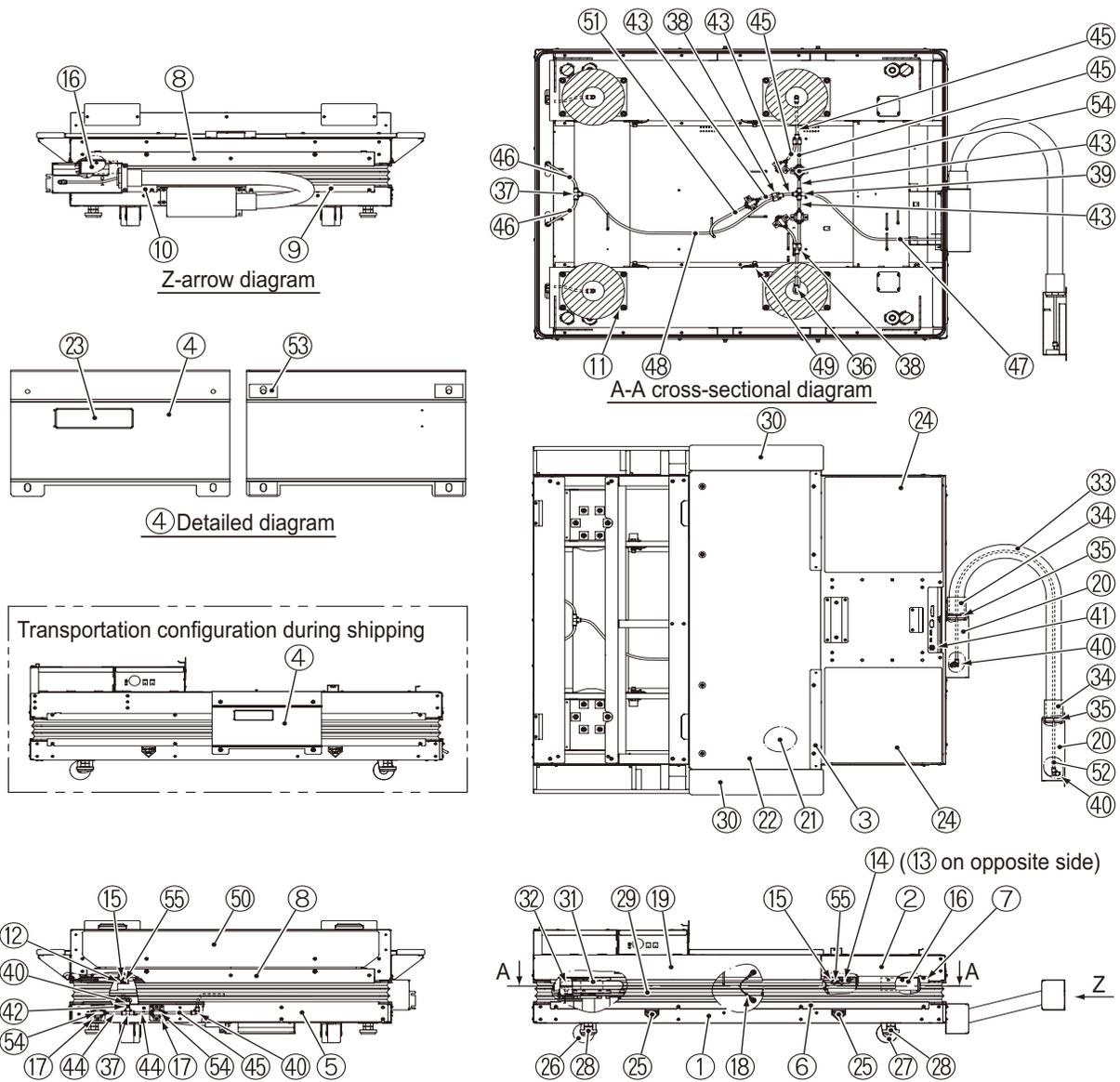
- Test mode
- Troubleshooting

# 9-7 Ride Assy



No.	Name	Qty.	Type and rating	Part No.
1	Seat base cover L	1		-
2	Seat base cover R	1		-

# 9-8 Base Assy



No.	Name	Qty.	Type and rating	Part No.
1	Under base	1		GSP10-23660-00
2	Upper base	1		GSP10-23661-00
3	Step front edge CV	2		GSP10-23662-00
4	Base clamp	2		GSP10-23663-00
5	Bellows clamp A	1		GSP10-23664-00
6	Bellows clamp B	2		GSP10-23665-00
7	Bellows clamp C	2		GSP10-23666-00
8	Bellows clamp D	2		GSP10-23667-00
9	Bellows clamp E	1		GSP10-23668-00
10	Bellows clamp F	1		GSP10-23669-00
11	Air spring base	4		GSP10-23670-00

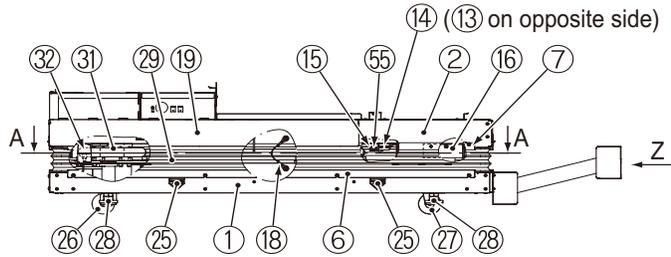
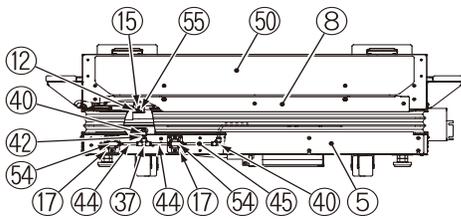
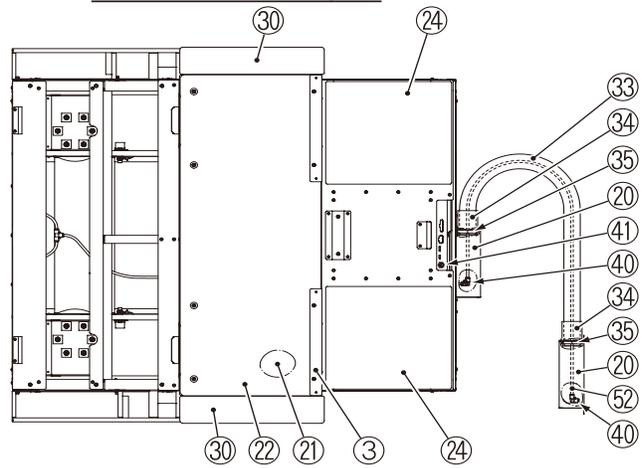
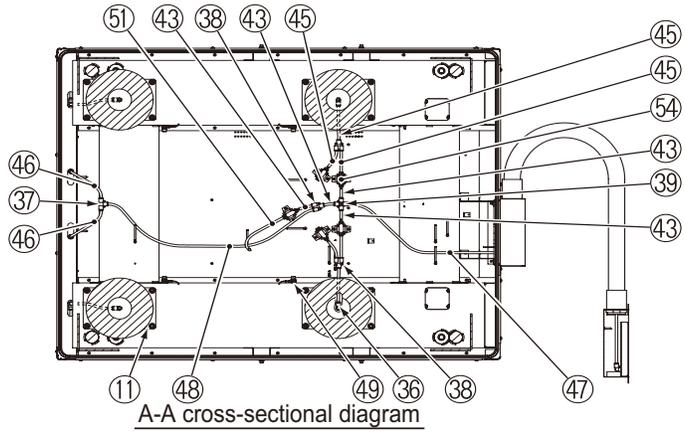
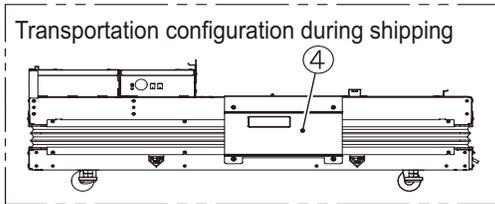
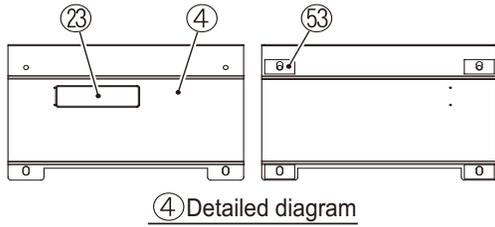
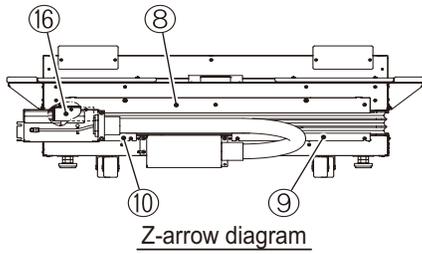
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  - 7B
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  - 10
- Parts Lists

- Test mode
- Troubleshooting

**9-8 Base Assy**

No.	Name	Qty.	Type and rating	Part No.
12	Sensor bracket A	2		GSP10-23671-00
13	Sensor bracket BL	1		GSP10-23672-00
14	Sensor bracket BR	1		GSP10-23672-01
15	Sensor retainer	4		GSP10-23673-00
16	Rubber plate	8		GSP96-23741-00
17	Valve base	4		GSP10-23674-00
18	Wire	4		-
19	Step rib	2		GSP10-23675-00
20	Joint box	2		GSP10-23676-00
21	Step plate	1		-
22	Step seat	1		-
23	Base clamp sticker	2		-
24	Base front seat	2		-
25	Fork sticker PH	4		-
26	Caster (swivel)	2		GSP10-23737-00
27	Caster (stationary)	2		GSP10-23738-00
28	Adjuster bolt	4		GSP10-23739-00
29	Bellows	1		GSP97-23693-00
30	Step	2		-
31	Bellows-shaped air spring	4		-
32	Stopper rubber	4		GSP96-23742-00
33	Polypropylene tube	1		-
34	Quick screw connector	2		-
35	Lock nut	2		-
36	Pneumatic joint (single-ended elbow)	4		-
37	Pneumatic joint (T-shaped )	3		-
38	Pneumatic joint (Y-shaped )	3		-
39	Pneumatic joint (cross-shaped)	1		-
40	Pneumatic joint (elbow)	6		-
41	Pneumatic joint (bulk elbow)	1		-
42	Soft nylon tube	2		-
43	Soft nylon tube	4		-
44	Soft nylon tube	4		-
45	Soft nylon tube	10		-
46	Soft nylon tube	2		-
47	Soft nylon tube	1		-
48	Soft nylon tube	1		-
49	Spacer	8		-
50	Rear under sticker	1		-
51	Soft nylon tube	1		-
52	Soft nylon tube	1		-
53	Rubber sheet	8		GSP96-23743-00
54	Solenoid valve	9		-
55	Infrared distance sensor	4		-

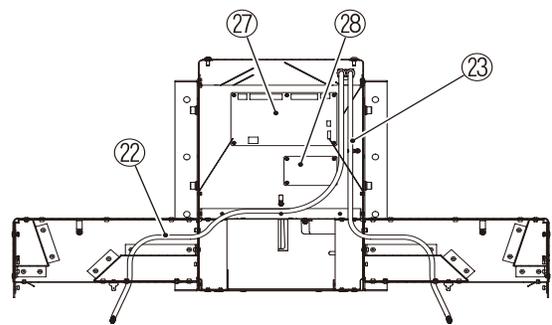
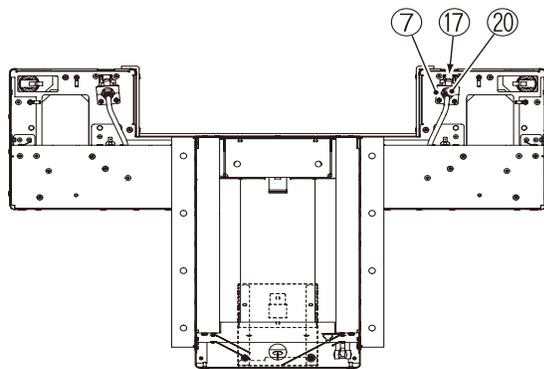
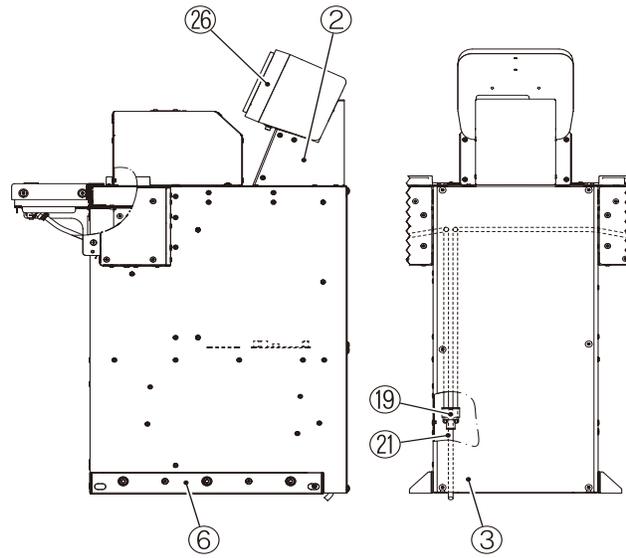
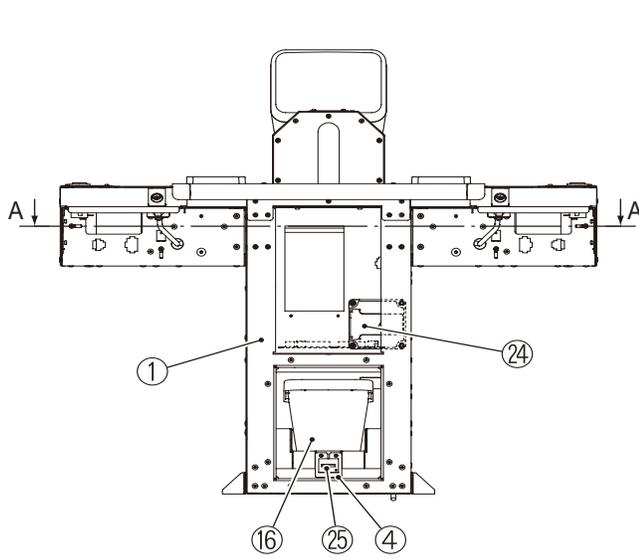
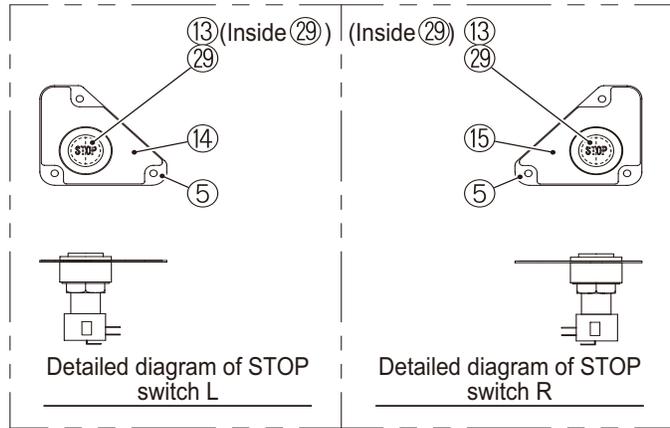
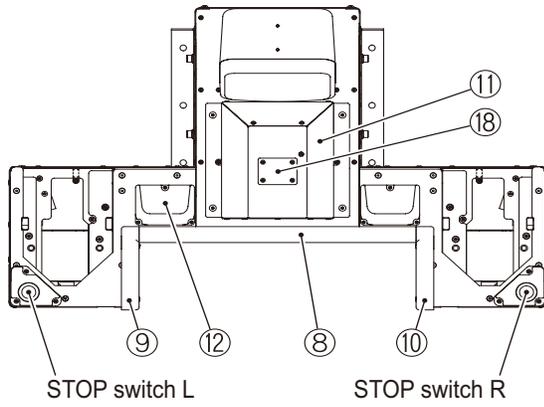
# 9-8 Base Assy



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  - 9
  - 10
- Parts Lists

- Test mode
- Troubleshooting

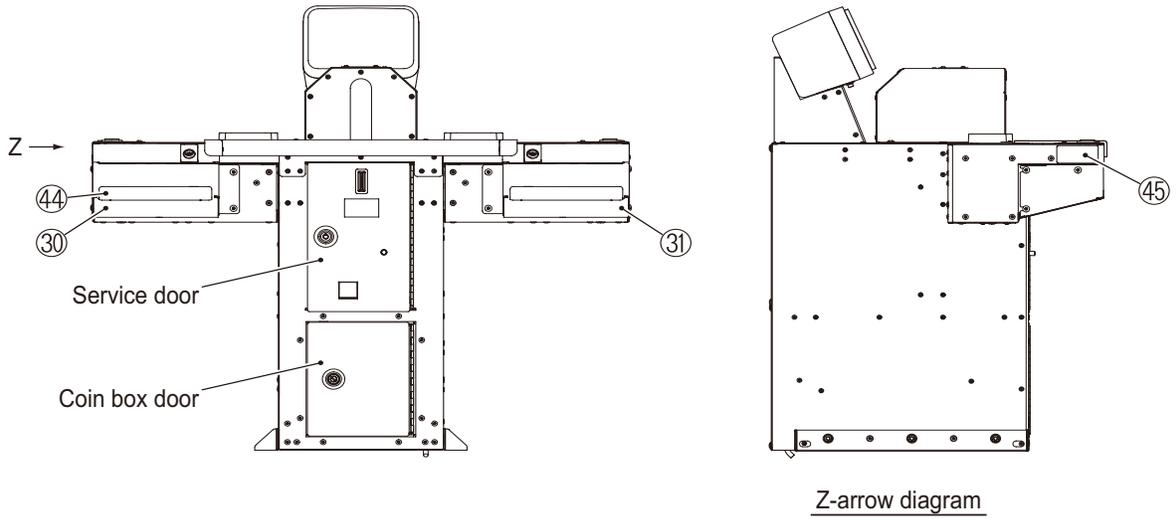
# 9-9 Control Assy



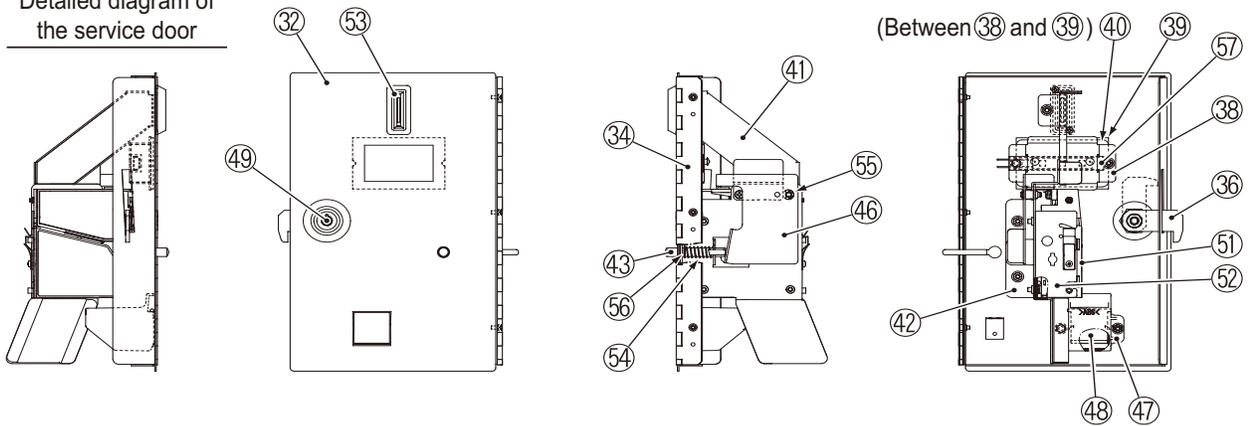
A-A cross-sectional diagram



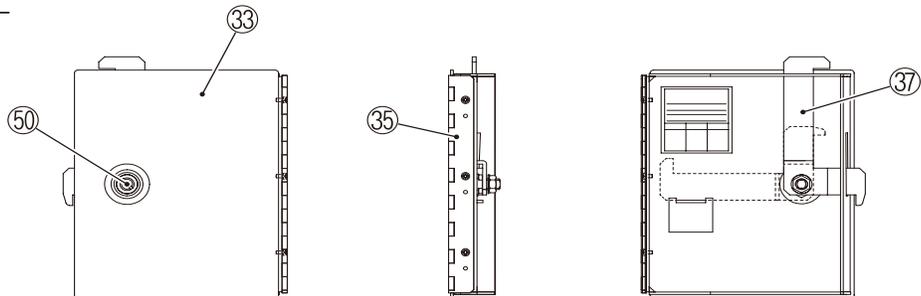
## 9-9 Control Assy



Detailed diagram of the service door

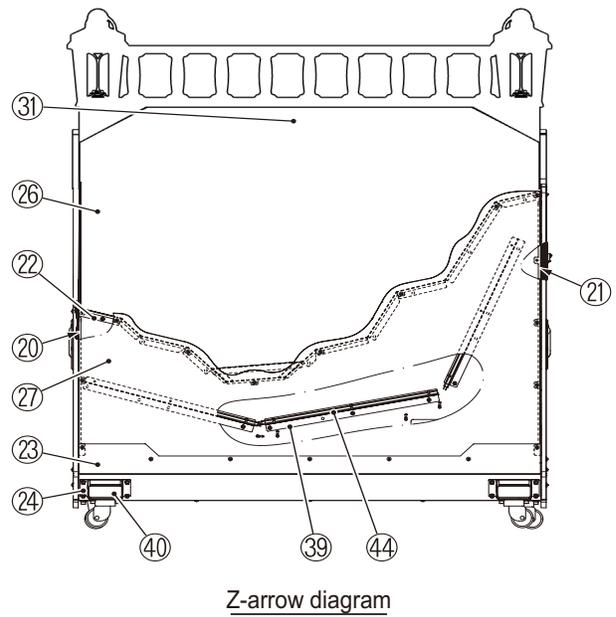
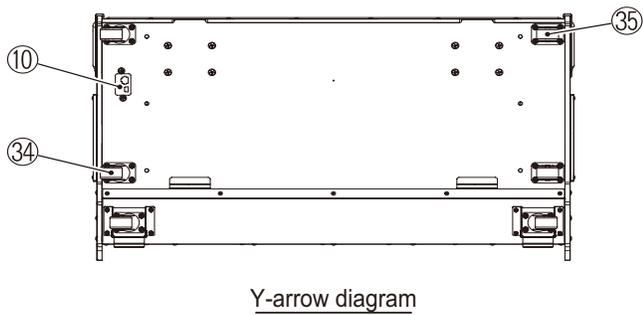
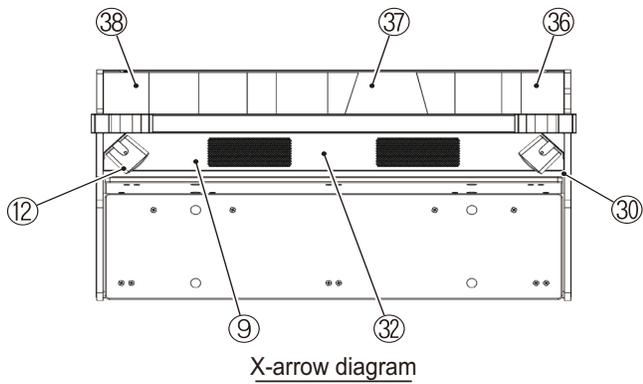
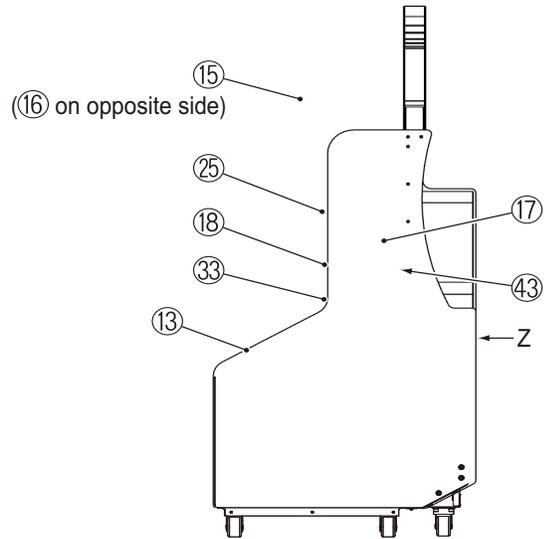
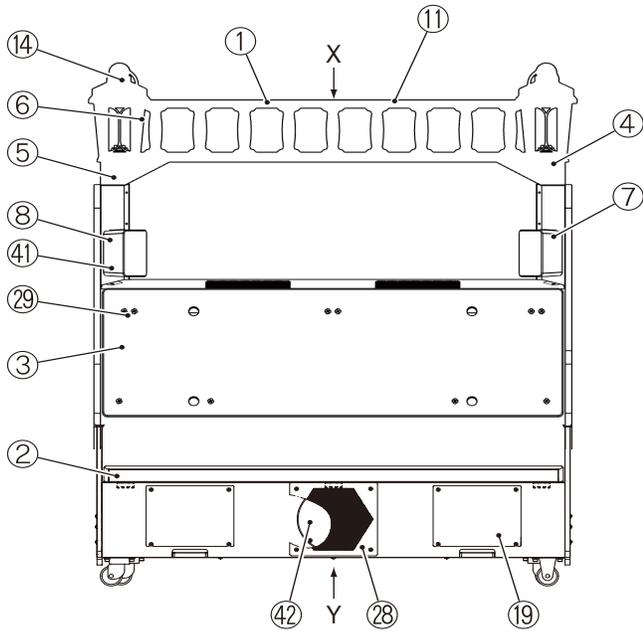


Detailed diagram of the coin box door





# 9-10 Seat Assy



**9-10 Seat Assy**

No.	Name	Qty.	Type and rating	Part No.
1	Seat cabinet	1		-
2	Seat cushion	1		GSP96-23720-00
3	Back rest	1		GSP96-23721-00
4	Seat pillar L	1		-
5	Seat pillar R	1		-
6	Connector cover	1		-
7	Seat speaker bracket - L	1		-
8	Seat speaker bracket - R	1		-
9	Woofers cover	1		GSP10-23688-00
10	Connector holder	1		-
11	Roof molding	1		-
12	Speaker pad	2		-
13	Handrail	2		-
14	Signboard RF	2		-
15	Gear	1		GSP40-23622-00
16	Rear side sticker (R)	1		GSP40-23622-01
17	Light-guiding panel	2		-
18	Side sign bracket	2		-
19	Seat front cover	2		-
20	Treasure bracket L	1		GSP10-23725-00
21	Treasure bracket R	1		GSP10-23725-01
22	Treasure bracket T	1		GSP10-23726-00
23	Rear undercover	1		GSP10-23727-00
24	Caster base 2	2		-
25	Welcome board	2		-
26	Rear panel	1		GSP40-23619-00
27	Treasure panel	1		GSP40-23618-00
28	Speaker cover	1		GSP10-23722-00
29	Seat hook	6		GSP10-23628-00
30	Rope hook (D)	2		-
31	Caution sticker Do not touch A	1		-
32	Caution sticker Do not place any items	1		-
33	Caution sticker Restriction GSP	2		-
34	Caster (swivel)	4		GSP10-23737-00
35	Caster (stationary)	2		GSP10-23738-00
36	Reflective sheet B	1		-
37	Reflective sheet C	1		-
38	Reflective sheet D	1		-
39	LED bracket	3		-
40	Warning sticker For transport S	2		-
41	Seat speaker	2		GSP54-23714-01
42	Woofers speaker	1		GSP54-23712-00
43	Tape LED (white, 250 mm)	2		-
44	Tape LED (white, 500 mm)	3		-

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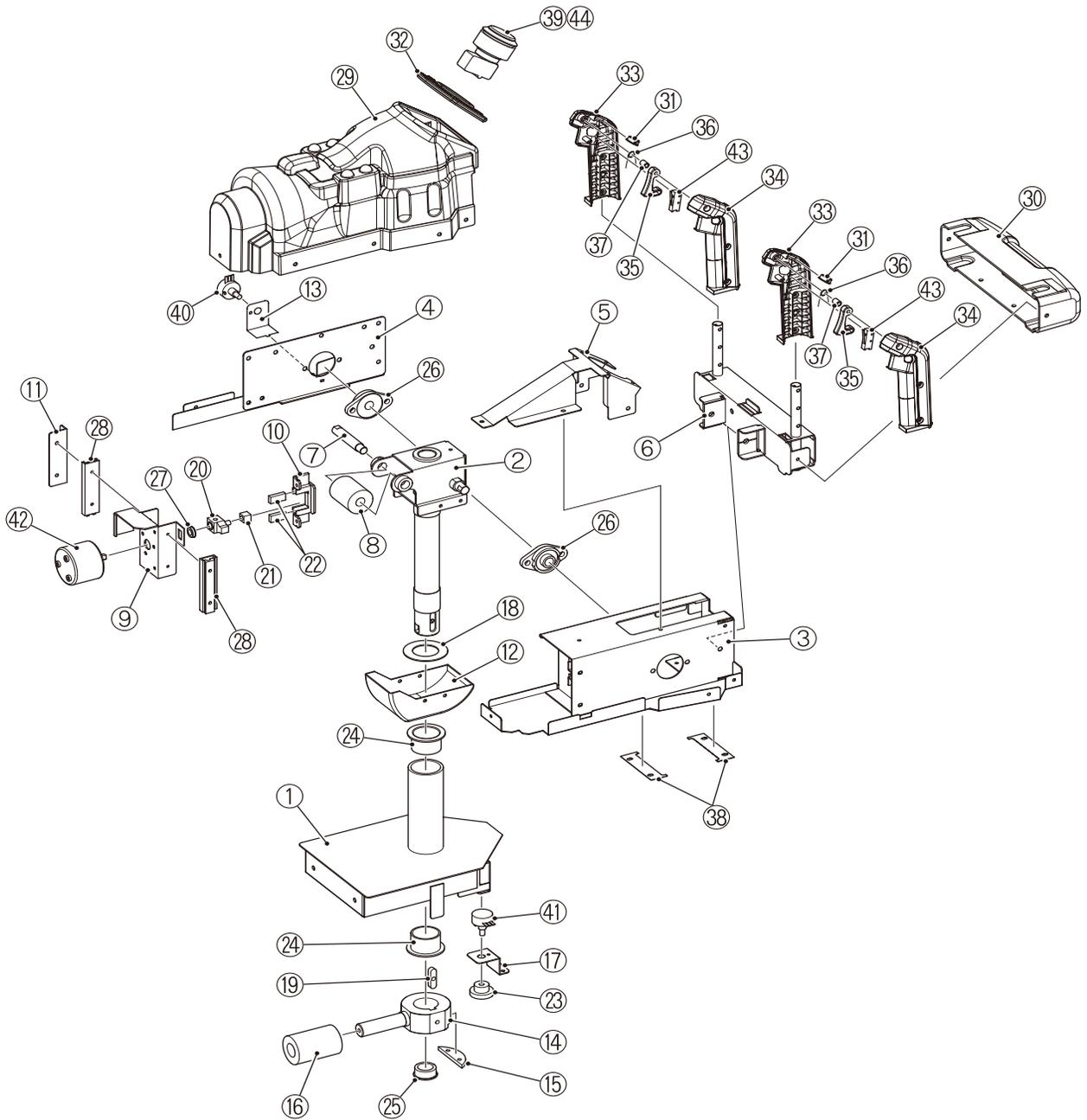
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Parts Lists

Test mode

Troubleshooting

# 9-11 Gun Assy



**9-11 Gun Assy**

No.	Name	Qty.	Type and rating	Part No.
1	Neck	1		GSP10-23630-00
2	Core shaft	1		DP11-13094-00
3	Frame cover (2)	1		DP10-13105-00
4	Frame cover (1)	1		DP10-13104-00
5	Switch base	1		DP10-13103-00
6	Grip	1		DP10-13110-00
7	Stopper shaft	1		DP11-13109-00
8	Stopper rubber (1)	1		GSP96-23742-00
9	Motor frame	1		DP10-13108-00
10	Stopper frame	1		DP10-13106-00
11	Slide bracket	1		DP10-13107-00
12	Undercover	1		DP90-13025-00
13	Potentiometer bracket (upper and lower)	1		DP10-13102-00
14	Pipe end	1		DP11-13099-00
15	Gear	1		DP59-13047-00
16	Stopper rubber (2)	1		DP96-13101-00
17	Potentiometer bracket (left and right)	1		DP10-13111-00
18	Spacer	1		DP96-13096-00
19	Key	1		DP11-13098-00
20	Crank	1		DP11-13174-00-
21	Slider	1		DP59-13175-00
22	Stopper rubber	2		DP96-13176-00
23	Gear	1		DP59-13097-00
24	Flange bushing	2		DP59-13048-00
25	One-touch bushing	1		GSP90-23746-00
26	Rhomboidal pillow	2		DP59-13177-00
27	Miniature bearing	1		DP59-13178-00
28	Slide rail	2		DP05-13179-00
29	Gun cover	1		GSP90-23717-00
30	Grip cover	1		DP90-13024-00
31	Button cover Hole blind	2		DP90-13180-00
32	Switch bezel	1		DP90-13181-00-
33	Lever grip A	2		DP90-13182-00
34	Lever grip B	2		DP90-13183-00
35	Trigger button	2		DP90-13184-00
36	Trigger spring	2		DP22-13049-00
37	Trigger spacer	2		DP90-13185-00
38	Cover plate	2		DP95-13186-00-
39	START button Button sticker	1		DP40-13192-00-
40	Potentiometer (upper and lower)	1		VG75-03824-00
41	Potentiometer (left and right)	1		VG75-07050-00
42	Rotary solenoid (vibration unit)	1		DP03-13033-00-
43	Microswitch	2		VG53-13092-00
44	Illuminated push-button switch	1		GSP53-23654-00

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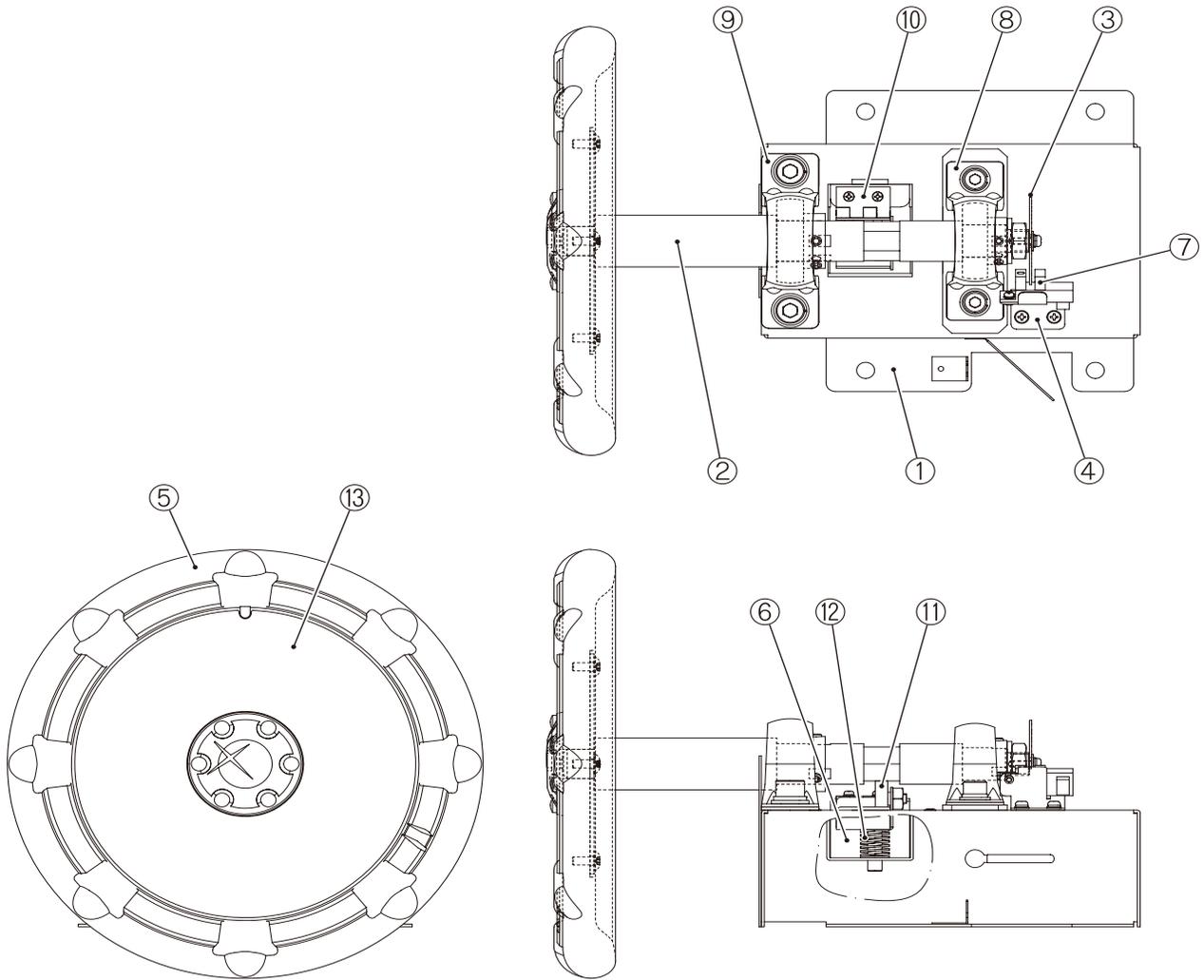
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Parts Lists

Test mode

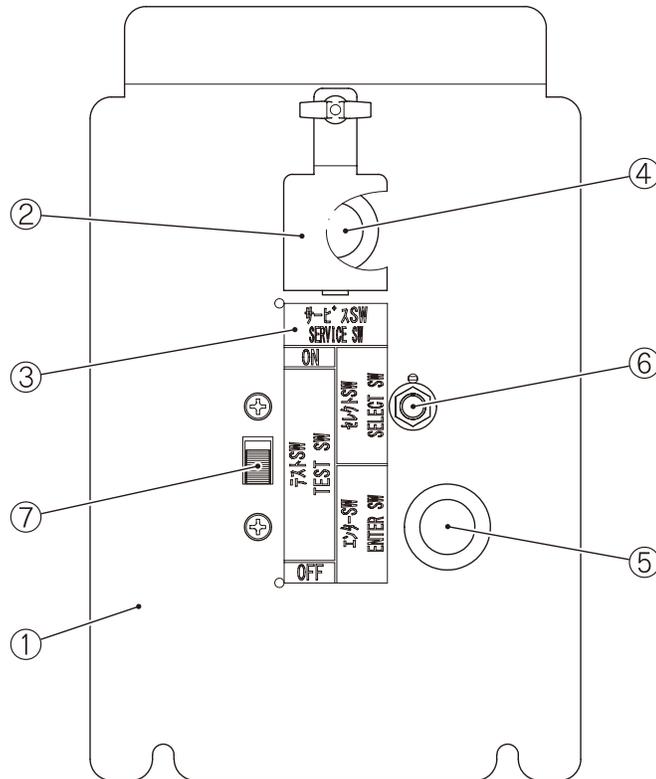
Troubleshooting

# 9-12 Wheel Assy



No.	Name	Qty.	Type and rating	Part No.
1	Wheel base	1		GSP10-23702-00
2	Wheel shaft	1		GSP10-23703-00
3	Slit board	1		DP10-13171-00
4	Sensor bracket	1		GSP10-23704-00
5	Darin	1		GSP03-23607-00
6	Roller bracket	1		GSP10-23705-00
7	Photosensor	1		DP79-13172-00
8	Pillow unit (φ20)	1		GSP11-23751-00-
9	Pillow unit (φ25)	1		GSP11-23752-00
10	Flat-type hinge	1		GSP10-23719-00
11	All stainless bearing	1		GSP59-23715-00
12	Coil spring	1		GSP22-23716-00
13	Darin sticker	1		GSP40-23708-00-

## 9-13 Service Plate Assy



No.	Name	Qty.	Type and rating	Part No.
1	Service plate	1		-
2	Service switch cover	1		-
3	Service sticker M (B)	1		-
4	Push switch (red)	1		-
5	Push switch (green)	1		-
6	Toggle switch	1		-
7	Slide switch	1		-

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Parts Lists

Test mode

Troubleshooting

### 10-1 Warranty policy

Repairs will be provided free of charge during the warranty period in accordance with this warranty policy. If the machine malfunctions, stop using the product and contact your distributor.

1. The warranty period for the machine is three months from the date of shipping by Bandai Namco Amusement Inc.
2. Please refer to each item in the "Safety Precautions," "Specifications," "Installation," "Service," and other sections of this OPERATION MANUAL to use the machine in the correct manner.
3. In the unlikely event that a malfunction occurs within the warranty period under normal operating conditions, repairs or the delivery of replacement parts will be provided free of charge.
4. Any malfunction or damage occurring due to the following reasons will not be covered by the warranty.
  - Natural disasters or other forms of force majeure
  - Relocation or movement of the machine
  - Intentional or negligent defect
  - Defect in the machine caused by other equipment
  - Due to negligence in inspection as described in "Operation and Maintenance" in this OPERATION MANUAL
  - Usage that violates the conditions described in "Specifications" or "Installation" in this OPERATION MANUAL
  - Network failure caused by reasons other than the machine
5. The following cases are excluded from the warranty regardless of the warranty period.
  - Parts that are regarded as consumables, etc.  
(Buttons, switches, stickers, lamps, fluorescent lights, fuses, promotional materials, etc.)
  - Primary maintenance (work to replace the boards, parts, etc.)
  - Defects occurring due to the use of non-designated parts, consumables, sticker paper, and cards, etc.
6. Repairs may be refused in the following cases.
  - Malfunction, etc. and damage occurring due to the addition of improper repairs or modifications to the machine
  - If Bandai Namco Technica Inc. judges that the damage is severe and the maintenance of functionality would be difficult
7. Compensation for business and other forms of secondary compensation will not be provided for malfunction-related issues.

### 10-2 Requests, orders, and procedures

For repairs, requests for advance deliveries, parts ordering, and NetID procedures, please use the Bandai Namco Technica web site. To contact us via FAX, please fill in the necessary information on the "Repair Request Form" and the "Parts Order Form" and submit a request. (Download the forms from the Bandai Namco Technica web site)

### 10-3 Supply period for service parts

The supply period for service parts is five years from the end of production. However, in some cases we may not be able to accept orders even during the supply period due to reasons such as the discontinuation of production or other unavoidable circumstances.

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Flatbuffers

Intel Thread Building Blocks

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7A

7B

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After Service

Test mode

Troubleshooting

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7A

7B

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After Service

Test mode

Troubleshooting

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7A

7B

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After Service

Test mode

Troubleshooting

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For Blosc - A blocking, shuffling and lossless compression library

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7A

7B

8

9

10

After Service

Test mode

Troubleshooting

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7A

7B

8

9

10

After Service

Test mode

Troubleshooting

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Microsoft/DirectXShaderCompiler

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7A

7B

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7A

7B

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Test mode

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7A

7B

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9

10

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Test mode

Troubleshooting

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7A

7B

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After Service

Test mode

Troubleshooting

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7A

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7A

7B

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Test mode

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7A

7B

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After Service

Test mode

Troubleshooting

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6

7A

7B

8

9

10

After Service

Test mode

Troubleshooting

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1

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5

6

7A

7B

8

9

10

After Service

Test mode

Troubleshooting

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7A

7B

8

9

10

After Service

Test mode

Troubleshooting

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4

5

6

7A

7B

8

9

10

After Service

Test mode

Troubleshooting

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 */

/* Author: Morten S. Mikkelsen
 * Version: 1.0
 *
 * The files mikktspace.h and mikktspace.c are
 * designed to be
 * stand-alone files and it is important that they
```

are kept this way.

```
* Not having dependencies on structures/classes/
libraries specific
* to the program, in which they are used, allows
them to be copied
* and used as is into any tool, program or plugin.
* The code is designed to consistently generate
the same
* tangent spaces, for a given mesh, in any tool in
which it is used.
* This is done by performing an internal welding step
and subsequently an order-independent evaluation
* of tangent space for meshes consisting of triangles
and quads.
* This means faces can be received in any order
and the same is true for
* the order of vertices of each face. The generated
result will not be affected
* by such reordering. Additionally, whether
degenerate (vertices or texture coordinates)
* primitives are present or not will not affect the
generated results either.
* Once tangent space calculation is done the
vertices of degenerate primitives will simply
* inherit tangent space from neighboring non
degenerate primitives.
* The analysis behind this implementation can be
found in my master's thesis
* which is available for download --> http://image.diku.dk/projects/media/morten.mikkelsen.08.pdf
* Note that though the tangent spaces at the
vertices are generated in an order-independent way,
* by this implementation, the interpolated tangent
space is still affected by which diagonal is
* chosen to split each quad. A sensible solution is
to have your tools pipeline always
* split quads by the shortest diagonal. This choice
is order-independent and works with mirroring.
* If these have the same length then compare the
diagonals defined by the texture coordinates.
* XNormal which is a tool for baking normal maps
allows you to write your own tangent space plugin
* and also quad triangulator plugin.
*/
```

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OggVorbis1.2.0\_

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2

3

4

5

6

7A

7B

8

9

10

After Service

Test mode

Troubleshooting

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7A

7B

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After Service

Test mode

Troubleshooting

Tim Hudson (tjh@cryptsoft.com)”

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7A

7B

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After Service

Test mode

Troubleshooting

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2

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4

5

6

7A

7B

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9

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After Service

Test mode

Troubleshooting

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RE2

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\*\*\*\*\*

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base64.cpp and base64.h

1

2

3

4

5

6

7A

7B

8

9

10

After Service

Test mode

Troubleshooting

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L. Peter Deutsch  
[ghost@aladdin.com](mailto:ghost@aladdin.com)

\*\*\*\*\* UTF8 Validation logic (utf8\_validation.hpp)  
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You may only implement Device Health Attestation in a commercial use if you execute a Microsoft Windows IoT Core Services Agreement at: <https://azure.microsoft.com/en-us/services/windows-10-iot-core/>.

f. Specific Use. The manufacturer designed the licensed device for a specific use. You may only use the software for that use.

3. Privacy; Consent to Use of Data. Your privacy is important to us. Some of the software features send or receive information when using those features. Many of these features can be switched off in the user interface, or you can choose not to use them. By accepting this agreement and using the software you agree that Microsoft may collect, use, and disclose the information as described in the Microsoft Privacy Statement available at <https://aka.ms/privacy>, and as may be described in the user interface associated with the software features.

4. Authorized Software and Activation. You are authorized to use this software only if you are properly licensed and the software has been properly activated with a genuine product key or by other authorized method. When you connect to the Internet while using the software, the software will automatically contact Microsoft or its affiliate

to confirm the software is genuine and the license is associated with the licensed device. You can also activate the software manually by Internet or telephone. In either case, transmission of certain information will occur, and Internet, telephone and SMS service charges may apply. During activation (or reactivation that may be triggered by changes to your device’s components), the software may determine that the installed instance of the software is counterfeit, improperly licensed or includes unauthorized changes. If activation fails the software will attempt to repair itself by replacing any tampered Microsoft software with genuine Microsoft software. You may also receive reminders to obtain a proper license for the software. Successful activation does not confirm that the software is genuine or properly licensed. You may not bypass or circumvent activation. To help determine if your software is genuine and whether you are properly licensed, see <https://aka.ms/genuine>. Certain updates, support, and other services might be offered only to users of genuine Microsoft software.

5. Updates. You may obtain updates only from Microsoft or authorized sources, and Microsoft may need to update your system to provide you with those updates. The software periodically checks for system and app updates, and may download and install them for you. To the extent automatic updates are enabled on your device, by accepting this agreement, or using the software, you agree to receive these types of automatic updates without any additional notice.

6. Geographic and Export Restrictions. If your software is restricted for use in a particular geographic region, then you may activate the software only in that region. You must also comply with all domestic and international export laws and regulations that apply to the software, which include restrictions on destinations, end users, and end use. For further information on geographic and export restrictions, visit <https://aka.ms/exporting>.

7. Support and Refund Procedures. For the software generally, contact the device manufacturer or installer for support options. Refer to the support number provided with the software. For updates and supplements obtained directly from Microsoft, Microsoft may provide limited support services for

properly licensed software as described at <https://aka.ms/mssupport>. If you are seeking a refund, contact the manufacturer or installer to determine its refund policies. You must comply with those policies, which might require you to return the software with the entire device on which the software is installed for a refund.

8. Binding Arbitration and Class Action Waiver if You Live in (or, if a Business, Your Principal Place of Business is in) the United States.

We hope we never have a dispute, but if we do, you and we agree to try for 60 days to resolve it informally. If we can't, you and we agree to binding individual arbitration before the American Arbitration Association ("AAA") under the Federal Arbitration Act ("FAA"), and not to sue in court in front of a judge or jury. Instead, a neutral arbitrator will decide and the arbitrator's decision will be final except for a limited right of appeal under the FAA. Class action lawsuits, class-wide arbitrations, private attorney-general actions, and any other proceeding where someone acts in a representative capacity aren't allowed. Nor is combining individual proceedings without the consent of all parties. "We," "our," and "us" includes Microsoft, the device manufacturer, and software installer.

a. Disputes covered—everything except IP. The term "dispute" is as broad as it can be. It includes any claim or controversy between you and the manufacturer or installer, or you and Microsoft, concerning the software, its price, or this agreement, under any legal theory including contract, warranty, tort, statute, or regulation, except disputes relating to the enforcement or validity of your, your licensors', our, or our licensors' intellectual property rights.

b. Mail a Notice of Dispute first. If you have a dispute and our customer service representatives can't resolve it, send a Notice of Dispute by U.S. Mail to the manufacturer or installer, ATTN: LEGAL DEPARTMENT. If your dispute is with Microsoft, mail it to Microsoft Corporation, ATTN: CELAARBITRATION, One Microsoft Way, Redmond, WA 98052-6399. Tell us your name, address, how to contact you, what the problem is, and what you want. A form is available at <https://go.microsoft.com/fwlink/?LinkId=245499>. We'll do the same if we have a dispute with you. After 60 days, you or we may start an arbitration if the dispute is unresolved.

c. Small claims court option. Instead of mailing a

Notice of Dispute, and if you meet the court's requirements, you may sue us in small claims court in your county of residence (or if a business your principal place of business) or our principal place of business—King County, Washington USA if your dispute is with Microsoft. We hope you'll mail a Notice of Dispute and give us 60 days to try to work it out, but you don't have to before going to small claims court.

d. Arbitration procedure. The AAA will conduct any arbitration under its Commercial Arbitration Rules (or if you are an individual and use the software for personal or household use, or if the value of the dispute is \$75,000 USD or less whether or not you are an individual or how you use the software, its Consumer Arbitration Rules). For more information, see <https://aka.ms/adr> or call 1-800-778-7879. To start an arbitration, submit the form available at <https://aka.ms/arbitration> to the AAA; mail a copy to the manufacturer or installer (or to Microsoft if your dispute is with Microsoft). In a dispute involving \$25,000 USD or less, any hearing will be telephonic unless the arbitrator finds good cause to hold an in-person hearing instead. Any in-person hearing will take place in your county of residence (or if a business, your principal place of business) or our principal place of business—King County, Washington if your dispute is with Microsoft. You choose. The arbitrator may award the same damages to you individually as a court could. The arbitrator may award declaratory or injunctive relief only to you individually to satisfy your individual claim.

e. Arbitration fees and payments.

(i) Disputes involving \$75,000 USD or less. The manufacturer or installer (or Microsoft if your dispute is with Microsoft) will promptly reimburse your filing fees and pay the AAA's and arbitrator's fees and expenses. If you reject our last written settlement offer made before the arbitrator was appointed, your dispute goes all the way to an arbitrator's decision (called an "award"), and the arbitrator awards you more than this last written offer, the manufacturer or installer (or Microsoft if your dispute is with Microsoft) will: (1) pay the greater of the award or \$1,000 USD; (2) pay your reasonable attorney's fees, if any; and (3)

reimburse any expenses (including expert witness fees and costs) that your attorney reasonably accrues for investigating, preparing, and pursuing your claim in arbitration. The arbitrator will determine the amounts unless you and we agree on them.

(ii) Disputes involving more than \$75,000 USD. The AAA rules will govern payment of filing fees and the AAA's and arbitrator's fees and expenses.

(iii) Disputes involving any amount. If you start an arbitration, we won't seek our AAA or arbitrator's fees and expenses, or your filing fees we reimbursed, unless the arbitrator finds the arbitration frivolous or brought for an improper purpose. If we start an arbitration we will pay all filing, AAA, and arbitrator's fees and expenses. We won't seek our attorney's fees or expenses from you in any arbitration. Fees and expenses are not counted in determining how much a dispute involves.

f. Must file within one year. You and we must file in small claims court or arbitration any claim or dispute (except intellectual property disputes — see Section 8.a.) within one year from when it first could be filed. Otherwise, it's permanently barred.

g. Severability. If the class action waiver is found to be illegal or unenforceable as to all or some parts of a dispute, those parts won't be arbitrated but will proceed in court, with the rest proceeding in arbitration. If any other provision of Section 8 is found to be illegal or unenforceable, that provision will be severed but the rest of Section 8 still applies.

h. Conflict with AAA rules. This agreement governs if it conflicts with the AAA's Commercial Arbitration Rules or Consumer Arbitration Rules.

i. Microsoft as party or third-party beneficiary. If Microsoft is the device manufacturer or if you acquired the software from a retailer, Microsoft is a party to this agreement. Otherwise, Microsoft is not a party but is a third-party beneficiary of your agreement with the manufacturer or installer to resolve disputes through informal negotiation and arbitration.

9. Governing Law. The laws of the state or country where you live (or, if a business, where your principal place of business is located) govern all claims and disputes concerning the software, its

price, or this agreement, including breach of contract claims and claims under state consumer protection laws, unfair competition laws, implied warranty laws, for unjust enrichment, and in tort, regardless of conflict of law principles. In the United States, the FAA governs all provisions relating to arbitration.

10. Consumer Rights, Regional Variations. This agreement describes certain legal rights. You may have other rights, including consumer rights, under the laws of your state or country. You may also have rights with respect to the party from which you acquired the software. This agreement does not change those other rights if the laws of your state or country do not permit it to do so. For example, if you acquired the software in one of the below regions, or mandatory country law applies, then the following provisions apply to you:

a. Australia. References to "Limited Warranty" are references to the express warranty provided by Microsoft or the manufacturer or installer. This warranty is given in addition to other rights and remedies you may have under law, including your rights and remedies in accordance with the statutory guarantees under the Australian Consumer Law.

In this subsection, "goods" refers to the software for which Microsoft or the manufacturer or installer provides the express warranty. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

b. Canada. You may stop receiving updates on your device by turning off Internet access. If and when you re-connect to the Internet, the software will resume checking for and installing updates.

c. Germany and Austria.

(i) Warranty. The properly licensed software will perform substantially as described in any Microsoft materials that accompany the software. However, the manufacturer or installer, and Microsoft, give no contractual guarantee in relation to the licensed software.

(ii) Limitation of Liability. In case of intentional conduct, gross negligence, claims based on the Product

Liability Act, as well as, in case of death or personal or physical injury, the manufacturer or installer, or Microsoft is liable according to the statutory law.

Subject to the preceding sentence, the manufacturer or installer, or Microsoft will only be liable for slight negligence if the manufacturer or installer or Microsoft is in breach of such material contractual obligations, the fulfillment of which facilitate the due performance of this agreement, the breach of which would endanger the purpose of this agreement and the compliance with which a party may constantly trust in (so-called "cardinal obligations"). In other cases of slight negligence, the manufacturer or installer or Microsoft will not be liable for slight negligence.

d. Other regions. See <https://go.microsoft.com/fwlink/?LinkId=534978> for a current list of regional variations

#### 11. Additional Notices.

a. Networks, data and Internet usage. Some features of the software and services accessed through the software may require your device to access the Internet. Your access and usage (including charges) may be subject to the terms of your cellular or internet provider agreement. Certain features of the software may help you access the Internet more efficiently, but the software's usage calculations may be different from your service provider's measurements. You are always responsible for (i) understanding and complying with the terms of your own plans and agreements, and (ii) any issues arising from using or accessing networks, including public/open networks. You may use the software to connect to networks, and to share access information about those networks, only if you have permission to do so.

b. H.264/AVC and MPEG-4 visual standards and VC-1 video standards. The software may include H.264/MPEG-4 AVC and/or VC-1 decoding technology. MPEG LA, L.L.C. requires this notice:

THIS PRODUCT IS LICENSED UNDER THE AVC, THE VC-1, AND THE MPEG-4 PART 2 VISUAL PATENT PORTFOLIO LICENSES FOR THE PERSONAL AND NON-COMMERCIAL USE OF A CONSUMER TO (i) ENCODE VIDEO IN COMPLIANCE WITH THE ABOVE STANDARDS ("VIDEO STANDARDS") AND/OR (ii) DECODE AVC, VC-1, AND MPEG-4 PART 2 VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED

IN A PERSONAL AND NON-COMMERCIAL ACTIVITY AND/OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSED TO PROVIDE SUCH VIDEO. NO LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. ADDITIONAL INFORMATION MAY BE OBTAINED FROM MPEG LA, L.L.C. SEE [WWW.MPEGLA.COM](http://WWW.MPEGLA.COM)

c. Malware protection. Microsoft cares about protecting your device from malware. The software will turn on malware protection if other protection is not installed or has expired. To do so, other antimalware software will be disabled or may have to be removed.

12. Entire Agreement. This agreement (together with the printed paper license terms or other terms accompanying any software supplements, updates, and services that are provided by the manufacturer or installer, or Microsoft, and that you use), and the terms contained in web links listed in this agreement, are the entire agreement for the software and any such supplements, updates, and services (unless the manufacturer or installer, or Microsoft, provides other terms with such supplements, updates, or services). You can review this agreement after your software is running by going to <https://aka.ms/useterms> or going to Settings - System - About within the software. You can also review the terms at any of the links in this agreement by typing the URLs into a browser address bar, and you agree to do so. You agree that you will read the terms before using the software or services, including any linked terms. You understand that by using the software and services, you ratify this agreement and the linked terms. There are also informational links in this agreement. The links containing notices and binding terms are:

- Windows Privacy Statement <https://aka.ms/privacy>
- Microsoft Services Agreement <https://aka.ms/msa>

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NO WARRANTY  
THE SOFTWARE ON YOUR DEVICE

1

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7A

7B

8

9

10

After Service

Test mode

Troubleshooting

(INCLUDING THE APPS) IS LICENSED "AS IS." TO THE MAXIMUM EXTENT PERMITTED BY YOUR LOCAL LAWS, YOU BEAR THE ENTIRE RISK AS TO THE SOFTWARE'S QUALITY AND PERFORMANCE. SHOULD IT PROVE DEFECTIVE, YOU ASSUME THE ENTIRE COST OF ALL SERVICING OR REPAIR. NEITHER THE DEVICE MANUFACTURER NOR MICROSOFT GIVES ANY EXPRESS WARRANTIES, GUARANTEES, OR CONDITIONS FOR THE SOFTWARE. TO THE EXTENT PERMITTED UNDER YOUR LOCAL LAWS, THE MANUFACTURER AND MICROSOFT EXCLUDE ALL IMPLIED WARRANTIES AND CONDITIONS, INCLUDING THOSE OF MERCHANTABILITY, QUALITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. YOU MAY HAVE ADDITIONAL CONSUMER RIGHTS OR STATUTORY GUARANTEES UNDER LOCAL LAWS THAT THESE TERMS CANNOT CHANGE. IF YOUR LOCAL LAWS IMPOSE A WARRANTY, GUARANTEE, OR CONDITION EVEN THOUGH THIS AGREEMENT DOES NOT, ITS TERM IS LIMITED TO 90 DAYS FROM WHEN THE FIRST USER ACQUIRES THE SOFTWARE. IF THE MANUFACTURER OR MICROSOFT BREACHES SUCH A WARRANTY, GUARANTEE, OR CONDITION, YOUR SOLE REMEDY, AT THE MANUFACTURER'S OR MICROSOFT'S ELECTION, IS (I) REPAIR OR REPLACEMENT OF THE SOFTWARE AT NO CHARGE, OR (II) RETURN OF THE SOFTWARE (OR AT ITS ELECTION THE DEVICE ON WHICH THE SOFTWARE WAS INSTALLED) FOR A REFUND OF THE AMOUNT PAID, IF ANY. THESE ARE YOUR ONLY REMEDIES FOR BREACH OF A WARRANTY, GUARANTEE, OR CONDITION YOUR LOCAL LAWS IMPOSE.

TO THE EXTENT NOT PROHIBITED BY YOUR LOCAL LAWS, IF YOU HAVE ANY BASIS FOR RECOVERING DAMAGES, YOU CAN RECOVER FROM THE MANUFACTURER OR MICROSOFT ONLY DIRECT DAMAGES UP TO THE AMOUNT YOU PAID FOR THE SOFTWARE (OR UP TO \$50 USD IF YOU ACQUIRED THE SOFTWARE FOR NO CHARGE). YOU WILL NOT, AND WAIVE ANY RIGHT TO, SEEK TO RECOVER

ANY OTHER DAMAGES OR REMEDY, INCLUDING LOST PROFITS AND DIRECT, CONSEQUENTIAL, SPECIAL, INDIRECT, OR INCIDENTAL DAMAGES, UNDER ANY PART OF THIS AGREEMENT OR UNDER ANY THEORY. THIS LIMITATION APPLIES TO (I) ANYTHING RELATED TO THIS AGREEMENT, THE SOFTWARE (INCLUDING THE APPS), THE DEVICE, SERVICES, CORRUPTION OR LOSS OF DATA, FAILURE TO TRANSMIT OR RECEIVE DATA, CONTENT (INCLUDING CODE) ON THIRD PARTY INTERNET SITES OR THIRD PARTY PROGRAMS, AND (II) CLAIMS FOR BREACH OF CONTRACT, WARRANTY, GUARANTEE, OR CONDITION; STRICT LIABILITY, NEGLIGENCE, OR OTHER TORT; VIOLATION OF A STATUTE OR REGULATION; UNJUST ENRICHMENT; OR UNDER ANY OTHER THEORY.

THE DAMAGE EXCLUSIONS AND REMEDY LIMITATIONS IN THIS AGREEMENT APPLY EVEN IF YOU HAVE NO REMEDY (THE SOFTWARE IS LICENSED "AS IS"), IF REPAIR, REPLACEMENT, OR A REFUND (IF REQUIRED BY YOUR LOCAL LAW) DOES NOT FULLY COMPENSATE YOU FOR ANY LOSSES, IF THE MANUFACTURER OR MICROSOFT KNEW OR SHOULD HAVE KNOWN ABOUT THE POSSIBILITY OF THE DAMAGES, OR IF THE REMEDY FAILS OF ITS ESSENTIAL PURPOSE.

Check with your device manufacturer to determine if your device is covered by a warranty.



Part No. GSP45-23709-00  
First Edition Published in April 2025

**BANDAI NAMCO Amusement Inc.**