

DEADSTORM PIRATES OPERATION MANUAL

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

© NAMCO BANDAI Games Inc.

Part No. 724-606
First Edition Published in April 2010

NAMCO BANDAI Games Inc.

DANGER

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

NAMCO BANDAI Games Inc.

INTRODUCTION

Thank you for purchasing the “DEADSTORM PIRATES” game machine (hereafter referred to as the “machine”).

This operation manual describes:

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

Inquiries regarding this machine and its repair

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

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PolycomR G.722.1 Annex C audio coding technology

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

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8A

8B

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SAFETY PRECAUTIONS – Be sure to read these instructions to ensure safety –

Instructions to the owner

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

1-1 Magnitudes of risk

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

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

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

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

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

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

1-2 Definition of the term “technician”

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

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

Test mode

Troubleshooting

1-3 Top-priority safety precautions

WARNING

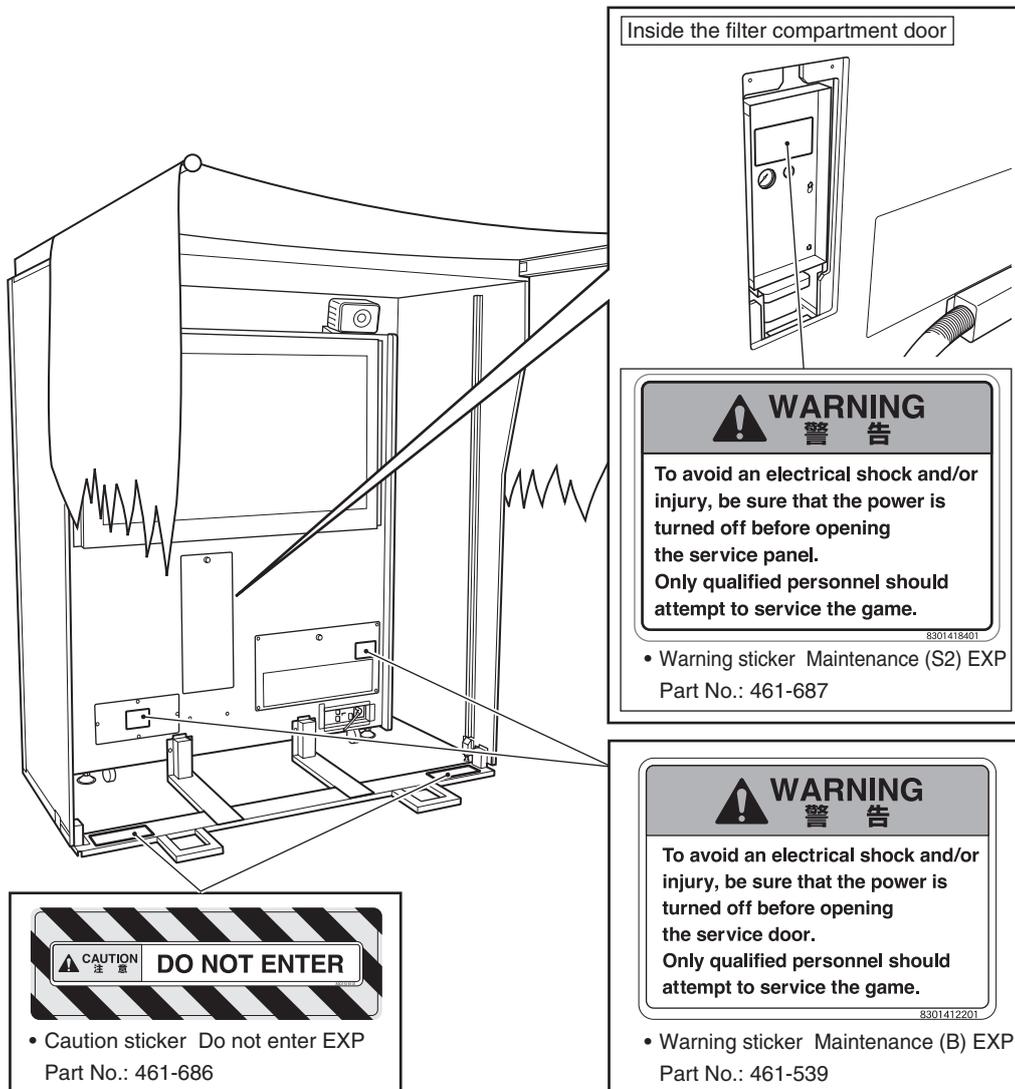
- Should any abnormality occur, turn off the power switch immediately to stop operating the machine. Then, unplug the power cord plug from the AC outlet. Operating the machine without correcting abnormalities can result in a fire or accident.
- Some monitor sections remain hot or charged with high voltage even after the power switch is turned off. Do not touch the monitor unnecessarily in order to avoid electric shock and burns.
- The machine is equipped with critical parts for ensuring safety of players and bystanders. If those critical parts are damaged, broken, deteriorated or installed incorrectly, immediately replace them or install them correctly. If the machine continues to operate with those parts in improper working condition, players or bystanders may get injured. To order those parts, contact your distributor.
- Dust accumulated on the power cord plug may cause a fire. Check the power cord plug regularly and remove dust.
- Insert the power cord plug firmly into the AC outlet. Poor contact may cause overheating that can lead to a fire or burns.
- A damaged power cord can cause a fire, electric shock or electrical leakage. Observe the following cautions.
 - Keep the power cord away from heating devices.
 - Do not twist the power cord.
 - Do not bend the power cord forcibly.
 - Do not alter the power cord.
 - Do not bundle the power cord.
 - Do not pull the power cord. (Always unplug by holding the power cord plug, and avoid pulling the power cord.)
 - Do not place anything on the power cord.
 - Do not get the power cord caught by the machine, other equipment or wall.
 - Do not do anything else that might damage the power cord.
- Do not wet the power cord or power cord plug with water. Water can cause an electric shock or electrical leakage.
- Do not touch the power cord plug with a wet hand. Doing so can result in an electric shock.
- The machine's rated power supply voltage and maximum consumption current are 110VAC, 12A or 220VAC, 6A, respectively. To prevent fire and electric shock, be sure to use interior wiring that conforms to these power supply specifications.
- Operate the machine with a power supply voltage in the range of 99 to 121 VAC (198 to 242 VAC). Operating the machine with a supply voltage outside the specified range may cause a fire or electric shock. To ensure that the machine operates in optimum condition, maintain the power supply at 110VAC (220VAC).
- To ensure safe operation of the machine, be sure to conduct the pre-service check (see P. 38 "7-4 Pre-service check") and maintenance (see P. 109 "8B. Service") described in this manual. Failure to conduct the pre-service check or maintenance can result in an unexpected accident.
- Use consumables and service parts (including fasteners) specified by our company. To order parts, contact your distributor.
- Do not convert the machine without permission. Do not perform any work that is not described in this operation manual. Unauthorized conversion of the machine may create unforeseen hazards.
- When transferring the ownership of the machine, be sure to provide this operation manual together with the game machine.

1-4 Description of warning labels attached to the machine

WARNING

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

■ Front Assy



1. SAFETY PRECAUTIONS

■ Front Assy

WARNING
警告

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

8301412201

- Warning sticker Maintenance (B) EXP
Part No.: 461-539

WARNING
警告

The compressor becomes hot. To avoid burn injuries, please carry out the work below at least 1 hour after stopping the compressor.

- Exchanging the filter of the compressor
- Exchanging the filters around the air tubes
- Other service on the compressor

8301417301

- Warning sticker Compressor (EXP)
Part No.: 461-655

■ Ride Assy

2 Players Max
Only single or 2 passengers are allowed per game.

CAUTION
注意

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

If you feel unwell, please stop playing and take a rest. When getting off the machine, please press the EMERGENCY 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 ground.
- Intoxication, illness, medical care, or pregnant.
- Heart issues or any other symptoms.

830151001

Caution sticker DSP (EXP)
Part No.: 461-685

WARNING
警告

When dismantling this cabinet, take care to utilize this instrument according to the service manual. Failure to do so may result in the cabinet falling over. This instrument is essential when moving this cabinet. DO NOT LOSE.

830141791

Caution sticker For transport (EXP)
Part No.: 461-684

Rear side of seat
(shown without molded parts in place)

CAUTION
注意

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

Caution sticker Do not touch B (EXP)
Part No.: 461-682

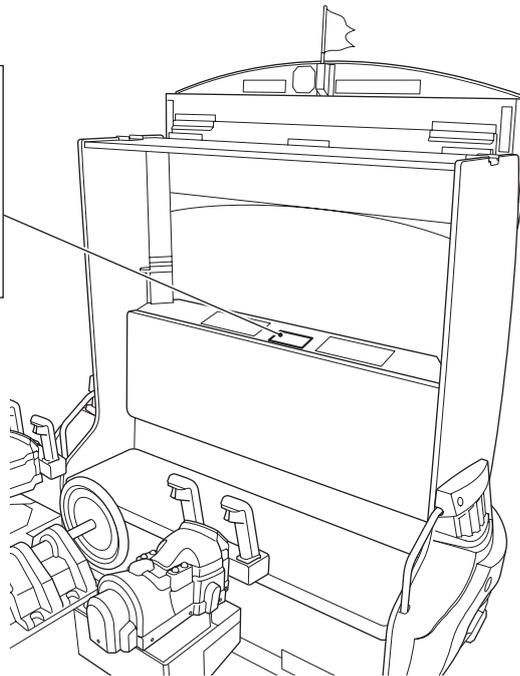
CAUTION
注意

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

Caution sticker Do not touch C (EXP)
Part No.: 461-688

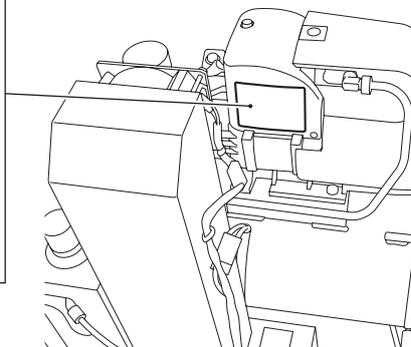
■ Ride Assy

 CAUTION 注意
This game machine moves during use. Do not place objects on, nor ride on here.
Caution sticker Do not place any item (EXP) Part No.: 461-683



■ HITACHI compressor

	本圧縮機は呼吸器系の機器等、生命に係る用途には使用できません。圧縮機が故障した場合、重大事故に繋がる恐れがあります。
	感電する場合があります。電気系統の非絶縁部には触れないください。電気工事従事者は有資格者へ依頼し、ガスはかならず接続してください。
	高温部でやけどする場合があります。運転中、停止直後は配管、圧縮機本体、電動機等の高温部には触れないでください。
	回転部でケガをする場合があります。運転中はファン、プーリ等が回転していますので顔や手を近づけないでください。点検の際はかならず元電源を切ってください。
<small>5C32819</small>	



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- 8B
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SAFETY PRECAUTIONS - Be sure to read these instructions to ensure safety -

Test mode

Troubleshooting

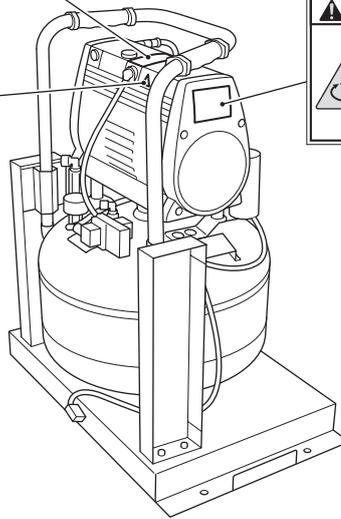
1. SAFETY PRECAUTIONS

■ JUN-AIR compressor

WARNING
Hot surfaces.
Risk of burns.
Do NOT touch the
compressor head.



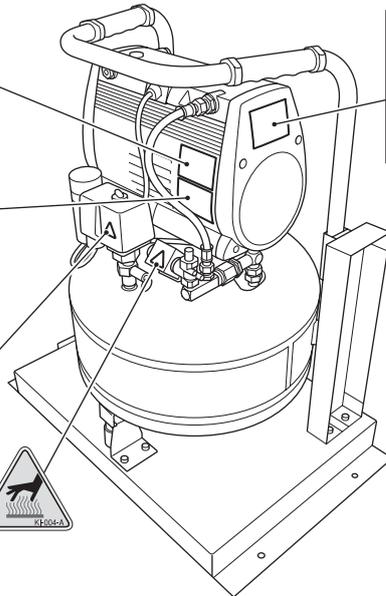
注意 CAUTION
高速回転 CAUTION !
注意 HIGH ROTATION
けがの恐れあり
回転体に指や物を入れるな
Never insert finger and
anything into rotation
body for injury.
K1-003-A



注意 CAUTION
高温注意 CAUTION !
HIGH TEMPERATURE
やけどの恐れあり表面に触るな
Never touch surface
by hand for burn.
K1-001-A

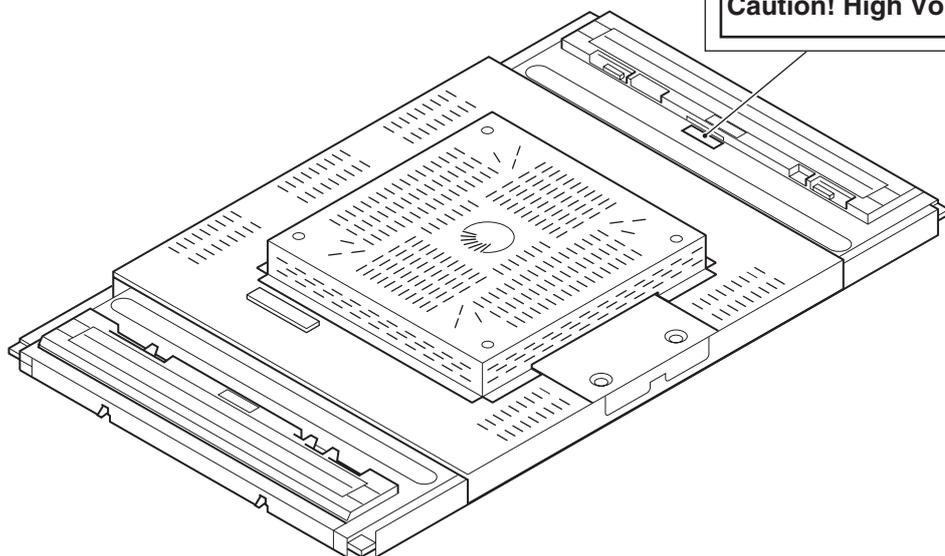
注意 CAUTION
高速回転 CAUTION !
注意 HIGH ROTATION
けがの恐れあり
回転体に指や物を入れるな
Never insert finger and
anything into rotation
body for injury.
K1-003-A

危険 DANGER
危険電圧 DANGER !
ELECTRIC HAZARD
感電の恐れあり電源を切らずに
電線接続部のカバーを外すな
Never take off cover of
electric wire connection
part without stopping power
source for electric shock.
K1-002-A



■ LCD Monitor

Caution! High Voltage



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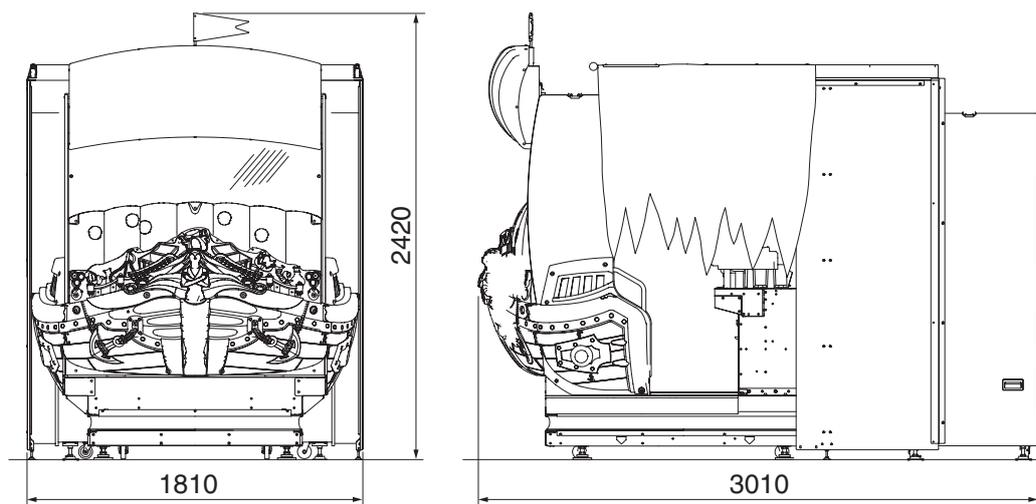
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- Troubleshooting

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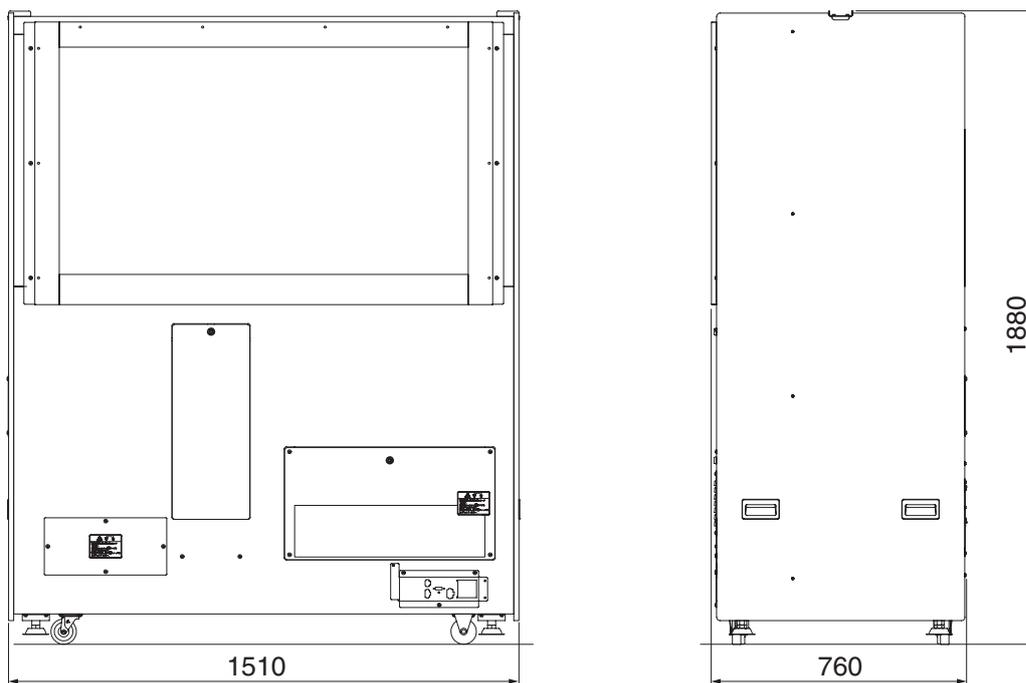
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2. SPECIFICATIONS

- | | |
|---------------------------------|---|
| (1) Rated power supply | 110 ± 10%VAC (50/60Hz), 220 ± 10%VAC (50/60Hz) |
| (2) Maximum power consumption | 1,250W |
| (3) Maximum current consumption | 12A (110VAC power supply), 6A (220VAC power supply) |
| (4) Coin box capacity | Approx. 3,000 coins |
| (5) Display device | LCD monitor (55-inch screen) |
| (6) Dimensions | |
| ① As installed | 1,810(W) x 3,010 (D) x 2,420 (H) [mm] |



- ② When divided
Monitor Assy 1,510 (W) x 760 (D) x 1,880 (H) [mm]



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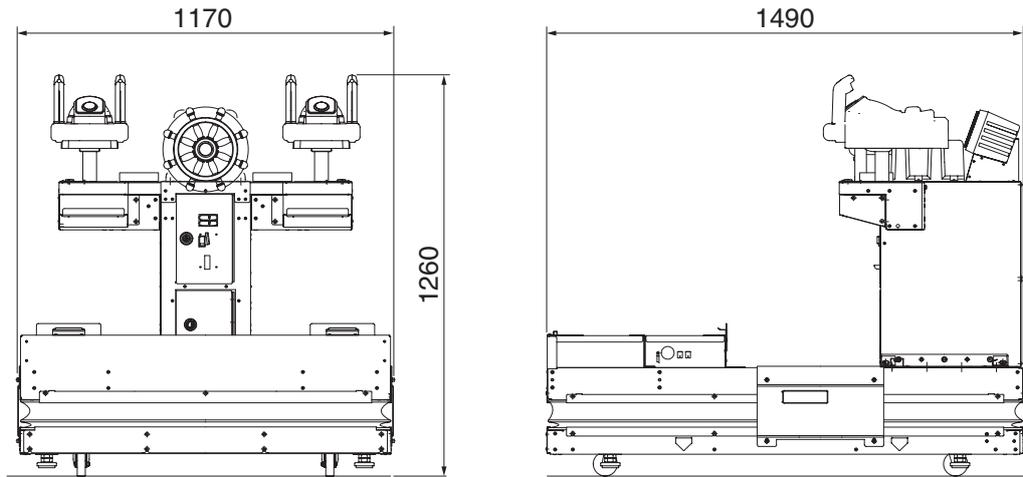
SPECIFICATIONS

Test mode

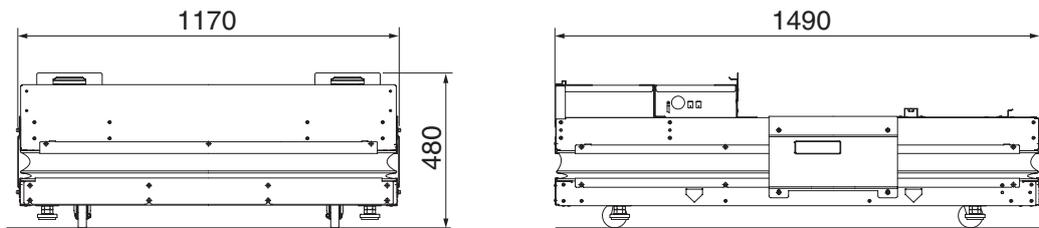
Troubleshooting

2. SPECIFICATIONS

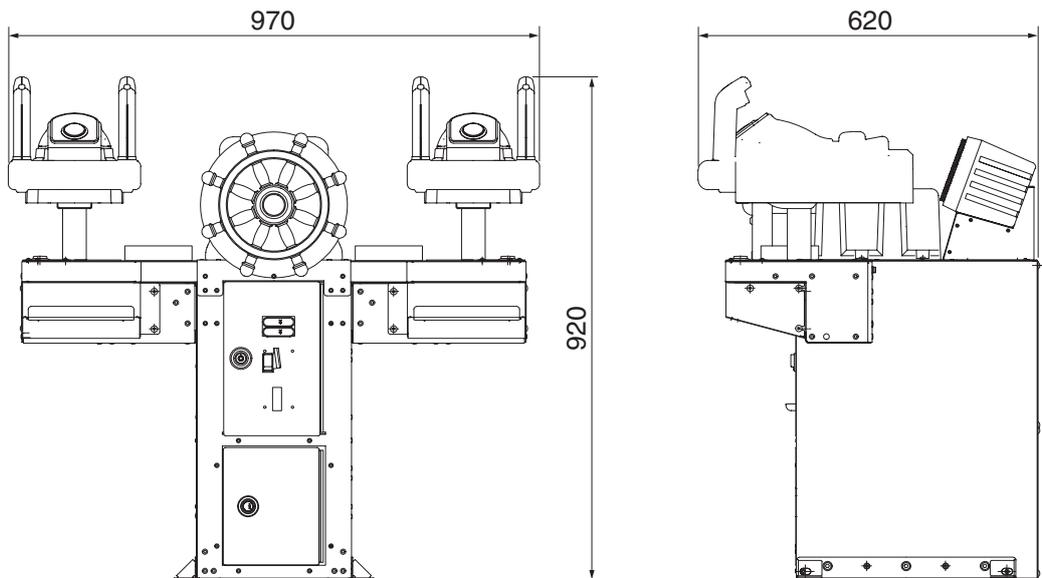
Base and Control Assys 1,170 (W) x 1,490 (D) x 1,260 (H) [mm]



Base Assy (when Base and Control Assys are separated)
1,170 (W) x 1,490 (D) x 480 (H) [mm]

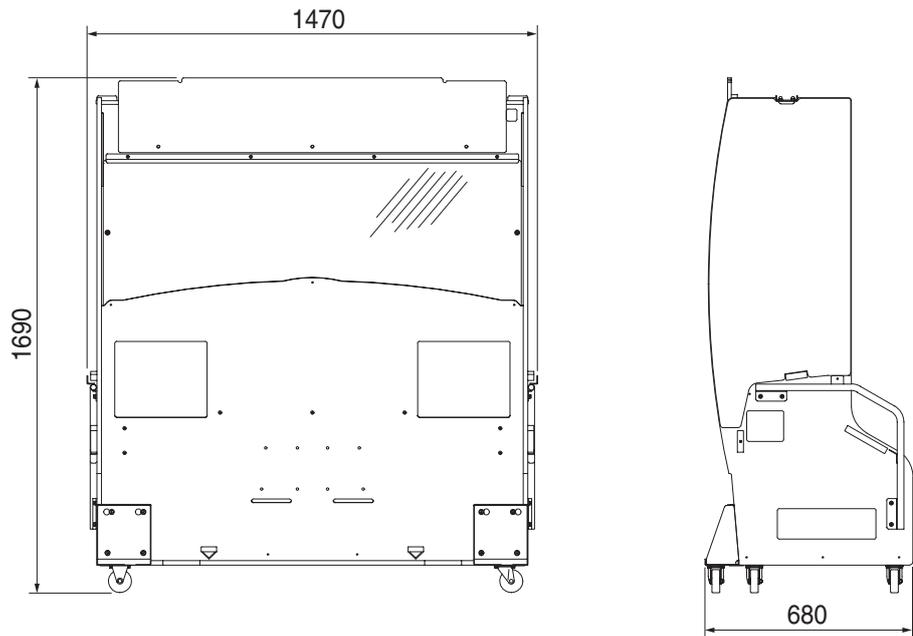


Control Assy (when Base and Control Assys are separated)
970 (W) x 620 (D) x 920 (H) [mm]



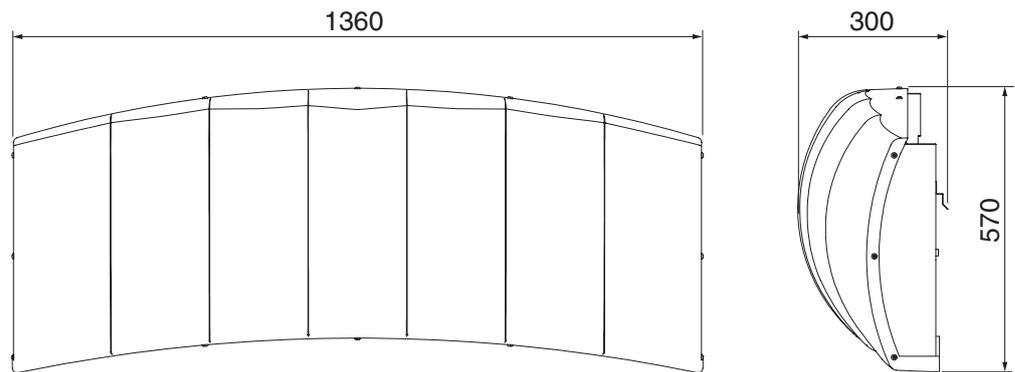
Seat Assy

1,470 (W) x 680 (D) x 1,690 (H) [mm]



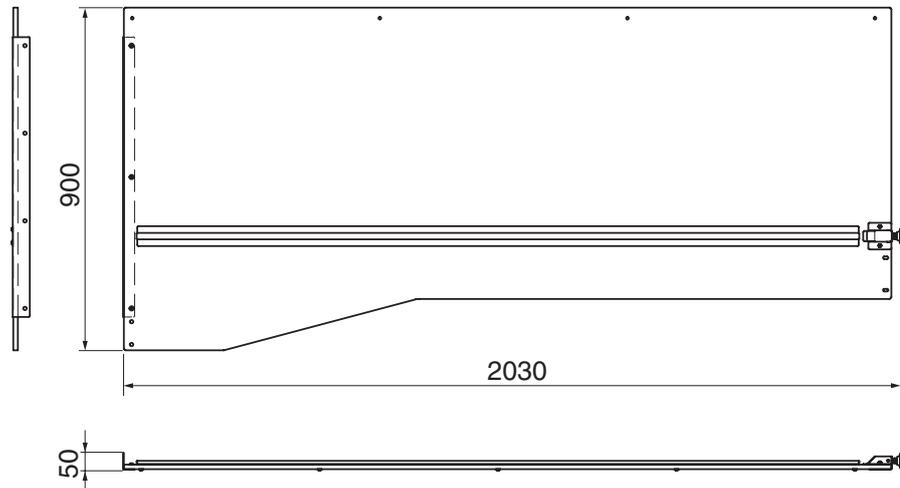
Signboard Assy

1,360 (W) x 300 (D) x 570 (H) [mm]



Other parts
Side wall L

900 (W) x 2,030 (D) x 50 (H) [mm]



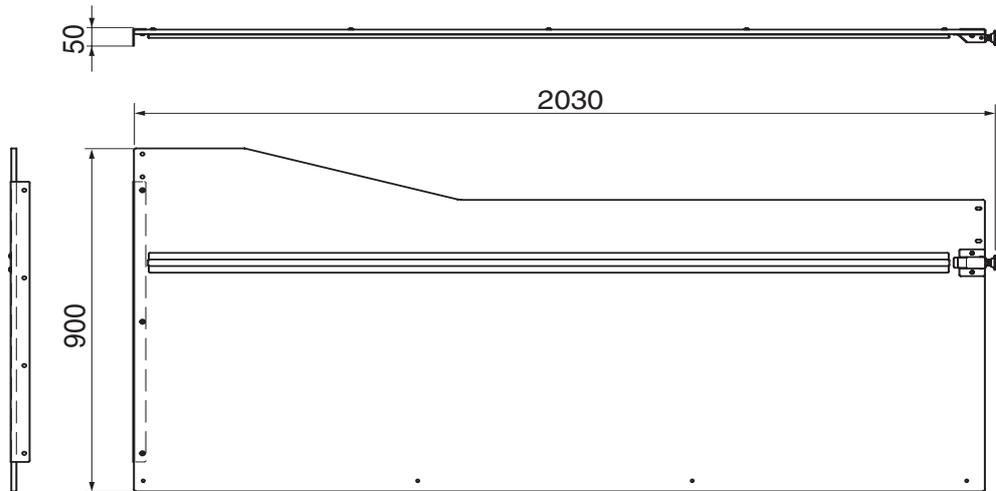
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- SPECIFICATIONS

- Test mode
- Troubleshooting

2. SPECIFICATIONS

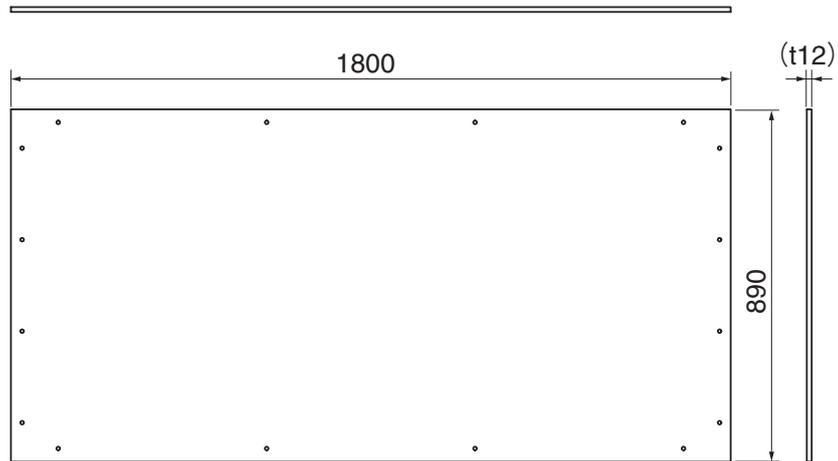
Side wall R

900 (W) x 2,030 (D) x 50 (H) [mm]



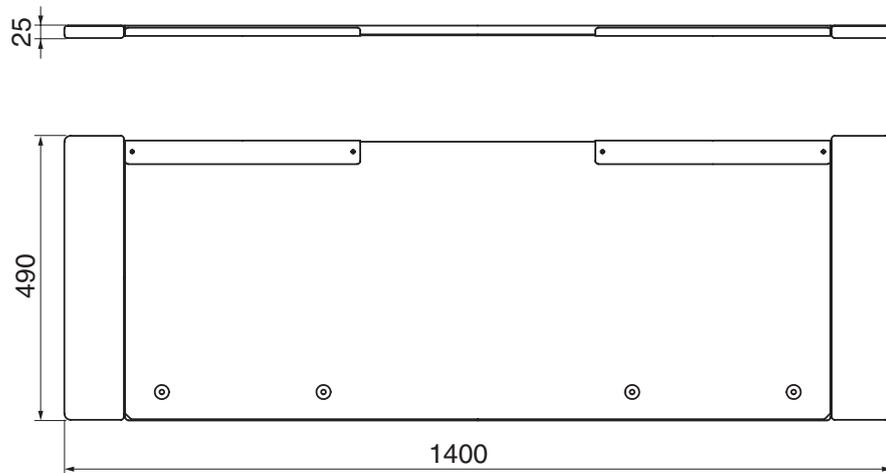
Roof

890 (W) x 1,800 (D) x 12 (H) [mm]



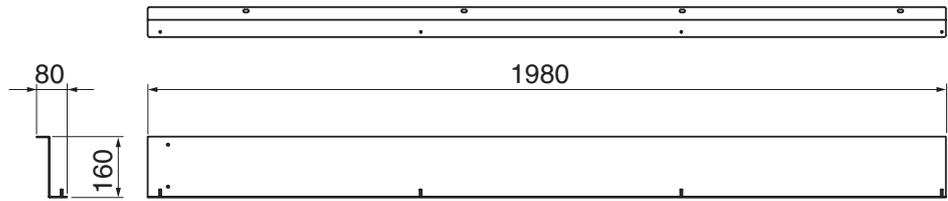
Step plate

490 (W) x 1,400 (D) x 25 (H) [mm]



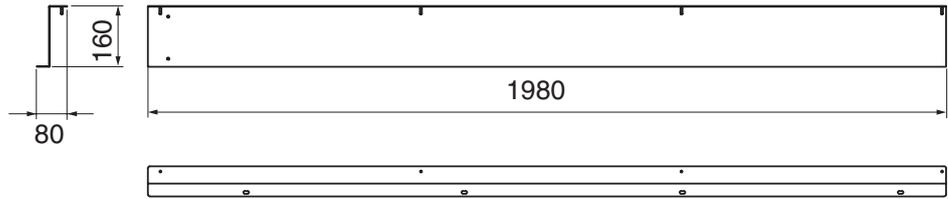
Wall bracket L

160 (W) x 80 (D) x 1,980 (H) [mm]



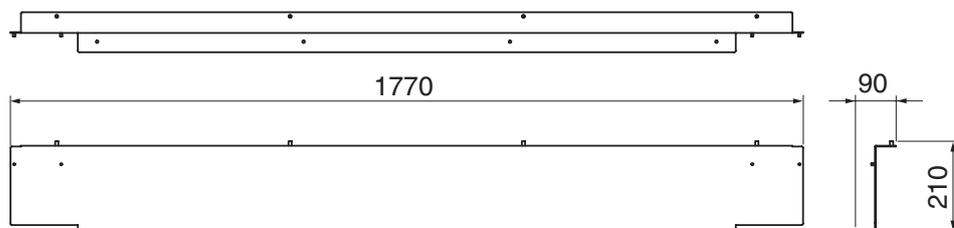
Wall bracket R

160 (W) x 80 (D) x 1,980 (H) [mm]



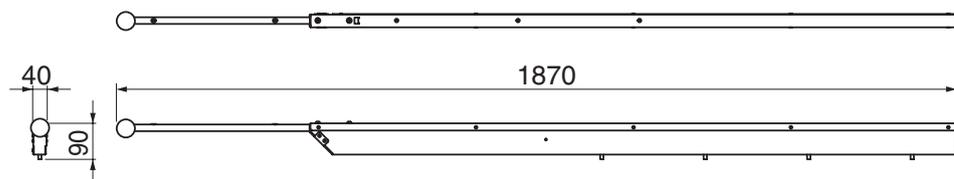
Upper cover

210 (W) x 90 (D) x 1,770 (H) [mm]



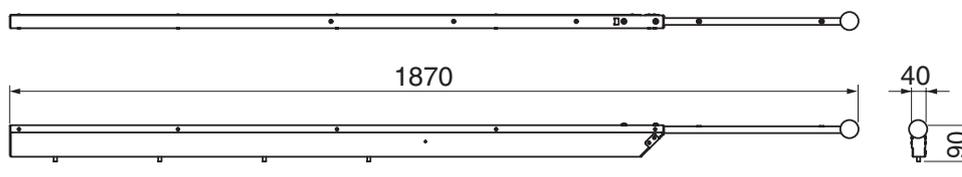
Curtain pipe L

90 (W) x 40 (D) x 1,870 (H) [mm]



Curtain pipe R

90 (W) x 40 (D) x 1,870 (H) [mm]



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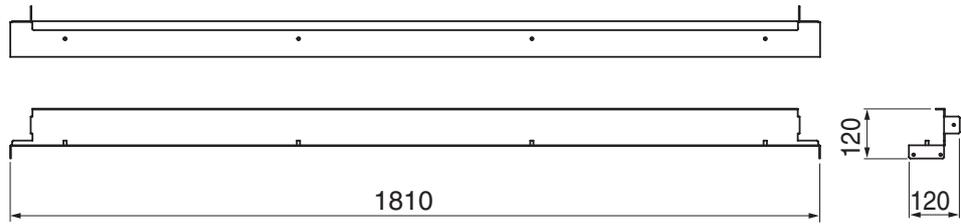
SPECIFICATIONS

Test mode

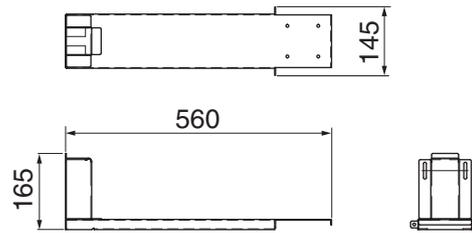
Troubleshooting

2. SPECIFICATIONS

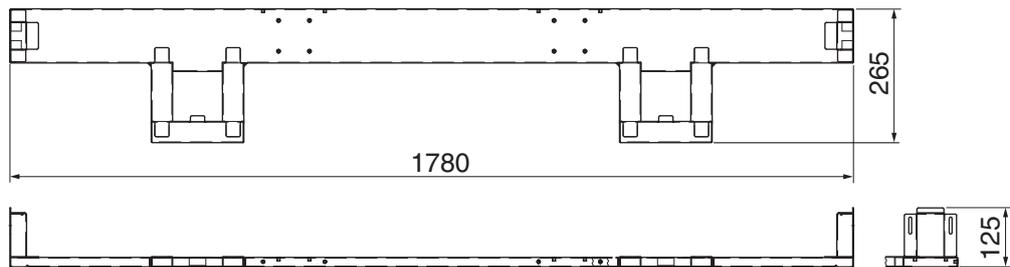
Roof reinforcement 120 (W) x 120 (D) x 1,810 (H) [mm]



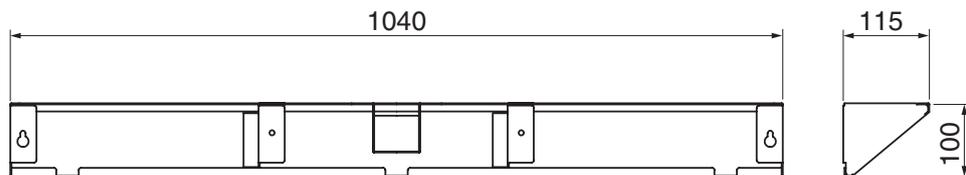
Ride stopper 165 (W) x 145 (D) x 560 (H) [mm]



Wall bar 125 (W) x 265 (D) x 1,780 (H) [mm]



Step rib 115 (W) x 100 (D) x 1,040 (H) [mm]



(7) Weight

① As installed	Approx. 710 kg
② When divided	
Monitor Assy	Approx. 245 kg
Base and Control Assys	Approx. 220 kg
Base Assy	Approx. 160 kg
Control Assy	Approx. 60 kg
Seat Assy	Approx. 105 kg
Signboard Assy	Approx. 16 kg
Side wall L	Approx. 18 kg
Side wall R	Approx. 18 kg
Roof	Approx. 14 kg
Step plate	Approx. 10 kg
Wall bracket L	Approx. 6 kg
Wall bracket R	Approx. 6 kg
Upper cover	Approx. 8 kg
Curtain pipe L	Approx. 4 kg
Curtain pipe R	Approx. 4 kg
Roof reinforcement	Approx. 6 kg
Ride stopper	Approx. 2 kg
Wall bar	Approx. 8 kg
Step rib	Approx. 4 kg

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SPECIFICATIONS

Test mode

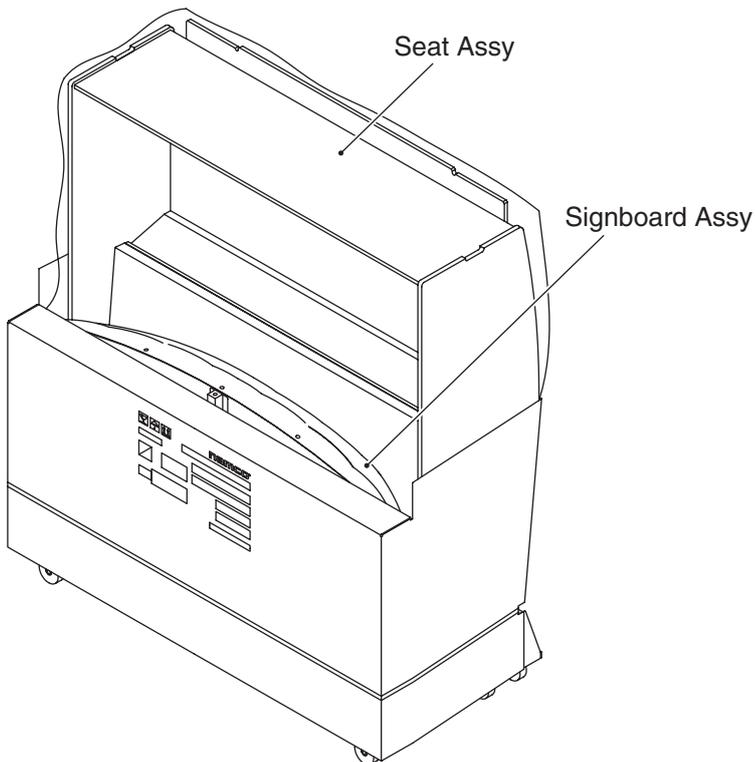
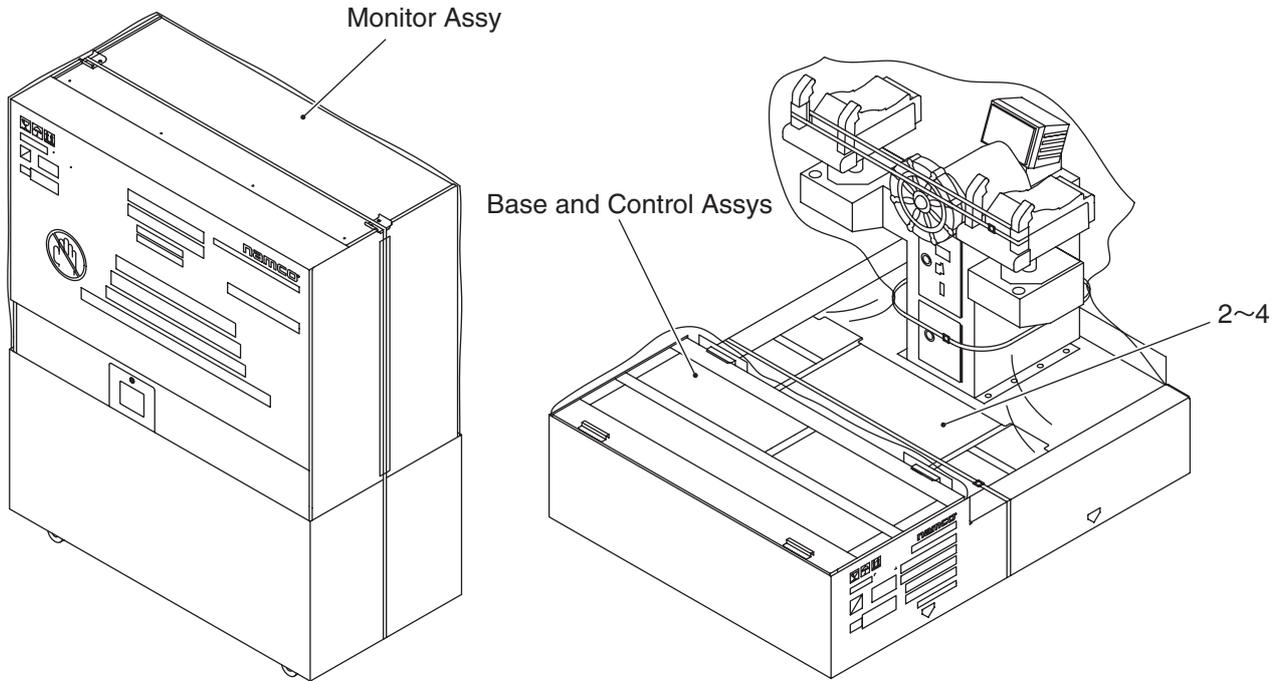
Troubleshooting

3. CHECKING THE PACKAGE CONTENTS

The product packages shipped from the factory contain the following components and parts.



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



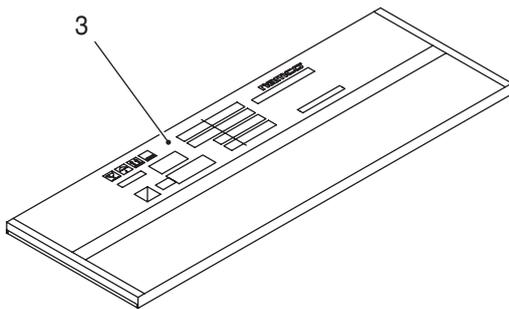
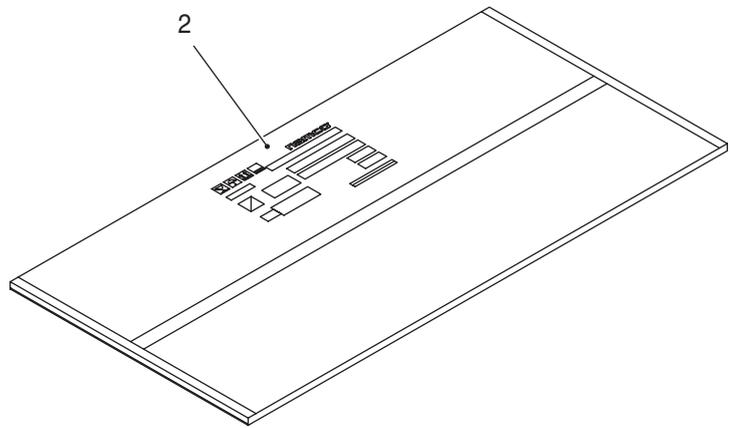
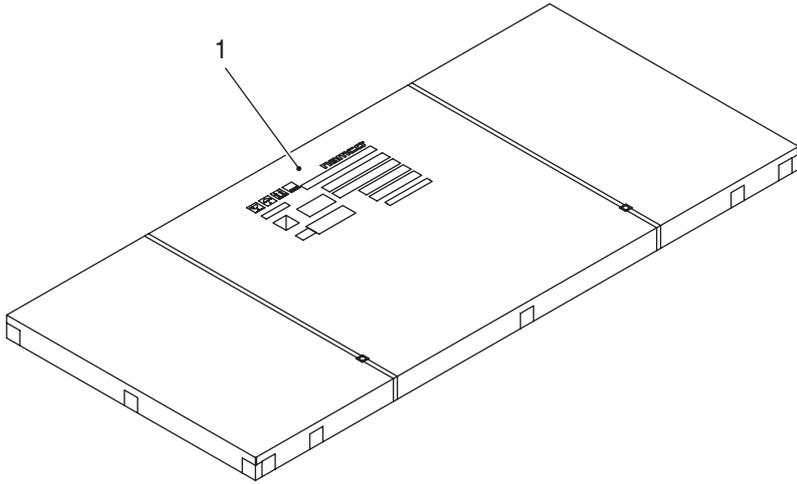
• Accessory list

No.	Name	Specification	Qty.
1	Operation Manual (this manual)		1
2	Service key		2
3	Coin box key		2
4	USB dongle		1

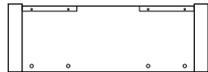
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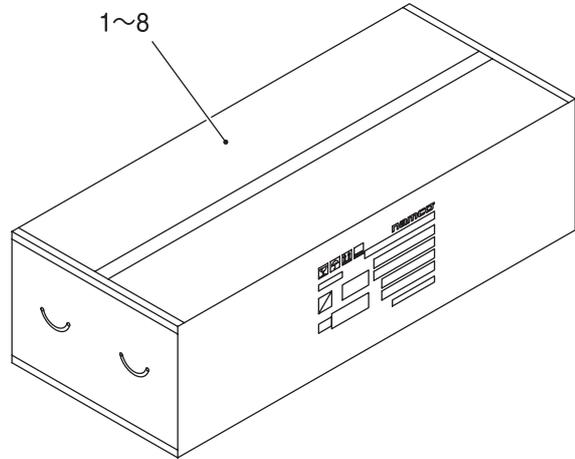
Test mode
Troubleshooting

3. CHECKING THE PACKAGE CONTENTS

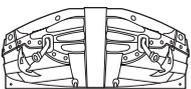
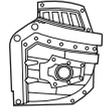
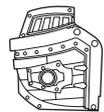
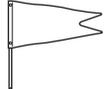
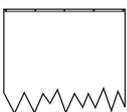


• Accessory list

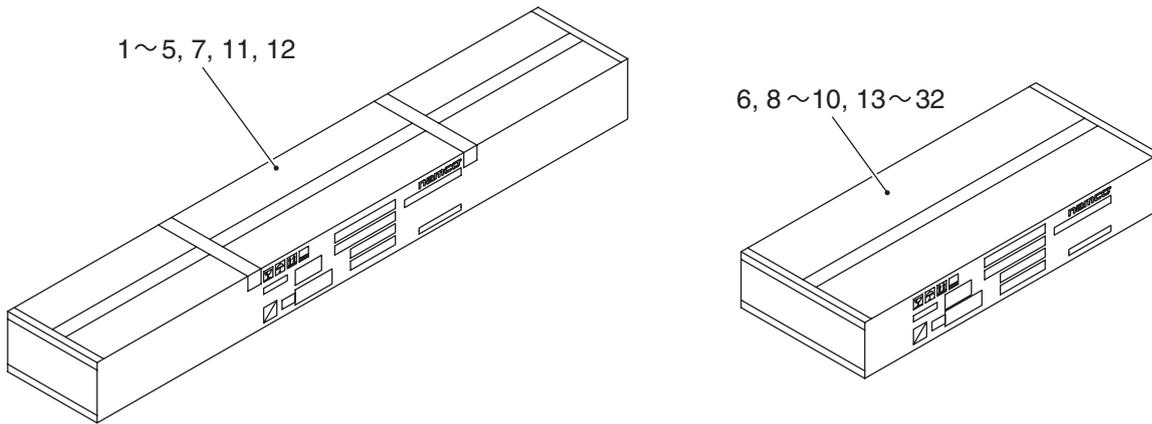
No.	Name	Specification	Qty.
1	Side wall L/R		1 each (L, R) (total of 2)
2	Roof		2
3	Step plate		1



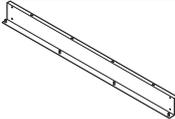
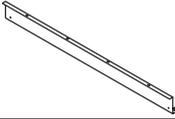
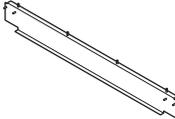
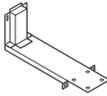
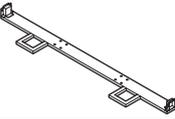
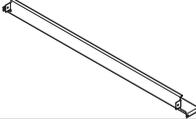
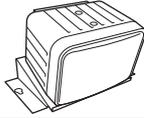
• Accessory list

No.	Name	Specification	Qty.
1	Rear body		1
2	Side body L		1
3	Side body R		1
4	Treasure cover		1
5	Flag		1
6	Banner		2
7	Ceiling curtain	Fire-proof 	1
8	Side curtain	Fire-proof 	2

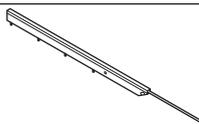
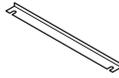
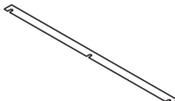
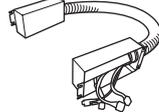
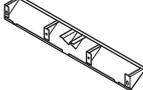
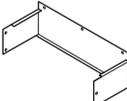
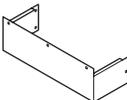
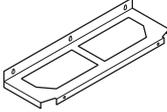
3. CHECKING THE PACKAGE CONTENTS



• Accessory list

No.	Name	Specification	Qty.
1	Wall bracket L		1
2	Wall bracket R		1
3	Upper cover		1
4	Ride stopper		2
5	Wall bar		1
6	Wall bar plate		2
7	Roof reinforcement		1
8	Vibration-insulating pad		1
9	Speaker L/R		1 each (L, R) (total of 2)
10	Reinforcement plate		2
11	Curtain pipe L		1

3. CHECKING THE PACKAGE CONTENTS

No.	Name	Specification	Qty.
12	Curtain pipe R		1
13	Curtain retainer A		2
14	Curtain retainer B		2
15	Joint unit		1
16	Step rib		2
17	Seat base cover L		1
18	Seat base cover R		1
19	Seat cover bracket C		1
20	Seat cover bracket B		2
21	Torx bolt (black)	M5 × 12 	36
22	Torx bolt (black)	M5 × 16 	63
23	Torx bolt (black)	M5 × 20 	2
24	Torx bolt (black)	M5 × 35 	3
25	Phillips pan-head screw	M4 × 10 	1
26	Flat washer (black)	ø5.5 × 16 × t1.6 	16

Continue to next page

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CHECKING THE PACKAGE CONTENTS

Test mode

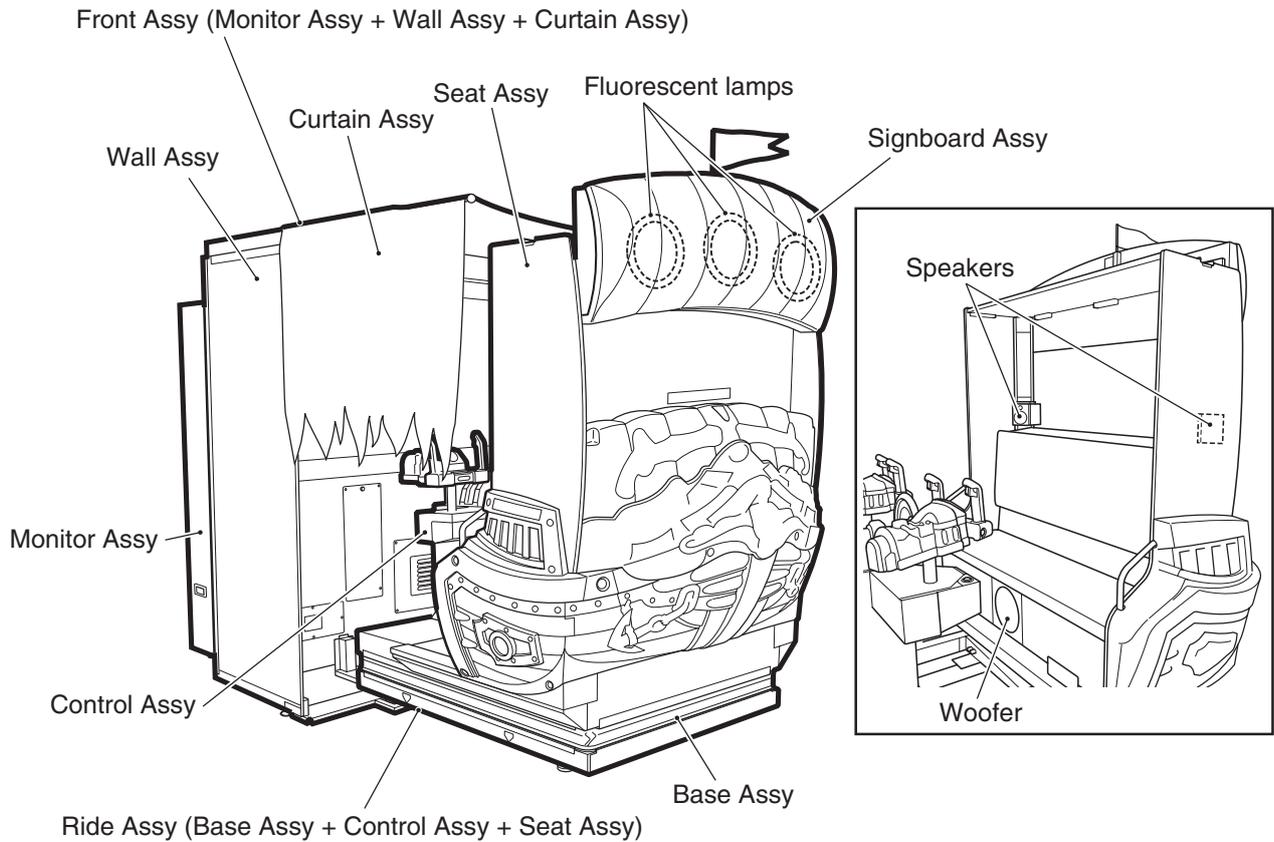
Troubleshooting

3. CHECKING THE PACKAGE CONTENTS

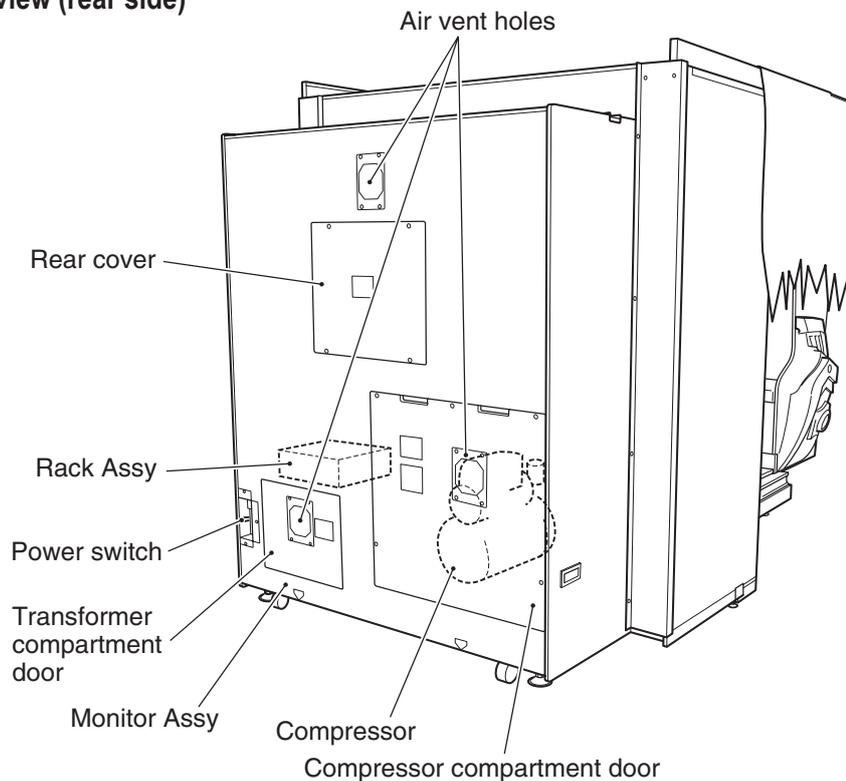
No.	Name	Specification		Qty.
27	Spring washer (black)	M5		2
28	Button-head bolt (black)	M5 × 25		8
29	Flange-socket bolt (black)	M6 × 20		8
30	Cap nut (black)	M5		12
31	Phillips hexagon-head bolt (with flat and spring washers)	M8 × 40		6
32	Torx wrench	M5, T25		1

4. OVERALL CONSTRUCTION (Names of Parts)

■ General view



■ General view (rear side)



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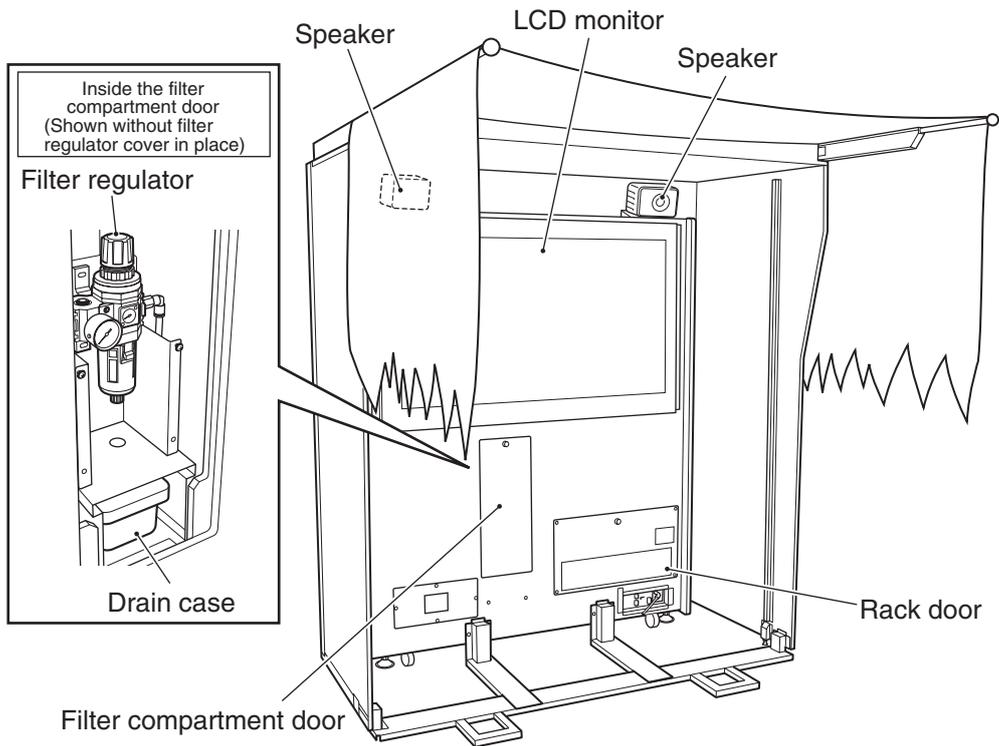
OVERALL CONSTRUCTION (Names of Parts)

Test mode

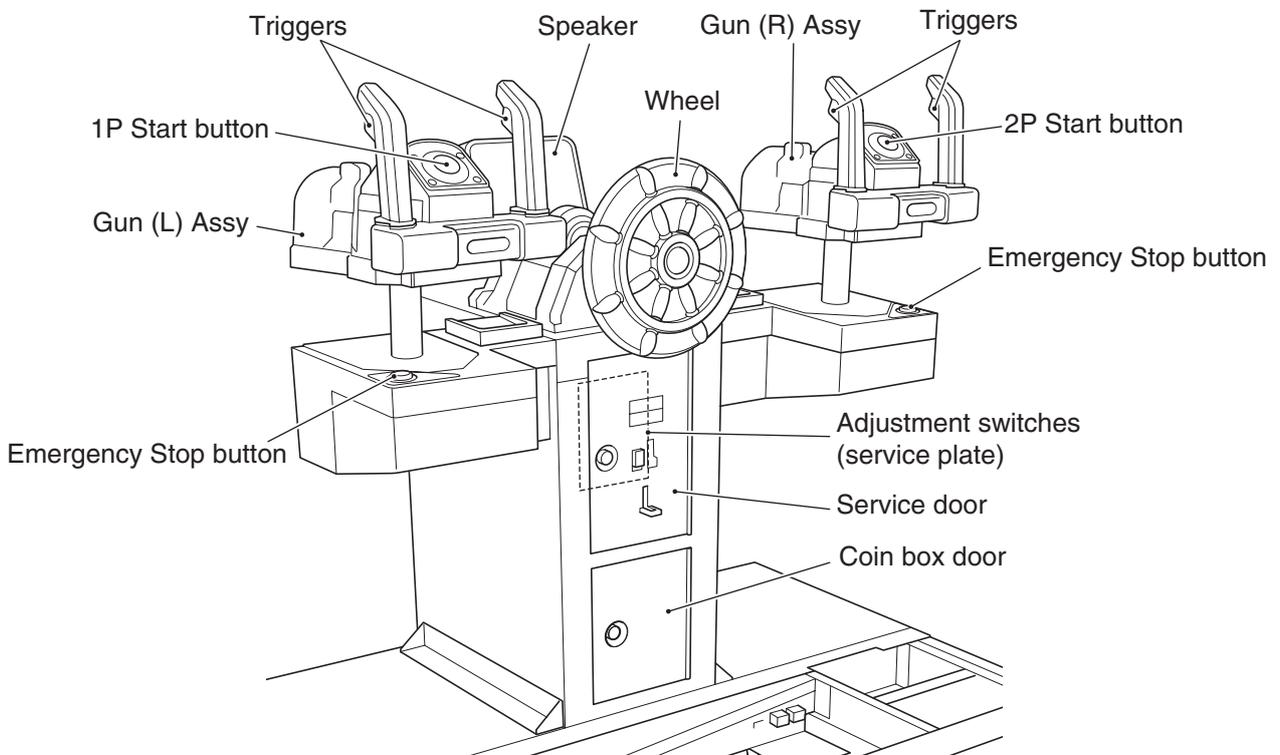
Troubleshooting

4. OVERALL CONSTRUCTION (Names of Parts)

■ Front



■ Control Assy



5. INSTALLATION AND CARRY-IN PASSAGE CONDITIONS

WARNING

- Install the machine according to the instructions and procedures specified in this operation manual. Failure to follow the specified procedures may result in a fire, electric shock, injury or machine malfunctions.
- Insert the power cord plug firmly into the AC outlet. Poor contact may cause overheating that can lead to a fire or burns.
- Be sure to connect the ground lead. If the ground lead is not connected, electric shock can result in case of electrical leakage. (See P. 99 “8A-1-6 Connecting the power cord and ground lead.”)
- Install the machine securely by using the level adjusters. Unstable machine installation can result in an accident or injury. (See P. 94 “8A-1-3 Connecting the Front Assy to the Ride Assy, and adjusting level adjusters.”)

5-1 Installation conditions

WARNING

- Do not place items near the vent holes on the rear panel of the Monitor Assy of the game machine, or block them with a wall. If those openings are blocked, the inside of the machine becomes extremely hot and fire or malfunction may result.

5-1-1 Locations to avoid

WARNING

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

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INSTALLATION AND CARRY-IN PASSAGE CONDITIONS

Test mode

Troubleshooting

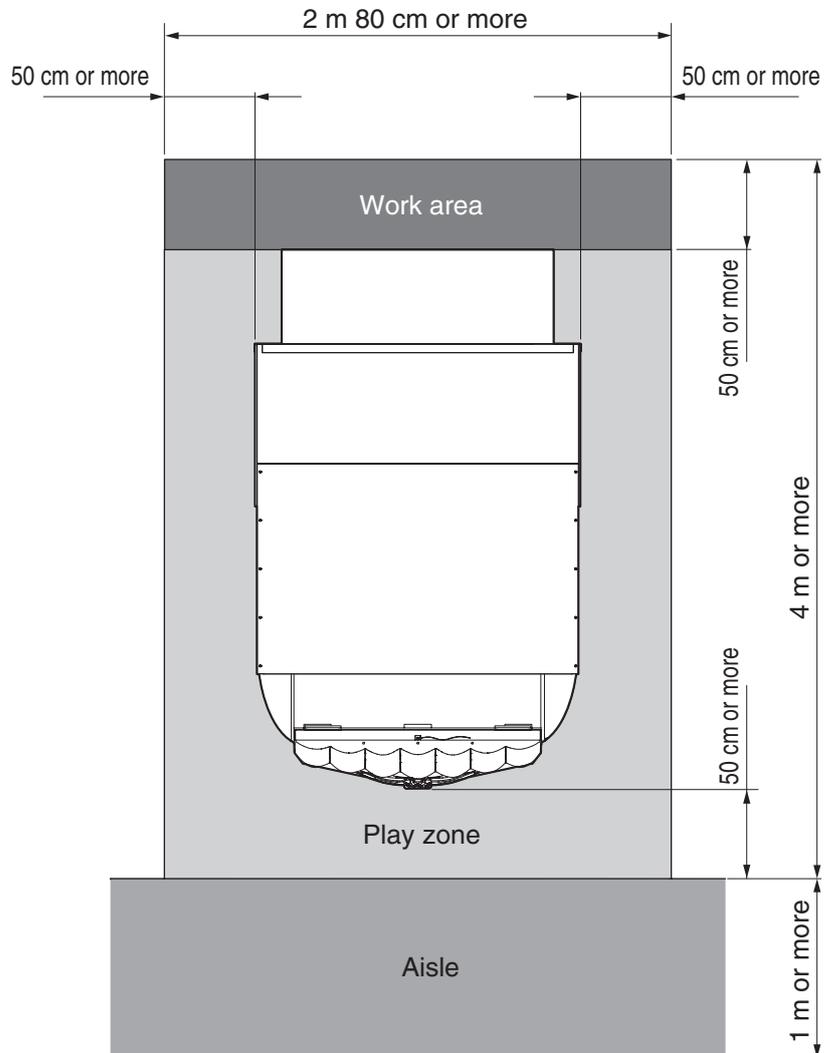
5-1-2 Play zone for installed machine

⚠ WARNING

- The Ride Assy of the machine is designed to move. If an appropriate play zone is not provided, a player may become wedged between the machine and wall or another game machine and get injured.

NOTICE

- Provide a space of at least 50 cm between the rear side of the machine and the wall or other machine so that the compressor compartment door, rear cover and transformer compartment door can be removed for maintenance.
- The vent holes on the rear side of the machine must not be blocked. (See P. 25 "4. OVERALL CONSTRUCTION (Names of Parts).")
- The distance from the floor to the ceiling must be at least 2 m 55 cm.



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

The machine is divided into separate components at the factory before shipping. The dimensions of main components are as follows:

- Monitor Assy
1,510 (W) x 760 (D) x 1,880 (H) [mm]
Weight: 245 kg
- Base and Control Assys
1,170 (W) x 1,490 (D) x 1,260 (H) [mm]
Weight: 220 kg
- Seat Assy
1,470 (W) x 680 (D) x 1,690 (H) [mm]
Weight: 105 kg

The doors and carry-in passages must be sufficiently higher and wider than the dimensions indicated above.

The Base Assy and Control Assy can be separated as shown below, if so required by the conditions of the doors and carry-in passages.

- Base Assy
1,170 (W) x 1,490 (D) x 480 (H) [mm]
Weight: 160 kg
- Control Assy
970 (W) x 620 (D) x 920 (H) [mm]
Weight: 60 kg

Regarding the method of separating the Control Assy from the Base Assy, refer to “8A-2-1 Separating the Control Assy from the Base Assy” on page 102.

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INSTALLATION AND CARRY-IN PASSAGE CONDITIONS

Test mode

Troubleshooting

6. MOVING AND TRANSPORTING

WARNING

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

6-1 Moving (on the floor)

CAUTION

- When moving the game machine on the floor, separate it into the Front Assy and Ride Assy, and disassemble the Wall Assy and Curtain Assy on the Front Assy into sizes small enough to be carried by hand. An attempt to carry the machine without dividing the machine as described above can damage the floor or cause the machine to hit a wall or other items due to an obstructed view, thus resulting in an unexpected accident. (See P. 73 “8A-1 Assembly.”)

NOTICE

- Carefully transport the machine in order to prevent damage to the machine.
- Do not apply excessive force to plastic parts since they can break easily.
- Even when moving the machine for a short distance, be sure to raise the level adjusters all the way. (See P. 96 “8A-1-3 Connecting the Front Assy to the Ride Assy, and adjusting level adjusters.”)
- Be sure to turn off the power switch before moving the machine.
- Carefully handle the power cord. (See P. 99 “8A-1-5 Connecting the power cord and ground lead.”)

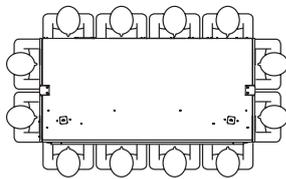
6-2 Transportation

6-2-1 Manual transportation (carrying on stairs, etc.)

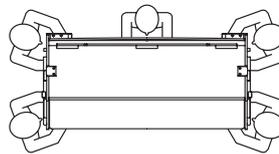
! WARNING

- When carrying the machine manually, be sure to divide the machine into the Monitor Assy, Base and Control Assys, Seat Assy, Signboard Assy, Wall Assy and Curtain Assy, and raise all the level adjusters all the way. (Disassemble the Wall Assy and Curtain Assy into sizes small enough to be carried by hand.) (See P. 73 "8A-1 Assembly.") An attempt to carry the machine manually (over stairs, etc.) without dividing the machine as described above can result in an unexpected accident.
- When separating the Seat Assy, be sure to install the transportation caster (L) and transportation caster (R) at the specified locations. Failure to install the transportation casters can cause the Assy to tip over and result in an unexpected accident. (See P. 84 "8A-1-2 Assembling the Ride Assy" **1** through **8**.)
- When carrying the machine manually, make sure that the following number of persons are available. An attempt to carry the machine with fewer persons can result in an accident or injury.

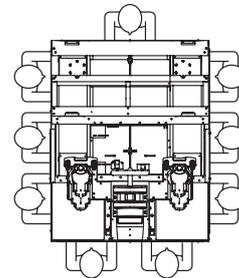
- | | |
|--------------------------|--------------------------------------|
| • Monitor Assy | (approx. 245 kg): 10 persons or more |
| • Base and Control Assys | (approx. 220 kg): 9 persons or more |
| • Seat Assy | (approx. 105 kg): 5 persons or more |
| • Signboard Assy | (approx. 16 kg): 2 persons or more |
| • Side wall (Wall Assy) | (approx. 20 kg): 2 persons or more |



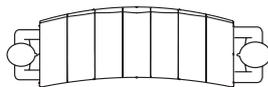
Monitor Assy



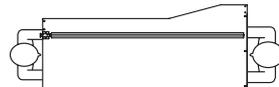
Seat Assy



Base and Control Assys



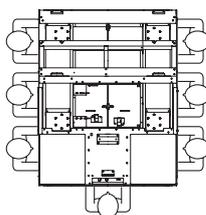
Signboard Assy



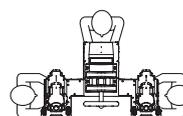
Side wall (Wall Assy)

- If it is difficult to carry the machine on stairs, separate the Control Assy from the Base Assy. Make sure that the following number of persons are available. An attempt to carry the Assys with fewer persons can result in an accident or injury. (See P. 105 "8A-2-1 Separating the Control Assy from the Base Assy.")

- Base Assy (approx. 160 kg): 7 persons or more
- Control Assy (approx. 60 kg): 3 persons or more



Base Assy



Control Assy



- Do not apply impact to the machine when lowering the machine from a step.

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MOVING AND TRANSPORTING

Test mode

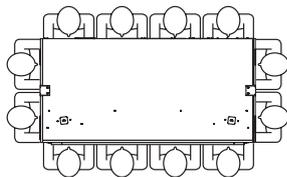
Troubleshooting

6-2-2 Loading to/unloading from a vehicle

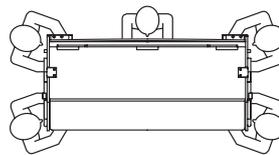
⚠ WARNING

- When loading the machine to or unloading it from a vehicle, be sure to divide the machine into the Monitor Assy, Base and Control Assys, Seat Assy, Signboard Assy, Wall Assy and Curtain Assy, and raise all the level adjusters all the way. (Disassemble the Wall Assy and Curtain Assy into sizes small enough to be carried by hand.) (See P. 73 “8A-1 Assembly.”)
An attempt to carry the machine without dividing the machine as described above can result in an unexpected accident.
- When separating the Seat Assy, be sure to install the transportation caster (L) and transportation caster (R) at the specified locations. Failure to install the transportation casters can cause the Assy to tip over and result in an unexpected accident. (See P. 84 “8A-1-2 Assembling the Ride Assy” **1** through **8**.)
- When using a forklift to transport the machine, observe the following instructions. If the instructions are not followed, the machine can tip over and cause an unexpected accident.
 - Mount the base clamp (transport fixture) to the Base Assy. (See P. 84 “8A-1-2 Assembling the Ride Assy.”)
 - Insert the forks into the specified positions.
 - Pay close attention to the balance of the machine.
- When carrying the machine manually, make sure that the following number of persons are available. An attempt to carry the machine with fewer persons can result in an accident or injury.

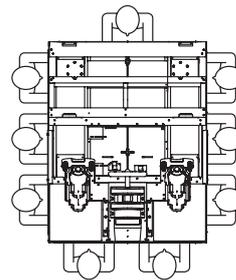
• Monitor Assy	(approx. 245 kg): 10 persons or more
• Base and Control Assys	(approx. 220 kg): 9 persons or more
• Seat Assy	(approx. 105 kg): 5 persons or more
• Signboard Assy	(approx. 16 kg): 2 persons or more
• Side wall (Wall Assy)	(approx. 20 kg): 2 persons or more



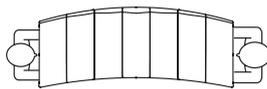
Monitor Assy



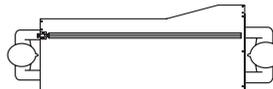
Seat Assy



Base and Control Assys



Signboard Assy



Side wall (Wall Assy)

NOTICE

- Do not apply impact to the machine when lowering the machine from a step.

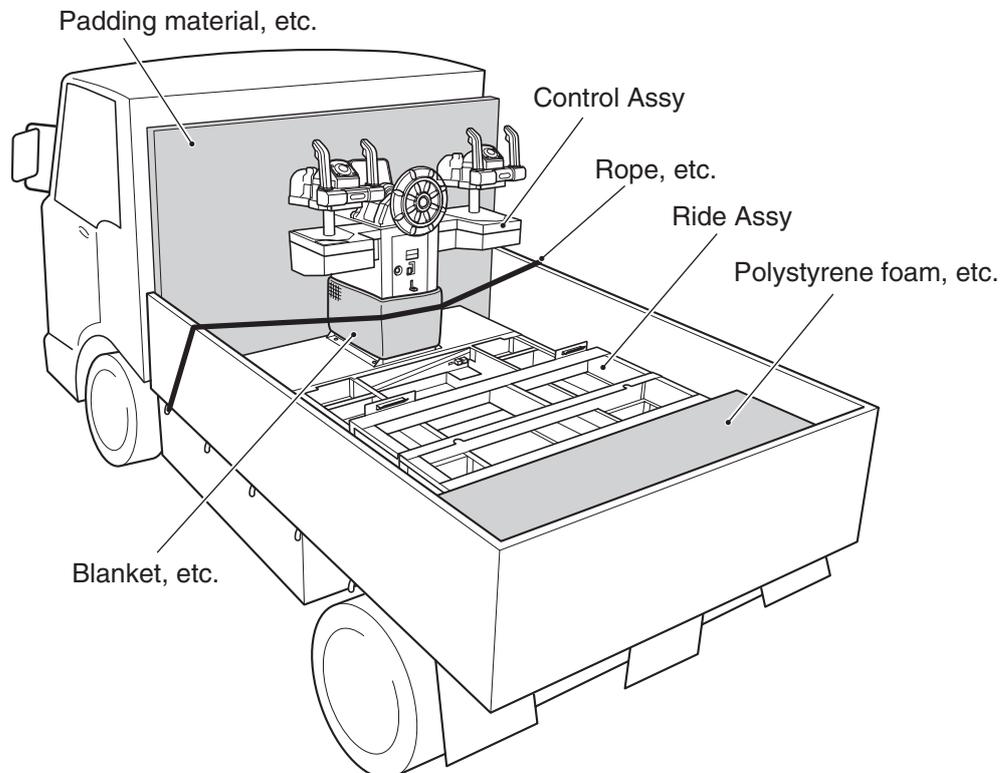
6-2-3 Trucking

! WARNING

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

NOTICE

- Do not apply impact to the machine when lowering the machine.
- When securing the machine in place by using ropes, observe the following.
 - Position the rope or belt at the locations shown in the diagram below.
 - To protect the surface of the machine, place padding materials such as blankets between the machine and rope/belt.
- To protect the surface of the machine, place polystyrene foam or other cushioning materials between the machine and cargo bed and between the machine and adjacent equipment.
- When transporting the machine in rain, use a covered vehicle or a container to keep the machine from becoming wet.
- Do not apply pressure to the monitor screen.
- If the machine is installed with a JUN-AIR compressor, use the cushions for securing the compressor in place. (See P. 73 “8A-1-1 Assembling the Front Assy.”)



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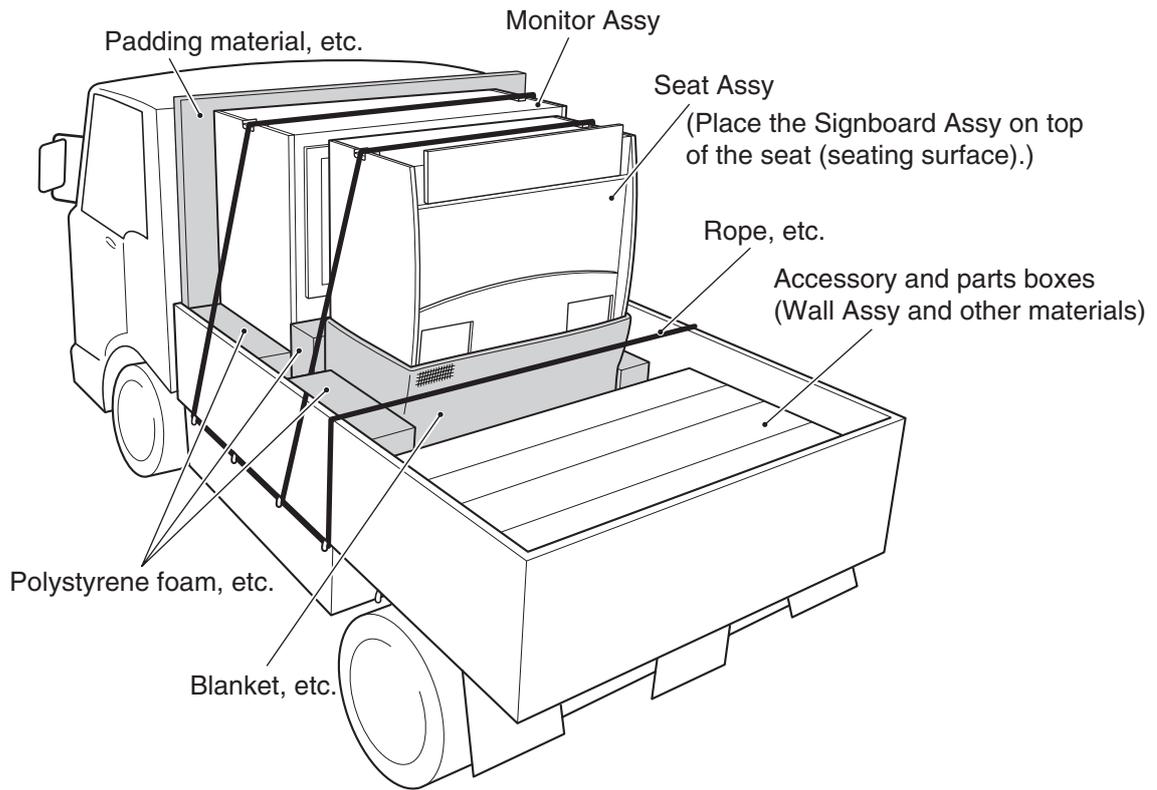
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MOVING AND TRANSPORTING

Test mode

Troubleshooting

6. MOVING AND TRANSPORTING



7. OPERATION

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OPERATION

WARNING

- Some monitor sections remain hot or charged with high voltage even after the power switch is turned off. Do not touch the monitor unnecessarily in order to avoid electric shock and burns.
- Dust accumulated on the power cord plug may cause a fire. Check the power cord plug regularly and remove dust.
- Insert the power cord plug firmly into the AC outlet. Poor contact may cause overheating that can lead to a fire or burns.
- Be sure to check that the machine has been installed according to the instructions and procedures specified in this operation manual (see P. 27 “5. INSTALLATION AND CARRY-IN PASSAGE CONDITIONS”) before operating the machine. If the machine is not installed properly, fire, electric shock, injury or equipment malfunction can occur.
- The warning labels describe important safety precautions. Be sure to observe the following:
 - To ensure that the warning labels attached to the machine are easily legible, install the machine at an appropriate location with ample illumination and keep the labels clean at all times. Also, make sure that the labels are not hidden behind another game machine or other objects.
 - Do not remove or alter the warning labels.
 - If the warning labels become excessively dirty or damaged, replace them with new labels. To order warning labels, contact your distributor.
- To ensure safe operation of the machine, be sure to conduct the pre-service check (see P. 38 “7-4 Pre-service check”) and Service (see P. 109 “8B. Service”) described in this manual. Failure to conduct the pre-service check or maintenance can result in an unexpected accident.

7-1 People who shouldn't play

CAUTION

- To ensure safety of players and prevent accidents, do not allow the following people to play the game machine.
 - Person whose feet do not touch the step (floor surface) in sitting position
 - Person who is sick or recovering from injury
 - Person with unhealthy heart
 - Person in poor physical condition
 - Person under the influence of alcohol
 - Pregnant woman
 - Person who does not observe the warnings indicated on the machine

Test mode

Troubleshooting

7-2 Safety precautions to be observed by players

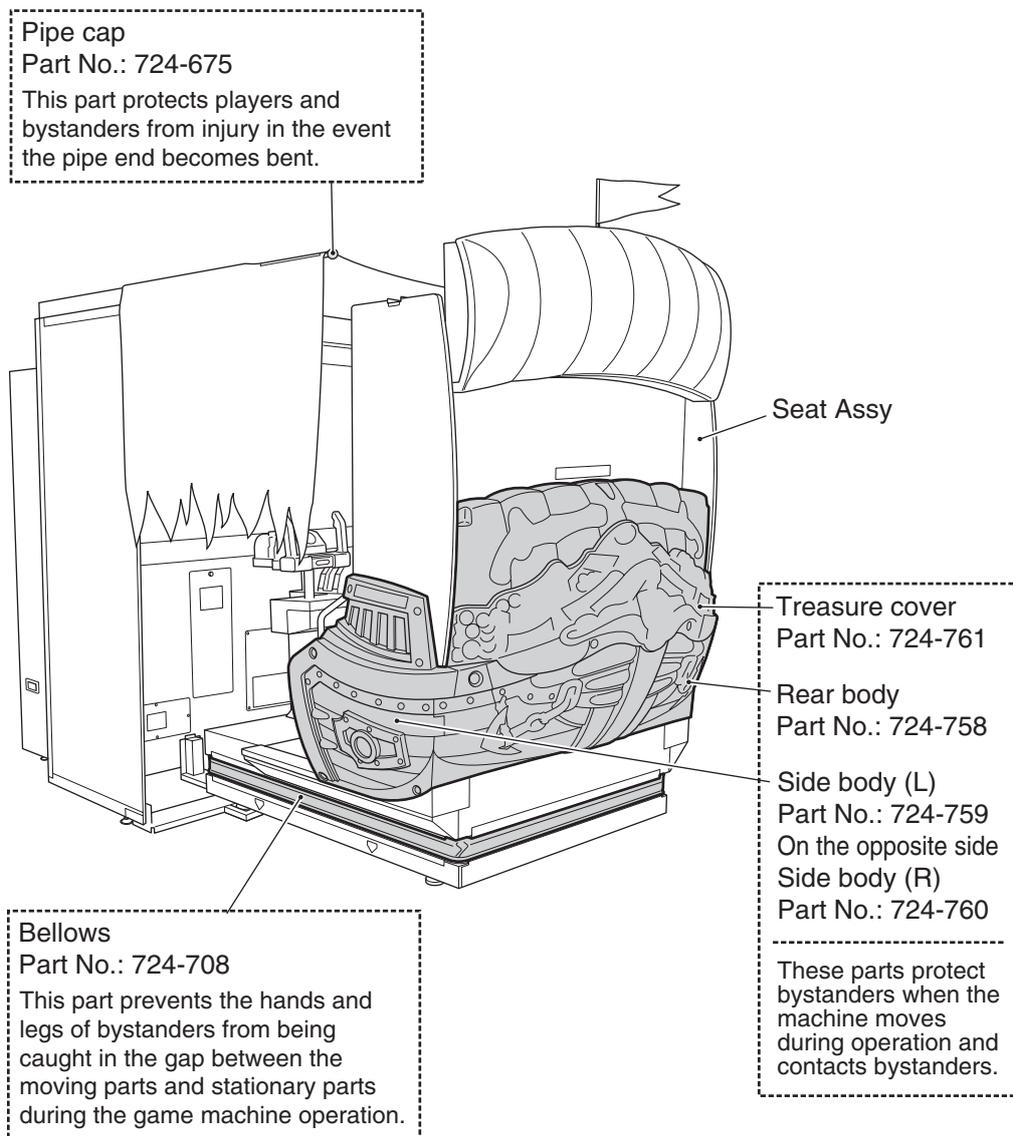
CAUTION

- Warn players in the following cases in order to prevent accidents.
 - Three or more persons playing the game together
 - Persons (other than players) entering the area indicated as a “danger area” on a warning label
- If a player becomes sick due to light stimulation or game images, have the person stop playing the game immediately and let him/her rest.
- In rare cases, stimulation by lights or video images can cause convulsion or a loss of consciousness. If this happens, advise the player to consult a doctor as soon as possible. When pre-school children play, request their parents or guardians to keep on eye on the children.

7-3 Explanation of critical parts for safety of players and bystanders

! WARNING

- The machine is equipped with critical parts for ensuring safety of players and bystanders. If those critical parts are damaged, broken, deteriorated or installed incorrectly, immediately replace them or install them correctly. If the machine continues to operate with those parts in improper working condition, players or bystanders may get injured. To order those parts, contact your distributor.



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Explanation of critical parts for safety of players and bystanders

Test mode

Troubleshooting

7-4 Pre-service check

Check the following items before commencing operation.

If any problem is found, take corrective measures by referring to “8B-2 Troubleshooting” on page 121.

7-4-1 Safety check (before power ON)

WARNING

- **To prevent accidents and injury, be sure to conduct the pre-service check described in “7-4-1 Safety check (before power ON)” on page 38 before commencing operation.**
- **To prevent accidents and injury, be sure to check that the machine is not installed in a place described in “5-1-1 Locations to avoid” on page 27 before commencing operation.**
- **Operating the machine with damaged, broken or deteriorated parts, or with incorrectly installed parts can cause injury to players or people near the machine. If an abnormality is found, replace defective parts immediately. To order parts, contact your distributor.**

- (1) Are all warning indications in place? (See P. 3 “1-4 Description of warning labels attached to the machine.”)
- (2) Are the warning indications legible? (See P. 3 “1-4 Description of warning labels attached to the machine.”)
- (3) Are all level adjusters adjusted properly? (See P. 96 “8A-1-3 Connecting the Front Assy to the Ride Assy, and adjusting level adjusters.”)
- (4) Is the specified play zone provided? (See P. 28 “5-1-2 Play zone of installed machine.”)
- (5) Are the power cord routed so that they will not cause players or other customers to trip over?
- (6) Are the power cord securely connected to the AC outlet and the power input socket on the machine? (See P. 99 “8A-1-6 Connecting the power cord and ground lead.”)
- (7) Is the power cord plug free of dust? (See P. 100 “8A-1-5 Connecting the power cord and ground lead.”)
- (8) Are the molded parts of the Seat Assy free of damage? (See P. 37 “7-3 Explanation of critical parts for safety of players and bystanders.”)
- (9) Are the bellows on the Base Assy free of damage? (See P. 37 “7-3 Explanation of critical parts for safety of players and bystanders.”)
- (10) Are the pipes on the Curtain Assy straight and equipped with undamaged pipe caps? (See P. 37 “7-3 Explanation of critical parts for safety of players and bystanders.”)

Check the following items after turning on the power switch. If an abnormality is found, turn off the power switch immediately to stop operating the machine. Then, unplug the power cord from the AC outlet and contact your distributor.

- (11) Is any part of the power cord or plug abnormally hot?
- (12) Does touching the machine give an electric shock?
- (13) Is there a burning smell, abnormal noise or vibration?
- (14) Is there any other sign of abnormality or malfunction?
- (15) Do the Emergency Stop buttons function properly? (See P. 49 “7-7-4 Switch/sensor test (I/O TEST).”)

7-4-2 Operation check (after power ON)

Check the following items in the Test mode. (See P. 45 “7-6-2 Adjustment switches.”)

- (1) Check the lamps for proper operation. (Do the fluorescent lamps, Emergency Stop buttons, and Start buttons light?)
(See P. 49 “7-7-4 Switch/sensor test (I/O TEST).”)
- (2) Check the Start buttons for proper operation.
(See P. 49 “7-7-4 Switch/sensor test (I/O TEST).”)
- (3) Check the wheel for proper operation.
(See P. 49 “7-7-4 Switch/sensor test (I/O TEST).”)
- (4) Check the guns for proper operation.
(See P. 49 “7-7-4 Switch/sensor test (I/O TEST).”)
- (5) Check the displayed image. (Does the monitor show images properly?)
(See P. 58 “7-7-5 Monitor adjustment (MONITOR TEST).”)
- (6) Check the sound. (Is sound produced by each speaker?)
(See P. 60 “7-7-6 Sound adjustment (SOUND TEST).”)

7-4-3 Compressor inspection items

Conduct the following inspections and maintenance on a daily basis.

- Disposing of water drained from the compressor
- Checking the compressor for abnormal sound, vibration and odor
- Inspecting the filter regulator pressure setting

Other inspections should be performed by a technician. (See P. 110 “8B-1-2 Compressor maintenance.”)

(1) Disposing of water drained from the compressor

If water drained from the compressor is not disposed of regularly, water can enter the pneumatically operating parts and result in a malfunction.

Furthermore, rust remains in the air tank and causes problems in the filter regulator and other pneumatic parts, thus resulting in a malfunction.

- 1** When the power switch is turned off (see P.44 “7-6-1 Power switch location and turning on the switch”), compressed air and water are automatically discharged from the compressor.

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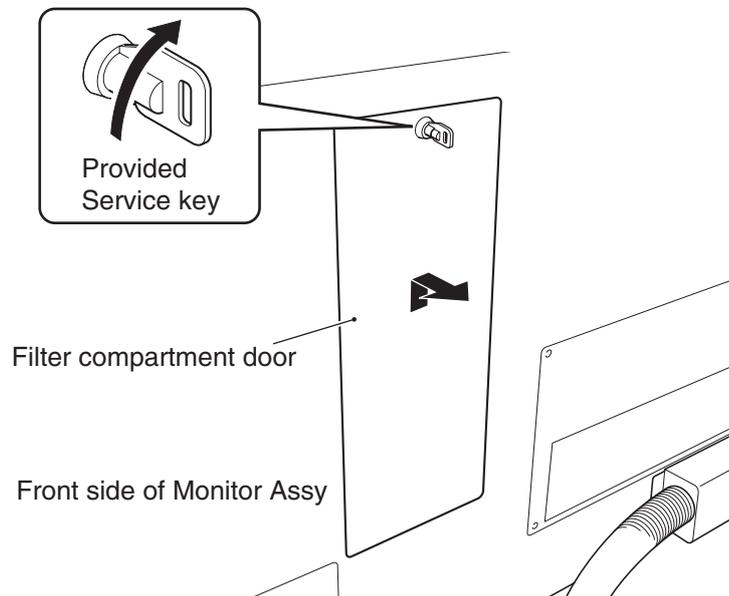
Pre-service check

Test mode

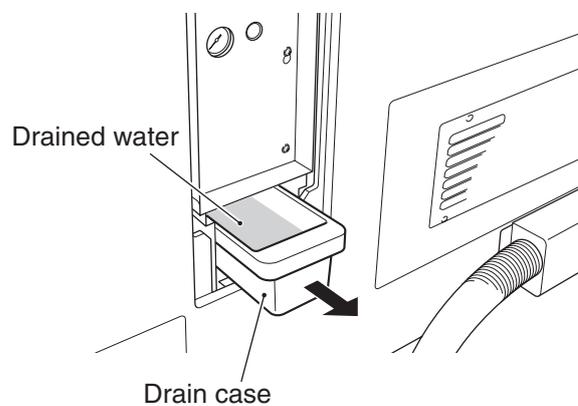
Troubleshooting

- 2 Wait for approx two minutes after turning off the power switch, and then unlock the filter compartment door using the provided Service key, and open the door.

* If the filter compartment door is opened while water discharging sound is produced, water may splash.



- 3 Dispose of drained water from the drain case.

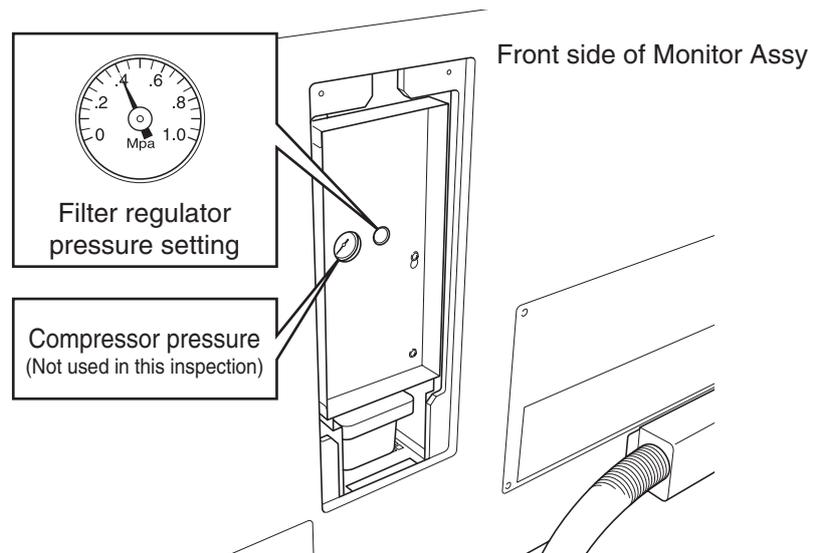


(2) Checking the compressor for abnormal sound, vibration and odor

- 1 Check to make sure that the compressor does not produce abnormal vibration, noise or odor during operation.
- 2 If an abnormality is noticed, have the machine inspected by a technician. (See P. 110 "8B-1-2 (2) Checking the compressor for abnormal sound, vibration and odor.")

(3) Inspecting the filter regulator pressure setting

- 1** Turn off the power switch (see P.44 “7-6-1 Power switch location and turning on the switch”), and wait until the compressor stops operating (approx. 4 minutes).
- 2** Using the provided Service key, open the filter compartment door, and check the indicator position on the filter regulator. Pressure should be in a range of 0.35 to 0.40 MPa.



- 3** If the indicated pressure is outside the range of 0.35 to 0.40 MPa, request a technician to inspect the compressor. (See P. 113 “8B-1-2 (3) Inspecting the filter regulator pressure setting.”)

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Pre-service check

Test mode

Troubleshooting

7-5 How to play

(1) Basic rules

1. Players shoot approaching enemy pirates and monsters.
2. The player's life level decreases when the player is struck by a sword or bitten. If the player fails to turn the wheel as instructed when it is necessary to do so, the life level also decreases. When the life level decreases to 0, the game ends.
3. When a circular target mark appears on an enemy's body or on the weapon thrown by an enemy, shoot and destroy it.
4. There are two types of target marks: normal target marks and gold target marks. A gold target mark appears on a strong and powerful enemy who is difficult to destroy. Use "united shots" to destroy a strong and powerful enemy. (See P. 42 "7-5 (3) Explanation of the game system.")
5. When two persons are playing the game, the rating of the combination play of the two players is displayed on the result screen. The combination play rating becomes higher when the players use united shots effectively to destroy enemies and operate the wheel skillfully to evade danger.

(2) Operating method

1. Shooting the golden gun — Pull the trigger on the gun-shaped controller (Gun Assy) to shoot. When the trigger is held pulled, the gun shoots consecutively.
2. Shooting the cannon — When the weapon changes to a cannon, pull the trigger to shoot the cannon. To shoot the cannon continuously, it is necessary to pull the trigger after each shot, unlike the golden gun. Also, there will be a time delay between shots.
3. Turning the wheel — It is necessary to turn the wheel to navigate the ship or dodge the enemy's attack in some situations during the game. Turn the wheel according to the instructions displayed on the screen to evade danger.

(3) Explanation of the game system

1. Combination Shot

By aligning the gunsights of the two guns on a target, players can launch a combination shot that is more powerful than an ordinary shot. When shooting combination shots, the gunsight on the screen becomes larger and the color of the shots and the shooting sound also change.

Use combination shots to destroy enemies with a gold target mark. Other enemies can also be destroyed easier when combination shots are used.

2. Special Shot

When a player shoots a green gem placed on a ship or in pirates' hide-out, the gun of the player who shot the gem increases in power and is able to destroy many enemies with each shot.

3. Red Barrel

The red barrel placed on a ship or in pirates' hide-out explode when shot. By shooting a red cask near enemies, the cask explodes and destroys the enemies nearby.

4. Treasure box

When a player shoots a treasure box on a ship or in pirates' hide-out, the player gains additional scores.

5. Treasure Hunt

In the event indicated "Treasure Hunt !" a player selects one from two or three treasure boxes shown on the screen and shoots it. If the shot treasure box contains an item, the player's life level increases.

6. Continue Roulette

When two persons are playing the game, if one person plays Continuity game, the other player's life level also increases.

The amount of life level increase is determined by the roulette that appears in the Continuity game.

The roulette stops after a certain time, but it can be stopped by pressing the Start button.

(4) Start button

1. The game starts on the side on which the Start button is pressed.
When the left-side Start button is pressed, the player plays the game as Eric (red).
When the right-side Start button is pressed, the player plays the game as Leah (blue).
2. A player can join the game anytime during the game.
3. When a message, "Press the Start button to skip," appears during a demo scene between game scenes, pressing the Start button skips the demo scene.

(5) Emergency Stop button

1. To stop the seat from moving during the game, press the Emergency Stop button.
2. To resume the seat motion, press the Emergency Stop button again.

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How to play

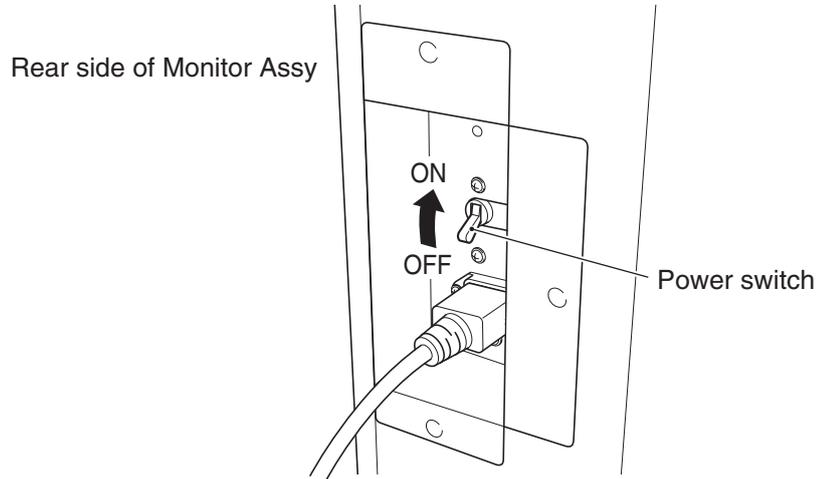
Test mode

Troubleshooting

7-6 Explanation of the power switch and adjustment switches

7-6-1 Power switch location and turning on the switch

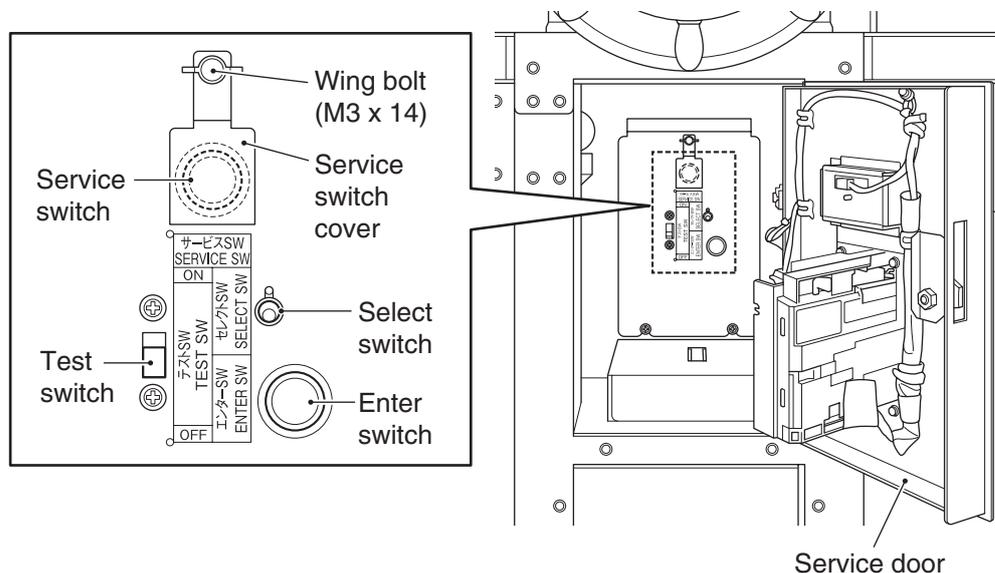
Turn on the power switch on the machine.



- Be sure to complete the installation and setup of the machine before turning on the power switch.
- When turning the power switch on or off, wait at least 30 seconds between switch operations. Do not repeat turning the power switch on and off unnecessarily. Repeated on/off operations can cause damage to the data in the backup memory. (When draining water from the compressor, wait at least 2 minutes before turning the power switch on or off. (See P. 39 “7-4-3 (1) Disposing of water drained from the compressor.”))

7-6-2 Adjustment switches

Open the service door to gain access to the adjustment switches.



(a) Service switch (red)

Loosen the wing bolt (M3 x 14), move the service switch cover to a side, and press this switch to increase the credit count without activating the coin counter.

(b) Select switch

In the Test mode, flip this switch up or down to select an item or setting (numeric value).

(c) Test switch

Set this switch to ON to activate the Test mode. The Test mode is used to test the monitor and others. (See P. 46 "7-7 Test mode.")

(d) Enter switch (green)

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

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Explanation of the power switch and adjustment switches

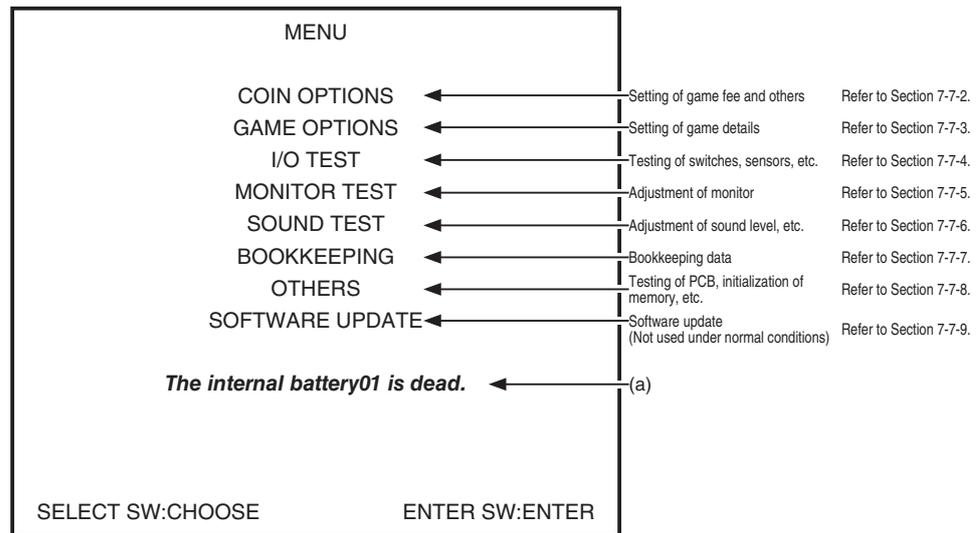
Test mode

Troubleshooting

7-7 Test mode

7-7-1 Description of the menu screen (MENU)

- 1** Unlock the service door and set the Test switch to ON. (See P. 45 “7-6-2 Adjustment switches.”)
The Menu screen appears on the monitor.



Menu screen

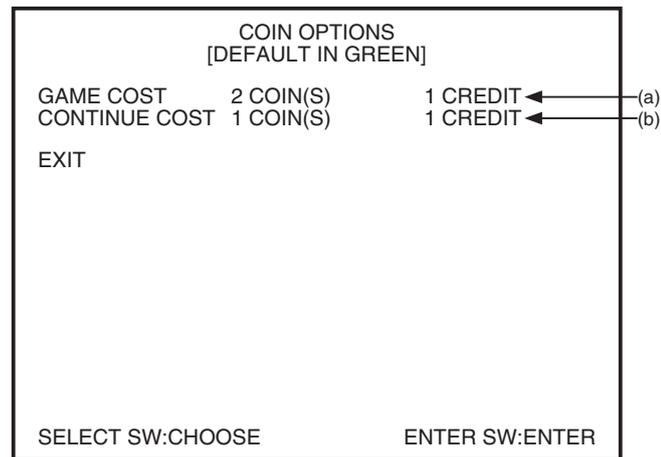
Item	Description
(a) This error message appears when the internal battery of the Rack Assy runs out. (The number shown immediately after “battery” may be “02” in some cases.)	When this message appears, turn off the power switch and wait for about 10 minutes. Then, turn on the power switch again. If an error message, “BACKUP MEMORY ERROR,” appears during the startup, set the Test switch to ON to activate the Test mode and initialize the backup memory (see P 67 “7-7-8 (4) BACKUP MEMORY INITIALIZE.”). If the same error is generated after the power switch is turned off and on again, the internal battery may be low in capacity or defective.

- 2** Flip the Select switch up or down to select an item. The selected item is indicated by blinking.
* When “EXIT” is displayed on the screen, selecting “EXIT” and entering the selection returns the display to the previous screen.
- 3** Press the Enter switch to enter the selection.
- 4** When the selection is entered, the screen shows the applicable setting items.
- 5** After all adjustments are completed, set the Test switch to OFF.
The display returns to the game screen.

7-7-2 Game fee setting (COIN OPTIONS)

This screen is used to set the game fee and others.

- 1** Select "COIN OPTIONS" in the Menu screen and press the Enter switch. (See P. 46 "7-7-1 Description of the menu screen (MENU).")
The Coin Options screen appears on the monitor.



Coin Options screen

Item	Description	Default setting
(a) GAME COST	Set the number of coins required to play the game. 1 to 19 coins	2
(b) CONTINUE COST	Set the number of coins required to play Continuity game. 1 coin to the value entered in GAME COST The value set in CONTINUE COST cannot be larger than the value set in GAME COST. If the value in GAME COST is reduced to a value lower than the value in CONTINUE COST, the value in CONTINUE COST is automatically changed to the same value set in GAME COST.	1

- 2** Flip the Select switch up or down to select an item.
The selected item is indicated by blinking.
- 3** Press the Enter switch to enter the selection.
- 4** After the selection is entered, change the setting using the Select switch.
- 5** After the setting has been changed, press the Enter switch to return to the item selection screen.
- 6** To return the Menu screen, select "EXIT" and press the Enter switch.

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Test mode

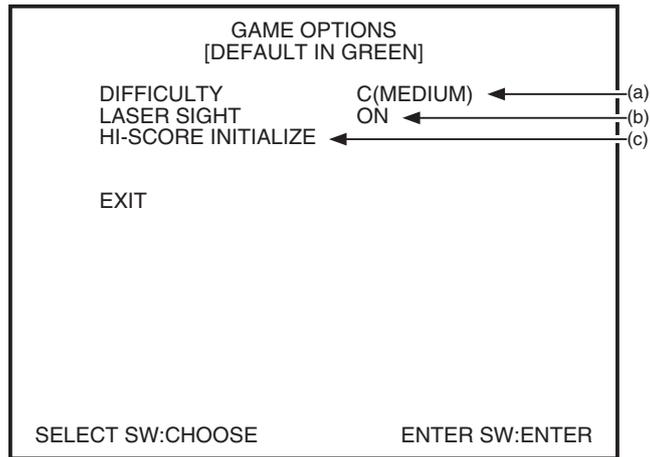
Test mode

Troubleshooting

7-7-3 Game detail setting (GAME OPTIONS)

This screen is used to set game details.

- 1** Select "GAME OPTIONS" in the Menu screen and press the Enter switch. (See P. 46 "7-7-1 Description of the menu screen (MENU).")
The Game Options screen appears on the monitor.
Parameters in default setting are indicated in green.



Game Options screen

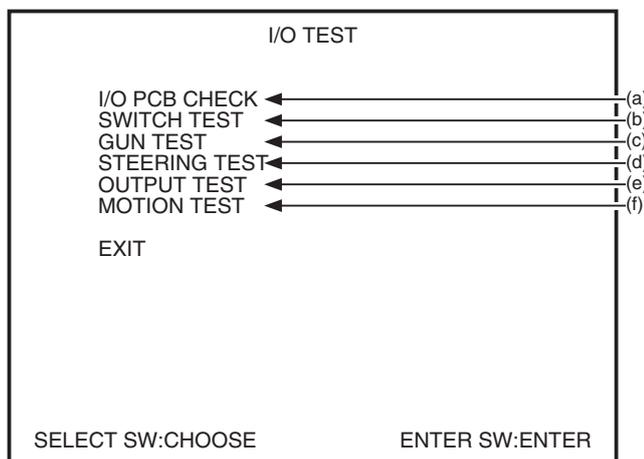
Item	Description	Default setting
(a) DIFFICULTY	Set the game difficulty level. A (VERY EASY) B (EASY) C (MEDIUM) D (HARD) E (VERY HARD)	C (MEDIUM)
(b) LASER SIGHT	Shows a line from the gun unit to the crosshair aim to assist player.	ON
(c) HI-SCORE INITIALIZE	Initializes the stored high score data. When this item is selected and entered, the screen displays a message, "HI-SCORE INITIALIZE?," and prompts for the input of "YES" or "NO." NO: Returns to the item selection screen without initializing the high score data. YES: Initialize the high score data.	—

- 2** Flip the Select switch up or down to select an item.
The selected item is indicated by blinking.
- 3** Press the Enter switch to enter the selection.
- 4** After the selection is entered, change the setting using the Select switch.
- 5** After the setting has been changed, press the Enter switch to return to the item selection screen.
- 6** To return the Menu screen, select "EXIT" and press the Enter switch.

7-7-4 Switch/sensor test (I/O TEST)

This screen is used to test the switches and others.

- 1** Select "I/O TEST" in the Menu screen and press the Enter switch. (See P. 46 "7-7-1 Description of the menu screen (MENU).")
The I/O Test screen appears on the monitor.



I/O Test screen

Item	Description
(a) I/O PCB CHECK	Checks the I/O PC Board.
(b) SWITCH TEST	Executes the switch input test.
(c) GUN TEST	Executes the Gun Assy test, initializes the Gun Assys.
(d) STEERING TEST	Executes the wheel test.
(e) OUTPUT TEST	Executes the illuminated button test and Gun Assy vibration test.
(f) MOTION TEST	Executes the Ride Assy operation test.

- 2** Flip the Select switch up or down to select an item.
The selected item is indicated by blinking.
- 3** Press the Enter switch to enter the selection.
When the selection is entered, the screen shows the details of the selected item.
- 4** To return the Menu screen, select "EXIT" and press the Enter switch.

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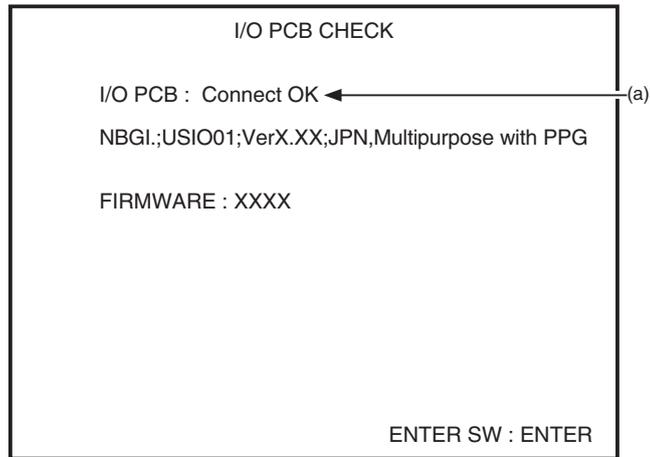
Test mode

Test mode

Troubleshooting

(1) I/O PCB CHECK

This screen is used to confirm the condition of the USIO PC Board.



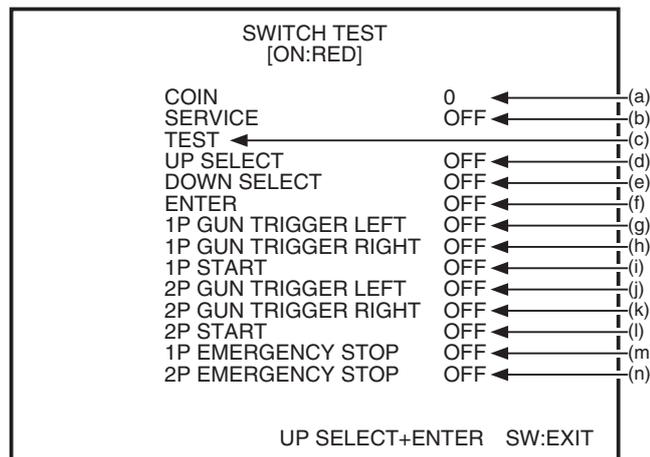
Item	Description
(a) I/O PCB	Displays "CONNECT OK" when the PC Board is normal.

To return to the I/O Test screen, select "EXIT" and press the Enter button.

(2) SWITCH TEST

This screen is used to test the switches.

- 1** Select "SWITCH TEST" in the I/O Test screen and press the Enter switch. (See P. 49 "7-7-4 Switch/sensor test (I/O TEST).")
The Switch Test screen appears on the monitor.



Switch Test screen

Item	Description
(a) COIN	The counter increments by 1 each time the coin switch receives input. When the counter value exceeds 255, it returns to 0. The coin counter also operates.
(b) SERVICE	Shows "ON" while the Service switch is pressed. (In the Test mode, pressing the switch does not add any credit.)
(c) TEST	Shows "ON" when the Test switch is set to ON. (Since the Test mode screen is being displayed, this indication always shows "ON.")
(d) UP SELECT	Shows "ON" while the Select switch is in the raised position
(e) DOWN SELECT	Shows "ON" when the Select switch is the lowered position.
(f) ENTER	Shows "ON" while the Enter switch is pressed.
(g) 1P GUN TRIGGER LEFT	Shows "ON" while the Trigger (left) on the 1P-side Gun Assy is pressed.
(h) 1P GUN TRIGGER RIGHT	Shows "ON" while the Trigger (right) on the 1P-side Gun Assy is pressed.
(i) 1P START	Shows "ON" while the 1P-side Start button is pressed.
(j) 2P GUN TRIGGER LEFT	Shows "ON" while the Trigger (left) on the 2P-side Gun Assy is pressed.
(k) 2P GUN TRIGGER RIGHT	Shows "ON" while the Trigger (right) on the 2P-side Gun Assy is pressed.
(l) 2P START	Shows "ON" while the 2P-side Start button is pressed.
(m) 1P EMERGENCY STOP	Shows "ON" while the 1P-side Emergency Stop button is pressed.
(n) 2P EMERGENCY STOP	Shows "ON" while the 2P-side Emergency Stop button is pressed.

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

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 - 11
- Test mode

- Test mode
- Troubleshooting

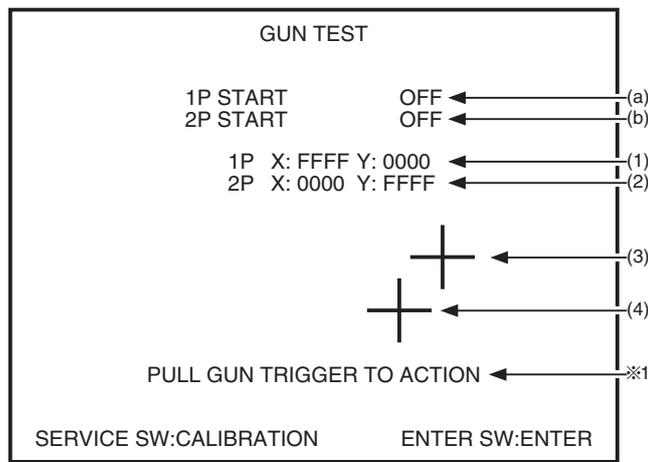
(3) GUN TEST

This screen is used to test and initialize the gunsights of the Gun Assys and test the operation of the gun vibration units.



- After maintaining or replacing a Gun Assy or USIO PC Board, be sure to conduct the calibration described in “GUN CALIBRATION” on page 55.

- 1** Select “GUN TEST” in the I/O Test screen and press the Enter switch. (See P. 49 “7-7-4 Switch/sensor test (I/O TEST).”) The Gun Test screen appears on the monitor.



Gun Test screen

Item	Description
(a) 1P START	Shows the status of the Start button on the 1P-side Gun Assy. *2
(b) 2P START	Shows the status of the Start button on the 2P-side Gun Assy. *2
(1) 1P X-coordinate, Y-coordinate	Shows the X and Y coordinates of the crosshair aim of the 1P-side gun.
(2) 2P X-coordinate, Y-coordinate	Shows the X and Y coordinates of the crosshair aim of the 2P-side gun.
(3) Gun crosshairs (red)	Shows the crosshair aim of the 1P-side Gun Assy on the screen.
(4) Gun crosshairs (blue)	Shows the crosshair aim of the 2P-side Gun Assy on the screen.

*1 The vibration unit operates when the trigger on a Gun Assy is pulled.

*2 The Start button lights when it is pressed.

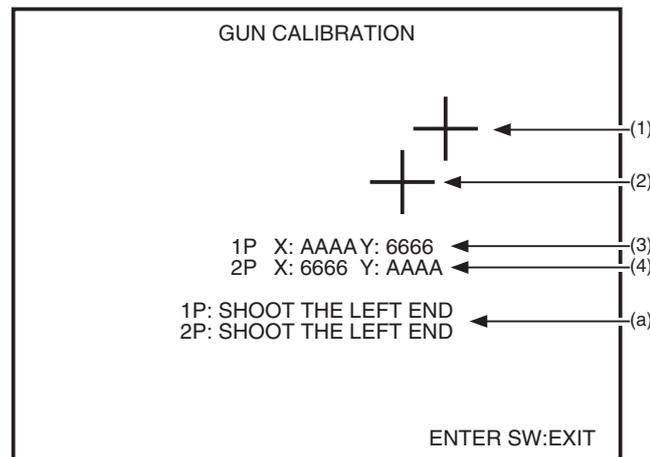
- 2** Loosen the wing bolt, move the service switch cover to a side, and press the Service switch to display the calibration setting screen. (See P. 53 “7-7-4 (4) GUN CALIBRATION.”)

- 3** To return to the I/O Test screen, press the Enter switch.

(4) GUN CALIBRATION

This screen is used to calibrate the Gun Assys.

- 1** Press the Service switch while the Gun Test screen is displayed. (See P. 52 “7-7-4 (3) GUN TEST.”)
The Gun Calibration screen appears on the monitor.



Gun Calibration screen

Item	Description
(1) Gun crosshairs (red)	Shows the location of the crosshair aim of the 1P-side Gun Assy (after completion of adjustment).
(2) Gun crosshairs (blue)	Shows the location of the crosshair aim of the 2P-side Gun Assy (after completion of adjustment).
(3) 1P X-coordinate, Y-coordinate	Shows the X and Y coordinates of the crosshair aim of the 1P-side gun.
(4) 2P X-coordinate, Y-coordinate	Shows the X and Y coordinates of the crosshair aim of the 2P-side gun.
(a) Displays the procedure for calibrating the gun	<p>Gun calibration can be performed by moving and operating each Gun Assy on the 1P and 2P sides as shown below.</p> <p>(1) [SHOOT THE LEFT END] Move the gun all the way to the left and press the Trigger button once.</p> <p>(2) [SHOOT THE RIGHT EDGE] Move the gun all the way to the right and press the Trigger button once.</p> <p>(3) [SHOOT THE TOP] Move the gun all the way to the top and press the Trigger button once.</p> <p>(4) [SHOOT THE BOTTOM] Move the gun all the way to the bottom and press the Trigger button once.</p> <p>(5) [FINISHED] The calibration has been completed. The adjustment data are saved and the crosshairs appear on the screen.</p>

- 2** Move the gun being calibrated all the way to the left and press the Trigger button once. This sets the crosshair position of that gun.
- 3** In the same manner, press the Trigger button each time after moving the gun all the way to the right, to the top and then to the bottom.
- 4** To return to the Gun Test screen, press the Enter switch.

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Test mode

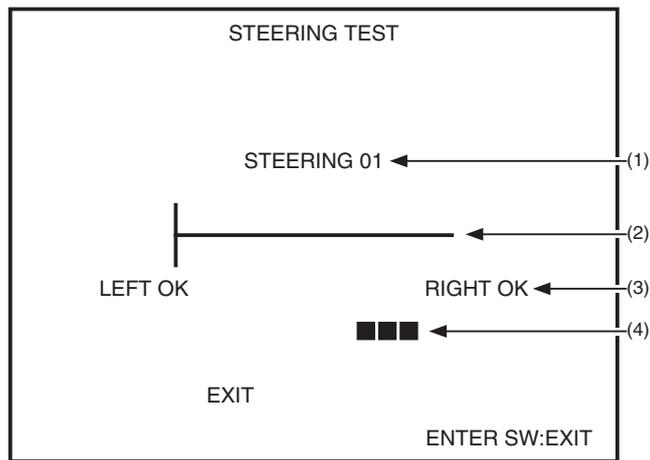
Test mode

Troubleshooting

(5) STEERING TEST

This screen is used to test the sensor for detecting the wheel rotation.

- 1** Select "STEERING TEST" in the I/O Test screen and press the Enter switch. (See P. 49 "7-7-4 Switch/sensor test (I/O TEST).")
The Steering Test screen appears on the monitor.



Steering Test screen

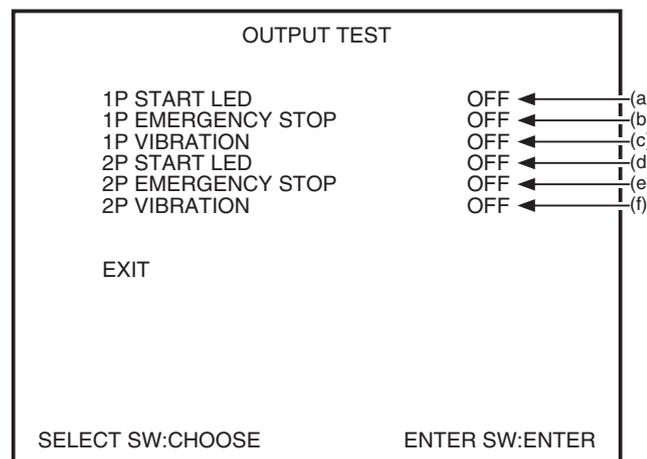
Item	Description
(1) Wheel counter	Displays the wheel count.
(2) Wheel bar	The bar graph shows the wheel movement detected by the sensor.
(3) Wheel sensitivity stability measurement	Displays "OK" when the wheel sensor is normal.
(4) Wheel rotation speed measurement	The wheel turning speed is indicated by the number of "■" marks.

- 2** Turn the wheel to the left and then to the right to make sure that "OK" is displayed each time.
- 3** To return to the I/O Test screen, press the Enter switch.

(6) OUTPUT TEST

This screen is used to conduct output tests.

- 1** Select "OUTPUT TEST" in the I/O Test screen and press the Enter switch. (See P. 49 "7-7-4 Switch/sensor test (I/O TEST).")
The Output Test screen appears on the monitor.



Output Test screen

Item	Description
(a) 1P START LED	When this item is set to "ON," the 1P-side Start button lights.
(b) 1P EMERGENCY STOP	When this item is set to "ON," the 1P-side Emergency Stop button lights.
(c) 1P VIBRATION	When this item is set to "ON," the vibration unit of the 1P-side Gun Assy vibrates.
(d) 2P START LED	When this item is set to "ON," the 2P-side Start button lights.
(e) 2P EMERGENCY STOP	When this item is set to "ON," the 2P-side Emergency Stop button lights.
(f) 2P VIBRATION	When this item is set to "ON," the vibration unit of the 2P-side Gun Assy vibrates.

- 2** Using the Select switch, select an item, and then press the Enter switch to enter the selection.
The selected item is indicated by blinking.
- 3** Using the Select switch, select ON or OFF, and then press the Enter switch to enter the selection.
The selected item operates.
- 4** To return to the I/O Test screen, select "EXIT" using the Select switch, and press the Enter switch.

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Test mode

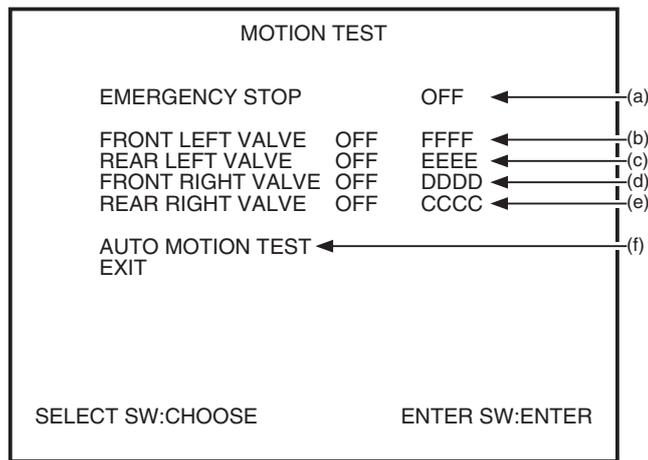
Test mode

Troubleshooting

(7) MOTION TEST

This screen is used to test the pneumatic system that moves the Base Assy.

- 1** Select "MOTION TEST" in the I/O Test screen and press the Enter switch. (See P. 49 "7-7-4 Switch/sensor test (I/O TEST).")
The Motion Test screen appears on the monitor.



Motion Test screen

Item	Description
(a) EMERGENCY STOP	Shows the status of the Emergency Stop buttons. Each time an Emergency Stop button is pressed, the indication changes between "ON" and "OFF." (When set to "ON," the Base Assy does not move.)
(b) FRONT LEFT VALVE	When this item is set to "ON," the front left section of the Base Assy rises.
(c) REAR LEFT VALVE	When this item is set to "ON," the rear left section of the Base Assy rises.
(d) FRONT RIGHT VALVE	When this item is set to "ON," the front right section of the Base Assy rises.
(e) REAR RIGHT VALVE	When this item is set to "ON," the rear right section of the Base Assy rises.
(f) AUTO MOTION TEST	When this item is selected and entered, the Auto Motion Test mode is activated. (See P. 57 "7-7-4 (8) AUTO MOTION TEST.")

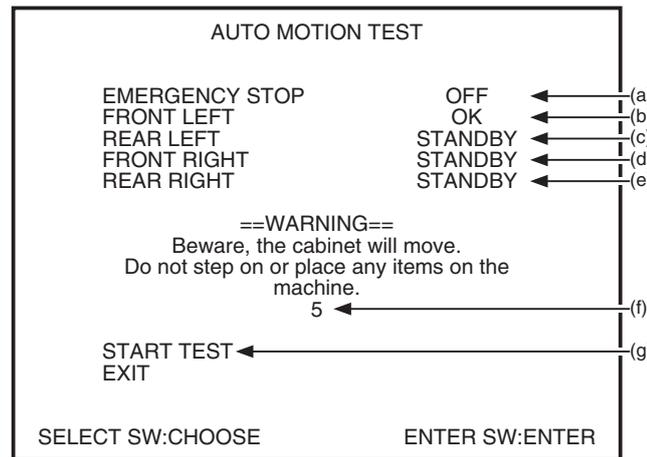
* The 4-digit indications on the right side of (b), (c), (d) and (e) are the values detected by the height sensors.

- 2**
 - (1) Flip the Select switch up or down and select "(b) FRONT LEFT VALVE" (the indication blinks when selected).
 - (2) Press the Enter switch. The "OFF" indication next to "FRONT LEFT VALVE" starts blinking.
 - (3) Make sure that the above "OFF" indication is blinking, and then flip the Select switch up or down to switch the indication between "ON" and "OFF."
ON: The selected section of the Base Assy rises.
OFF: The selected section of the Base Assy returns to the initial position.
 - (4) Press the Enter switch again. The "FRONT LEFT VALVE" indication starts blinking.
- 3** Check (c) through (e) by repeating the procedure described in above **2**.
- 4** To return to the I/O Test screen, select "EXIT" using the Select switch, and press the Enter switch.

(8) AUTO MOTION TEST

This screen is used to continuously perform the tests for the pneumatic system that moves the Base Assy.

- 1** Select "MOTION SETTING" in the Auto Motion Test screen and press the Enter switch. (See P. 56 "7-7-4 (7) MOTION TEST.")
The Auto Motion Test screen appears on the monitor.



Auto Motion Test screen

Item	Description
(a) EMERGENCY STOP	Shows the status of the Emergency Stop buttons. Each time an Emergency Stop button is pressed, the indication changes between "ON" and "OFF." (When set to "ON," the Base Assy does not move.)
(b) FRONT LEFT	The front left section of the Base Assy moves up and down, and the sensor test result is displayed on the screen.
(c) REAR LEFT	The rear left section of the Base Assy moves up and down, and the sensor test result is displayed on the screen.
(d) FRONT RIGHT	The front right section of the Base Assy moves up and down, and the sensor test result is displayed on the screen.
(e) REAR RIGHT	The rear right section of the Base Assy moves up and down, and the sensor test result is displayed on the screen.
(f) Caution indication and countdown timer	This indication appears when "START TEST" (g) is executed, and shows the remaining time before the start of the test.
(g) START TEST	The auto motion test starts. The sequence of operations is as follows: (b) → (c) → (d) → (e).

- 2** Flip the Select switch up or down and select "START TEST."
- 3** Press the Enter switch. The countdown timer shows the remaining time before the test starts.
When the countdown timer shows 0, the auto motion test begins.
The operation can be stopped by pressing the Emergency Stop button. (See P. 26 "Control Assy" in "4. OVERALL CONSTRUCTION (Names of Parts).")
After the test is completed for the four sections, the auto motion test ends.
The pneumatic system is normal if all test results show "OK."
- 4** To return to the Motion Test screen, select "EXIT" using the Select switch, and press the Enter switch.

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Test mode

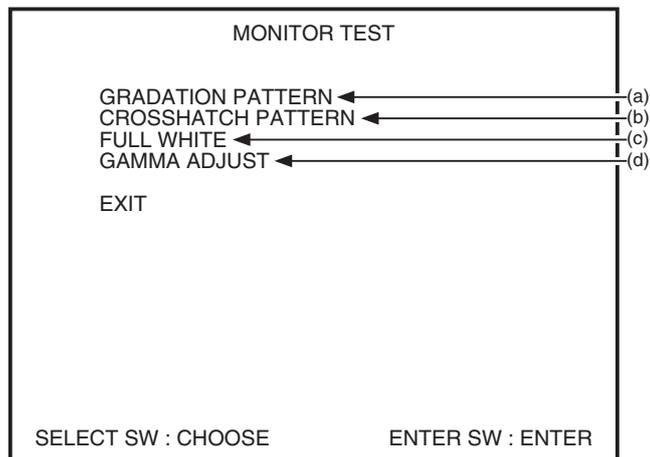
Test mode

Troubleshooting

7-7-5 Monitor adjustment (MONITOR TEST)

This screen is used to adjust the monitor.

- 1** Select "MONITOR TEST" in the Menu screen and press the Enter switch. (See P. 46 "7-7-1 Description of the menu screen (MENU).")
The Monitor Test screen appears on the monitor.



Monitor Test screen

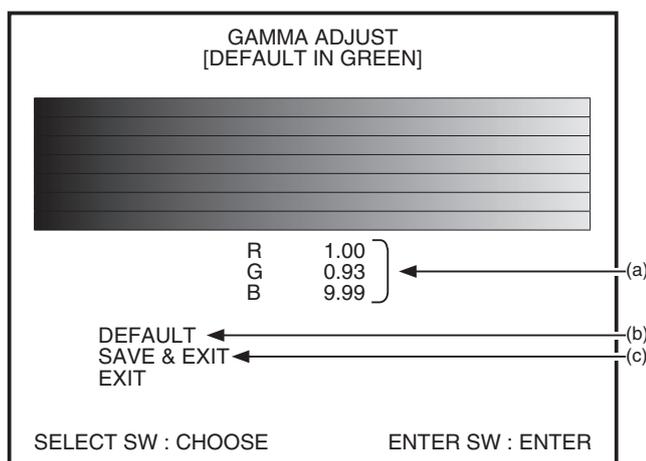
Item	Description
(a) GRADATION PATTERN	Displays a 16-step gradation pattern.
(b) CROSSHATCH PATTERN	Displays a crosshatch pattern.
(c) FULL WHITE	Displays all-white screen.
(d) GAMMA ADJUST	Displays the gamma adjustment screen. (See P. 59 "7-7-5 (1) GAMMA ADJUST.")

- 2** Flip the Select switch up or down and select an item to be changed.
- 3** Press the Enter switch to display 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 I/O Test screen, select "EXIT" and press the Enter switch.

(1) GAMMA ADJUST

This screen is used to adjust the gamma values (color).

- 1** Select "GAMMA ADJUST" in the Monitor Test screen and press the Enter switch. (See P. 58 "7-7-5 Monitor adjustment (MONITOR TEST).")
The Gamma Adjust screen appears on the monitor.



Gamma Adjust screen

Item	Description
(a) Gamma values	Change the gamma value for each of R, G and B. Each value can be adjusted in a range of 0.00 to 1.00 in intervals of 0.01. (The value increments or decrements by 0.1 when the Select switch is kept in the raised or lowered position.)
(b) DEFAULT	Returns all gamma values to 1.00 (default setting).
(c) SAVE & EXIT	Saves the settings and returns to the Monitor Test screen.

- 2** Flip the Select switch up or down to select an item.
The selected item is indicated by blinking.
- 3** Press the Enter switch to enter the selected item. Selecting and entering the item (b) or (c) reflects the settings displayed on the screen. (Proceed to **4** when (a) is selected. Proceed to **6** when (b) is selected. When (c) is selected, the display returns to the Monitor Test screen.)
- 4** Using the Select switch, adjust the gamma value.
- 5** After changing the gamma values, press the Enter switch for selection of another item.
- 6** To return to the Monitor Test screen, select "EXIT" and press the Enter switch.

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Test mode

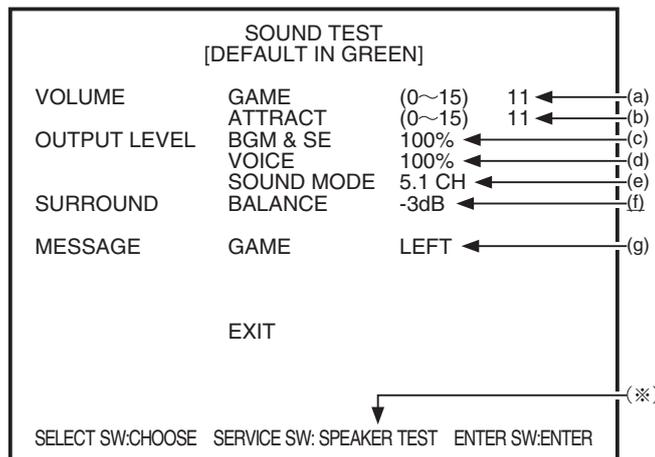
Test mode

Troubleshooting

7-7-6 Sound adjustment (SOUND TEST)

This screen is used to set the sound level and left/right output levels, and to check the sound level (stereo check).

- 1 Select "SOUND TEST" in the Menu screen and press the Enter switch. (See P. 46 "7-7-1 Description of the menu screen (MENU).")
The Sound Test screen appears on the monitor.



Sound Test screen

Item	Description	Default setting
(a) VOLUME GAME	Set the general sound level in the game mode. 0 (no sound) to 15 (max.)	11
(b) VOLUME ATTRACT	Set the general sound level in the Attract mode. 0 (no sound) to 15 (max.)	11
(c) BGM & SE	Set the sound output level of the background music and sound effects. 0 (no sound) to 100% (max.)	100%
(d) VOICE	Set the sound output level of the characters' voices. 0 (no sound) to 100% (max.)	100%
(e) SOUND MODE	5.1 CH/2.1 CH (This setting is not changed under normal conditions)	5.1 CH
(f) SURROUND BALANCE	<ul style="list-style-type: none"> If (e) indicates "5.1 CH," this item cannot be changed. If (e) indicates "2.1 CH," this item can be changed in 7 steps (-6 dB, -5 dB, -4 dB, -3 dB, -2 dB, -1 dB, 0 dB, 1 dB). 	FIX (5.1 ch) -3dB (2.1 ch)
(g) MESSAGE	Indicates the location of the speaker that is currently producing sound and its sound level setting.	

* When the Service switch is pressed, the speakers start producing sound in the following order.
Center → Front left → Front right → Rear left → Rear right → Woofer
When the Service switch is pressed with "VOLUME ATTRACT" selected, the speakers produce sound at the level set in "VOLUME ATTRACT."
If the Service switch is pressed when "VOLUME ATTRACT" is not selected, the speakers produce sound at the level set in "VOLUME GAME."

- 2 Flip the Select switch up or down and select an item to be changed.
- 3 Press the Enter switch to enter the selection.
- 4 After entering the selection, change the setting using the Select switch.
- 5 To return to the Menu screen, select "EXIT" and press the Enter switch.

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

This screen is used to display various game data.

- 1** Select "BOOKKEEPING" in the Menu screen and press the Enter switch. (See P. 46 "7-7-1 Description of the menu screen (MENU).")
The Bookkeeping screen appears on the monitor.
- 2** To change the page, select "NEXT" or "PREVIOUS" using the Select switch, and then press the Enter switch.
- 3** Select "BOOKKEEPING INITIALIZE" and press the Enter switch. The screen shows "YES" and "NO." Select "YES" and press the Enter switch to clear data to default.
* Data can also be initialized by using "BACKUP MEMORY INITIALIZE" (see P. 62 "7-7-8 Initialization and others (OTHERS)") in the Others screen.
- 4** To return to the Menu screen, select "EXIT" and press the Enter switch.

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Test mode

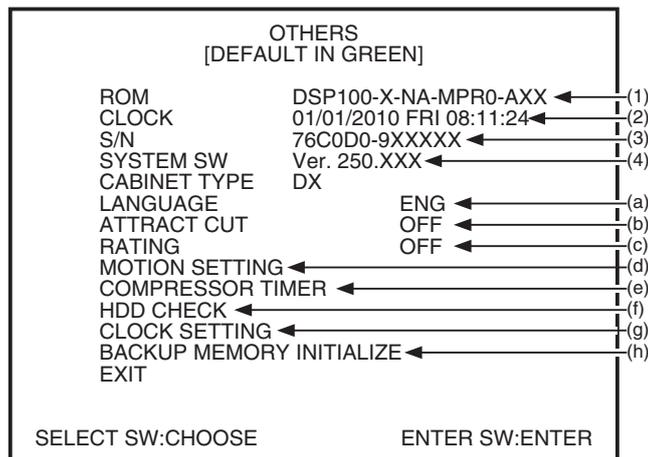
Test mode

Troubleshooting

7-7-8 Initialization and others (OTHERS)

This screen is used to initialize bookkeeping data (BOOKKEEPING) and others.

- 1** Select "OTHERS" in the Menu screen and press the Enter switch. (See P. 46 "7-7-1 Description of the menu screen (MENU).")
The Others screen appears on the monitor.



Others screen

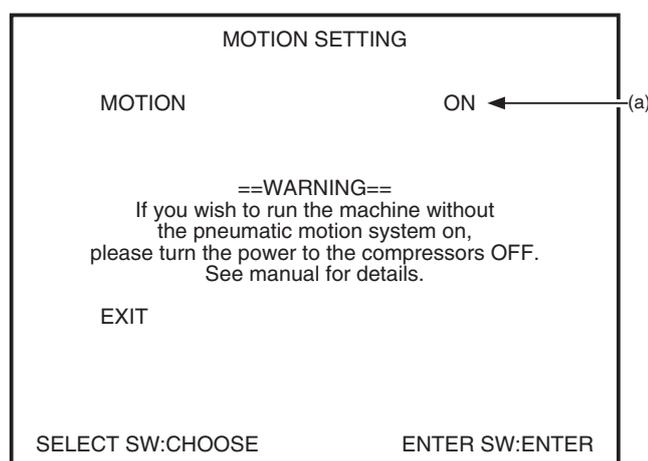
Item	Description
(1) ROM	Shows the version of the program on the hard disk.
(2) CLOCK	Shows the internal clock time.
(3) S/N	Shows the software serial No. (Indicates "NO USB KEY" if the USB dongle is not installed.)
(4) SYSTEM SW	Shows the system software version.
(a) LANGUAGE	Shows the language setting. ("ENG" English, "ITA" Italian, "SPA" Spanish))
(b) ATTRACT CUT	This is used to set whether to display the Attract demo scenes.
(c) RATING	This is used to set the color of damage display (OFF: Red, ON: Green).
(d) MOTION SETTING	This is used to set whether to enable or disable the motion function. (See P. 63 "7-7-8 (1) MOTION SETTING.")
(e) COMPRESSOR TIMER	Shows the compressor operating hours. This is also used to reset the timer. (See. P. 64 "7-7-8 (2) COMPRESSOR TIMER.")
(f) HDD CHECK	This is used for checking the hard disk. (See P. 66 "7-7-8 (3) HDD CHECK.")
(g) CLOCK SETTING	This is used to set the internal clock. (See. P. 67 "7-7-8 (5) CLOCK SETTING.")
(h) BACKUP MEMORY INITIALIZE	This is used to initialize the backup memory. (YES: Initialize, NO: Abort) (See P. 67 " 7-7-8 (4) BACK UP MEMORY INITIALIZE.")

- 2** Flip the Select switch up or down and select an item to be changed.
- 3** Press the Enter switch to enter the selection.
- 4** When (a), (b), (c) (g) or (h) is selected, change the setting using the Select switch.
When (d), (e) or (f) is selected, the screen displays the information of the selected item.
- 5** To return to the Menu screen, select "EXIT" and press the Enter switch.

(1) MOTION SETTING

This screen is used to enable or disable the Base Assy motion function.

- 1** Select "MOTION SETTING" in the Others screen and press the Enter switch. (See P. 62 "7-7-8 Initialization and others (OTHERS).")
The Motion Setting screen appears on the monitor.



Motion Setting screen

Item	Description
(a) MOTION	ON: Enables the Base Assy motion function. OFF: Disables the Base Assy motion function.

- 2** Flip the Select switch up or down to select an item, and then press the Enter switch to enter the selection.
- 3** Flip the Select switch up or down to select ON or OFF, and then press the Enter switch to enter the selection. If the motion function is set to OFF, be sure to turn off the power switch for the compressor. (See P. 135 "8B-4-1 (5) Replacing the compressor" **4**.)
* When the motion function is set to OFF, the Base Assy does not move even in the Test mode.)
- 4** To return to the Others screen, select "Exit" and press the Enter switch.

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Test mode

Test mode

Troubleshooting

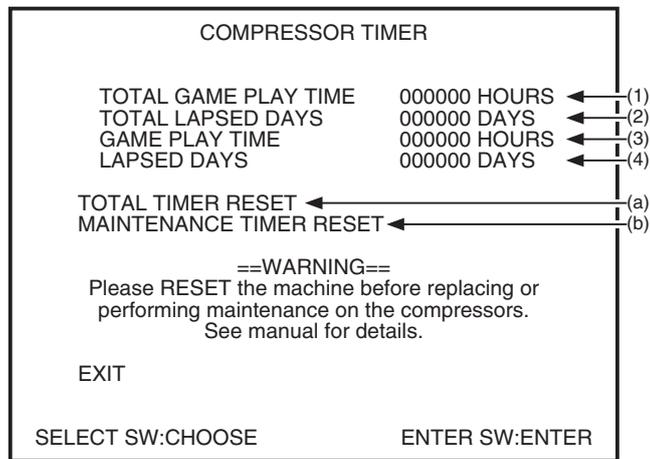
(2) COMPRESSOR TIMER

This screen displays the compressor operating hours.
 After replacing the compressor or performing the specified maintenance, execute “TOTAL TIMER RESET” or “MAINTENANCE TIMER RESET.”



- **Manage the operating hours and conduct compressor maintenance in proper intervals. Neglecting to conduct compressor maintenance may result in an unexpected accident.**

- 1** Select “COMPRESSOR TIMER” in the Others screen and press the Enter switch. (See P. 62 “7-7-8 Initialization and others (OTHERS).”) The Compressor Timer screen appears on the monitor.



Compressor Timer screen

Item	Description
(1) TOTAL GAME PLAY TIME	Shows the total game play hours from the time of compressor installation/replacement.
(2) TOTAL LAPSED DAYS	Shows the total time elapsed from compressor installation/replacement.
(3) GAME PLAY TIME	Shows the total game play hours from the time of last maintenance.
(4) LAPSED DAYS	Shows the days elapsed from the last compressor maintenance.
(a) TOTAL TIMER RESET	This is used to reset the timer after overhaul or replacement of the compressor. (See (6) in the table Page 65.)
(b) MAINTENANCE TIMER RESET	This is used to reset the timer after completion of specified maintenance. (See (1) through (5) in the table Page 65.)

Conduct the item (a) or (b) after completing the following inspection/maintenance.

Inspection/maintenance item	Inspection/maintenance interval	Item to be reset
(1) Confirmation of Compressor Assy startup and stopping (see P. 115) (2) Inspection of compressor filter (see P. 116 and P. 137) (3) Inspection of Y-shape strainer (see P. 116) (4) Inspection of drainage discharge solenoid valve (see P. 117) (5) Inspection of filter regulator element (see P. 118) (6) Replacement of the intake filter. (see P. 119 and P. 152) (7) Inspection of the safety valve (see P. 120) (8) Inspection of the O-ring in the non-return valve (see P. 120 and P. 153)	Every 1,500 hours or 6 elapsed months	(b) MAINTENANCE TIMER RESET
(9) Overhaul	Every 8,000 game play hours or 3 elapsed years	(a) TOTAL TIMER RESET

2 Flip the Select switch up or down to select an item.
The selected item is indicated by blinking.

3 When “TOTAL TIMER RESET” or “MAINTENANCE TIMER RESET” is selected, the screen displays “YES” or “NO.”

Selecting “YES” initializes the timer. When the timer initialization is finished, the screen shows “OK” and the timer count returns to “0.”

Select “TOTAL TIMER RESET.”

TOTAL TIMER RESET?	NO
	YES

↓ Select “YES.”

TOTAL TIMER RESET	OK
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4 To return to the Others screen, select “Exit” and press the Enter switch.

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Test mode

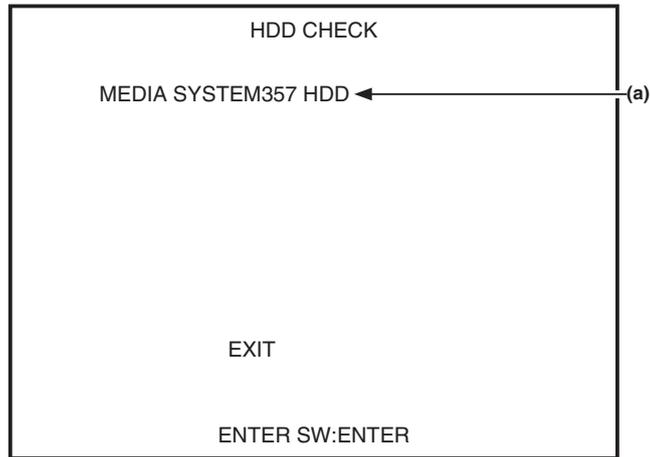
Test mode

Troubleshooting

(3) HDD CHECK

This screen displays the HDD check result.

- 1** Select "HDD CHECK" in the Others screen and press the Enter switch. (See P. 62 "7-7-8 Initialization and others (OTHERS).")
The HDD Check screen appears on the monitor.



HDD Check screen

Item	Description
(a) SYSTEM 357 HDD	The installed hard disk is normal. If the above screen is not displayed, the hard disk or Rack Assy (SYS357) may be defective. Contact your distributor.

- 2** To return to the Others screen, select "Exit" and press the Enter switch.

(4) BACK UP MEMORY INITIALIZE

This screen is used to initialize the backup memory.

- 1** Select "BACK UP MEMORY INITIALIZE" in the Others screen and press the Enter switch. (See P. 62 "7-7-8 Initialization and others (OTHERS).")
- 2** Using the Select switch, select an item. The selected item is indicated by blinking.
- 3** Press the Enter switch to enter the selection. When "BACK UP MEMORY INITIALIZE" is selected and entered, the screen displays "BACK UP MEMORY INITIALIZE" and prompts for the input of "YES" or "NO."
Selecting "YES" starts the initialization process. When the initialization is finished, data in the memory return to default. Select "BACK UP MEMORY INITIALIZE."

BACK UP MEMORY INITIALIZE?	NO
	YES

↓ Select "YES."

BACK UP MEMORY INITIALIZE	OK
---------------------------	----

- 4** To return to the Menu screen, select "EXIT" and press the Enter switch.

(5) CLOCK SETTING

This screen is used to set the internal clock.

- 1** Select "CLOCK SETTING" in the Others screen and press the Enter switch. (See P. 62 "7-7-8 Initialization and others (OTHERS).")
The Clock Setting screen appears on the monitor.

CLOCK SETTING	
CLOCK '04/01/2010 THU 19:28:56	
YEAR	10 +2000 ← (a)
MONTH	04 ← (b)
DAY	01 ← (c)
HOUR	19 ← (d)
MINUTE	03 ← (e)
SET	← (f)
EXIT	
SELECT SW:CHOOSE ENTER SW:ENTER	

Clock Setting screen

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Test mode

Test mode

Troubleshooting

7. OPERATION

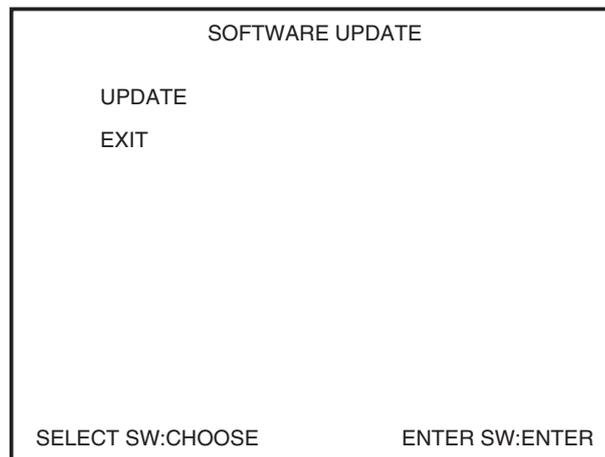
Item	Description
(a) YEAR	Setting of the year (00 to 99)
(b) MONTH	Setting of the month (01 to 12)
(c) DAY	Setting of the day (01 to 31)
(d) HOUR	Setting of the hour (00 to 23)
(e) MINUTE	Setting of the minute (00 to 59)
(f) SET	Enter the clock settings. The values (1) through (e) are set in the internal clock.

- 2** Using the Select switch, select an item.
The selected item is indicated by blinking.
- 3** Press the Enter switch to enter the selection.
- 4** After selecting an item, change the setting using the Select switch.
- 5** After changing the setting, press the Enter switch for selection of another item.
- 6** After changing the items (a) through (e), select "SET" and press the Enter switch to enter the settings in the internal clock. The clock starts from the set date/time at 00 second.
- 7** Select "EXIT" and press the Enter switch to return to the Menu screen.
Set the Test switch to OFF to return to the game screen, and then check to make sure that the clock displays the correct date/time.

7-7-9 Software update

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

- 1 Select "SOFTWARE UPDATE" in the Menu screen and press the Enter switch. (See P. 46 "7-7-1 Description of the menu screen (MENU).")
The Software Update screen appears on the monitor



Software Update screen

- 2 To return to the Menu screen, select "EXIT" and press the Enter switch.

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Test mode

Test mode

Troubleshooting

7-8 Error display (for the arcade operator)



- The following shows items to be checked by the arcade operator.
- If the same error indication remains after the appropriate countermeasure has been taken, set the Test switch to ON and then to OFF to cancel the error indication.

Error indication	Cause	Remedy
BATTERY02 ERROR	The Rack Assy PCB is defective.	Request a technician to correct the problem. See P.127 "8B-3 Error display (for the technician)"
NOT CONNECT I/O-PCB	The USIO PC Board or its harness is defective.	Request a technician to correct the problem. See P.127 "8B-3 Error display (for the technician)"
BACKUP MEMORY ERROR	The USIO PC Board is defective.	Request a technician to correct the problem. See P.127 "8B-3 Error display (for the technician)"
	The data in the backup memory is damaged.	Initialize the backup memory. (See P. 62 "7-7-8 Initialization and others (OTHERS).")
FIRMWARE ERROR	The USIO PC Board is defective.	Request a technician to correct the problem. See P.127 "8B-3 Error display (for the technician)"
MEMORY ERROR	The USIO PC Board is defective.	Request a technician to correct the problem. See P.127 "8B-3 Error display (for the technician)"
SYSTEM ERROR 01	The Rack Assy PCB is defective.	Request a technician to correct the problem. See P.127 "8B-3 Error display (for the technician)"
SYSTEM ERROR 02	The Rack Assy PCB or hard disk is defective.	Request a technician to correct the problem. See P.127 "8B-3 Error display (for the technician)"
SYSTEM ERROR 03	The Rack Assy PCB or hard disk is defective.	Request a technician to correct the problem. See P.127 "8B-3 Error display (for the technician)"
SYSTEM ERROR 04	The Rack Assy PCB or hard disk is defective.	Request a technician to correct the problem. See P.127 "8B-3 Error display (for the technician)"
USB-KEY ERROR (INVALID KEY)	The USB dongle is defective.	Request a technician to correct the problem. See P.127 "8B-3 Error display (for the technician)"
	A wrong USB dongle is installed.	Request a technician to correct the problem. See P.127 "8B-3 Error display (for the technician)"
USB-KEY ERROR (NO KEY)	The USB dongle is not installed.	Request a technician to correct the problem. See P.127 "8B-3 Error display (for the technician)"
USB-KEY ERROR (IO ERROR)	The USB dongle is defective.	Request a technician to correct the problem. See P.127 "8B-3 Error display (for the technician)"
	The Rack Assy PCB is defective.	Request a technician to correct the problem. See P.127 "8B-3 Error display (for the technician)"
COIN ERROR1	The coin selector or its harness is defective.	Request a technician to correct the problem. See P.127 "8B-3 Error display (for the technician)"
COIN ERROR2	The Service switch or its harness is defective.	Request a technician to correct the problem. See P.127 "8B-3 Error display (for the technician)"
SERVICE PLAY (indicated at the Credit display location)	This error is indicated during a game play activated with the Service switch.	It is normal if the error is displayed during a game play activated with the Service switch.
	The Service switch or its harness is defective.	Request a technician to correct the problem. See P.127 "8B-3 Error display (for the technician)"

Error indication	Cause	Remedy
<p>[CAUTION] The pneumatic system is malfunctioning. Turn off the power switch and conduct maintenance by referring to the operation manual.</p>	The air tube is defective.	Request a technician to correct the problem. See P. 127 “8B-3 Error display (for the technician)”
	The filter regulator is defective.	Request a technician to correct the problem. See P. 127 “8B-3 Error display (for the technician)”
	The compressor is defective.	Request a technician to correct the problem. See P. 127 “8B-3 Error display (for the technician)”
	The pneumatic valve is defective.	Request a technician to correct the problem. See P. 127 “8B-3 Error display (for the technician)”
<p>[CAUTION] The compressor needs maintenance. Turn off the power switch and conduct maintenance by referring to the operation manual.</p>	The game play hours exceeded 1,500 hours or the compressor operating days exceeded 6 months since the last maintenance.	Request a technician to correct the problem. See P. 127 “8B-3 Error display (for the technician)”
<p>[CAUTION] The compressor must be replaced. Turn off the power switch and replace the compressor by referring to the operation manual.</p>	The game play hours exceeded 8,000 hours or the compressor operating years exceeded approximately 3 years.	Request a technician to correct the problem. See P. 127 “8B-3 Error display (for the technician)”
<p>Attention to arcade operator: The machine has been ON continuously for more than 24 hours. This can lead to a compressor malfunction. Turn off the power switch.</p>	The machine has been ON for more than 24 hours. (Water has not been drained from the compressor for more than 24 hours.)	Turn off the power switch and wait for about 4 minutes (so that air is released from the compressor tank). Then, dispose of the water drained from the compressor and turn on the power switch.
ERROR 55	The data in the machine is damaged.	Contact your distributor.
	USB dongle of a different machine unit is installed.	Request a technician to correct the problem. See P. 127 “8B-3 Error display (for the technician)”

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Error display (for the arcade operator)

Test mode

Troubleshooting

7-9 Gun Assy adjustment (initialization) after parts replacement



- Be sure to initialize the Gun Assys after replacing the Rack Assy (SYS357), USIO PC Board or Gun Assy or after initializing the backup data. If the Gun Assys are not initialized, the game machine will not operate properly.
- After initializing the Gun Assys, make sure that the guns operate properly by conducting the switch test (see P. 52 “7-7-4 (3) GUN TEST”).

7-9-1 Initializing the volumes in the Gun Assys

Initialize (calibration) the Gun Assys by referring to “7-7-4 (4) GUN CALIBRATION” on page 53.

8. MANUAL FOR THE TECHNICIAN – To be conducted by a technician only –

8A. Assembly and Setup – To be conducted by a technician only –

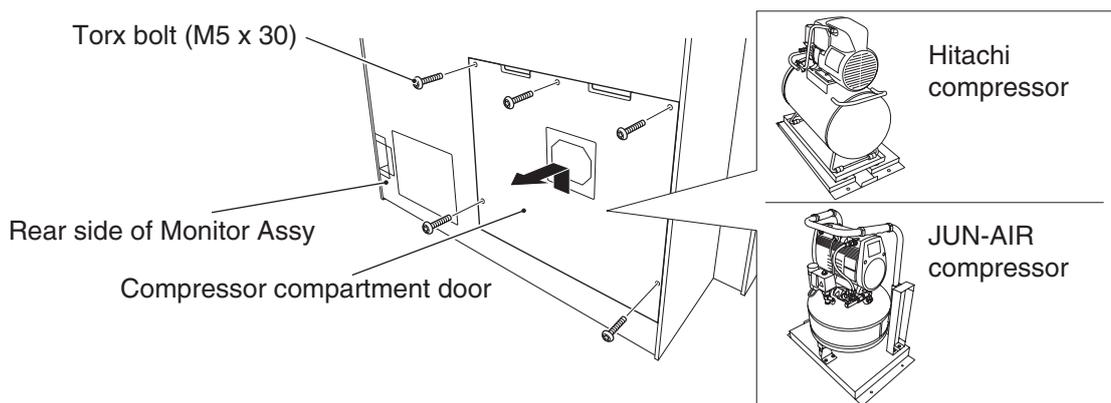
8A-1 Assembly – To be conducted by a technician only –

8A-1-1 Assembling the Front Assy

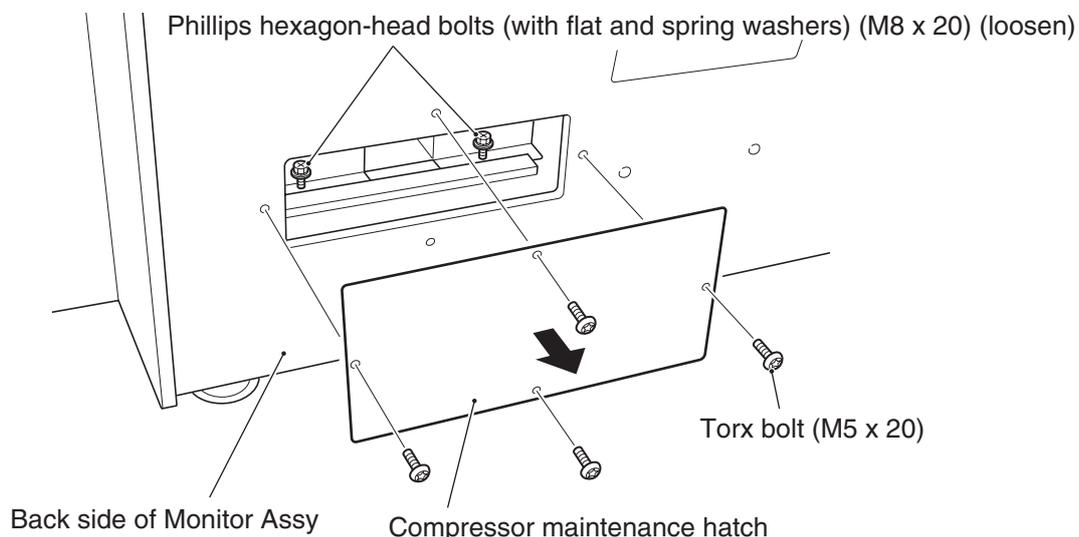
CAUTION

- Each part installed on the Wall Assy weighs approximately 10 to 20 kg. Parts should be removed by two or more persons in a large work area to prevent accidents.
- Since assembly of the Wall Assy must be performed at a height, prepare a step ladder or platform to stand on. Performing the task in an awkward position can result in injury or machine damage.

- 1** Remove the five Torx bolts (M5 x 30), dismount the compressor compartment door, and check the compressor model. (If a Hitachi compressor is installed, close the door and proceed to **5**.)



- 2** Remove the four Torx bolts (M5 x 20), dismount the compressor maintenance hatch, and loosen the two Phillips hexagon-head bolts (with flat and spring washers) (M8 x 20).



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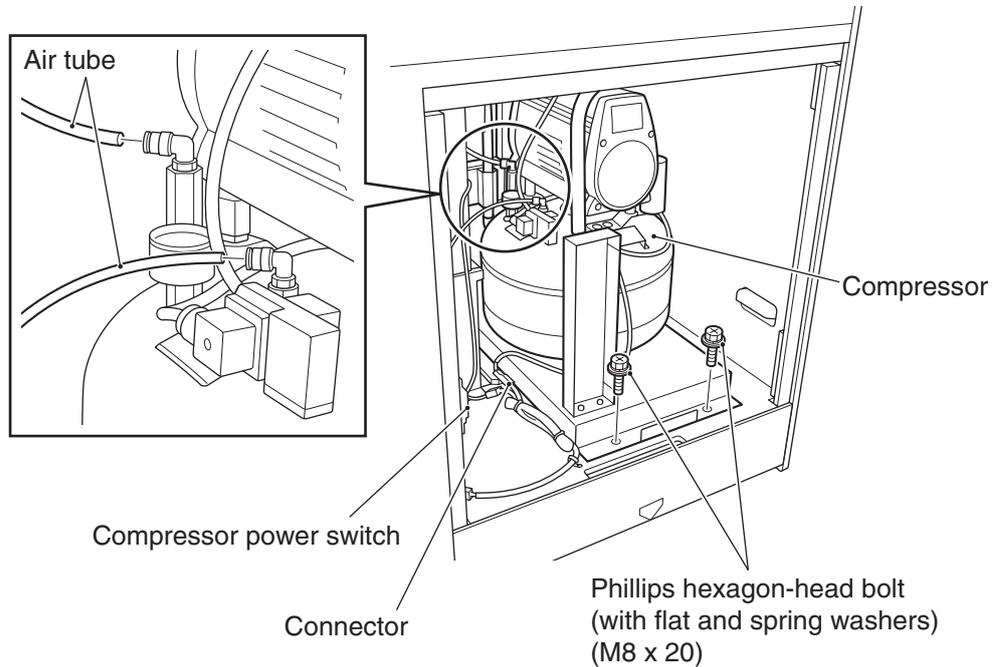
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Assembly and Setup

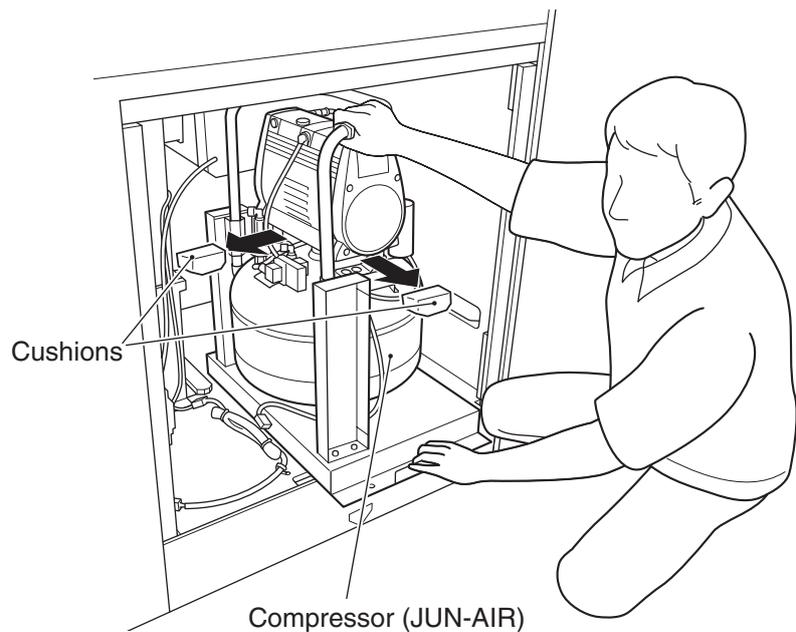
Test mode

Troubleshooting

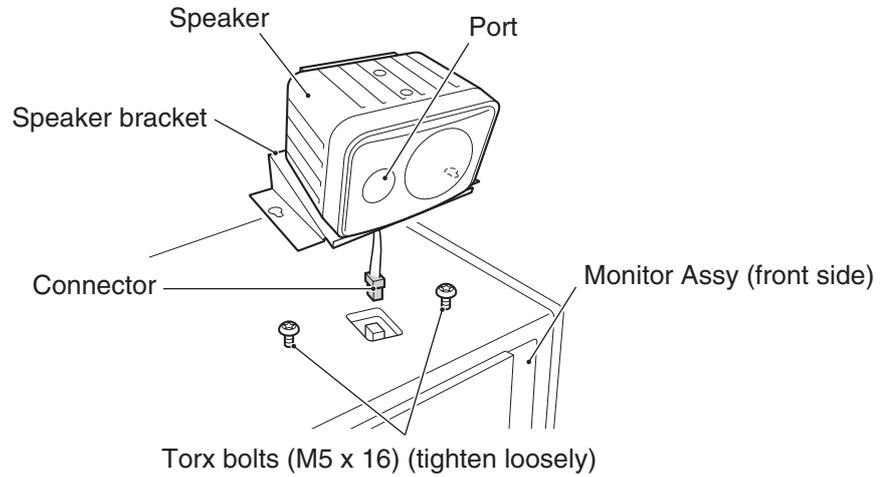
- 3 Turn off the compressor power switch, disconnect the larger connector, remove the two Phillips hexagon-head bolts (with flat and spring washers) (M8 x 20) located on the rear side of the Monitor Assy, and disconnect the two air tubes.



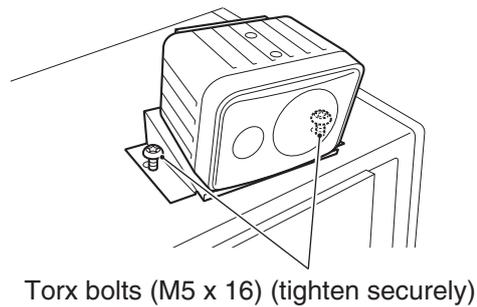
- 4 Hold the handle and pull out the compressor, and remove the two cushions(*). Return the compressor (JUN-AIR) to the original position by following the removal procedure in reverse (3 – 1).
*** Keep the cushions in a safe place since they are needed when the machine is transported again.**



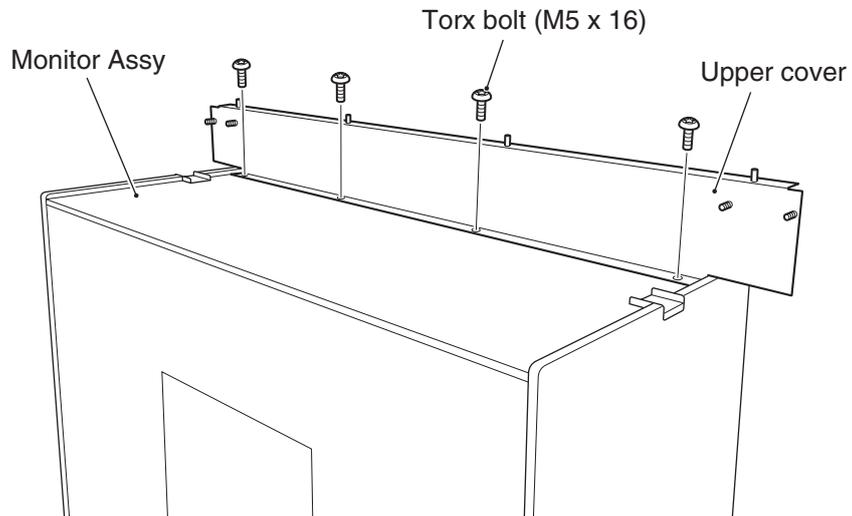
- 5** Install two Torx bolts (M5 x 16) on each of the left and right sides and tighten them loosely, then connect the speaker connectors on both sides.
* The left and right speakers differ in shape. Install the speakers so that the port on each speaker is positioned toward the inside.



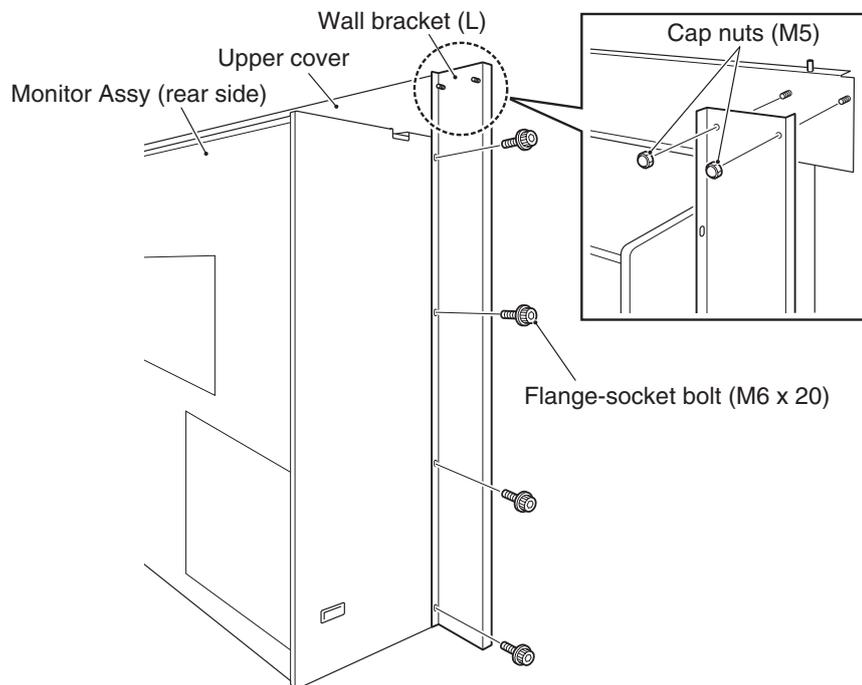
- 6** Install each speaker bracket using the two Torx bolts (M5 x 16).



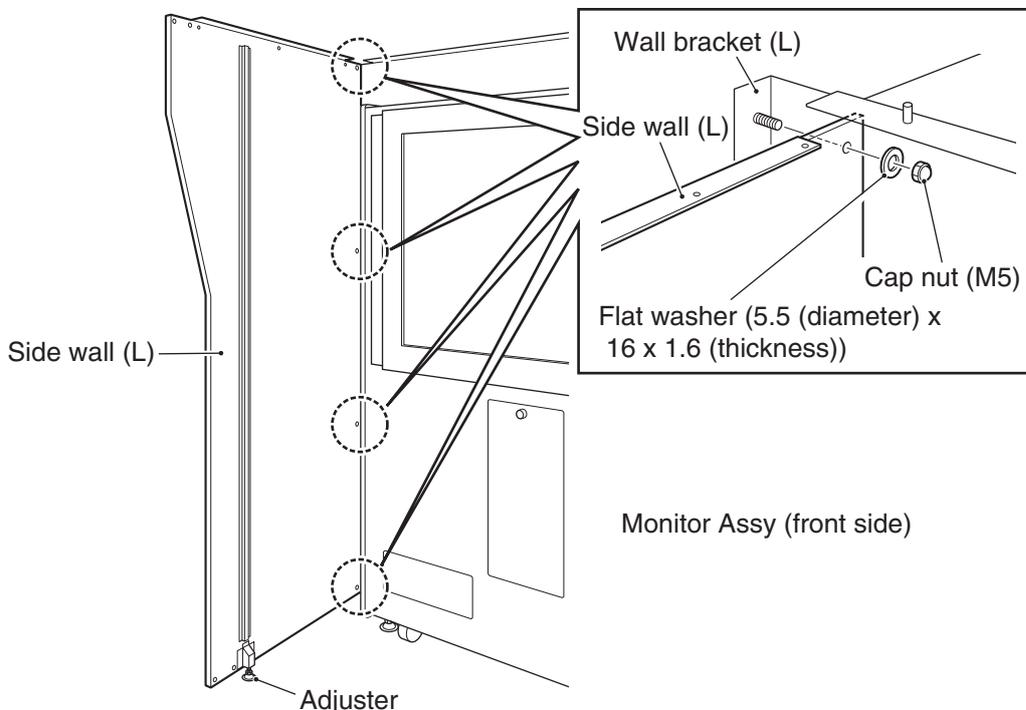
- 7** Using four Torx bolts (M5 x 16), install the upper cover on top of the Monitor Assy.
* One person should hold the upper cover while another person secures it in place, in order to prevent it from falling.



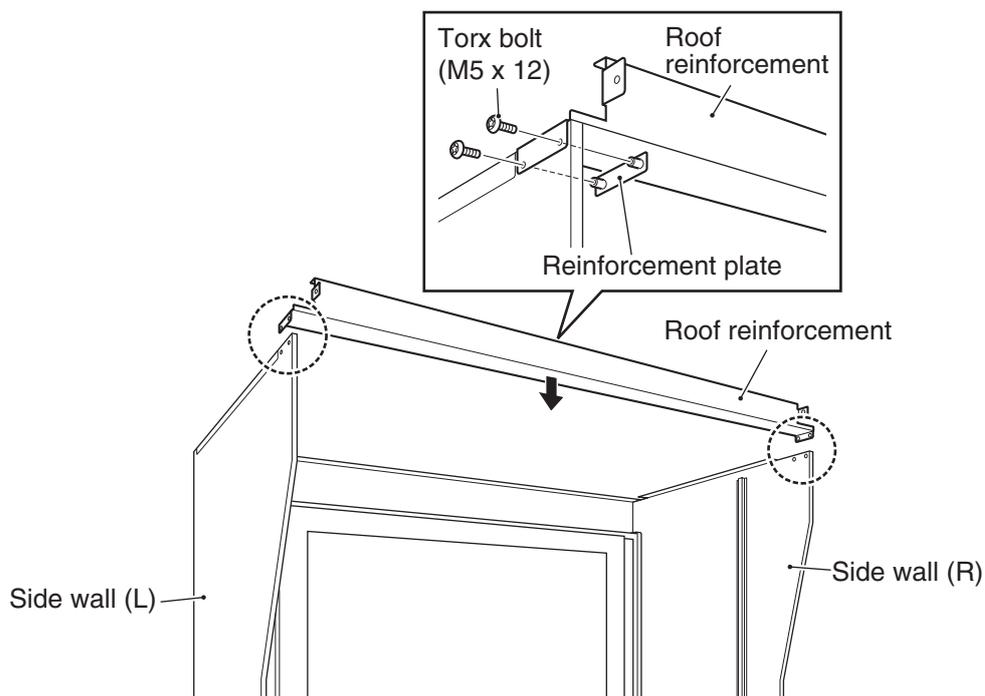
- 8** Hook the wall bracket (L) and wall bracket (R) onto the screws on the upper cover, and secure them in place using two cap nuts (M5) and four flange-socket bolts (M6 x 20) on each side.



- 9** Hook the side wall (L) and side wall (R) onto the screws on the wall bracket (L) and wall bracket (R), and secure them in place using four pairs of flat washers (5.5 (diameter) x 16 x 1.6 (thickness)) and cap nuts (M5) on each side.
 * Adjust the adjusters to ensure firm contact with the floor.



- 10** Set and hold the roof reinforcement between the edges of the side walls and install the reinforcement plates on the left and right sides using two Torx bolts (M5 x 12) on each side.
 * One person should hold the roof reinforcement in place while another person performs the installation work, in order to prevent the roof reinforcement from falling.



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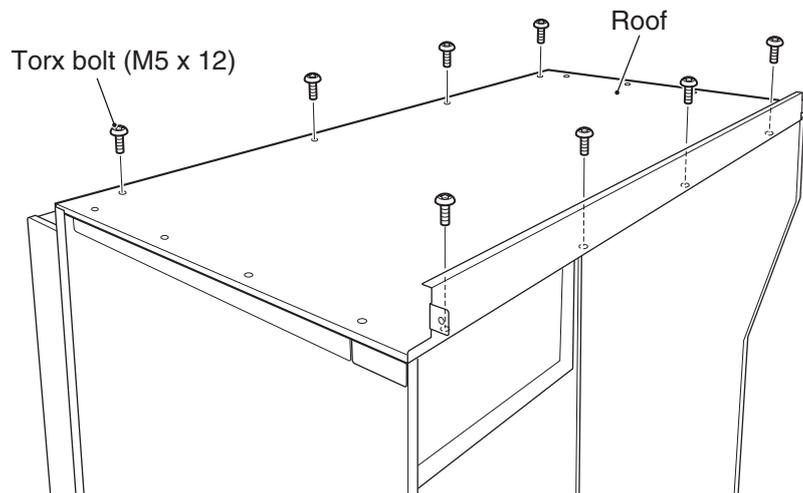
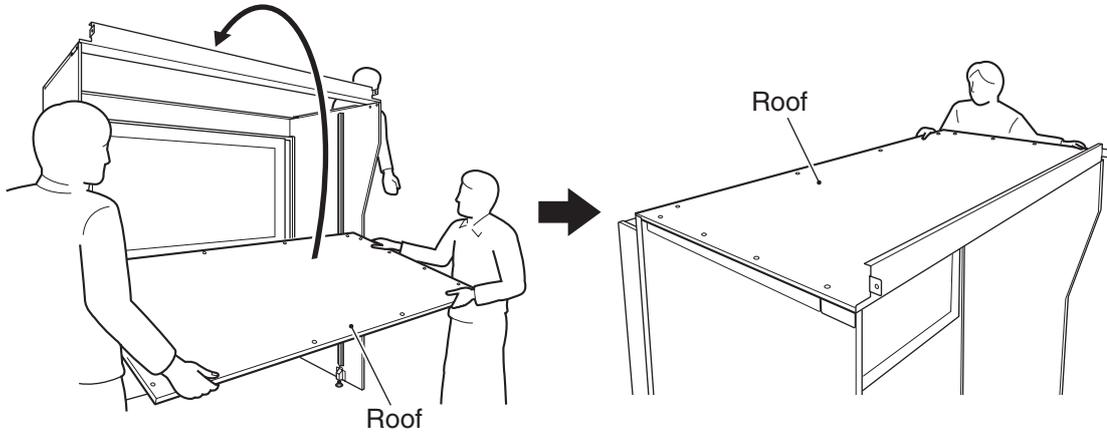
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Assembly and Setup

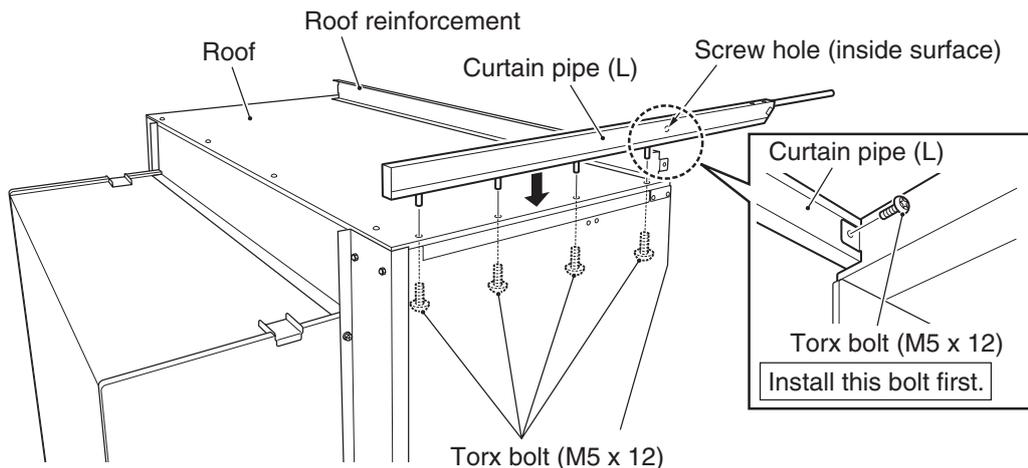
Test mode

Troubleshooting

- 11** Place the roof on top of the side walls and secure it in the position indicated in the diagram using eight Torx bolts (M5 x 12).
* There is no difference between the top and bottom sides of the roof, and the front and rear sides and the left and right sides are the same

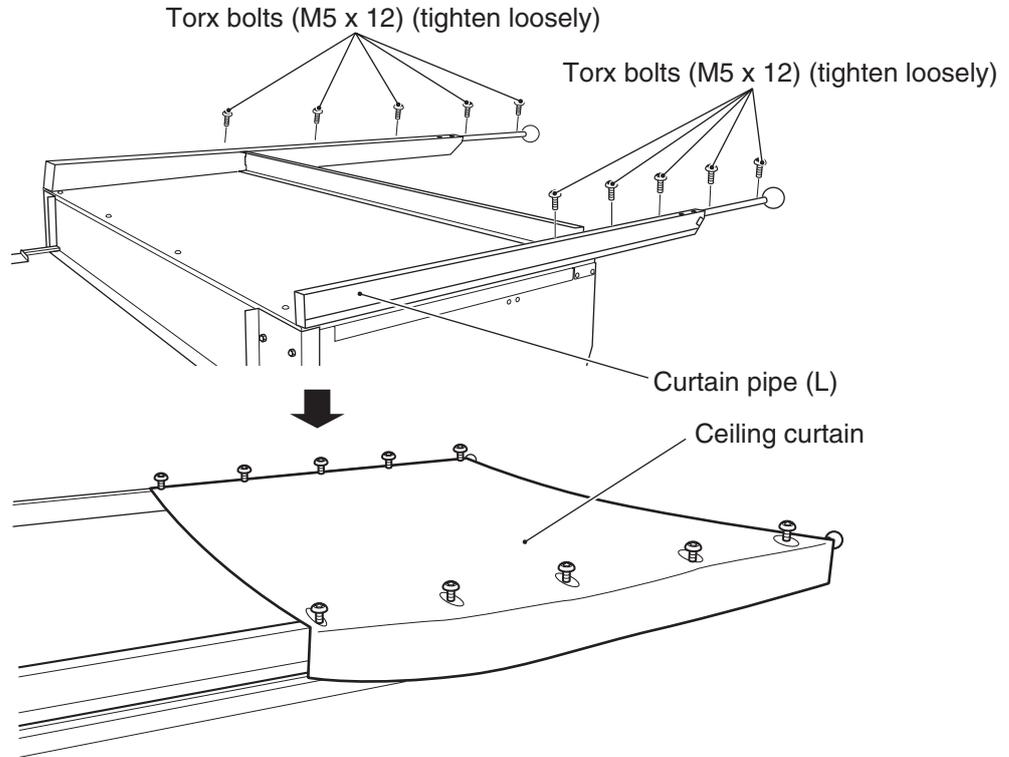


- 12** Install the curtain pipe (L) and curtain pipe (R) using five Torx bolts (M5 x 12) on each side.
First, install the curtain pipe to the roof reinforcement with one Torx bolt (M5 x 12), and then install other Torx bolts to secure the pipe in place.
* The side of the curtain pipe with a screw hole at the center must face toward the inside.
* One person should hold the curtain pipe while another person secures the curtain pipe to the roof reinforcement, in order to prevent the curtain pipe from falling.



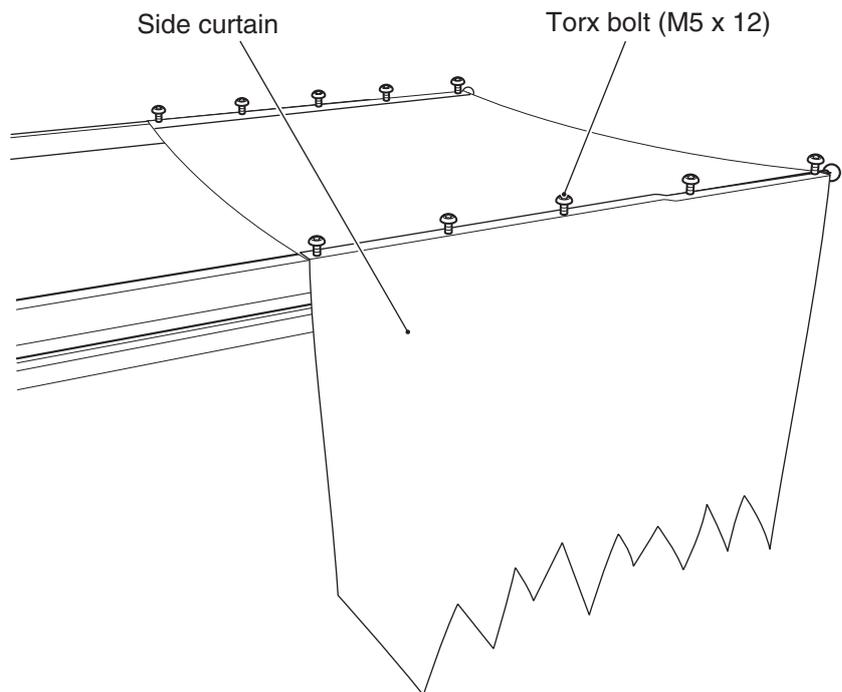
- 13** Temporarily install five Torx bolts (M5 x 12) to each of the curtain pipe (L) and curtain pipe (R), and place the ceiling curtain in position. (Do not secure the ceiling curtain in place at this time.)

* The glossy side of the ceiling curtain should face toward the outside (fire-proof indication label on the inside).

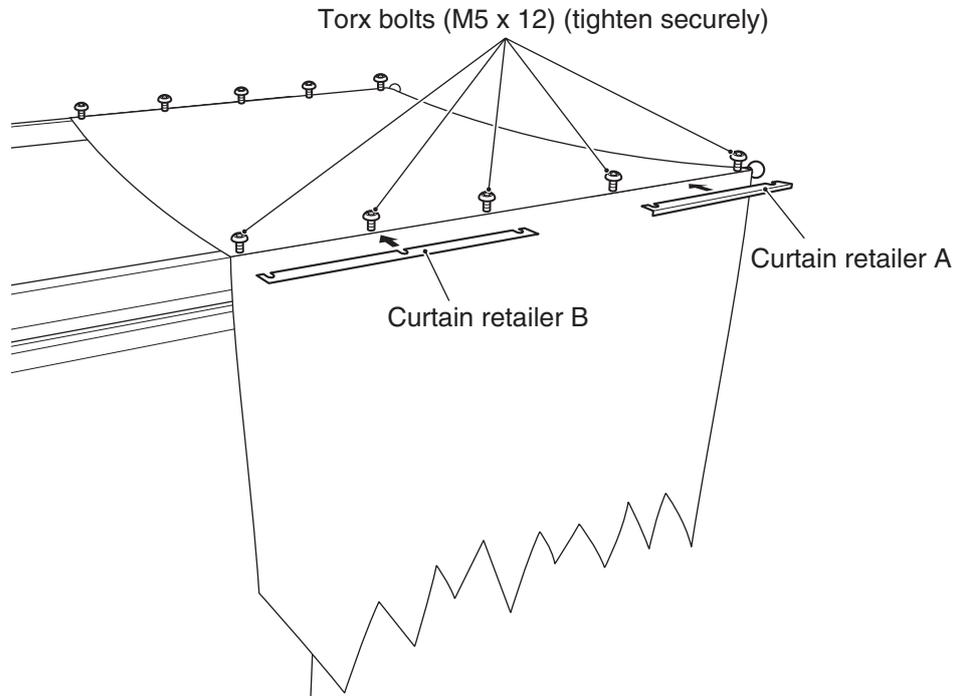


- 14** Hook the side curtains onto the Torx bolts (M5 x 12) that were loosely tightened in step **13**.

* The logo-printed side of each side curtain should face toward the outside.

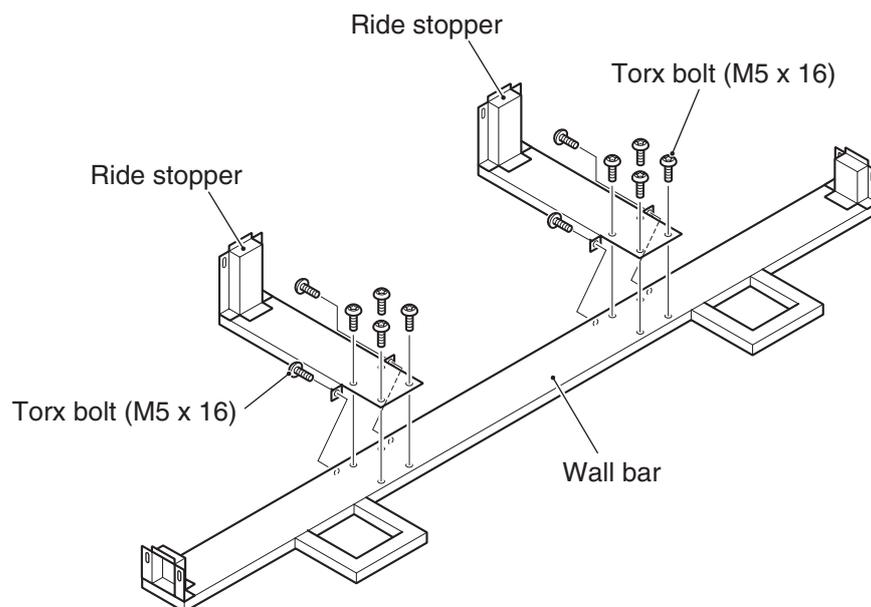


- 15** Install the two curtain retainers B using the three Torx bolts (M5 x 12) (bolts that were loosely tightened in step **14**) on each side.

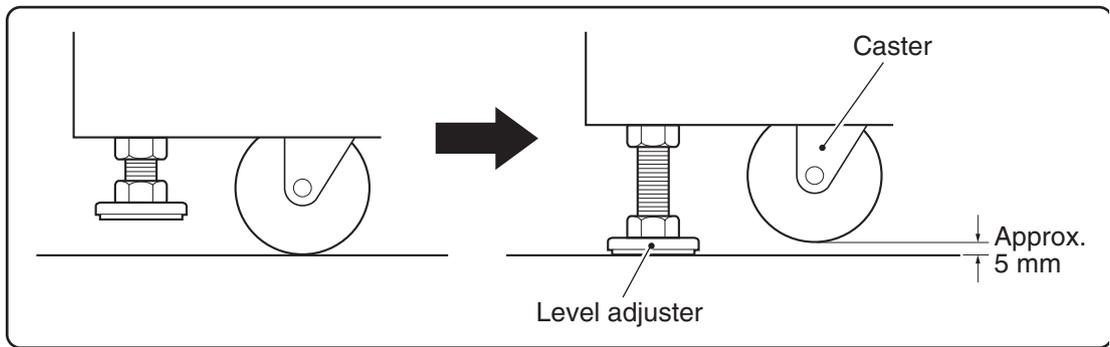
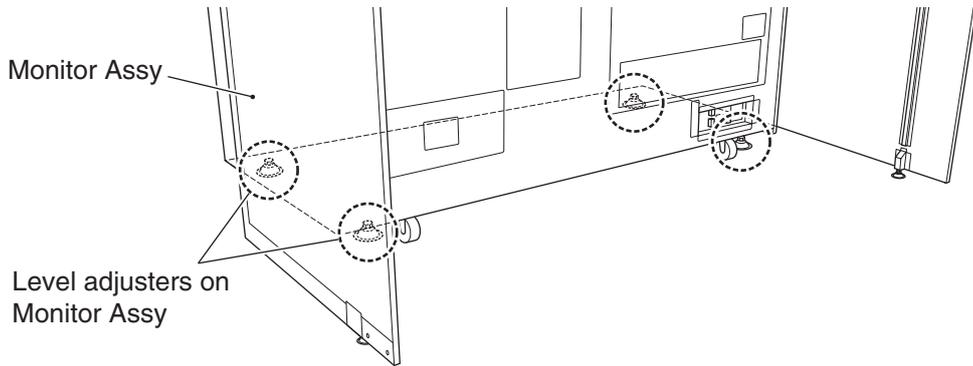


- 16** Install the two curtain retainers A using the two Torx bolts (M5 x 12) (bolts that were that were loosely tightened in step **14**) on each side.

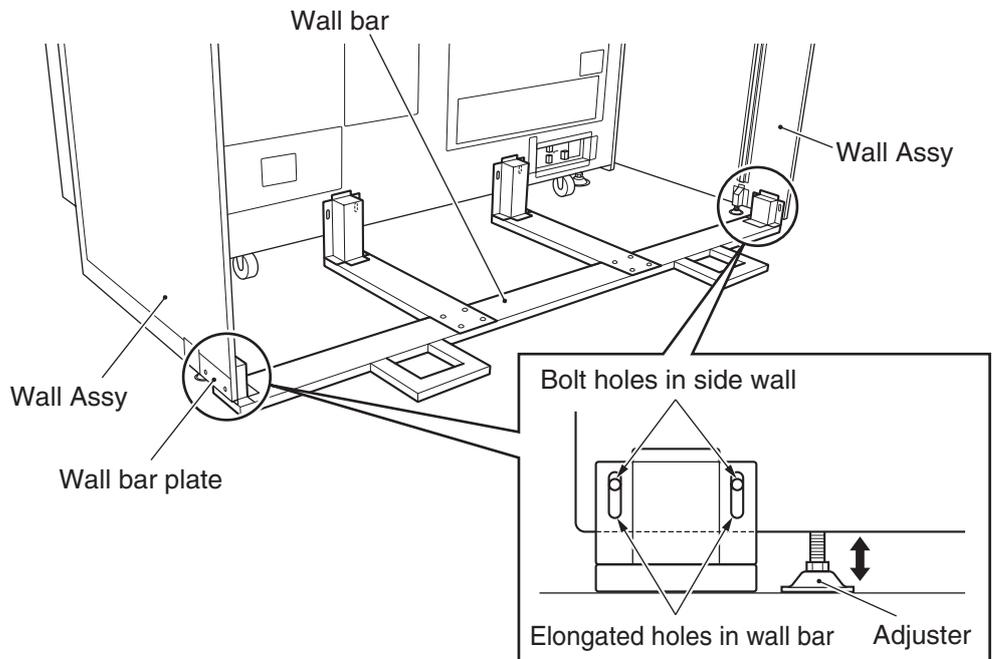
- 17** Install the two ride stoppers to the wall bar using six Torx bolts (M5 x 16) on each side.



- 18** Lower the four level adjusters on the Monitor Assy until the casters lift about 5 mm from the floor.

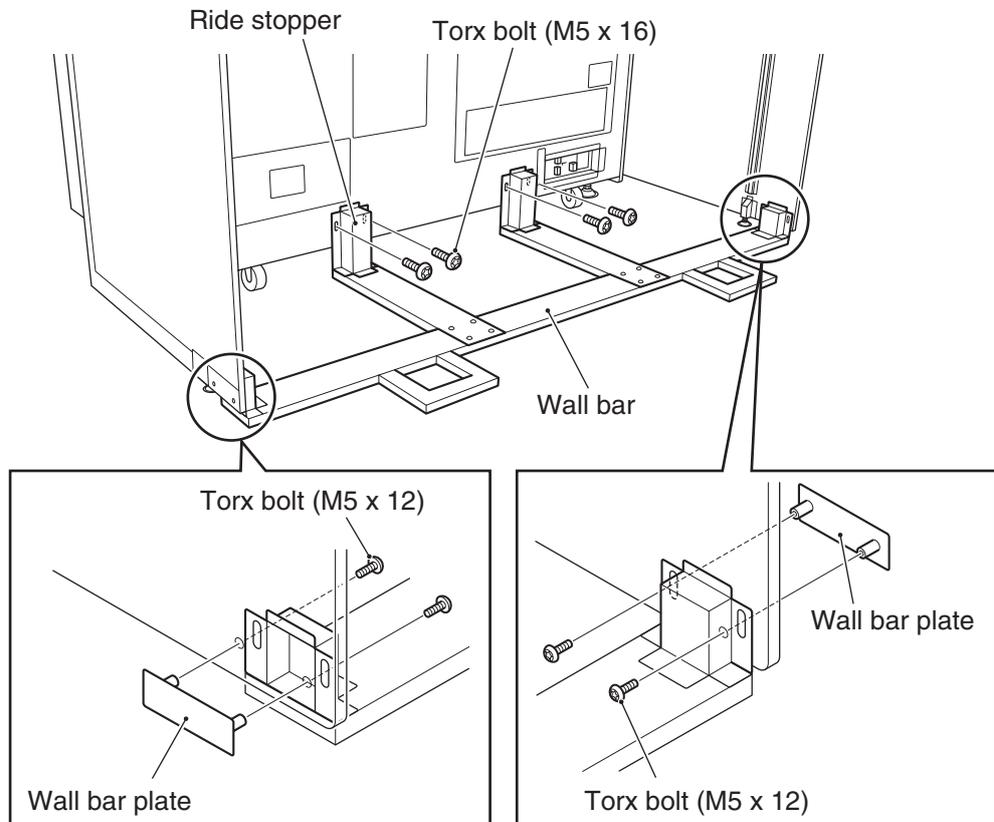


- 19** Remove the wall bar plate from each of the outside surfaces of the Wall Assy, and position the wall bar that was assembled in step 17 at the position indicated in the diagram.



- 20** Lower the level adjusters, one on each side of the Wall Assy, so that the adjusters firmly contact the floor.
 * Adjust the level adjusters so that the bolt holes in the wall bar plate are visible through the bolt holes in each wall bar.

- 21** Attach the ride stoppers to the Monitor Assy using two Torx bolts (M5 x 16) on each side, and install the left and right wall bar plates to the wall bar using two Torx bolts (M5 x 12) on each side.



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Assembly and Setup

Test mode

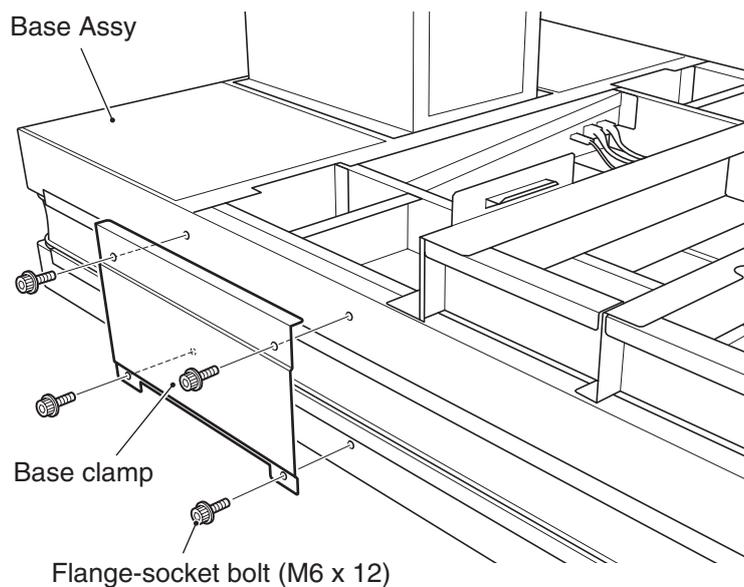
Troubleshooting

8A-1-2 Assembling the Ride Assy

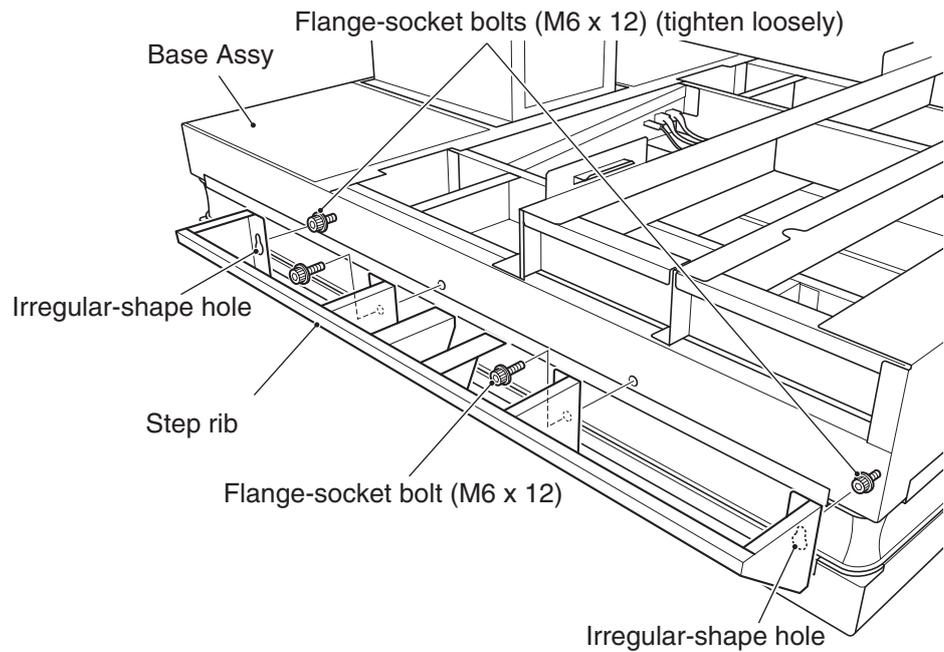
CAUTION

- The Seat Assy weighs approximately 105 kg. It should be removed by five or more persons in a large work area to prevent accidents.
- The Signboard Assy weighs approximately 16 kg. It should be removed by two or more persons in a large work area to prevent accidents.
- Since assembly of the Wall Assy must be performed at a height, prepare a step ladder or platform to stand on. Performing the task in an awkward position can result in injury or machine damage.

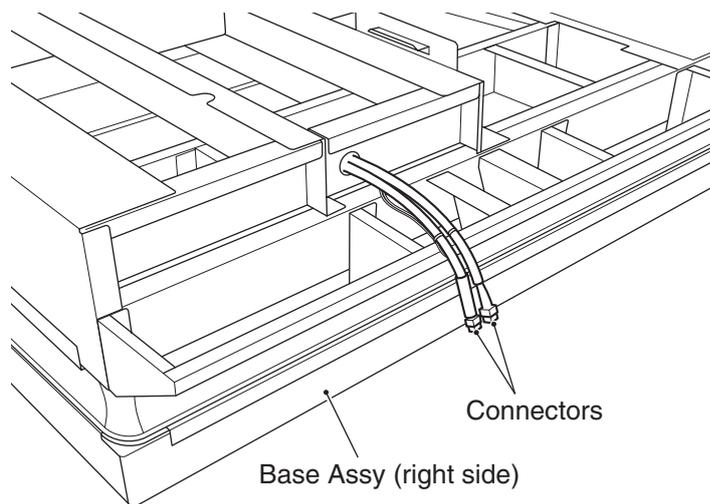
- 1** Dismount the two base clamps by removing the four flange-socket bolts (M6 x 12) from each base clamp.
* The removed flange-socket bolts (M6 x 12) will be reused in step **2**.
The base clamps will be mounted to the rear side of the seat in step **19** on page 92.



- 2** Install two step ribs using the four flange-socket bolts (M6 x 12) (bolts that were removed in step **1**) on each side.
 Before installing each step rib, install and loosely tighten two flange-socket bolts (M6 x 12) on the left and right ends first, and hook the step rib onto those bolts. Then, install two flange-socket bolts on the inside part, and firmly tighten the four bolts for secure installation.
 * Repeat the above procedure to install the other step rib the opposite side.

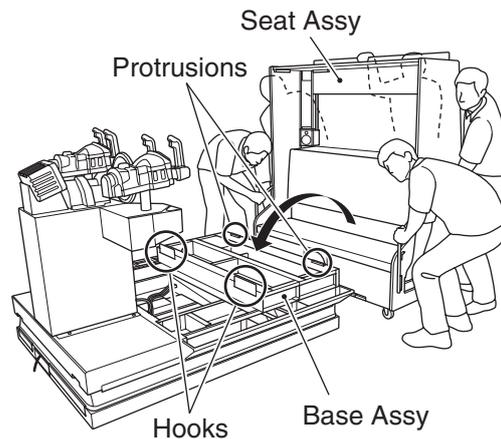


- 3** Pull the two connectors through the hole on the right side of the Base Assy.



4 For the installation of the Seat Assy, total of five persons, four persons to hold the both sides of the Seat Assy and one person to hold the rear side, should lift the Seat Assy and engage it with the hooks on the Base Assy as shown in the diagram.

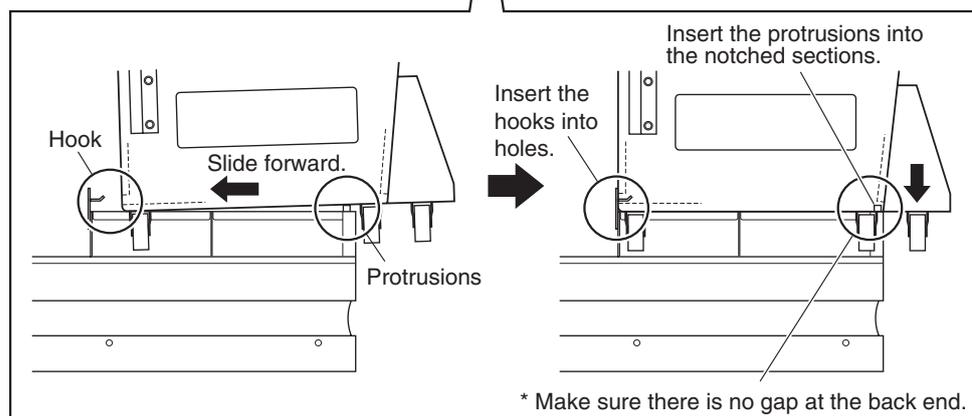
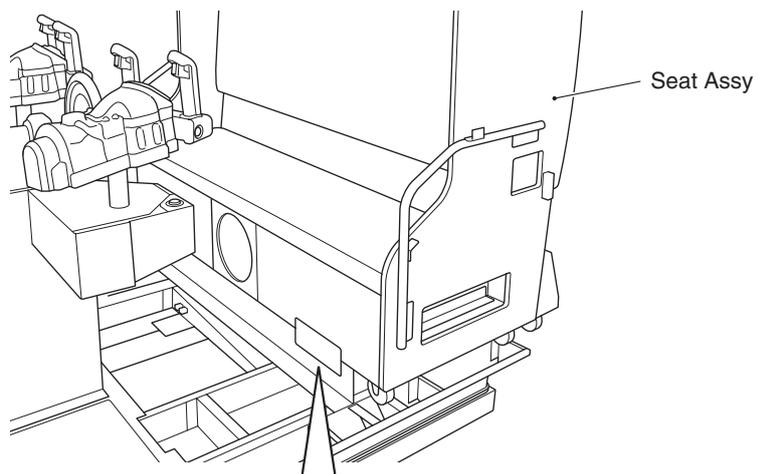
* If the Base Assy does not stay still when placing the Seat Assy, have another person hold the Base Assy steady or lower the adjusters to secure the Base Assy in place.



When placing the Seat Assy onto the Base Assy, set the Seat Assy slightly toward the back so that the hooks on the Base Assy enter the holes on the front side of the Seat Assy.

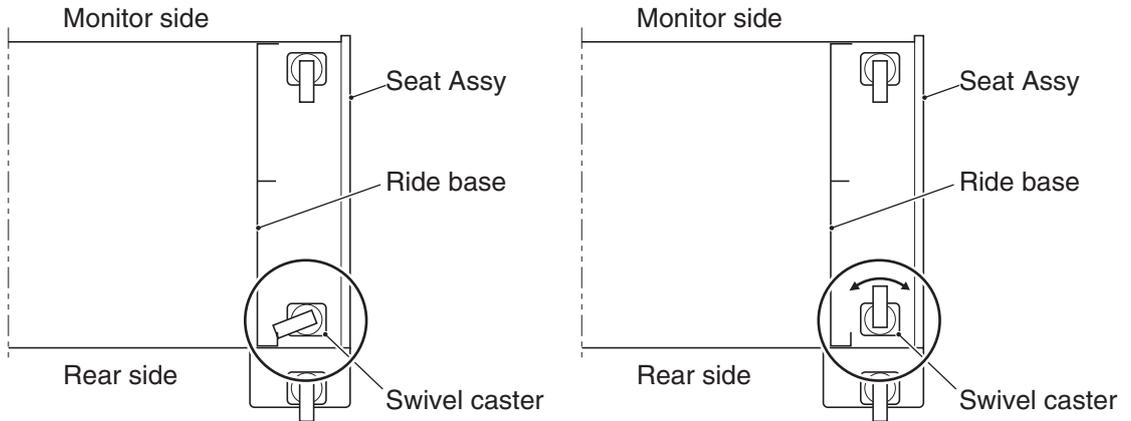
Then, slide the Seat Assy forward until the protrusions at the back end of the Base Assy enter the notched sections at the back end of the Seat Assy.

* Make sure that there is no gap between the Base Assy and Seat Assy at the back end.



* Make sure there is no gap at the back end.

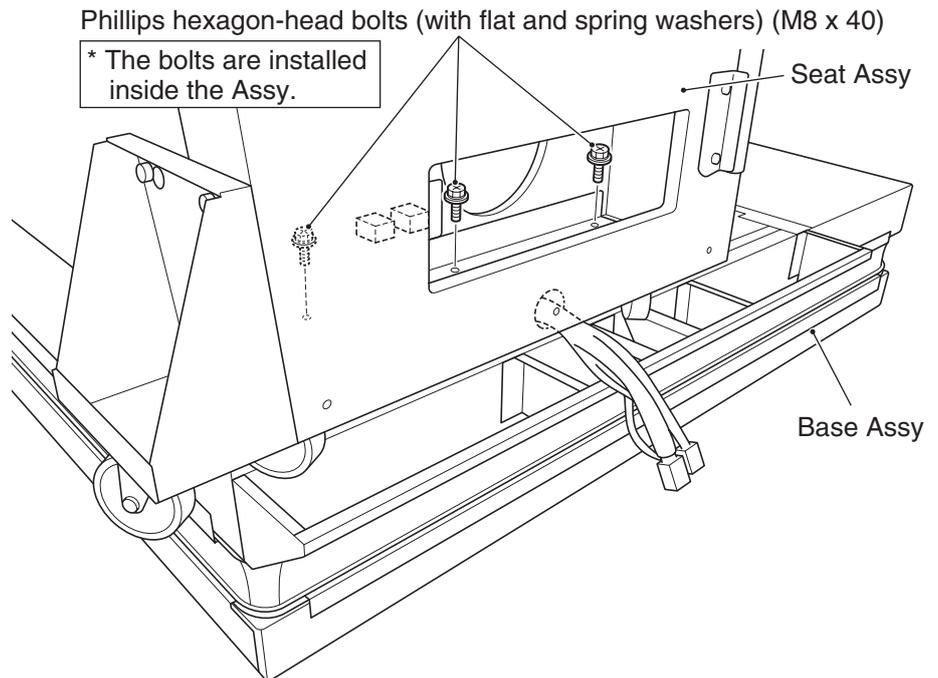
* Make sure that the caster on the right side of the Seat Assy is not caught by the inside corner section of the Base Assy.



Caster is caught and cannot rotate.

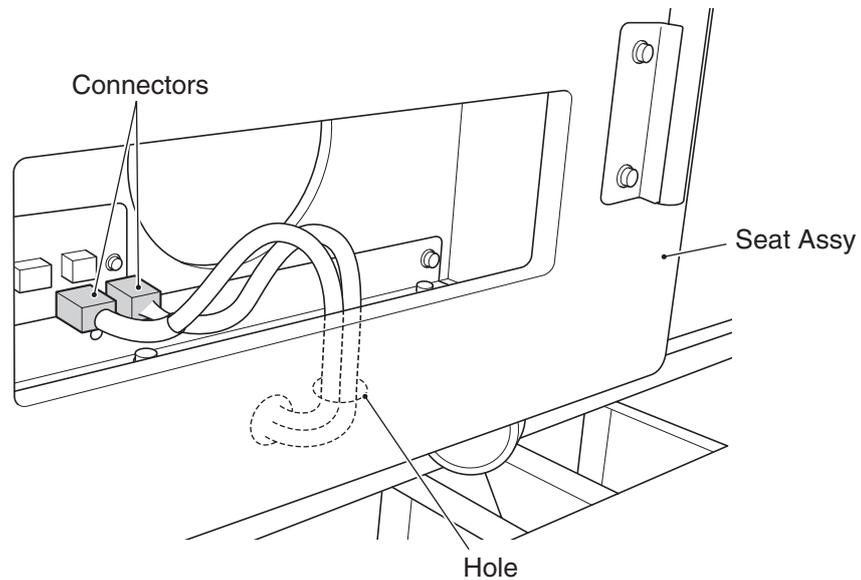


- 5** Attach the Seat Assy to the Base Assy using three Phillips hexagon-head bolts (with flat and spring washers) (M8 x 40) on each of the left and right sides.

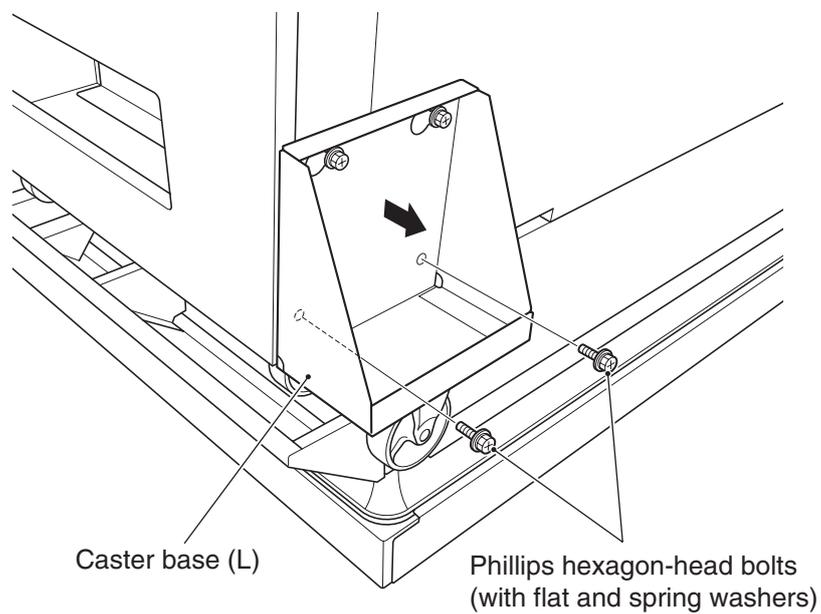


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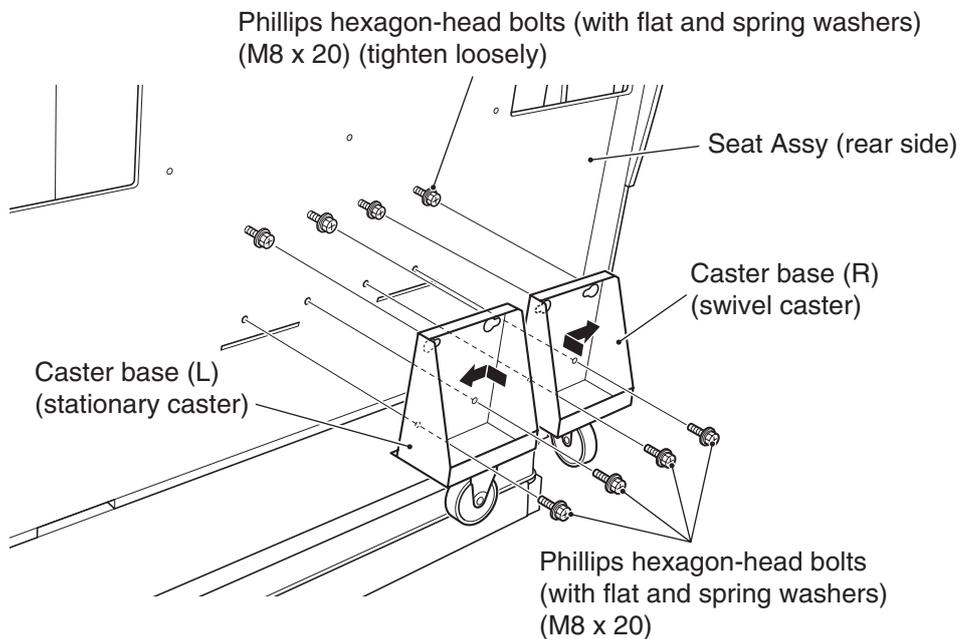
- 6 Locate the two connectors that were pulled out of the hole and run them through the hole in the Seat Assy and plug them into the connectors on the Seat Assy.



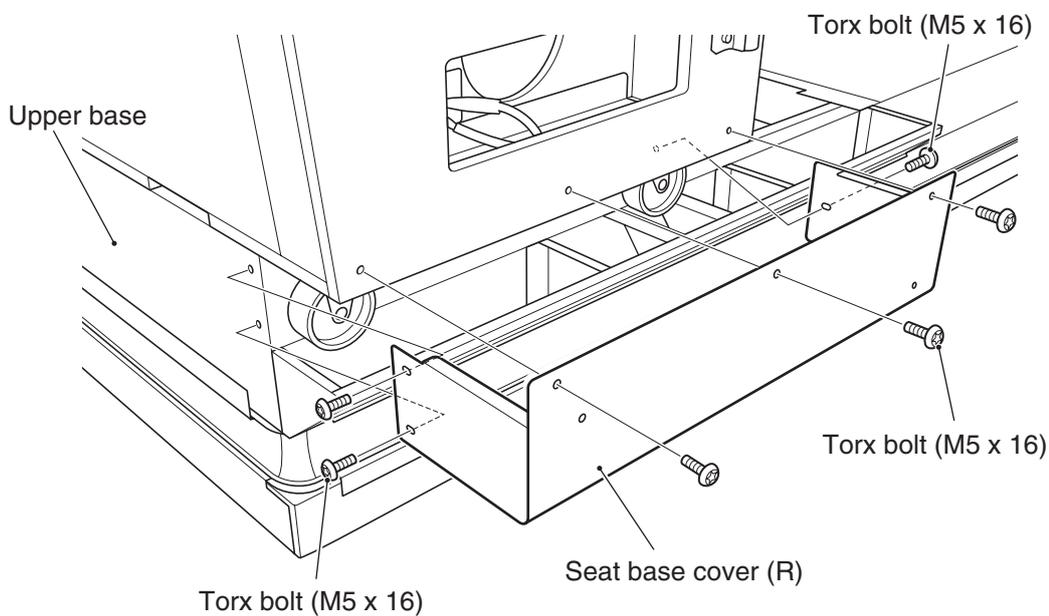
- 7 Remove the four Phillips hexagon-head bolts (with flat and spring washers) (M8 x 20) from each of the caster base (L) and caster base (R), and dismount the caster base (L) and caster base (R).



- 8** Install the caster base (L) and caster base (R) (caster bases that were removed in step **7**) to the inside surface of the rear side of the Seat Assy by following the removal sequence in reverse.



- 9** Install the seat base cover (L) and seat base cover (R) using six Torx bolts (M5 x 16) on each side.
- * Place the seat base covers over the outside surfaces of the upper base.

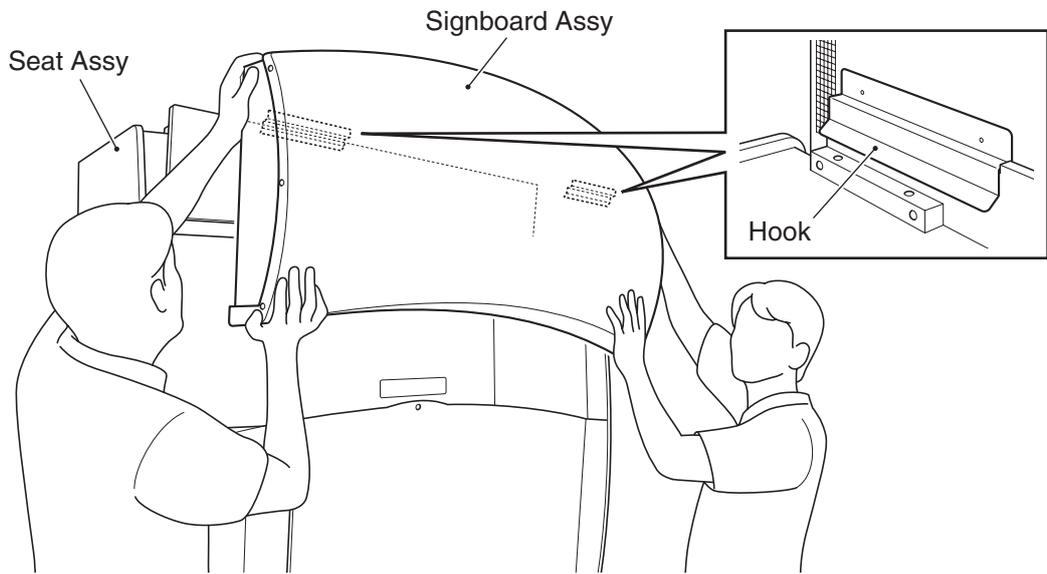


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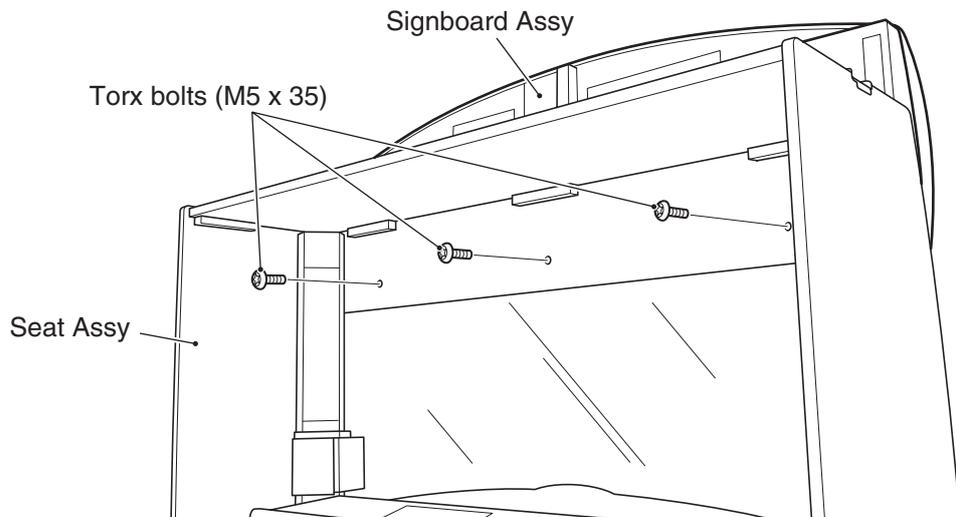
Assembly and Setup

Test mode
Troubleshooting

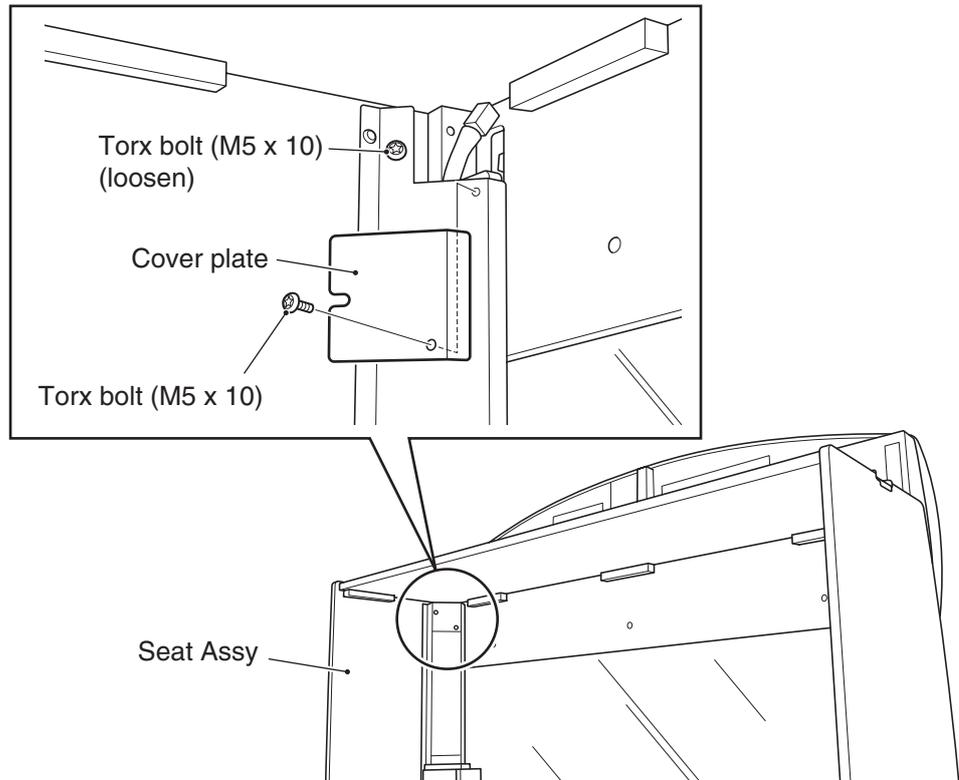
- 10** For the installation of the Signboard Assy, two persons should hold the both ends of the Signboard Assy and engage it with the hooks on the Seat Assy.



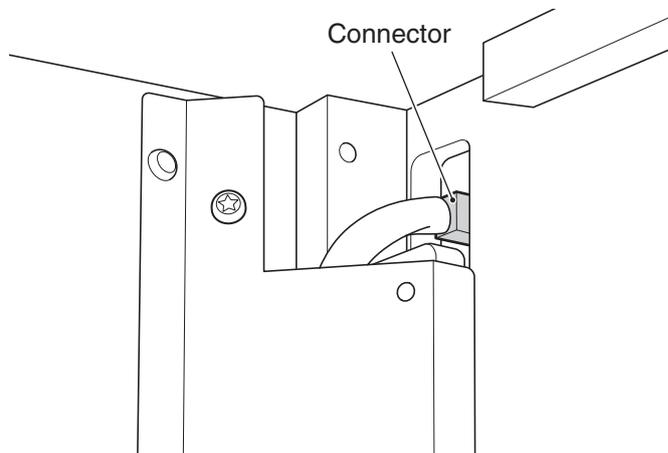
- 11** Install the Signboard Assy securely using three Torx bolts (M5 x 35).



- 12** Loosen the top Torx bolt (M5 x 10) and remove the bottom Torx bolt, and dismount the cover plate.



- 13** Connect the one connector.



- 14** Install the cover plate that was removed in step **12** by following the removal sequence in reverse.

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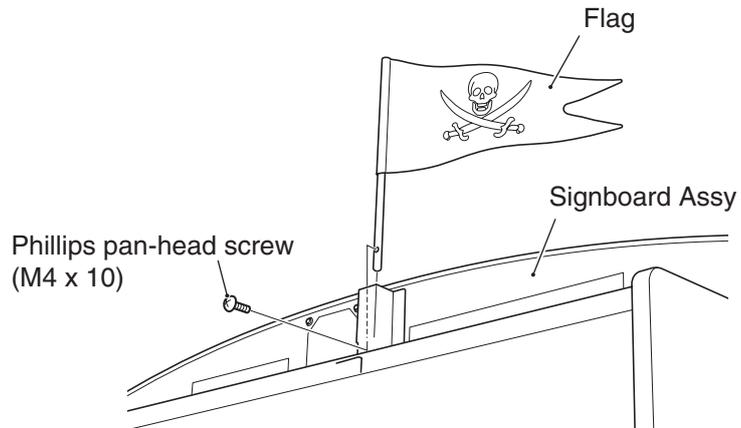
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Assembly and Setup

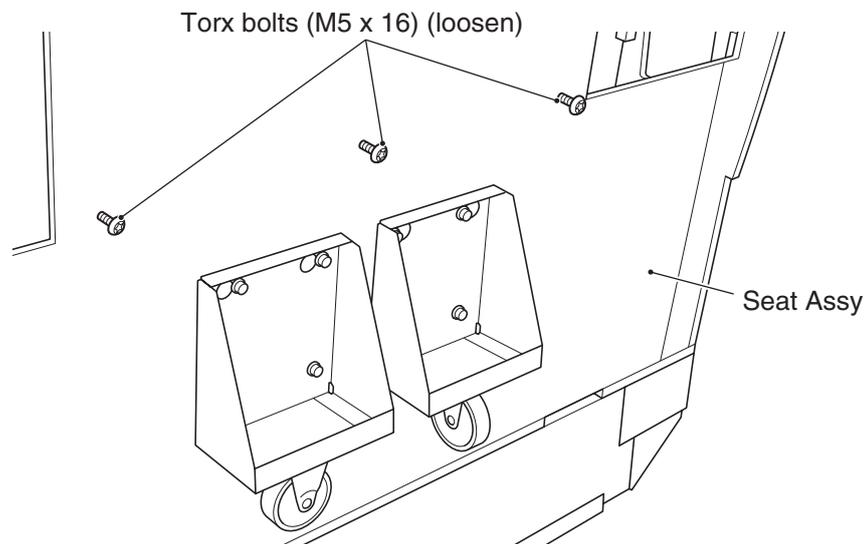
Test mode

Troubleshooting

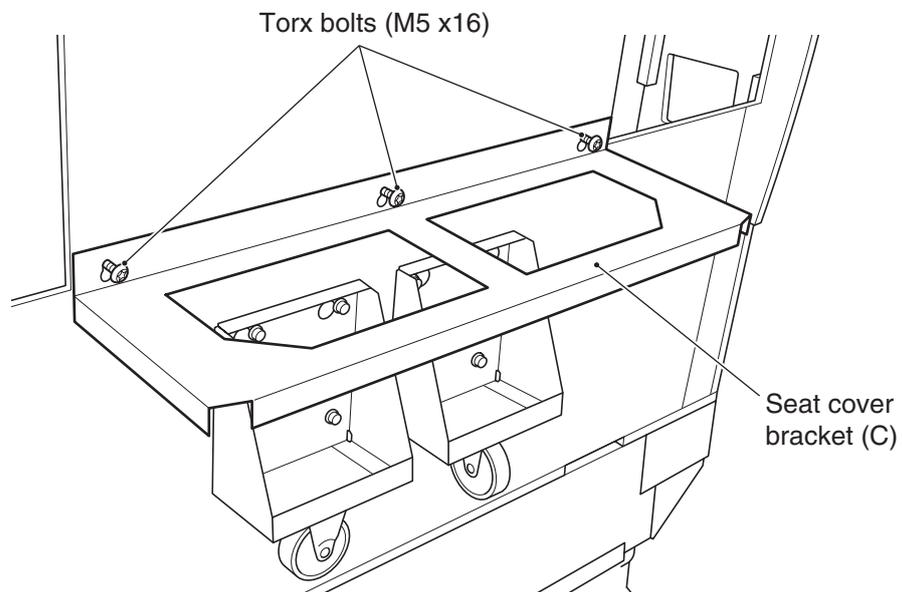
- 15** Insert the flag into the hole at the top of the Signboard Assy and install one Phillips pan-head screw (M4 x 10).



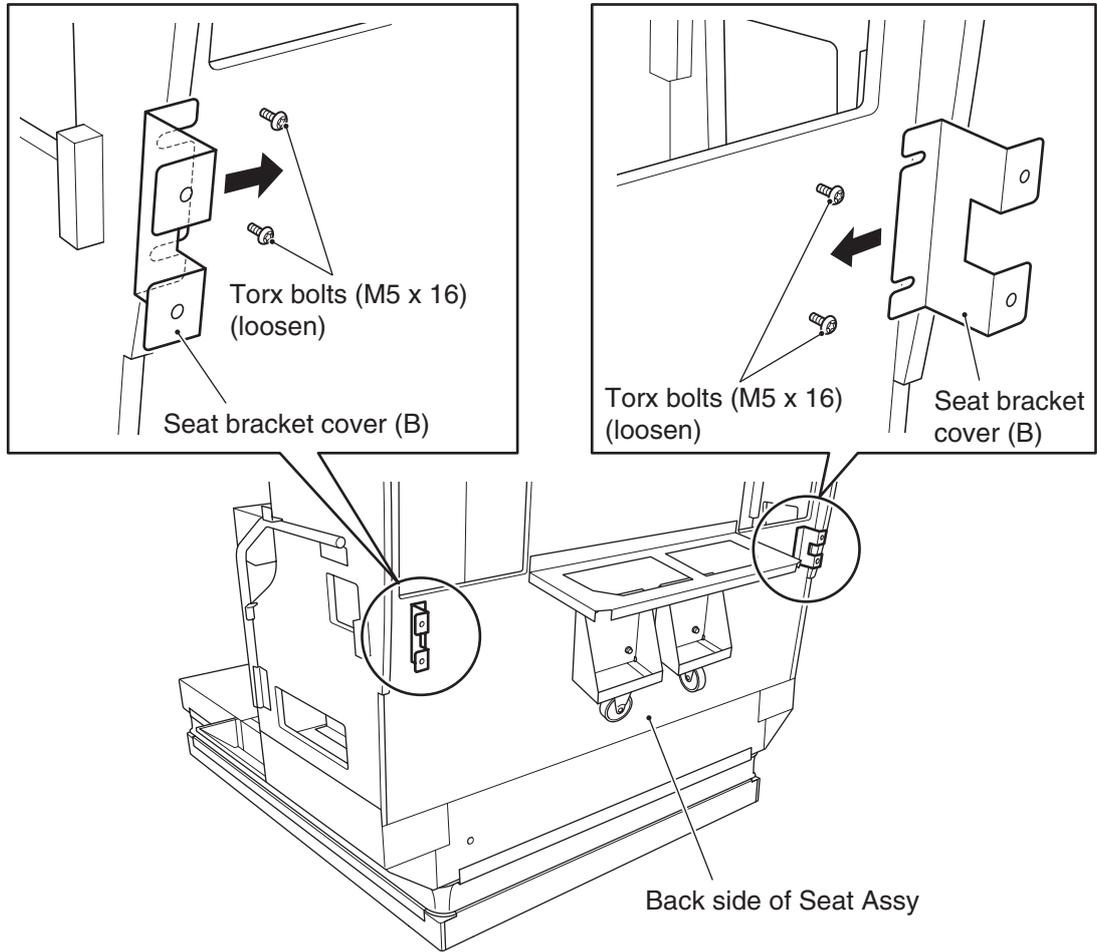
- 16** Loosen the three Torx bolts (M5 x 16) on the rear side of the Seat Assy near the center.



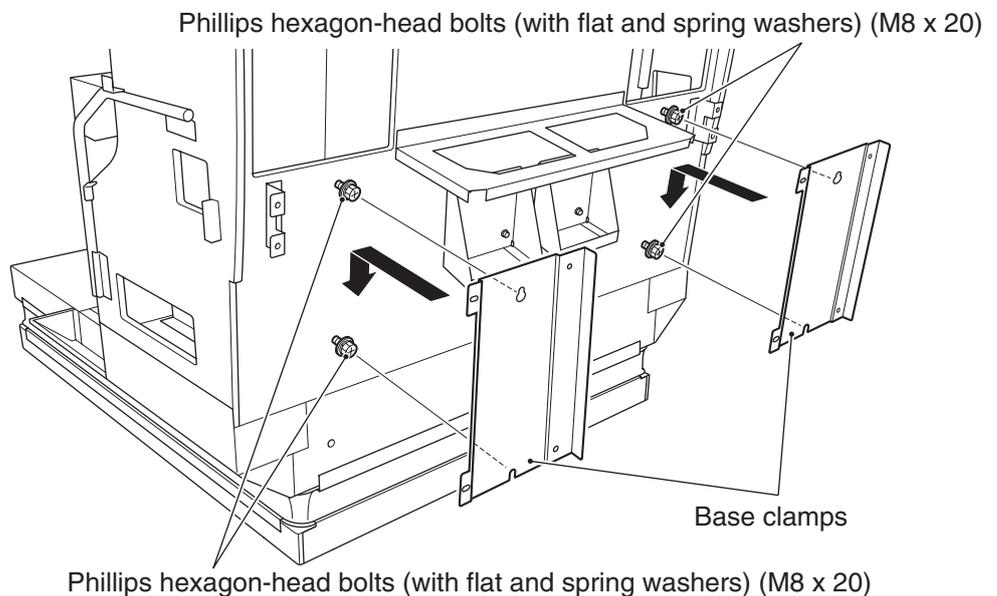
- 17** Install the seat cover bracket (C) using the three Torx bolts (M5 x 16) that were loosely tightened in step 16.



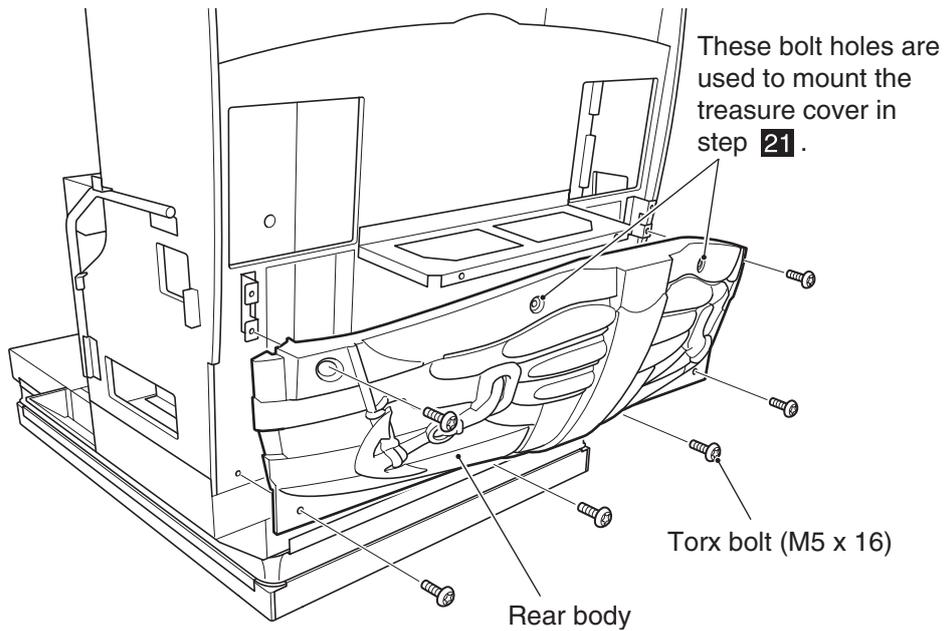
- 18** Loosen the four Torx bolts (M5 x 16), two on each of the left and right sides, on the rear side of the Sea Assy, and mount the seat cover brackets (B) in the direction shown in the diagram, making sure that the screws are inserted all the way in the U-shaped notches. Then, tighten the bolts for secure installation.



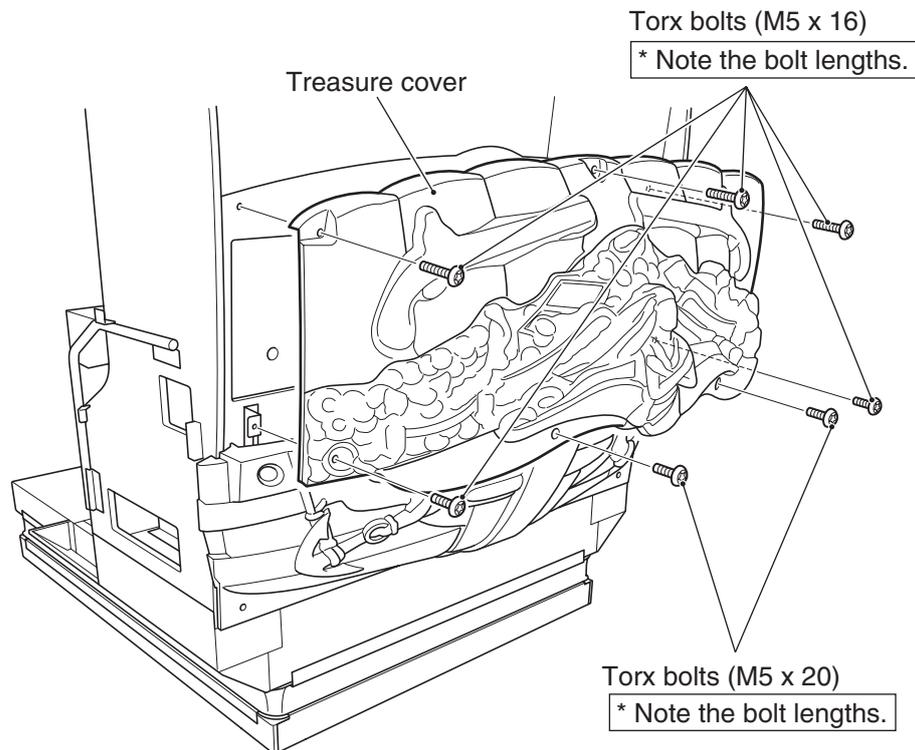
- 19** Loosen the four Phillips hexagon-head bolts (with flat and spring washers) (M8 x 20), hook the base clamps (base clamps that were removed in step **1**) onto the bolts, and tighten the bolts for secure installation.



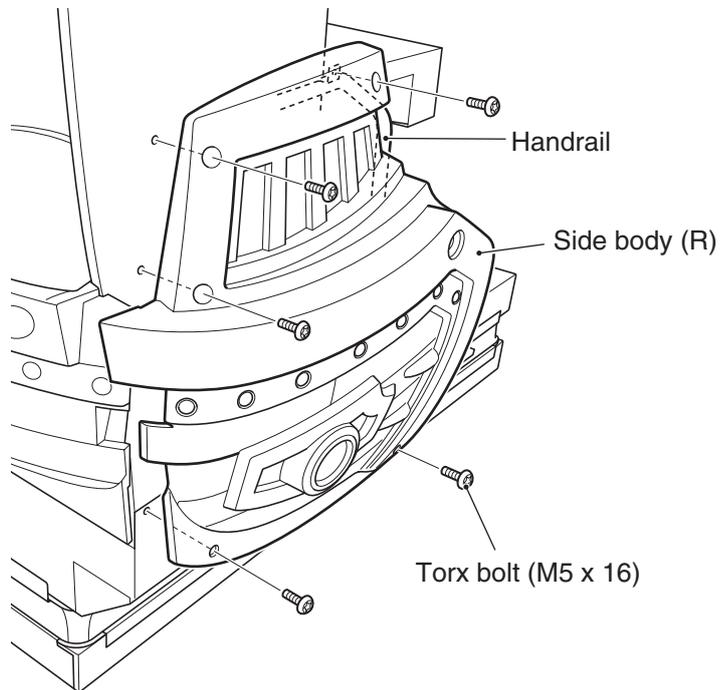
20 Install the rear body using six Torx bolts (M5 x 16).



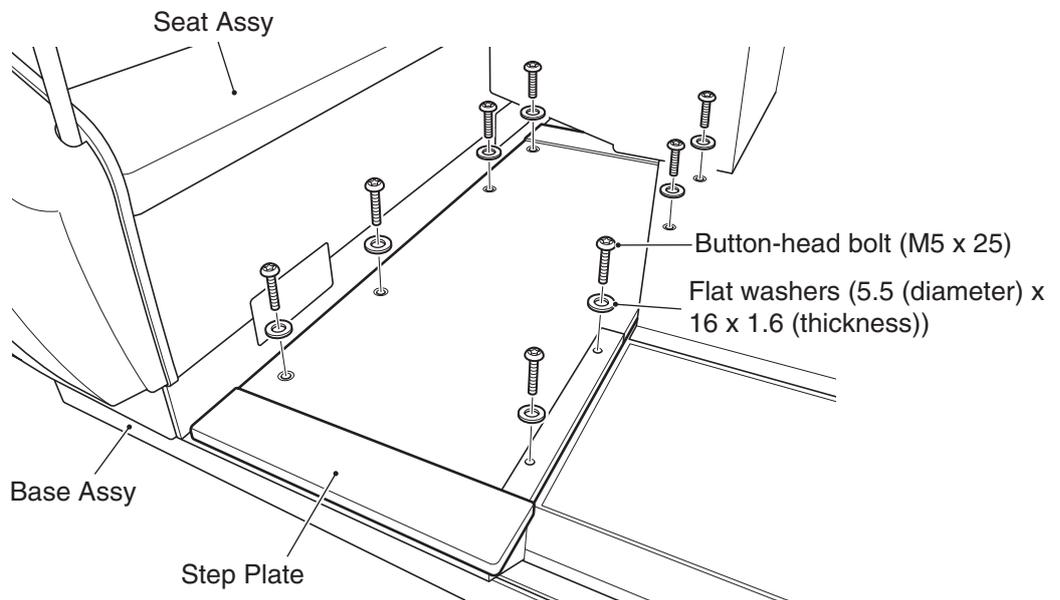
21 Install the treasure cover using five Torx bolts (M5 x 16) and two Torx bolts (M5 x 20).



- 22** Install the side body (L) and side body (R) using five Torx bolts (M5 x16) on each side.



- 23** Install the step plate using eight button-head bolts (M5 x 25) and eight flat washers (5.5 (diameter) x 16 x 1.6 (thickness)).



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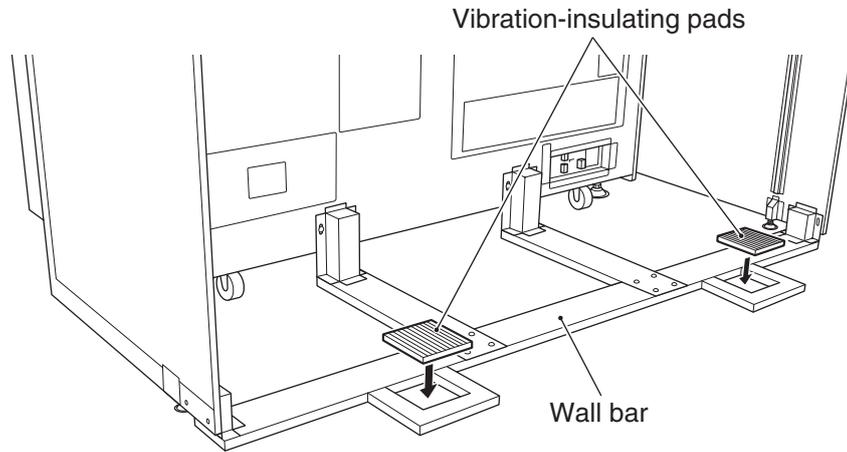
Assembly and Setup

Test mode

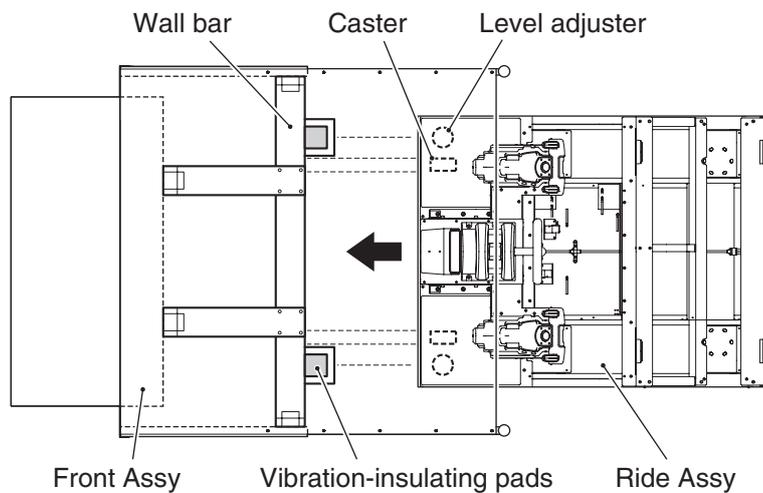
Troubleshooting

8A-1-3 Connecting the Front Assy to the Ride Assy, and adjusting level adjusters

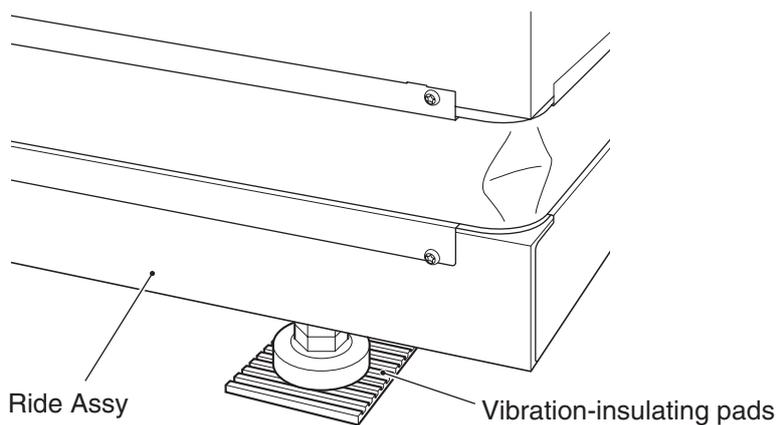
- 1 Install two vibration-insulating pads to the wall bar.



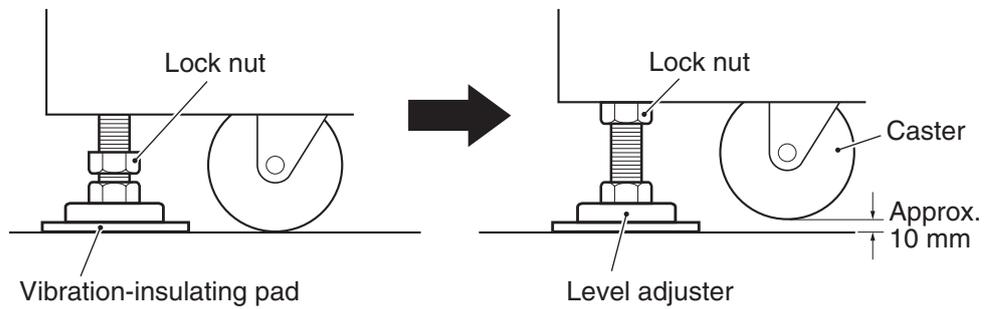
- 2 Move the Ride Assy until the level adjusters are positioned over the vibration-insulating pads.



- 3 Place a vibration-insulating pad below each of the level adjusters at the back end of the Ride Assy.



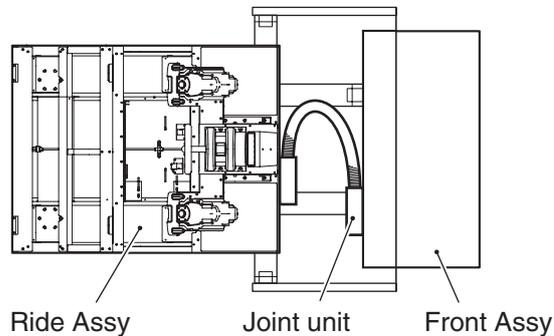
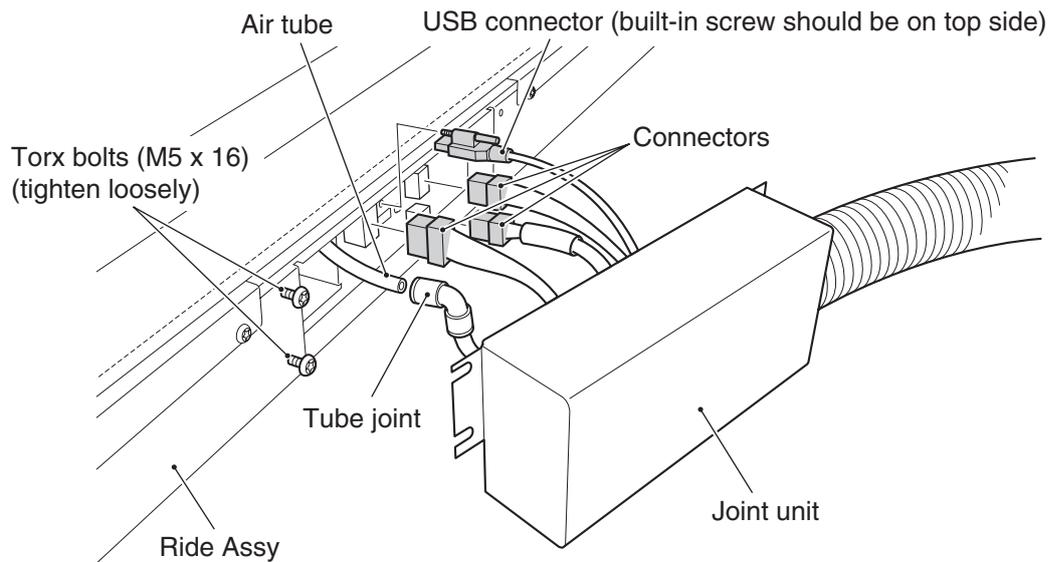
- 4** Lower the four level adjusters until the casters are lifted about 10 mm from the floor, then turn the lock nuts all the way to lock the level adjusters.



- 5** Install two Torx bolts (M5 x 16) on the Ride Assy and loosely tighten them. Insert the one air tube into the tube joint, and connect the three connectors and one USB connector.

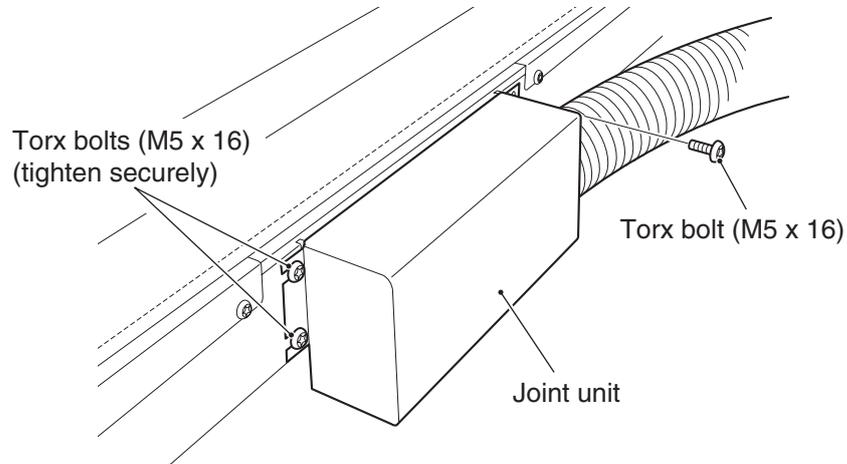
* After inserting the USB connector, tighten the built-in screw of the connector to secure it in place.

* The joint unit section is the same on the monitor side and ride side.

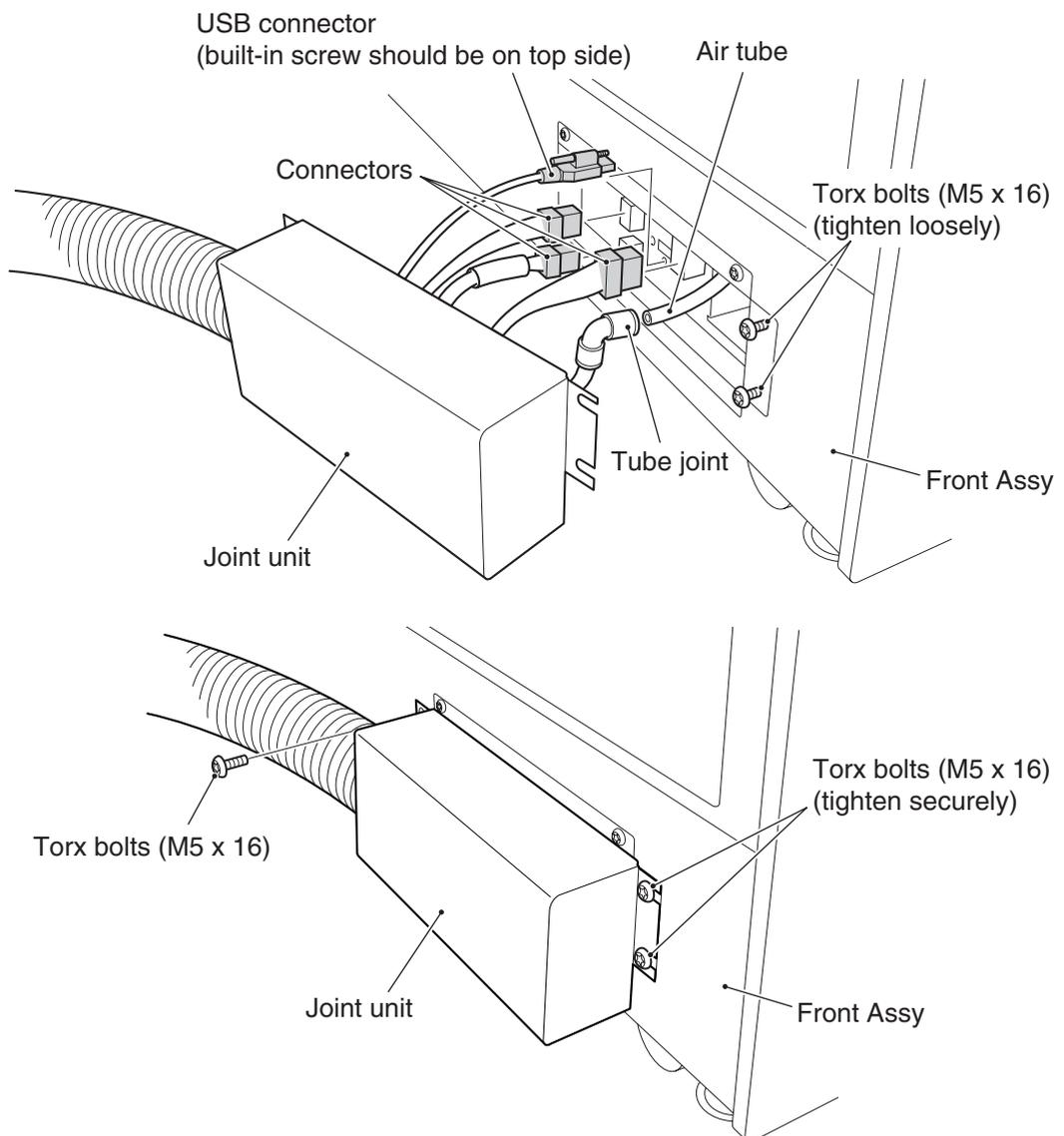


- Insert the air tube all the way. If the air tube is not inserted fully, air can leak and disallow proper game operation.

- 6** Install the joint unit securely using the two Torx bolts (M5 x 16) (bolts that were loosely tightened in step **5**), one Torx bolt (M5 x 16) and one spring washer (M5).
* Be careful not to pinch the connector cables with the joint unit during installation.
* Install one Torx bolt (M5 x 16) in the upper hole.



- 7** By following steps **5** and **6**, install the other joint unit on the Front Assy.



8A-1-4 Installing the USB dongle

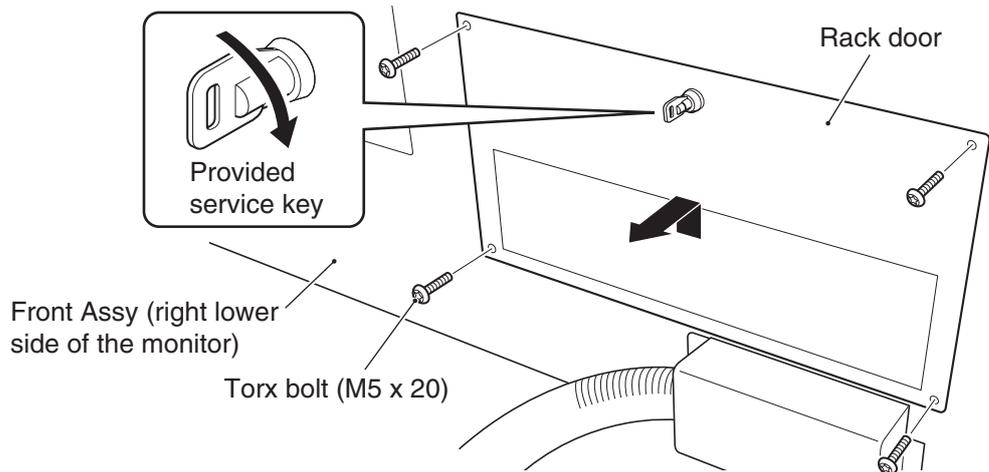
! WARNING

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

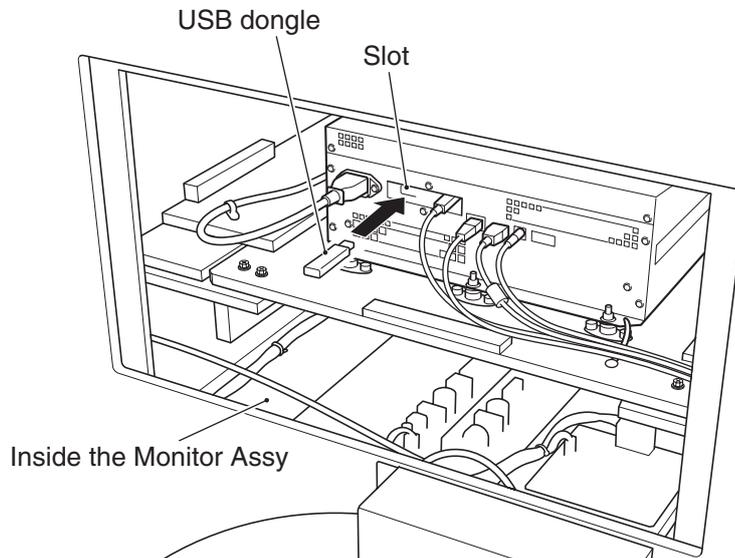
NOTICE

- The PC board can be easily damaged by static electricity. If the PC board is handled by a person charged with static electricity, parts mounted on the PC board can become damaged. Before touching the PC board, be sure to remove static electricity from your body by touching a grounded metal.

- 1 Make sure that the power switch is turned off. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2 Using the provided service key, unlock the rack door, remove the four Torx bolts (M5 x 20), and then dismount the rack door.



- 3 Install the USB dongle contained in the package sent separately.



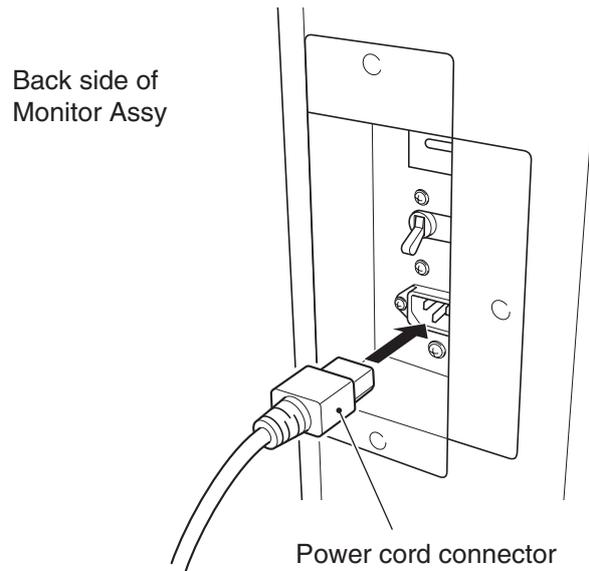
- 4 To install the rack door, follow the removal sequence in reverse.

8A-1-5 Connecting the power cord and ground lead

WARNING

- Connect the ground lead . If the machine is not grounded properly, electric shock can occur in case of electrical leakage.

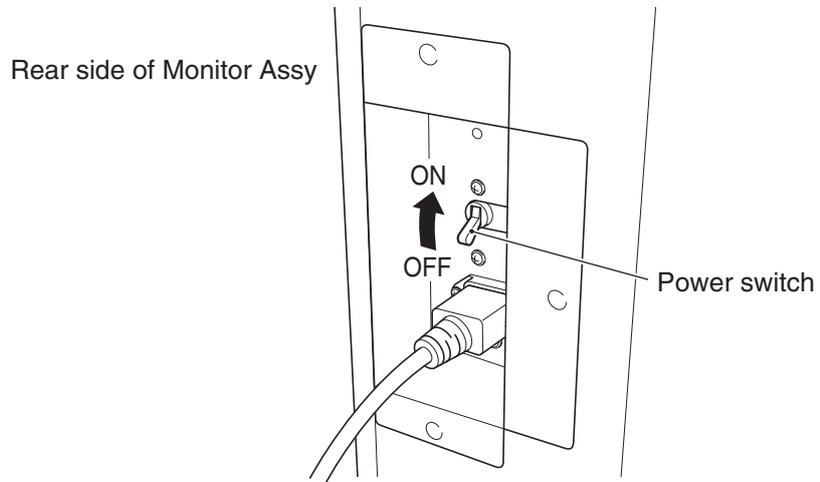
- 1** Insert the connector of the power cord to the power input section located on the lower rear side of the Monitor Assy.



- 2** Insert the power cord plug into an AC outlet.

8A-1-6 Power switch location and turning on the switch

Turn on the power switch on the machine.



- Be sure to complete the installation and setup of the machine before turning on the power switch.
- When turning the power switch on or off, wait at least 30 seconds between switch operations. Do not repeat turning the power switch on and off unnecessarily. Repeated on/off operations can cause damage to the data in the backup memory. (When draining water from the compressor, wait at least 2 minutes before turning the power switch on or off. (See P. 39 “7-4-3 (1) Disposing of water drained from the compressor.”))

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Assembly and Setup

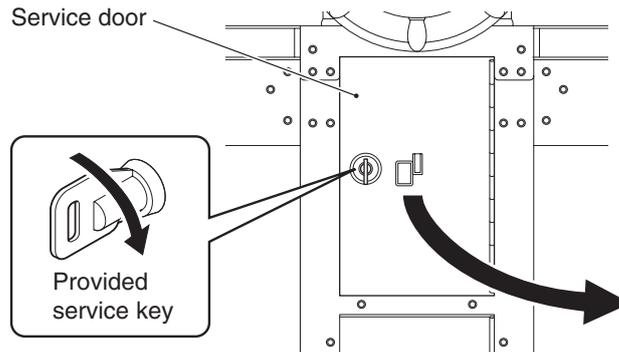
Test mode

Troubleshooting

8A-1-7 Setting the coin to be used

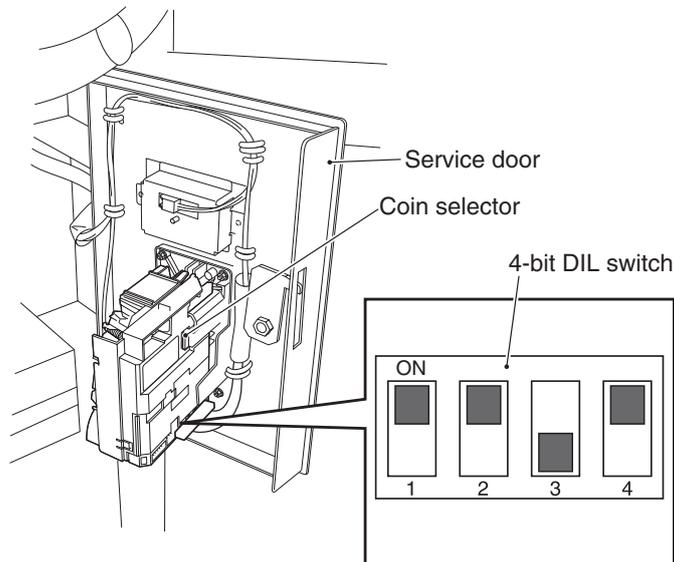
The coin type is set to the Hong Kong dollar at the factory.
To change the coin type, use the DIL switch.

- 1** Turn on the power switch. Wait until the NAMCO BANDAI logo appears on the screen. (approx. 20 sec) (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Using the provided service key, unlock and open the service door.

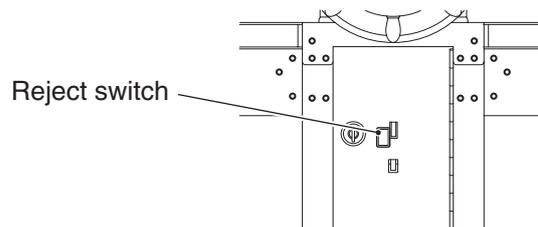


- 3** To set the Inhibit Specific Coins mode, follow the procedure described below. (If it is not necessary to set the Inhibit Coins mode, proceed to **4**.)

(1) Adjust the slide switches as follows: 1 = ON, 2 = ON, 3 = OFF, 4 = ON. (Even if the slide switches are already set as specified, move at least one switch ON/OFF.)



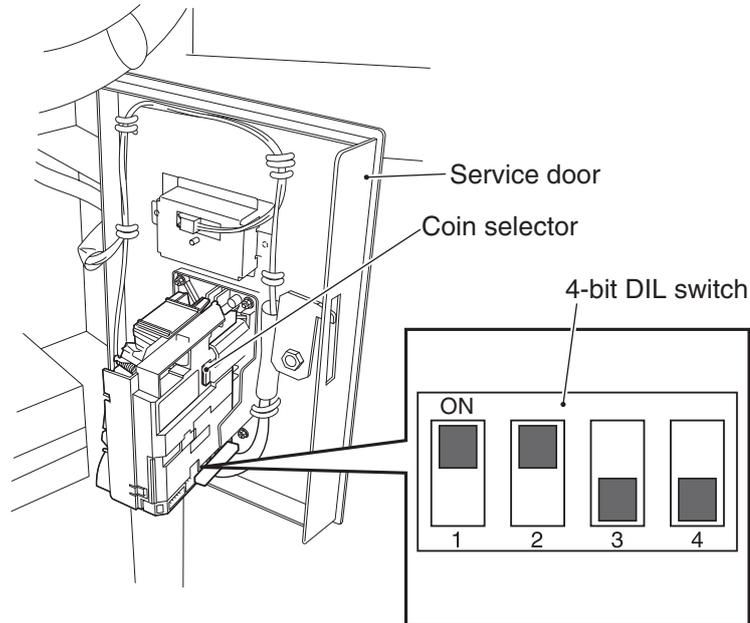
(2) Press the Reject switch within 20 seconds before time-out occurs.



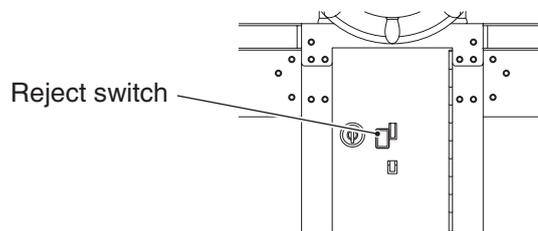
- (3) Insert coins to be inhibited until they are accepted.
- (4) Press the Reject switch to return to the operational mode.

4 To set the Enable Specific Coins mode, follow the procedure described below.

(1) Adjust the slide switches as follows: 1 = ON, 2 = ON, 3 = OFF, 4 = OFF. (Even if the slide switches are already set as specified, move at least one switch ON/OFF.)



(2) Press the Reject switch within 20 seconds before time-out occurs.



(3) Insert coins to be set “enabled” until they are accepted.

(4) Press the Reject switch to return to the operational mode.

5 In the Test mode, confirm that the set coins are accepted properly. (See P. 51 “7-7-4 (2) SWITCH TEST.”)

8A-1-7 Confirmation after installation

- Is the machine installed properly according to the specified installation conditions?
(See P. 27 “5. INSTALLATION AND CARRY-IN PASSAGE CONDITIONS.”)
- Is the power supply capacity appropriate? (See P. 11 “2. SPECIFICATIONS.”)
- Is the power cable covered with a cable protector to prevent players and other customers from tripping over the cables?
- Is the coin type to be used set? (See P. 102 “8A-1-7 Setting the coin to be used.”)

8A-2 Disassembly (when carry-in passage is narrow)

8A-2-1 Separating the Control Assy from the Base Assy

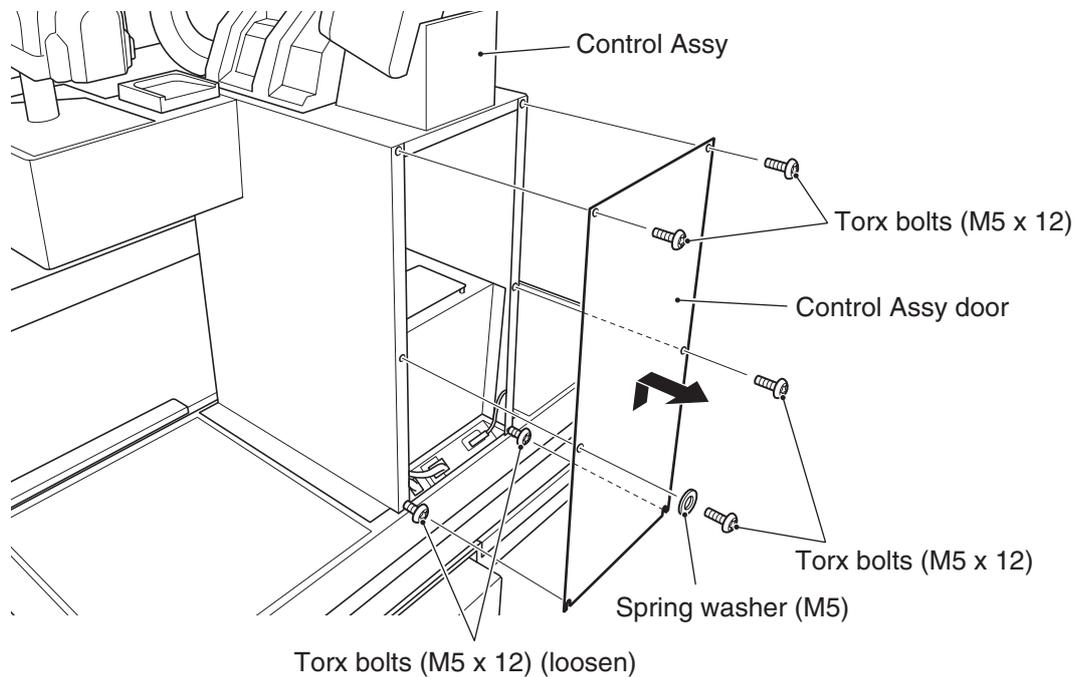
WARNING

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

CAUTION

- The Control Assy weighs approximately 60 kg. It should be removed by two or more persons in a large work area to prevent accidents.

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Remove the step plate. (See P. 95 “8A-1-2 Assembling the Ride Assy” **23**.)
- 3** Loosen the two bottom Torx bolts (M5 x 12), remove the four other Torx bolts (M5 x 12) at higher locations and one spring washer (M5), and dismount the Control Assy door.



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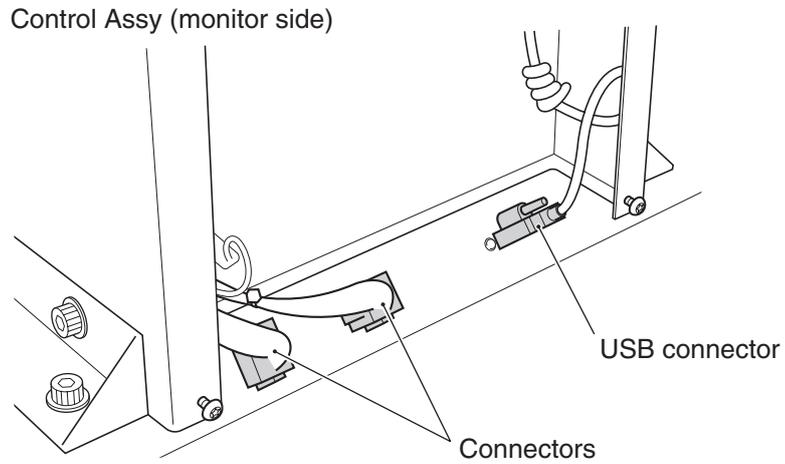
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Disassembly (when carry-in passage is narrow)

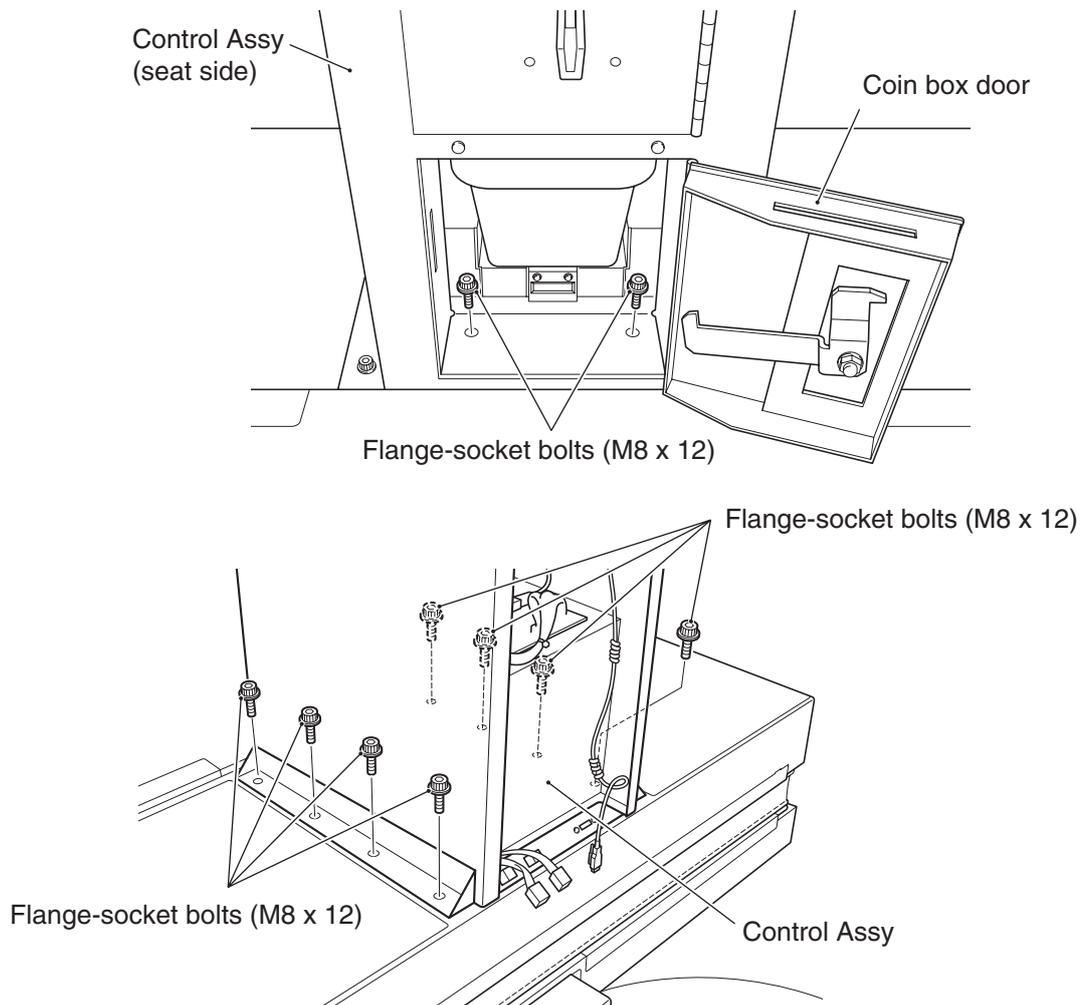
Test mode

Troubleshooting

- 4** Disconnect the two connectors and one USB connector.
* Remove the built-in screw from the USB connector before disconnecting the USB connector.

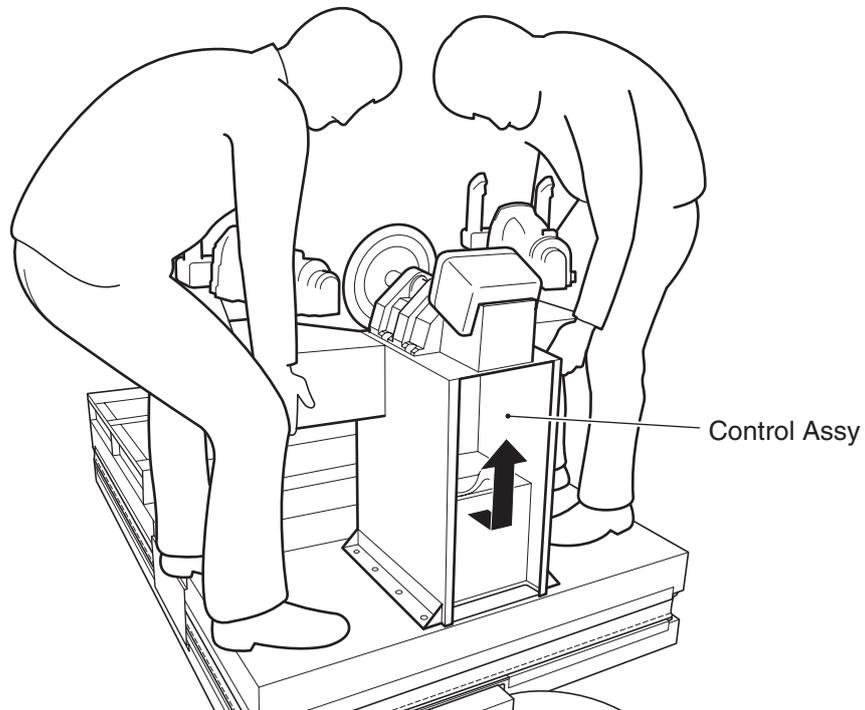


- 5** Using the provided coin box key, unlock and open the coin box door, and remove the two flange-socket bolts (M8 x 12) located inside the Control Assy and total of eight flanged-socket bolts (M8 x 12) located on the left and right sides on the outside of the Control Assy.

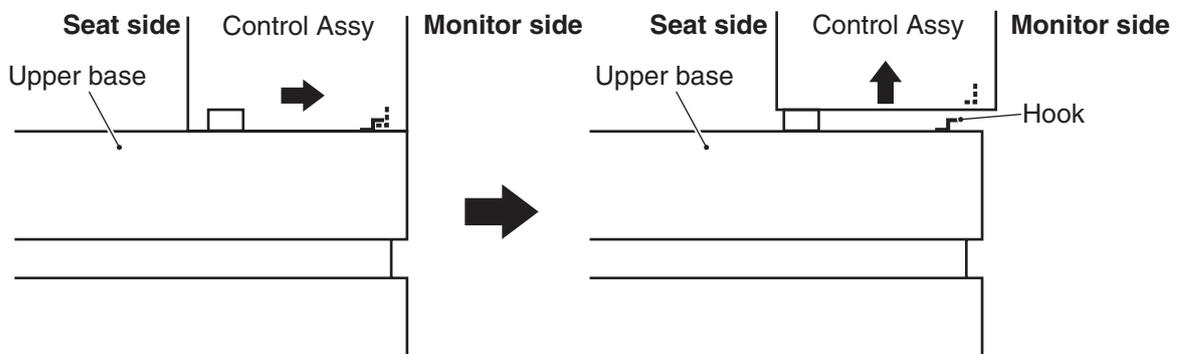


- 6** Close the coin box door and lock the door using the provided coin box key.

- 7** Lift the Control Assy approx 2 mm and move it toward the monitor side to disengage it from the hooks. Then, lift and dismount it.



Lift the Assy approx 2 mm and move it toward the monitor.



- 8** To install, follow the removal sequence in reverse.
* Be careful not to pinch the connector cables.

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Disassembly (when carry-in passage is narrow)

Test mode

Troubleshooting

8B. Service – To be conducted by a technician only –

WARNING

- To protect the service staff and other people from an electric shock, accident and injury, always turn off the power switch before conducting maintenance (troubleshooting, repair, etc.).
- Some monitor sections remain hot or charged with high voltage even after the power switch is turned off. Do not touch the monitor unnecessarily in order to prevent electric shock and burns.
- Some compressor sections remain hot even after the power switch is turned off. When conducting compressor maintenance, wait for at least one hour after the compressor stops operation to let it cool sufficiently in order to prevent burns.

8B-1 Inspection and Service

WARNING

- Conduct Service periodically. Failure to conduct periodic Service may result in unexpected accidents.

8B-1-1 Inspection items

Check the following inspection items regularly.

- (1) Inspection of level adjusters
 - Make sure that the machine is installed stably. (See P. 96 “8A-1-3 Connecting the Front Assy to the Ride Assy, and adjusting level adjusters.”)
- (2) Inspection of power cord plug
 - Make sure that the power cord is connected firmly to the cord box section of the machine and the AC outlet.
 - If the connector sections are dusty, clean them.
 - Check the power cord for cracks and dirty sheath. If there is any abnormality in the power cord, replace it with a new cord.
- (3) Inspection of fasteners for tightness

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

 - Gun Assy retaining bolts (See P. 178 “8B-4-3 (1) Replacing and installing the Gun Assy.”)
 - Wheel retaining bolts (See P. 178 “8B-4-4 (1) Removing and installing the Wheel Assy.”)
 - Ride stopper retaining bolts (bolts connecting the Ride Assy to the Front Assy) (See P. 80 “8A-1-1 Assembling the Front Assy” **17**.)
 - Seat Assy retaining bolts (See P. 84 “8A-1-2 Assembling the Ride Assy.”)
 - Signboard Assy retaining bolts (See P. 84 “8A-1-2 Assembling the Ride Assy.”)
 - Others

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Service

Test mode

Troubleshooting

8B-1-2 Compressor maintenance

WARNING

- To protect the service staff and other people from an electric shock, accident and injury, always turn off the power switch before conducting the described task.
- Some compressor sections remain hot even after the power switch is turned off. When conducting compressor maintenance, wait for at least one hour after the compressor stops operation to let it cool sufficiently in order to prevent burns.

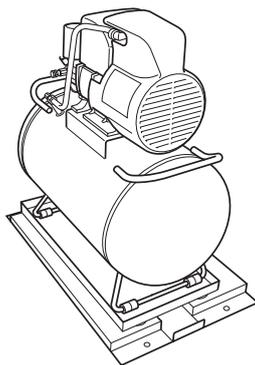
NOTICE

- If maintenance is not conducted as specified, the service life of the compressor shortens significantly. Be sure to conduct maintenance/overhaul according to the game play hours. (When the compressor needs maintenance, a message is displayed on the screen.)
- If the machine has been stored for a long period of time in a warehouse or similar place, conduct maintenance/overhaul according to the length of storage period by referring to the table below.
- After conducting compressor maintenance/overhaul, be sure to reset the compressor timer. (See P. 64 “7-7-8 (2) COMPRESSOR TIMER.”)

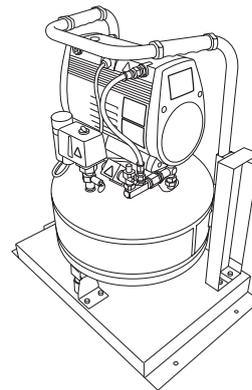
The compressor model installed in the machine varies in marketing regions. Check to see which compressor model is installed in your machine before conducting maintenance.

(See P. 134 “8B-4-1 (5) Replacing the compressor (Hitachi compressor)” and P. 149 “8B-4-1 (12) Replacing the compressor (JUN-AIR compressor).”)

Hitachi compressor



JUN-AIR compressor



Hitachi compressor

Maintenance item	Maintenance interval	Work conducted in Test mode
(1) Disposal of water drained from the compressor (see P. 112) (2) Confirmation of the compressor for abnormal sound, vibration and odor (see P. 112) (3) Inspection of the filter regulator pressure setting (see P. 113)	Every day	None
(4) Confirmation of the compressor startup and stopping (see P. 115) (5) Inspection of the compressor filter (see P. 116 and P. 137) (6) Inspection of the Y-shape strainer (see P. 116) (7) Inspection of the drainage discharge solenoid valve (see P. 117) (8) Inspection of the filter regulator element (see P. 118)	Every 1,500 game play hours or 6 elapsed months	After the maintenance, execute "MAINTENANCE TIMER RESET." (See P. 64 "7-7-8 (2) COMPRESSOR TIMER.")
(9) Overhaul (See P.118)	Every 8,000 game play hours or 3 elapsed years	After the maintenance, execute "TOTAL TIMER RESET." (See P. 64 "7-7-8 (2) COMPRESSOR TIMER.")

* The game play hours is indicated in "COMPRESSOR TIME" in the Test mode (see P. 64 "7-7-8 (2) COMPRESSOR TIMER").

See the indication in GAME PLAY TIME.

JUN-AIR compressor

Maintenance item	Maintenance interval	Work conducted in Test mode
(1) Disposal of water drained from the compressor (see P. 112) (2) Confirmation of the compressor for abnormal sound, vibration and odor (see P. 112) (3) Inspection of the filter regulator pressure setting (see P. 119 and P. 152)	Every day	None
(10) Inspection of the intake filter (see P. 119 and P. 152)	Every month	None
(4) Confirmation of the compressor startup and stopping (see P. 115) (8) Inspection of the filter regulator element (see P. 113) (11) Replacement of the intake filter (see P. 119 and P. 152) (12) Inspection of the safety valve (see P. 120) (13) Inspection of the O-ring in the non-return valve (see P. 120 and P. 153)	Every 1,500 game play hours or 6 elapsed months	After the maintenance, execute "MAINTENANCE TIMER RESET." (See P. 64 "7-7-8 (2) COMPRESSOR TIMER.")
(9) Overhaul (See P.118)	Every 8,000 game play hours or 3 elapsed years	After the maintenance, execute "TOTAL TIMER RESET." (See P. 64 "7-7-8 (2) COMPRESSOR TIMER.")

(1) Disposal of water drained from the compressor

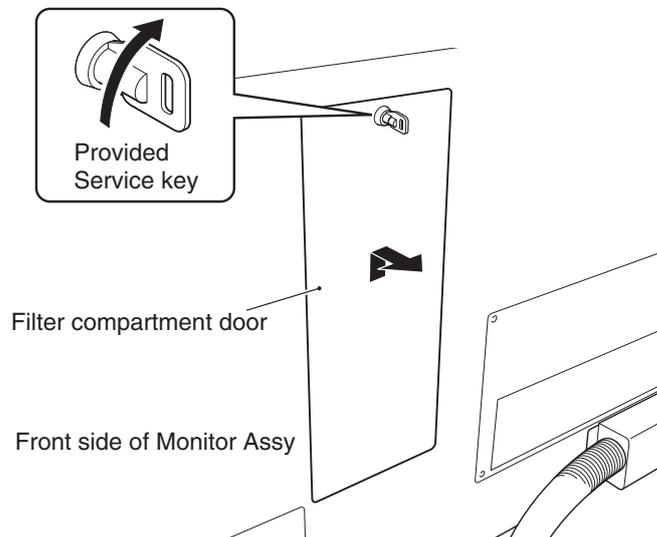
If water drained from the compressor is not disposed regularly, water can enter the pneumatically operating parts and result in a malfunction.

Furthermore, rust remains in the air tank and clogs the filter regulator, Y-shape strainer, drainage discharge solenoid valve, etc., thus resulting in a malfunction.

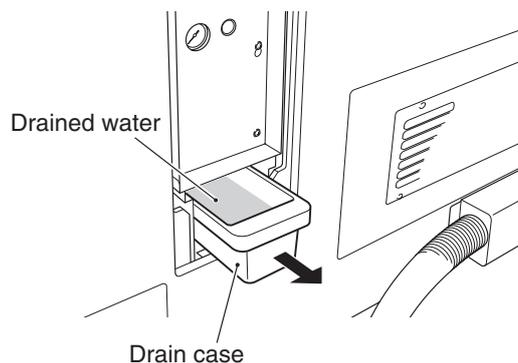
1 Turn off the power switch (see P.101 “8A-1-6 Power switch location and turning on the switch”) to release compressed air and water from the compressor.

2 Wait for about two minutes after turning off the power switch. Then, using the provided service key, unlock and open the filter compartment door.

* If the filter compartment door is opened while water discharging sound is produced, water may splash.



3 Take out the drain case and dispose of water.



(2) Confirmation of the compressor for abnormal sound, vibration and odor

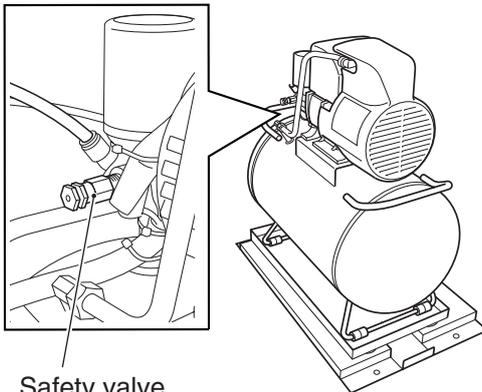
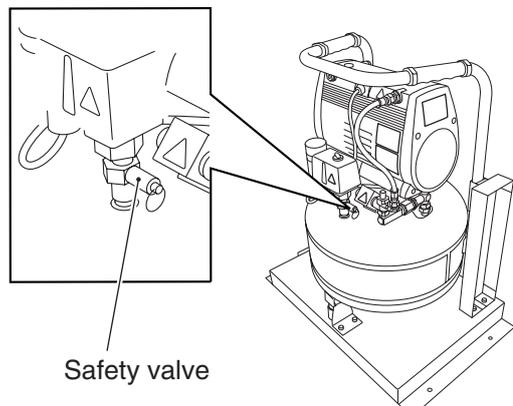
1 Check the compressor in operation for abnormal sound, vibration and odor.

2 If the compressor generates abnormal vibration or sound, turn off the power switch (see P. 101 “8A-1-6 Power switch location and turning on the switch”) and check the compressor mounting parts, bolts and nuts for tightness. If the compressor continues to produce abnormal vibration or sound after bolts and other parts are tightened firmly, contact your distributor.

(3) Inspection of the filter regulator pressure setting

! WARNING

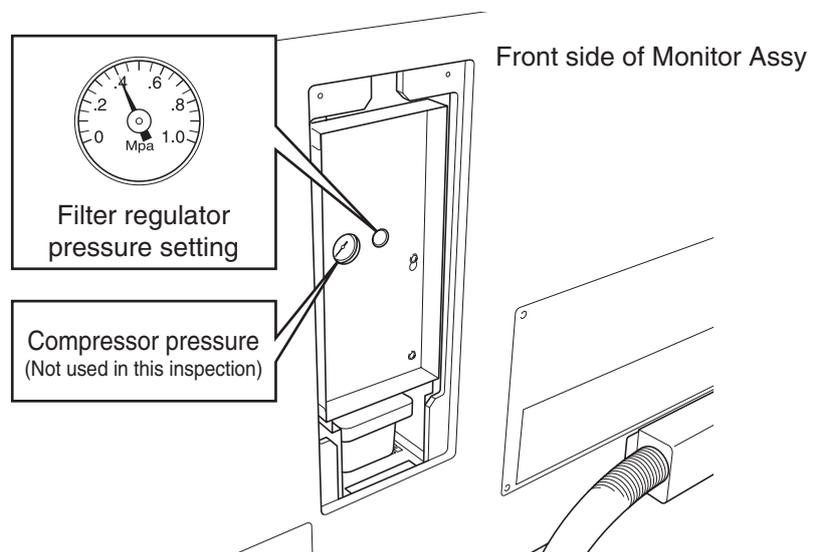
- Carelessly touching the compressor can cause burns, entanglement or electric shock. Do not touch any of the following sections when conducting inspection.
 - Compressor main unit and high-temperature sections such as copper pipes
 - Rotating parts such as fan
- Do not put your face close to the compressor since the safety valve may be activated during operation.

Hitachi compressor**JUN-AIR compressor**

Pressure should be in a range of 0.35 to 0.40 MPa. If the pressure is lower than the specified pressure setting, the motion becomes dull and weak.

If the machine continues to operate with a pressure level higher than the specified pressure setting, high stress is applied to the machine and can cause a malfunction.

- 1** Turn on the power switch (see P. 101 “8A-1-6 Power switch location and turning on the switch”), and wait until the compressor stops operating (approx. 4 minutes).
- 2** Using the provided maintenance key, unlock and open the filter compartment door and check the indicator on the filter regulator. Make sure that the pressure indication is in a range of 0.35 to 0.40 MPa.



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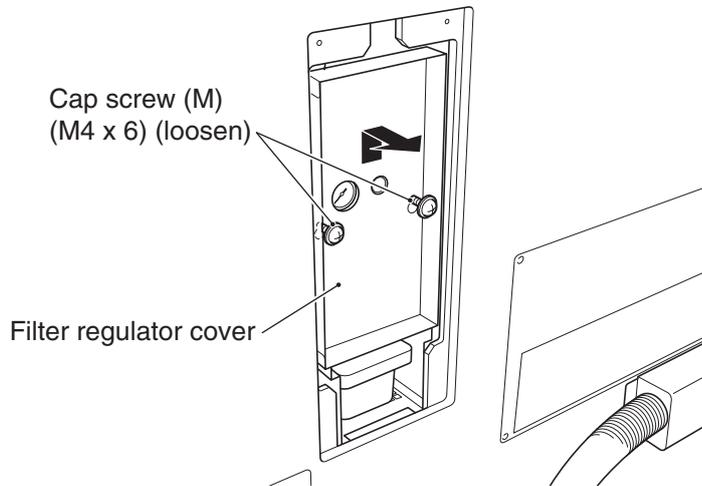
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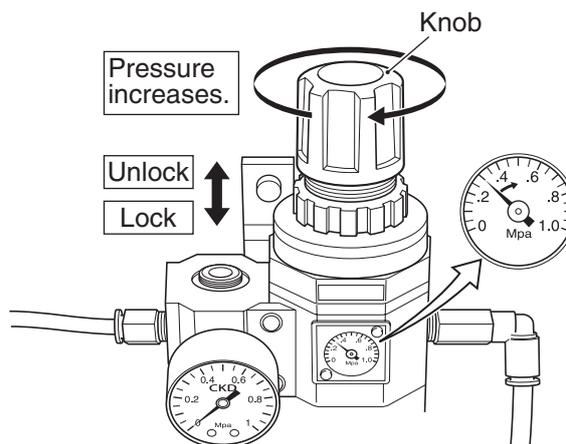
Troubleshooting

- 3** If the indicator shows a value outside the specified range, adjust the pressure by following the procedure described below.
Loosen the two cap screws (M) (M4 x 6) and remove the filter regulator cover.



- (a) When the indicator indicates a value lower than specified value
Pull up the knob and turn it to the right as shown in Figure (a) until the indicator indicates a value between 0.35 and 0.40 MPa. Then, lower the knob until a clicking sound is produced.
- * If the pressure is set to a level higher than the specified value, readjust the pressure by following the procedure described in “(b) When the indicator indicates a value higher than specified value.” If the pressure is adjusted by turning the knob to the left, the pressure level may change after a while.

When pressure is lower than specified value

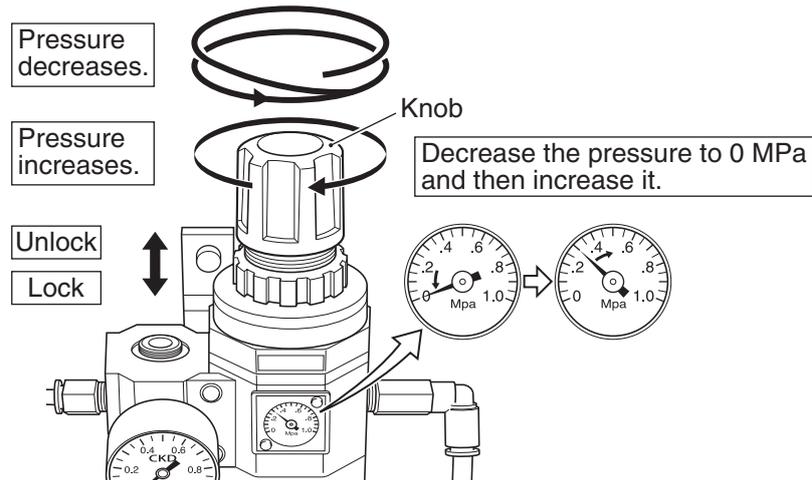


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- (b) When the indicator indicates a value higher than specified value
 Pull up the knob and turn it to the left as shown in Figure (b) until the indicator indicates 0 MPa, and turn the knob to the right until the indicator indicates a value between 0.35 and 0.40 MPa. Then, lower the knob until a clicking sound is produced.

* If the pressure is set to a level higher than the specified value, reduce the pressure to 0 MPa first and then adjust. If the pressure is adjusted by turning the knob to the left, the pressure level may change after a while.

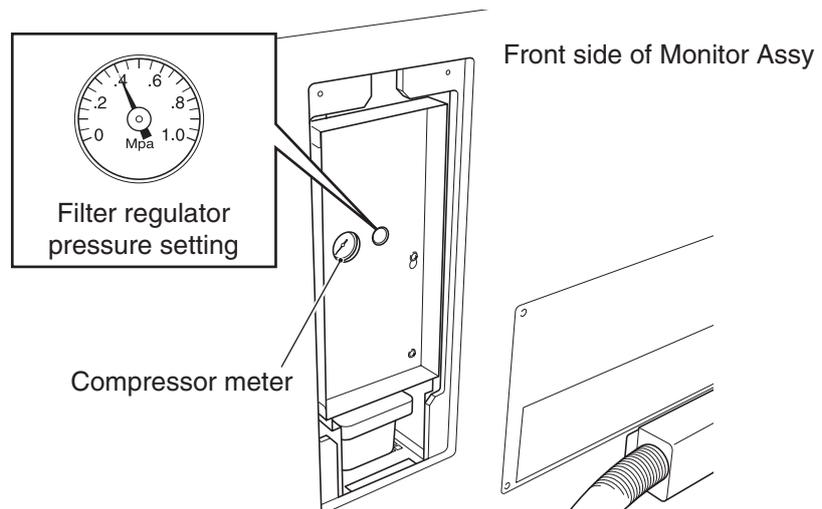
When pressure is higher than specified value



- 4** Reinstall the filter regulator cover and filter compartment door by following the removal sequences described in **2** and **3** in reverse.

(4) Confirmation of the compressor pressure and compressor startup time

- 1** Turn off the power switch (see P.101 “8A-1-6 Power switch location and turning on the switch”) to release compressed air and water from the compressor.
- 2** Using the provided service key, open the filter compartment door and check the compressor pressure. Pressure should be 0.7 MPa or higher.
- * If the compressor pressure is lower than 0.7 MPa or the compressor does not stop, turn off the power switch (see P. 101 “8A-1-6 Power switch location and turning on the switch”) and check the air tube connection (see P. 96 “8A-1-3 Connecting the Front Assy to the Ride Assy, and adjusting level adjusters”).
- * If the air tube is securely connected but the compressor does not operate properly, contact your distributor.



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- 3 After completing other maintenance work ((5) through (8)), execute "MAINTENANCE TIMER RESET" in the Test mode. (See P.64 "7-7-8 (2) COMPRESSOR TIMER.")

(5) Inspection of the compressor filter

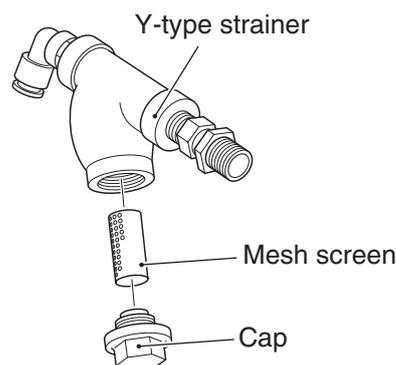
If the machine continues to operate with a dirty filter, the pressure can decrease due to clogging and causes a malfunction.

- 1 Turn off the power switch. (See P. 101 "8A-1-6 Power switch location and turning on the switch.")
- 2 Remove the compressor filter. (See P. 137 "8B-4-1 (6) Removing and installing the compressor filter.")
- 3 Clean the filter using compressed air to remove foreign particles. If foreign particles cannot be removed with compressed air, replace it with a new filter.
- 4 After completing other maintenance work ((4) and (6) through (8)), execute "MAINTENANCE TIMER RESET" in the Test mode. (See P.64 "7-7-8 (2) COMPRESSOR TIMER.")

(6) Inspection of the Y-shape strainer

If the Y-type strainer becomes covered with dust, water will not drain properly and it can enter the pneumatically operating parts and cause a malfunction. In addition, if water is not drained, rust remains in the air tank, resulting in clogging of the filter regulator and other parts to cause a malfunction.

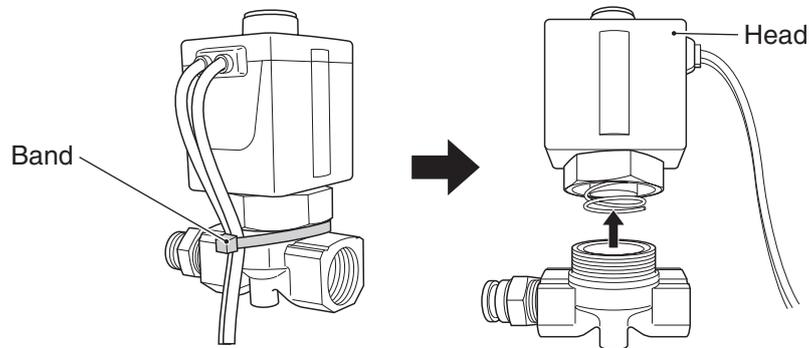
- 1 Turn off the power switch. (See P. 101 "8A-1-6 Power switch location and turning on the switch.")
- 2 Remove the Y-type strainer and take out the mesh screen. (See P. 139 "8B-4-1 (8) Removing and installing the Y-shape strainer/mesh screen.")
- 3 Clean the mesh filter with water to remove foreign particles. If foreign particles cannot be removed by washing with water, replace it with a new mesh screen.
- 4 After completing other maintenance work ((4), (5), (7) and (8)), execute "MAINTENANCE TIMER RESET" in the Test mode. (See P.64 "7-7-8 (2) COMPRESSOR TIMER.")



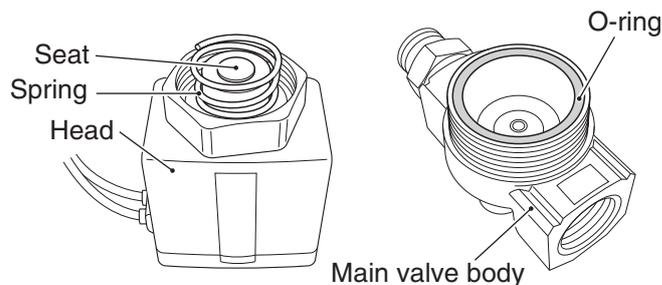
(7) Inspection of the drainage discharge solenoid valve

If the drainage discharge solenoid valve does not function correctly, water will not drain properly and can enter the pneumatically operating parts to cause a malfunction. Furthermore, if water is not drained, rust remains in the air tank, resulting in clogging of the filter regulator and other parts to cause a malfunction.

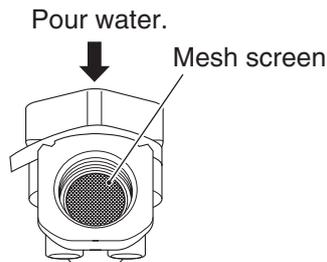
- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Remove the drainage discharge solenoid valve. (See P. 138 “8B-4-1 (7) Removing and installing the drainage discharge solenoid valve.”)
- 3** Cut the band around the drainage discharge solenoid valve and remove the head.



- 4** After removing the head, check to make sure that the spring, seat and O-ring are in proper position. If the O-ring is discontinuous, replace the solenoid valve.



- 5** Pour water from the top section of the main valve body to wash off dust from the mesh screen.



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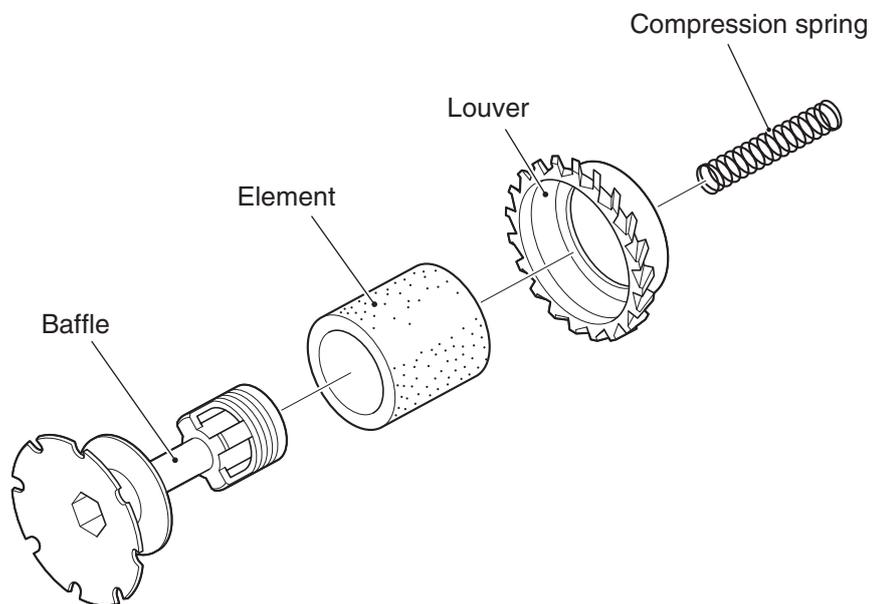
Troubleshooting

- 6** Check the O-ring for scratches and damage. Check the seat for dust adhesion. Make sure that the spring is inserted all the way.
- 7** To install, follow the removal sequence in reverse.
- 8** After completing other maintenance work ((4) and (6) through (8)), execute “MAINTENANCE TIMER RESET” in the Test mode. (See P.64 “7-7-8 (2) COMPRESSOR TIMER.”)

(8) Inspection of the filter regulator element

If the machine continues to operate with a dirty element, the pressure decreases and may cause a malfunction

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Remove the element. (See P. 144 “8B-4-1 (10) Replacing the element.”)
- 3** Clean the element using compressed air to remove foreign particles. If foreign particles cannot be removed with compressed air, replace it with a new element.
- 4** After completing other maintenance work ((4) through (7)), execute “MAINTENANCE TIMER RESET” in the Test mode. (See P.64 “7-7-8 (2) COMPRESSOR TIMER.”)



- **Never wash the element with water. If water enters the pneumatically operating parts, malfunction can occur.**

(9) Overhaul

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

For details, contact your distributor.

* After completing the overall, execute “TOTAL TIMER RESET” in the Test mode. (See P.64 “7-7-8 (2) COMPRESSOR TIMER.”)

(10) Inspection of the intake filter

If the machine continues to operate with a dirty intake filter, air flow will be restricted and can cause a malfunction.

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Remove the intake filter. (See P. 152 “8B-4-1 (13) Replacing the intake filter.”)
- 3** Remove any dirt (foreign items) from the filter. If foreign particles cannot be removed from the filter, replace it with a new intake filter.
- 4** After completing other maintenance work to be conducted at the same time (see P. 110 “8B-1-2 Compressor maintenance”), execute “MAINTENANCE TIMER RESET” in the Test mode. (See P. 64 “7-7-8 (2) COMPRESSOR TIMER.”)

(11) Replacement of the intake filter

If the machine continues to operate with a dirty intake filter, air flow will be restricted and can cause a malfunction.

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Replace the intake filter. (See P.152 “8B-4-1 (13) Replacing the intake filter.”)
- 3** After completing other maintenance work to be conducted at the same time (see P. 106 “8B-1-2 Compressor maintenance”), execute “MAINTENANCE TIMER RESET” in the Test mode. (See P. 64 “7-7-8 (2) COMPRESSOR TIMER.”)

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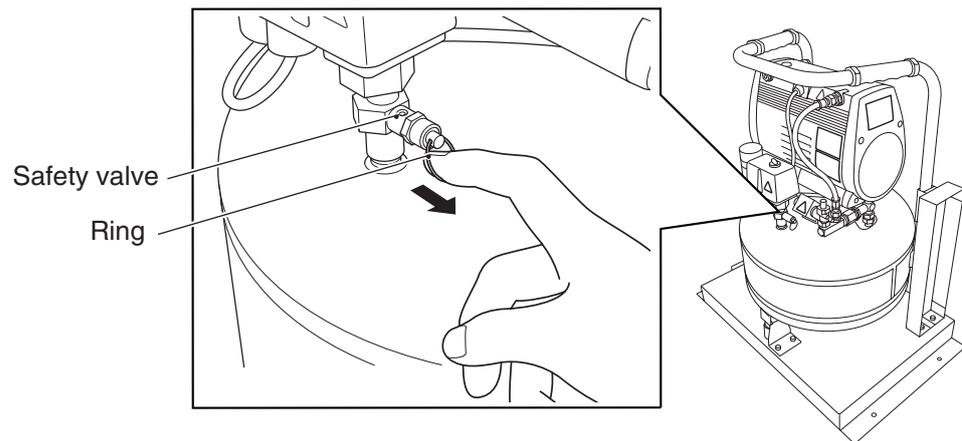
(12) Inspection of the safety valve

If the safety valve does not function properly, it disallows pressure adjustment, and this can cause a malfunction.

WARNING

- Some compressor sections remain hot even after the power switch is turned off. When conducting compressor maintenance, wait for at least one hour after the compressor stops operation to let it cool sufficiently in order to prevent burns.
- To protect the service staff and other people from an electric shock, accident and injury and to prevent damage to the electrical circuitry of the machine, always turn off the power switch before conducting the described task.

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Using the tip of your finger on the ring, check to see if it moves approximately 1 cm to the left and right directions. If there is any abnormality, contact your distributor.



- 3** After completing other maintenance work to be conducted at the same time (see P. 110 “8B-1-2 Compressor maintenance”), execute “MAINTENANCE TIMER RESET” in the Test mode. (See P. 64 “7-7-8 (2) COMPRESSOR TIMER.”)

(13) Inspection of the O-ring in the non-return valve

If the O-ring is damaged, air can leak, and this can cause a malfunction.

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Disassemble the non-return valve, and inspect the O-ring. If it is damaged, replace it with a new O-ring. (See P. 153 “8B-4-1 (14) Replacing the O-ring in the non-return valve.”)
- 3** After completing other maintenance work to be conducted at the same time (see P. 110 “8B-1-2 Compressor maintenance”), execute “MAINTENANCE TIMER RESET” in the Test mode. (See P. 64 “7-7-8 (2) COMPRESSOR TIMER.”)

8B-2 Troubleshooting

WARNING

- To protect the service staff and other people from an electric shock, accident and injury and to prevent damage to the electrical circuitry of the machine, always turn off the power switch before conducting the described task.
- If the generated problem symptom does not apply to any of the descriptions in Sections 8B-2-1 through 8B-2-6 or if the corrective action taken does not result in an improvement, turn off the power switch immediately to stop the machine operation, then contact your distributor. Operating the machine without correcting problems can result in an unexpected accident.

NOTICE

- In the event a machine malfunctions, check to make sure that all connectors are connected securely.
- If there is a problem in the Rack Assy (SYS357), MCD AMP PC Board, USIO PC Board, Gun Drive PC Board or LED PC Board, the faulty parts must be repaired by our company. Never use a tester to conduct a continuity test. Internal voltage of a tester can damage ICs.
- When sending parts for repair, pack them carefully. When sending the Rack Assy (SYS357), MCD AMP PC Board, USIO PC Board, Gun Drive PC Board or LED PC Board, cover it completely with sponge or bubble wrap and place it in a corrugated cardboard box to protect it against external impact.

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8B-2-1 General



- Before conducting troubleshooting, make sure that all connectors are connected firmly.

Symptom	Main cause	Remedy	Page
The machine does not start up.	The Rack Assy (SYS357) connector is disconnected.	Connect the connector securely.	Page 129
	The Rack Assy (SYS357) is defective.	Contact your distributor.	—
The machine does not operate stably, or it malfunctions.	The power supply voltage is outside the range of 99 to 121 VAC (198 to 242 VAC)	Disconnect large power consuming equipment (air conditioners, large rides, etc.) from the same power line, and ensure that the game machine receives the specified power supply voltage.	—
The machine turns off in the middle of operation.	The circuit protector was activated and turned off the power switch. * The circuit protector is designed to cut off the power supply when an abnormal current flows.	Turn on the power switch again. If the circuit protector is activated frequently, there is a problem in the machine. Contact your distributor.	—

8B-2-2 Front Assy (monitor, compressor, etc.)

Symptom	Main cause	Remedy	Page
There is no sound from the speakers.	The sound level is set very low.	Readjust the sound level.	Page 60
	The Rack Assy (SYS357) connector is disconnected.	Connect the connector securely.	Page 129
	The MCD AMP PC Board is defective.	Replace the MCD AMP PC Board.	Page 133
	The Rack Assy (SYS357) is defective.	Contact your distributor.	—
The monitor does not display images.	The connector is disconnected.	Connect the connector securely.	Page 129 Page 147
	The monitor is defective.	Replace the monitor.	Page 146
	The Rack Assy (SYS357) is defective.	Contact your distributor.	—
The monitor displays a blue screen.	The Rack Assy (SYS357) has a boot error.	Turn off the power switch, wait for 30 seconds or more, and then turn on the power switch again.	Page 101
There is a burning smell.	The motor is overheating due to excessive load.	Turn off the power switch, unplug the power cord plug, and contact your distributor.	—
The compressor turns off frequently.	Excessive current is flowing due to compressor abnormality.		
The compressor does not work.	The power cord is disconnected.	Connect the power cord securely.	Page 100
	The thermal protector has been activated.	Press the protector reset button.	Page 136
	The compressor is defective.	Turn off the power switch, unplug the power cord plug, and contact your distributor.	—
The thermal protector is activated frequently.	The compressor is defective.	Turn off the power switch, unplug the power cord plug, and contact your distributor.	—
Operation is unstable, or malfunction occurs.	The power supply voltage is outside the range of 99 to 121 VAC (198 to 242 VAC)	Disconnect large power consuming equipment (air conditioners, large rides, etc.) from the same power line, and ensure that the game machine receives the specified power supply voltage.	—
The compressor generates abnormal noise, vibration or odor.	Bolts or screws are loose.	Tighten the bolts and screws firmly.	Pages 134 through 140 Pages 149 through 154
	The compressor is defective.	Turn off the power switch, unplug the power cord plug, and contact your distributor.	—

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8B. Service – To be conducted by a technician only –

Symptom	Main cause	Remedy	Page
The compressor operates frequently even when game is not played.	The air tube is disconnected or not inserted securely.	Connect the air tube securely.	Page 97 Page 98 Page134 (Hitachi compressor) Page149 (JUN-AIR compressor)
	The compressor is defective.	Turn off the power switch, unplug the power cord plug, and contact your distributor.	—
The air tube has expanded.	The air tube is clogged with dust or rust.	Replace the air tube.	—

8B-2-3 Ride Assy

Symptom	Main cause	Remedy	Page
The Emergency Stop button does not function. The switch does not light.	The connector is disconnected.	Connect the connector securely.	Page 175 Page 176
There is no sound from the speakers.	The sound level is set very low.	Readjust the sound level.	Page 60
	The connector is disconnected.	Connect the connector securely.	Page 75
	The MCD AMP PC Board is defective.	Replace the MCD AMP PC Board.	Page 133
The Base Assy does not move.	The air tube is disconnected or not inserted securely.	Connect the air tube securely.	Page 97 Page 98 Page134 (Hitachi compressor) Page149 (JUN-AIR compressor)
	The pneumatic valve is defective.	Replace the pneumatic valve.	Page 168 Page 171
	The compressor is defective.	Turn off the power switch, unplug the power cord plug, and contact your distributor.	—

8B-2-4 Gun Assy

Symptom	Main cause	Remedy	Page
The gun does not work	The potentiometer has not be initialized.	Initialize the potentiometer.	Page 72
	The connector is disconnected.	Connect the connector securely.	Page 178 Page 180 Page 183
	The potentiometer is installed incorrectly.	Install the potentiometer correctly.	Page 180 Page 183
	The potentiometer is defective.	Replace the potentiometer.	Page 180 Page 183
The trigger does not function.	The connector is disconnected.	Connect the connector securely.	Page 185 Page 186
	The microswitch in the gun is defective.	Replace the microswitch.	Page 185
The Start button does not function.	The connector is disconnected.	Connect the connector securely.	Page 187
	The switch button is defective.	Replace the Start button.	Page 187
The gun does not vibrate.	The Gun Drive PC Board is defective.	Replace the Gun Drive PC Board.	Page 156
	The vibration unit is defective.	Replace the vibration unit.	Page 189

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8B-2-5 Wheel Assy

Symptom	Main cause	Remedy	Page
The wheel does not work.	The connector is disconnected.	Connect the connector securely.	Page 195
	The photosensor (for wheel) is defective.	Replace the photosensor.	Page 196

8B-2-6 Signboard Assy

Symptom	Main cause	Remedy	Page
The fluorescent lamps do not light.	The connector is disconnected.	Connect the connector securely.	Page 200
	The fluorescent lamps are burnt out.	Replace the fluorescent lamps.	Page 201

8B-3 Error display (for the technician)



- If the error indication remains after the appropriate countermeasure has been taken, set the Test switch to ON and then to OFF to cancel the error indication.

Displayed error indication	Cause	Remedy	Page
BATTERY02 ERROR	The Rack Assy PCB is defective.	Replace the Rack Assy.	Page 129
NOT CONNECT I/O-PCB	The USIO PC Board is defective.	Replace the USIO PC Board.	Page 155
	The USB cable is disconnected.	Connect the USB cable securely.	Page 97 Page 98
BACKUP MEMORY ERROR	The USIO PC Board is defective.	Replace the USIO PC Board.	Page 155
	The data in the backup memory is damaged.	Initialize the backup memory.	Page 67
FIRMWARE ERROR	The USIO PC Board is defective.	Replace the USIO PC Board.	Page 155
MEMORY ERROR	The USIO PC Board is defective.	Replace the USIO PC Board.	Page 155
SYSTEM ERROR 01	The Rack Assy PCB is defective.	Replace the Rack Assy.	Page 129
SYSTEM ERROR 02	The Rack Assy PCB or hard disk is defective.	Replace the Rack Assy.	Page 129
SYSTEM ERROR 03	The Rack Assy PCB or hard disk is defective.	Replace the Rack Assy.	Page 129
SYSTEM ERROR 04	The Rack Assy PCB or hard disk is defective.	Replace the Rack Assy.	Page 129
USB-KEY ERROR(INVALID KEY)	A wrong USB dongle is installed.	Install the USB dongle for Dead Storm Pirates.	Page 129
USB-KEY ERROR(NO KEY)	The USB dongle is not installed.	Install the USB dongle for Dead Storm Pirates.	Page 129
USB-KEY ERROR(IO ERROR)	The USB dongle is defective.	Replace the USB dongle.	Page 129
	The Rack Assy is defective.	Replace the Rack Assy.	Page 129
COIN ERROR1	The coin selector is defective.	Replace the coin selector.	Page 159
	The coin selector harness is defective.	Contact your distributor.	—
COIN ERROR2	The Service switch or its harness is defective.	Contact your distributor.	—
SERVICE PLAY (indicated at the Credit display location)	This error is indicated during a game play activated with the Service switch.	It is normal if the error is displayed during a game play activated with the Service switch.	—
	The Service switch or its harness is defective.	Contact your distributor.	—

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8B. Service – To be conducted by a technician only –

Displayed error indication	Cause	Remedy	Page
<p>There is an abnormality in the pneumatic motion system. Please turn the power OFF, and follow manual instructions for pneumatic motion system maintenance.</p>	<p>The air tube is defective. There is an air leak.</p>	<p>Operate the pneumatic springs in the Test mode and check for air leak sound. If the entire system does not move, check the air tubes of the joint unit, compressor and filter regulator. If only one air spring does not move, check the air tube of the pneumatic valve. Replace or reconnect the faulty air tube.</p>	<p>Page 97 Page 98 Page 134 (Hitachi compressor) Page 149 (JUN-AIR compressor) Page 150 Page 168 Page 171</p>
	<p>The filter regulator pressure indicator indicates a value less than 0.35 MPa.</p>	<p>Set the filter regulator pressure to a value between 0.35 to 0.40 MPa.</p>	<p>Page 113</p>
	<p>The filter regulator is defective.</p>	<p>Replace the filter regulator.</p>	<p>Page 141</p>
	<p>The compressor is defective.</p>	<p>Replace the compressor.</p>	<p>Page 134 Page 149</p>
	<p>The pneumatic valve is defective.</p>	<p>Replace the pneumatic valve.</p>	<p>Page 168 Page 171</p>
	<p>The photosensor is defective.</p>	<p>Replace the photosensor.</p>	<p>Page 172 Page 174</p>
<p>The compressor requires maintenance. Please turn the power OFF, and follow manual instructions for compressor maintenance.</p>	<p>The game play hours exceeded 1,500 hours or the compressor operating days exceeded 6 months since the last maintenance.</p>	<p>Conduct maintenance according to the procedures (4) through (8) in “8B-1-2 Compressor maintenance” on page 106.</p>	<p>Page 110</p>
<p>-- Warning -- The compressor requires replacement. Please turn OFF the power and replace the compressor according to the manual.</p>	<p>The game play hours exceeded 8,000 hours or the compressor operating years exceeded approximately 3 years.</p>	<p>Replace the compressor.</p>	<p>Page 134 (Hitachi compressor) Page 149 (JUN-AIR compressor)</p>
<p>-- TO EMPLOYEE -- The power has been turned ON for 24 hours. To prevent damaging the compressor, please turn the power OFF once.</p>	<p>The machine has been ON for more than 24 hours.</p>	<p>Turn off the power switch and wait for about 2 minutes (so that air is released from the compressor tank). Then, turn on the power switch.</p>	<p>Page 101</p>
<p>ERROR 55</p>	<p>USB dongle of a different game machine unit is installed</p>	<p>Turn off the power switch. Replace the currently installed USB dongle with the one that was mounted on the machine when the machine was initially started for game play, then turn on the power switch.</p>	<p>Page 99</p>

8B-4 Removing and installing Assys and parts

8B-4-1 Front Assy

(1) Replacing the Rack Assy

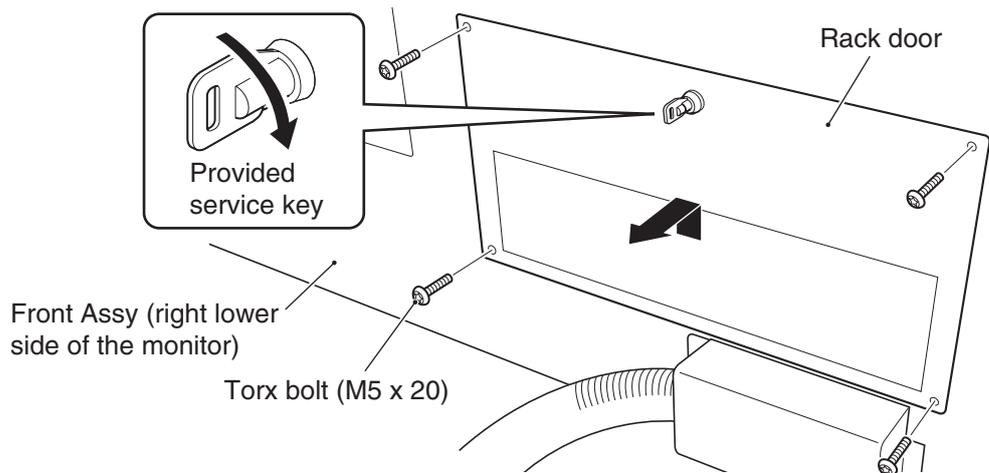
! WARNING

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

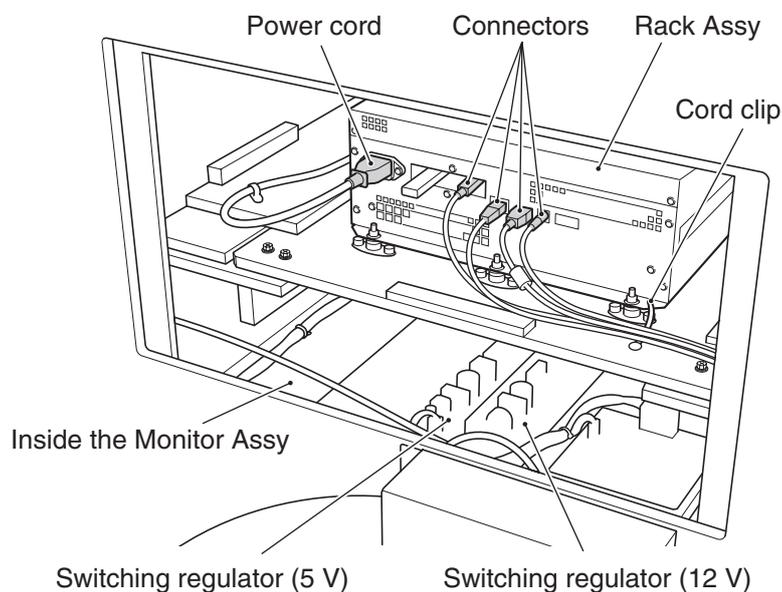
NOTICE

- The PC board can be easily damaged by static electricity. If the PC board is handled by a person charged with static electricity, parts mounted on the PC board can become damaged. Before touching the PC board, be sure to remove static electricity from your body by touching a grounded metal.

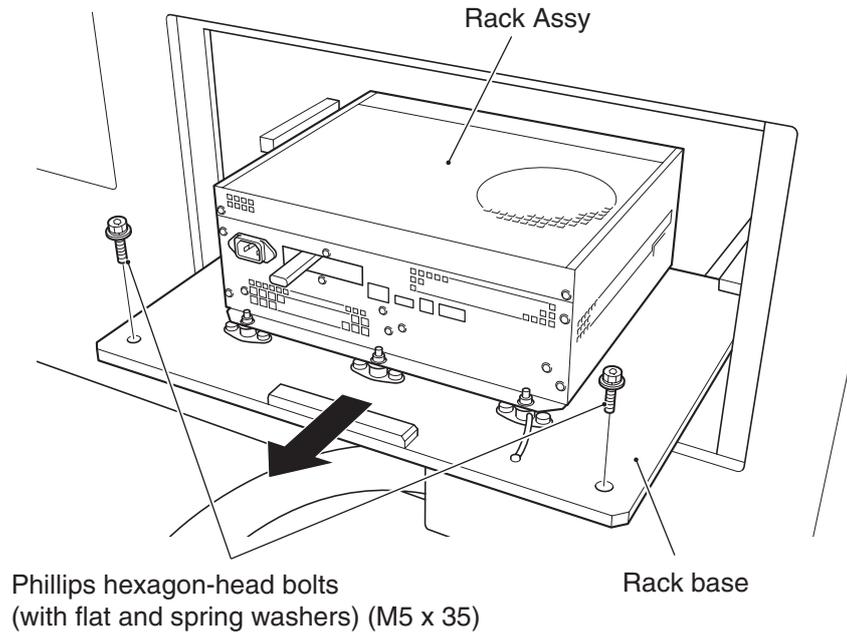
- 1 Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2 Using the provided service key, unlock the rack door, remove the four Torx bolts (M5 x 20), and then dismount the rack door.



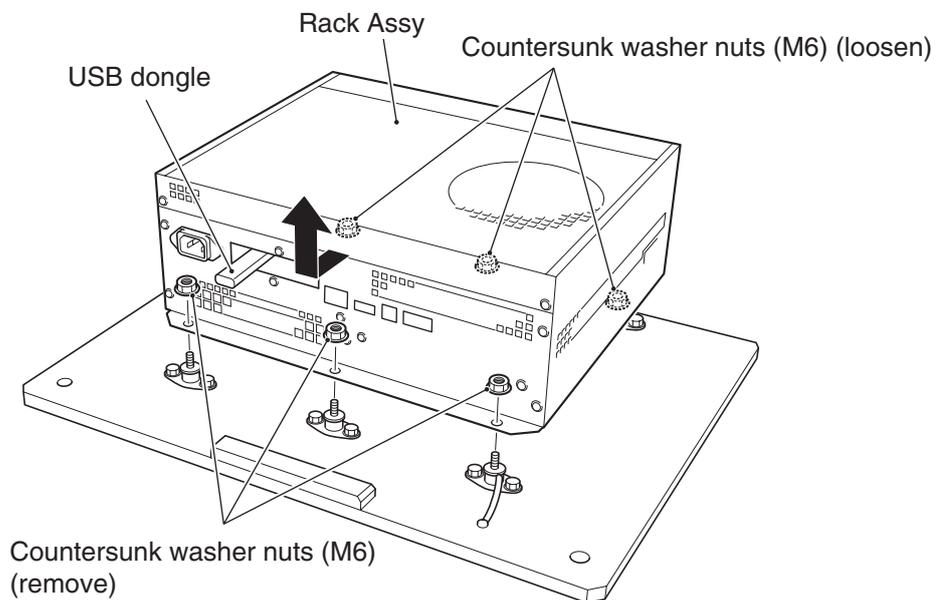
- 3 Remove the one cord clip and disconnect the four connectors and one power cord.



- 4 Remove the two Phillips hexagon-head bolts (with flat and spring washers) (M5 x 35) and dismount the rack base.



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



- 6 Remove the USB dongle and replace the Rack Assy.

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

NOTICE

- During the installation, check the direction of each connector and insert the connectors firmly until they lock securely into place.
- During the installation, be careful not to pinch the connectors or harnesses.
- After the replacement, be sure to perform initialization. (See P. 72 “7-9 Gun Assy adjustment (initialization) after parts replacement.”)

(2) Replacing the switching regulator (12 V)

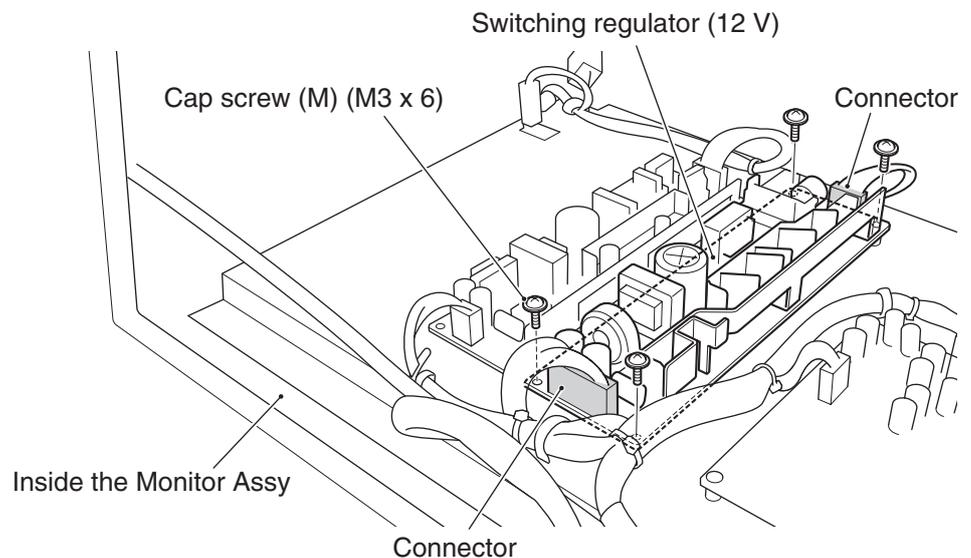
WARNING

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

NOTICE

- The PC board can be easily damaged by static electricity. If the PC board is handled by a person charged with static electricity, parts mounted on the PC board can become damaged. Before touching the PC board, be sure to remove static electricity from your body by touching a grounded metal.

- 1 Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2 Remove the rack base. (See P. 129 “8B-4-1 (1) Replacing the Rack Assy.”)
- 3 Disconnect the two connectors.
- 4 Remove the four cap screws (M) (M3 x 6), and dismount and replace the switching regulator (12 V).



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

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Removing and installing Assys and parts

Test mode

Troubleshooting

(3) Replacing the switching regulator (5 V)

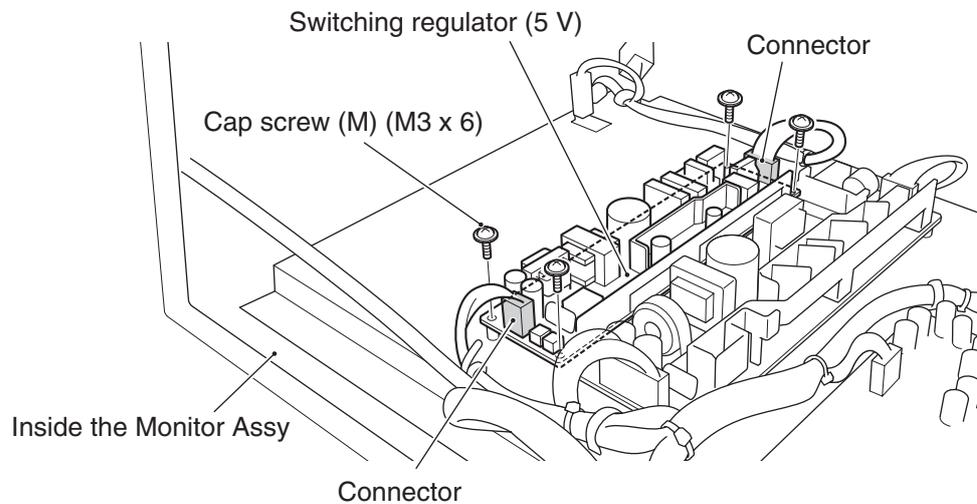
! WARNING

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

NOTICE

- The PC board can be easily damaged by static electricity. If the PC board is handled by a person charged with static electricity, parts mounted on the PC board can become damaged. Before touching the PC board, be sure to remove static electricity from your body by touching a grounded metal.

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Remove the rack base. (See P. 129 “8B-4-1 (1) Replacing the Rack Assy.”)
- 3** Disconnect the two connectors.
- 4** Remove the four cap screws (M) (M3 x 6), and dismount and replace the switching regulator (5 V).



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

(4) Replacing the MCD AMP PC Board

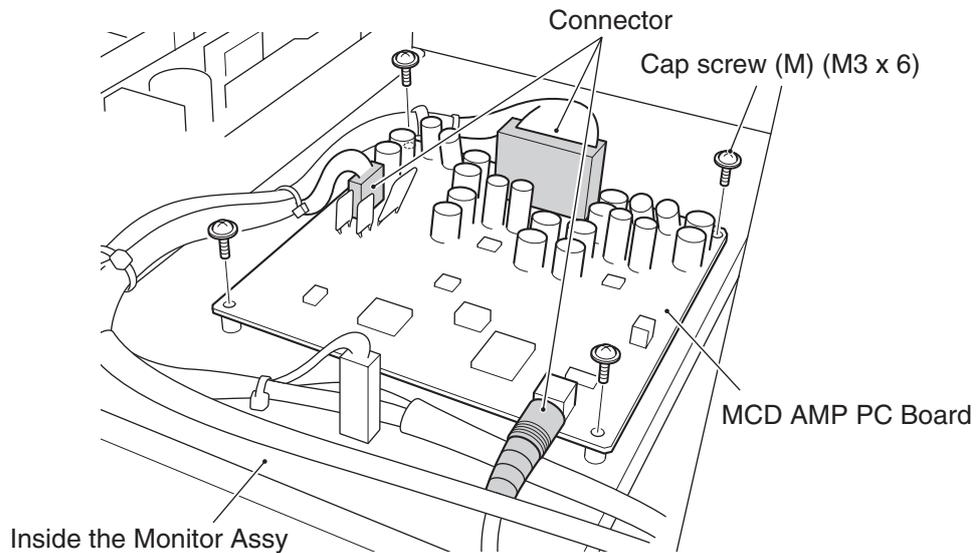
! WARNING

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

NOTICE

- The PC board can be easily damaged by static electricity. If the PC board is handled by a person charged with static electricity, parts mounted on the PC board can become damaged. Before touching the PC board, be sure to remove static electricity from your body by touching a grounded metal.

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Remove the rack base. (See P. 129 “8B-4-1 (1) Replacing the Rack Assy.”)
- 3** Disconnect the three connectors.
- 4** Remove the four cap screws (M) (M3 x 6), and dismount and replace the MCD AMP PC Board.



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

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Removing and Installing Assys and parts

Test mode

Troubleshooting

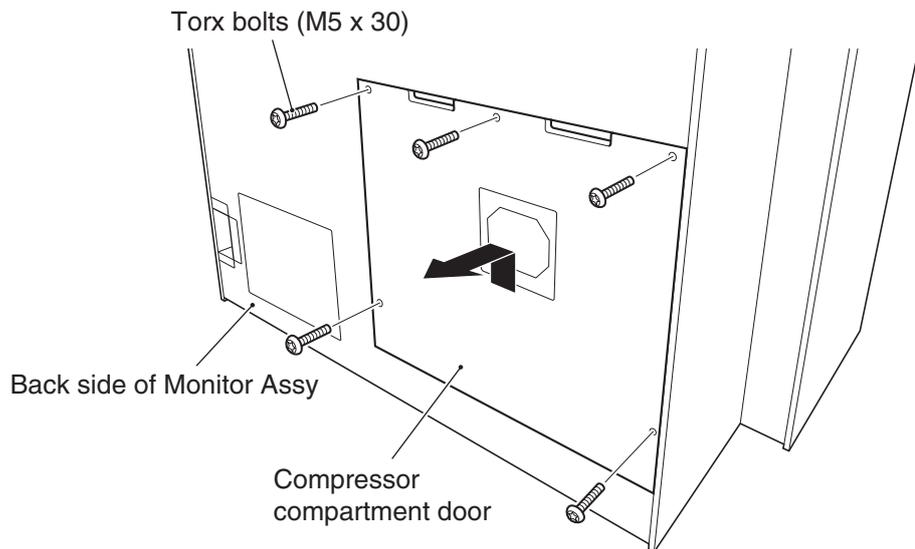
(5) Replacing the compressor (Hitachi compressor)*

* If your machine is equipped with a JUN-AIR compressor, see “8B-4-1 (12) Replacing the compressor (JUN-AIR compressor)” on page 149.

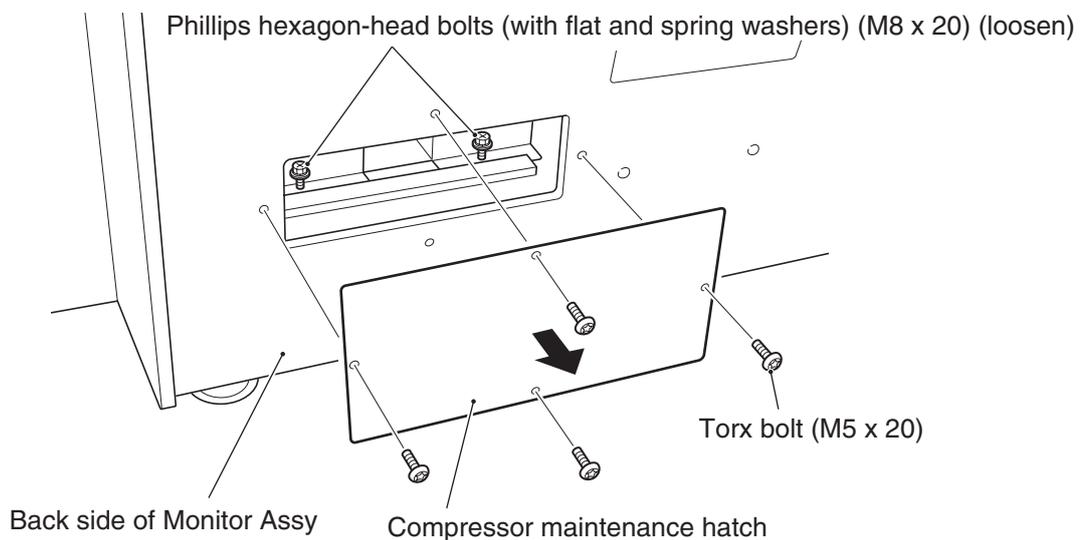
⚠ WARNING

- Some compressor sections remain hot even after the power switch is turned off. When conducting compressor maintenance, wait for at least one hour after the compressor stops operation to let it cool sufficiently in order to prevent burns.
- To protect the service staff and other people from an electric shock, accident and injury and to prevent damage to the electrical circuitry of the machine, always turn off the power switch before conducting the described task.

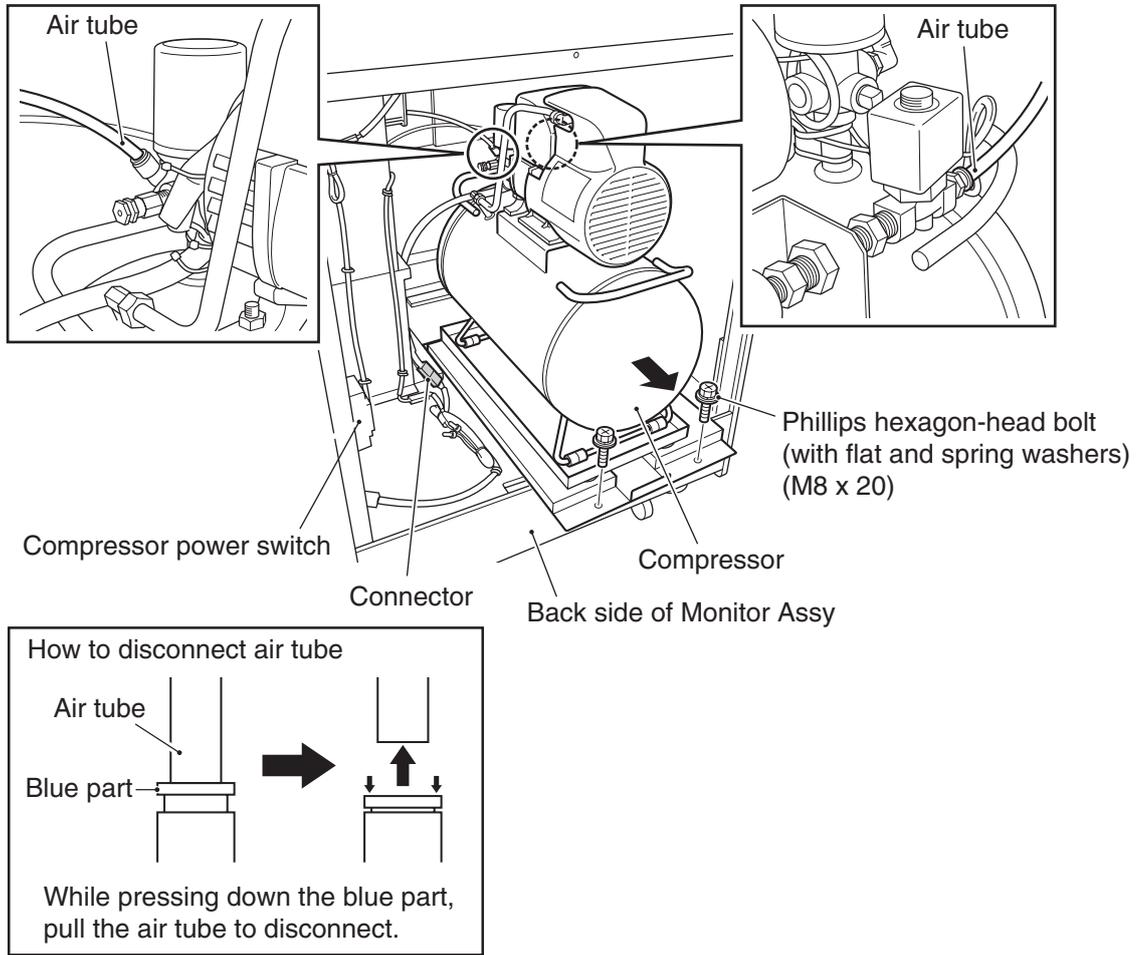
- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Remove the five Torx bolts (M5 x 30) and dismount the compressor compartment door.



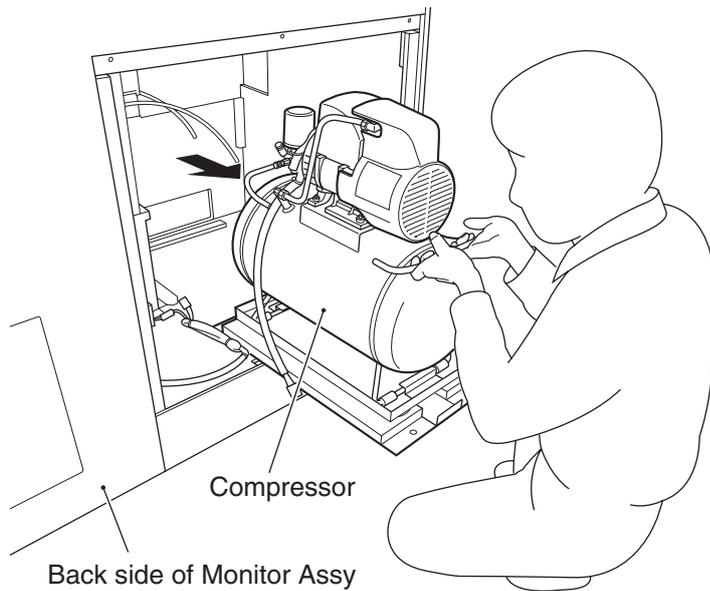
- 3** Remove the four Torx bolts (M5 x 20), dismount the compressor maintenance hatch, and loosen the two Phillips hexagon-head bolts (with flat and spring washers) (M8 x 20).



- 4 Turn off the compressor power switch, disconnect the larger connector, remove the two Phillips hexagon-head bolts (with flat and spring washers) (M8 x 20) located on the back side of the Monitor Assy, and disconnect the two air tubes.



- 5 Hold the handle and pull out the compressor.



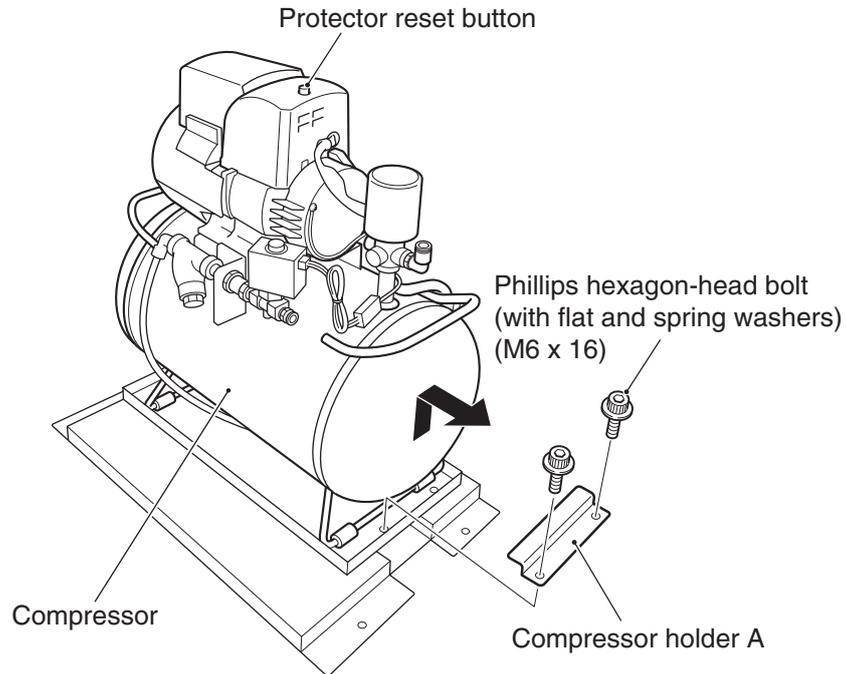
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Removing and installing Assys and parts

Test mode

Troubleshooting

- 6 Remove the two Phillips hexagon-head bolts (with flat and spring washers) (M6 x 16) and remove the compressor holder A.



- 7 Replace the compressor.
- 8 To install, follow the removal sequence in reverse.

NOTICE

- When connecting the air tubes, be sure to insert them all the way. If the air tubes are not inserted fully, air can leak and disallow proper game operation.
- After the replacement, be sure to reset the compressor operating hours (compressor timer). (See P. 64 “7-7-8 Initialization and others (OTHERS).”)

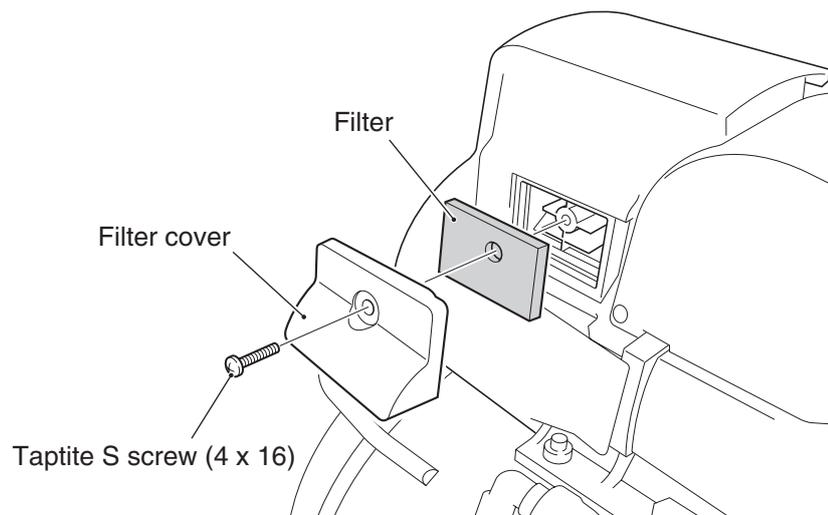
(6) Removing and installing the compressor filter

* The following applies only to the Hitachi compressor.

! WARNING

- Some compressor sections remain hot even after the power switch is turned off. When conducting compressor maintenance, wait for at least one hour after the compressor stops operation to let it cool sufficiently in order to prevent burns.
- To protect the service staff and other people from an electric shock, accident and injury and to prevent damage to the electrical circuitry of the machine, always turn off the power switch before conducting the described task.

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Dismount the compressor compartment door. (See P. 134 “8B-4-1 (5) Replacing the compressor” **2**.)
- 3** Remove the one Taptite S screw (4 x 16), dismount the filter cover, and take out the filter.



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

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Removing and installing Assys and parts

Test mode

Troubleshooting

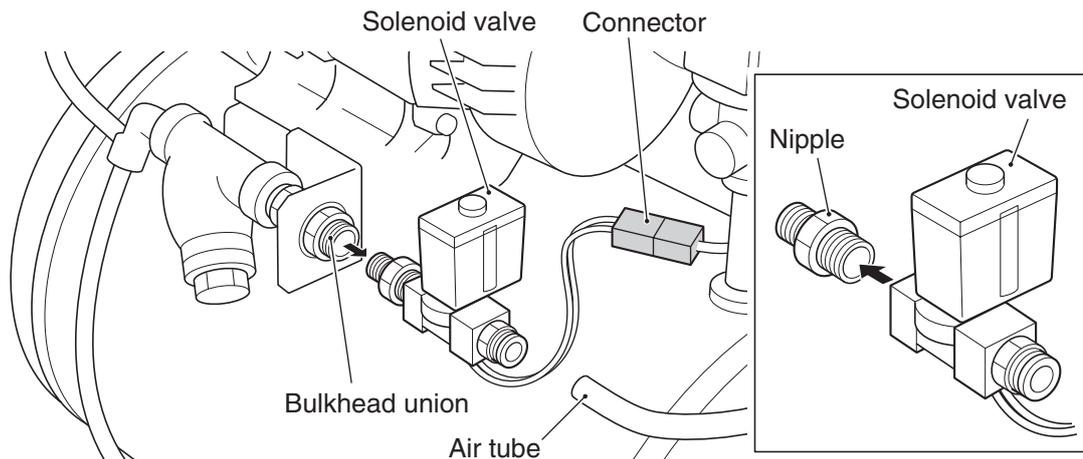
(7) Removing and installing the drainage discharge solenoid valve

* The following applies only to the Hitachi compressor.

⚠ WARNING

- Some compressor sections remain hot even after the power switch is turned off. When conducting compressor maintenance, wait for at least one hour after the compressor stops operation to let it cool sufficiently in order to prevent burns.
- To protect the service staff and other people from an electric shock, accident and injury and to prevent damage to the electrical circuitry of the machine, always turn off the power switch before conducting the described task.

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Pull out the compressor. (See P. 134 “8B-4-1 (5) Replacing the compressor” **2** through **8**.)
- 3** Disconnect the one connector and one air tube.



- 4** Disconnect the nipple from the bulkhead union, and remove the nipple from the solenoid valve.
- 5** To install, follow the removal sequence in reverse.

NOTICE

- When connecting the air tubes, be sure to insert them all the way. If the air tubes are not inserted fully, air can leak and disallow proper game operation.

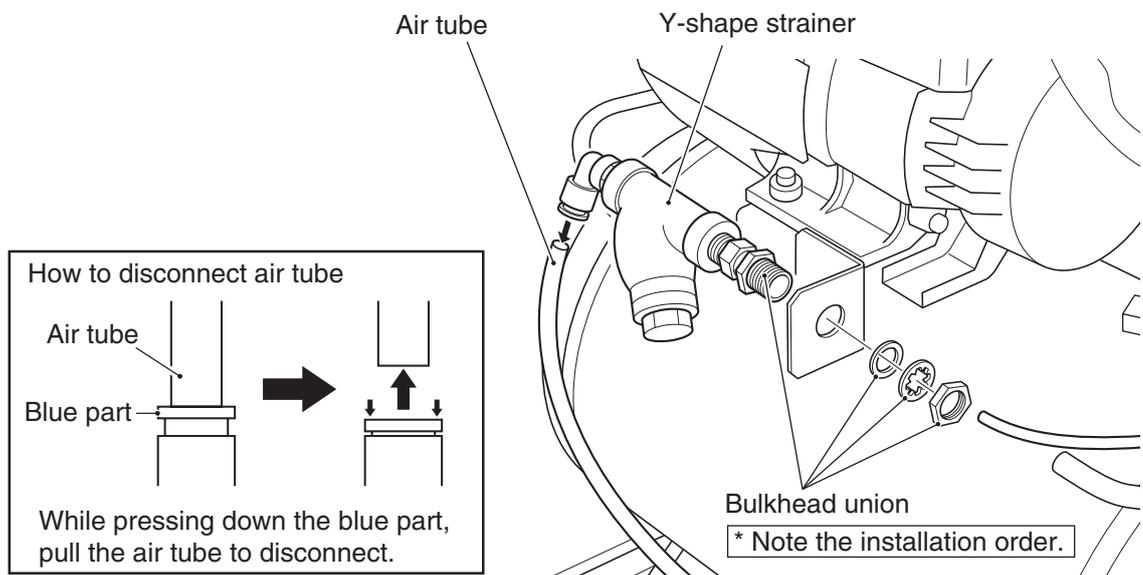
(8) Removing and installing the Y-shape strainer/mesh screen

* The following applies only to the Hitachi compressor.

! WARNING

- Some compressor sections remain hot even after the power switch is turned off. When conducting compressor maintenance, wait for at least one hour after the compressor stops operation to let it cool sufficiently in order to prevent burns.
- To protect the service staff and other people from an electric shock, accident and injury and to prevent damage to the electrical circuitry of the machine, always turn off the power switch before conducting the described task.

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Pull out the compressor. (See P. 132 “8B-4-1 (5) Replacing the compressor” **2** through **6**.)
- 3** Remove the drainage discharge solenoid valve. (See P. 136 “8B-4-1 (7) Removing and installing the drainage discharge solenoid valve.”)
- 4** Disconnect the one air tube, disassemble the bulkhead union, and then take out the Y-shape strainer.



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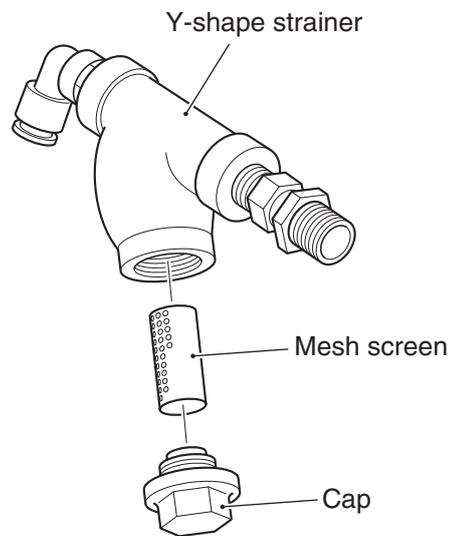
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Removing and installing Assys and parts

Test mode

Troubleshooting

- 5 Remove the cap and take out the mesh screen.



- 6 To install, follow the removal sequence in reverse.



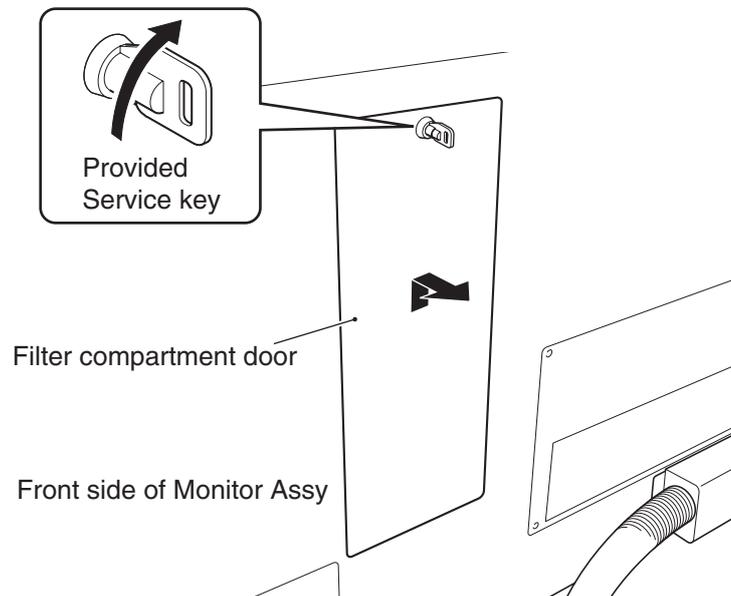
- When connecting the air tubes, be sure to insert them all the way. If the air tubes are not inserted fully, air can leak and disallow proper game operation.

(9) Replacing the filter regulator

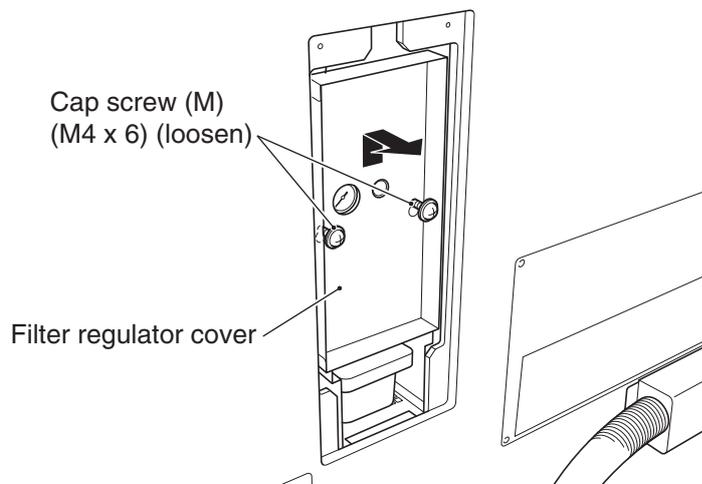
! WARNING

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

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Using the provided service key, unlock and dismount the filter compartment door.



- 3** Loosen the two upper cap screws (M) (M4 x 6) and dismount the filter regulator cover.



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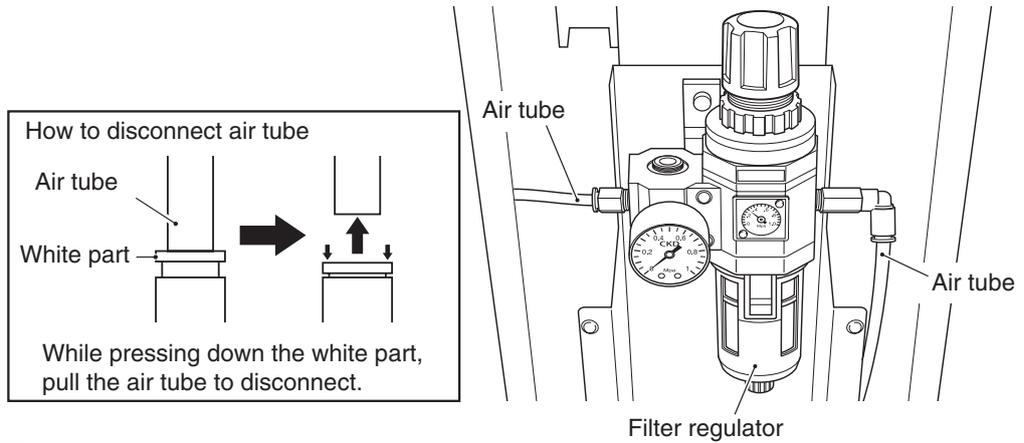
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Removing and installing Assys and parts

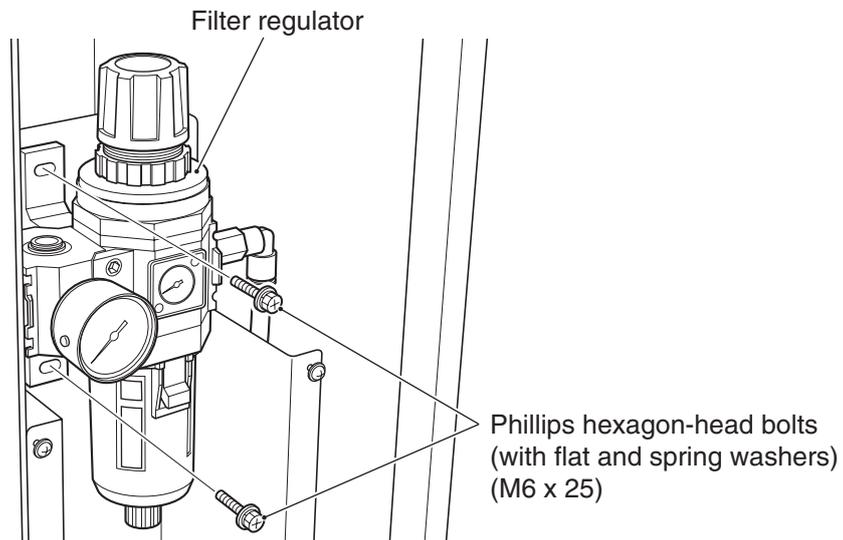
Test mode

Troubleshooting

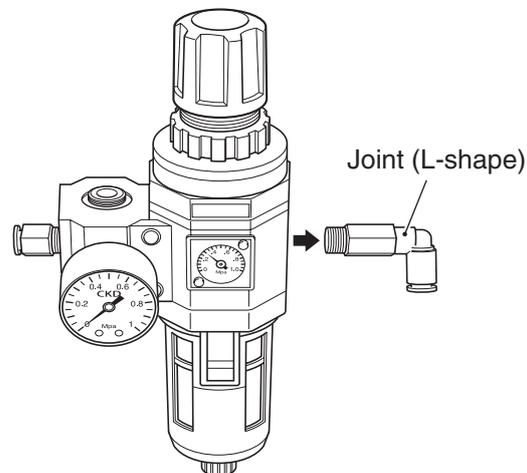
- 4** Disconnect the two air tubes from the left and right sides of the filter regulator.



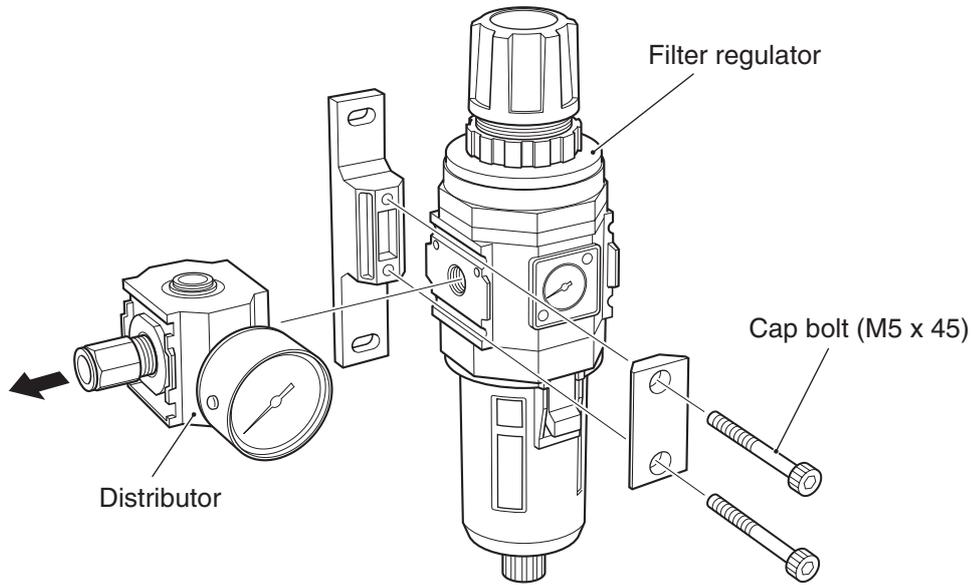
- 5** Remove the two Phillips hexagon-head bolts (with flat and spring washers) (M6 x 25) and dismount the filter regulator.



- 6** Turn the joint (L-shape) to dismount.



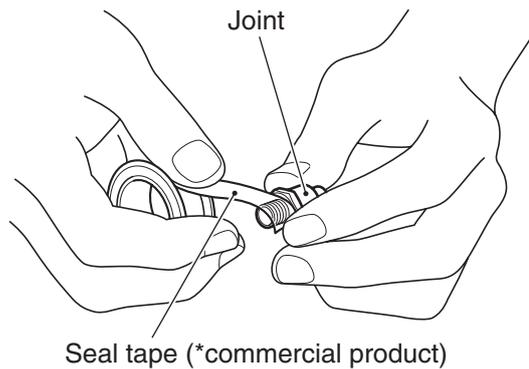
- 7** Remove the two cap bolts (M5 x 45), dismount the distributor, and then replace the filter regulator.



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

NOTICE

- When connecting the air tubes, be sure to insert them all the way. If the air tubes are not inserted fully, air can leak and disallow proper game operation.
 - When installing the joint (L-shape) to the filter regulator, wrap seal tape (commercial product*) around the joint.
- * Example of sealing tape
NITOFロン pipe seal No. 95S (Nitto Denko)



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Removing and installing Assys and parts

Test mode

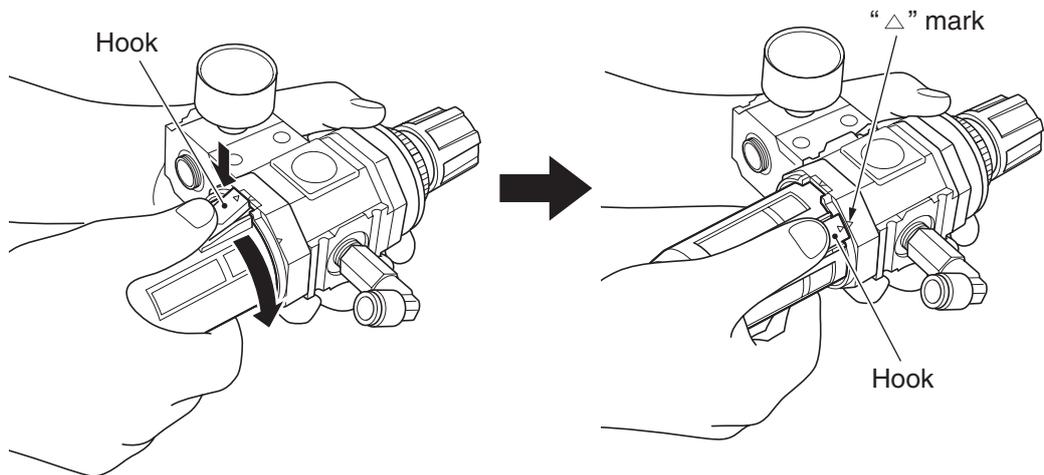
Troubleshooting

(10) Replacing the element

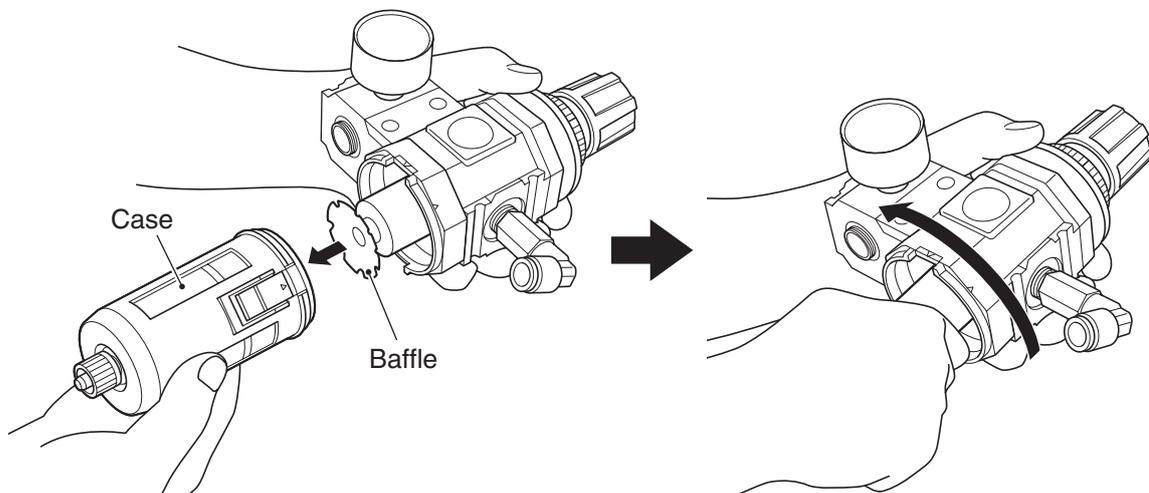
! WARNING

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

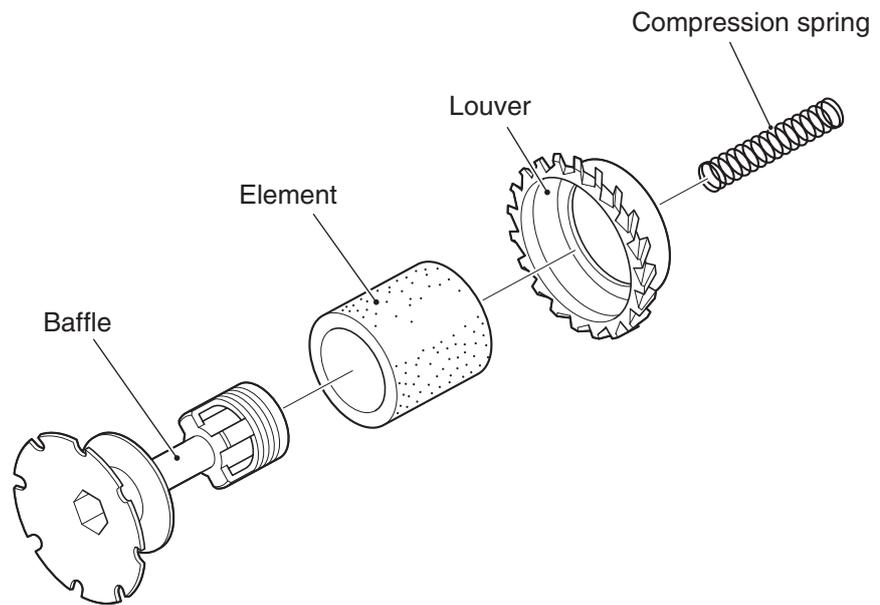
- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Remove the filter regulator. (See P. 141 “8B-4-1 (9) Replacing the filter regulator” **1** through **5**.)
- 3** While pressing down the hook on the filter regulator, turn the lower case until the hook aligns with the “△” mark.
* It is not necessary to dismount the meter section or joint.



- 4** Pull the lower case to detach.
- 5** Turn the baffle to the left to remove.



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- 6** After detaching the baffle, replace the element located inside.



● **Note that the compression spring may eject during the disassembly.**

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

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Removing and installing Assys and parts

Test mode

Troubleshooting

(11) Replacing the LCD monitor

! WARNING

- To protect the service staff and other people from an electric shock, accident and injury and to prevent damage to the electrical circuitry of the machine, always turn off the power switch before conducting the described task.
- Some sections on the LCD monitor remain hot or charged with high voltage even after the power switch is turned off. In order to prevent burns, conduct the described task after the LCD monitor cools sufficiently.

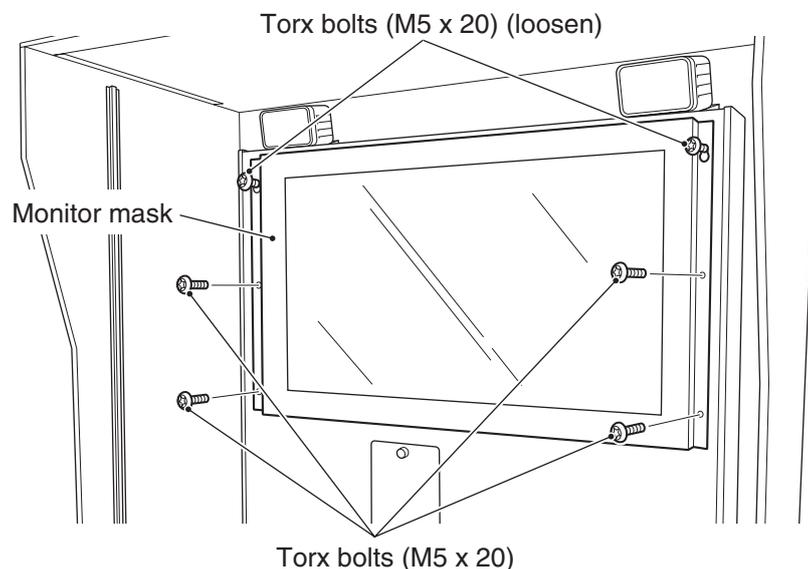
! CAUTION

- The LCD monitor weighs approximately 40 kg. It should be removed by two or more persons in a large work area to prevent accidents.

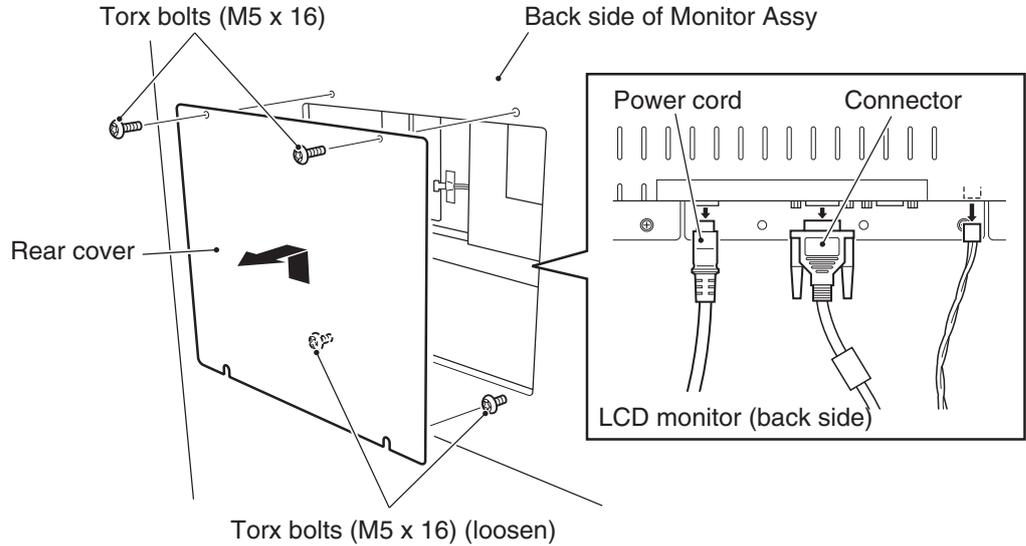
NOTICE

- The PC board can be easily damaged by static electricity. If the PC board is handled by a person charged with static electricity, parts mounted on the PC board can become damaged. Before touching the PC board, be sure to remove static electricity from your body by touching a grounded metal.

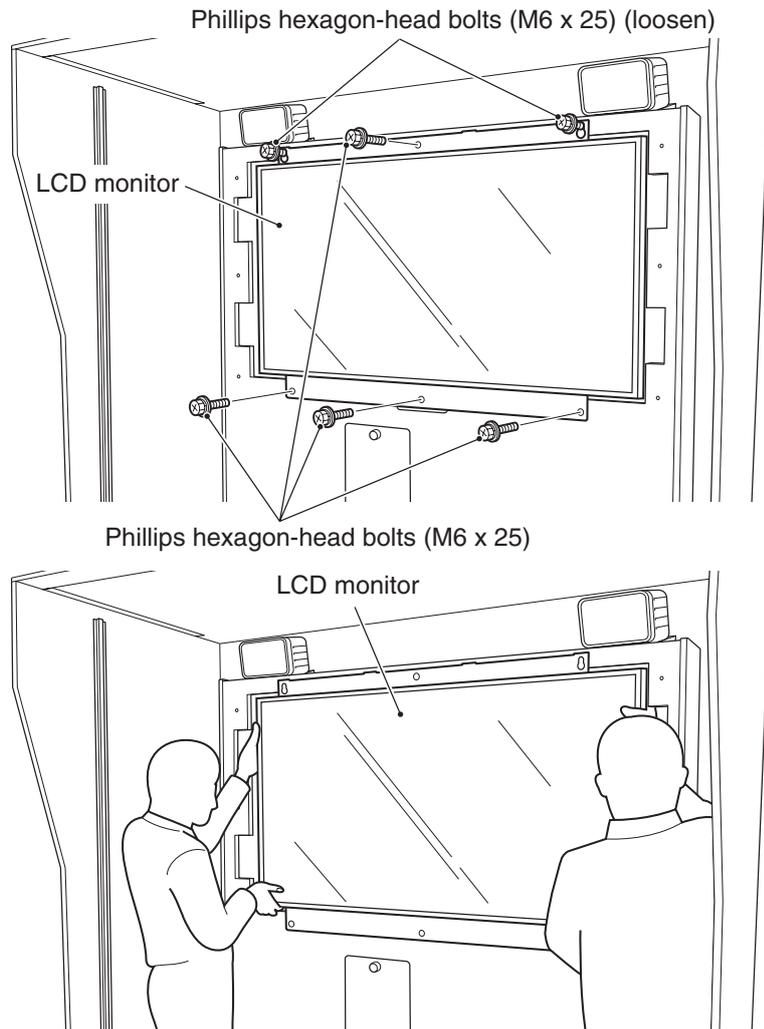
- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Raise the level adjusters on the Ride Assy and take out the joint unit from the Monitor Assy side. (See P. 96 “8A-1-3 Connecting the Front Assy to the Ride Assy, and adjusting level adjusters.”)
- 3** Move the Ride Assy to provide a sufficient work area in front of the Monitor Assy.
- 4** Loosen the two top Torx bolts (M5 x 20), remove the four lower Torx bolts, and dismount the monitor mask.



- 5** Loosen the two bottom Torx bolts (M5 x 16), remove the two top Torx bolts, and dismount the rear cover from the Front Assy. Then, disconnect the one connector and one power cord from the rear side of the LCD monitor.



- 6** Loosen the two Phillips hexagon-head bolts (M6 x 25) on both ends, remove the top center bolt and the three bottom bolts, and then dismount the LCD monitor.



- Place the dismantled LCD monitor on bubble wrap or similar material to prevent scratching on the monitor surface.

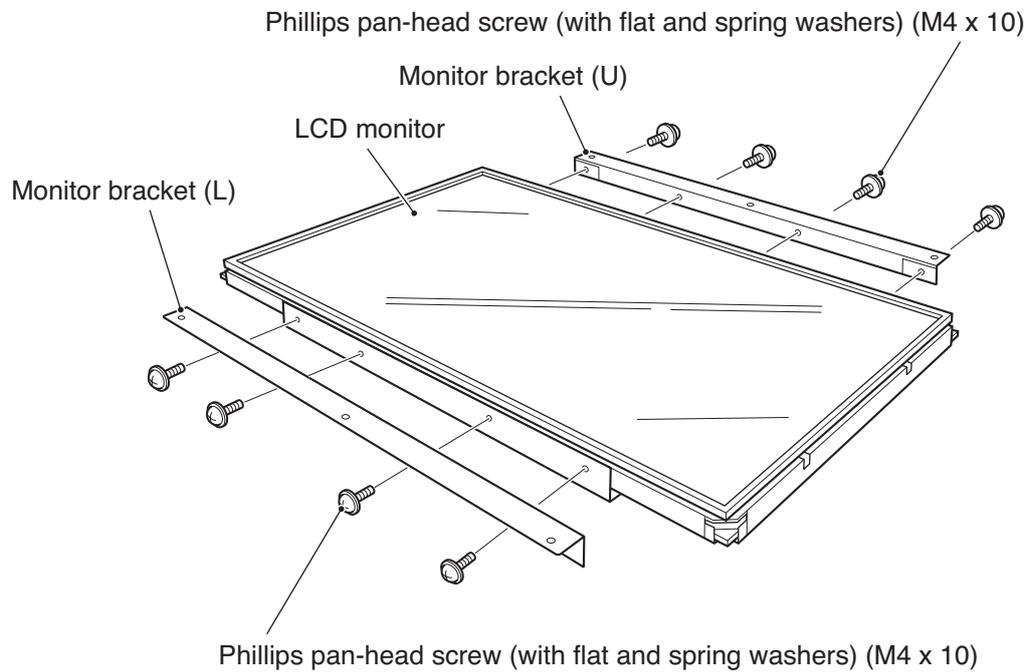
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Removing and installing Assys and parts

Test mode

Troubleshooting

- 7** Remove the four Phillips pan-head screws (with flat and spring washers) (M4 x 10) from each of the top and bottom sides, and dismount the monitor bracket (U) and monitor bracket (L).



- 8** To install, follow the removal sequence in reverse.
* Be sure to install the monitor bracket (U) and monitor bracket (L) in the correct positions. The brackets must be installed in such a way that the connector on the rear side is at the bottom when the LCD monitor is mounted.

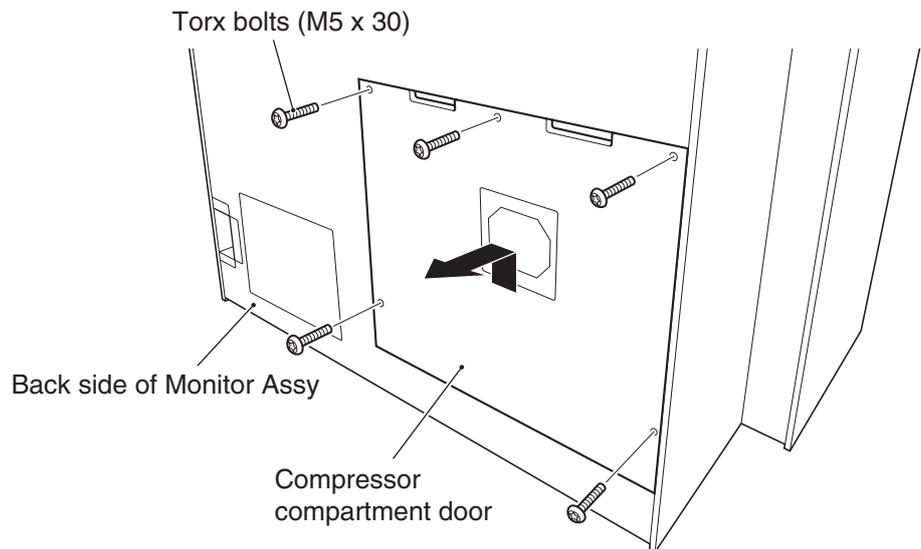
(12) Replacing the compressor (JUN-AIR compressor)*

* If your machine is equipped with a Hitachi compressor, see “8B-4-1 (5) Replacing the compressor (Hitachi compressor)” on page 134.

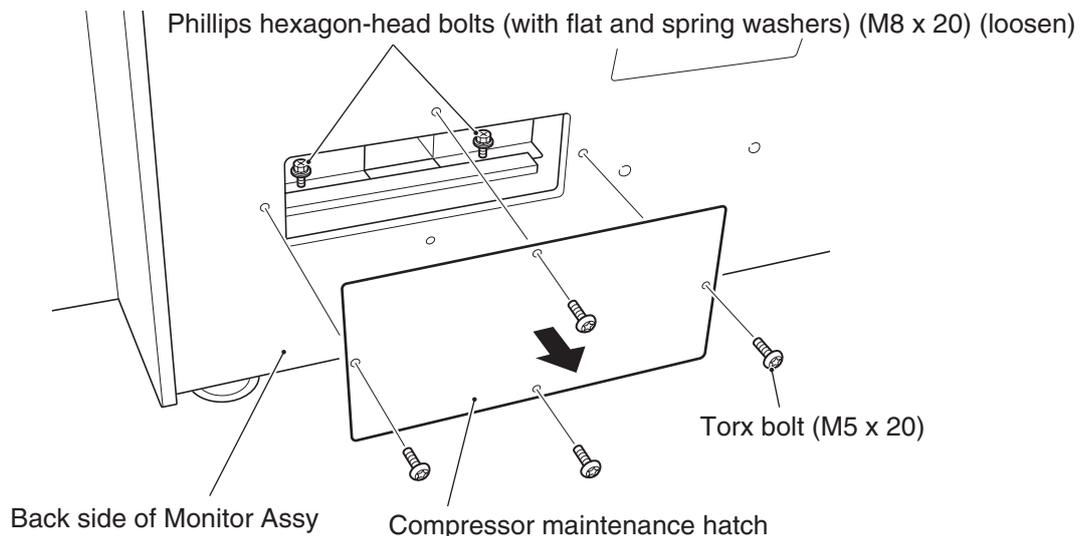
! WARNING

- Some compressor sections remain hot even after the power switch is turned off. When conducting compressor maintenance, wait for at least one hour after the compressor stops operation to let it cool sufficiently in order to prevent burns.
- To protect the service staff and other people from an electric shock, accident and injury and to prevent damage to the electrical circuitry of the machine, always turn off the power switch before conducting the described task.

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Remove the five Torx bolts (M5 x 30) and dismount the compressor compartment door.



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



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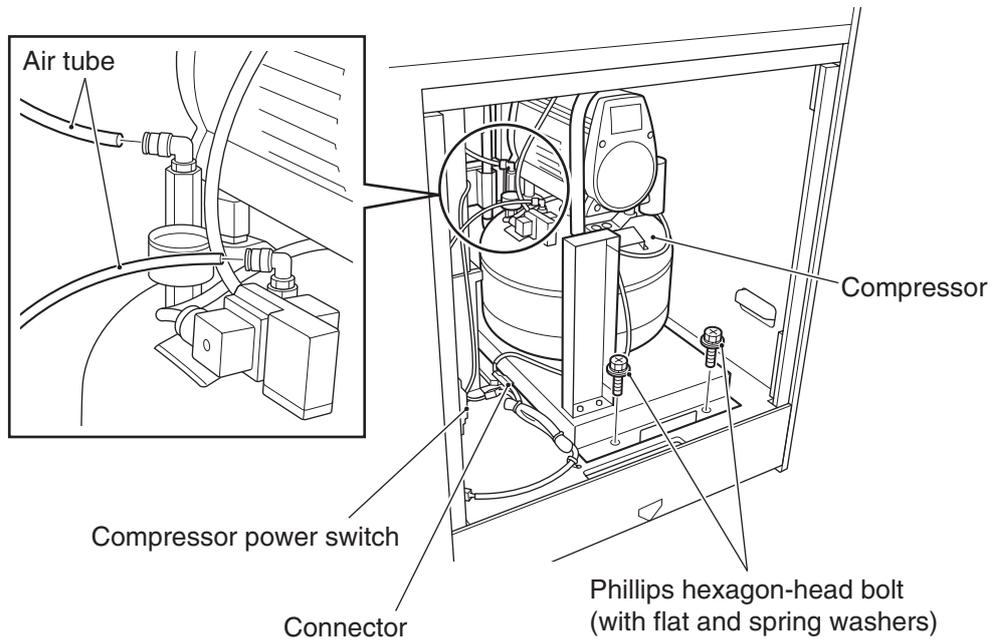
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Removing and installing Assys and parts

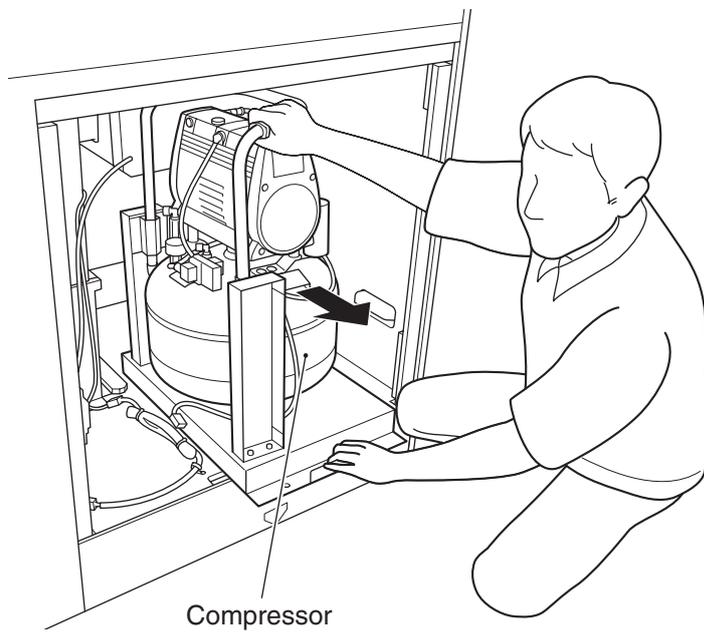
Test mode

Troubleshooting

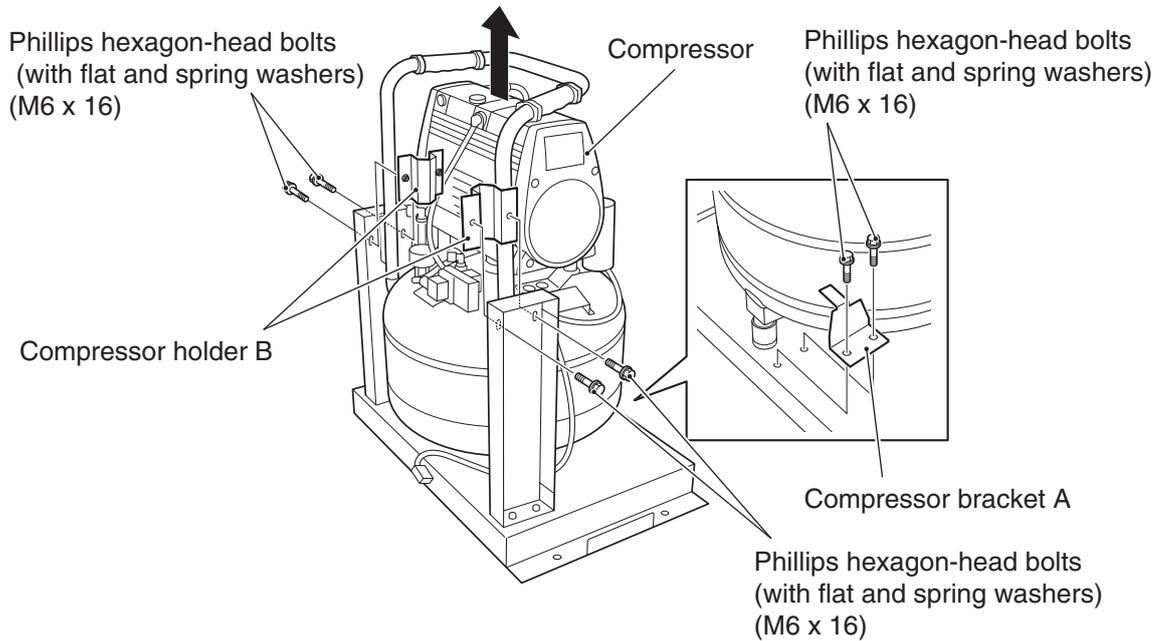
- 4 Turn off the compressor power switch, disconnect the larger connector, remove the two Phillips hexagon-head bolts (with flat and spring washers) (M8 x 20) located on the rear side of the Monitor Assy, and disconnect the two air tubes.



- 5 Hold the handle and pull out the compressor.



- 6** Remove the six Phillips hexagon-head bolts (with flat and spring washers) (M6 x 16), and dismount the compressor holder B and compressor bracket A.



- 7** Replace the compressor.
- 8** To install, follow the removal sequence in reverse.

NOTICE

- When connecting the air tubes, be sure to insert them all the way. If the air tubes are not inserted fully, air can leak and disallow proper game operation.
- After the replacement, be sure to reset the compressor operating hours (compressor timer). (See P. 64 “7-7-8 Initialization and others (OTHERS).”)

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Removing and installing Assys and parts

Test mode

Troubleshooting

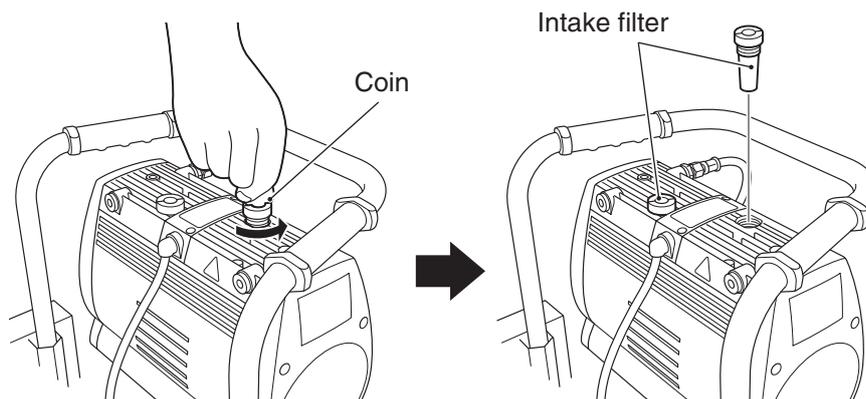
(13) Replacing the intake filter

* The following applies only to the JUN-AIR compressor.

! WARNING

- Some compressor sections remain hot even after the power switch is turned off. When conducting compressor maintenance, wait for at least one hour after the compressor stops operation to let it cool sufficiently in order to prevent burns.
- To protect the service staff and other people from an electric shock, accident and injury and to prevent damage to the electrical circuitry of the machine, always turn off the power switch before conducting the described task.

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Dismount the compressor (See P. 149 “8B-4-1 (12) Replacing the compressor (JUN-AIR compressor).”)
- 3** Using a coin, turn the filter intake filter to remove.



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

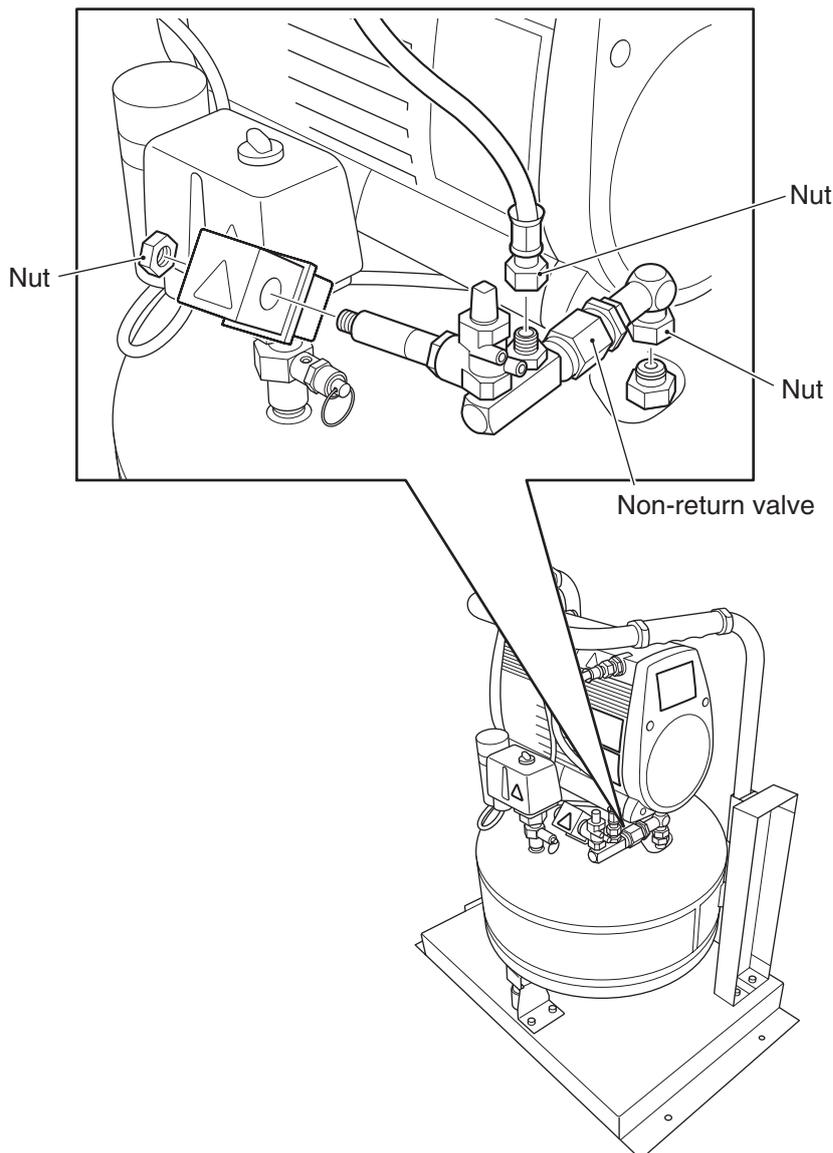
(14) Replacing the O-ring in the non-return valve

* The following applies only to the JUN-AIR compressor.

! WARNING

- Some compressor sections remain hot even after the power switch is turned off. When conducting compressor maintenance, wait for at least one hour after the compressor stops operation to let it cool sufficiently in order to prevent burns.
- To protect the service staff and other people from an electric shock, accident and injury and to prevent damage to the electrical circuitry of the machine, always turn off the power switch before conducting the described task.

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Dismount the compressor (See P. 149 “8B-4-1 (12) Replacing the compressor (JUN-AIR compressor).”)
- 3** Remove three nuts.



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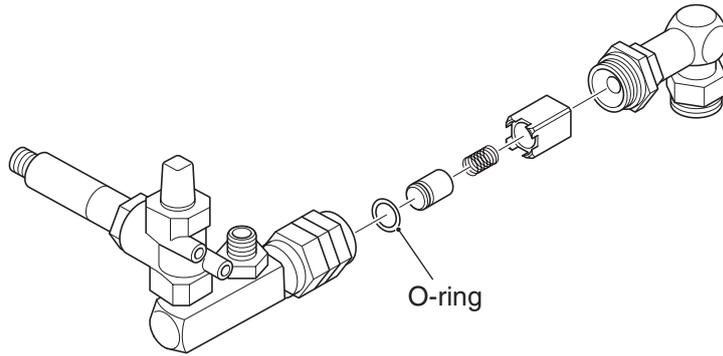
Removing and installing Assys and parts

Test mode

Troubleshooting

8B. Service – To be conducted by a technician only –

4 Replace the O-ring.



5 To install, follow the removal sequence in reverse.

8B-4-2 Base and Control Assys

(1) Replacing the USIO PC Board

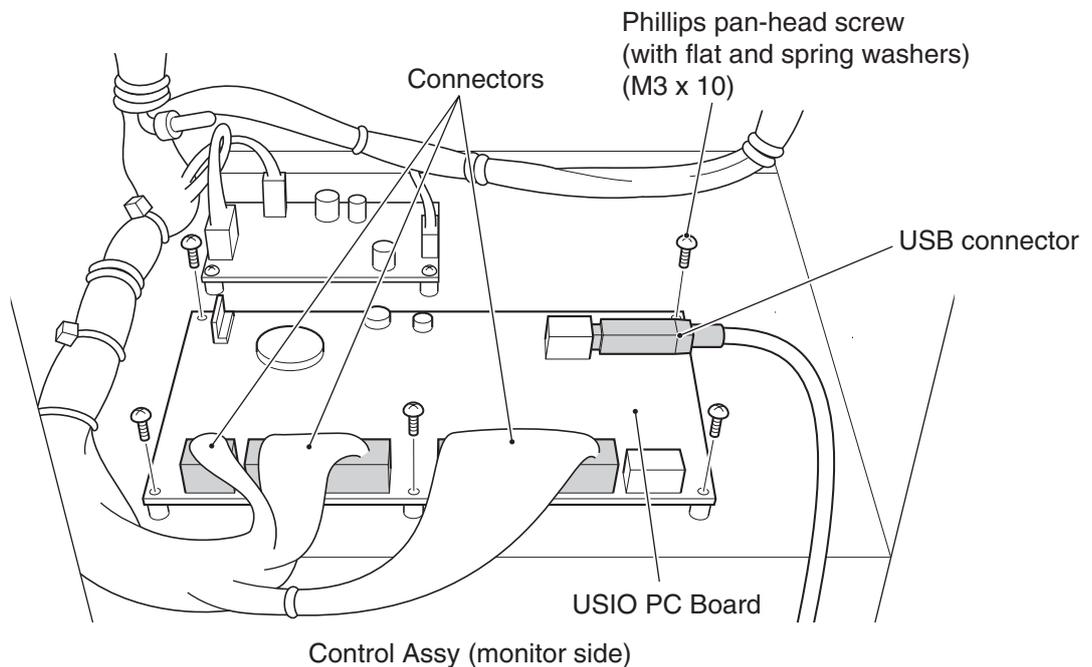
! WARNING

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

NOTICE

- The PC board can be easily damaged by static electricity. If the PC board is handled by a person charged with static electricity, parts mounted on the PC board can become damaged. Before touching the PC board, be sure to remove static electricity from your body by touching a grounded metal.

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Dismount the control assy door. (See P. 105 “8A-2-1 Separating the Control Assy from the Base Assy.”)
- 3** Disconnect the three connectors and an USB connector.



- 4** Remove the five Phillips pan-head screws (with flat and spring washers) (M3 x 10) and dismount the USIO PC Board.
- 5** To install, follow the removal sequence in reverse.

NOTICE

- After the replacement, be sure to perform initialization. (See P. 72 “7-9 Gun Assy adjustment (initialization) after parts replacement.”)

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Removing and installing Assys and parts

Test mode

Troubleshooting

(2) Replacing the Gun Drive PC Board

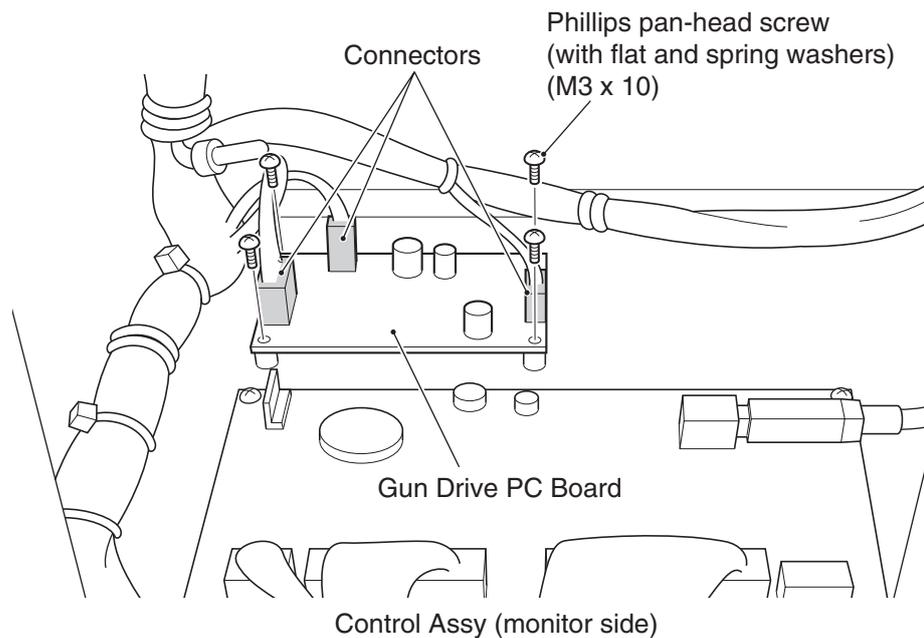
WARNING

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

NOTICE

- The PC board can be easily damaged by static electricity. If the PC board is handled by a person charged with static electricity, parts mounted on the PC board can become damaged. Before touching the PC board, be sure to remove static electricity from your body by touching a grounded metal.

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Dismount the control assy door. (See P. 105 “8A-2-1 Separating the Control Assy from the Base Assy.”)
- 3** Disconnect the three connectors.



- 4** Remove the four Phillips pan-head screws (with flat and spring washers) (M3 x 10) and dismount the Gun Drive PC Board.
- 5** To install, follow the removal sequence in reverse.

(3) Replacing the LED PC Board

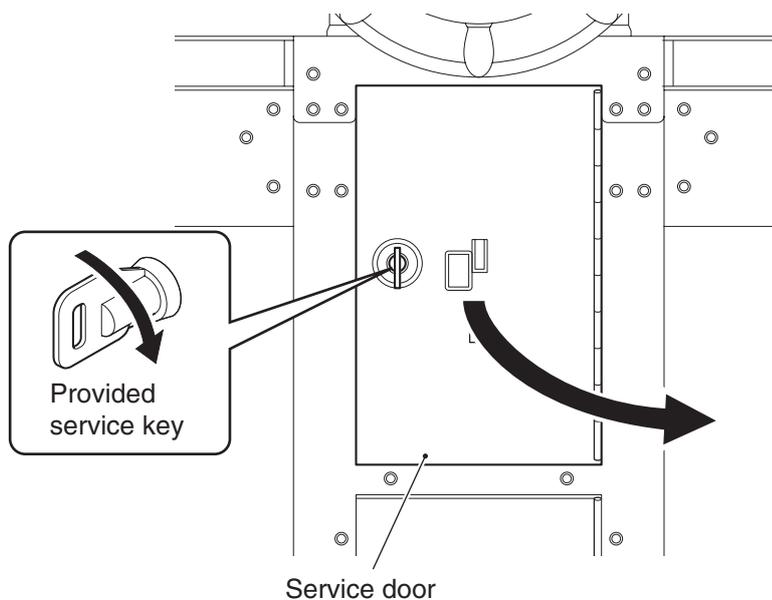
! WARNING

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

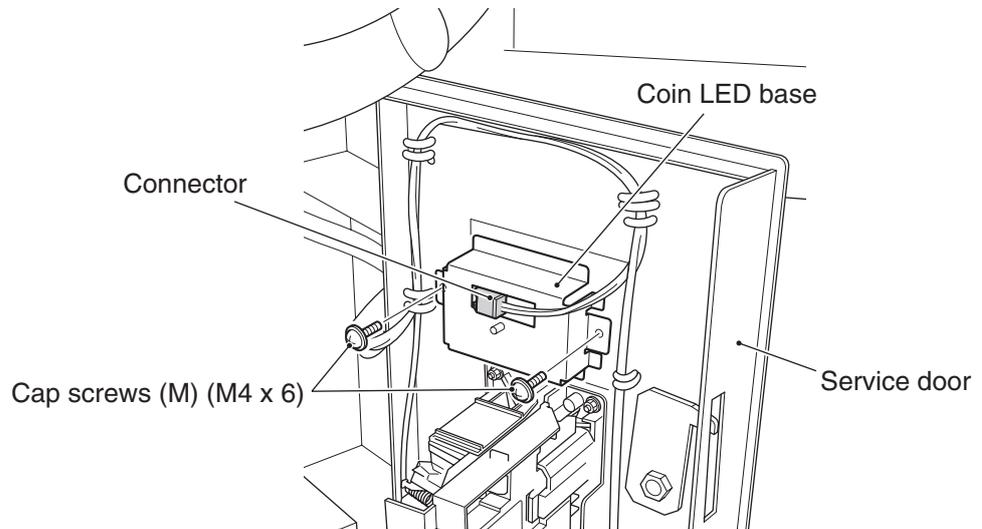
NOTICE

- The PC board can be easily damaged by static electricity. If the PC board is handled by a person charged with static electricity, parts mounted on the PC board can become damaged. Before touching the PC board, be sure to remove static electricity from your body by touching a grounded metal.

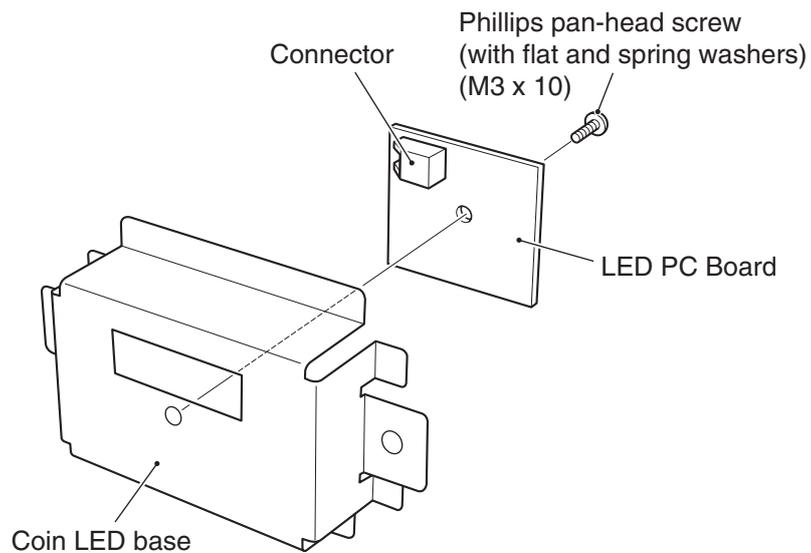
- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Using the provided service key, unlock and open the service door.



- 3 Disconnect a connector and remove two cap screws (M) (M4 x 6), and then dismount the coin LED base.



- 4 Remove a Phillips pan-head screw (with flat and spring washers) (M3 x 10) and dismount the LED PC Board.



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



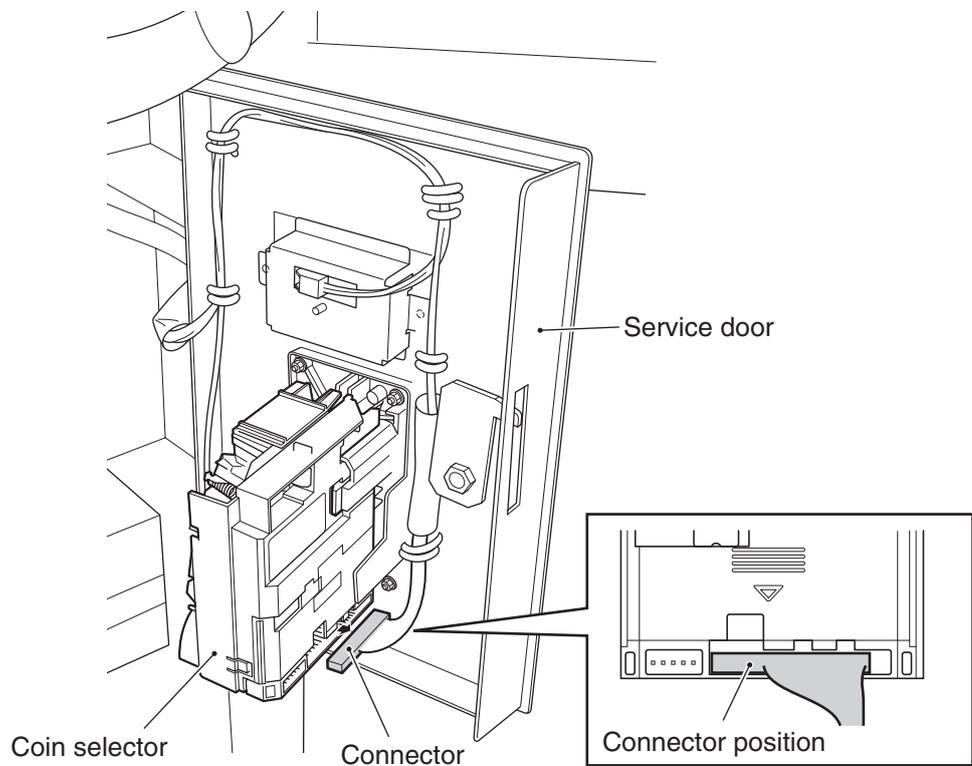
- When installing the coin LED base to the service door, make sure that the connector on the LED PC Board is positioned at the upper side.

(4) Replacing the coin selector

! WARNING

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

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Open the service door. (See P. 157 “8B-4-2 (3) Replacing the LED PC Board” **2**.)
- 3** Disconnect a connector.



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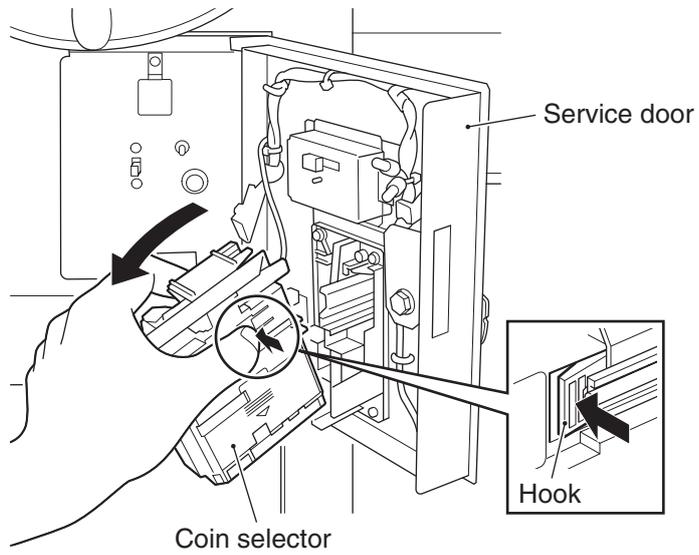
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Removing and installing Assys and parts

Test mode

Troubleshooting

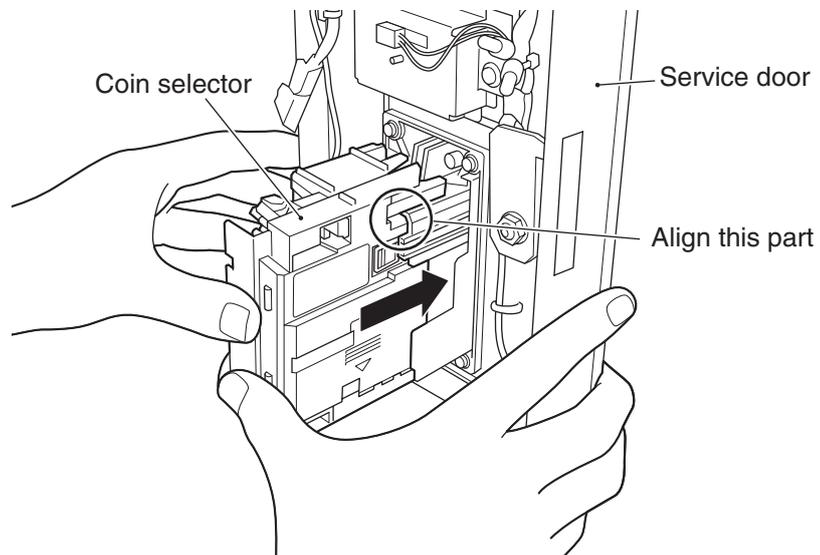
- 4 Press the hook section on the coin selector to unlatch, and take out the coin selector as shown in the diagram.



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



- When installing the coin selector, be sure to insert it straight into the service door.



(5) Replacing the bellows

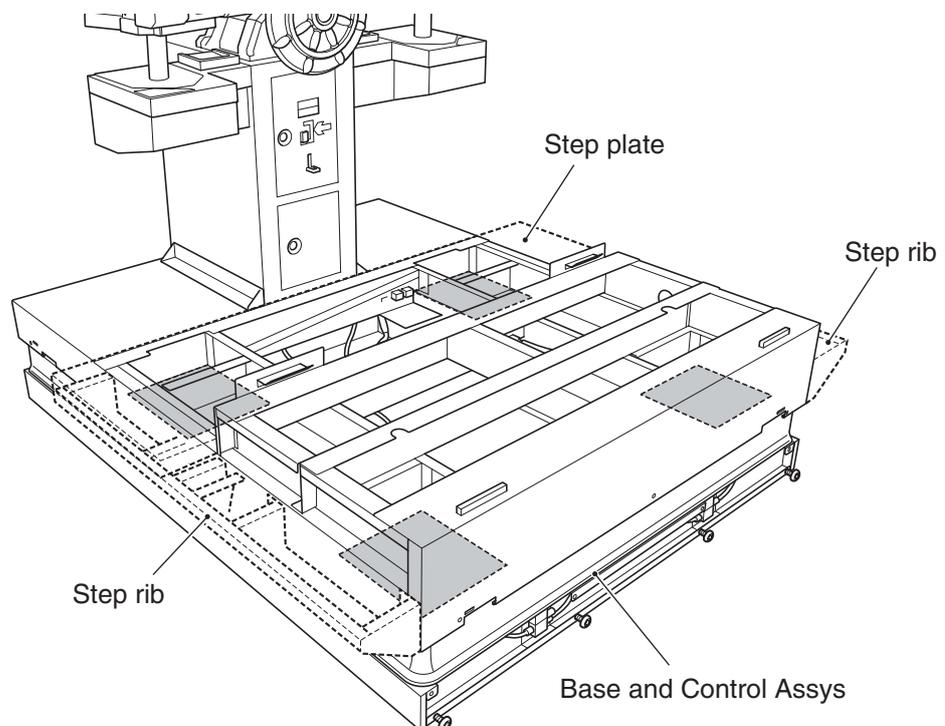
! WARNING

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

! CAUTION

- The upper base that is removed during the disassembly process weighs approximately 120 kg. It should be removed by five or more persons in a large work area to prevent accidents.

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Detach the joint unit from the Ride Assy. (See P. 96 “8A-1-3 Connecting the Front Assy to the Ride Assy, and adjusting level adjusters.”)
- 3** Raise all adjusters on the Ride Assy and move the Ride Assy to a place large enough to perform the replacement work.
- 4** Remove the Signboard Assy. (See P. 199 “8B-4-5 Signboard Assy.”)
- 5** Remove the Seat Assy, step plate and step ribs. (See P. 84 “8A-1-2 Assembling the Ride Assy.”)



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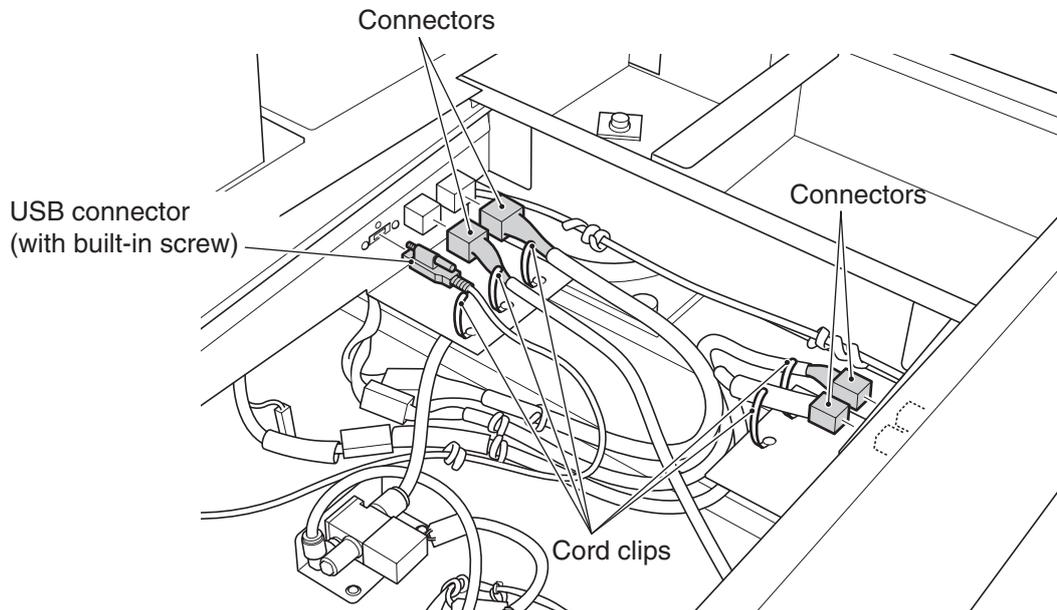
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Removing and installing Assys and parts

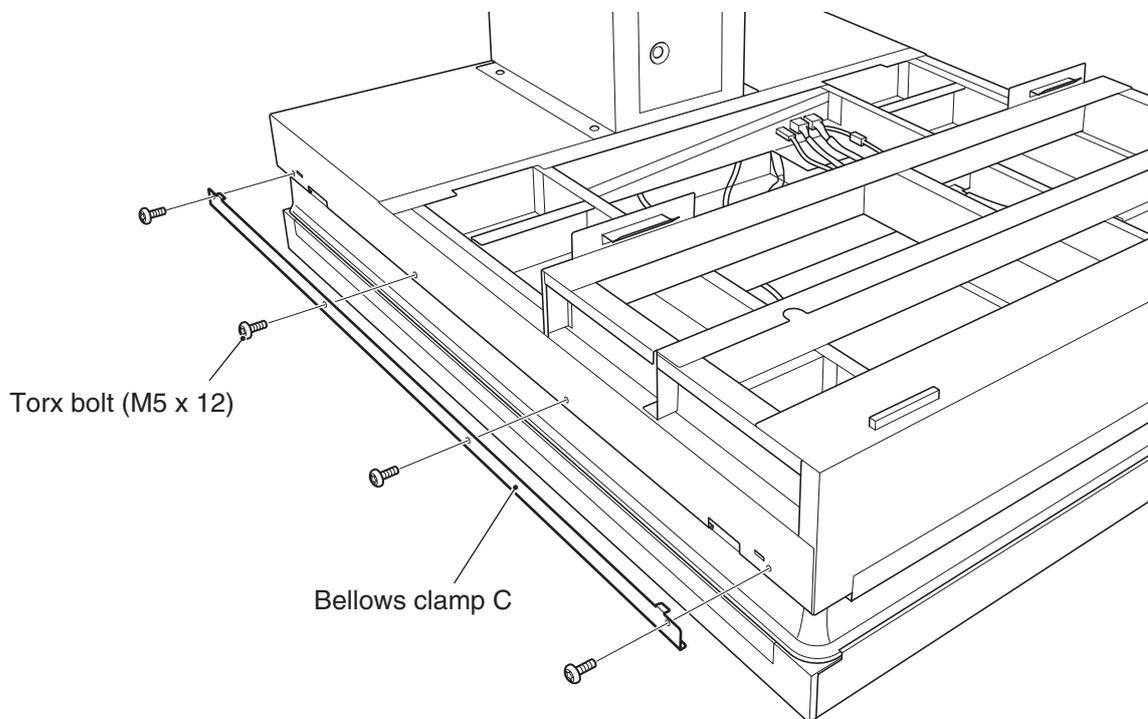
Test mode

Troubleshooting

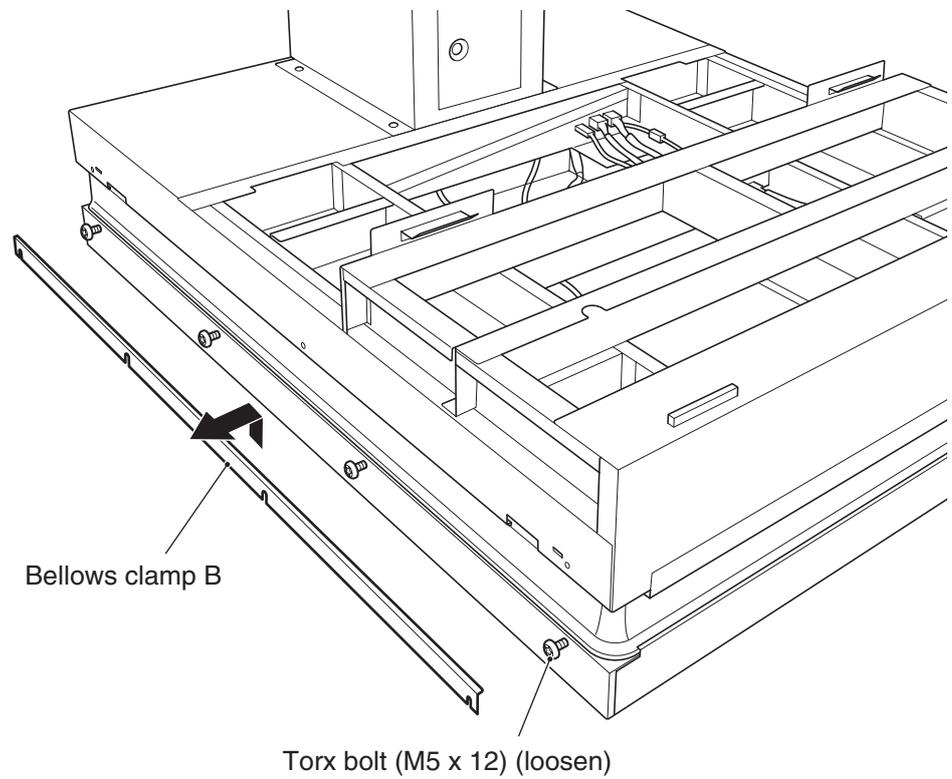
- 6** Remove five cord clips and disconnect four connectors and an USB connector.
* Remove the built-in screw from the USB connector before disconnecting the USB connector.



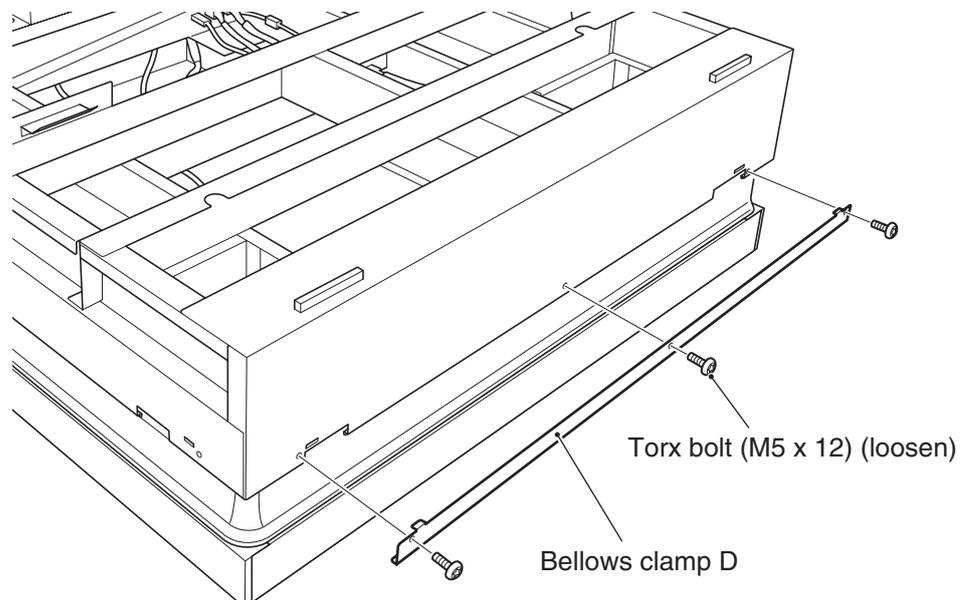
- 7** Remove four Torx bolts (M5 x 12) from each side, and dismount the bellows clamp C from the left and right sides.



- 8** Loosen four Torx bolts (M5 x 12) on each side, and dismount the bellows clamp B from the left and right sides.



- 9** Remove three Torx bolts (M5 x 12) and dismount the bellows clamp D.



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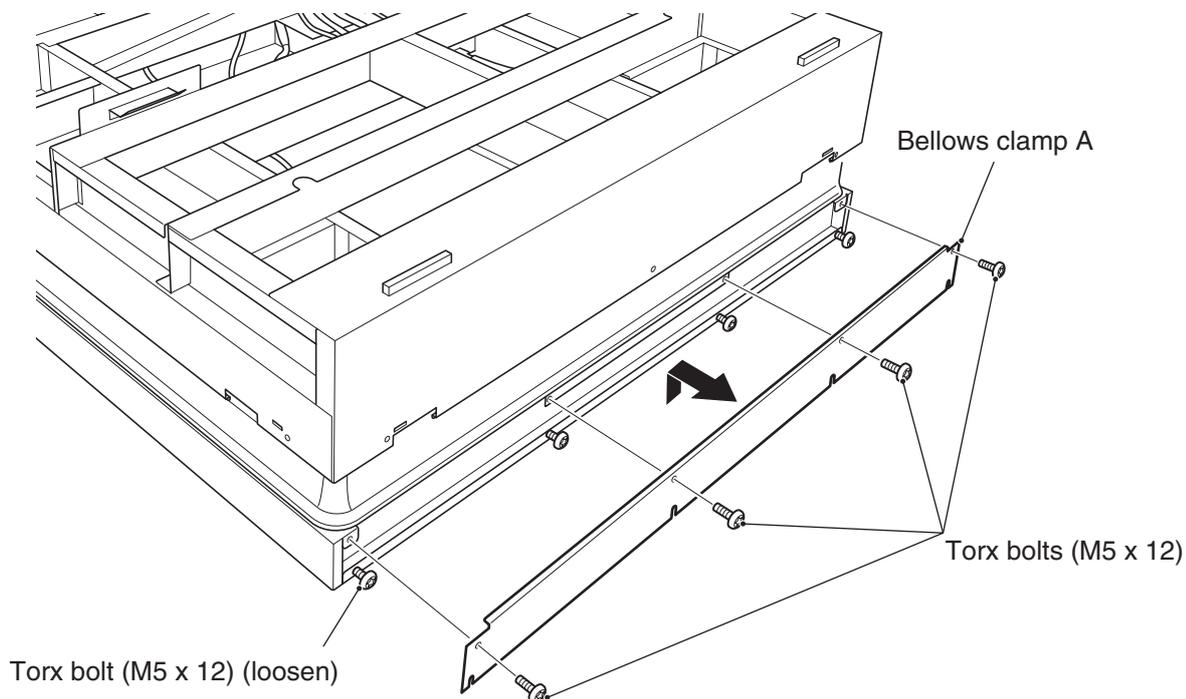
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Removing and installing Assys and parts

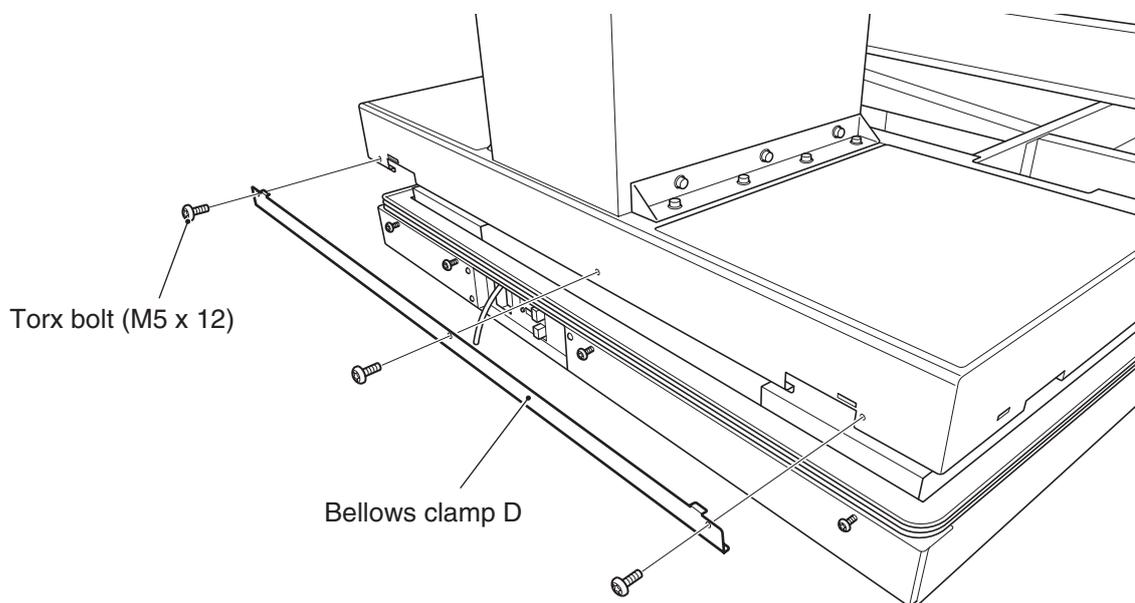
Test mode

Troubleshooting

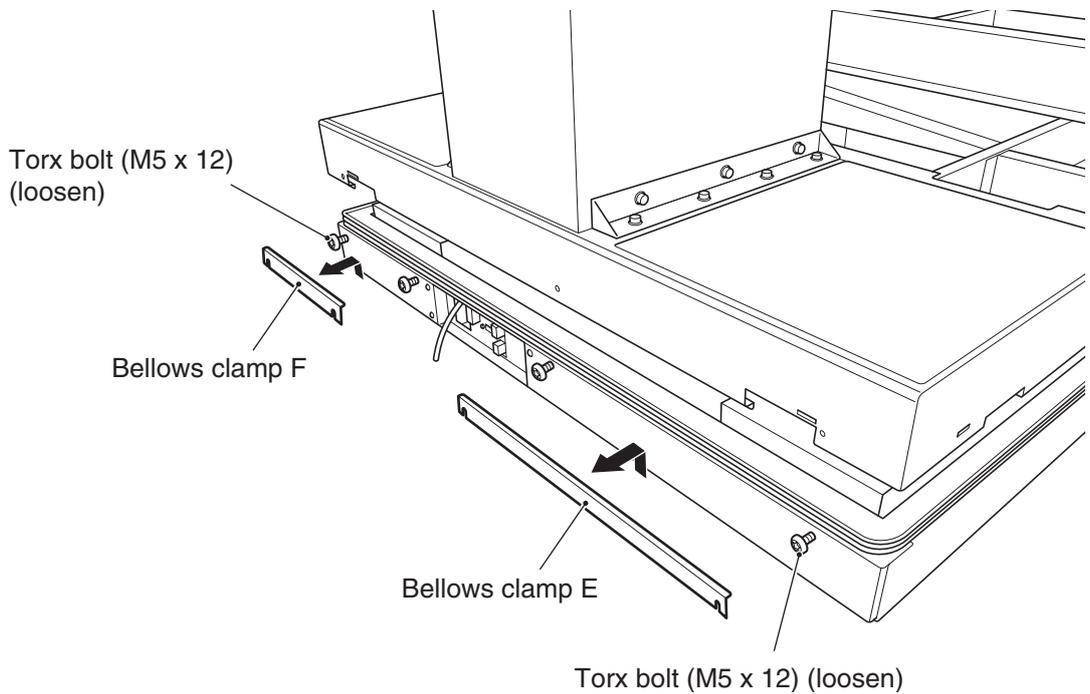
- 10** Loosen four bottom Torx bolts (M5 x 12) and remove four top Torx bolts, and then dismount the bellows clamp A.



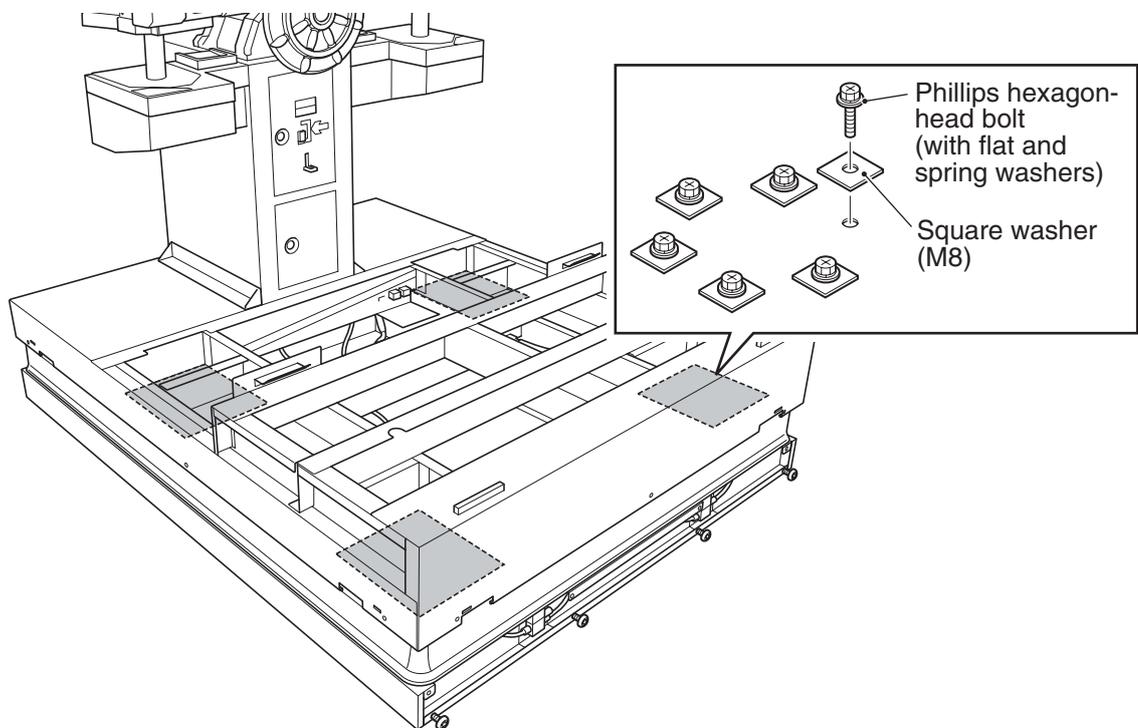
- 11** Remove three Torx bolts (M5 x 12) and dismount the bellows clamp D.



- 12** Loosen two Torx bolts (M5 x 12) on each clamp, and dismount the bellows clamp E and bellows clamp F.



- 13** Remove six pairs of Phillips hexagon-head bolt (with flat and spring washers) (M8 x 18) and square washer (M8) at four locations.



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Removing and installing Assys and parts

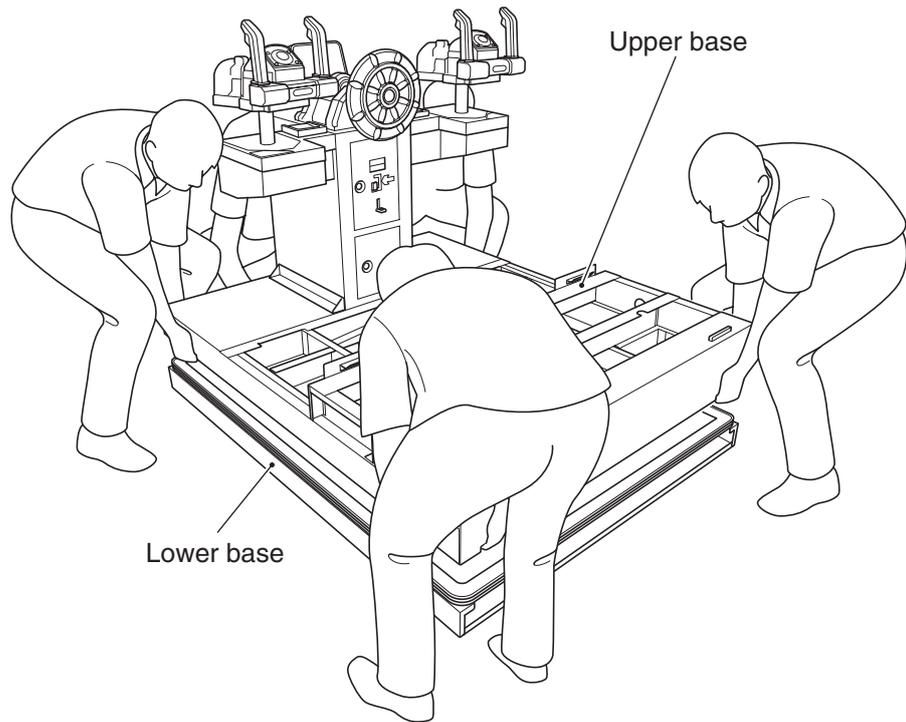
Test mode

Troubleshooting

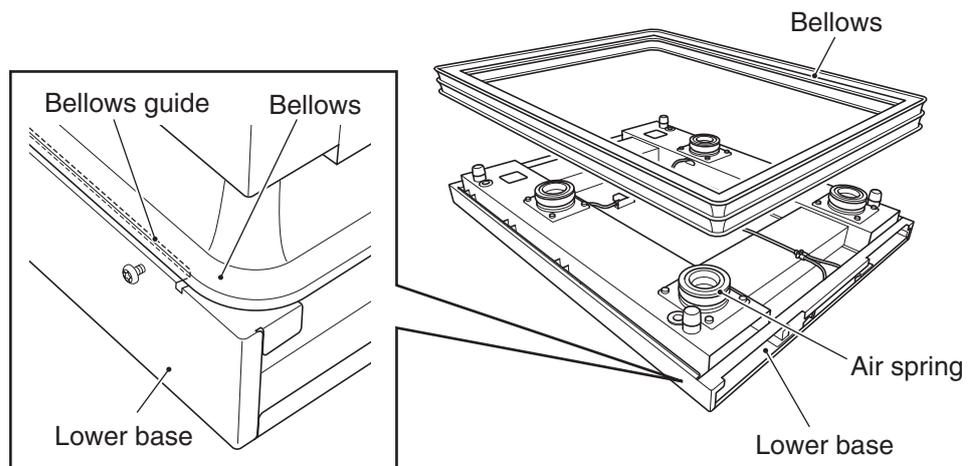
- 14** For the removal of the upper base, five persons should hold the front and rear sides of the base to dismount. (The upper base weighs approximately 120 kg.)

CAUTION

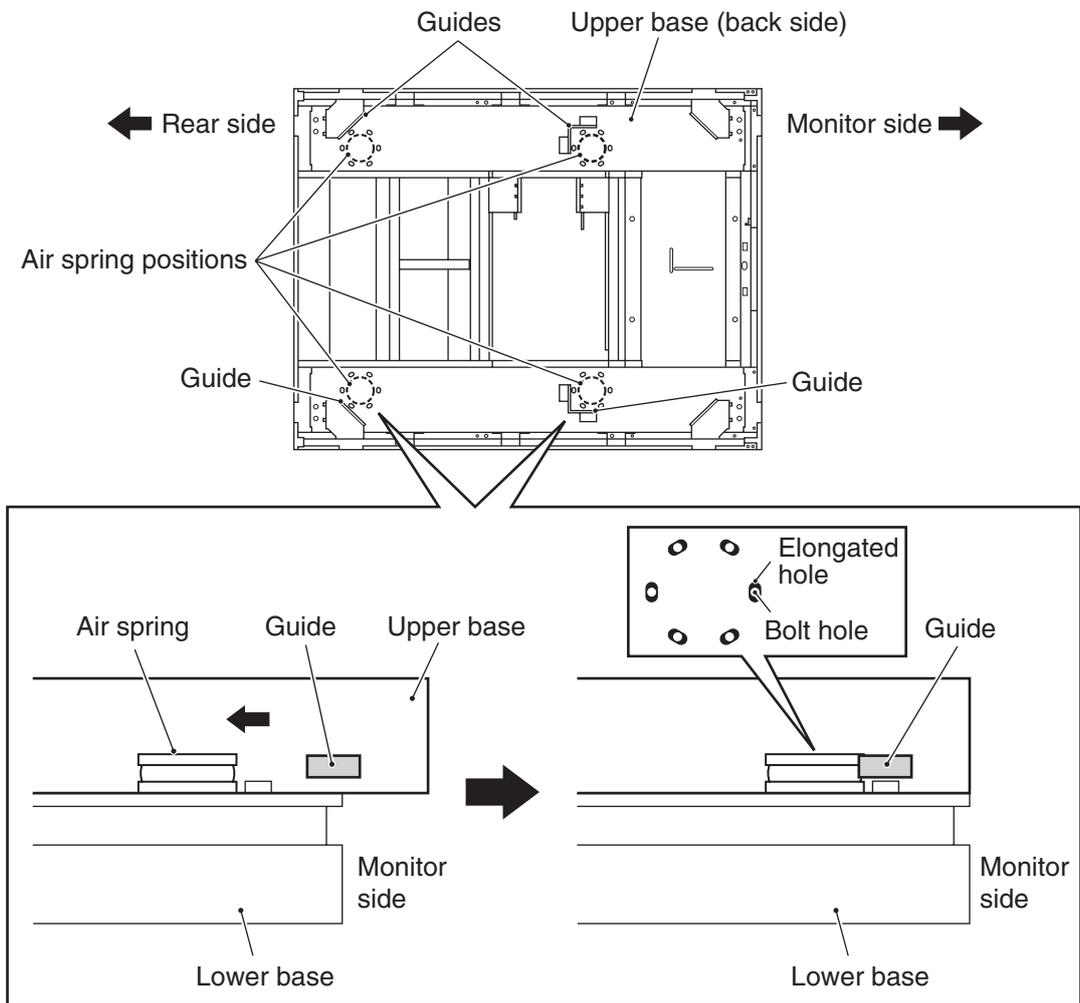
- When placing the upper base onto the floor, exercise caution so as not to pinch fingers.



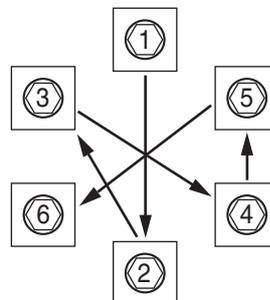
- 15** Replace the bellows.
* When installing the bellows, place them outside of the bellows guide.



- 16** Position the upper base so that the air springs contact the guides, and adjust the position so that the 24 bolt holes are visible.



- 17** Install six pairs of Phillips hexagon-head bolts (with flat and spring washers) (M8 x 18) and square washers (M8) to each of the four locations on the base, and temporarily tighten them in the sequence of ① to ⑥ shown below. (Recommended torque: 12.3 N-m)



- 18** In the same sequence as above **17**, further tighten the bolts using a torque wrench. (Recommended torque: 15.0 N-m)
- 19** Install the parts by following the removal sequence **1** to **12** in reverse.

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Removing and installing Assys and parts

Test mode

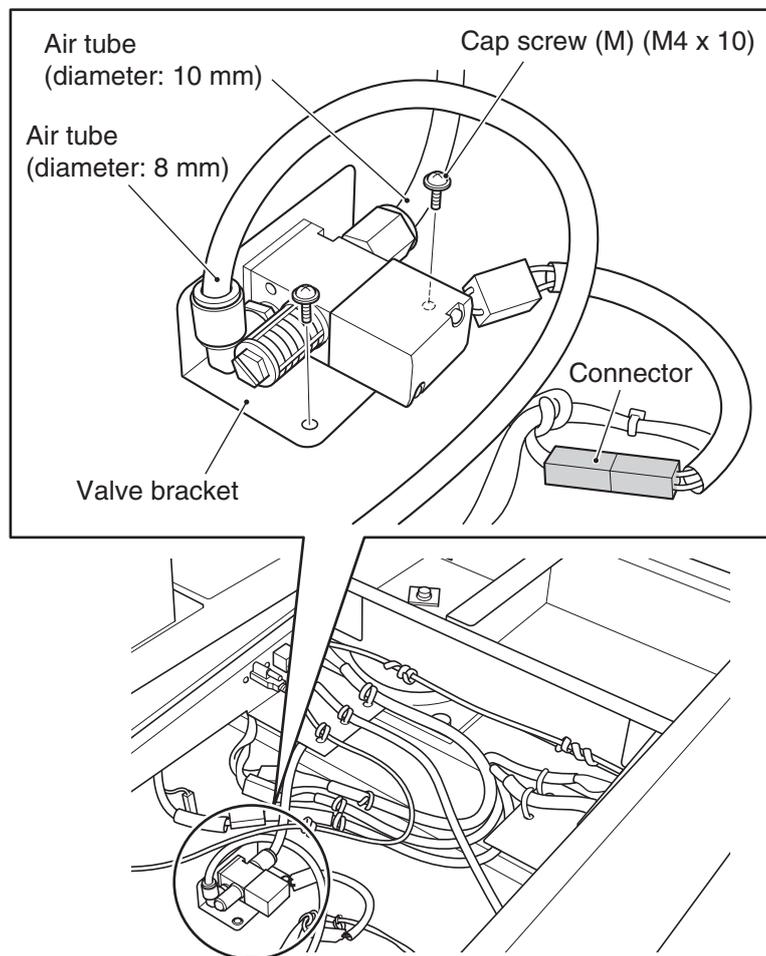
Troubleshooting

(6) Replacing the pneumatic valve (front)

! WARNING

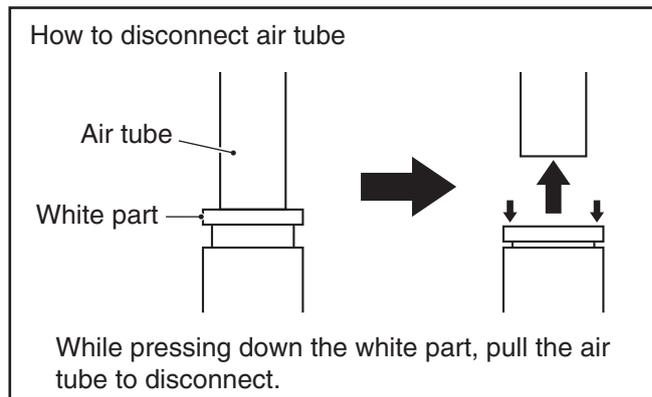
- To protect the service staff and other people from an electric shock, accident and injury and to prevent damage to the electrical circuitry of the machine, always turn off the power switch before conducting the described task.

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Remove the step plate. (See P. 95 “8A-1-2 Assembling the Ride Assy” **23**.)
- 3** Disconnect the one connector.

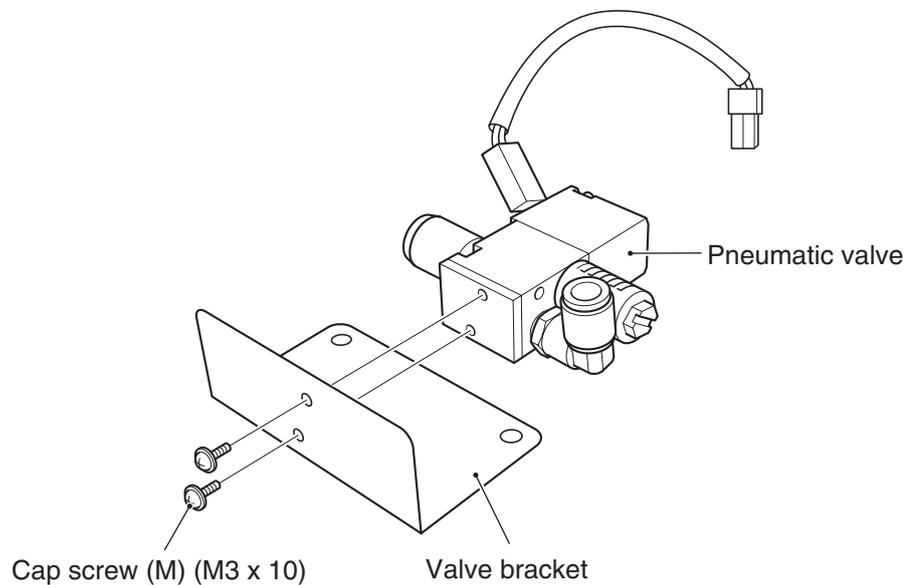


- 4** Remove the two cap screws (M) (M4 x 10) and dismount the valve bracket.

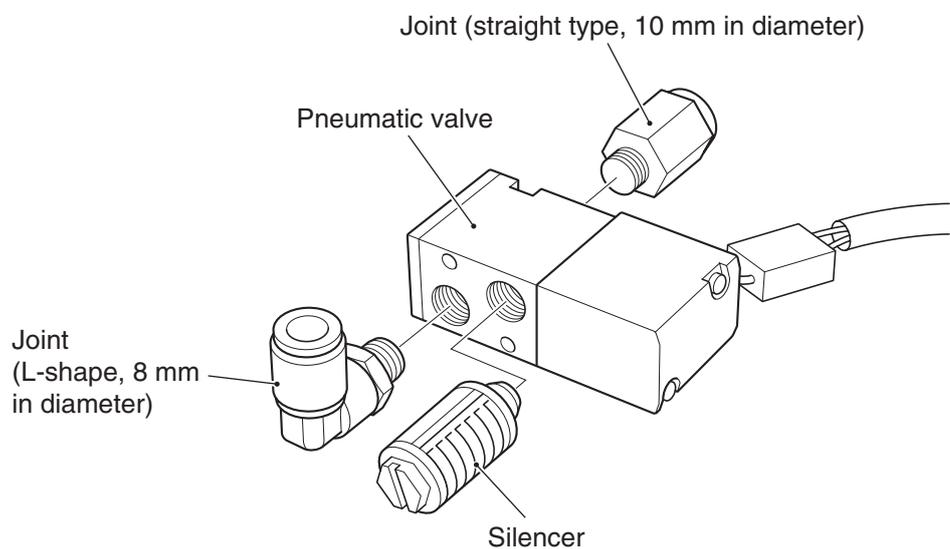
- 5** Disconnect the two air tubes from the pneumatic valve.



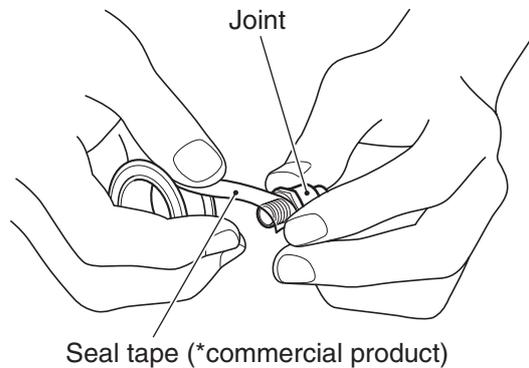
- 6** Remove the two cap screws (M) (M3 x 10) and dismount the pneumatic valve.



- 7** Turn and remove the one silencer, joint (straight type, 10 mm in diameter) and joint (L-shape, 8 mm in diameter), and replace the pneumatic valve.



- 8** Wrap seal tape (commercial product*) around the joint.
* Example of sealing tape
NITOFロン pipe seal No. 95S (Nitto Denko)



- 9** Install the silencer, joint (straight type, 10 mm in diameter) and joint (L-shape, 8 mm in diameter) to the pneumatic valve.
- 10** To install, follow the removal sequence in reverse.



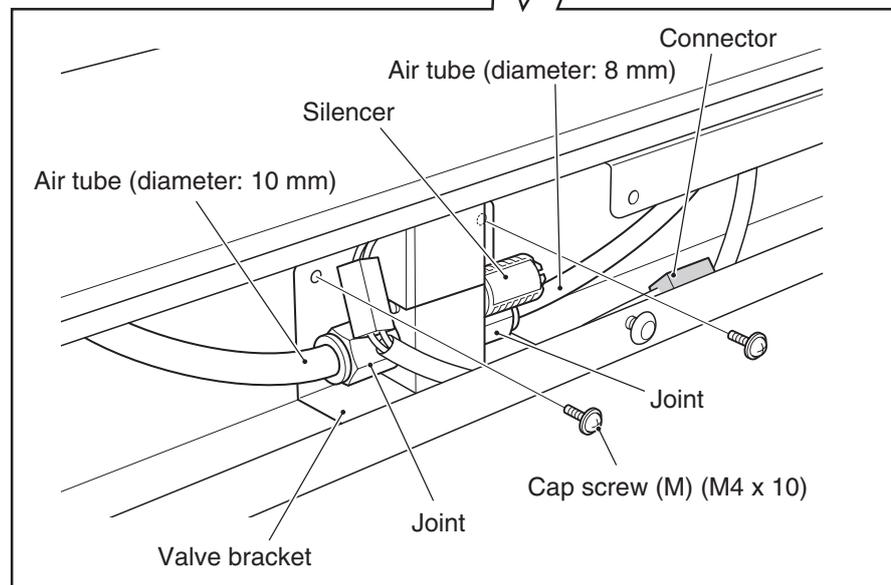
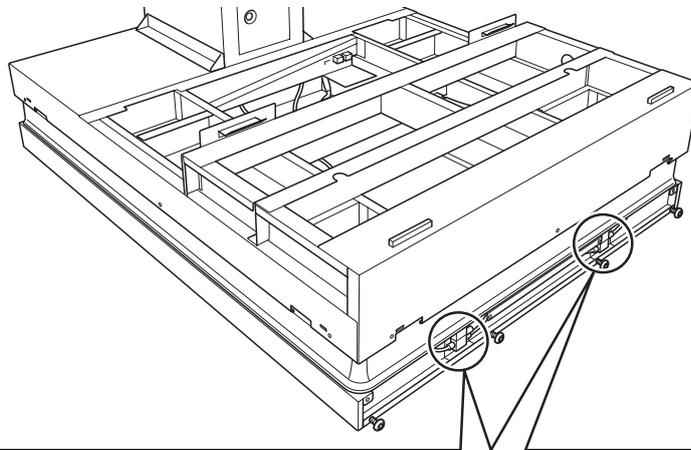
- When connecting the air tubes, be sure to insert them all the way. If the air tubes are not inserted fully, air can leak and disallow proper game operation.
- After the replacement, be sure to check pneumatic valve operation in the Test mode. (See P. 56 “7-7-4 (7) MOTION TEST.”)

(7) Replacing the pneumatic valve (rear)

! WARNING

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

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Remove the bellows clamp A. (See P. 164 “8B-4-2 (5) Replacing the bellows” **10**.)
- 3** Replace the pneumatic valve. (See P. 168 “8B-4-2 (6) Replacing the pneumatic valve (front)” **3** through **9**.)



* The rear pneumatic valve is mounted with a joint (straight type, 8 mm in diameter), not with a joint (L-shape, 8 mm in diameter).

- 4** Install the rear pneumatic valve by following the removal sequence in reverse, in the same way as for the front side.
- 5** Install the bellows clamp A. (See P. 164 “8B-4-2 (5) Replacing the bellows” **10**.)



- After the replacement, be sure to check pneumatic valve operation in the Test mode. (See P. 56 “7-7-4 (7) MOTION TEST.”)

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Removing and installing Assys and parts

Test mode

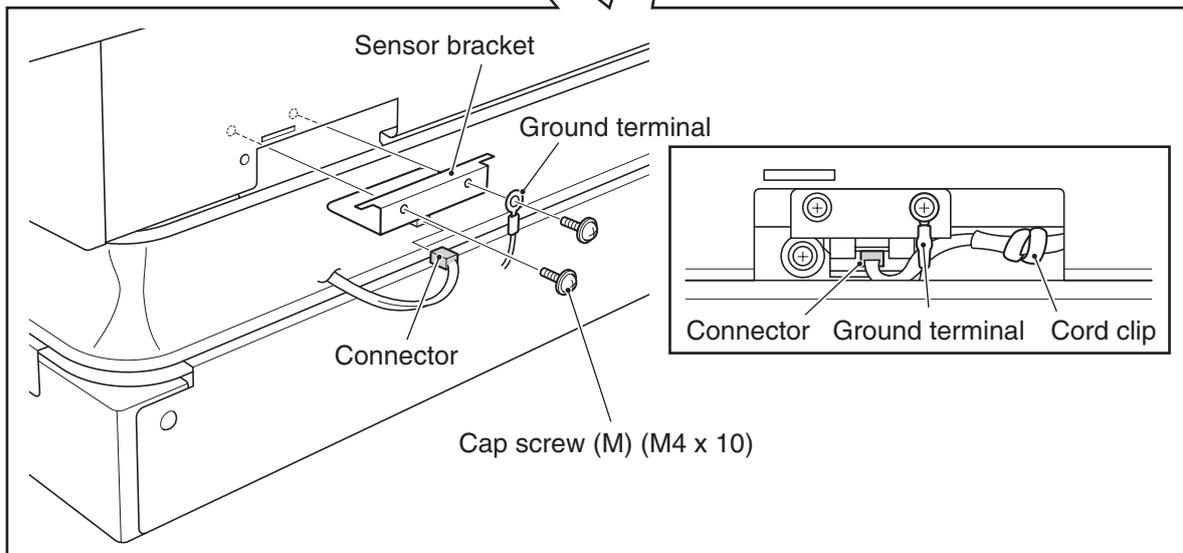
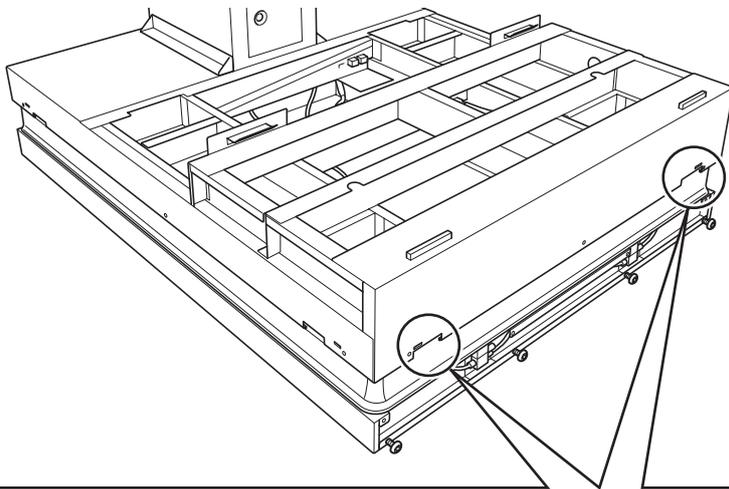
Troubleshooting

(8) Replacing the photosensor (rear)

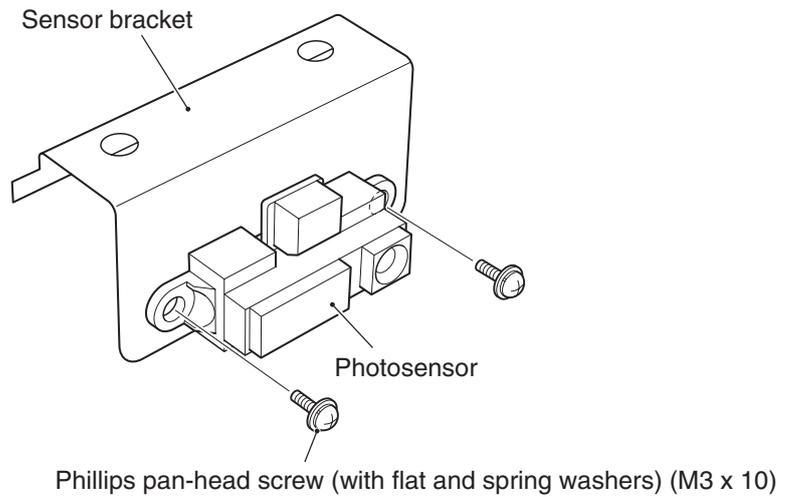
! WARNING

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

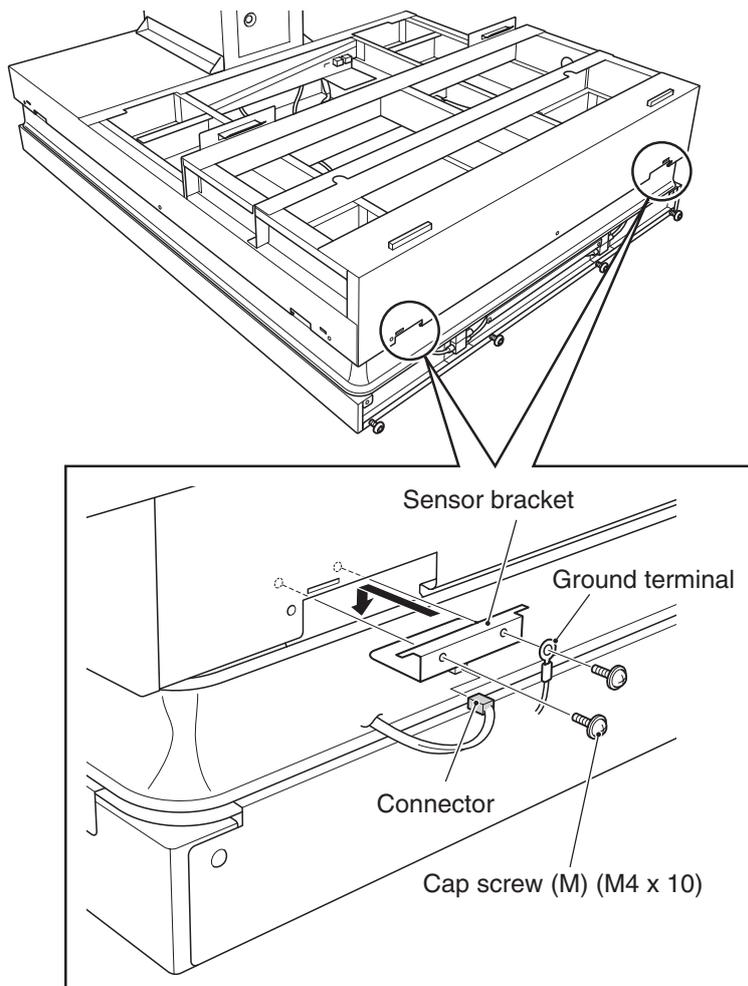
- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Remove the bellows clamp D. (Page P. 163 “8B-4-2 (5) Replacing the bellows” **9**.)
- 3** Remove the two cap screws (M) (M4 x 10), disconnect the one connector, and then dismount the sensor bracket.
* The cap screws are located deep in the back. Be careful not to drop the screws when removing.



- 4** Remove the two Phillips pan-head screws (with flat and spring washers) (M3 x 10) from each photosensor, and replace it.



- 5** Hook the sensor bracket onto the notched section and install it by following the removal sequence in reverse.



- 6** Attach the bellows clamp D. (Page P. 163 “8B-4-2 (5) Replacing the bellows” **9**.)



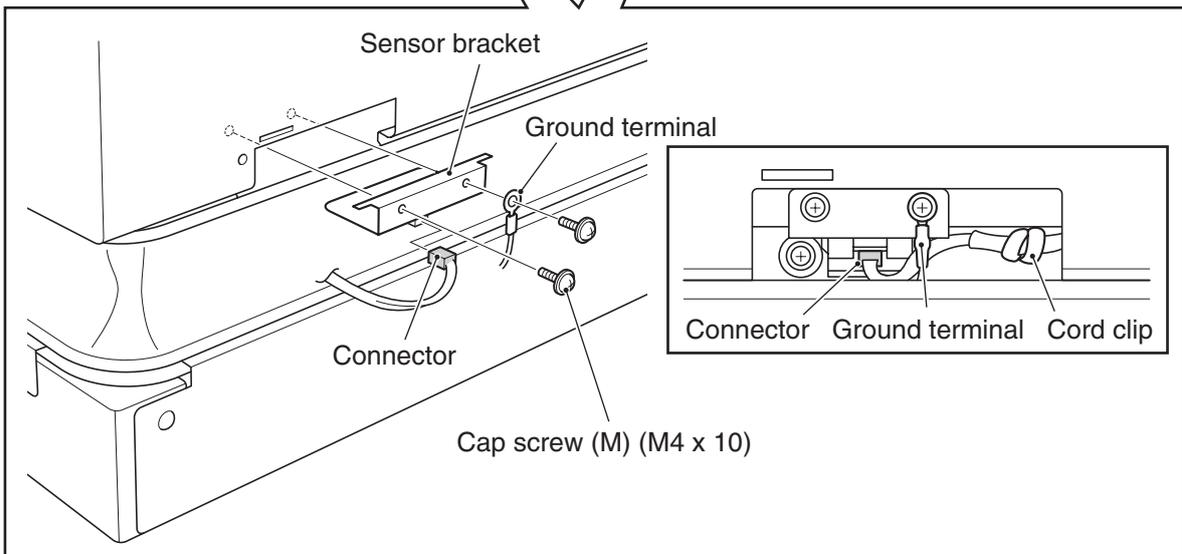
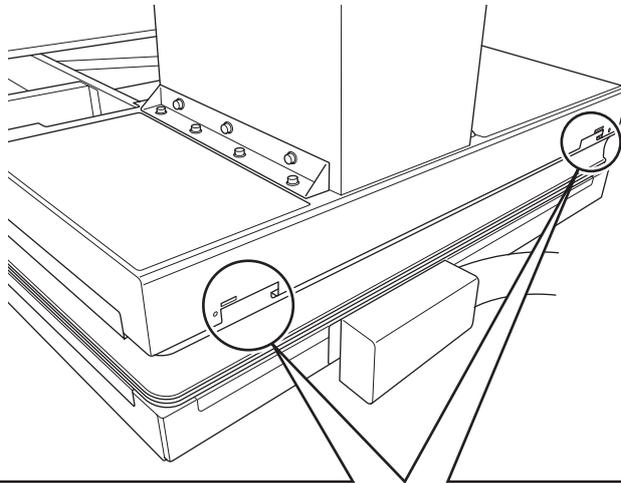
- After the replacement, be sure to check photosensor valve operation in the Test mode. (See P. 56 “7-7-4 (7) MOTION TEST.”)

(9) Replacing the photosensor (front)

! WARNING

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

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Remove the bellows clamp D. (Page P. 164 “8B-4-2 (5) Replacing the bellows” **11**.)
- 3** Remove the two cap screws (M) (M4 x 10), disconnect the one connector, and then dismount the sensor bracket.
* The cap screws are located deep in the back. Be careful not to drop the screws when removing.



- 4** Install the bellows clamp D. (Page P. 164 “8B-4-2 (5) Replacing the bellows” **11**.)



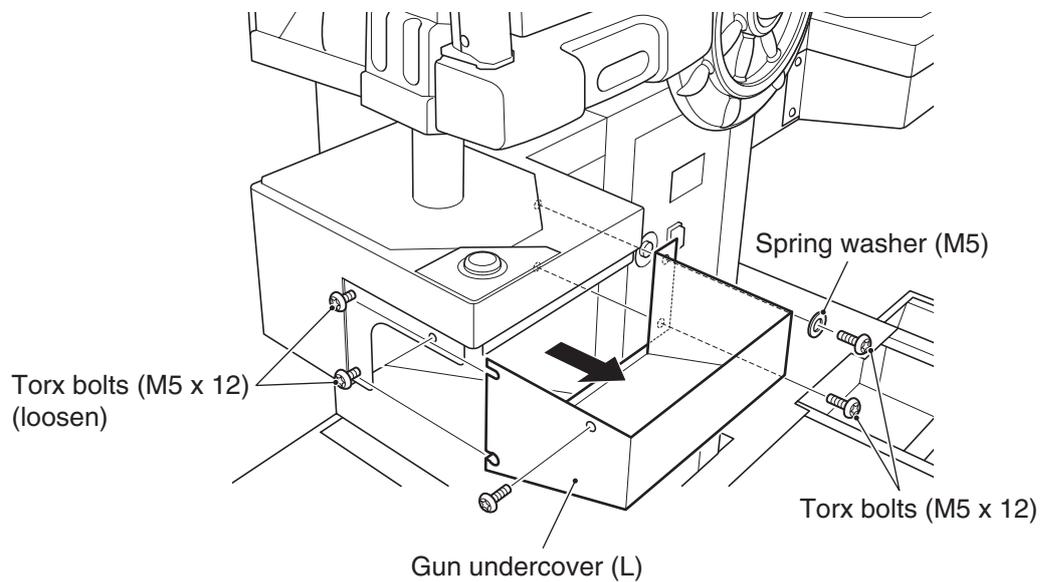
- After the replacement, be sure to check photosensor valve operation in the Test mode. (See P. 56 “7-7-4 (7) MOTION TEST.”)

(10) Replacing the illuminated switch/LED lamp in the Emergency Stop button

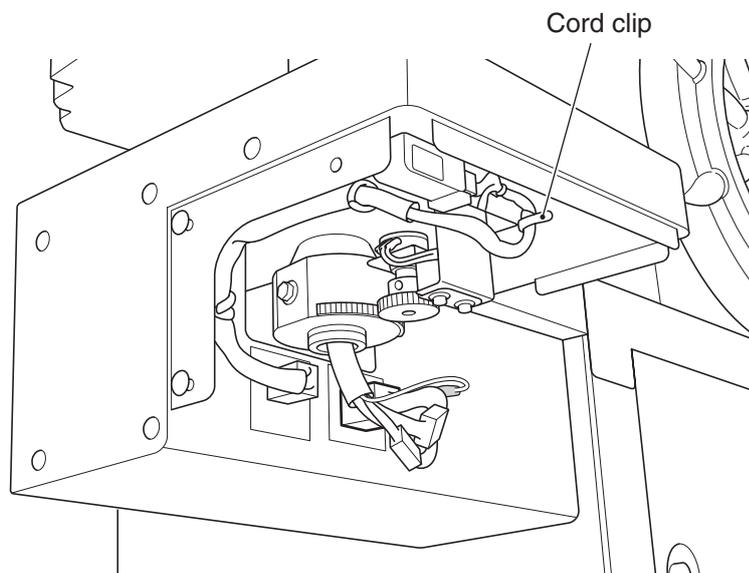
! WARNING

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

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Loosen the two Torx bolts (M5 x 12) on the outside, remove the three Torx bolts (M5 x 12) and one spring washer (M5), and dismount the gun undercover (L) or gun undercover (R).



- 3** Remove the one cord clip



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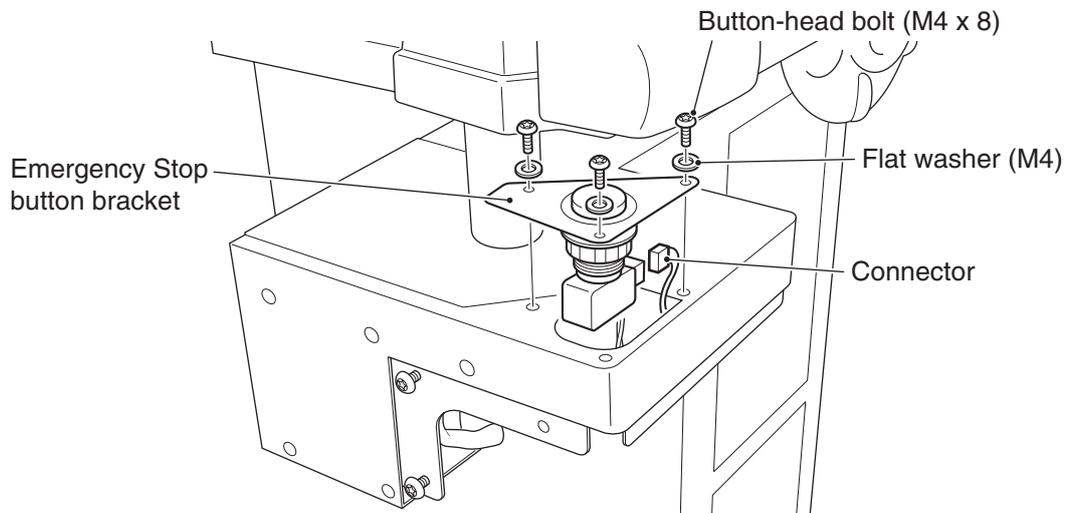
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Removing and installing Assys and parts

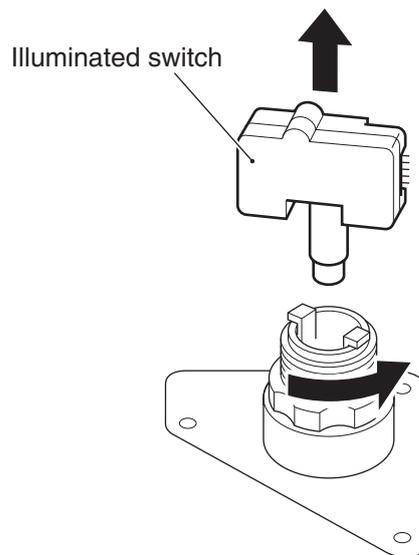
Test mode

Troubleshooting

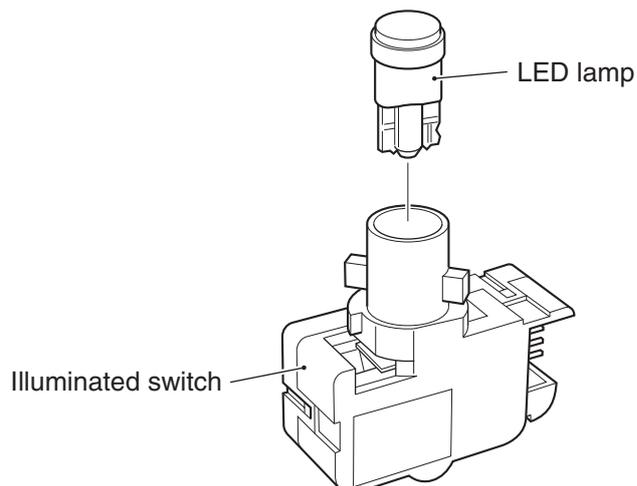
- 4 Remove the three button-head bolts (M4 x 8) and flat washers (M4), lift and pull out the Emergency Stop button bracket, and disconnect the one connector.



- 5 Turn the illuminated switch 45° to the left to remove.



- 6 Remove the LED lamp from the illuminated switch and replace the defective part.
* Note that the LED lamp has polarities. Be sure to check the polarities when replacing the LED lamp.



7 To install, follow the removal sequence in reverse.



- During the installation, check the direction of each connector and insert the connectors firmly until they lock securely into place.
- During the installation, be careful not to pinch the connectors or harnesses.
- After the replacement, be sure to check switch operation. (See P. 51 “7-7-4 (2) SWITCH TEST” and P. 55 “7-7-4 (6) OUTPUT TEST.”)

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Removing and installing Assys and parts

Test mode

Troubleshooting

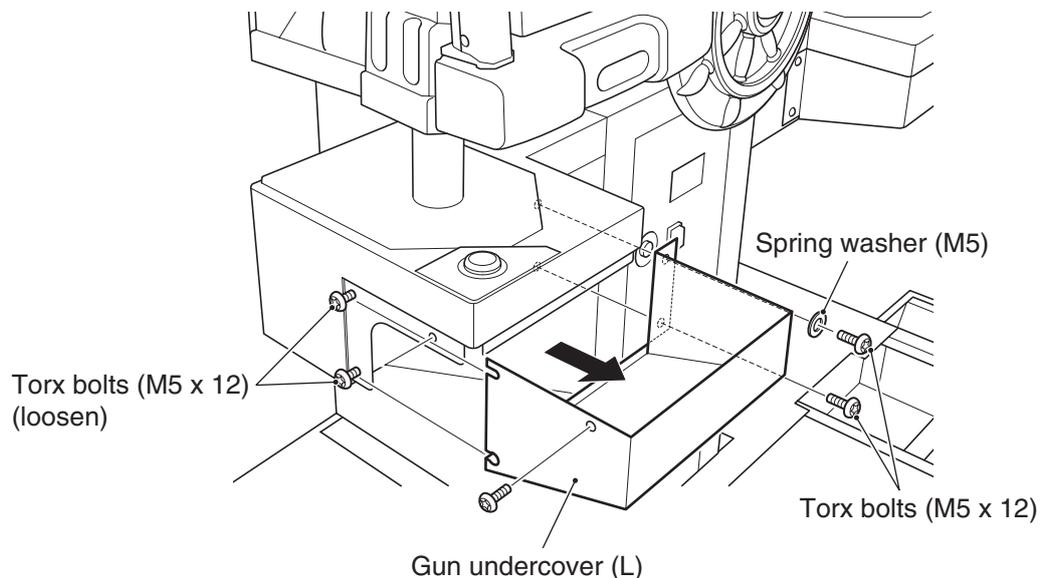
8B-4-3 Gun Assy

(1) Replacing and installing the Gun Assy

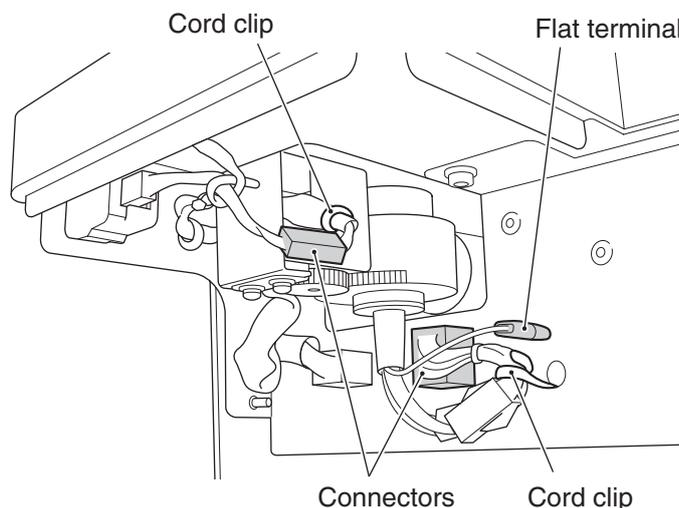
WARNING

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

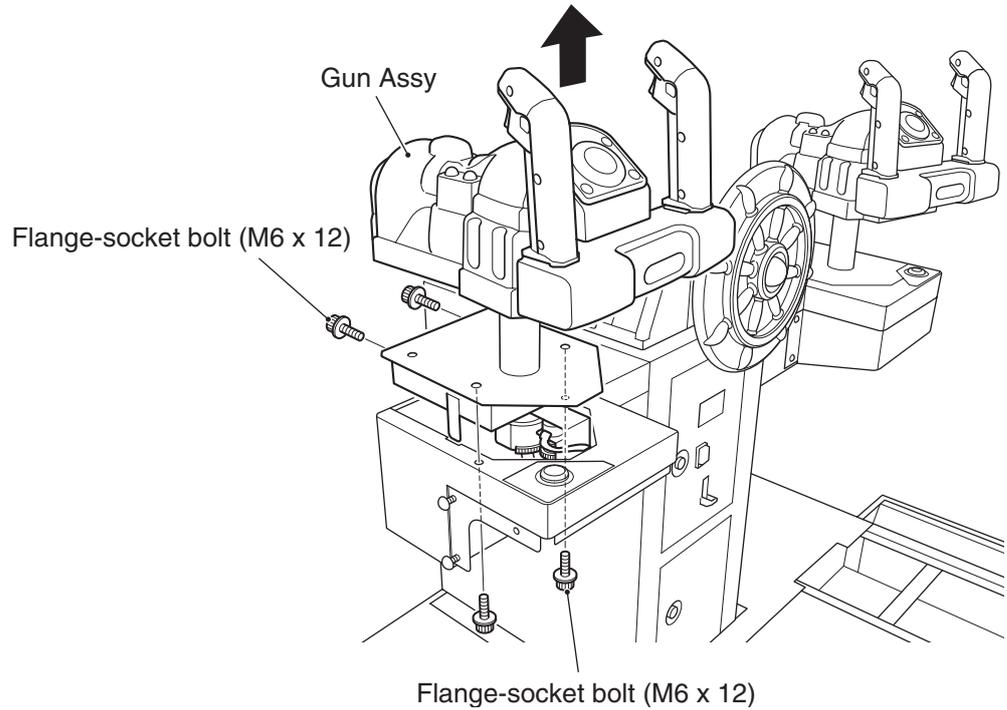
- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Loosen the two Torx bolts (M5 x 12) on the outside, remove the three Torx bolts (M5 x 12) and one spring washer (M5), and dismount the gun undercover (L) or gun undercover (R).



- 3** Loosen the two cord clips and disconnect the two connectors and one flat terminal.



- 4** Remove the four flange-socket bolts (M6 x 12) and replace the Gun (L) Assy or Gun (R) Assy.

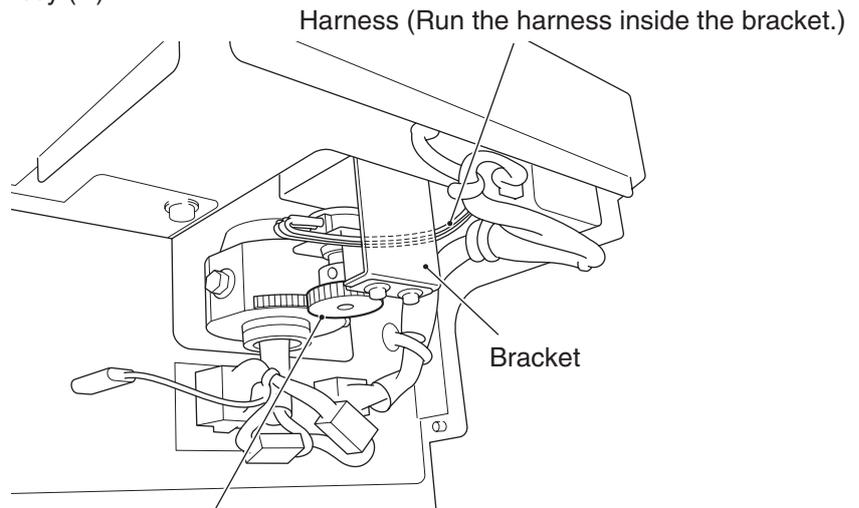


- 5** To install, follow the removal sequence in reverse.



- During the installation, check the direction of each connector and insert the connectors firmly until they lock securely into place.
- During the installation, be careful not to pinch the connectors or harnesses.

Gun Assy (R)



* Do not let the harness get caught between the gears.

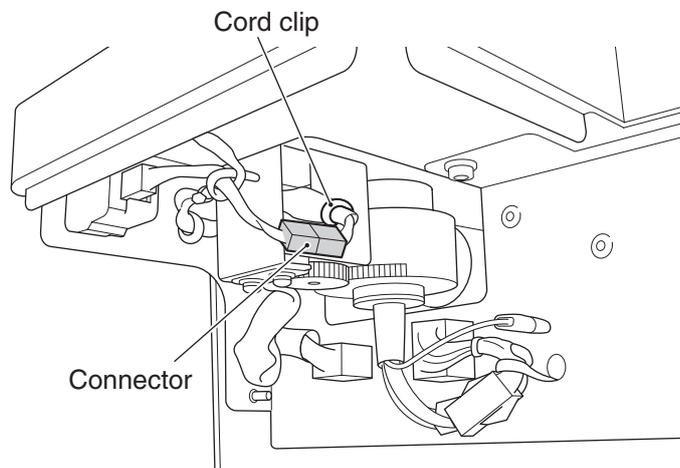
- After the replacement, be sure to perform initialization. (See P. 72 “7-9 Gun Assy adjustment (initialization) after parts replacement.”)

(2) Replacing the potentiometer (for left-right)

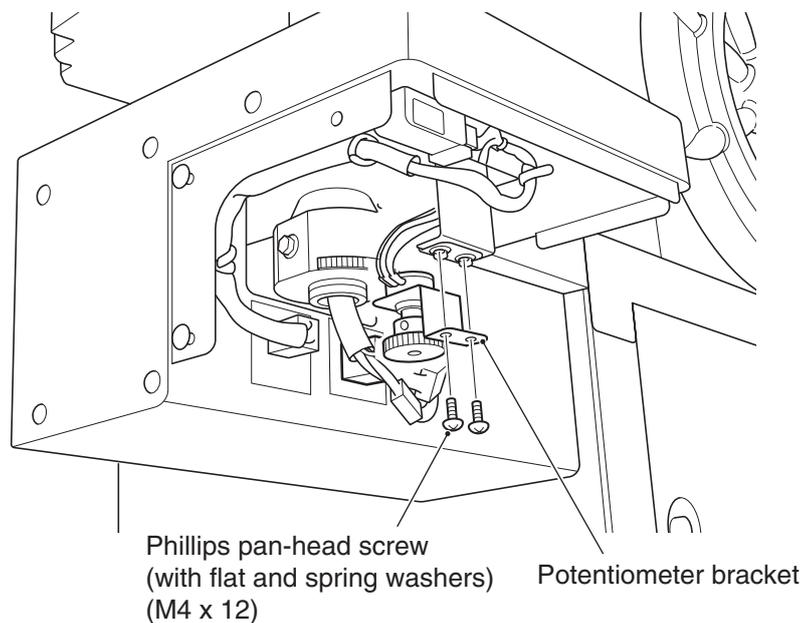
! WARNING

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

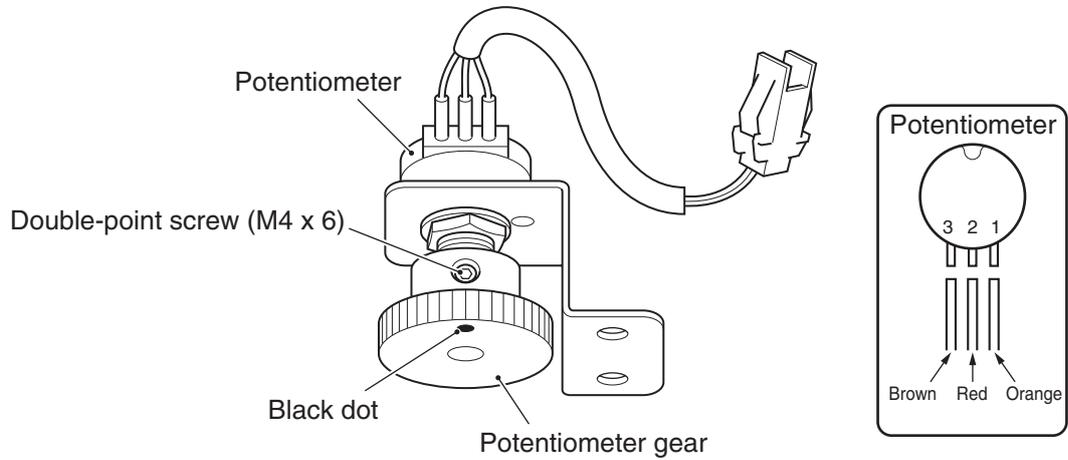
- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Remove the gun undercover (L) or gun undercover (R). (See P. 178 “8B-4-3 (1) Replacing and installing the Gun Assy” **2**.)
- 3** Loosen the one cord clip and disconnect the one connector.



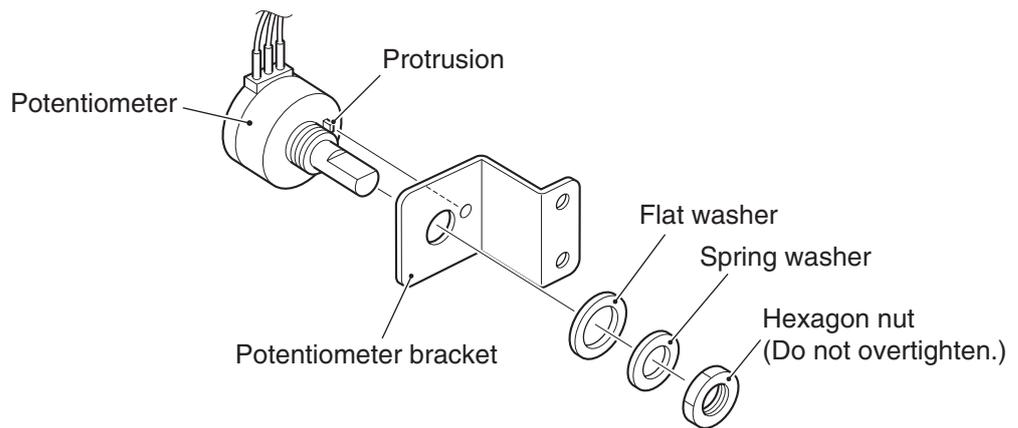
- 4** Remove the two Phillips pan-head screws (with flat and spring washers) (M4 x 12) and dismount the potentiometer bracket.



- 5** Loosen the one double-point screw (M4 x 6) and remove the potentiometer gear.
 * When installing the potentiometer gear, align the black dot on the potentiometer gear with the terminal connected with the red harness of the potentiometer.



- 6** Remove the one hexagon nut, one spring washer and one flat washer, and then dismount the potentiometer from the potentiometer bracket.



- 7** Replace the potentiometer.



- The potentiometer (for up-down) is the same in external appearance. Before replacing, check the harness colors.

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

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Removing and installing Assys and parts

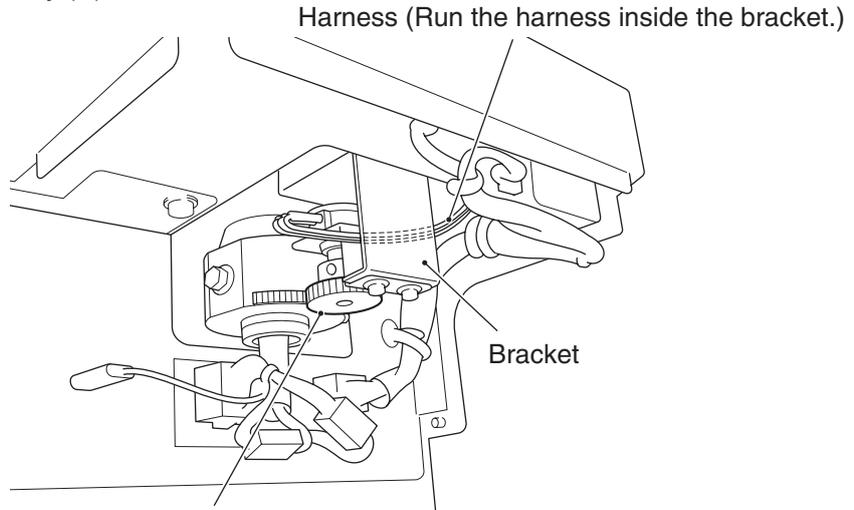
Test mode

Troubleshooting



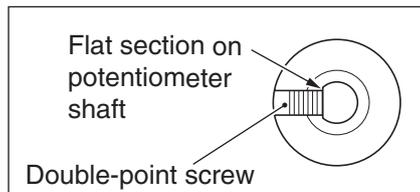
- Do not let the harness get caught between the gears.

Gun Assy (R)



* Do not let the harness get caught between the gears.

- When installing the potentiometer, align the flat section on the potentiometer shaft with the position of the double-point screw.



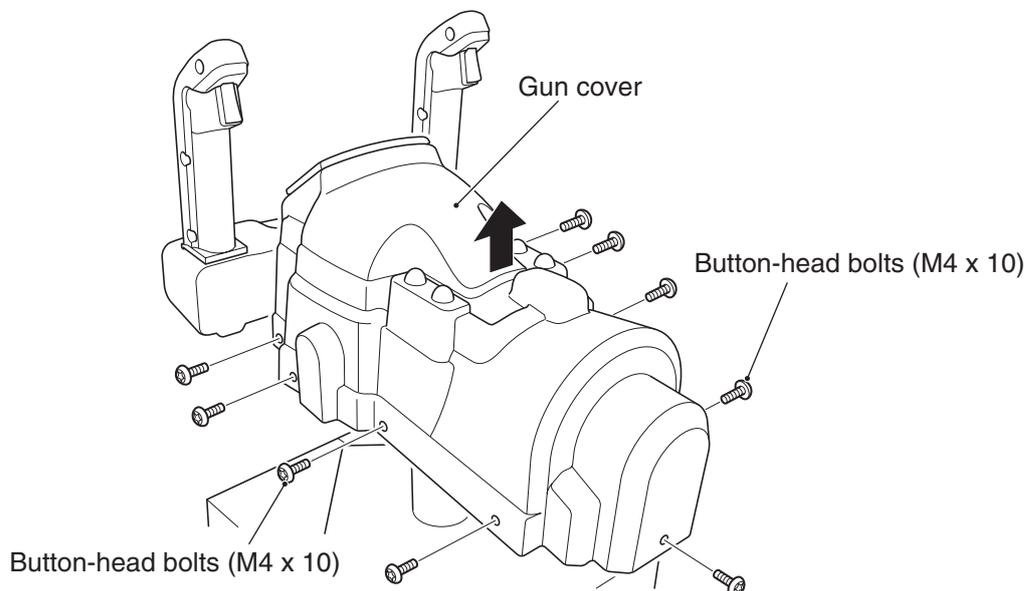
- After the replacement, be sure to perform initialization. (See P. 72 “7-9 Gun Assy adjustment (initialization) after parts replacement.”)

(3) Replacing the potentiometer (for left-right)

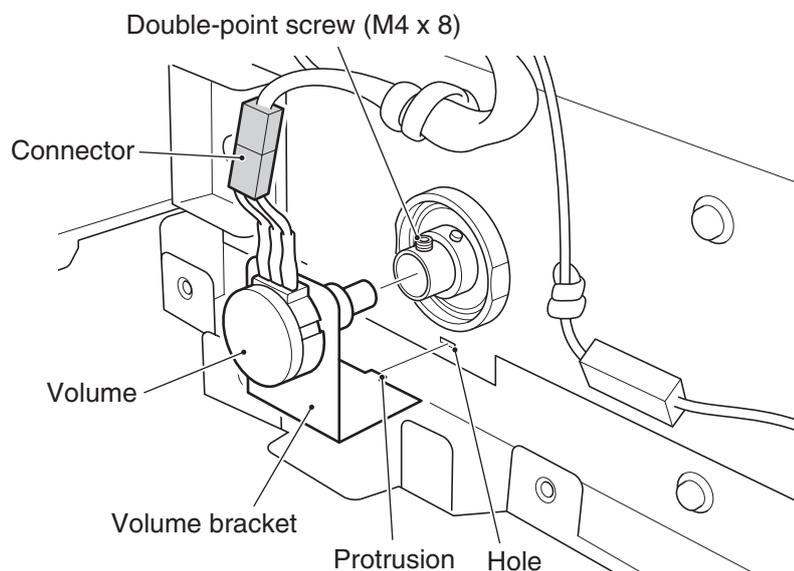
! WARNING

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

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Remove the switch bezel. (See P. 187 “8B-4-3 (6) Replacing the illuminated switch/LED lamp in the Start button” **2** and **3**.)
- 3** Remove the nine button-head bolts (M4 x 10) and dismount the gun cover.



- 4** Disconnect the one connector and remove the one double-point screw (M4 x 8) using an Allen wrench, and then dismount the potentiometer together with the potentiometer bracket.



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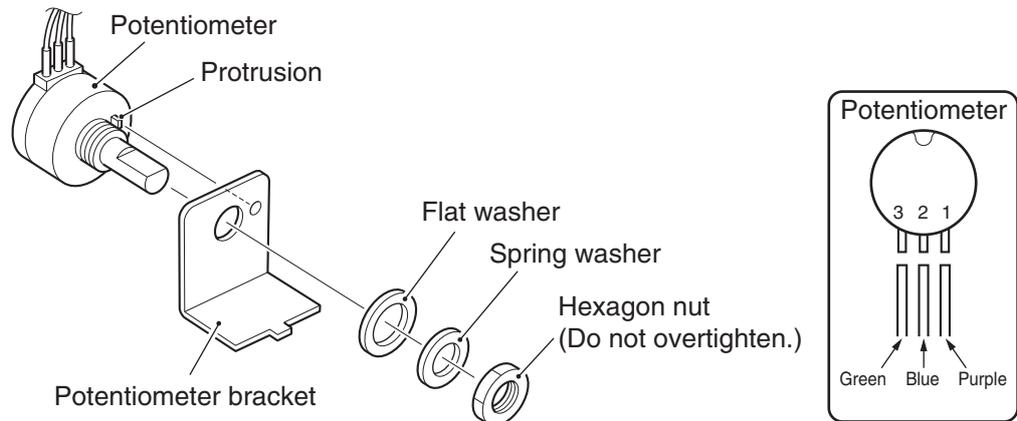
11

Removing and installing Assys and parts

Test mode

Troubleshooting

- 5** Dismount the potentiometer from the potentiometer bracket.



- 6** Replace the potentiometer.
* When install the potentiometer, position the potentiometer terminals at the top.

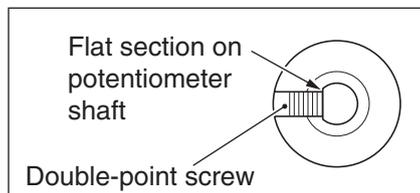


- The potentiometer (for left-right) is the same in external appearance. Before replacing, check the harness colors.

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



- When installing the potentiometer, align the flat section on the potentiometer shaft with the position of the double-point screw.



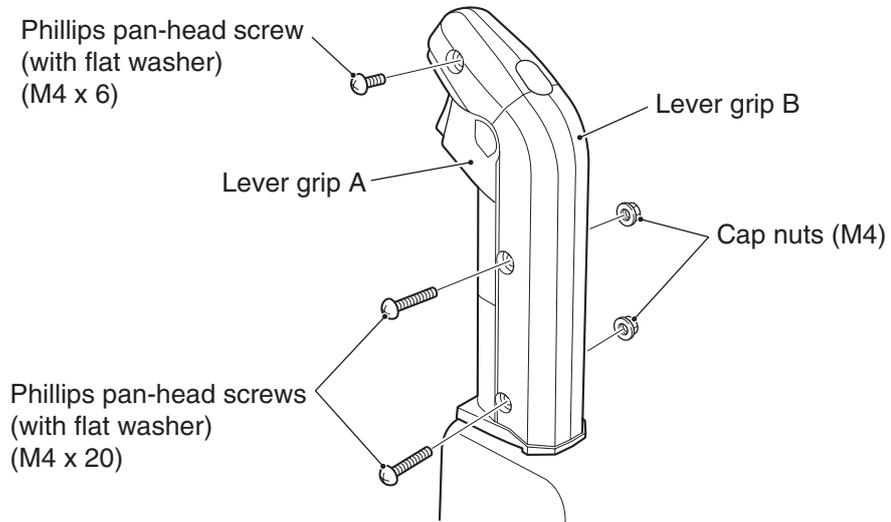
- After the replacement, be sure to perform initialization. (See P. 72 “7-9 Gun Assy adjustment (initialization) after parts replacement.”)

(4) Replacing the microswitch

! WARNING

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

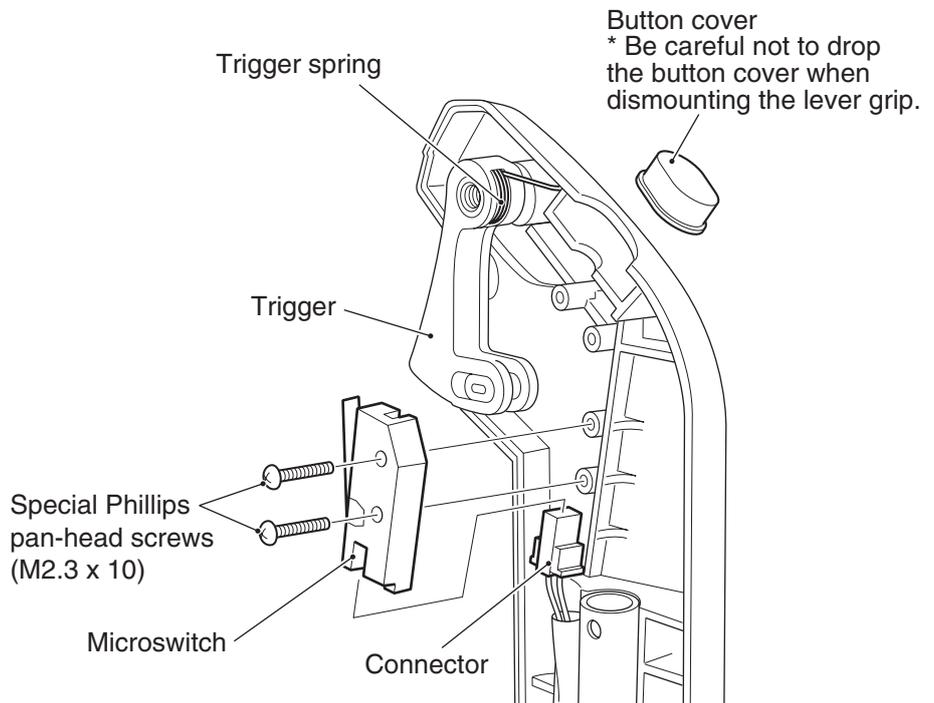
- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Remove the two Phillips pan-head screws (with flat washer) (M4 x 20), two cap nuts (M4) and one Phillips pan-head screw (with flat washer) (M4 x 6), and dismount the lever grip A.



NOTICE

- Be careful not to lose the button cover that is attached to the upper section of the lever grip.

- 3** Remove the two special Phillips pan-head screws (M2.3 x 10).



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Removing and installing Assys and parts

Test mode

Troubleshooting

- 4 Disconnect the one connector, and then dismount and replace the microswitch.



- During the installation, check the direction of each connector and insert the connectors firmly until they lock securely into place.
- During the installation, be careful not to pinch the connectors or harnesses.

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



- After the replacement, be sure to check switch operation in the Test mode. (See P. 51 “7-7-4 (2) SWITCH TEST.”)

(5) Replacing the trigger and spring

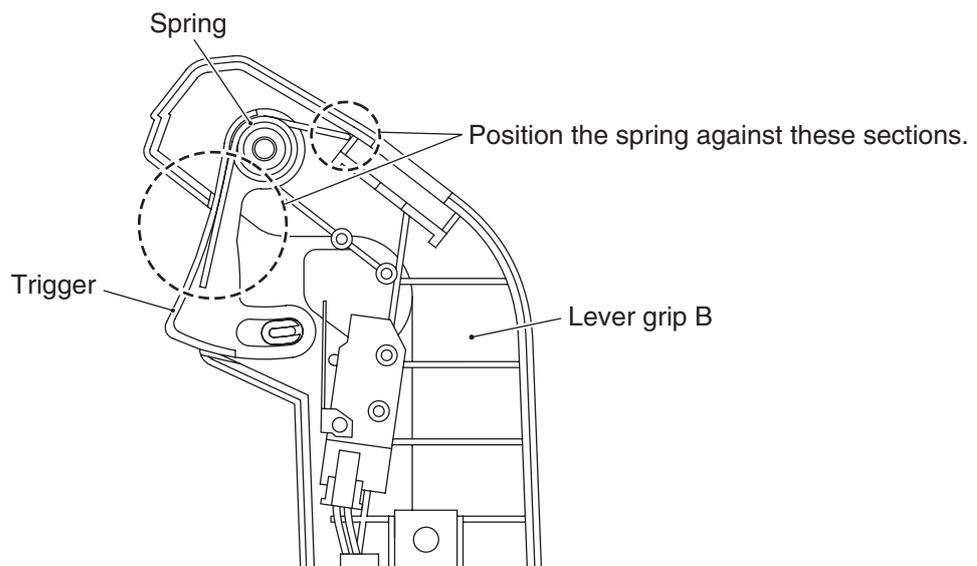
WARNING

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

- 1 Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2 Disassemble the lever grip. (See P. 185 “8A-4-3 (4) Replacing the microswitch” **2** and **3**.)
- 3 If the trigger or spring is defective, replace it.



- Install the spring as shown in the diagram, and make sure that the spring rests securely on the trigger and lever grip B.



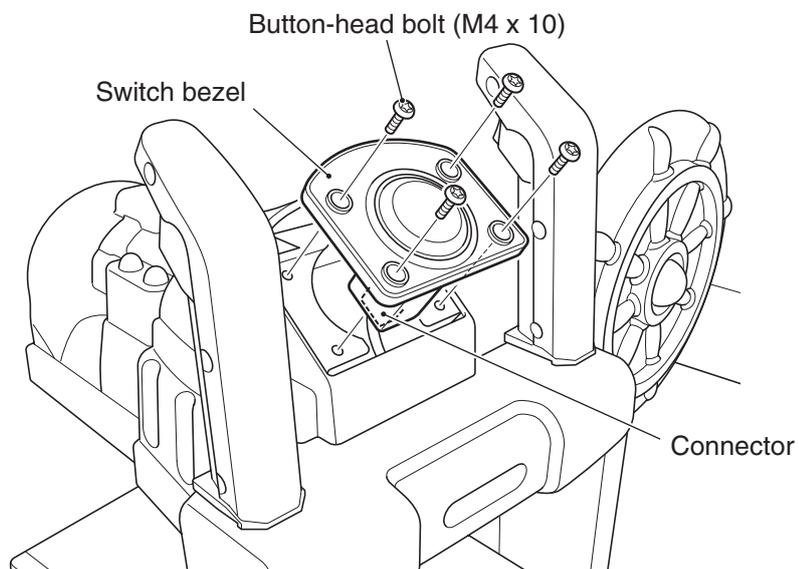
- 4 To install, follow the removal sequence in reverse. (See P. 185 “8A-4-3 (4) Replacing the microswitch” **2** and **3**.)

(6) Replacing the illuminated switch/LED lamp in the Start button

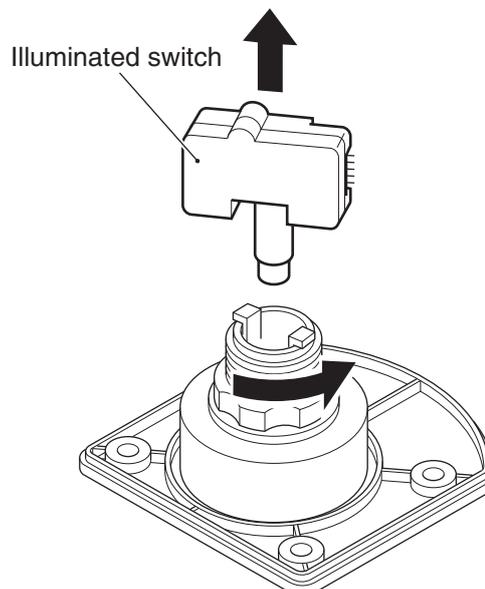
! WARNING

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

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Remove the four button-head bolts (M4 x 10) and dismount the switch bezel.



- 3** Disconnect the one connector.
- 4** Turn the illuminated switch 45° and remove it from the switch bezel.



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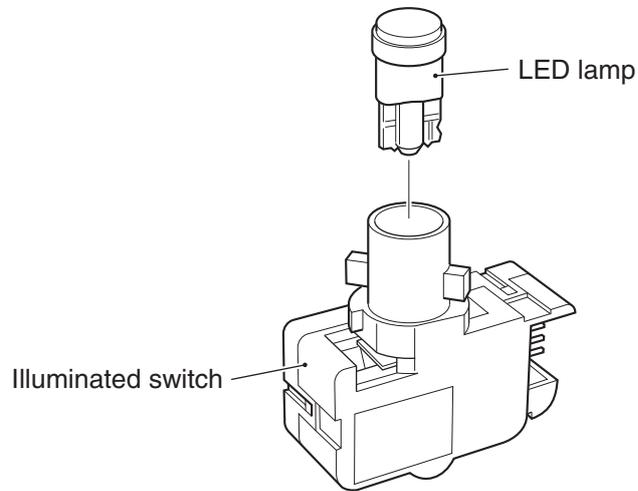
11

Removing and installing Assys and parts

Test mode

Troubleshooting

- 5** Remove the LED lamp from the illuminated switch and replace the defective part.
* Note that the LED lamp has polarities. Be sure to check the polarities when replacing the LED lamp.



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



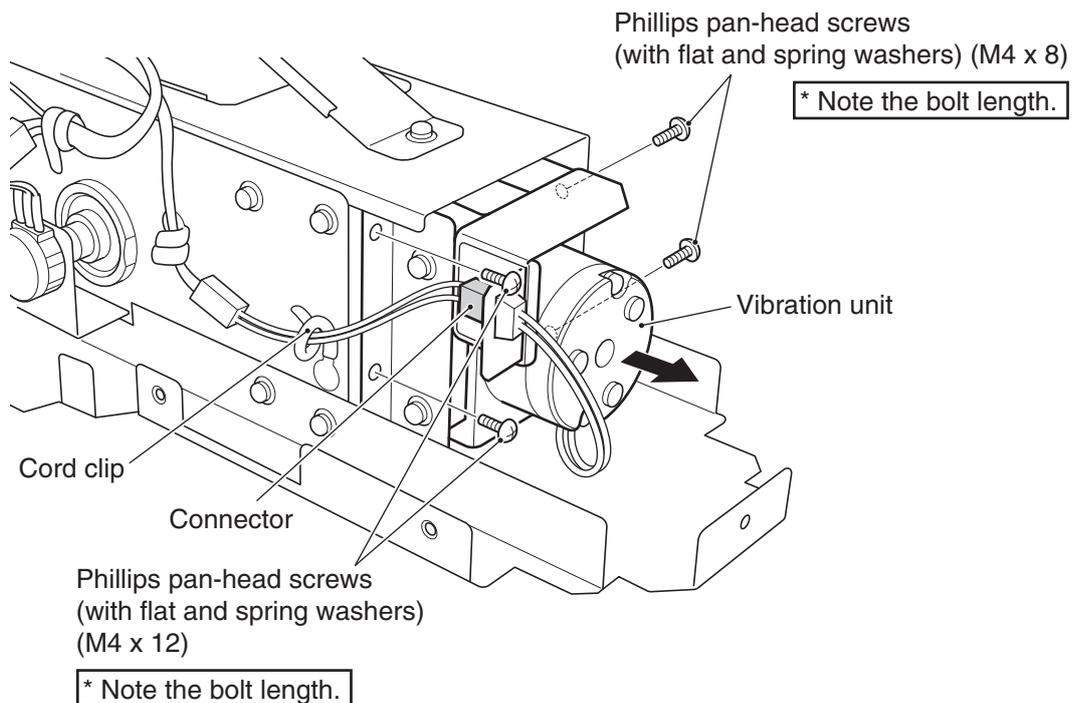
- After the replacement, be sure to check switch operation in the Test mode. (See P. 51 “7-7-4 (2) SWITCH TEST” and P. 55 “7-7-4 (6) OUTPUT TEST.”)

(7) Replacing the vibration unit

! WARNING

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

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Remove the Start button and switch bezel. (See P. 187 “8B-4-3 (6) Replacing the illuminated switch/LED lamp in the Start button” **2** and **3**.)
- 3** Remove the gun cover. (See P. 183 “8B-4-3 (3) Replacing the potentiometer (for up-down)” **3**.)
- 4** Remove the one cord clip and disconnect the one connector.



- 5** Remove the two Phillips pan-head screws (with flat and spring washers) (M4 x 12) and two Phillips pan-head screws (with flat and spring washers) (M4 x 8), and then dismount the vibration unit.

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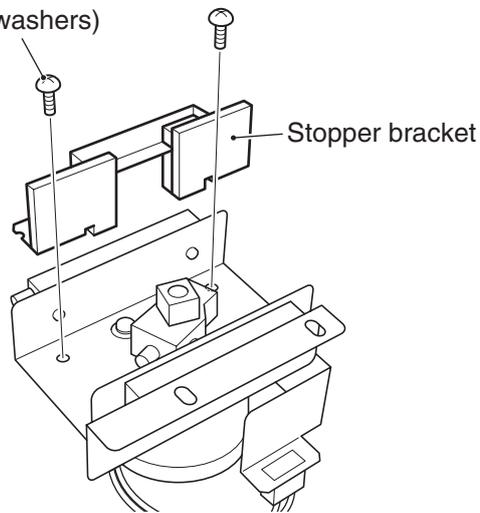
Removing and installing Assys and parts

Test mode

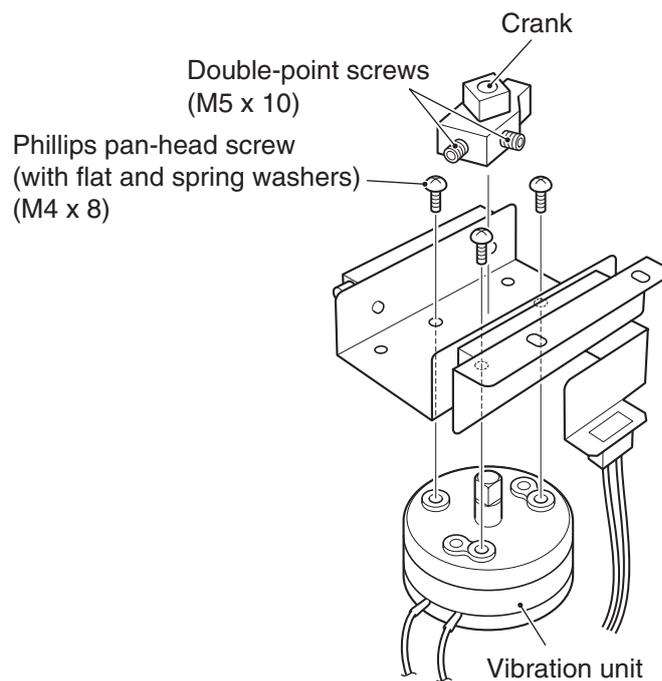
Troubleshooting

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

Phillips pan-head screw
(with flat and spring washers)
(M4 x 12)



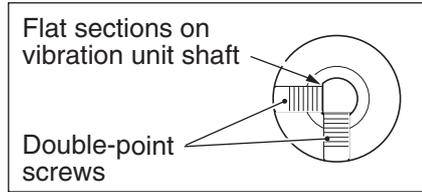
- 7 Loosen the two double-point screws (M5 x 10) using an Allen wrench, and dismount the crank.



- 8 Disconnect the one connector.
- 9 Remove the three Phillips pan-head screws (with flat and spring washers) (M4 x 8) and dismount the vibration unit.
- 10 Replace the vibration unit.
- 11 To install, follow the removal sequence in reverse.

NOTICE

- When installing the vibration unit, align the flat sections (2 locations) on the vibration unit shaft with the positions of the double-point screws.



- During the installation, be careful not to pinch the connectors or harnesses.
- After the replacement, be sure to check the vibration unit for proper operation in the Test mode. (See P. 55 “7-7-4 (6) OUTPUT TEST.”)

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Removing and installing Assys and parts

Test mode

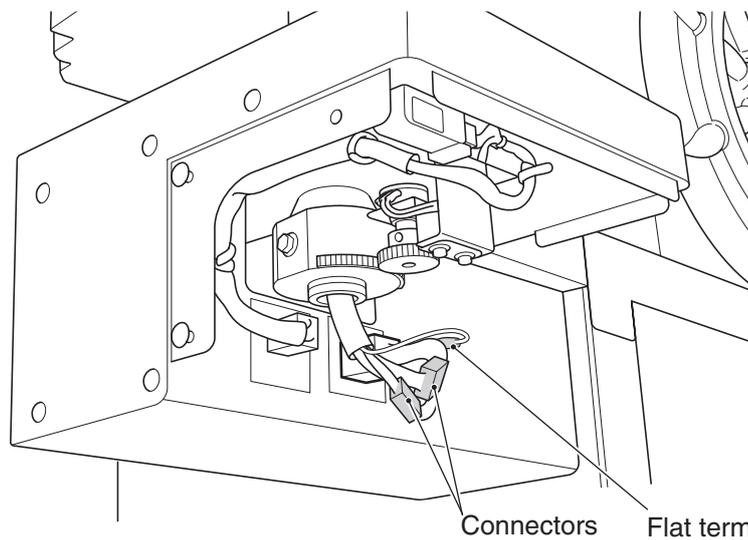
Troubleshooting

(8) Replacing the gun harness 3d

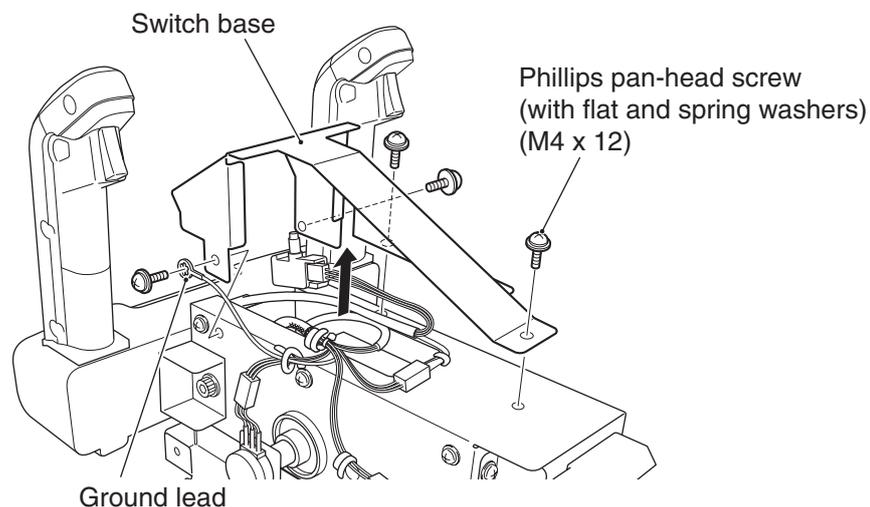
! WARNING

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

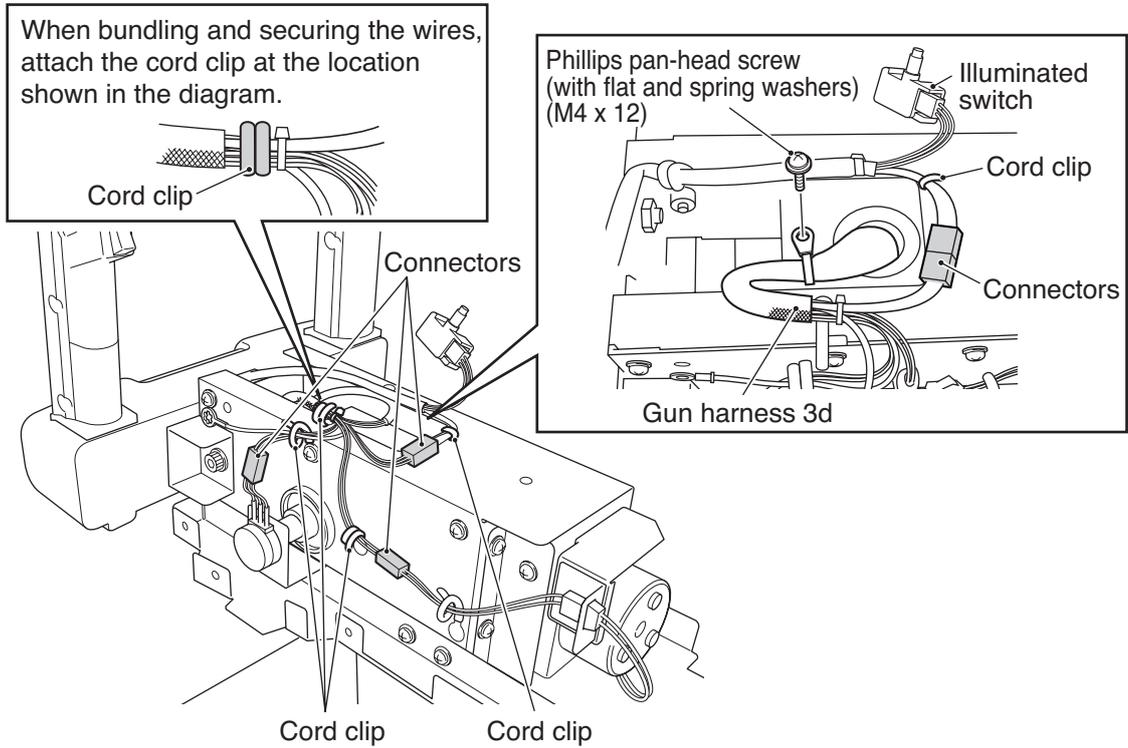
- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Dismount the gun undercover (L) or gun undercover (R). (See P. 178 “8B-4-3 (1) Replacing and installing the Gun Assy” **2**.)
- 3** Disconnect the two connectors and one flat terminal.



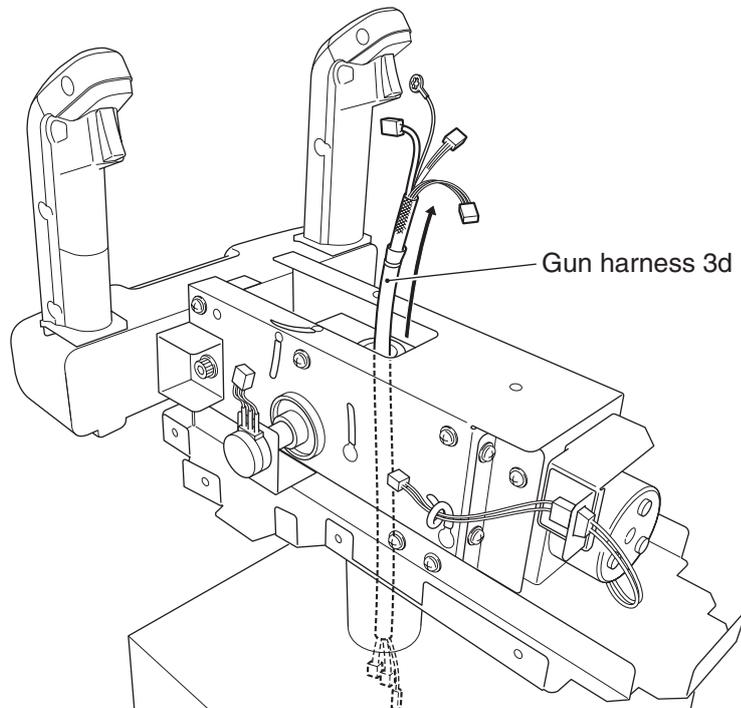
- 4** Remove the gun cover. (See P. 187 “8B-4-3 (6) Replacing the illuminated switch/LED lamp in the Start button” **2** and P. 183 “8B-4-3 (3) Replacing the potentiometer (for up-down)” **3**.)
- 5** Remove the four Phillips pan-head screws (with flat and spring washers) (M4 x 12) and dismount the switch base.



- 6** Disconnect the three connectors of the gun harness 3d and remove the four cord clips.



- 7** Remove the one Phillips pan-head screw (M4 x 12) and one cord clip, and then pull out the gun harness 3d.



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

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Removing and installing Assys and parts

Test mode

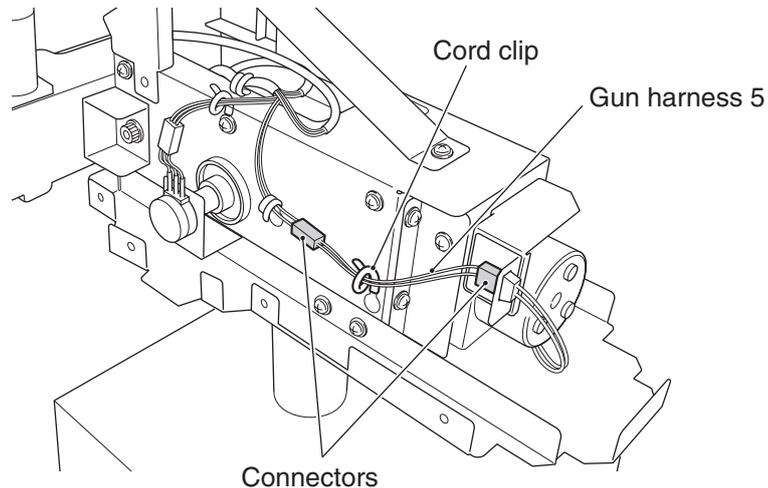
Troubleshooting

(9) Replacing the gun harness 5

! WARNING

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

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Remove the gun cover. (See P. 187 “8B-4-3 (6) Replacing the illuminated switch/LED lamp in the Start button” **2** and P. 183 “8B-4-3 (3) Replacing the potentiometer (for up-down)” **3**.)
- 3** Disconnect the two connectors and detach the one cord clip, and then remove the gun harness 5.



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

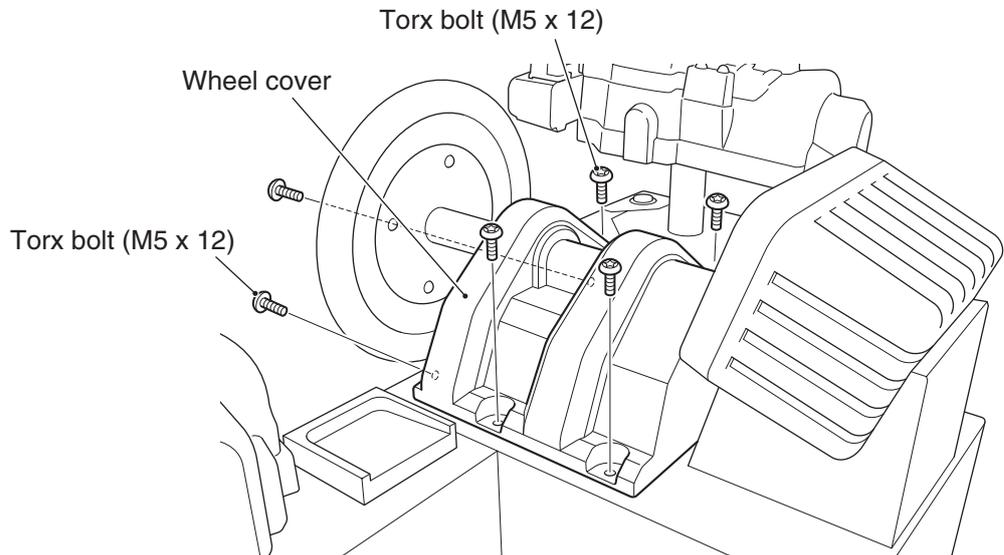
8B-4-4 Wheel Assy

(1) Removing and installing the Wheel Assy

! WARNING

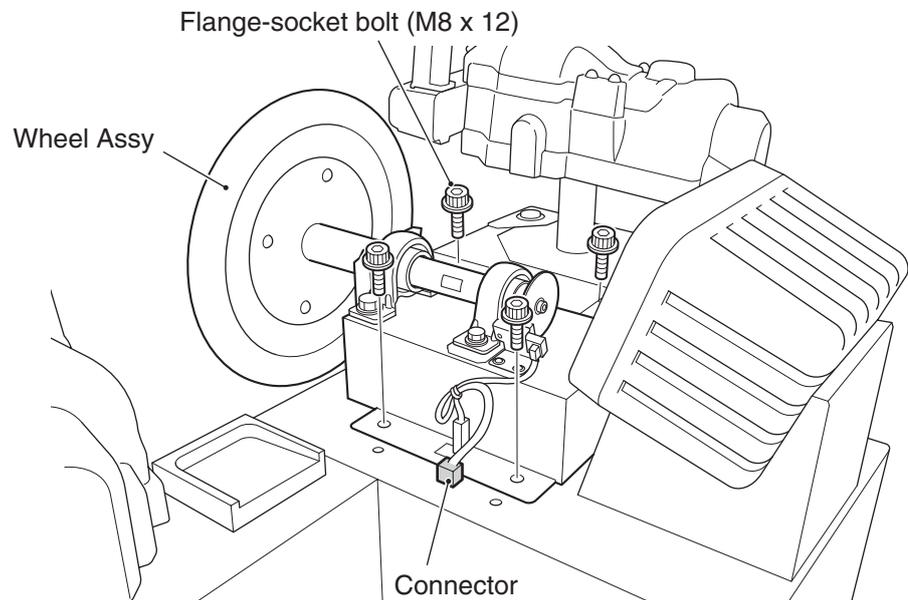
- To protect the service staff and other people from an electric shock, accident and injury and to prevent damage to the electrical circuitry of the machine, always turn off the power switch before conducting the described task.

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Remove the six Torx bolts (M5 x 12) and dismount the wheel cover.



- 3** Disconnect the one connector and remove the four flange-socket bolts (M8 x 12), and dismount the Wheel Assy.

* When removing the flange-socket bolts (M8 x 12), support the wheel section since the Wheel Assy can lose balance due to the weight of the wheel.



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Removing and installing Assys and parts

Test mode

Troubleshooting

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



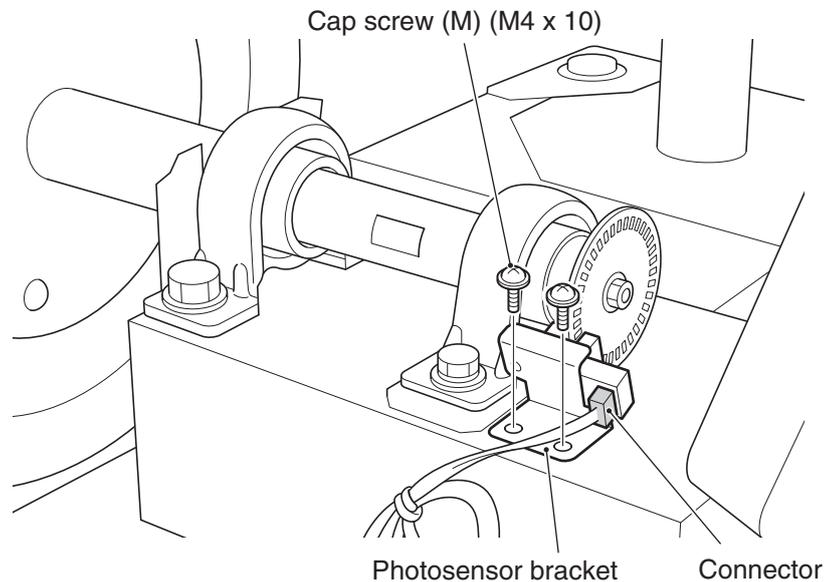
- During the installation, check the direction of each connector and insert the connectors firmly until they lock securely into place.
- During the installation, be careful not to pinch the connectors or harnesses.

(2) Replacing the photosensor (for wheel)

WARNING

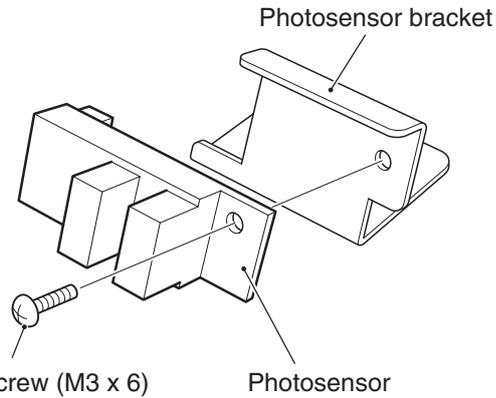
- To protect the service staff and other people from an electric shock, accident and injury and to prevent damage to the electrical circuitry of the machine, always turn off the power switch before conducting the described task.

- 1 Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2 Remove the wheel cover. (See P. 195 “8B-4-4 (1) Removing and installing the Wheel Assy” **2**.)
- 3 Remove the two cap screws (M) (M4 x 10) and dismount the photosensor bracket.

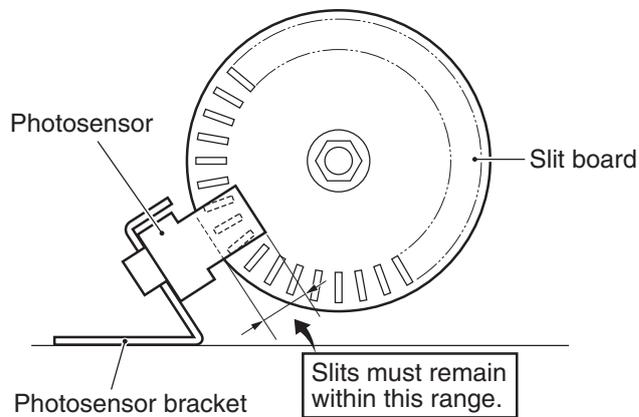
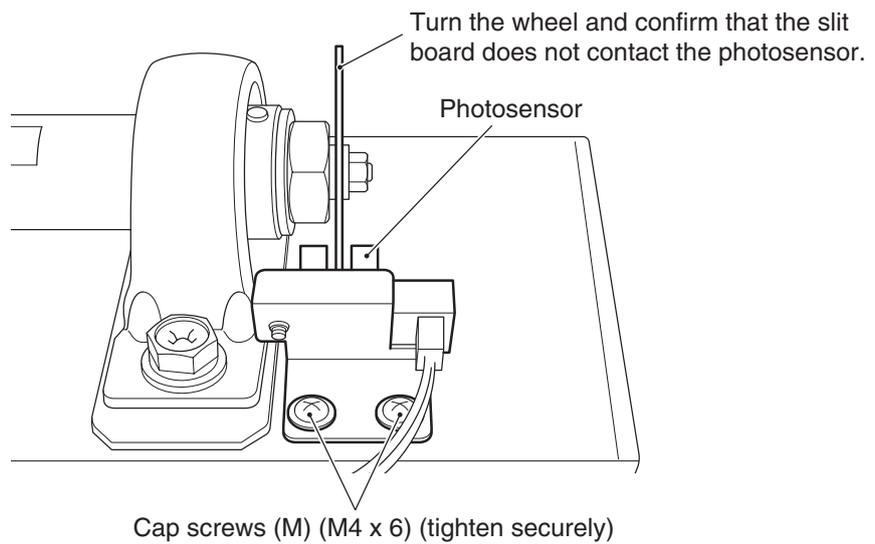


- 4 Disconnect the one connector.

- 5** Remove the one Phillips pan-head screw (M3 x 6), and dismount and replace the photosensor.



- 6** Temporarily install the photosensor bracket using two cap screws (M) (M4 x 6), position the slits in relation to the photosensor as shown in the diagram below, and then tighten the cap screws securely. After tightening the cap screws, turn the wheel and make sure that the slit board does not contact the photosensor.



- During the installation, check the direction of each connector and insert the connectors firmly until they lock securely into place.
- During the installation, be careful not to pinch the connectors or harnesses.
- After the replacement, be sure to check the wheel for proper operation in the Test mode. (See P. 54 “7-7-4 (5) STEERING TEST.”)

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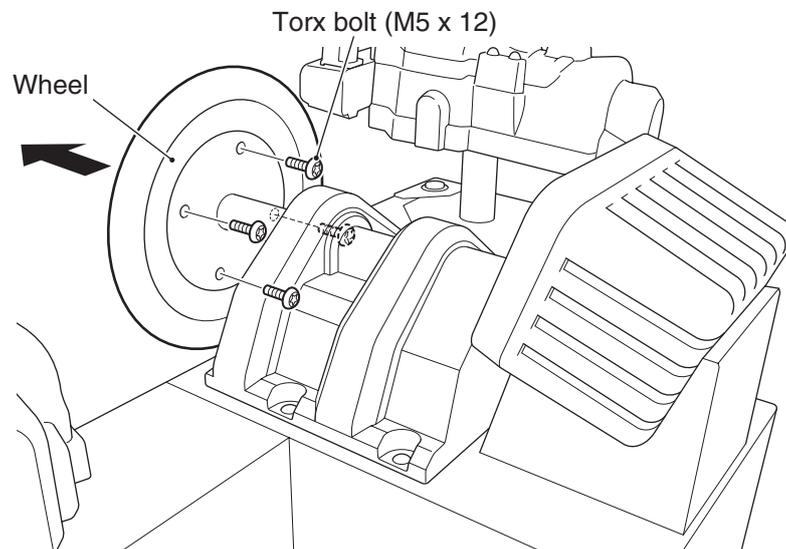
Removing and installing Assys and parts

Test mode

Troubleshooting

(3) Replacing the wheel

- 1** Remove the four Torx bolts (M5 x 12) and dismount the wheel.



- 2** Replace the wheel.
- 3** To install, follow the removal sequence in reverse.

8B-4-5 Signboard Assy

(1) Removing and installing the Signboard Assy

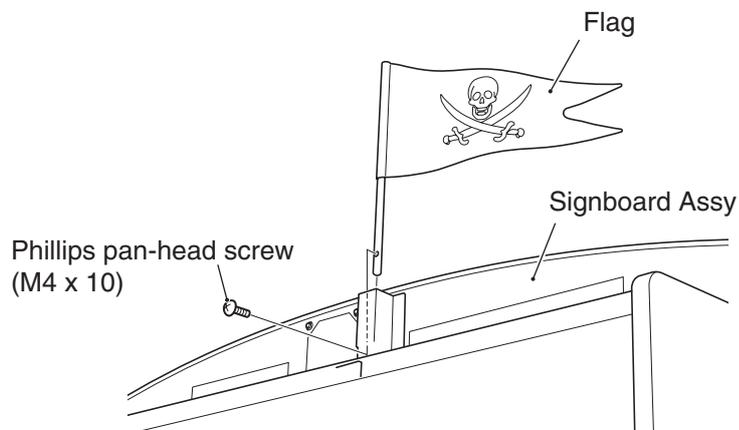
WARNING

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

CAUTION

- Since removal of the Signboard Assy must be performed at a height, exercise caution.
- The Signboard Assy weighs approximately 16 kg. It should be removed by two or more persons in a large work area to prevent accidents.

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Remove the one Phillips pan-head screw (M4 x 10) and detach the flag.



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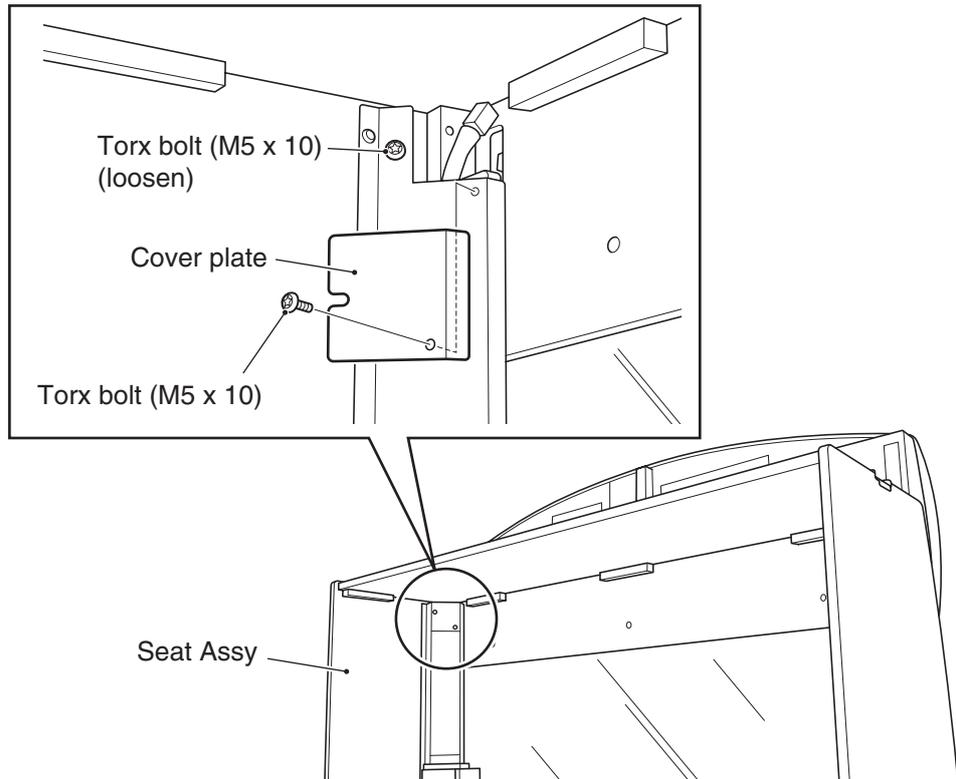
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Removing and installing Assys and parts

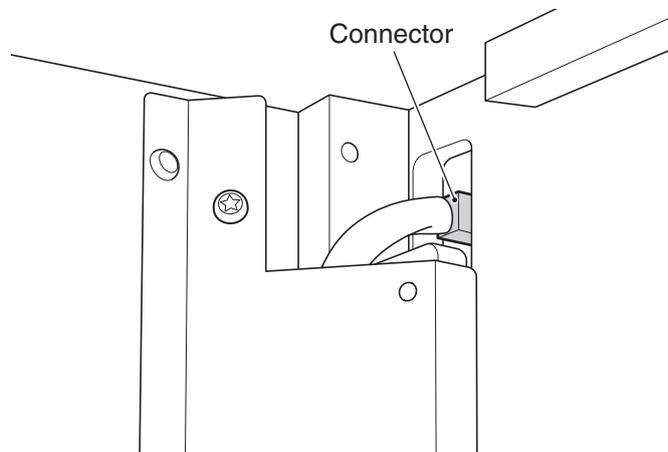
Test mode

Troubleshooting

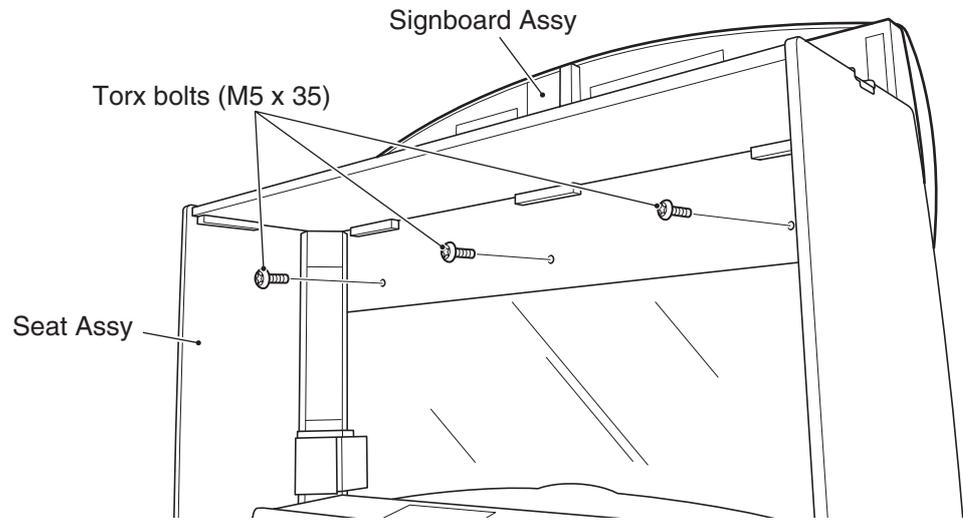
- 3** Loosen the one top Torx bolt (M5 x 10) and dismount the cover plate.



- 4** Disconnect the one connector.



- 5** Remove the three Torx bolts (M5 x 35), and then slightly lift the Signboard Assy and dismount it.



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

(2) Replacing the fluorescent lamps

! WARNING

- To protect the service staff from injury and to prevent damage to the electrical circuitry of the machine, always turn off the power switch before conducting the described task.

! CAUTION

- The fluorescent lamps become very hot. Exercise caution when removing them.
- Since removal of the fluorescent lamps must be performed at a height, prepare a step ladder or platform to stand on. Performing the task in an awkward position can result in injury or machine damage.

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)

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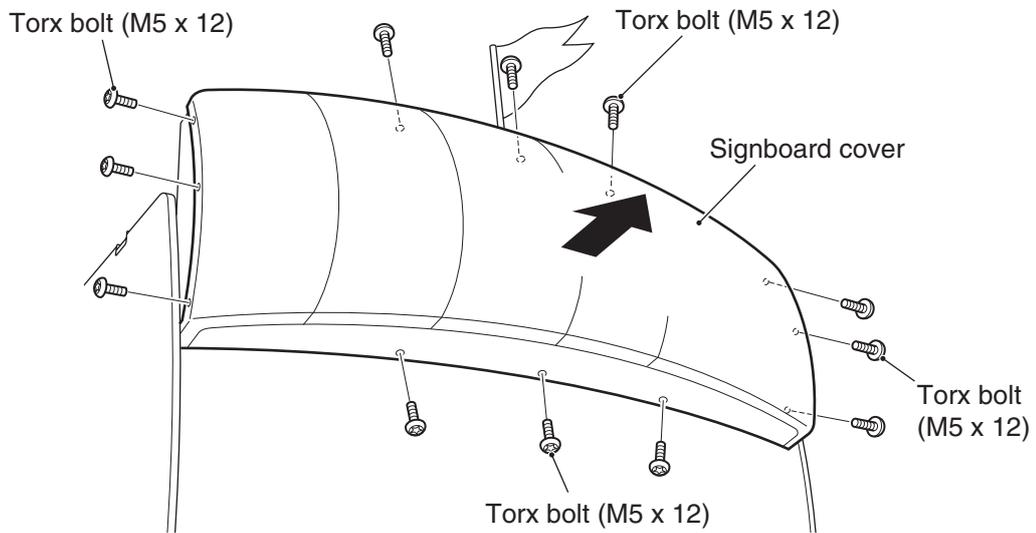
11

Removing and installing Assys and parts

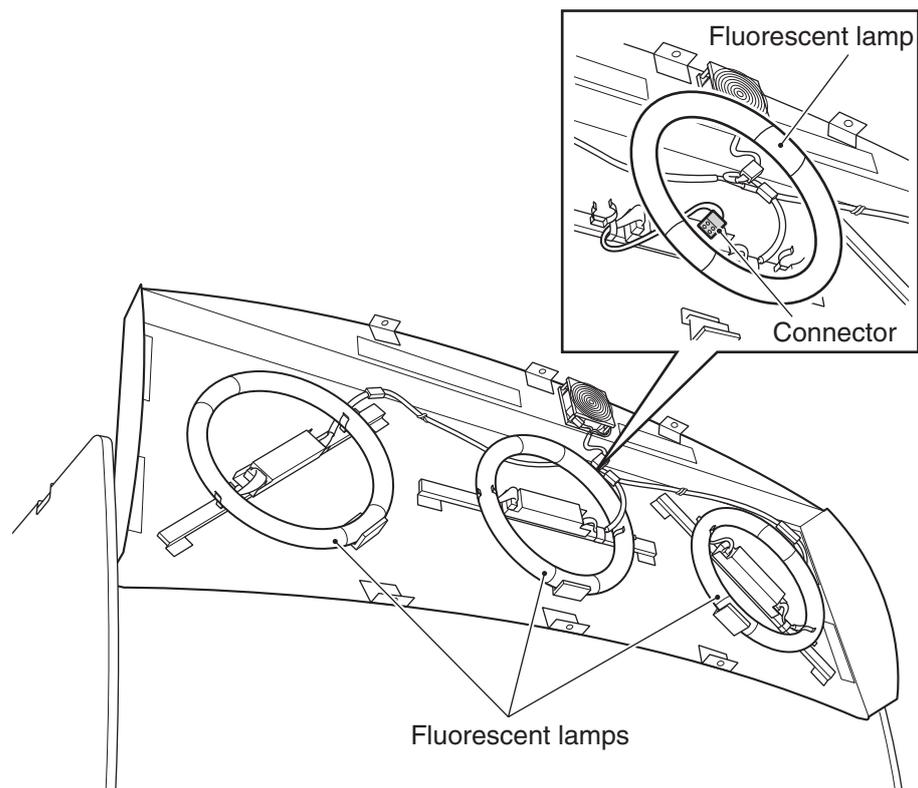
Test mode

Troubleshooting

- 2 Remove the 12 Torx bolts (M5 x 12) and dismount the signboard cover from the Signboard Assy.



- 3 Disconnect the connector from each fluorescent lamp and replace the fluorescent lamps (Type 32W).



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

8B-5 LCD monitor adjustment

WARNING

- To adjust the LCD monitor, the power switch must be turned on. To avoid electric shock, do not touch the connector of the monitor adjustment switches.

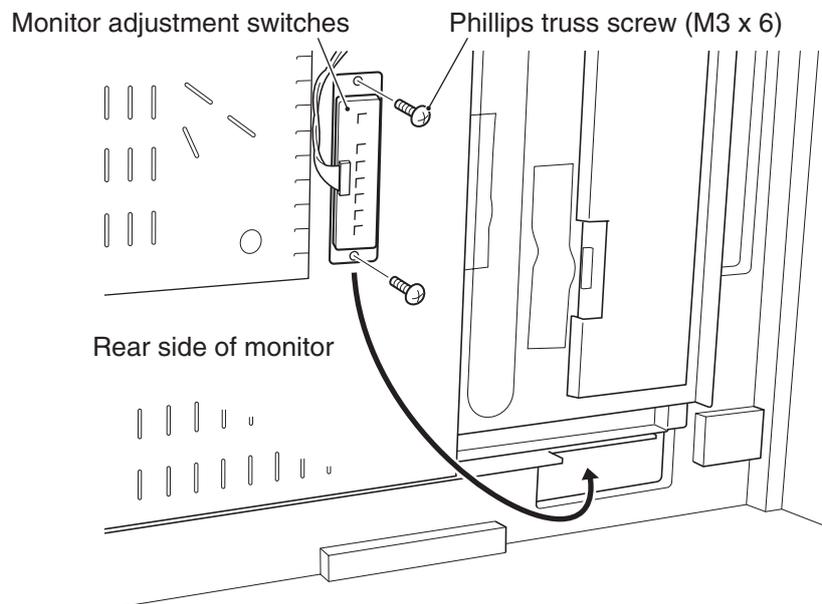
NOTICE

- The LCD monitor is adjusted to optimum condition at the factory. Therefore, it does not normally require adjustment.

8B-5-1 Removing and installing the monitor adjustment switches

The monitor adjustment switches are located on the rear side of the monitor. To make adjustments, it is necessary to pull out the monitor adjustment switches to a position where you can operate the switches while viewing the displayed image.

- 1** Turn off the power switch. (See P. 101 “8A-1-6 Power switch location and turning on the switch.”)
- 2** Remove the monitor mask and rear cover. (See P. 146 “8B-4-1 (11) Replacing the LCD monitor.”)
- 3** Remove the two Phillips truss screws (M3 x 6) and dismount the monitor adjustment switches.



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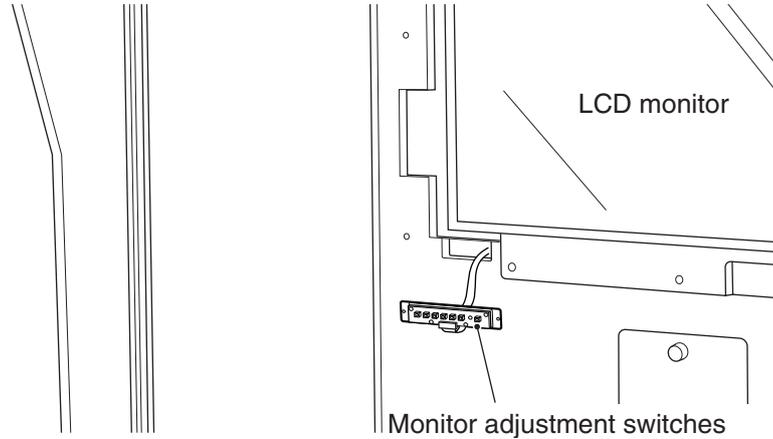
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LCD monitor adjustment

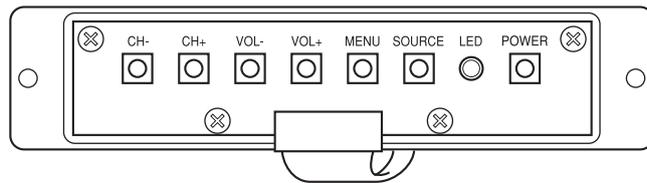
Test mode

Troubleshooting

- 4** Run the monitor adjustment switches through the cut-out section at the bottom of the monitor toward the front of the machine.



- 5** Turn on the power switch and adjust the LCD monitor. (See P. 205 “8B-5-2 Adjusting the LCD monitor image quality” and P. 206 “8B-5-3 Adjusting the LCD monitor settings.”)



OSD Key	Function (normal screen)	Function (OSD screen) ^{*2}	Function (adjustment screen ^{*3})
(a) CH- button	Disabled	Select an item.	Disabled
(b) CH+ button	Disabled	Disabled	Disabled
(c) VOL- button	Disabled	Enter an item.	Change the numeric setting.
(d) VOL+ button	Disabled	Disabled	Change the numeric setting.
(e) Menu button	Displays the OSD screen ^{*2} .	Ends the OSD screen ^{*2} .	Returns to the previous item.
(f) Source button	Switches signals between VGA and DVI. (Not used)	Switches signals between VGA and DVI. (Not used)	Switches signals between VGA and DVI. (Not used)
(g) LED	Blue: Power ON Orange Power OFF	Blue: Power ON Orange Power OFF	Blue: Power ON Orange Power OFF
(h) Power switch	Turns the monitor ON/OFF (Not used)	Turns the monitor ON/OFF (Not used)	Turns the monitor ON/OFF (Not used)

*1 The machine is set for DVI signals. If the button is pressed accidentally and no image is displayed on the monitor, press the button again to return to the previous condition.

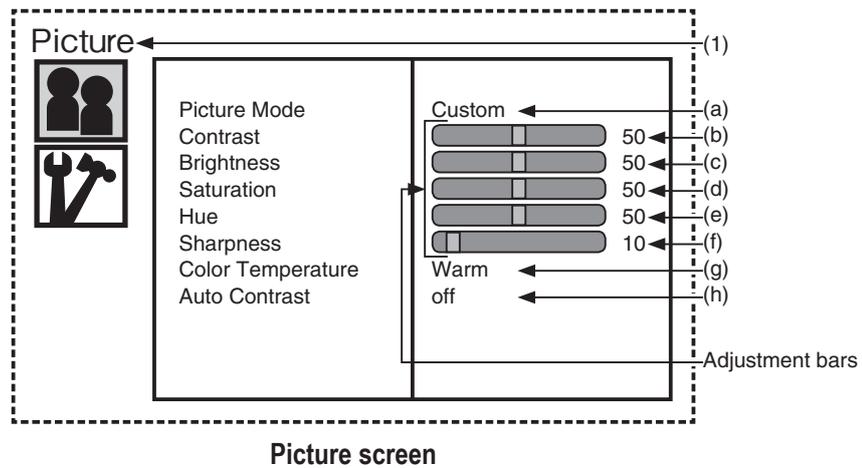
*2 The OSD screen refers to the screen that is used to enter image quality settings and others. (See P. 205 “8B-5-2 Adjusting the LCD monitor image quality” and P. 206 “Adjusting the LCD monitor settings.”)

*3 Screen that displays enlarged adjustment bars or other items.

- 6** After the adjustment, turn off the power switch and reinstall the monitor adjustment switches by following steps **2** to **4** in reverse.

8B-5-2 Adjusting the LCD monitor image quality

- 1** Move the monitor adjustment switches to a position where you can operate the switches while viewing the displayed image. (See P. 203 “8B-5-1 Removing and installing the monitor adjustment switches.”)
- 2** Turn on the power switch of the machine (cabinet). If the power switch of the LCD monitor is in the OFF position, turn it on. (See P. 204 “8B-5-1 Removing and installing the monitor adjustment switches” **5**.)
- 3** Press the Menu button to display the OSD screen.



Item	Function	Default setting
(1) Picture	Adjustment of image quality	
(a) Picture Mode	Image quality mode [Custom]	Custom
(b) Contrast	Adjustment of contrast [0 to 100]	50
(c) Brightness	Adjustment of brightness [0 to 100]	50
(d) Saturation	Color saturation adjustment [0 to 100]	50
(e) Hue	Adjustment of hue [0 to 100]	50
(f) Sharpness	Adjustment of color sharpness [0 to 100]	10
(g) Color Temperature	Setting of color temperature [Custom, Cool, Standard, Warm]	Warm
(h) Auto Contrast	Automatic adjustment of contrast [Off, On]	off

- 4** Press the VOL+ button and select “Picture.”
- 5** Press the CH– or CH+ button to select an item to be adjusted, and press the VOL+ button.
- 6** Press the VOL– or VOL+ button to change the setting.
* The displayed settings are active.
- 7** After the adjustment, press the Menu button to close OSD screen.
- 8** Turn off the power switch of the machine (cabinet).
- 9** Reinstall the monitor adjustment switches to the original position. (See P. 203 “8B-5-1 Removing and installing the monitor adjustment switches.”)

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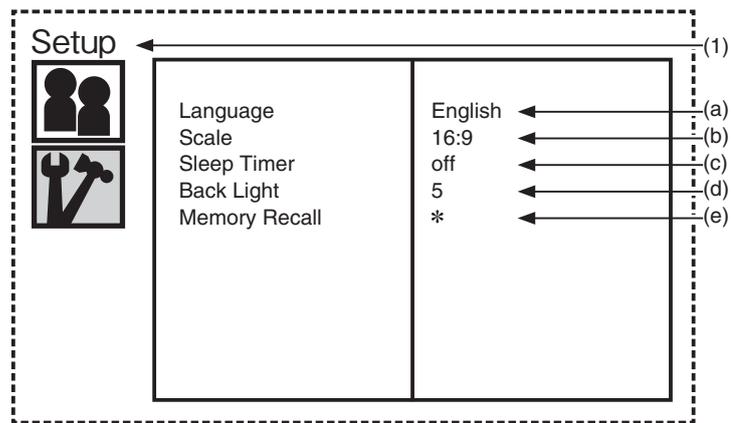
LCD monitor adjustment

Test mode

Troubleshooting

8B-5-3 Adjusting the LCD monitor settings

- 1** Move the monitor adjustment switches to a position where you can operate the switches while viewing the displayed image. (See P. 203 “8B-5-1 Removing and installing the monitor adjustment switches.”)
- 2** Turn on the power switch of the machine (cabinet). If the power switch of the LCD monitor is in the OFF position, turn it on. (See P. 204 “8B-5-1 Removing and installing the monitor adjustment switches” **5**.)
- 3** Press the Menu button to display the OSD screen.



Setup screen

Item	Function	Default setting
(1) Setup	Setting screen	
(a) Language	Setting of language [Chinese, Japanese, English, French, Dutch/German, Italian]	English
(b) Scale	Setting of aspect ratio [1:1, 4:3, 16:9]	16:9
(c) Sleep Timer	Setting of sleep timer (min) [Off, 30,60, 90, 120]	Off
(d) Back Light	Adjustment of backlight brightness [0 to 10]	5
(e) Memory Recall	Returns to default.	—

- 4** Press the CH– or CH+ button and select “Setup,” and then press the VOL+ button.
- 5** Press the CH– or CH+ button to select an item to be adjusted.
- 6** Press the VOL– or VOL+ button to change the setting.
* The displayed settings are active.
- 7** After the adjustment, press the Menu button to close OSD screen.
- 8** Turn off the power switch of the machine (cabinet).
- 9** Reinstall the monitor adjustment switches to the original position. (See P. 203 “8B-5-1 Removing and installing the monitor adjustment switches.”)

9. DISCARDING THE MACHINE

WARNING

- The machine must be collected, transported and discarded in accordance with applicable laws and regulations.
- When entrusting a third party to collect, transport and discard the machine, be sure to select specialist companies.
- The following component contains specially controlled industrial waste which must be collected, transported and discarded in special manners in accordance with the law. When discarding this component, please contact your distributor.
 - 55-inch LCD monitor (See P. 146 “8B-4-1 (11) Replacing the LCD monitor.”)
 - * In some cases, local ordinances also stipulate special methods of collecting, transporting and discarding specially controlled industrial waste.

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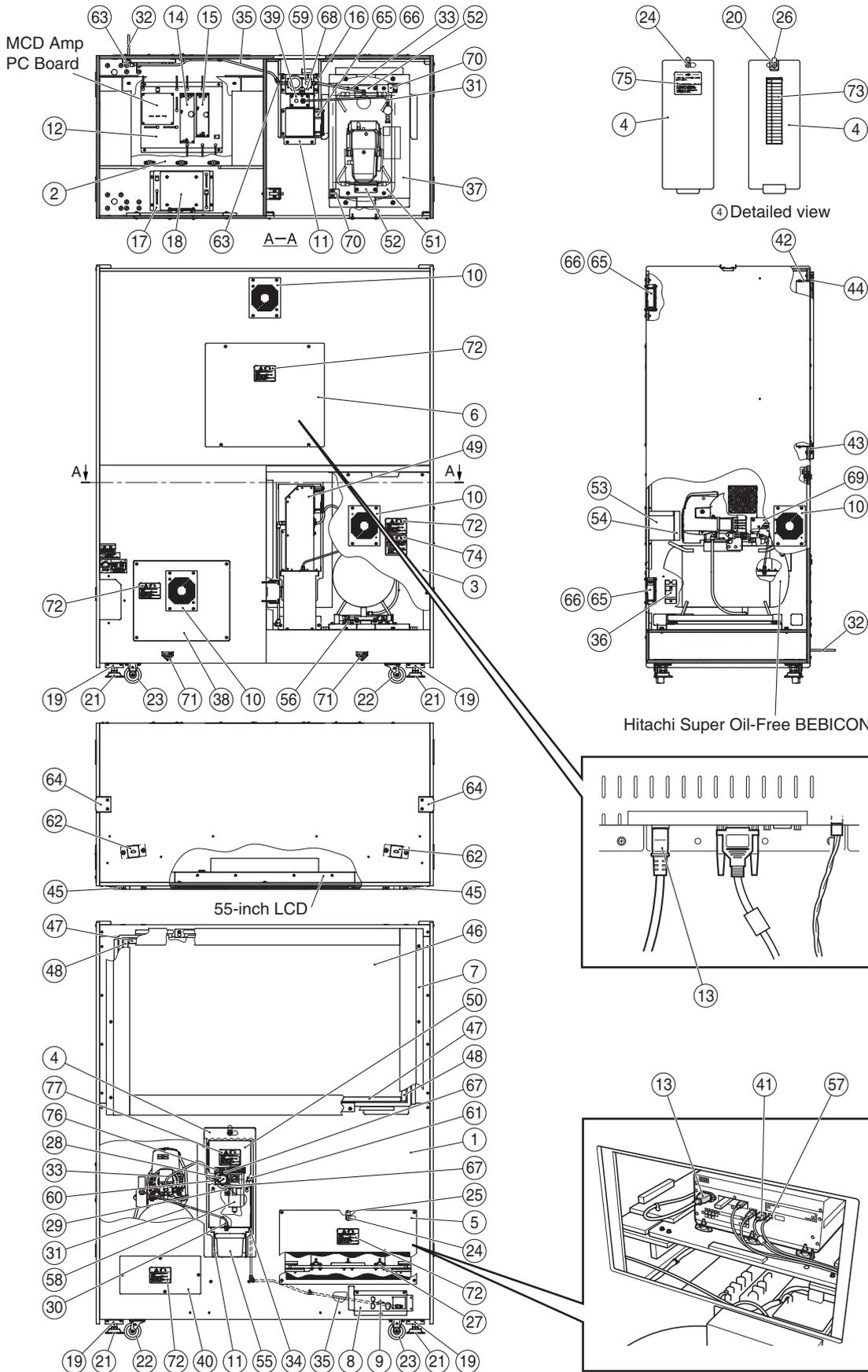
DISCARDING THE MACHINE

Test mode

Troubleshooting

10. PARTS LISTS

10-1-1 Monitor Assy (HITACHI compressor)



No.	Name	Qty.	Type and rating	Part No.
1	Monitor base	1		724-610
2	Rack base	1		724-611
3	Compressor compartment door	1		724-612
4	Filter compartment door	1		724-613
5	Rack door	1		724-614
6	Rear cover	1		724-615
7	Monitor mask	1		724-616
8	Connector box	1		724-617
9	USB cable	1	TPY-4006-010107	007-839
10	Fan plate	4		724-618
11	Catch case	1		724-619
12	Regulator base	1		724-620
13	AC connector VLR connector cable	2	AC-B-VLR03V-L500S	007-840
14	SW power supply unit, 100 W 12 V	1	ZWS100AF-12/J HFP	009-217
15	SW power supply unit, 50 W 5 V	1	ZWS50AF-5/J HFP	009-229
16	Filter bracket	1		724-621
17	Transformer bracket	1		724-622
18	Transformer	1	S171V499PV	004-704
19	Adjuster bracket	4		450-120
20	Key washer	3		450-124
21	Adjuster	4	D-A 16×100 Locking nut not necessary	102-208
22	Caster (swivel type)	2	420G-N75	102-027
23	Caster (stationary type)	2	420R-N75	102-176
24	Coin door lock	2	F750-DS8	101-175
25	Dual-purpose tongue	1	M7	101-229
26	Key plate	1		724-623
27	Round vibration-insulating rubber	6	KB-20	106-181
28	General-purpose pressure gauge	1	G49D-8-P10	004-706
29	T-shape bracket set	1	B310	004-707
30	Pneumatic joint (bulkhead)	1	GWS6-0-X	004-686
31	Soft nylon tube	1	F=1506 L=600	004-708
32	Soft nylon tube	1	F-1508 L=150	004-709
33	Soft nylon tube	1	F-1508 L=350	004-710
34	Soft nylon tube	1	F-1508 L=450	004-675
35	Soft nylon tube	1	F-1508 L=700	004-711
36	Earth leakage breaker	1		000-761
37	Compressor base	1		724-624
38	Transformer compartment door	1		724-625
39	Bulkhead plate	1		724-626
40	Compressor maintenance hatch	1		724-627
41	HDMI-DVI conversion cable	1	HDMI-DVI-A-L2000C	007-704

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PARTS LISTS

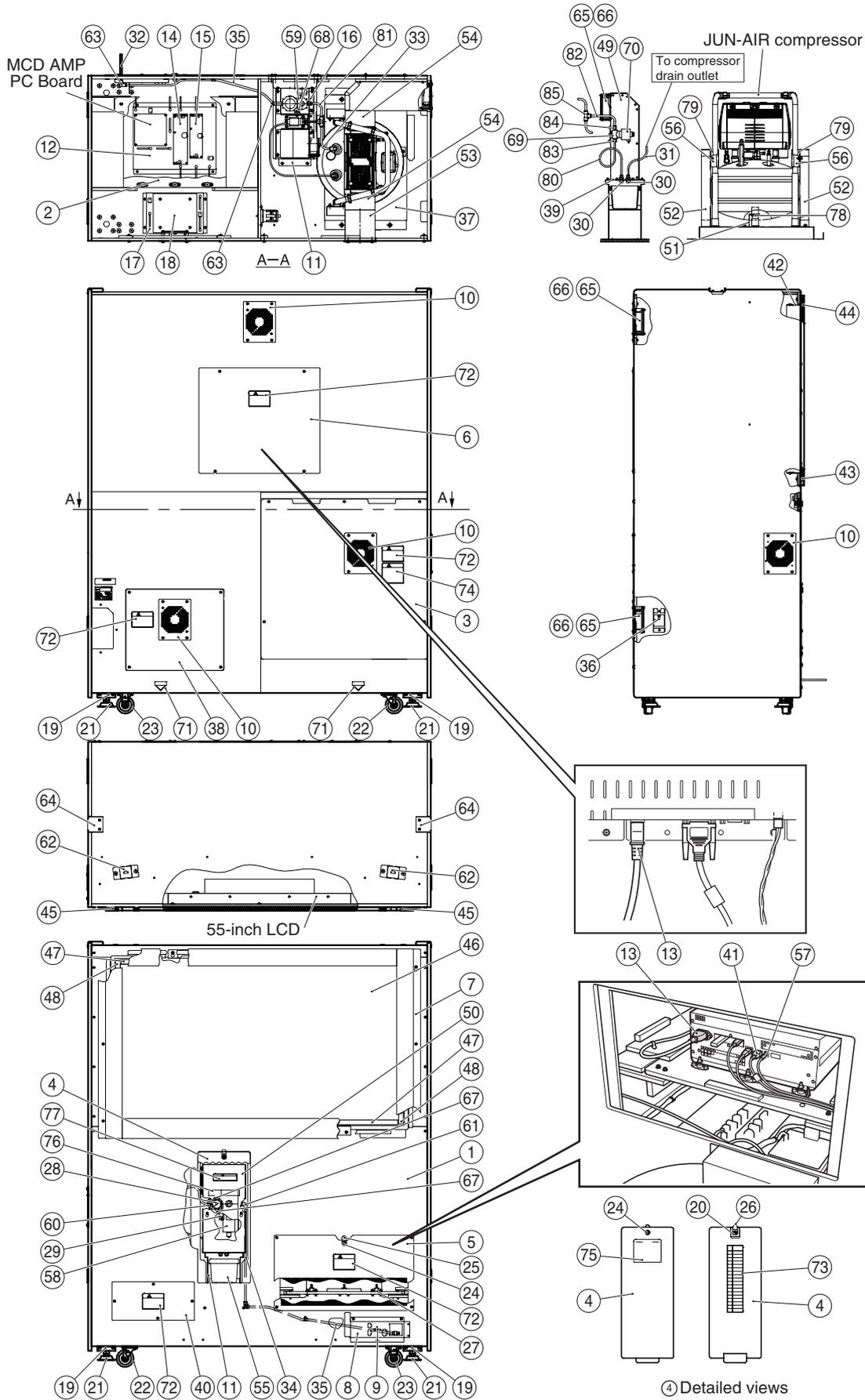
Test mode

Troubleshooting

10. PARTS LISTS

No.	Name	Qty.	Type and rating	Part No.
42	Monitor bracket U	1		724-628
43	Monitor bracket L	1		724-629
44	Panel bracket U	1		724-630
45	Panel bracket, side	2		724-631
46	Monitor panel	1		724-632
47	Monitor panel cushion A	2		724-633
48	Monitor panel cushion B	2		724-634
49	Fan tower	1		724-635
50	Filter regulator cover	1		724-636
51	Compressor tray	1		724-637
52	Compressor holder A	2		724-638
53	Duct A	1		724-639
54	Dust sponge	1		724-640
55	Drain case	1		718-446
56	Vibration-insulating rubber	4	S-shape mount, type D, RS5015 A2	106-205
57	TOSLINK cable	1	TOSLINK-A-L1000	007-805
58	Filter regulator	1	W3000-8-W-F1	004-669
59	Distributor	1	D300-8-W	004-712
60	Pneumatic joint (single-ended straight)	1	GWS8-8	004-684
61	Pneumatic joint (long elbow)	1	GWL8-8-L	004-713
62	Connector bracket	2		724-641
63	Pneumatic joint (elbow)	2	GWL8-0	004-671
64	Rope hook (D)	2		450-139
65	Fan motor	3	UT120CH	005-429
66	Fan guard	3	8130-TR	005-413
67	Pipe plug	2	4G4-10P	004-715
68	Pipe plug	1	4G3-08P	004-714
69	Valve bracket	1		724-642
70	Compressor stopper	2		724-643
71	Fork position sticker	2		229-441
72	Warning sticker Maintenance (B) EXP	5		461-539
73	Checksheet sticker	1		723-811
74	Warning sticker Compressor (EXP)	1		461-655
75	Compressor sticker V371 (EXP)	1		724-684
76	Pressure sticker	1		724-645
77	Warning sticker Maintenance (S2) EXP	1		461-687

10-1-2 Monitor Assy (JUN-AIR compressor)



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PARTS LISTS

Test mode

Troubleshooting

10. PARTS LISTS

No.	Name	Qty.	Type and rating	Part No.
1	Monitor base	1		724-610
2	Rack base	1		724-611
3	Compressor compartment door	1		724-612
4	Filter compartment door	1		724-613
5	Rack door	1		724-614
6	Rear cover	1		724-615
7	Monitor mask	1		724-616
8	Connector box	1		724-617
9	USB cable	1	TPY-4006-010107	007-839
10	Fan plate	4		724-618
11	Catch case	1		724-619
12	Regulator base	1		724-620
13	AC connector VLR connector cable	2	AC-B-VLR03V-L500S	007-840
14	SW power supply unit, 100 W 12 V	1	ZWS100AF-12/J HFP	009-217
15	SW power supply unit, 50 W 5 V	1	ZWS50AF-5/J HFP	009-229
16	Filter bracket	1		724-621
17	Transformer bracket	1		724-622
18	Transformer	1	S171V499PV	004-704
19	Adjuster bracket	4		450-120
20	Key washer	3		450-124
21	Adjuster	4	D-A 16×100 Locking nut not necessary	102-208
22	Caster (swivel type)	2	420G-N75	102-027
23	Caster (stationary type)	2	420R-N75	102-176
24	Coin door lock	2	F750-DS8	101-175
25	Dual-purpose tongue	1	M7	101-229
26	Key plate	1		724-623
27	Round vibration-insulating rubber	6	KB-20	106-181
28	General-purpose pressure gauge	1	G49D-8-P10	004-706
29	T-shape bracket set	1	B310	004-707
30	Pneumatic joint (bulkhead)	1	GWS6-0-X	004-686
31	Soft nylon tube	1	F=1506 L=600	004-708
32	Soft nylon tube	1	F-1508 L=150	004-709
33	Soft nylon tube	1	F-1508 L=350	004-710
34	Soft nylon tube	1	F-1508 L=450	004-675
35	Soft nylon tube	1	F-1508 L=700	004-711
36	Earth leakage breaker	1		000-761
37	Compressor base EXP	1		724-624
38	Transformer compartment door	1		724-625
39	Bulkhead plate	1		724-626
40	Compressor maintenance hatch	1		724-627
41	HDMI-DVI conversion cable	1	HDMI-DVI-A-L2000C	007-704

No.	Name	Qty.	Type and rating	Part No.
42	Monitor bracket U	1		724-628
43	Monitor bracket L	1		724-629
44	Panel bracket U	1		724-630
45	Panel bracket, side	2		724-631
46	Monitor panel	1		724-632
47	Monitor panel cushion A	2		724-633
48	Monitor panel cushion B	2		724-634
49	Fan tower	1		724-635
50	Filter regulator cover	1		724-636
51	Compressor bracket A	1		724-647
52	Compressor bracket B	2		724-648
53	Duct B	1		724-682
54	Duct sponge EXP	1		724-683
55	Drain case	1		718-446
56	Compressor holder B	2		724-649
57	TOSLINK cable	1	TOSLINK-A-L1000	007-805
58	Filter regulator	1	W3000-8-W-F1	004-669
59	Distributor	1	D300-8-W	004-712
60	Pneumatic joint (single-ended straight)	1	GWS8-8	004-684
61	Pneumatic joint (long elbow)	1	GWL8-8-L	004-713
62	Connector bracket	2		724-641
63	Pneumatic joint (elbow)	2	GWL8-0	004-671
64	Rope hook (D)	2		450-139
65	Fan motor	3	UT120CH	005-429
66	Fan guard	3	8130-TR	005-413
67	Pipe plug	2	4G4-10P	004-715
68	Pipe plug	1	4G3-08P	004-714
69	Valve bracket	1		724-642
70	Direct-acting 2-port solenoid valve	1		004-698
71	Fork position sticker	2		229-441
72	Warning sticker Maintenance (B) EXP	5		461-539
73	Checksheet sticker	1		723-811
74	Warning sticker Compressor (EXP)	1		461-655
75	Compressor sticker V371 (EXP)	1		724-684
76	Pressure sticker	1		724-645
77	Warning sticker Maintenance (S2) EXP	1		461-687
78	Compressor holder rubber A	1		724-669
79	Compressor holder rubber B	2		724-679
80	Soft nylon tube	1	F=1506 L=400	004-741
81	Soft nylon tube	1	F=1508 L=150	004-742
82	Soft nylon tube	1	F=1508 L=400	004-743
83	Pneumatic joint (single-ended straight)	1	GWS6-8	004-677
84	Pneumatic joint (single-ended straight)	1	GWS8-8	004-684
85	Pneumatic joint (cheese type)	1	GWT8-0	004-670

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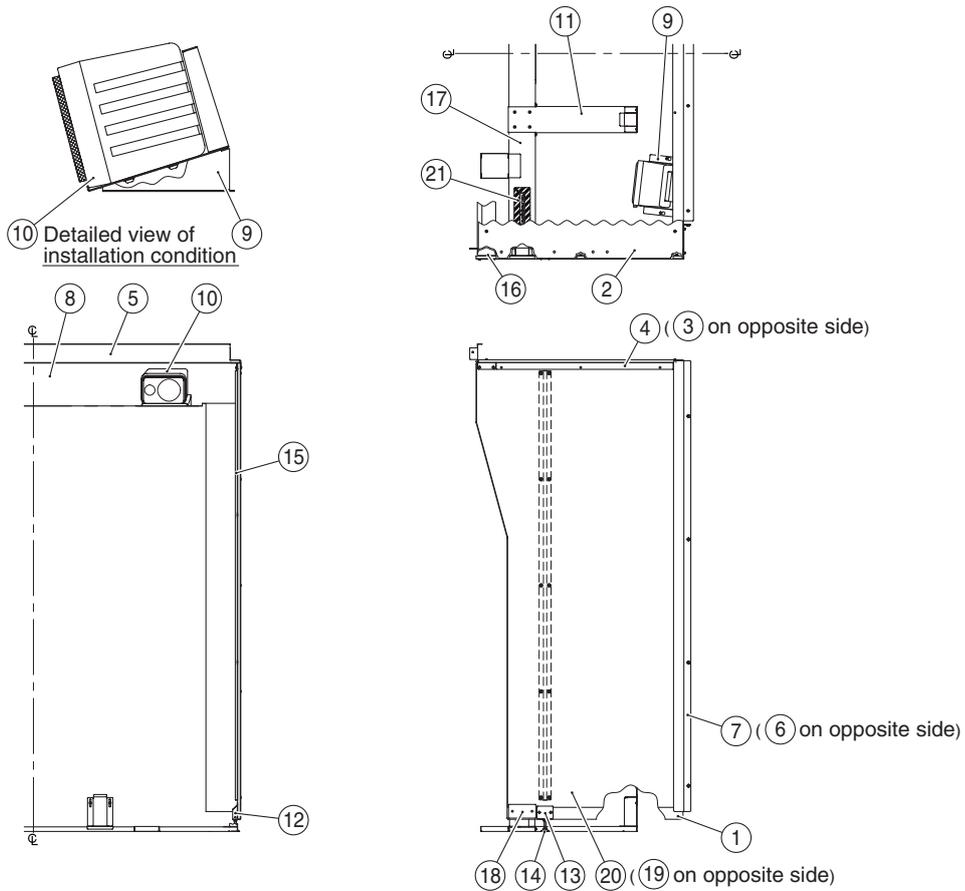
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PARTS LISTS

Test mode

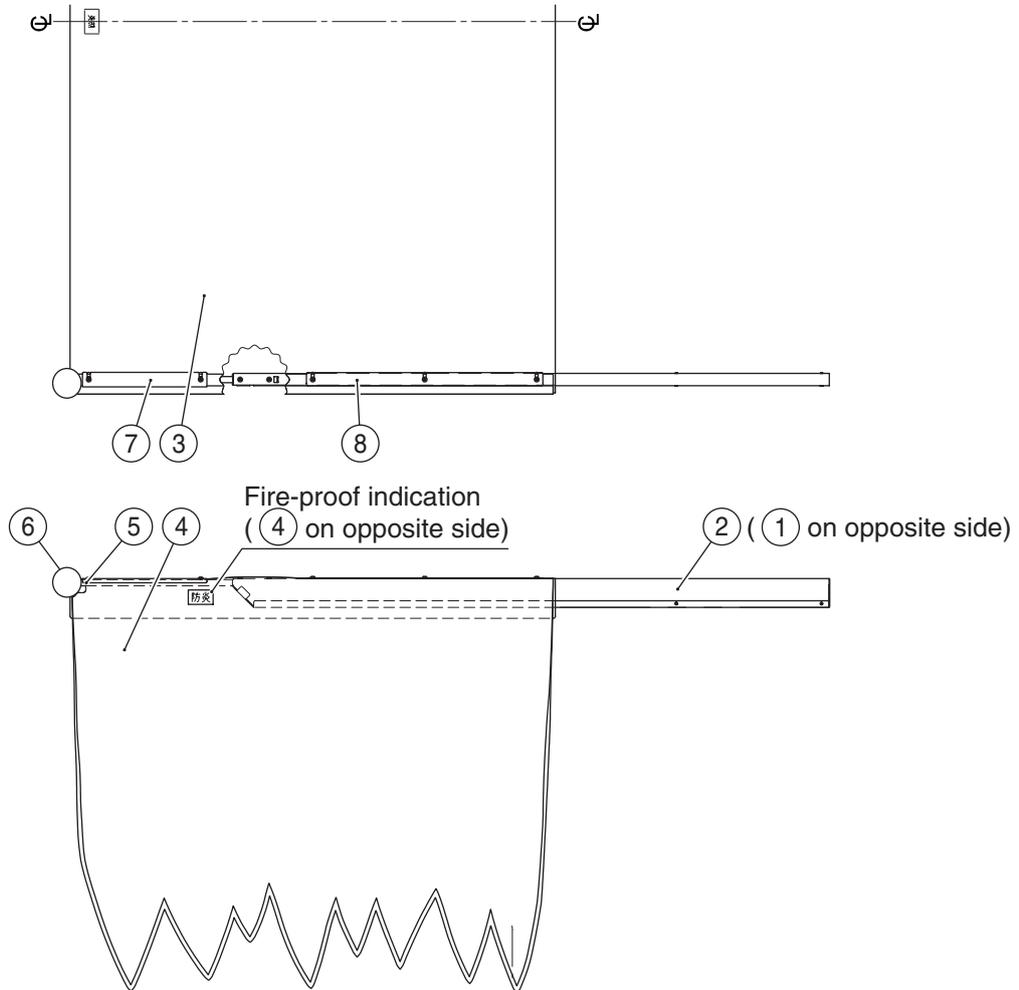
Troubleshooting

10-2 Wall Assy



No.	Name	Qty.	Type and rating	Part No.
1	Side wall	2		724-650
2	Roof	1		724-651
3	Side reinforcement L	1		724-652
4	Side reinforcement R	1		724-653
5	Roof reinforcement	1		724-654
6	Wall bracket L	1		724-655
7	Wall bracket R	1		724-656
8	Upper cover	1		724-657
9	Speaker base	2		724-658
10	Speaker	2	S01010D0	006-182
11	Ride stopper	2		724-659
12	Adjuster bracket W	2		724-660
13	Adjuster plate	2		724-661
14	Adjuster	2	D-F 8x50, Locking nut not necessary	102-256
15	Side wall reinforcement	2		724-665
16	Reinforcement plate	2		724-666
17	Wall bar	1		724-667
18	Wall bar plate	2		724-668
19	Wall sticker (L)	1		724-663
20	Wall sticker (R)	1		724-664
21	Caution sticker Do not enter EXP	2		461-686

10-3 Curtain Assy

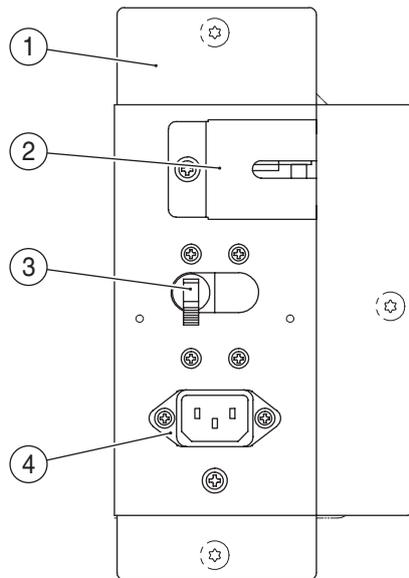
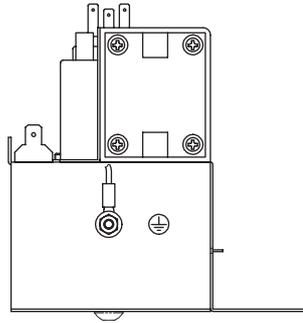


No.	Name	Qty.	Type and rating	Part No.
1	Curtain pipe L	1		724-670
2	Curtain pipe R	1		724-671
3	Ceiling curtain	1	Fire-proof	724-672
4	Side curtain EXP	2	Fire-proof	724-685
5	Pipe extension	2		724-674
6	Pipe cap	2		724-675
7	Curtain retainer A	2		724-676
8	Curtain retainer B	2		724-677

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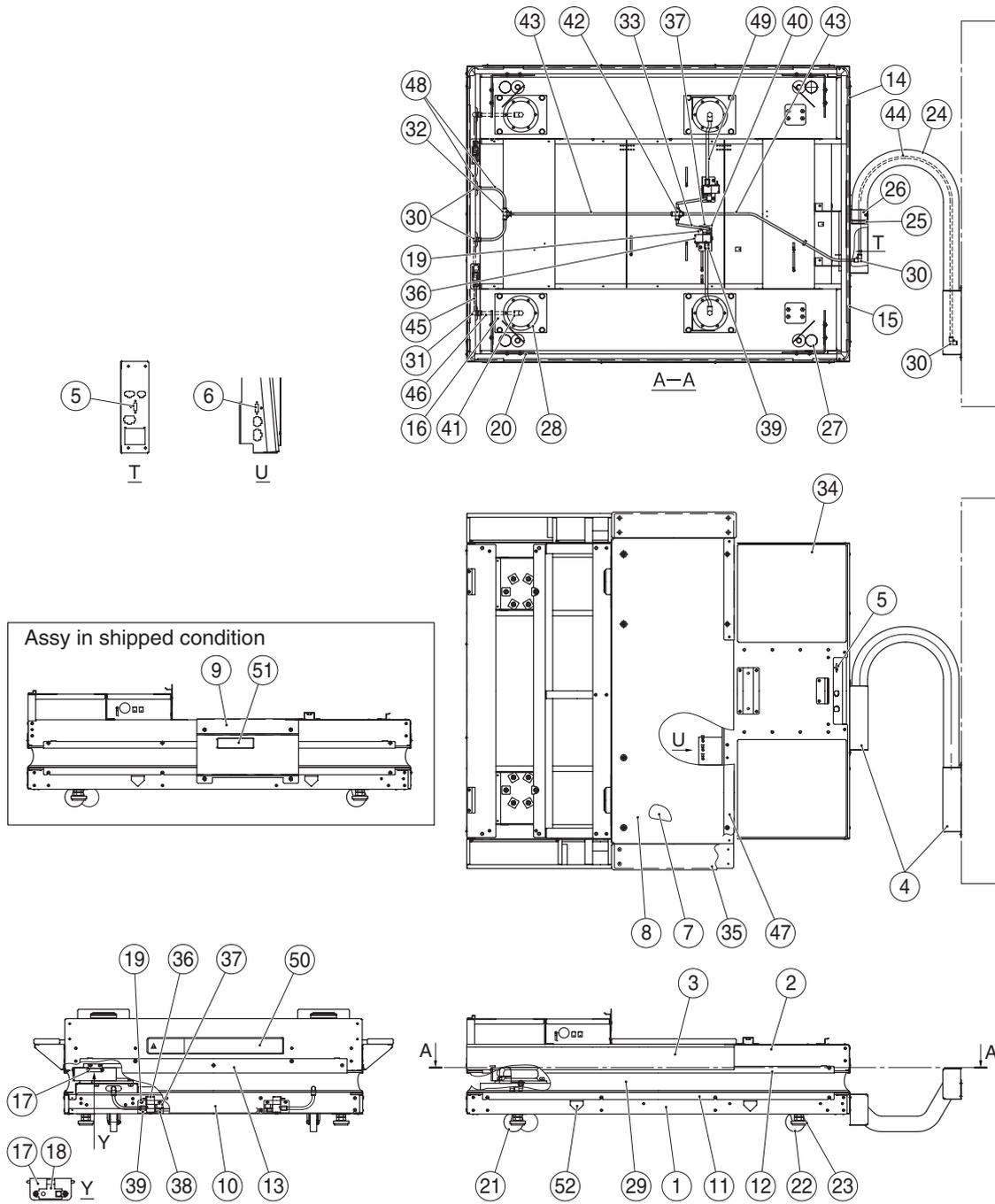
- Test mode
- Troubleshooting

10-4 Cord Box Assy



No.	Name	Qty.	Type and rating	Part No.
1	Cord box	1		724-680
2	LAN cover	1		724-681
3	Circuit protector (circuit breaker)	1	110-VAC specification: ICP30-L-11-608-15-Z811 220-VAC specification: ICP30-L-11-608-7.5-Z811	000-759 000-760
4	Noise filter	1	15GEEG3E-R	007-184

10-5 Base Assy



No.	Name	Qty.	Type and rating	Part No.
1	Lower base	1		724-690
2	Upper base	1		724-691
3	Step rib	2		724-692
4	Joint box	2		724-693
5	USB cable	2	TPY4001-010207	007-842
6	USB cable	1	TPY4005-010107	007-843
7	Step plate	1		724-694
8	Step sheet	1		724-695
9	Base clamp	2		724-696
10	Bellows clamp A	1		724-698

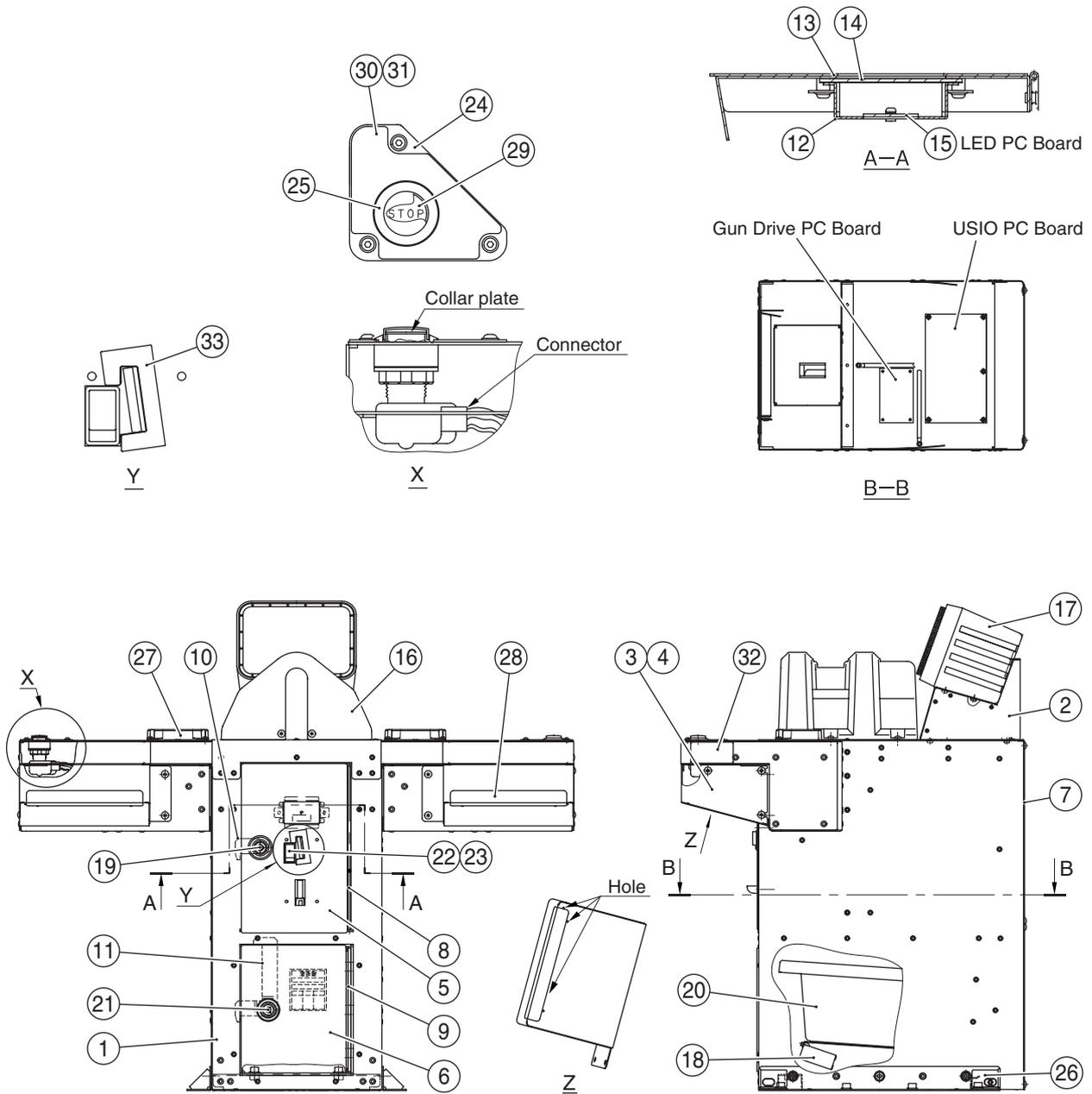
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PARTS LISTS

Test mode
Troubleshooting

10. PARTS LISTS

No.	Name	Qty.	Type and rating	Part No.
11	Bellows clamp B	2		724-699
12	Bellows clamp C	2		724-700
13	Bellows clamp D	2		724-701
14	Bellows clamp E	1		724-702
15	Bellows clamp F	1		724-703
16	Air spring base	4		724-704
17	Sensor bracket	4		724-705
18	Distance sensor	4	GP2Y0A41SK0F	000-762
19	Valve bracket	4		724-706
20	Rubber plate	8		724-707
21	Caster (swivel type)	2	420S-N75	102-013
22	Caster (stationary type)	2	420SR-N75	102-025
23	Adjustment bolt	4	D-B III 2080-Class 3	102-180
24	NEOFLEX. MAS-standard VFM flexible tube	1	VFM-54 L=1100mm	004-716
25	NEOFLEX, MAS-standard MAS insert	2	MAS-54	004-717
26	NEOFLEX, MAS-standard VFM saddle	2	SD-54	004-718
27	Rubber stopper	4	RI-45	106-076
28	Bellows-type air spring	4	PSB-1-100	105-192
29	Bellows	1	1473*1146*MAX145MIN85	724-708
30	Pneumatic joint (elbow)	4	GWL8-0	004-720
31	Pneumatic joint (elbow)	2	GWL10-0	004-721
32	Pneumatic joint (cheese)	1	GWT8-0	004-670
33	Soft nylon tube	2	F-1508 L=300	004-696
34	Base front sheet	2		724-709
35	Step	2		724-710
36	SELEX valve (pilot operated valve)	4	3PA210-06-S-4	004-723
37	Silencer with resin body	4	SLW-6A	004-724
38	Pneumatic joint (single-ended straight)	2	GWS8-6	004-684
39	Pneumatic joint (single-ended straight)	4	GWS10-6	004-725
40	Pneumatic joint (single-ended elbow)	2	GWL8-6	004-726
41	Pneumatic joint (single-ended elbow)	4	GWL10-8	004-727
42	Pneumatic joint (cross type)	1	GWCR8-0	004-728
43	Soft nylon tube	2	F-1508 L=750	004-729
44	Soft nylon tube	1	F-1508 L=1400	004-730
45	Soft nylon tube	2	F-1510 L=150	004-731
46	Soft nylon tube	2	F-1510 L=175	004-732
47	Step front edge cover	2		724-678
48	Soft nylon tube	4	F-1508 L=160	004-734
49	Soft nylon tube	2	F-1510 L=280	004-735
50	Caution sticker Do not touch C (EXP)	1		461-688
51	Base clamp sticker	2		724-697
52	Fork position sticker	4		229-441

10-6 Control Assy



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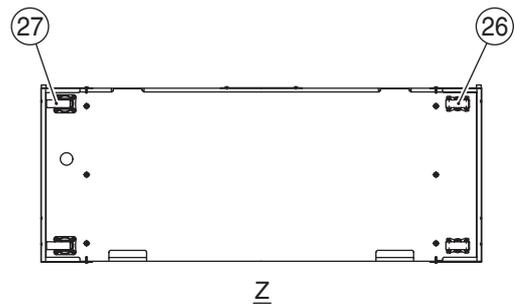
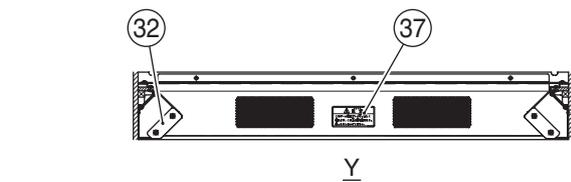
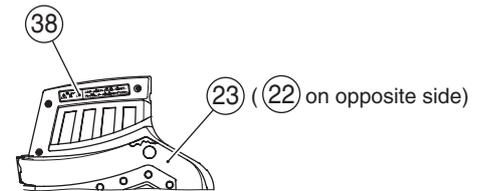
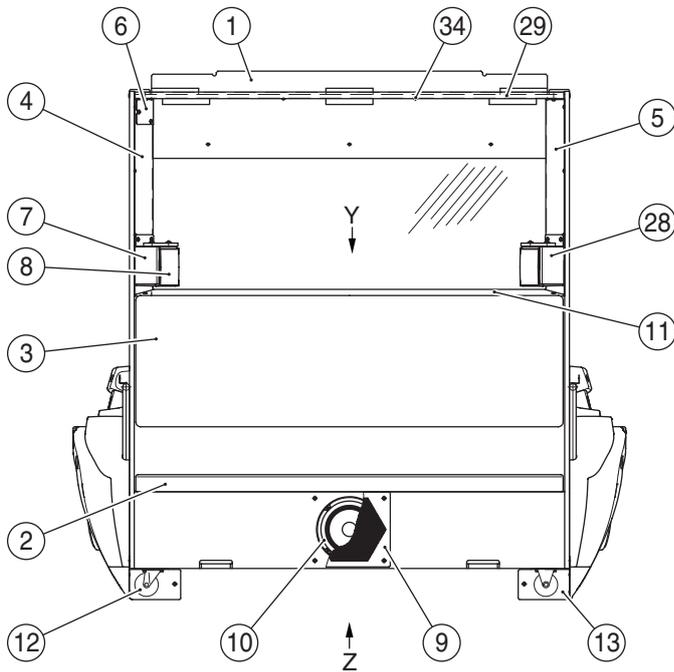
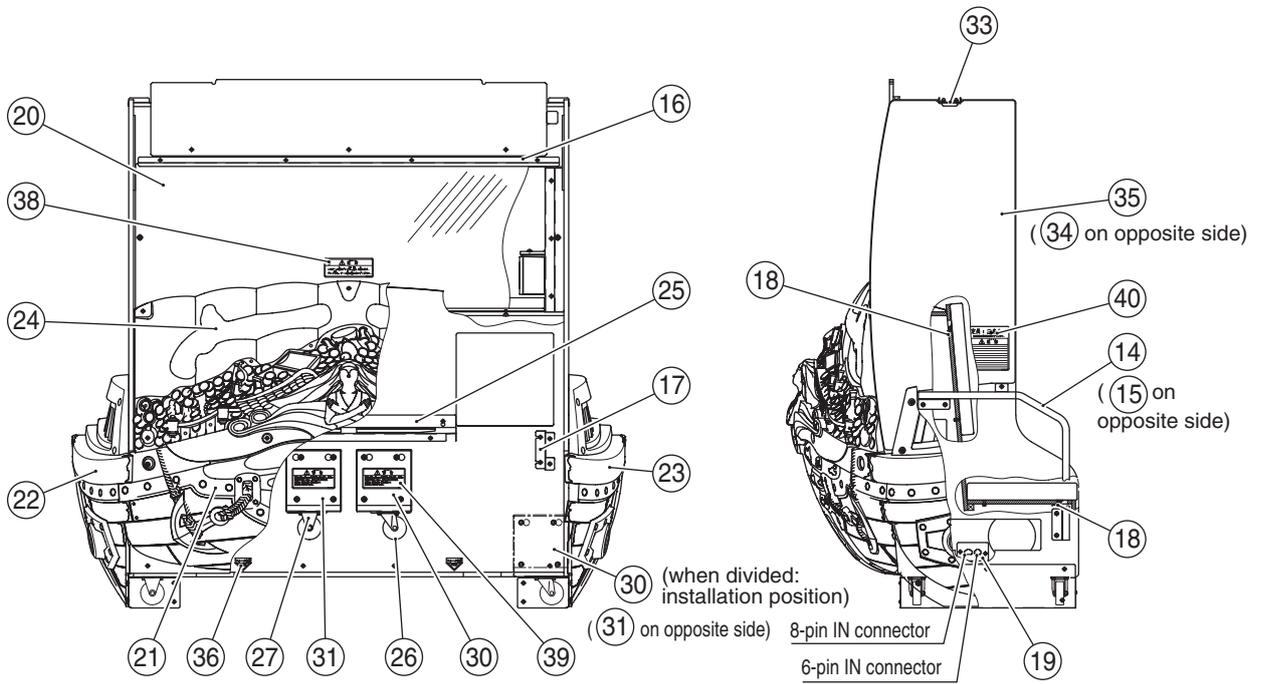
PARTS LISTS

Test mode
Troubleshooting

10. PARTS LISTS

No.	Name	Qty.	Type and rating	Part No.
1	Control panel	1		724-711
2	Speaker base	1		724-712
3	Gun undercover L	1		724-713
4	Gun undercover R	1		724-714
5	Service door	1		724-715
6	Coin box door	1		724-716
7	Control Assy door	1		724-717
8	Service door hinge	1		724-718
9	Coin box door hinge	1		724-719
10	Service door tag	1		724-720
11	Coin box door tag	1		724-721
12	Coin LED base	1		724-722
13	Coin LED plate	1		724-723
14	Game fee sheet C	1		724-686
15	LED PC Board	1		306-413
16	Darin cover	1		724-726
17	Speaker	1	S01010D0	006-182
18	Coin counter	1		003-055
19	Coin lock	1	F750-DS8	101-175
20	Coin box (K)	1		461-040
21	Cam lock	1	N92-L10	101-142
22	Front plate	1	CASHFLOW MINI F/PLATE	100-392
23	Coin selector	1	CF340 HK MicroR 1Player	100-397
24	Switch bracket	2		724-727
25	Illuminated button switch	2	OBSAX-C30UMW1-FLW3	000-763
26	Control panel bracket	2		724-728
27	Coin tray	2		724-729
28	Undercover sticker	2		724-725
29	Stop button sticker	2		724-730
30	Stop panel sticker (EXP) L	1		724-687
31	Stop panel sticker (EXP) R	1		724-688
32	Stop panel side sticker (EXP)	2		724-689
33	Slot sticker	1		724-734

10-7 Seat Assy



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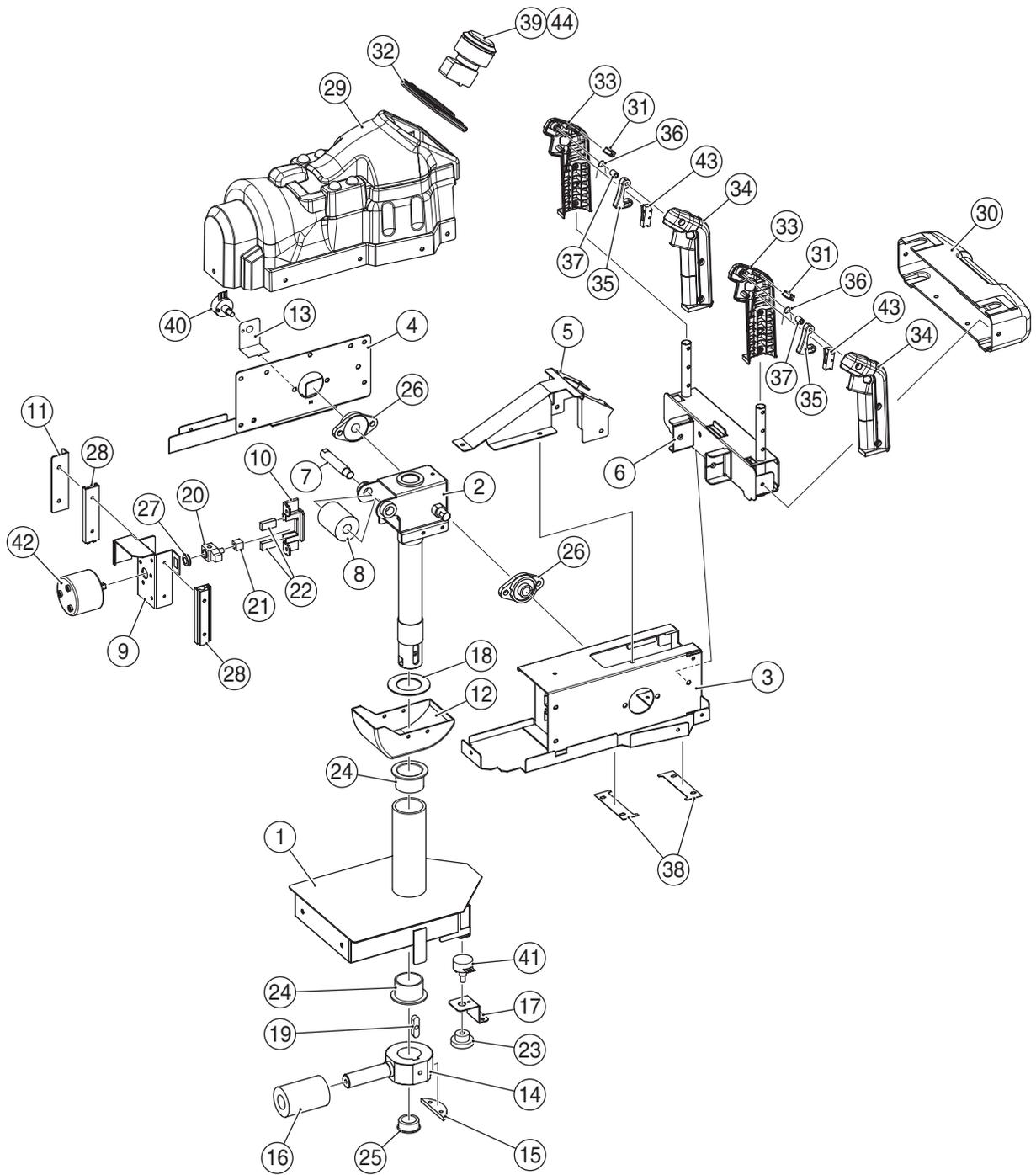
PARTS LISTS

Test mode
Troubleshooting

10. PARTS LISTS

No.	Name	Qty.	Type and rating	Part No.
1	Seat cabinet	1		724-740
2	Seat cushion	1		724-741
3	Backrest	1		724-742
4	Seat pillar R	1		724-743
5	Seat pillar L	1		724-744
6	Connector cover	1		724-745
7	Seat speaker bracket (R)	1		724-746
8	Seat speaker	2	TPS-345	006-174
9	Speaker cover	1		724-747
10	Woofers speaker	1	FAD205GA2713	006-153
11	Woofers cover	1		724-748
12	Seat base cover R	1		724-749
13	Seat base cover L	1		724-750
14	Grip pipe R	1		724-751
15	Grip pipe L	1		724-752
16	Blind holder	1		724-753
17	Seat cover bracket (R) (B)	2		724-754
18	Seat hook	6		724-755
19	Connector holder	1		724-756
20	Blind plate	1		724-757
21	Rear body	1		724-758
22	Side body L	1		724-759
23	Side body R	1		724-760
24	Treasure cover	1		724-761
25	Seat cover bracket (C)	1		724-764
26	Caster (stationary type)	3	420R-N75	102-176
27	Caster (swivel type)	3	420G-N75	102-027
28	Seat speaker bracket (L)	1		724-765
29	Roof molding	1		724-766
30	Caster base R	1		724-767
31	Caster base L	1		724-768
32	Speaker pad	2		724-769
33	Rope hook (D)	2		450-139
34	Seat sticker (L)	1		724-762
35	Seat sticker (R)	1		724-763
36	Fork position sticker	2		229-441
37	Caution sticker Do not place any item (EXP)	1		461-683
38	Caution sticker Do not touch B (EXP)	3		461-682
39	Warning sticker For transport (EXP)	2		461-684
40	Caution sticker Restriction DSP (EXP)	2		461-685

10-8 Gun Assy



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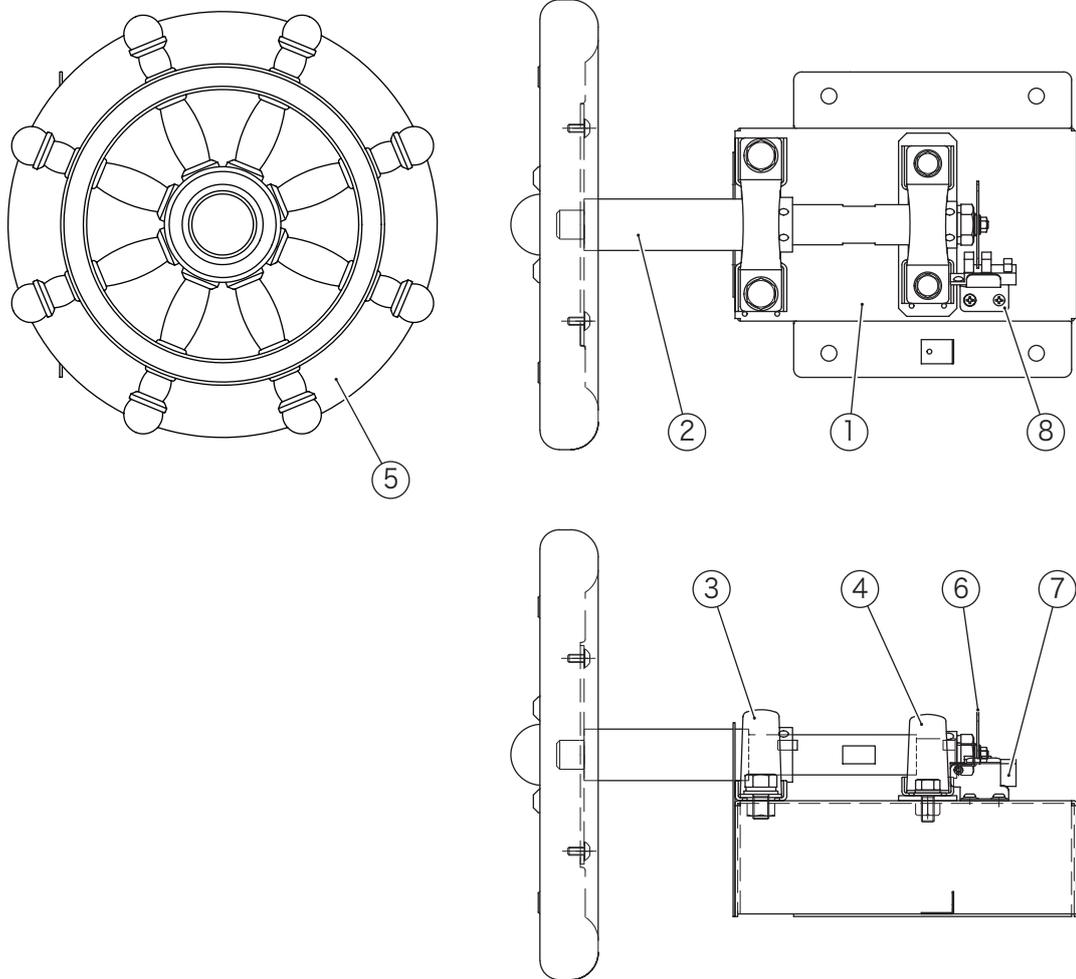
PARTS LISTS

Test mode
Troubleshooting

10. PARTS LISTS

No.	Name	Qty.	Type and rating	Part No.
1	Neck	1		724-770
2	Core shaft	1		724-771
3	Frame cover (2)	1		724-772
4	Frame cover (1)	1		724-773
5	Switch base	1		724-774
6	Grip	1		724-775
7	Stopper shaft	1		724-776
8	Stopper rubber (1)	1		724-777
9	Motor frame	1		724-778
10	Stopper frame	1		724-779
11	Slide bracket	1		724-780
12	Undercover	1		724-781
13	Potentiometer bracket (for up-down)	1		724-782
14	Pipe end	1		724-783
15	Gear	1		724-784
16	Stopper rubber (2)	1		724-785
17	Potentiometer bracket (for left-right)	1		724-786
18	Spacer	1		724-787
19	Key	1		724-788
20	Crank	1		723-238
21	Slider	1		723-239
22	Stopper rubber	2		723-240
23	Gear	1		724-789
24	Flange bushing	2	LFF-3220	255-634
25	One-touch bushing	1	NB-19	103-204
26	Rhomboidal pillow	2	KFL001	103-205
27	Miniature bearing	1	MF148ZZ	108-158
28	Slide rail	2	AR2-60 (ball: 2 x 10 pieces)	107-166
29	Gun cover	1		724-790
30	Grip cover	1		724-791
31	Button cover Hole blind	2		724-792
32	Switch bezel	1		724-793
33	Lever grip A	2		724-794
34	Lever grip B	2		724-795
35	Trigger	2	SN-07170	306-780
36	Trigger spring	2	SN-07171	306-781
37	Trigger spacer	2	SN-07177	306-730
38	Gap filling plate	2		724-796
39	Start button Button sticker	1		724-797
40	Potentiometer (for up-down)	1	EWSV7CF20E13	008-023
41	Potentiometer (for left-right)	1	EWSUGBF20E13	008-022
42	Vibration unit	1	RSR20/10-CAB0-BNG	004-705
43	Microswitch	2	D3M-01L1-3	000-673
44	Illuminated button switch	1	OBSAX-C45UMW1FLW3	000-765

10-9 Wheel Assy

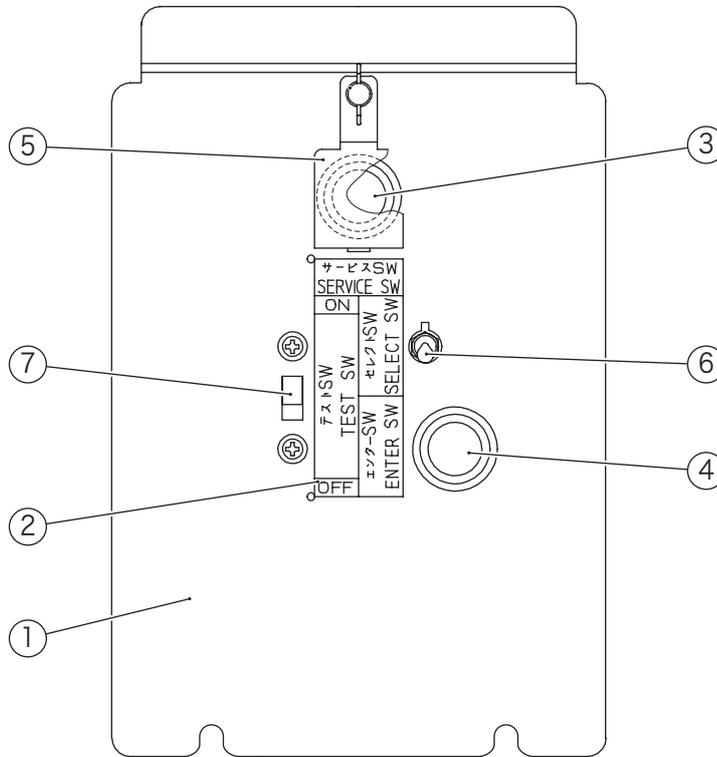


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- PARTS LISTS

No.	Name	Qty.	Type and rating	Part No.
1	Wheel base	1		724-800
2	Wheel shaft	1		724-801
3	Pillow unit (diameter: 25 mm)	1	BPP5	103-206
4	Pillow unit (diameter: 20 mm)	1	BPP4	103-207
5	Darin	1		724-802
6	Slit board	1		724-803
7	Photosensor	1	KI1138-AALF	000-764
8	Sensor bracket	1		724-804

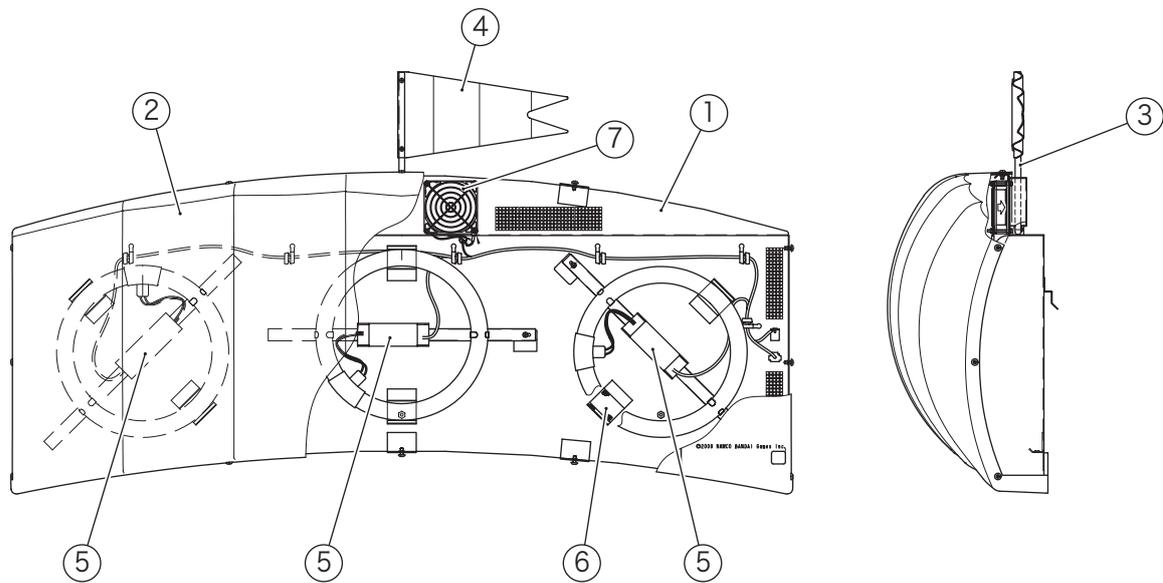
- Test mode
- Troubleshooting

10-10 Service Plate Assy



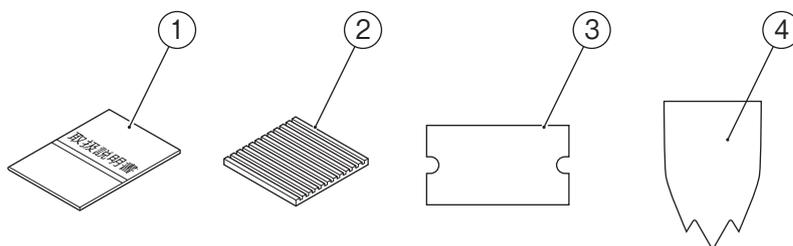
No.	Name	Qty.	Type and rating	Part No.
1	Service plate	1		724-805
2	Service sticker M (B)	1		461-722
3	Switch (pushbutton)	1	SDP-103C-22RB (red)	000-336
4	Switch (pushbutton)	1	SDP-103C-22GB (green)	000-619
5	Service switch cover	1		724-806
6	Switch (toggle switch)	1	SDSA-331G-CR	000-337
7	Switch (slide switch)	1	SDS-103A-03#13BJ	000-681

10-11 Signboard Assy



No.	Name	Qty.	Type and rating	Part No.
1	Signboard box	1		724-814
2	Signboard cover EXP	1		724-735
3	Flag pole	1		724-810
4	Flag	1		724-812
5	Fluorescent lamp	3	FCL32EX-D/30-X	002-410
	Fluorescent light fixture		FBC-32AIN-NME-DX	002-574
6	Fluorescent lamp pad	6		724-813
7	Fan motor	1	3610PS-10T-B30-B00	005-470
	Fan guard		8134-TR	005-471

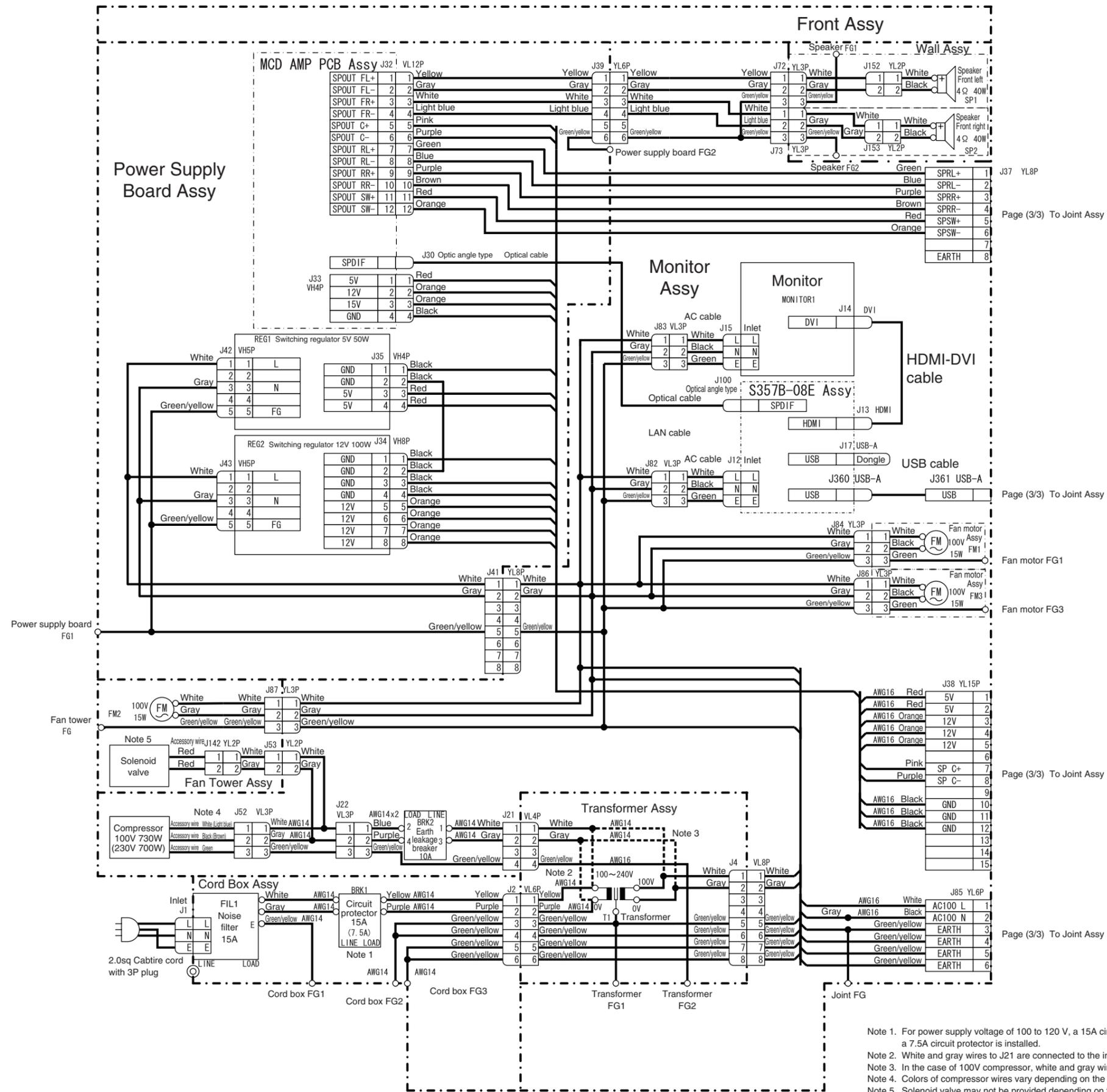
10-12 Other parts



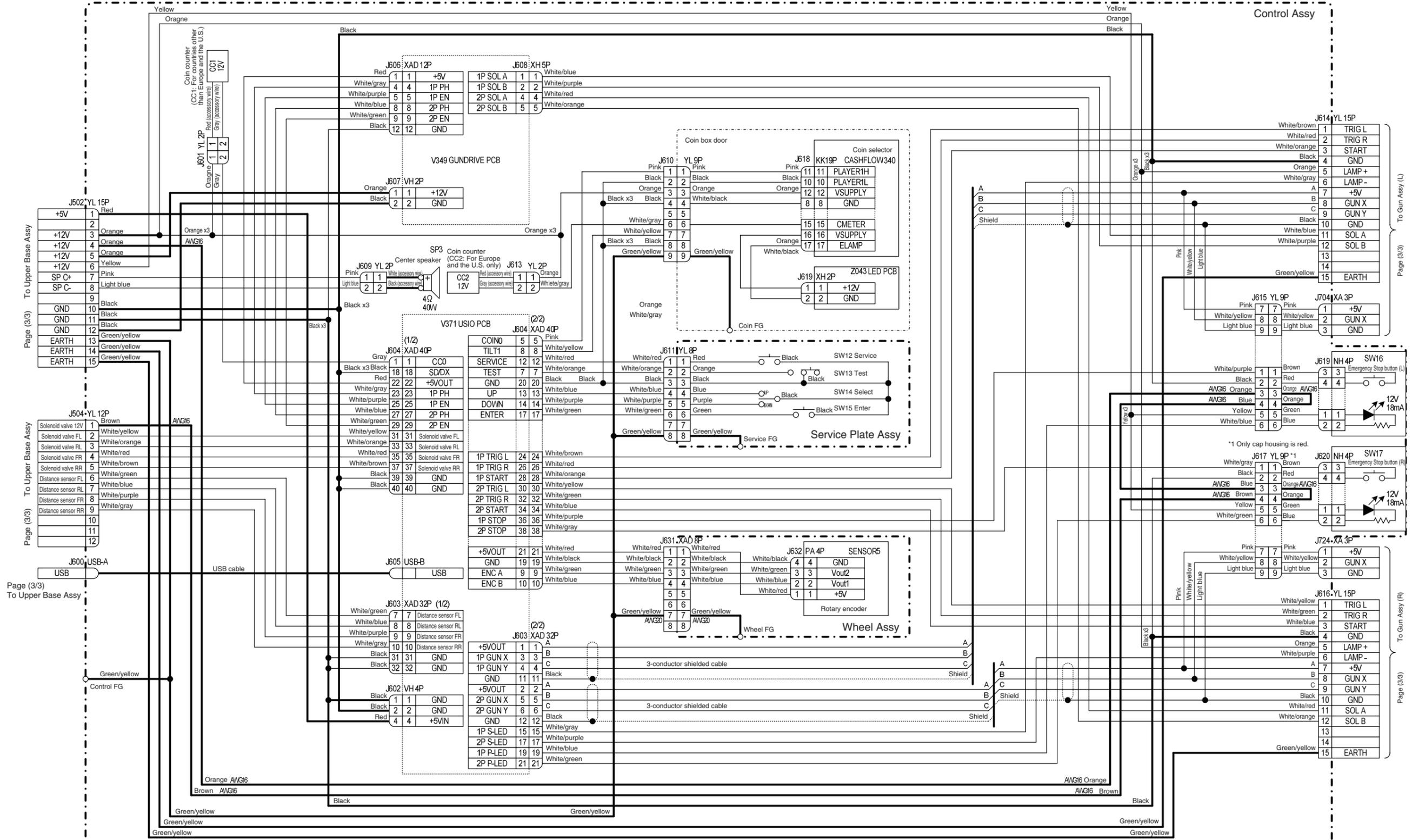
No.	Name	Qty.	Type and rating	Part No.
1	Operation Manual (English)	1		724-605
2	Vibration-insulating pad	4	KHL-10-100-0001	106-204
3	Game fee sheet B	1		724-609
4	Banner (EXP)	1		724-606

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PARTS LISTS

Test mode
Troubleshooting



Note 1. For power supply voltage of 100 to 120 V, a 15A circuit protector is installed. For power supply voltage of 220 to 240 V, a 7.5A circuit protector is installed.
 Note 2. White and gray wires to J21 are connected to the input side of the transformer except for 100V compressor.
 Note 3. In the case of 100V compressor, white and gray wires to J21 are connected to the output side of the transformer.
 Note 4. Colors of compressor wires vary depending on the specifications.
 Note 5. Solenoid valve may not be provided depending on the specifications.



Page (3/3) To Upper Base Assy

Page (3/3) To Upper Base Assy

Page (3/3) To Upper Base Assy

Page (3/3) To Gun Assy (L)

Page (3/3) To Gun Assy (R)

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 - 8B
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 - 11
- WIRING DIAGRAMS
- Test mode
 - Troubleshooting

