

CLENA FLEX

OPERATION MANUAL

The actual product you have received may differ slightly from the illustration.

! WARNING

- 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.

INTRODUCTION

Thank you for purchasing the “CLENA FLEX” 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.

1. 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.

 **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 label.

 **NOTICE** : Notes related to product functions 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 (repair) of amusement machines.

1-3 Top-priority safety precautions

WARNING

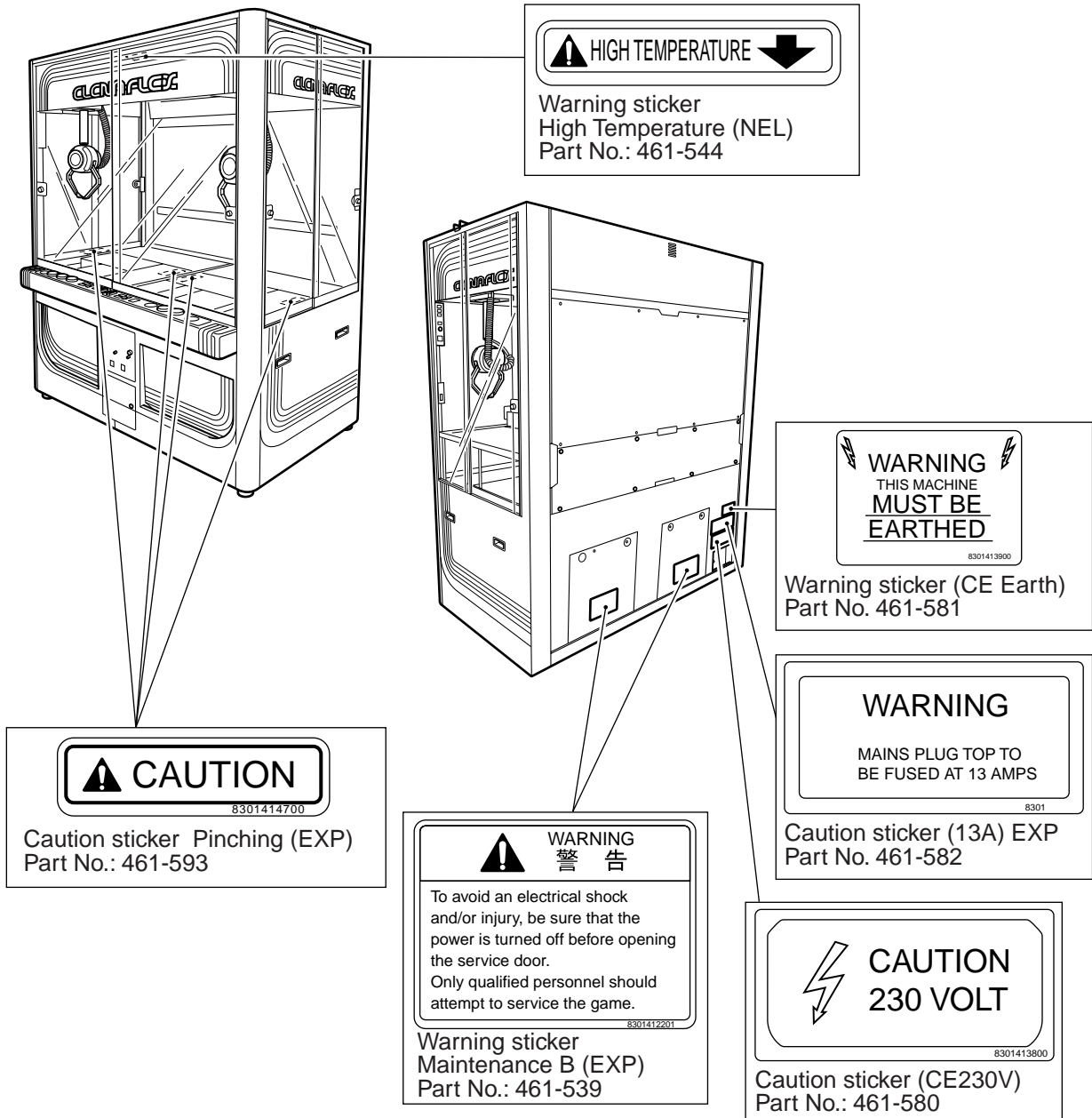
- Should any problem occur, turn off the power switch immediately to stop operating the machine. Then, unplug the power cord from the AC outlet.
Operating the machine without correcting problems may cause a fire or accident.
- Dust accumulated on the power cord plug may cause a fire. Check the power cord plug regularly and remove dust.
- Insert the power cord plug firmly into the AC outlet. Poor contact may cause overheating that can lead to a fire or burns.
- 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 products 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 with a wet hand. Doing so can result in an electric shock.
- The power rating of the machine is 230 VAC and 2.9 A (maximum current consumption) (when using a service outlet). To prevent fire and electric shock, always use indoor wiring that conforms to the machine's power ratings.
- Operate the machine with a power supply voltage in the range of 210 to 250 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 230 VAC.
- To ensure safe operation of the machine, be sure to conduct the pre-service check (see P. 29 "7-1 Pre-service check") and maintenance (see P. 70 "8. SERVICE"). Failure to perform the specified inspection and maintenance can result in an unexpected accident.
- Use consumables and service parts (including fasteners) specified by NAMCO BANDAI Games Inc. 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 machine.

1-4 Description of warning labels attached to the machine

WARNING

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

The warning labels shown below are attached on the machine to notify danger to the people operating, maintaining, transporting or moving the machine.



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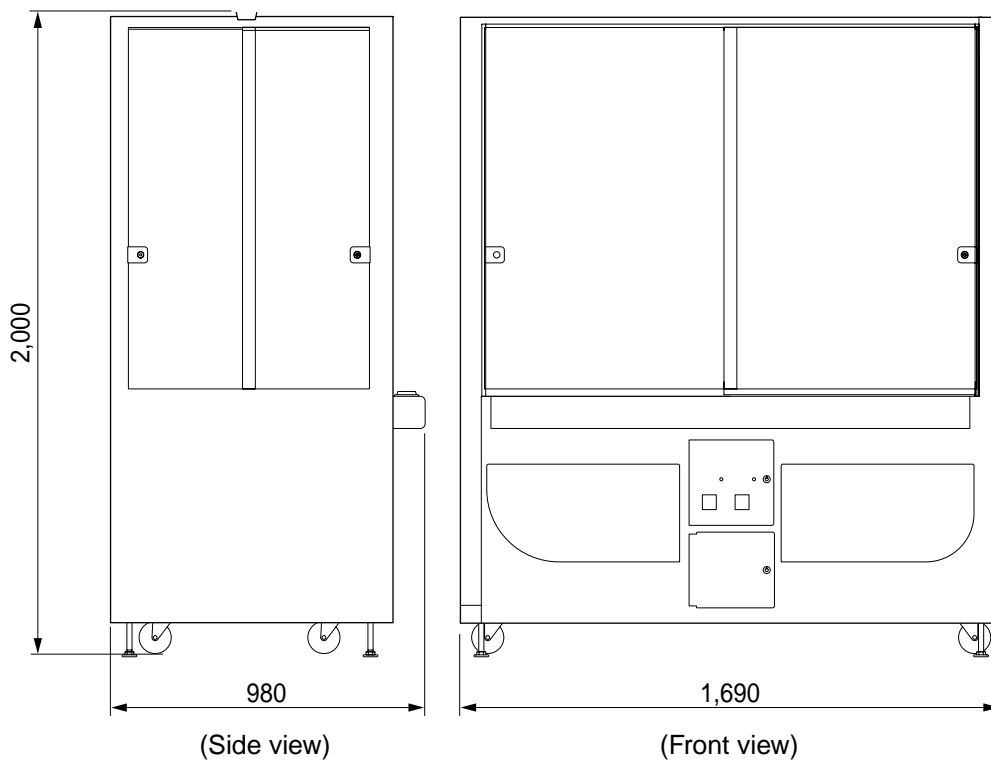
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2. SPECIFICATIONS

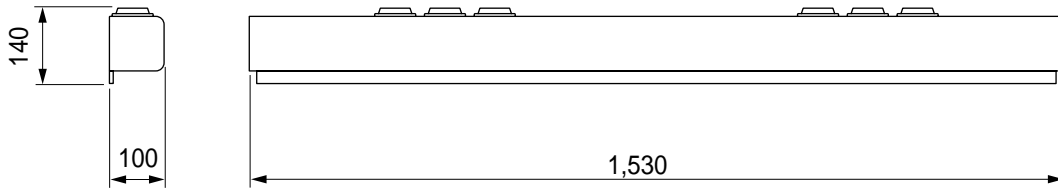
- (1) Rated power supply 230 ± 20 VAC (50 Hz)
- (2) Rated power consumption 500 W
- (3) Maximum current consumption 2.9 A
- (4) Coin box capacity Approx. 1,500, Euro 1 coins
- (5) Dimensions
 - ① As installed 1,690 (W) x 980 (D) x 2,000 (H) [mm]



2. SPECIFICATIONS

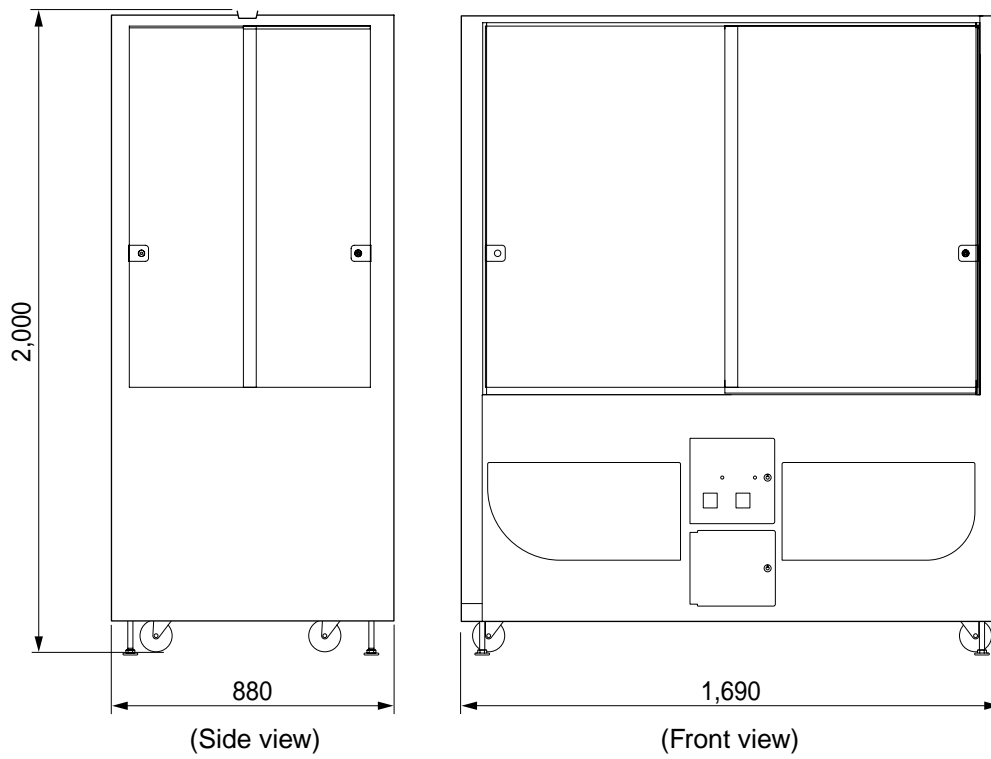
- ② When separated
Control Panel Assy

1,530 (W) x 100 (D) x 140 (H) [mm]



- Cabinet Assy

1,690 (W) x 880 (D) x 2,000 (H) [mm]



- (6) Weight

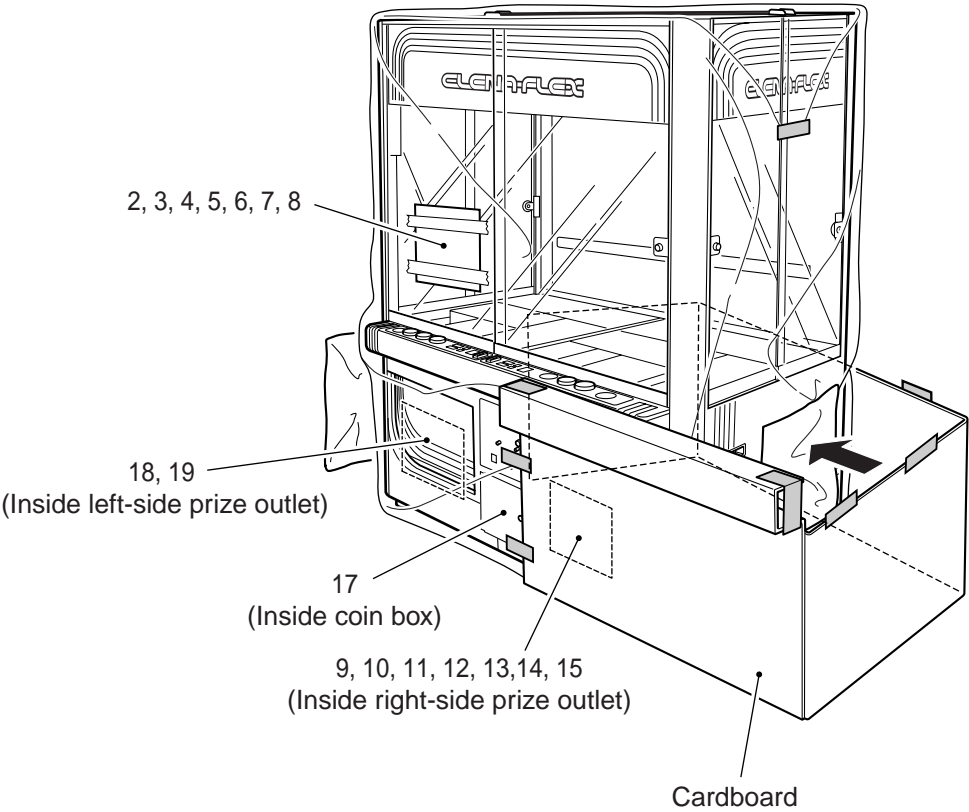
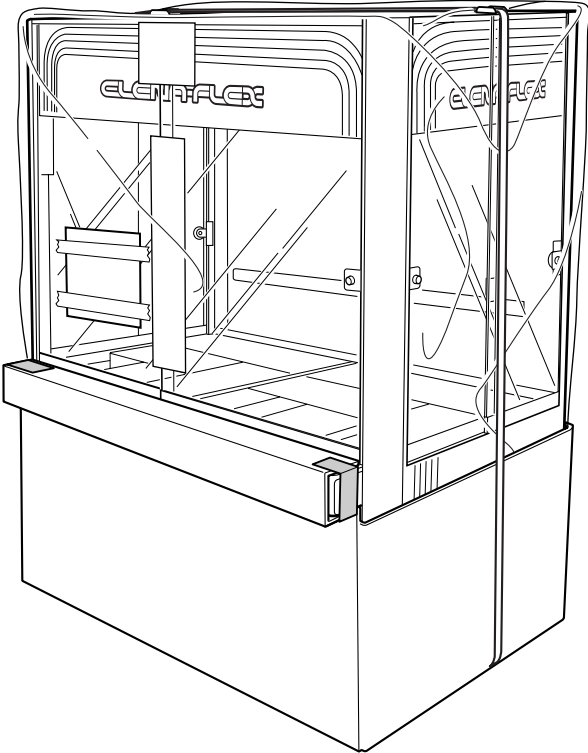
① Total weight	380 kg
Cabinet Assy (without Control Panel Assy)	370 kg
Control Panel Assy	8 kg

3. CHECKING THE PACKAGE CONTENTS

The product package contains the following parts.

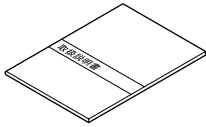



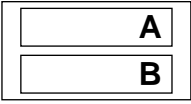
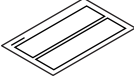
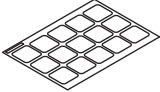

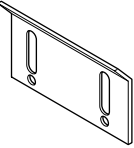
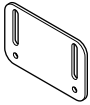
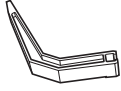
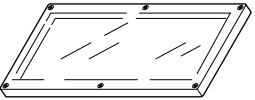
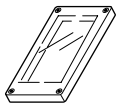



- Make sure all the parts shown below are contained in the product package.
- If parts are missing, contact your distributor.



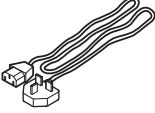

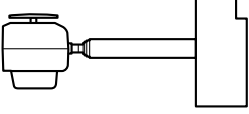
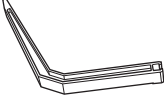
3. CHECKING THE PACKAGE CONTENTS

● Items in product package

No.	Name	Specification	Qty	Part No.
1	Operation Manual (This manual) (provided in separate box)		1	720-550
2	Maintenance key	For glass door For coin section door 	2	----
3	Coin box key		2	----
4	Bulb for illuminated switches (14 V, 3.8 W)		1	002-080
5	Explanation sticker (A and B per set) (for button ③)		2 set	720-562
6	Game instructions sticker (L and R per set)		1	720-569
7	Gain fee sticker		1	720-606
8	Torx wrench (M5)		4	----
9	Floor partition (right-side cardboard box)		5	712-851
10	Floor partition (B) (right-side cardboard box)		8	712-856
11	Arm L (right-side cardboard box)		4	712-967
12	Floor panel (M) (right-side cardboard box)		2	----
13	Floor panel (S) (right-side cardboard box)		6	----
14	Plastic knurled head screw (No. 3 white) (right-side cardboard box)	M5 x 15	54	110-034
15	Floor hook (right-side cardboard box)		4	712-855

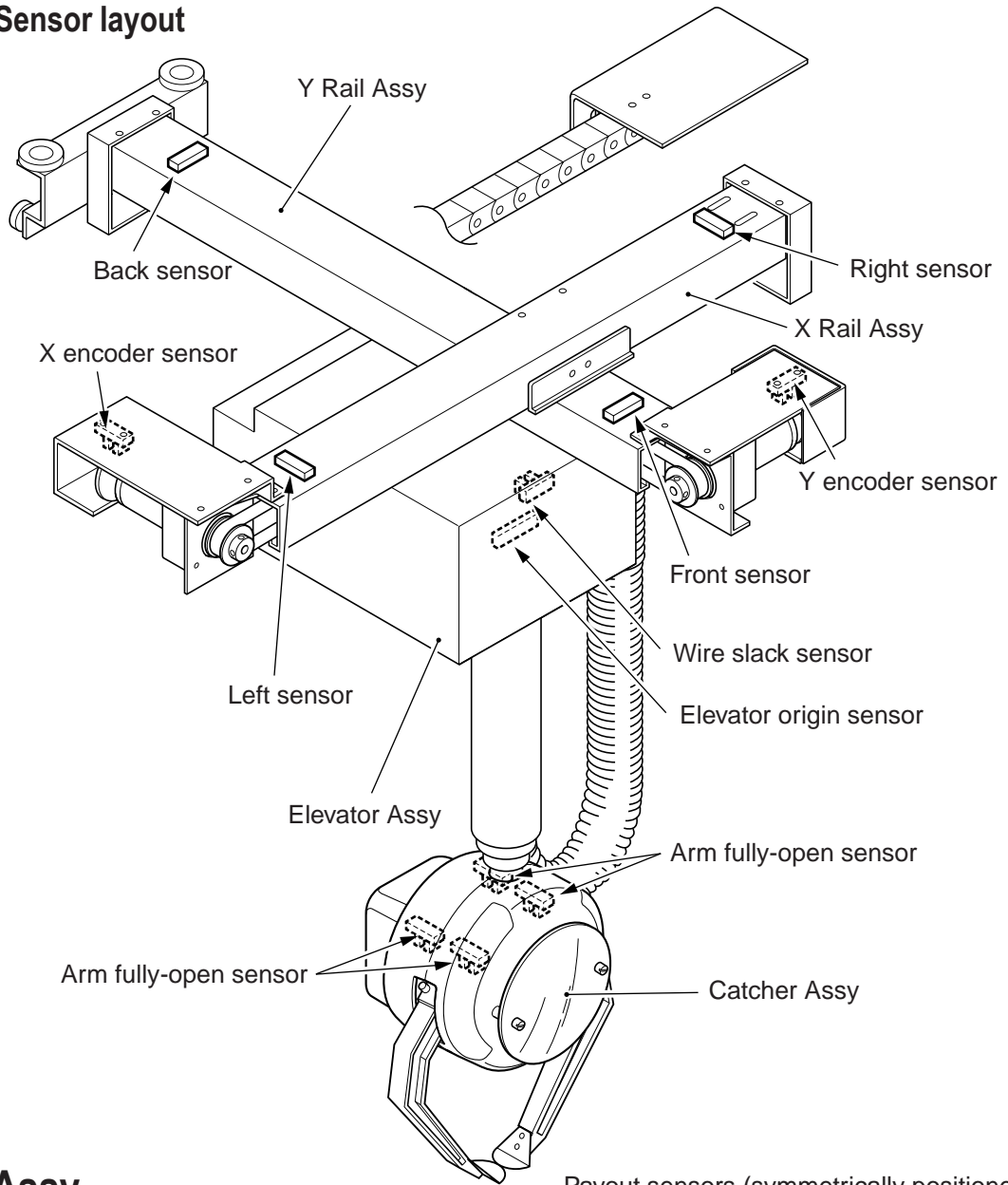
Regarding parts No. 12 and No. 13, see "10-2. Floor Assy" in the "10. PARTS LIST" section on page 130.

3. CHECKING THE PACKAGE CONTENTS

No.	Name	Specification	Qty	Part No.
16	Power cord (provided in separate box)		1	000-719
17	Illuminated pushbutton switch (for button ③) (inside coin box)		2	000-638
18	Elevator Assy and Catcher Assy (left-side cardboard box)		2	----
19	Arm (M) (left-side cardboard box)		4	712-966

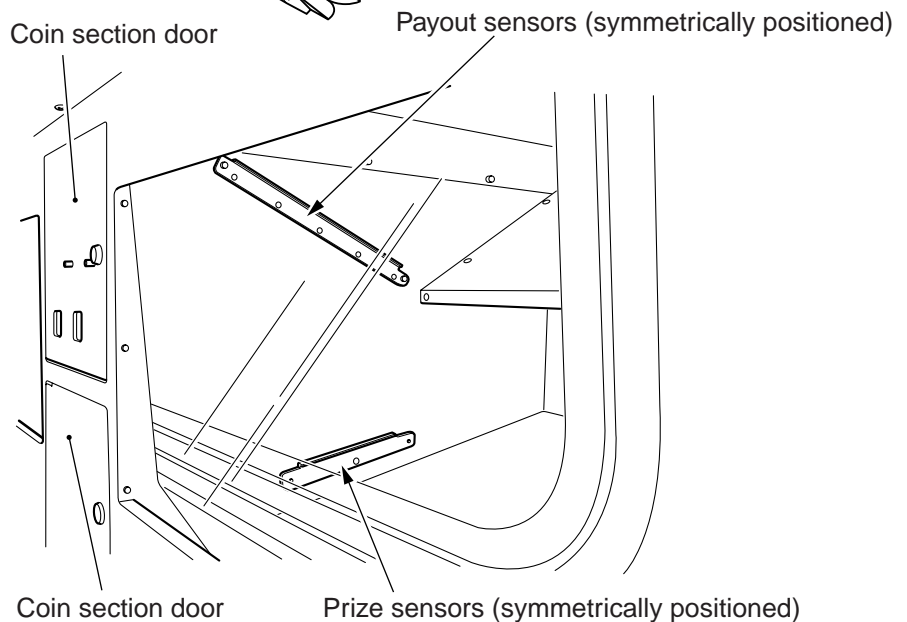
Crane Assy

● Sensor layout



Floor Assy

● Sensor layout



5. INSTALLATION

WARNING

- Install the machine according to the instructions in this operation manual and the procedures described in this section (P. 14 “5. INSTALLATION”). Failure to follow the specified procedures may result in a fire, electric shock, injury, or machine malfunction.
- Insert the power cord plug firmly into the AC outlet. Poor contact may cause overheating that can lead to a fire or burns.
- Install the machine securely by using the level adjusters. Unstable machine installation can result in accidents or injury. (See P. 17 “5-3-1 Adjusting the level adjusters.”)

5-1 Installation conditions

5-1-1 Locations to avoid

WARNING

- The machine is designed for indoor use. Never install the machine outdoors or at any of the following locations:
 - Place in direct sunlight
 - Place exposed to rain or water leakage
 - Damp place
 - Dusty place
 - Close to heating devices
 - Hot place
 - Extremely cold place
 - Place where dew condensation may occur due to temperature differences
 - Place where the machine may become an obstruction in emergencies (such as near emergency exit) and place where fire extinguisher or similar equipment is installed
 - Unstable place or location where vibrations are produced
- The quality of prizes may deteriorate, depending on installation conditions and prize types.
- The temperature inside the glass doors can be much higher than the temperature of the surrounding area since the glass doors block air ventilation and the fluorescent lamps are used to illuminate prizes. If the machine is installed outdoors or in a place where it is exposed to direct sunlight, the temperature inside the glass doors becomes extremely high.

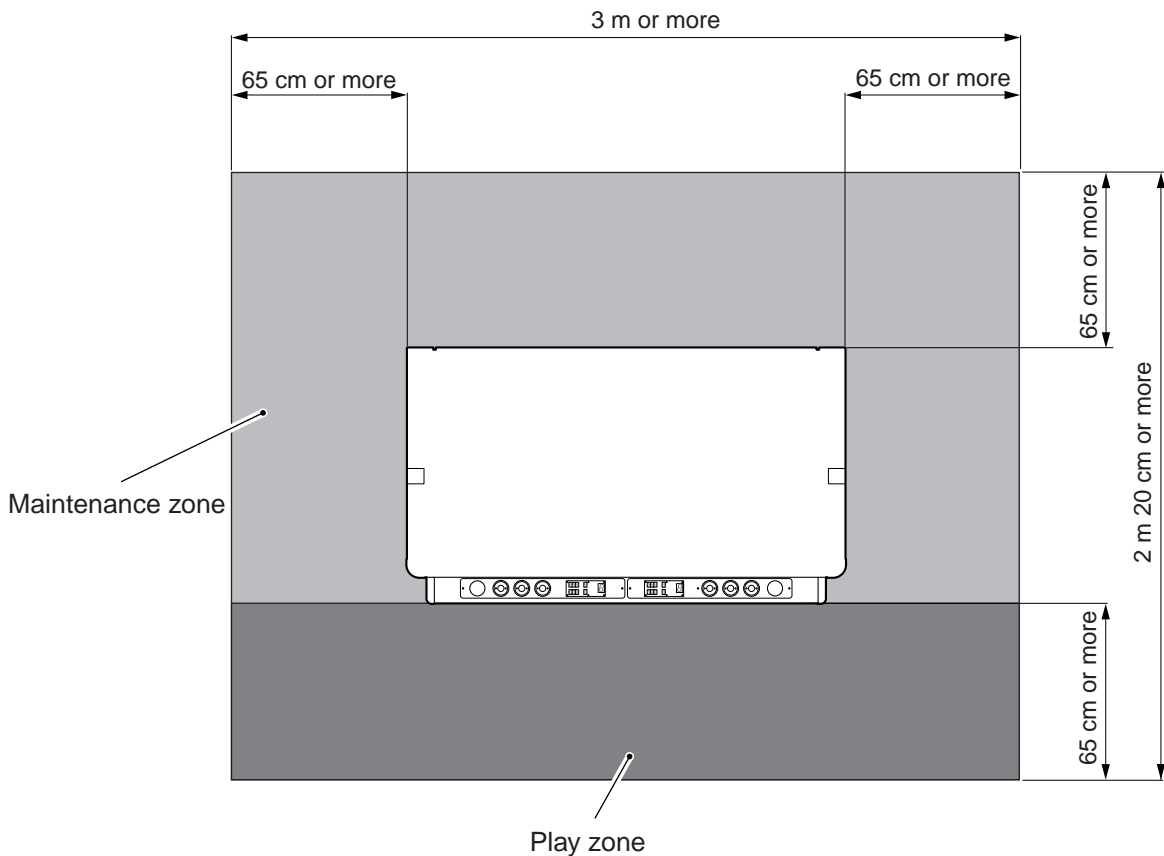
5-1-2 Play zone of installed machine

CAUTION

- Set a play zone as shown below so that players can move away from the machine without bumping into observers or passersby.



- Provide a space of at least 65 cm between the main machine and wall or other machines. This space is necessary for conducting maintenance and also for dismantling the Main PC Board and other parts.



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

- **Main machine**

1,690 (W) x 980 (D) x 2,000 (H) [mm], weight: 380 kg

The doors and passages must be larger than the above dimensions.

The main machine can be separated into the following assemblies depending on the conditions of the carry-in passage.

- **Cabinet Assy (without Control Panel Assy)**

1,690 (W) x 880 (D) x 2,000 (H) [mm], weight: 370 kg

- **Control Panel Assy**

1,530 (W) x 100 (D) x 140 (H) [mm], weight: 8 kg

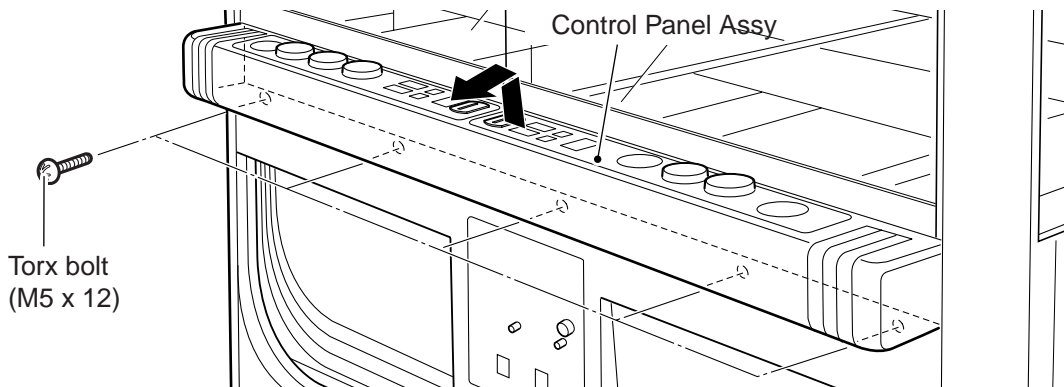
5-2-1 Removing the Control Panel Assy (when required by carry-in passage conditions) - To be conducted by a technician only -

⚠ WARNING

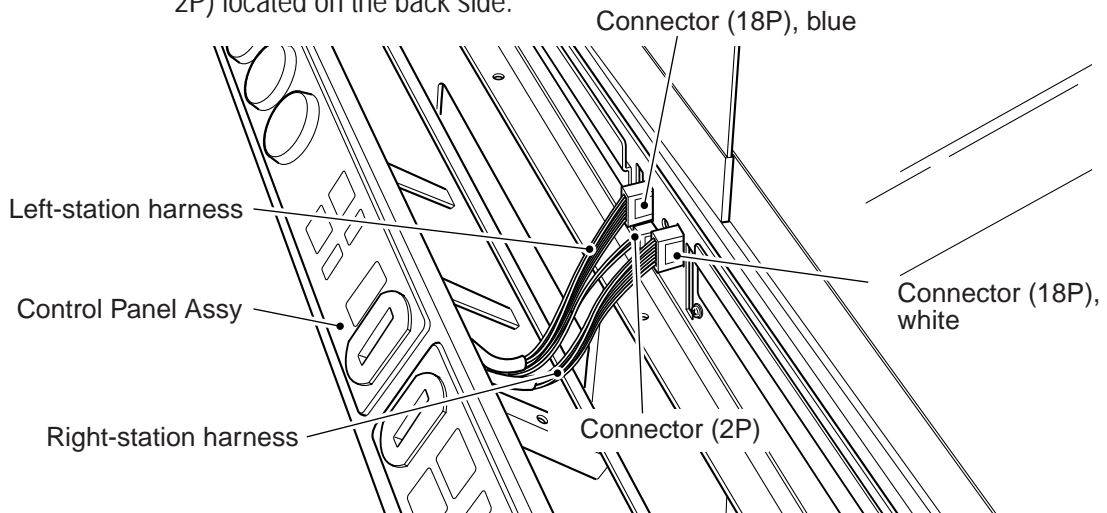
- To protect the service staff and other people from an electric shock, accident and injury, and to prevent damage to the electrical circuitry of the machine, always turn off the power switch before initiating the described task.

1 Remove the five Torx bolts (M5 x 12).

2 Lift the Control Panel Assy to disengage it from the hook, and then dismantle it.



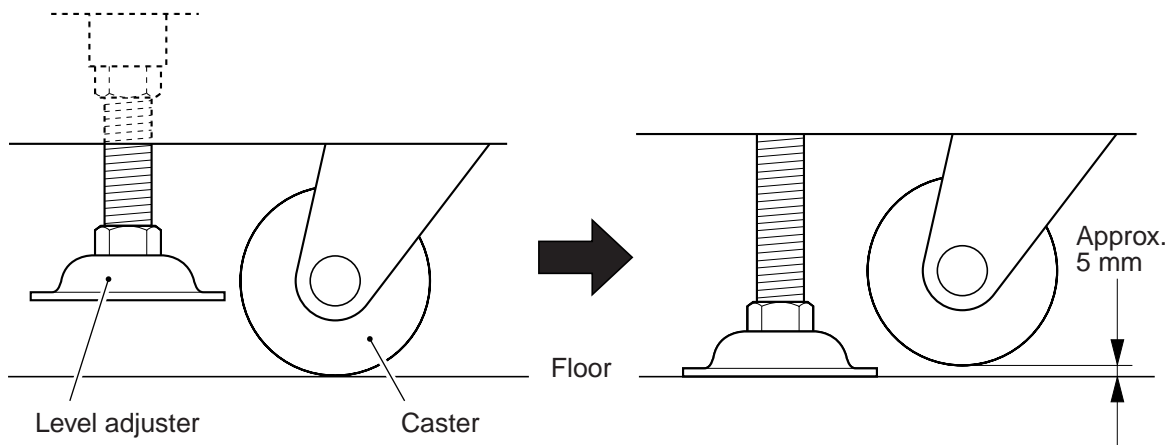
3 Tilt the Control Panel Assy forward, and disconnect the three connectors (18P x 2, 2P) located on the back side.



5-3 Assembly

5-3-1 Adjusting the level adjusters

- 1 Set the machine at the installation location according to "5-1 Installation conditions" on page 14, and lower the level adjusters (at four locations) so that the casters lift off 5 mm from the floor (casters should rotate freely). Make sure that the machine is not wobbly.

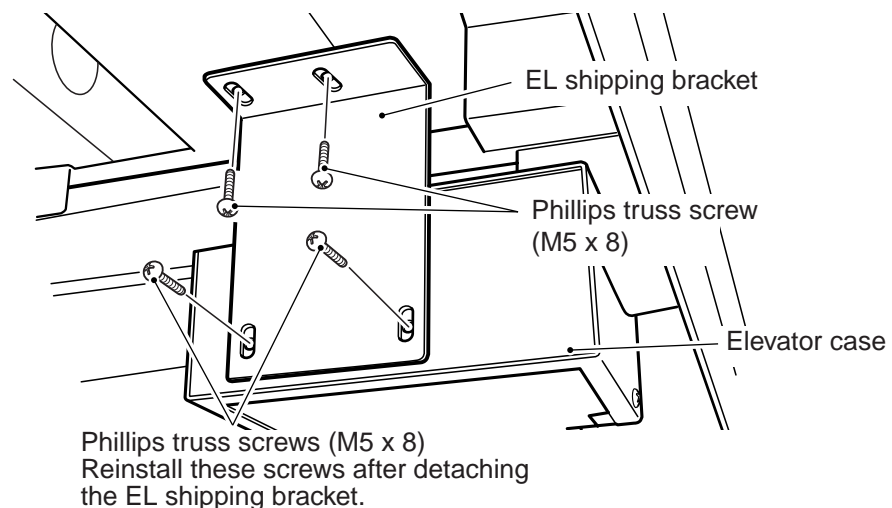


5-3-2 Installing the Elevator Assys

⚠ 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 initiating the described task.

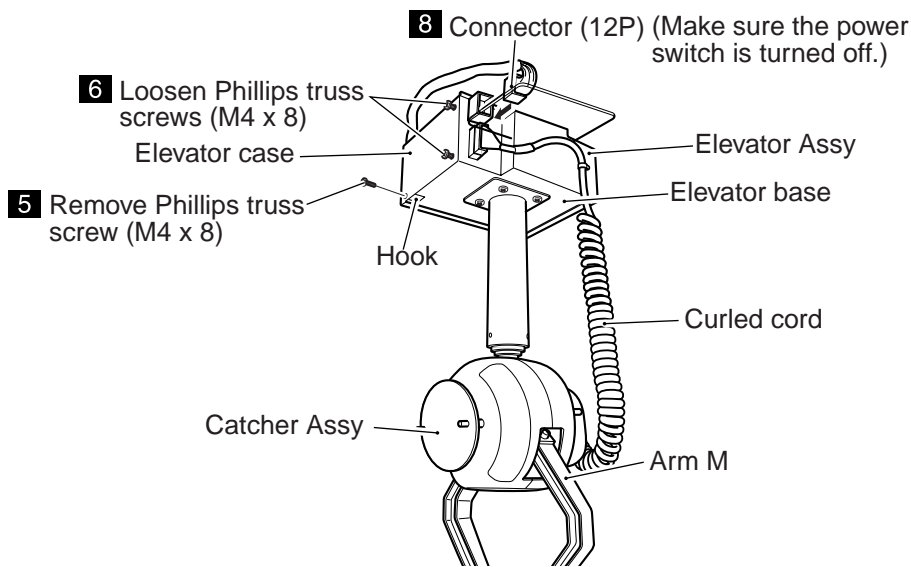
- 1 Using the provided maintenance key, open the front glass door (see P. 32 "7-2-1 Adding prizes" 1). Then, open the side glass door on the left-station side, and disengage the side signboard from the two hooks.
- 2 Remove the four Phillips truss screws (M5 x 8) and detach the EL shipping bracket (EL shipping bracket is installed at the factory before shipment).
- 3 Screw in two of the screws (Phillips truss screws (M5 x 8)) that were removed in 2 into the screw holes in the Elevator Assy.



- 4** Take out one Elevator Assy from the accessory box.
- 5** Remove the one Phillips truss screw (M4 x 8).
- 6** Loosen the two Phillips truss screws (M4 x 8).
- 7** While lifting the front side of the elevator base about 10 mm, insert the Elevator Assy into the elevator case.
- 8** Connect the connector (12P, on the rail side).



- Before connecting the connector, make sure that the power switch is turned off.
- Insert the connector firmly. If the connector is not firmly plugged in, turning on the power switch may cause damage to the PC board.



- 9** Take out the other Elevator Assy from the package box, and install it by following steps **5** through **8**.
- 10** Turn on the power switch (see P. 54 "7-5-1 Turning on the power switch").
- 11** Select "Maintenance Mode" in the Test mode, and move the Elevator Assys to the take-out positions (see P. 63 "7-6-3 Test mode").
- 12** Turn off the power switch (see P. 54 "7-5-1 Turning off the power switch").
- 13** Loosen the three Phillips truss screws (M4 x 8) that were removed or loosened in steps **5** and **6**.
- 14** Insert the arms M in the right and left Catcher Assys.
- 15** Remove pad A located in the back of the Y Rail Assy by pulling it to the side.



- The cardboard box that contains the Elevator Assys, EL shipping brackets, and pad A will be used when relocating or transporting the machine. Keep them in a safe place together with the mounting screws (Phillips truss screws (M5 x 8)).

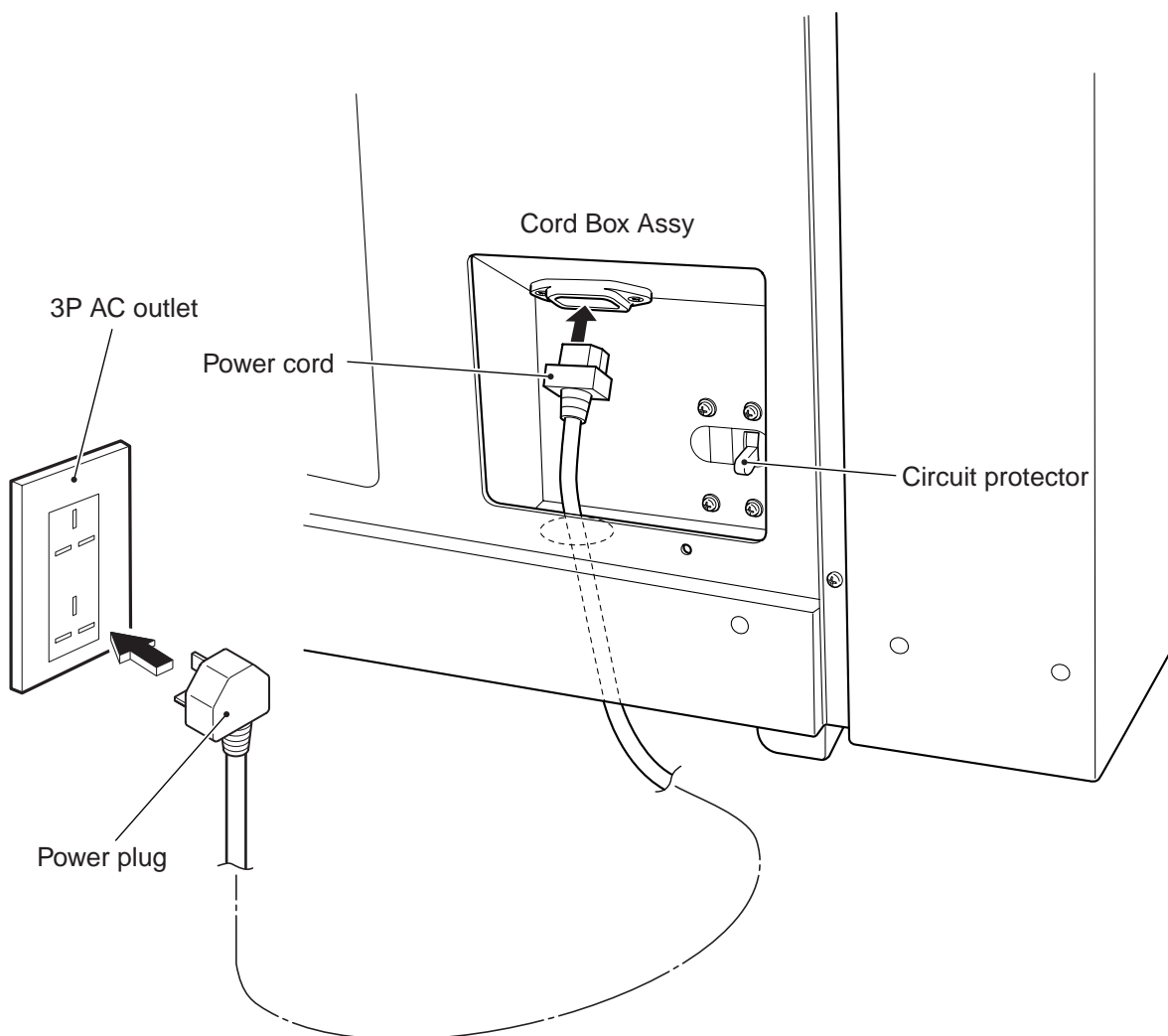
5-4 Connecting the power cord

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 initiating the described task.

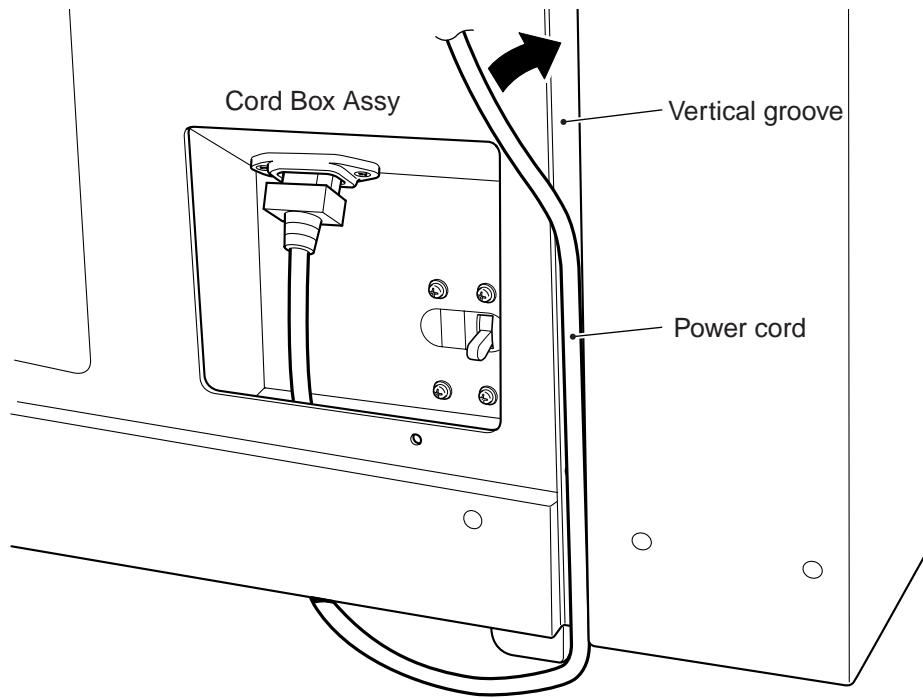
5-4-1 Connecting to the Cord Box Assy

(1) Ordinary connection



(2) Feeding power from the top side of the cabinet

- 1** Connect the power cord to the Cord Box Assy.



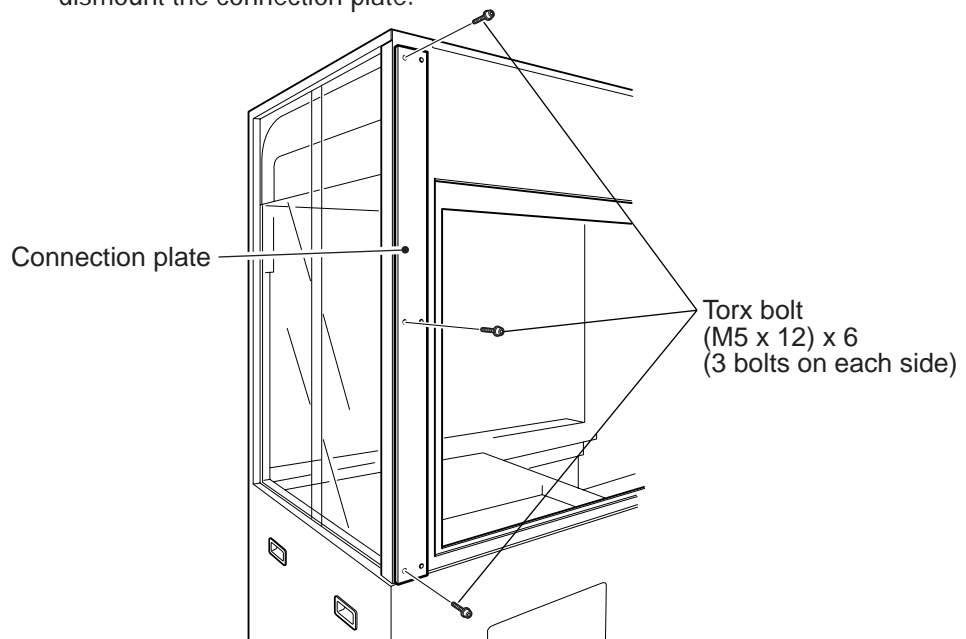
- 2** Push the power cord into the vertical groove on the right side of the cord box and route it toward the upper section of the cabinet.

5-5 Connecting two units

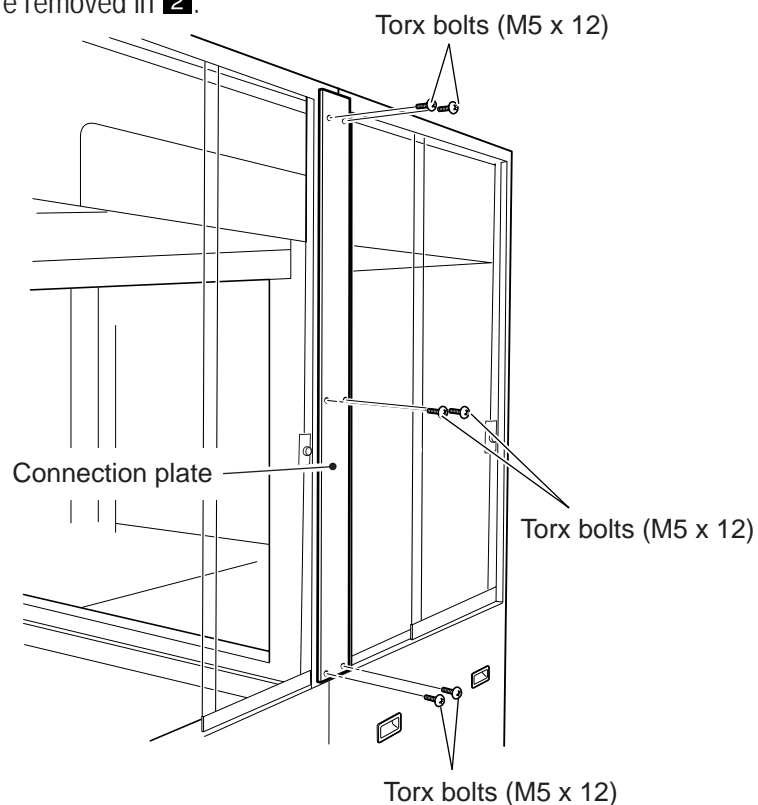
5-5-1 Method of connecting two units

Two CLENA FLEX units can be connected to configure a four-station cabinet.

- 1** By referring to ["7-4-5 Back board storage" on page 52](#), remove the back boards from the two cabinets to be connected. (The machines can be operated without removing the back boards.)
- 2** Remove the six Torx bolts (M5 x 12) (3 bolts on each side) from the rear panel, and dismount the connection plate.



- 3** Place the two cabinets back-to-back and secure the two units by using the screws that were removed in **2**.



5-6 Installing Buttons ③ - To be conducted by a technician only -

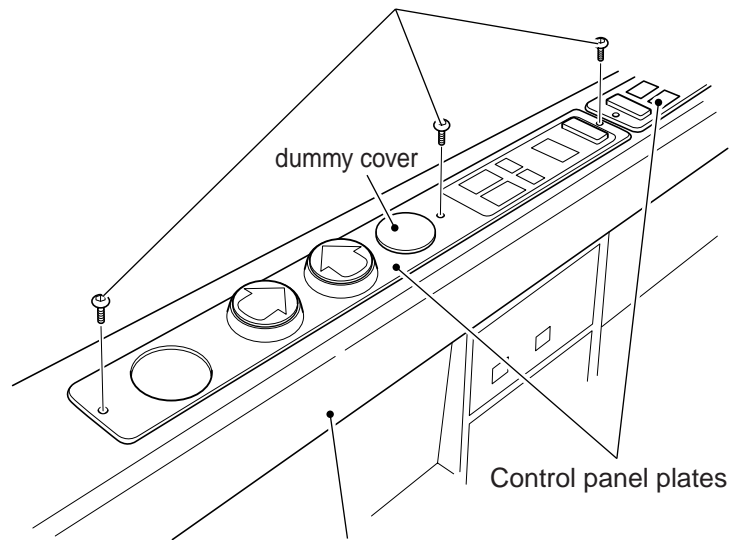
⚠ WARNING

- 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 initiating the described task.

* When setting up the machine for "height-restricted game" (see P. 35 "7-3-2 [Height-restricted game]") or "game with retry" (see P. 36 "7-3-3 [Game with retry]"), remove the dummy covers from the Control Panel Assy, and install the provided Buttons ③.

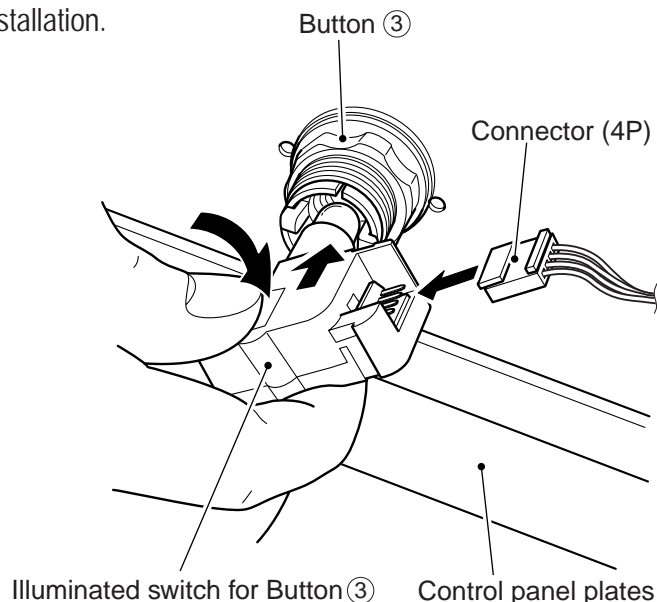
- 1** Remove the six button-head bolts (M4 x 10) (3 bolts on each side), and dismount the control panel plates.

Button-head bolts (M4 x 10), 3 on each side



Control Panel Assy

- 2** Remove the dummy covers, and install the provided Button ③ units.
- 3** Pull out the bundled connectors (4P) and connect them to the illuminated switches. (* Connect the connectors firmly by referring to the diagram below.)
- 4** Insert the illuminated switches into the Button ③ unit, and turn the buttons for secure installation.



- 5** Reinstall the control panel plates by following the procedure described in **1** in reverse.

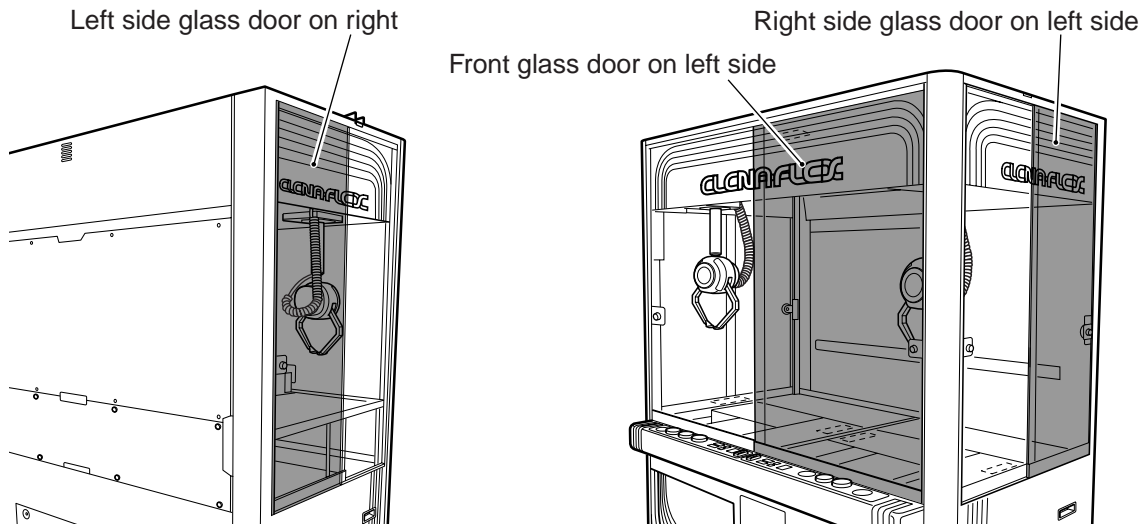
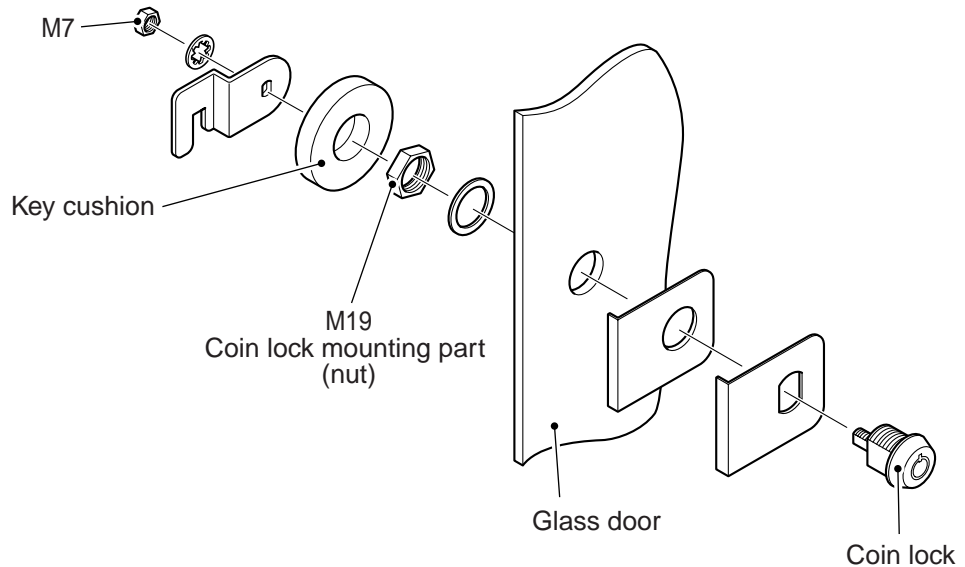
- 6** Attach the provided explanation stickers to the front glass door above Buttons ③ according to the game mode setting ([see P. 35 "7-3 How to play"](#)).
(Explanation stickers A and B are reusable. Keep the backing paper in a safe place.)

5-7 Cautions in coin lock replacement

CAUTION

- Check the following when replacing the coin lock.
 - ① Check that the glass has no crack or chip and is not loosen or wobbly.
 - ② Check that the coin lock mounting part (nut) is not overtightened.
 - ③ Check that the parts are installed in correct order and check if the glass door requires the installation of the key cushion.
- If the coin lock is not installed incorrectly, the glass can break and lead to an accident or injury.

- 1** Using the provided maintenance key, open the glass door on which the coin lock is to be replaced (see P. 32 "7-2-1 Adding prizes" **1**).
- 2** Install the parts as shown in the diagram below.
Check which glass door requires the installation of key cushion and which does not. The glass doors indicated by shading in the diagram below require the installation of key cushion.



- 3** Using the provided maintenance key, close the glass door on which the coin lock has been replaced.

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.
- All the four casters on the machine are a swivel type. The machine should be transported or moved by two or more persons. Note that unexpected movement of the machine can result in an accident or injury.

6-1 Moving (on the floor)



- The overall height of the machine is approximately 2,000 mm. Check the heights of doors and other openings in the carry-in passage.
 - Carefully transport the machine in order to prevent damage to the machine.
- 1** Turn on the power switch (see P. 54 "7-5-1 Turning on the power switch").
 - 2** In the Test mode, select "Transport Mode" and move the Catcher Assys (see P. 63 "7-6-3 Test mode").
 - 3** Turn off the power switch (see P. 54 "7-5-1 Turning on the power switch").
 - 4** By holding the upper pipe section of the Elevator Assy and move each Elevator Assy gently to the position where the EL shipping bracket can be mounted.
 - 5** Install the EL shipping brackets (see P. 17 "5-3-2 Installing the Elevator Assys").
 - 6** Raise the level adjusters (at 4 locations) all the way (see P. 17 "5-3-1 Adjusting the level adjusters").
 - 7** After moving the machine, set it up according to the specified procedure (see P. 14 "5. INSTALLATION").

6-2 Transportation

WARNING

- The machine weighs approximately 380 kg. Do not attempt to transport it manually. Use a crane or forklift to lift and move the machine. Improper transportation of the machine can result in an accident or injury.
- Make sure that the crane or forklift is operated by a qualified person. Operation by an unqualified person can result in an accident.

6-2-1 Lifting with a crane

CAUTION

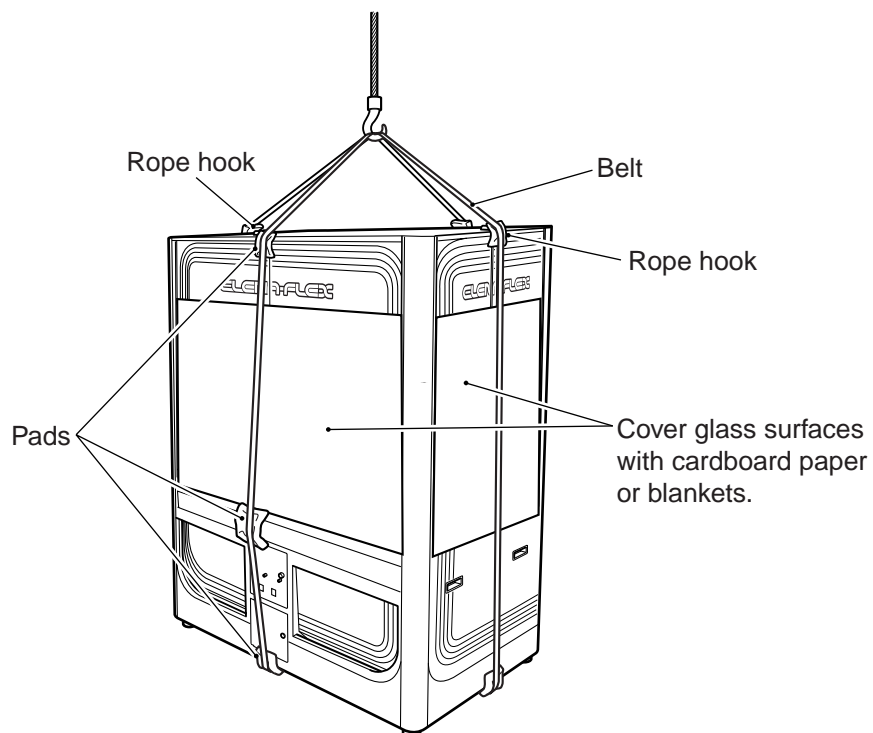
- Be sure to protect the front and side glass doors with cardboard paper or blanks large enough to cover the entire doors. If the glass doors are not covered, they can break and cause an accident or injury.



NOTICE

- Carefully transport the machine in order to prevent damage to the machine.
- Do not apply excessive force to resin parts, since resins can break easily.
- Be sure to raise the level adjusters all the way before transporting the machine.

- 1** Remove the Control Panel Assy (see P. 16 "5-2-1 Removing the Control Panel Assy").
- 2** As shown in the illustration below, hook one hanging belt on the rope hooks and position another belt at the center in the front-back direction (be sure to protect the corners of the cabinet with pad).



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

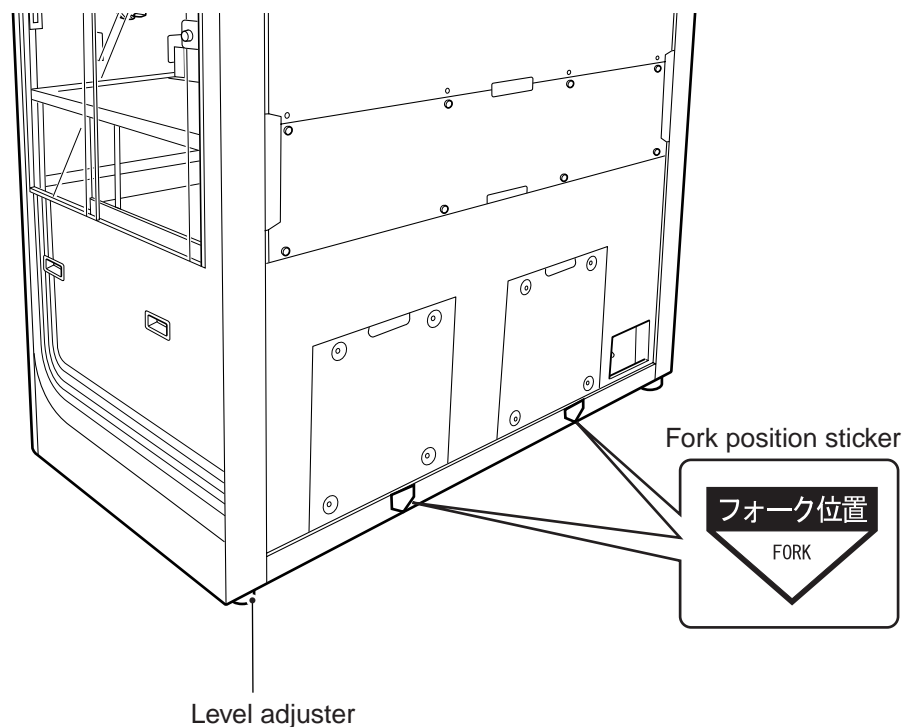
! WARNING

- The machine weighs approximately 380 kg. Do not attempt to transport it manually. Use a crane or forklift to lift and move the machine. Improper transportation of the machine can result in an accident or injury.
- When using a forklift to transport the machine. Observe the following in order to prevent the machine from tipping over and causing an accident.
 - Insert the forks at the specified positions.
 - Make sure that the machine is balanced.



- Carefully transport the machine in order to prevent damage to the machine.
- Do not apply excessive force to resin parts, since resins can break easily.
- Do not apply impact to the machine when carrying the machine over ridges.

- 1** Raise all the level adjusters all the way (see P. 17 "5-3-1 Adjusting the level adjusters").
- 2** Insert the forks into the specified positions for transportation.



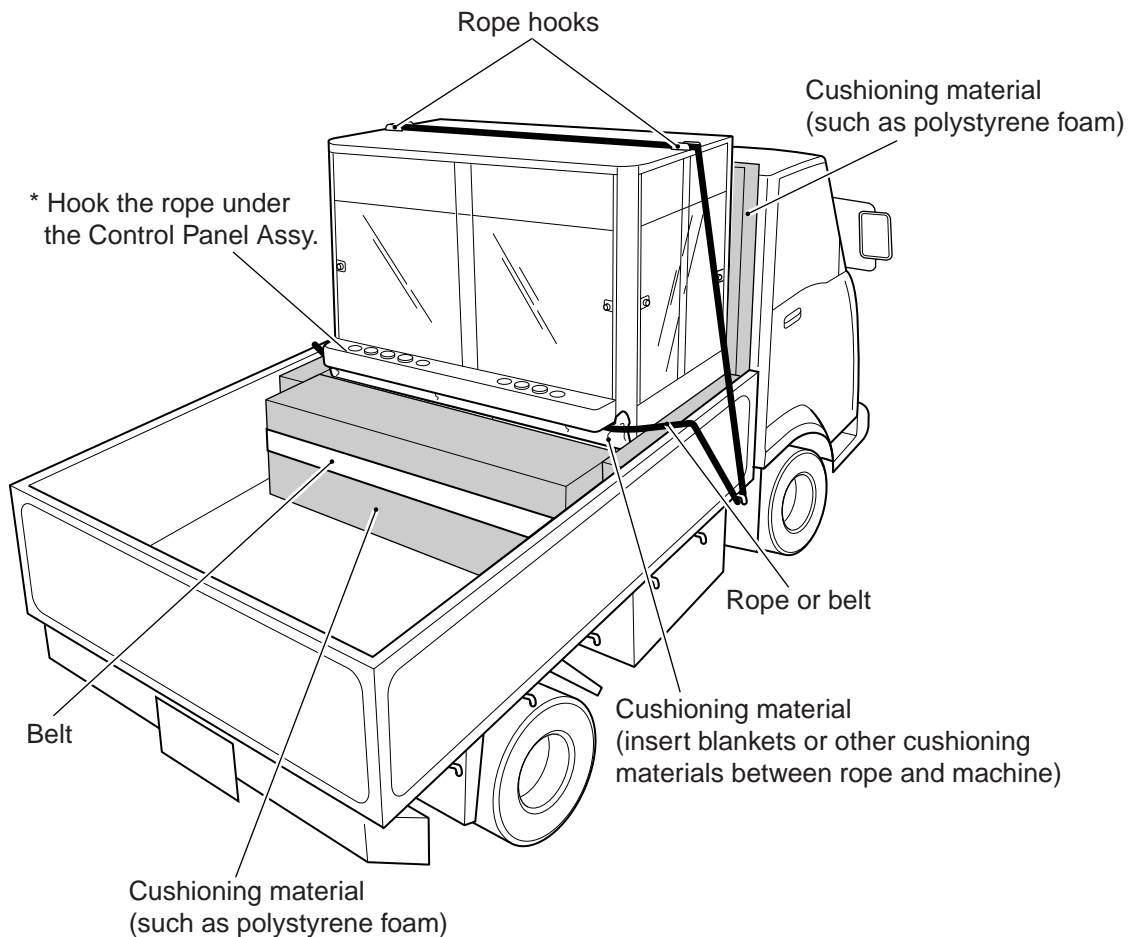
6-2-3 Trucking

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 to the vehicle may result in an accident.

NOTICE

- Carefully transport the machine in order to prevent damage to the machine.
- Do not apply excessive force to resin parts, since resins can break easily.
- Be sure to raise the level adjusters all the way before transporting the machine.
- Do not apply impact to the machine when carrying the machine over ridges.
- When transporting the machine in a rain, use a truck with a cargo cover or container to prevent the machine from getting wet.
- Insert cushioning materials such as blankets between the machine and the cargo bed for the protection of the machine surfaces.



7. OPERATION

WARNING

- Should any problem 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 problems may cause a fire or accident.
- Dust accumulated on the power cord plug may cause a fire. Check the power cord plug regularly and remove dust.
- Insert the power cord plug firmly into the AC outlet. Poor contact may cause overheating that can lead to a fire or burns.
- Before operating the machine, check to make sure that the machine has been installed according to the specified procedure (see P. 14 “5. INSTALLATION”). Improper installation of the machine can result in a fire, electric shock, injury or equipment malfunction.
- To ensure safe operation of the machine, be sure to conduct the pre-service check (see P. 29 “7-1 Pre-service check”) and maintenance (see P. 70 “8 Inspection and maintenance “). Failure to perform the specified inspection and maintenance can result in an unexpected accident.
- The machine is designed for indoor use. Never install the machine outdoors or at any of the following locations:
 - Place in direct sunlight
 - Damp place
 - Place exposed to rain or water leakage
 - 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) and place where fire extinguisher or similar equipment is installed
 - Unstable place or location where vibrations are produced

7-1 Pre-service check

Check the items described below before commencing operation.

If any problem is found, take corrective measures by referring to “8-3 Troubleshooting” on page 74.

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

WARNING

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

- (1) Are all warning indications legible? (See P. 3 “1-4 Description of warning labels attached to the machine.”)
- (2) Are all the level adjusters adjusted properly for stable machine installation? (See P. 17 “5-3-1 Adjusting the level adjusters.”)
- (3) Is the play zone area established as specified? (See P. 14 “5-1 Installation conditions.”)
- (4) Are the illuminated switches on the Control Panel Assy free of damage? (See P. 93 “8-4-1 (11) Replacing the illuminated switches and lamps.”)
- (5) Are the prize outlets free of foreign items?
- (6) Are the front and side glass doors closed securely?
- (7) Are the prize outlet doors free of damage and can they open and close smoothly?
- (8) Are the glass rails smooth and without sharp edges caused by wear? (See P. 68 “7-7-3 Replacing the glass rails.”)

7-1-2 Automatic check

- 1** Turn on the power switch (see P. 54 "7-5-1 Turning on the power switch").
- 2** If the Test switch is at the OFF position (bottom position), a warning sound is produced and the Crane Assy starts moving automatically, and the motors and sensors will be checked automatically in the sequence described below.
(If the Test switch is at the ON position (top position), the Test mode (see P. 63 "7-6-3 Test mode") will be activated, and the automatic check will not be initiated. In that case, set the Test switch to OFF (bottom position) to activate the following automatic check for the Crane Assy.)

* The following describes the operations of the left station. Note that the direction of movement in the widthwise direction is opposite in the right station,.

- 1) The Catcher Assy rises to the highest position.
- 2) The Catcher Assy moves toward the left and stops when the left sensor turns ON.
If the left sensor has been turned ON, the Catcher Assy moves toward the right and stops when the left sensor turns OFF. Then, it moves toward the left and stops when the left sensor turns ON.
- 3) The Catcher Assy moved toward the front and stops when the front sensor turns ON.
- 4) The Catcher Assy moves toward the right and stops when the right sensor turns ON. If the movement range (see P. 59 "7-6-2 Setting mode (1) Movement range setting") has been set, the Catcher Assy stops at the limit of the set range.
- 5) The Catcher Assy moves toward the back and stops when the back sensor turns ON. If the movement range (see P. 59 "7-6-2 Setting mode (1) Movement range setting") has been set, the Catcher Assy stops at the limit of the set range.
- 6) The arms open fully. (If initialization of the Catcher is required, initialization starts at this time. Initialization may take several minutes.) (See P. 39 "7-4-1 (1) Initializing the Catcher.")
- 7) The Catcher Assy lowers and stops when it detects the prize floor or a prize or when it reaches the descending limit.
- 8) The Catcher Assy rises and stops at the highest position.
- 9) The arms open fully.
- 10) The Catcher Assy moves toward the front and stops when the front sensor turns ON.
- 11) The Catcher Assy moves toward the left and stops when the left sensor turns ON.
- 12) The Catcher Assy moves to the home position.

- 3** If no abnormality was found in the automatic check, the Catcher Assy moves to the home position determined by the arm size, and the Attract mode will be activated. If there is an abnormality, the 7-segment LED on the Control Panel Assy displays an error number (see P. 73 "8-2 Error display").

7-1-3 Operation check (after power ON)

- (1) Check that the fluorescent lamps and halogen lamps in the signboards, ceiling section and prize floor section light properly. (See P. 50 "7-4-4 Illumination settings.")
- (2) Check that the Service switch functions properly. (See P. 63 "7-6-3 Test mode.")
- (3) Check that the 7-segment LEDs and illuminated switches on the Control Panel Assy light. (See P. 63 "7-6-3 Test mode.")
- (4) Check that the payout sensors and prize sensors function properly. (See P. 63 "7-6-3 Test mode.")
- (5) Make sure that the speakers produce background music and sound effects properly. (See P. 63 "7-6-3 Test mode.")

7-2 Adding prizes

WARNING

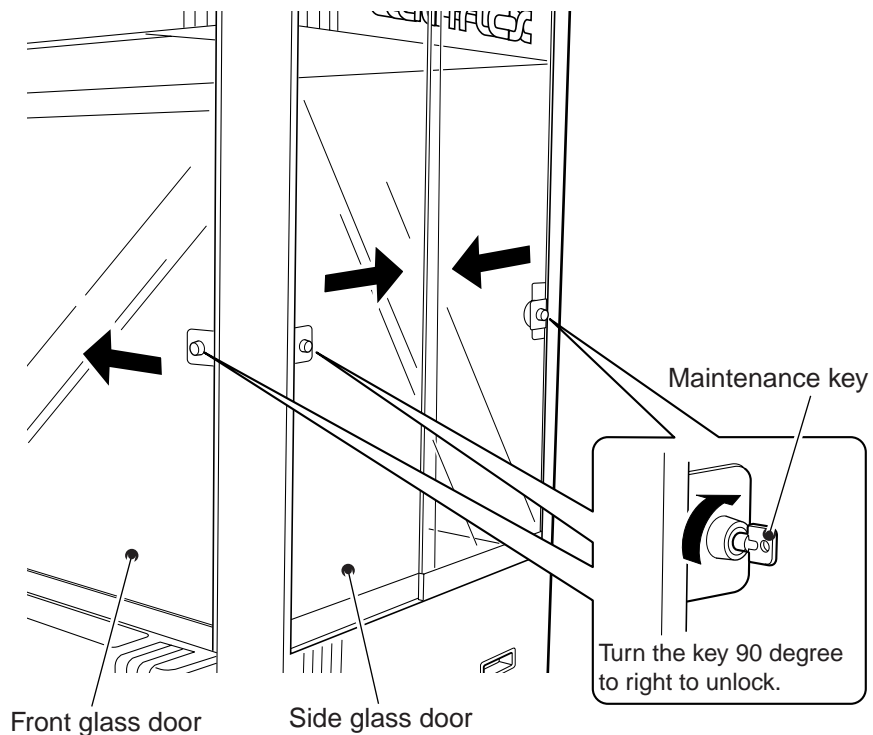
- The ceiling light fixture becomes very hot. To prevent fire and accident, do not bring prizes or decoration items close to the light fixture.

CAUTION

- When adding prizes, be careful not to let your hands or head touch moving parts. Touching moving parts can cause injury or equipment malfunctions.

7-2-1 Adding prizes

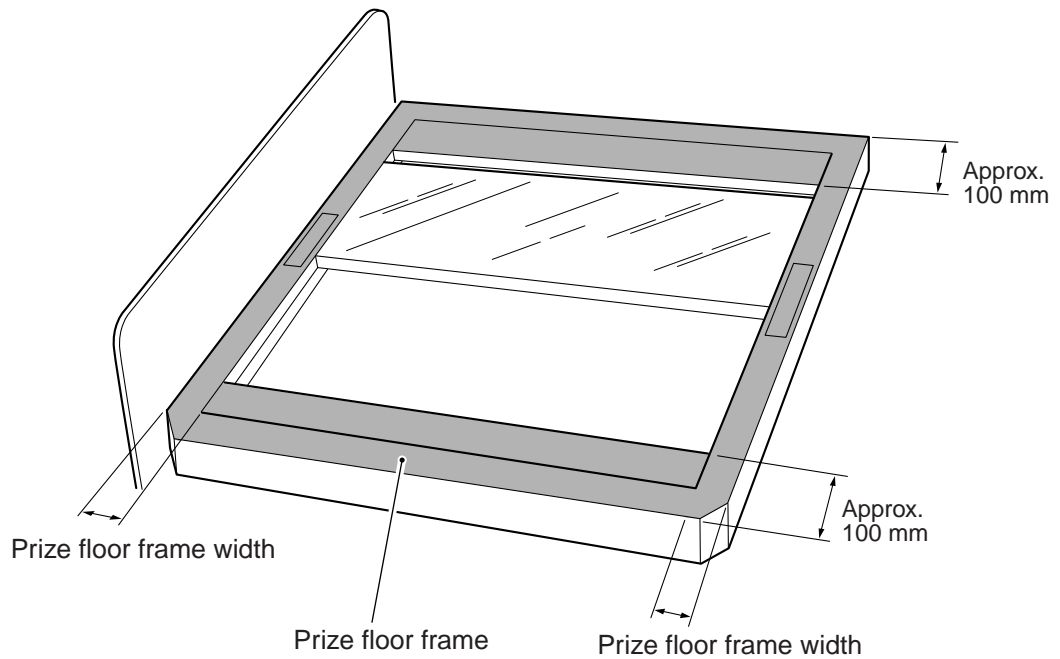
- 1** Using the provided maintenance key (turn 90 degree in the right direction), open the front or side glass door.



NOTICE

- Do not move the X Rail Assy, Y Rail Assy, Elevator Assy or Catcher Assy by hand, while the power switch is turned on. Moving those Assys with the power switch turned on can result in machine malfunctions.

- 2** The arms do not reach the areas about 100 mm from the front and back edge. In the widthwise direction, prizes have to be placed inside the prize floor frame in order for the arms to grasp them. Take these into consideration when adding prizes into the machine.



- 3** After adding prizes, close the glass door by following the procedure described in **1** in reverse.

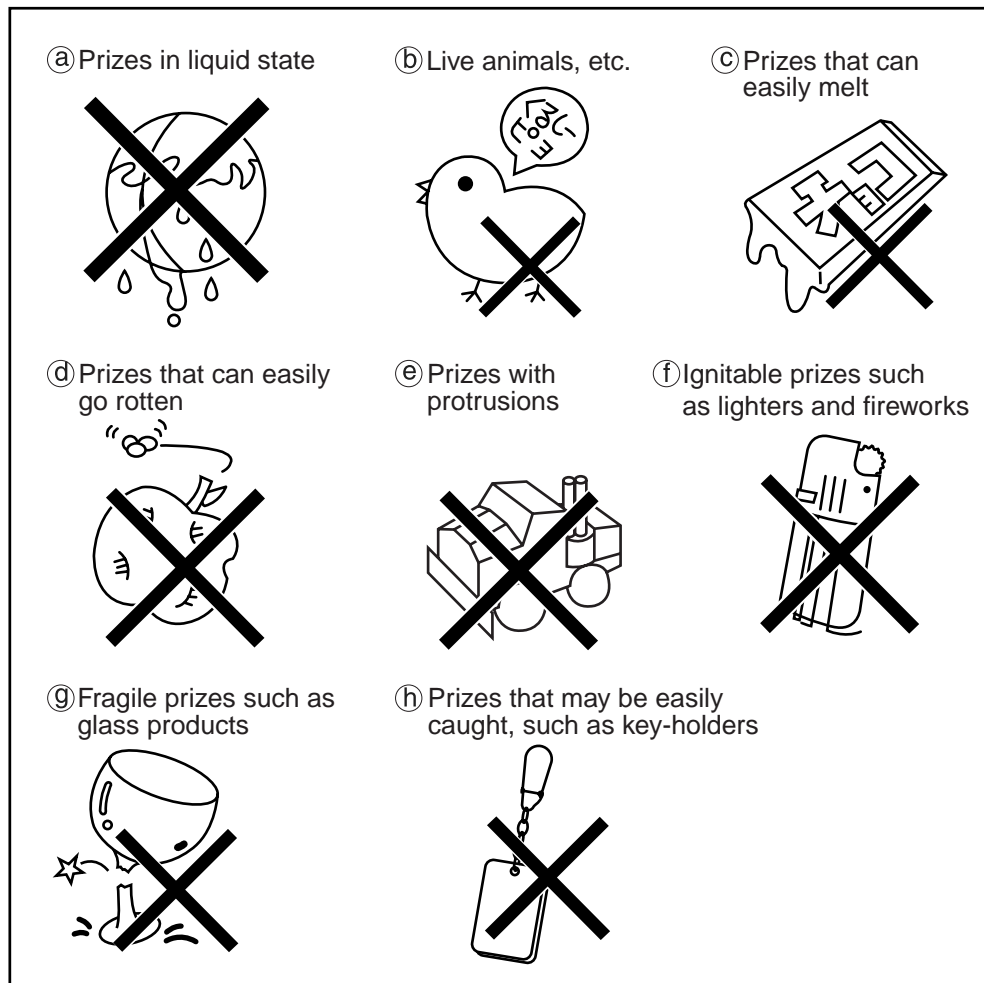
7-2-2 Preparing prizes

! WARNING

- Do not use prizes that may cause safety problems or health hazards.
- The quality of prizes may deteriorate, depending on installation conditions and prize types.
- The temperature inside the glass doors can be much higher than the temperature of the surrounding area since the glass doors block air ventilation and the fluorescent lamps are used to illuminate prizes. If the machine is installed outdoors or in a place where it is exposed to direct sunlight, the temperature inside the glass door becomes extremely high (see P. 14 "5-1-1 Locations to avoid").



- Make sure that the prizes used meet the following criteria.
 - 1) Weight: 1 kg or less per each
 - 2) Size: Three-dimensional item measuring 300 (W) x 300 (D) x 300 (H) mm, or smaller
 - * If the prize size is smaller than 60 mm, the prize dispensing counter may not be able to detect.
 - 3) Do not use any of the following prizes (see the diagram below).
- Note that use of prizes that do not meet the above criteria can cause machine malfunctions.



(The All Nippon Amusement Machine Operators' Union and other organizations have established guidelines regarding prizes to be dispensed by amusement machines in order to maintain and create healthy environments for young people. Please select prizes that comply with those guidelines.)

7-3 How to play

This 2-player crane game machine allows the change of the position, size and shape of the prize drop zone.

7-3-1 [Normal game]

(Regarding Buttons ①, ② and ③, see P. 12 "4. OVERALL CONSTRUCTION (Components and Their Names).")

* The following describes the operations of the left station. Note that the direction of movement in the widthwise direction is opposite in the right station.

- 1** Insert coins. The 7-segment LED shows the number of games that can be played. If the inserted coins are less than the number of coins necessary for one game credit, the 7-segment LED shows a flashing "0" indication.
- 2** Press Button ① to move the Catcher toward the right. The Catcher stops moving when the button is released. The Catcher also stops when it reaches the right end or the preset movement range limit (see P. 59 "7-6-2 Setting mode (1) Movement range setting").
- 3** Press Button ② to move the Catcher toward the back. The Catcher stops moving when the button is released. The Catcher also stops when it reaches the back end or the preset movement range limit (see P. 59 "7-6-2 Setting mode (1) Movement range setting").
- 4** The arms open and lower. The arm lowering operation stops when the Catcher detects a prize or the prize floor or when it reaches the movement limit.
- 5** The arms close and rise to the highest position.
- 6** The Catcher moves to the specified drop zone (see P. 60 "7-6-2 Setting mode (7) Drop zone setting"). If there are more than one drop zone, the Catcher moves to the nearest drop zone.
- 7** The arms open. The arms can be set to release the prize from the top position or to lower in position before releasing (see P. 60 "7-6-2 Setting mode (9) Prize releasing operation setting").
- 8** The prize that fell into the drop zone is dispensed out of the machine.

7-3-2 [Height-restricted game]

(See P. 64 "7-6-2 Setting mode (8) Game setting.")

* For this game setup, install the provided Buttons ③ (see P. 22 "5-6 Installing Buttons ③").

* For this game setup, affix the provided explanation stickers A to the machine (see P. 22 "5-6 Installing Buttons ③").

* The following describes the operations of the left station. Note that the direction of movement in the widthwise direction is opposite in the right station.

- 1** Insert coins. The 7-segment LED shows the number of games that can be played. If the inserted coins are less than the number of coins necessary for one game credit, the 7-segment LED shows a flashing "0" indication.

- 2** Press Button ① to move the Catcher toward the right. The Catcher stops moving when the button is released. The Catcher also stops when it reaches the right end or the preset movement range limit (see P. 59 "7-6-2 Setting mode (1) Movement range setting").
- 3** Press Button ② to move the Catcher toward the back. The Catcher stops moving when the button is released. The Catcher also stops when it reaches the back end or the preset movement range limit (see P. 59 "7-6-2 Setting mode (1) Movement range setting").
- 4** The arms open and lower. The arm lowering operation stops when Button ③ is pressed during the lowering operation, when the Catcher detects a prize or the prize floor, or when the Catcher reaches the movement limit.
- 5** The arms close and rise to the highest position.
- 6** The Catcher moves to the specified drop zone (see P. 60 "7-6-2 Setting mode (7) Drop zone setting"). If there are more than one drop zone, the Catcher moves to the nearest drop zone.
- 7** The arms open. The arms can be set to release the prize from the top position or to lower in position before releasing (see P. 60 "7-6-2 Setting mode (9) Prize releasing operation setting").
- 8** The prize that fell into the drop zone is dispensed out of the machine.

7-3-3 [Game with retry]

(See P. 60 "7-6-2 Setting mode (8) Game setting.")

- * For this game setup, install the provided Buttons ③ (see P. 22 "5-6 Installing Buttons ③").
- * For this game setup, affix the provided explanation stickers A to the machine (see P. 22 "5-6 Installing Buttons ③").
- * The following describes the operations of the left station. Note that the direction of movement in the widthwise direction is opposite in the right station.

- 1** Insert coins. The 7-segment LED shows the number of games that can be played. If the inserted coins are less than the number of coins necessary for one game credit, the 7-segment LED shows a flashing "0" indication.
- 2** Press Button ① to move the Catcher toward the right. The Catcher stops moving when the button is released. The Catcher also stops when it reaches the right end or the preset movement range limit (see P. 59 "7-6-2 Setting mode (1) Movement range setting").
- 3** Press Button ② to move the Catcher toward the back. The Catcher stops moving when the button is released. The Catcher also stops when it reaches the back end or the preset movement range limit (see P. 59 "7-6-2 Setting mode (1) Movement range setting").
- 4** The arms open and lower. The arm lowering operation stops when the Catcher detects a prize or the prize floor or when it reaches the movement limit.
- 5** The arms close and rise.
- 6** If Button ③ is pressed before the Catcher reaches the highest position, the arms stop moving.

-
- 7** The arms open again and lower. The arm lowering operation stops when the Catcher detects a prize or the prize floor or when it reaches the movement limit.
 - 8** The arms close and rise to the highest position.
 - 9** The Catcher moves to the specified drop zone (see P. 60 "7-6-2 Setting mode (7) Drop zone setting"). If there are more than one drop zone, the Catcher moves to the nearest drop zone.
 - 10** The arms open. The arms can be set to release the prize from the top position or to lower in position before releasing (see P. 60 "7-6-2 Setting mode (9) Prize releasing operation setting").
 - 11** The prize that fell into the drop zone is dispensed out of the machine.

7-3-4 [Timer mode]

(See P. 60 "7-6-2 Setting mode (8) Timer mode setting.")

* This modes allows the operation of the Catcher as many times as a player wants within the set time limit.

- 1** Insert coins. The 7-segment LED shows the number of games that can be played. If the inserted coins are less than the number of coins necessary for one game credit, the 7-segment LED shows a flashing "0" indication.
- 2** Select the game mode from "Normal," "Height-restricted game" or "Game with retry."
- 3** The arms can be operated repeatedly within the time limit (60, 90 or 120 seconds).

* When the remaining time reaches 10 seconds, the display (7-segment LED) that shows the number of game credits indicates the remaining time. The displayed number starts counting down when the remaining time reaches 5 seconds.
- 4** When the remaining time becomes zero, the Catcher rises to the highest position.
- 5** The Catcher moves to the specified drop zone (see P. 60 "7-6-2 Setting mode (7) Drop zone setting"). If there are more than one drop zone, the Catcher moves to the nearest drop zone.
- 6** The arms open. The arms can be set to release the prize from the top position or to lower in position before releasing (see P. 60 "7-6-2 Setting mode (9) Prize releasing operation setting").
- 7** The prize that fell into the drop zone is dispensed out of the machine.

7-3-5 [Payout-rate support mode]

(See P. 59 "7-6-2 Setting mode (4) Payout rate support setting.")

In this game mode, the arm power of the Catcher automatically increases or decreases to make the payout rate closer to the set rate.

* Immediately after this mode is activated, the arm power set with the arm power volume is valid (this setting value is used as a reference value for increasing or decreasing the arm power).

- * Actual payout ratio may not become close to the target payout rate, depending on prize types and drop zone shapes.
- * This mode can be used with any game setup described in 7-3-1 to 7-3-4.
- * If the payout sensors are set to OFF (see P. 60 "7-6-2 Setting mode (11) Payout sensor setting"), this setting is invalid.
- * The payout rate calculation will be reset in the following cases:
 1. When the power switch is turned off.
 2. When the arm power setting is changed.
 3. When counter data is reset in the Attract mode (see P. 57 "7-6-1 Attract mode")

7-3-6 [Service mode]

(See P. 60 "7-6-2 Setting mode (5) Service mode setting.")

In this mode, the arm power increases according to the number of game plays during a continuous play.

A "continuous play" refers to the game played by adding a game credit in the Attract mode with 60 seconds from the end of the previous game.

- * Immediately after this mode is activated, the arm power set with the arm power volume is valid (this setting value is used as a reference value for increasing or decreasing the arm power).
- * This mode can be used with any game setup described in 7-3-1 to 7-3-4.
- * If the "payout-rate support mode" described in 7-3-5 is enabled, the service mode will be disabled.
- * If the payout sensors are set to OFF (see P. 60 "7-6-2 Setting mode (11) Payout sensor setting"), this setting is disabled.
- * The arm power increases from the reference arm power according to the number of continuous plays, as shown below (upper-limit arm power is 150):
 - Arm power in 6th to 8th play: Setting value + 2 steps
 - Arm power in 9th to 11th play: Setting value + 4 steps
 - Arm power in 12th to 14th play: Setting value + 6 steps
 - Arm power in 15th to 16th play: Setting value + 8 steps
 - Arm power in 17th to 18th play: Setting value + 10 steps
 - Arm power in 19th to 20th play: Setting value + 12 steps
 - Arm power in 21st to 22nd play: Setting value + 14 steps
 - Arm power in 23rd to 24th play: Setting value + 16 steps
 - Arm power in 25th play and; thereafter: Setting value + 18 steps
- * When a prize is dispensed, the continuous play mode is reset and the arm power returns to the reference setting.

7-4 Operation method

This game machine allows the following setting changes and hardware adjustments.

7-4-1 Catcher settings

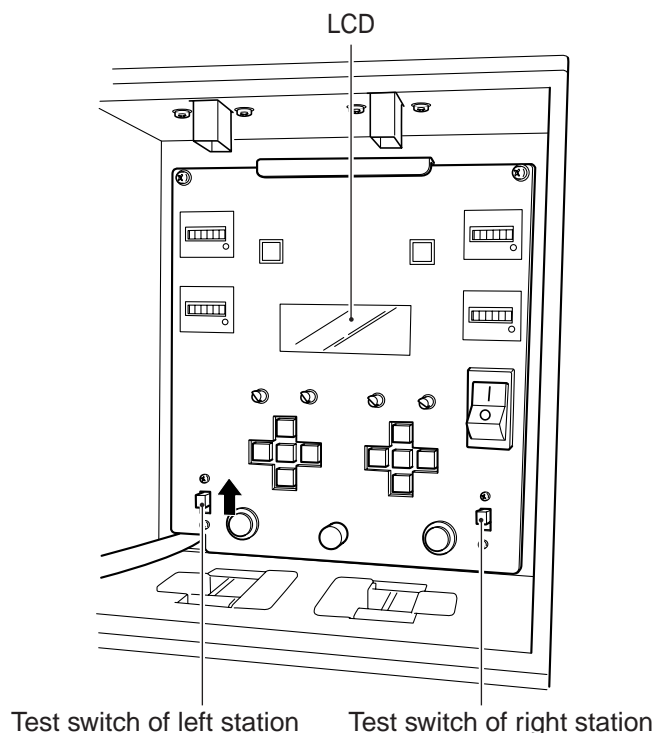
(adjustment of grasping force, arm replacement, claw replacement, etc.)

(1) Catcher initialization

Be sure to conduct initialization in the following cases. The arms cannot generate accurate grasping power until initialization is performed.

- ① When arms are replaced (see P. 41 "7-4-1 Catcher settings (3) Replacing the arms")
- ② When claws are replaced (see P. 42 "7-4-1 Catcher settings (4) Adjusting the claw tips")

- 1** Using the provided maintenance key, open the coin section door (see P. 12 "4. OVERALL CONSTRUCTION").
- 2** Turn on the Test switch of the station in which the arms were replaced, and turn the switch off. This returns the Catcher to the home position.



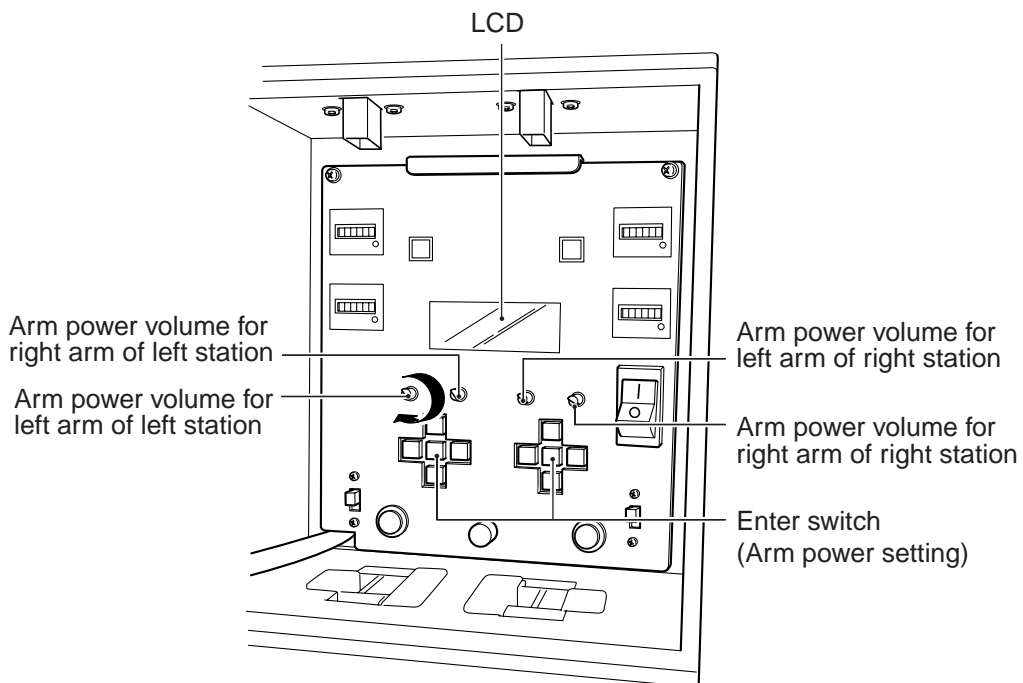
The arms open and close while they are moving back to the home position. If the automatic diagnostic function deems that calibration is necessary, calibration will be initiated during initialization. (The calibration process may take several minutes.)



- **Never touch the arms during initialization. Touching the arms disallows proper initialization.**

(2) Adjusting the arm power (grasping force)

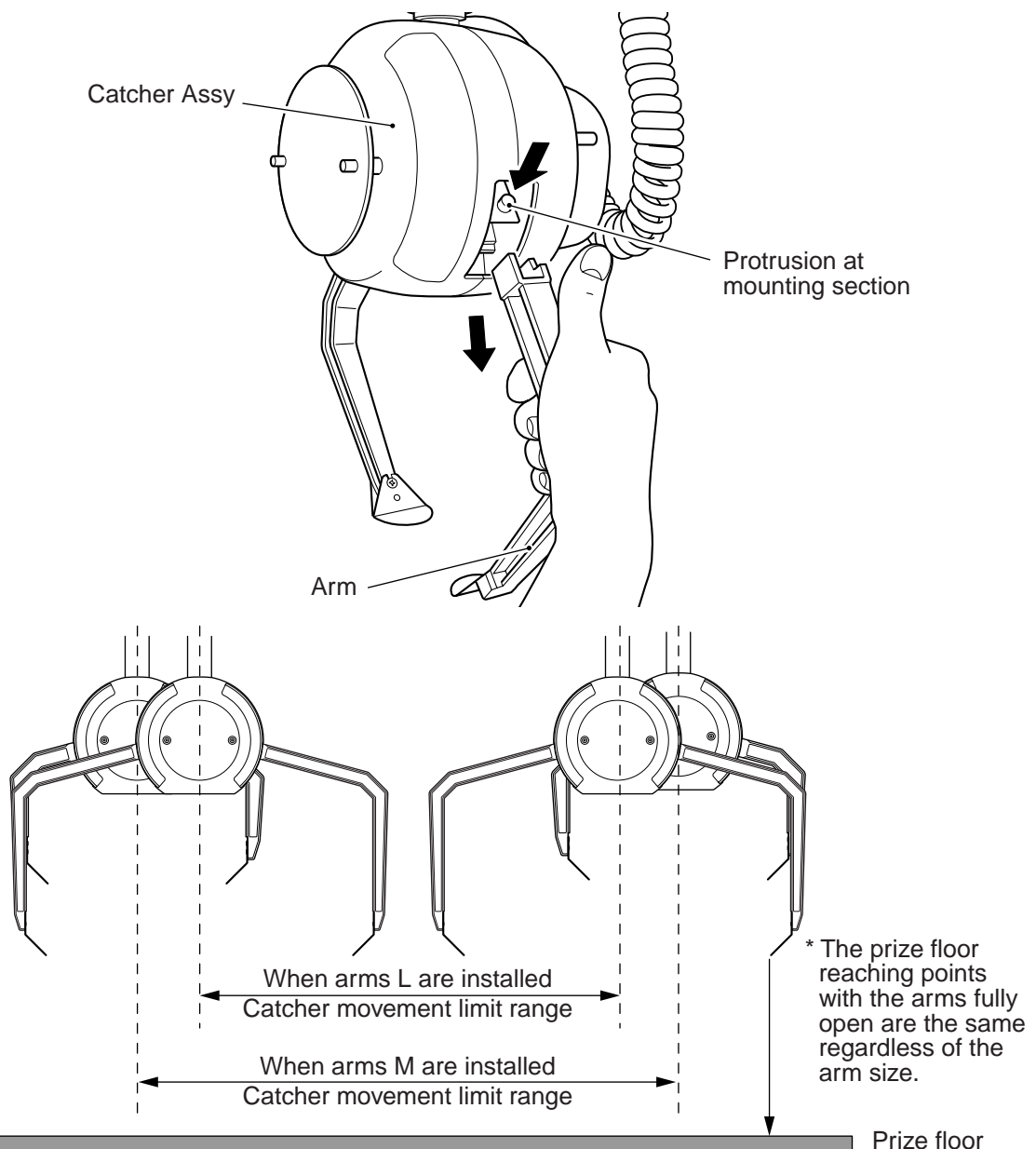
- 1** Using the provided maintenance key, open the coin section door.
- 2** The LCD indicates the current arm power in the Attract mode (see P. 57 "7-6-1 Attract mode").
- 3** Turn the arm power volume to the right to increase the value. Turn the volume to the left to decrease the value. The larger the value, the greater the grasping force.
 - * One of the following three power range settings can be selected (see P. 59 "7-6-2 Setting mode (2) Arm power range setting").
 - (1) Normal 1 through 50
 - (2) High 51 through 1000
 - (3) Powerful 101 through 150



- 4** Press the Enter switch to display the arm power setting screen on the LCD (see P. 57 "7-6-1 Attract mode").
- 5** If Button ① (in flashing mode) on the control panel is pressed while the display shows the arm power setting screen (see above **4**), the arms generate the set arm power (the arm power generating power varies according to the arm power range. Button ① remains lit while arm power is generated.).
- 6** If the arm power volume is turned and the displayed value changes while arm power is generated, the arm power also changes accordingly.
- 7** Repeat steps **5** and **6** to adjust the arm power.
- 8** After the adjustment is completed, press the Enter switch to exit from the adjustment mode. If operation is not conducted for a certain period of time, the adjustment mode automatically ends.

(3) Replacing the arms

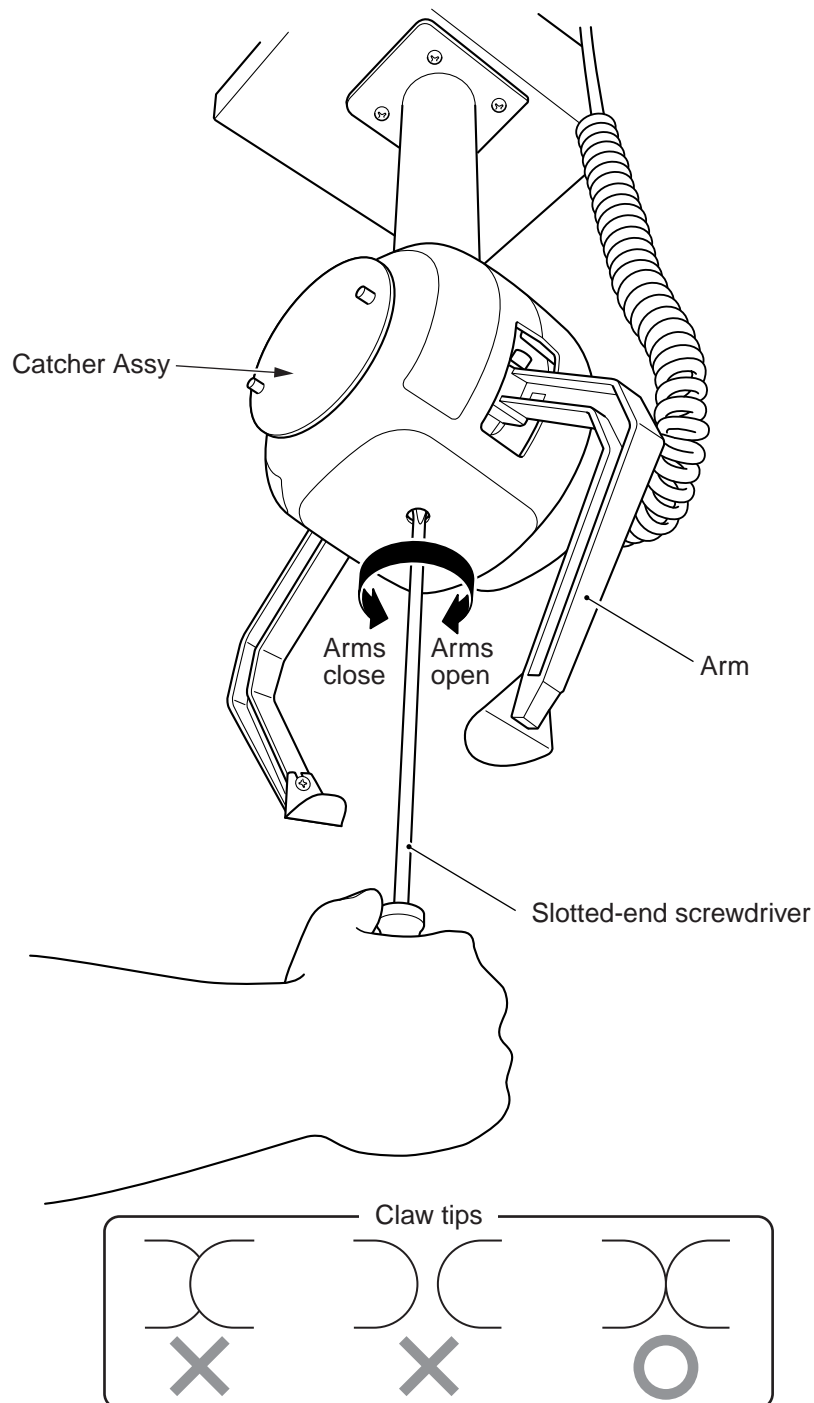
- 1** Using the provided maintenance key, open the front glass door (see P. 32 "7-2-1 Adding prizes" **1**).
- 2** While pressing the protrusion on the arm mounting section, pull the arm.
- 3** Insert a replacement arm.
- 4** Make sure that the arm is securely held in place.
- 5** Adjust the positions of the claw tips (see P. 43 "7-4-1 Catcher settings (5) Adjusting the claw tips").
- 6** Initialize the Catcher (see P. 39 "7-4-1 Catcher settings (1) Initializing the Catcher").
 * When an arm is replaced, the arm size is recognized and the Catcher movement limit range (widthwise direction) is automatically changed (there is no need to change the sensor position).



- Since the machine recognizes the arm size and automatically changes the movement limit, do not use any arm other than those provided with the machine.

(4) Adjusting the claw tips

- 1** Using the provided maintenance key, open the glass door (see P. 32 "7-2-1 Adding prizes" **1**).
- 2** Insert the tip of a slotted-end screwdriver into the hole on the bottom surface of the Catcher and insert the screwdriver tip in the recess of the adjustment screw. Turn the screw to the right or left so that the claw tips are positioned as shown in the diagram below.

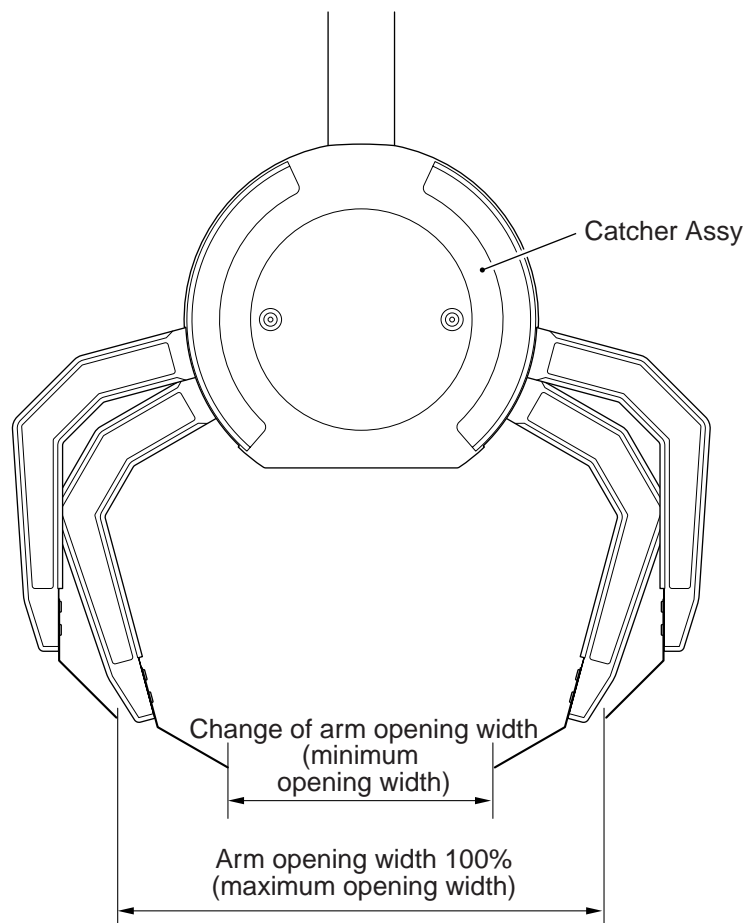


(5) Adjusting the arm opening width

The arm opening width can be adjusted according to the size of prizes.

The opening width can be selected from the following four settings: 100%, 75%, 67% and 50%.

- 1** Using the provided maintenance key, open the coin section door.
- 2** While holding the Enter switch pressed, turn on the Test switch to activate the Setting mode.
- 3** Change the opening width by using the arm opening width setting (see P. 59 "7-6-2 Setting mode (3) Arm opening width setting").
- 4** Set the Test switch to OFF to apply the setting.



(6) Adjusting the lift timing

The length of time from the moment the Catcher performs a prize grabbing operation to the time when it starts rising can be changed. To enhance the excitement of grasping a prize, set the lift timing to "slow." To promote smoothly paced game play, set the lift timing to "fast."

- 1** Using the provided maintenance key, open the coin section door.
- 2** While holding the Enter switch pressed, turn on the Test switch to activate the Setting mode.
- 3** Change the timing by using the lift timing setting (see P. 60 "7-6-2 Setting mode (10) Lift timing setting").
- 4** Set the Test switch to OFF to apply the setting.

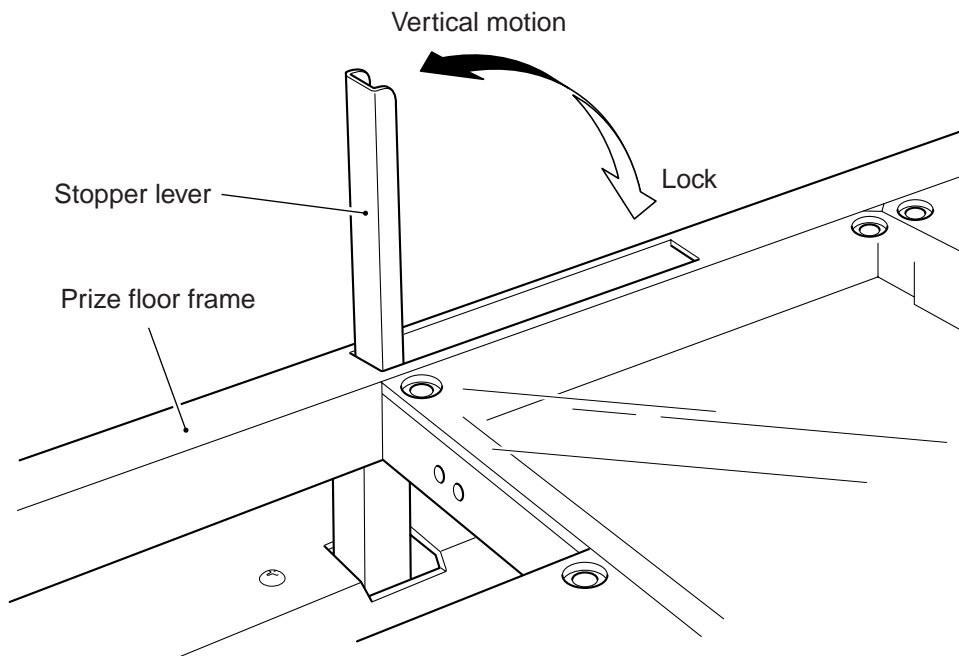
7-4-2 Prize floor settings (floor shape, floor height adjustment, etc.)

(1) Adjustment of the prize floor height

CAUTION

- When raising or lowering the prize floor, be careful not to get your hands or fingers caught; otherwise, injury or machine malfunction can occur.
- Be advised that releasing the stopper lever lock causes the prize floor to automatically rise.

- 1** Using the provided maintenance key, open the front glass door (see P. 32 "7-2-1 Adding prizes" **1**).
- 2** Raise the stopper levers on the right and left sides of the prize floor frame section.



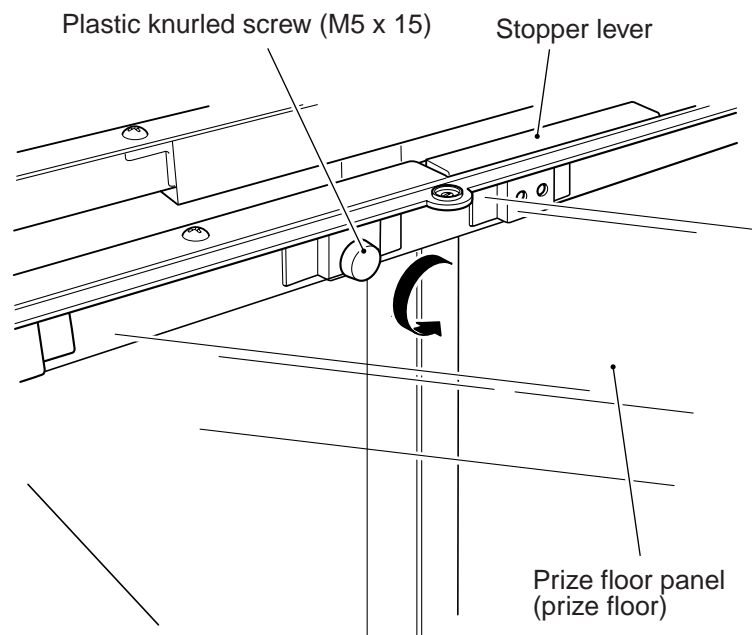
- 3** Move the prize floor up or down.
- 4** When the prize floor is at a desired height, move the stopper levers to the horizontal position. Make sure that the prize floor is positioned securely and horizontally.



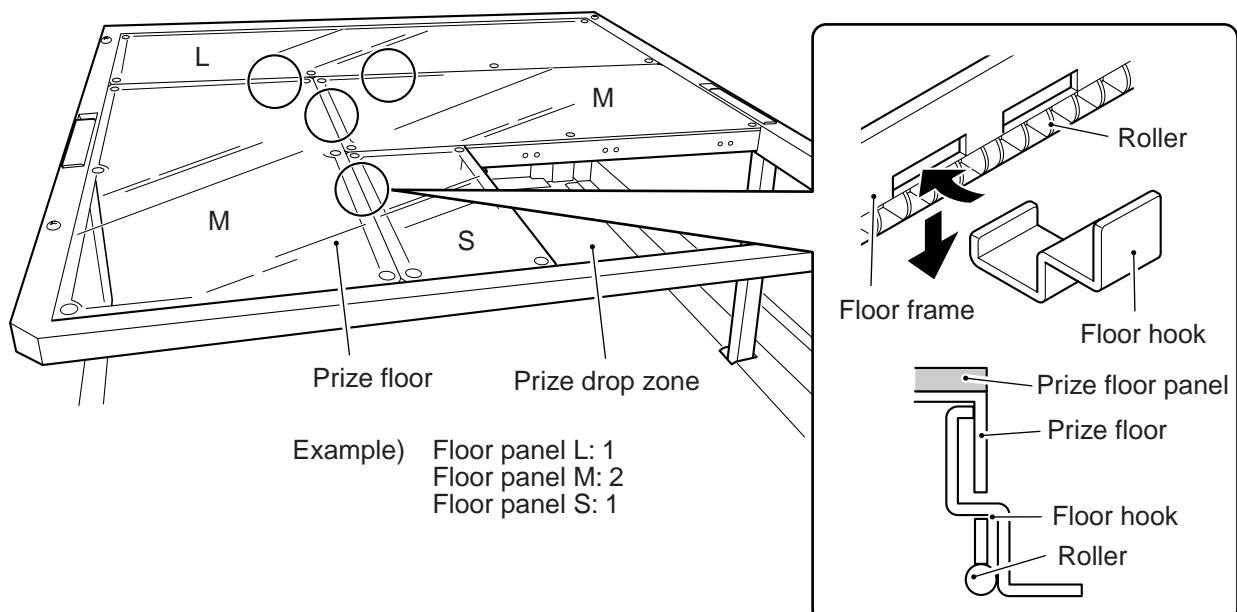
- Be sure to set the prize floor level. If the prize floor is tilted, machine malfunctions can occur.

(2) Adjustment of the floor shape

- 1** Using the provided maintenance key, open the front glass door (see P. 32 "7-2-1 Adding prizes" **1**).
- 2** Raise the prize floor to the highest position (see P. 44 "7-4-2 Prize floor settings (1) Adjustment of the prize floor height").
- 3** Remove the plastic knurled screws (M5 x 15) that hold the floor panels in place.
- 4** Dismount the floor panels.

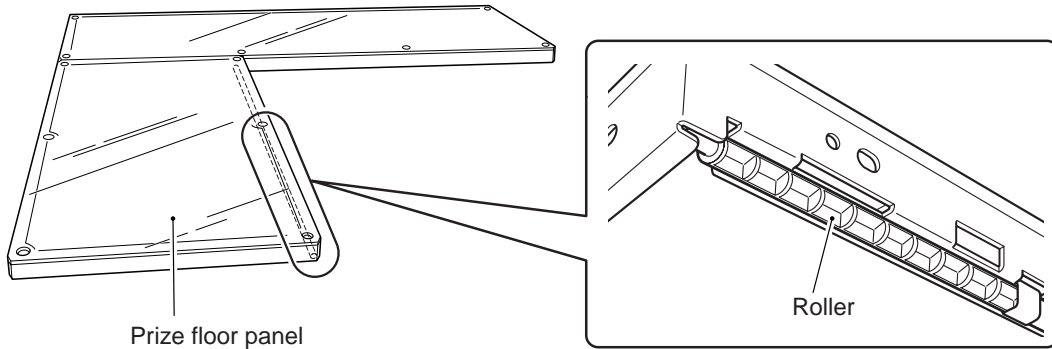


- 5** Attach the floor hooks that hold floor panels, and arrange prize floor panels to create a drop zone.





- Install the prize floor panels in such a way that the rollers are placed on the side. Incorrect installation of prize floor panels can result in a machine malfunction.



- 6 Secure the prize floor panels by using the plastic knurled screws (M5 x 15) that were removed in the previous step and plastic knurled screws (M5 x 15) that are provided as accessory parts.
- 7 Using the provided maintenance key, open the coin section door.
- 8 Select "Setting mode (7) Drop zone setting" (see P. 60 "7-6-2 Setting mode (7) Drop zone setting").
- 9 Using the right or left button of the cross-shaped button switch to move the ">" mark, and use the Enter switch to select "#" (prize floor) or "O" (drop zone).
- 10 Set the Test switch to OFF to end the setting procedure.

* After the arms perform the prize grasping operation, the Catcher moves to the nearest specified drop zone and then performs the prize releasing operation.

● Examples of prize floor shapes

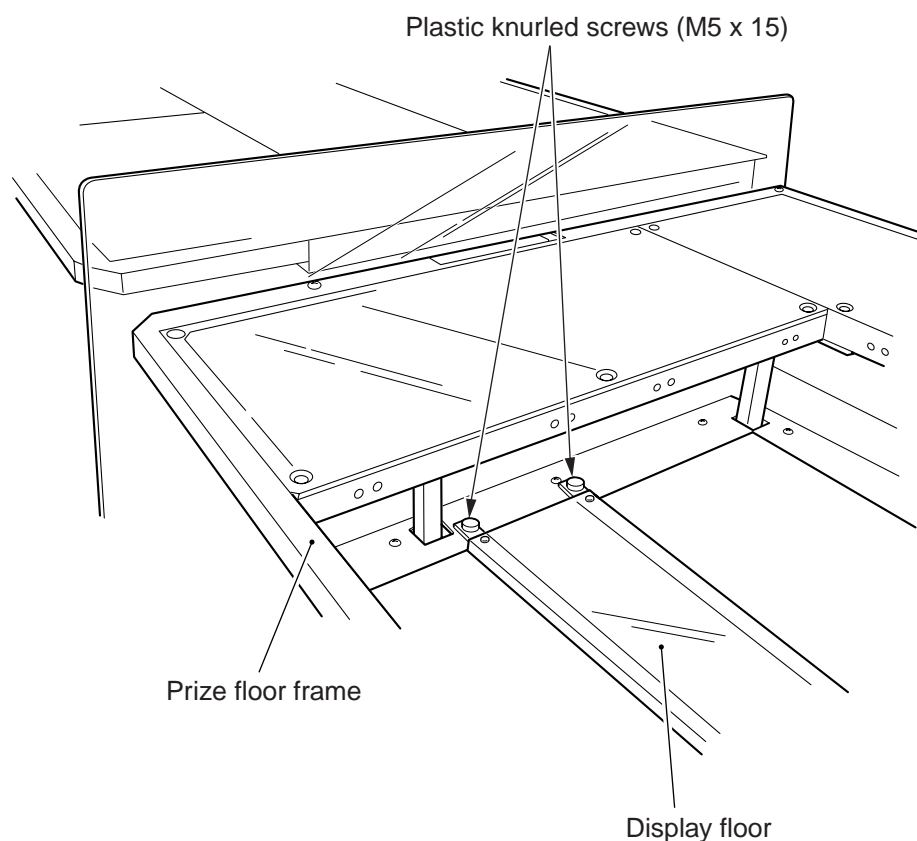
Floor shape name	Standard type	Reverse U type	T type
Layout	<p>* Dotted line indicates the display floor of the lower layer.</p>		
Drop zone setting * To be set according to the floor opening section.	<pre> ### ### ##O </pre> <p>Drop zone</p>	<pre> ### #O# #O# </pre>	<pre> ### O#O O#O </pre>



- Make sure that the prize floor panels are securely installed. If they are not securely installed, the arms can get caught and may break the panels.
- After the floor shape is changed, be sure to enter the drop zone setting by specifying the area without floor panel as a drop zone. If this setting is not made, prizes may not be dispensed from the prize outlet (see P. 60 "7-6-2 Setting mode (7) Drop zone setting").
- Since the Catcher movement range is restricted by the arm size, conduct a test operation to ensure that prizes fall through the drop zone to the prize outlet.

(3) Change of the display floor

- 1** Using the provided maintenance key, open the front and side glass doors (see P. 32 "7-2-1 Adding prizes" **1**).
- 2** Raise the prize floor to the highest position (see P. 44 "7-4-2 Prize floor settings (1) Adjustment of the prize floor height").
- 3** Remove the plastic knurled screws (M5 x 15) that hold the display floor in place.
- 4** Change the position of the display floor according to the shape of the prize floor, and secure it in place by using the plastic knurled screws (M5 x 15).

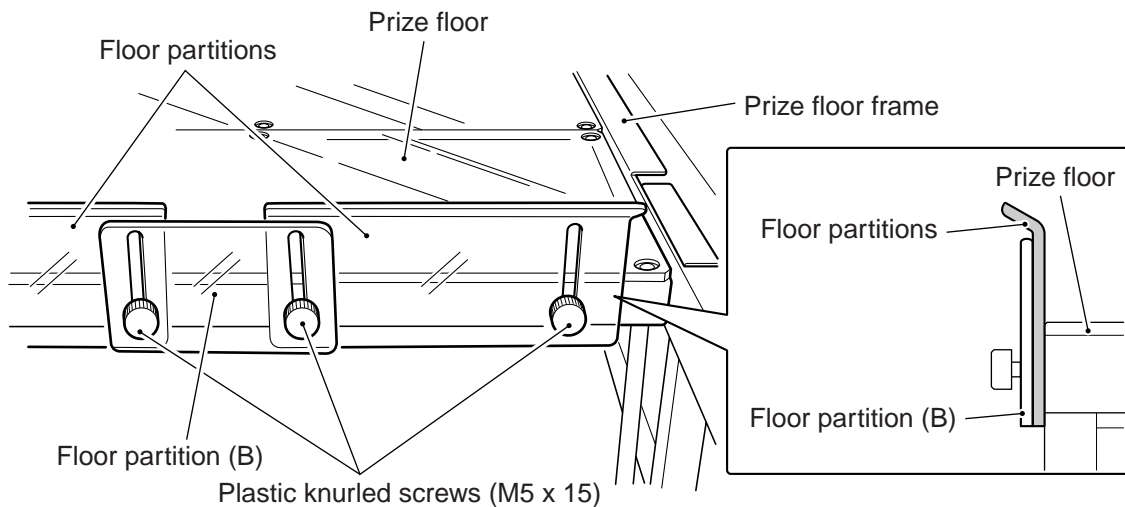


- Make sure that the display floor is installed securely.
- Do not install the display floor at the set drop zone. Incorrect installation of display floor disallows prizes from being dispensed properly (see P. 60 "7-6-2 Setting mode (7) Drop zone setting").

(4) Installation of floor partitions and floor partitions (B)

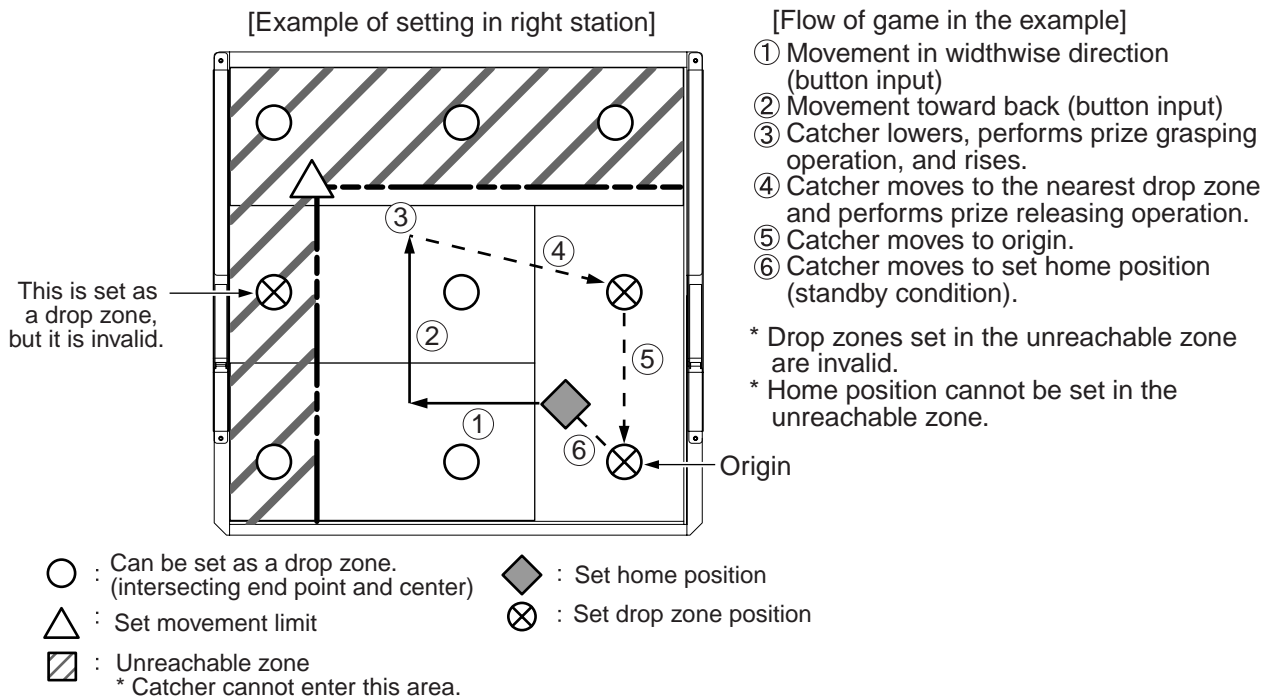
- When two or more floor partitions are arranged in a row, install the floor partition (B) between adjacent floor partitions.
If there is a gap between floor partitions, the arms can get caught and may cause a malfunction.

- 1 Using the provided maintenance key, open the front and side glass doors (see P. 32 "7-2-1 Adding prizes" **1**).
- 2 Mount floor partitions and floor partitions (B) to the edge faces of the prize floor panel by using the plastic knurled screws (M5 x 15) for secure installation.

**7-4-3 Crane moving range setting**

In this game machine, the home position and movement range can be changed.

- 1 Using the provided maintenance key, open the coin section door.
- 2 Select "Setting mode (1) Movement range setting" (see P. 59 "7-6-2 Setting mode (7) Movement range setting").
- 3 Press the Enter switch to start the setting procedure.
- 4 Using Button ① on the control panel, move the home position to the right or left.
- 5 Using Button ② on the control panel, move the home position to the front or back.
- 6 Press the Enter switch to determine home position. (If the origin is set as home position, skip steps **4** and **5** and press the Enter switch.)
- 7 Using Button ① on the control panel, move the Catcher to the movement limit position in the right and left directions.
- 8 Using Button ② on the control panel, move the Catcher to the movement limit position in the front and back directions.
- 9 Press the Enter switch to apply the movement limit positions. (To set the maximum movement range, skip steps **7** and **8** and press the Enter switch.)
- 10 Set the Test switch to OFF to end the setting procedure.

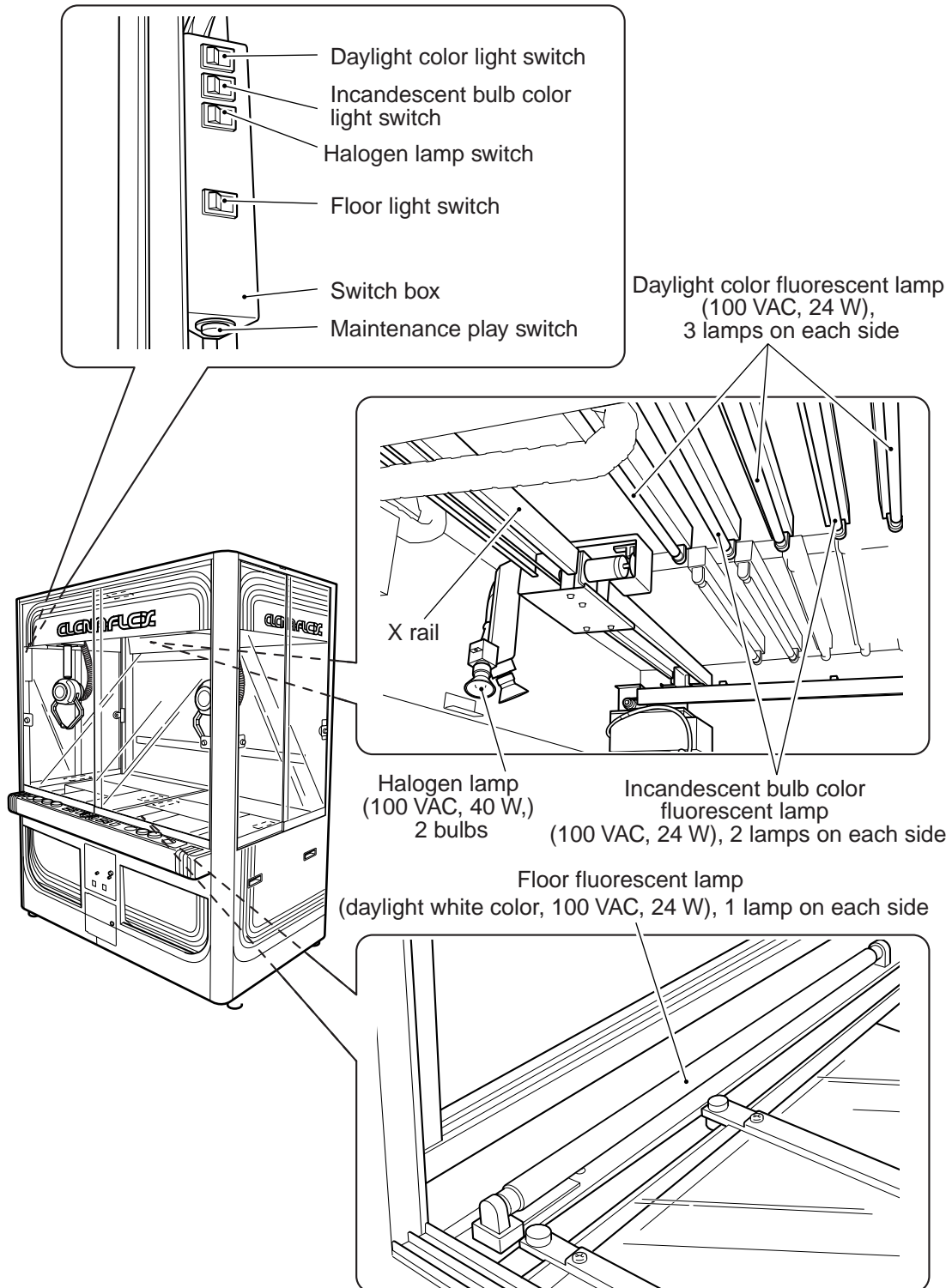


- Set the drop zone positions (see P. 44 “7-4-2 Prize floor settings”) within the movement range designated by the movement range setting. If a drop zone is set outside the movement range, prizes may not be dropped properly. Be sure to conduct a test operation to confirm proper operation.

7-4-4 Illumination settings

The light combination can be varied to provide appropriate illumination according to the type of prizes placed in the machine.

The lights in each station can be controlled by the switches in the switch box.



(1) Ceiling light combination

* The number of lamps indicated below is per station.

[Full illumination]

Daylight color fluorescent lamps (3 lamps) + Incandescent bulb color fluorescent lamps (2 lamps) + Halogen lamp (1 bulb)

- Brightest, natural-looking light

[Warm illumination]

Incandescent bulb color fluorescent lamps (2 lamps) + Halogen lamp (1 bulb)

- Reddish light for creating a warm ambience.

[Brisk illumination]

Daylight color fluorescent lamps (3 lamps)

- Bluish light to creating a brisk and cool-looking ambience.

(2) Floor light

The floor light illuminates the display floor and prize outlet.

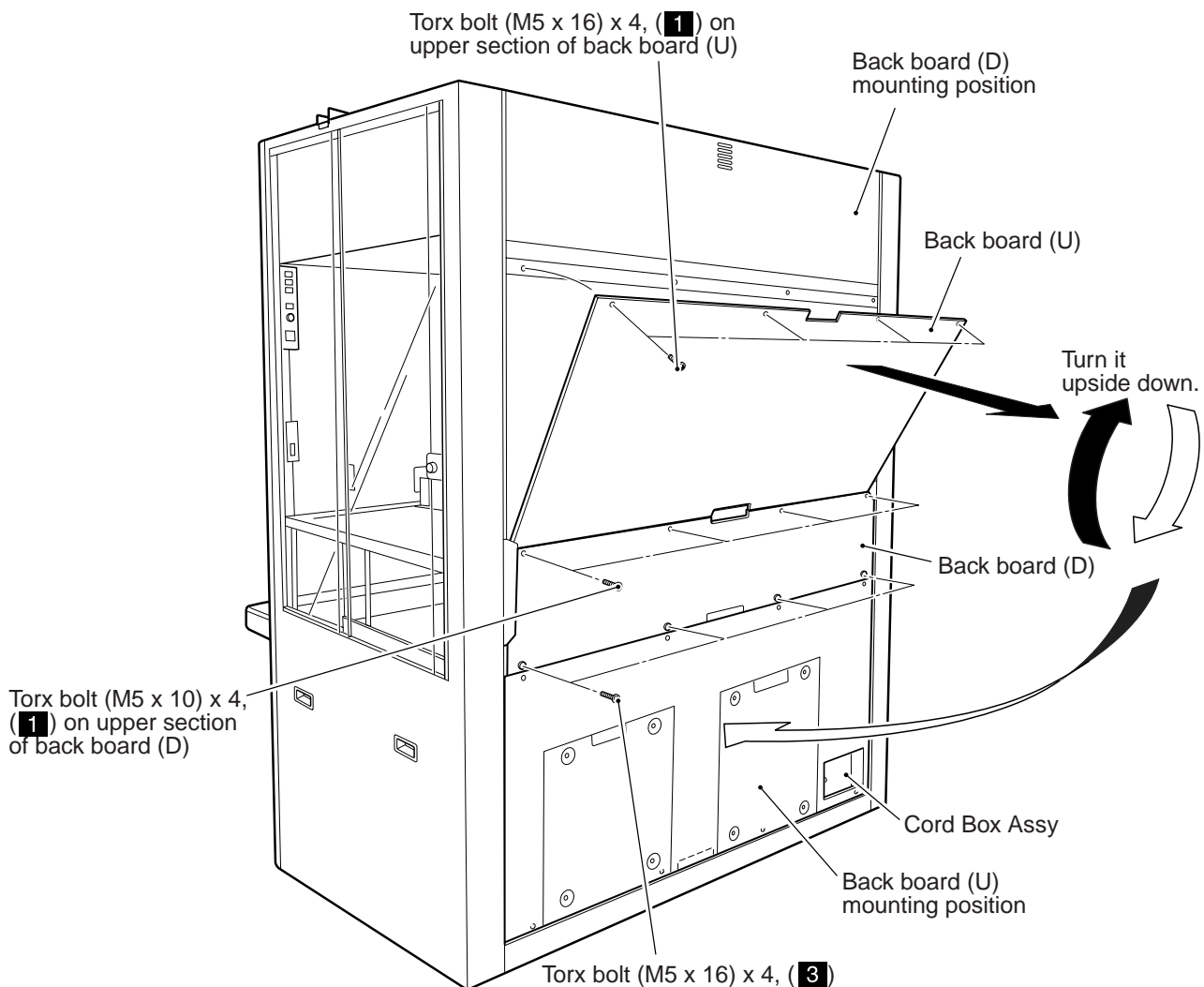
7-4-5 Back board storage

CAUTION

- If the machine is set up without the back board, make sure that players or bystanders cannot put their hands or heads into the cabinet; otherwise, injury or equipment malfunction can occur.

The back board can be stored on the rear side of the cabinet.

- 1** Remove the four Torx bolts (M5 x 16) from the upper section of the back board (U) and four Torx bolts (M5 x 10) from the upper section of the back board (D), and dismount the back board (U).
- 2** Turn the back board (U) upside down, and attach it to the mounting position on the lower section of the cabinet rear side using the bolts removed in the above step.
- 3** Remove the four Torx bolts (M5 x 16) and dismount the back board (D).
- 4** Turn the back board (D) upside down, and attach it to the mounting position on the upper section of the cabinet rear side by using the bolts removed in the above step.



7-4-6 Maintenance Play switch

The Maintenance Play switch is located in the switch box section of the machine. It enables the machine to operate in the test game mode without activating the play counter or prize dispenser counter.

- 1** Using the provided maintenance key, open the front and side glass doors (see P. 32 "7-2-1 Adding prizes" **1**).
- 2** While the machine is in the Attract mode and with no coin inserted, press the Maintenance Play switch.
- 3** The game credit display changes to "1." (It does not increase to "2" or higher.)
- 4** The machine is ready for a test game.

7-4-7 Prize counter count-up

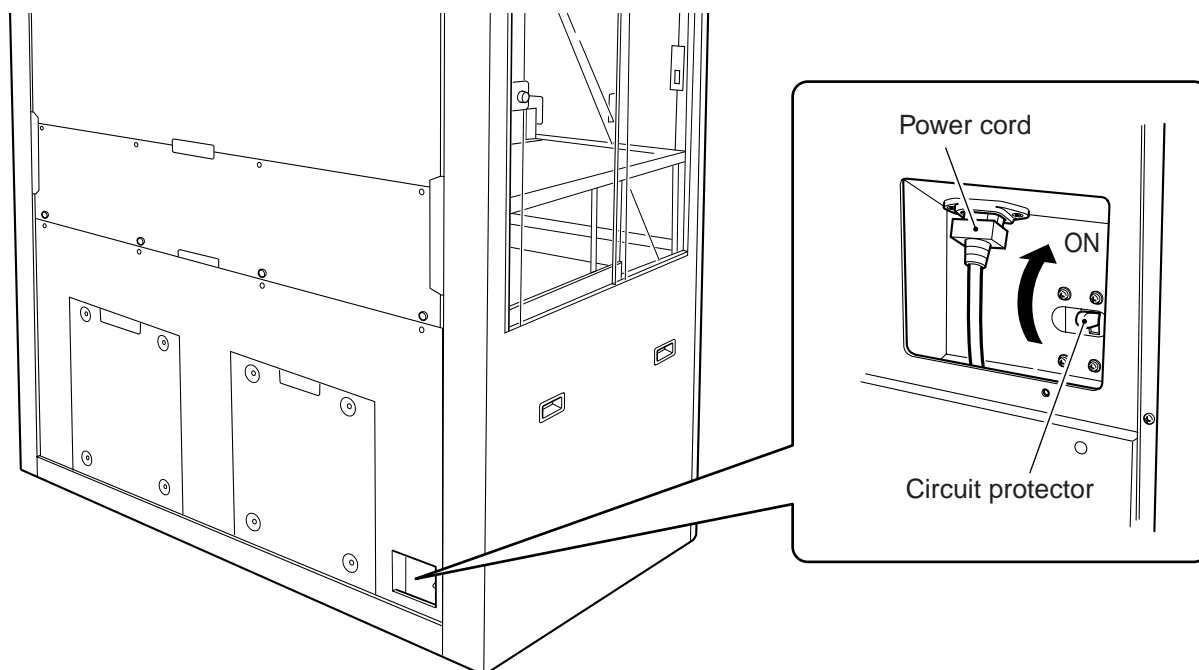
The prize counter can be incremented manually when the counter does not operate properly due to a jammed prize or another reason.

- 1** Using the provided maintenance key, open the front and side glass doors (see P. 32 "7-2-1 Adding prizes" **1**).
- 2** While the machine is in the Attract mode and with no coin inserted, hold Button ① and Button ② pressed at the same time, and turn off the payout sensors.
- 3** Fanfare music plays, and the prize counter increments by one.

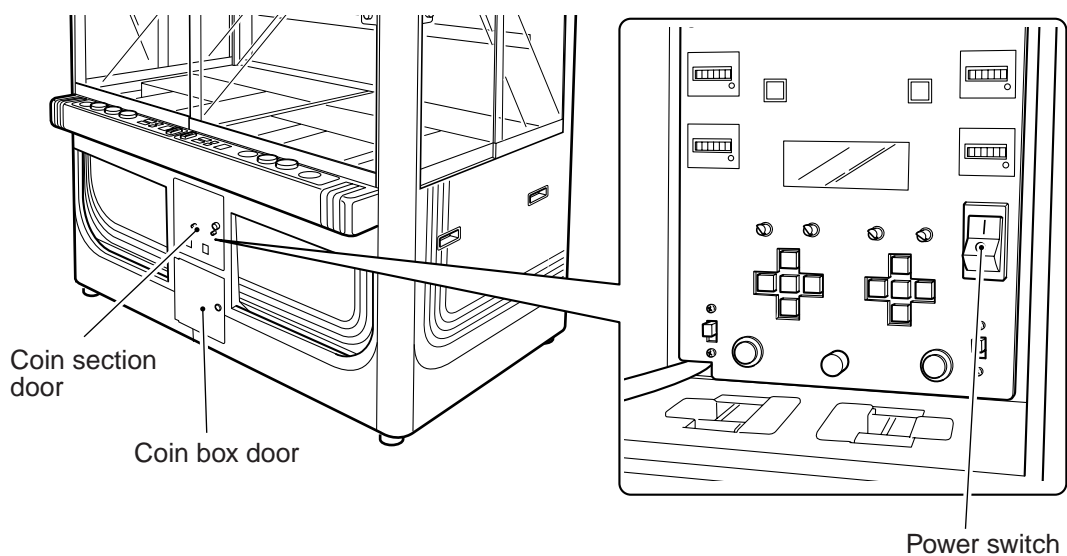
7-5 Adjustment

7-5-1 Turning on the power switch

- 1** Connect the power cord plug to an AC outlet.
- 2** Turn on the circuit protector.



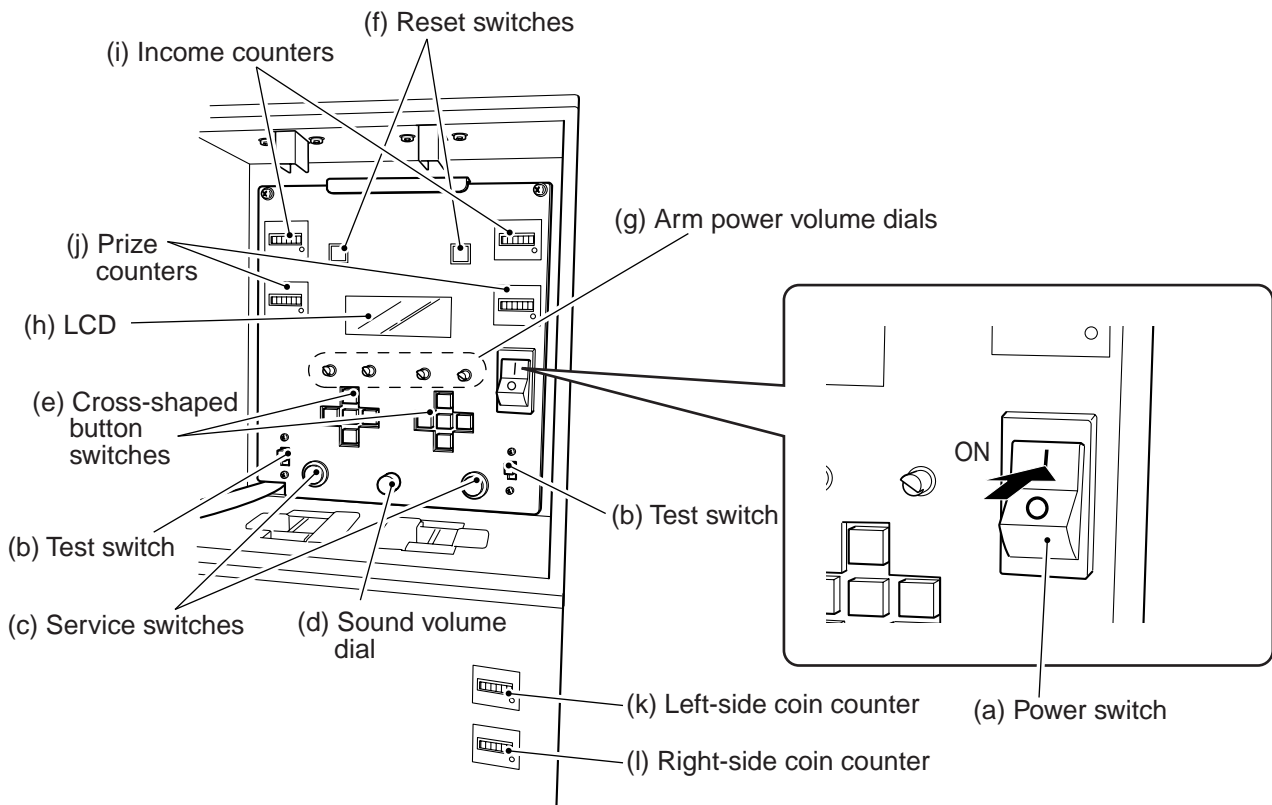
- 3** Open the coin section door, and turn on the power switch.



- Power will not be supplied to the machine unless both the circuit protector and power switch are turned on.

7-5-2 Adjustment switches

Adjustment switches are provided individually for the right and left stations, except for the power switch, sound volume dial and coin counter.



(a) Power switch (for both right and left stations)

This switch turns power on or off.

(b) Test switches

ON (top position): Activates the Setting mode or Test mode.

(See P. 59 "7-6-2 Setting Mode" and P. 63 "7-6-3 Test mode.")

OFF (bottom position): Activates the Attract mode (normal standby mode, waiting for coin insertion)

(See P. 57 "7-6-1 Attract mode.")

(c) Service switches

Pressing the switch once adds one game credit (does not activate the coin counter or income counter).

(d) Sound volume dial (for both right and left stations)

This dial is used to adjust the level of background music and sound effects.

(e) Cross-shape button switches (Up, Down, Right, Left, Enter)

These switches are used for changing the LCD display and entering settings in the Attract mode, or for changing items and entering setting values in the Test mode.

(f) Reset switches

These switches reset the LCD counters when the machine is in the Attract mode.

(g) Arm power volume dials

These dials allow the individual adjustment of the grasping force of the right and left Catcher arms.

(h) LCD

The LCD displays various settings such as counter values in the Attract mode, or various settings in the Test mode.

(i) Income counters

These counters count the amounts of money (x 10P) inserted in the individual stations.

(j) Prize counters

These counters count the numbers of prizes dispensed by the individual stations.

(k) Left coin counter

This counter counts the amount of money (x 10P) inserted in the left station.

(l) Right coin counter

This counter counts the amount of money (x 10P) inserted in the right station.



- Press switches slowly and firmly to ensure proper switch activation.

7-6 Attract, Setting and Test modes

7-6-1 Attract mode

- 1** Using the provided maintenance key, open the coin section door.
- 2** If the Test switch is in the OFF position, the LCD displays "Counter ①" at all times.
- 3** Using the switches on the service panel, select an item for display.
 - * If a certain time passes after the LCD is switched to a screen other than "Counter ①," the LCD automatically changes to the "Counter ①" display.
 - * If the Enter switch is pressed to display "Arm Power Setting" and Button ① on the control panel is pressed, the Catcher arms generate the set arm power.
 - * If the Reset switch is pressed while "Counter ①" or "Counter ②" is displayed, the reset confirmation screen appears. When the Reset switch is pressed again, the counter for "Counter ①" or "Counter ②" is reset. Each counter can be reset individually on the right and left stations.

7. OPERATION

Item	Description of item	Description of display	LCD display
Counter ①	<p>This screen appears when the Up button of the cross-shape button switch is pressed.</p> <p>It shows the number of plays, the number of dispensed prizes, income counter value, and arm power settings of each of the right and left stations.</p> <p>* The counter can be reset by the Reset switch.</p>	<p>1st line: No. of plays after reset</p> <p>2nd line: No. of dispensed prizes after reset</p> <p>3rd line: Income (x 10P) after reset</p> <p>4th line: Arm power settings of arms</p>	<pre> 0000 PLAY 0000 0000 PRIZE 0000 0000 INCOME 0000 150 150 150 150 </pre>
Counter ②	<p>This screen appears when the Down button of the cross-shape button switch is pressed.</p> <p>It shows the payout rate (no. of dispensed prizes on Counter ①/no. of plays x 100) of each of the right and left stations.</p> <p>* The counter can be reset by the Reset switch.</p>	<p>1st line: Payout rate after reset (no. of dispensed prizes/no. of plays x 100)</p>	<pre> 00.0% PAYOUT 00.0% CLENA - FLEX </pre>
Game setting	<p>This screen appears when the Right button of the cross-shape button switch is pressed.</p> <p>It shows the set game conditions of each of the right and left stations.</p> <p>* The indicated arm power values include the fluctuations that can result from the support and service settings.</p>	<p>1st line: Game mode (Normal, Height-restricted, Retry)</p> <p>2nd line: Timer setting (when timer is set)</p> <p>3rd line: Target payout rate (when support setting is enabled)</p> <p>Notice of service mode (when service setting is enabled)</p> <p>4th line: Arm power values</p>	<pre> NORMAL NORMAL TIME***S TIME***S SUPPO**% SUPPO**% 150 150 150 150 </pre>
Drop zone setting	<p>This screen appears when the Left button of the cross-shape button switch is pressed.</p> <p>It shows the set prize drop zone conditions of each of the right and left stations.</p>	<p>1st line: Item indication</p> <p>2nd line: Back row</p> <p>3rd line: Middle row</p> <p>4th line: Front row</p> <p>"0" indicates drop zone, and "#" indicates floor.</p>	<pre> HOLE HOLE # # # # # # 0 # 0 # # # 0 # 0 0 0 0 </pre>
Arm power setting	<p>This screen appears when the Enter button of the cross-shape button switch is pressed.</p> <p>When Button ① on the control panel is pressed while this screen is displayed, the set arm power is generated. (The arm power turns off after a set time.)</p>	<p>1st line: Item indication</p> <p>4th line: Left Catcher right and left arm power / Right Catcher right and left arm power</p>	<pre> PUSH SW1 PUSH SW1 ARM-POWER ARM-POWER TEST TEST 150 150 150 150 </pre>
Reset confirmation	<p>This screen appears when the Reset switch is pressed while the Counter ①/Counter ② screen is displayed.</p> <p>* When the Reset switch is pressed again, the Counter ①/Counter ② will be reset.</p>	<p>Reset confirmation screen</p>	<pre> RESET RESET OK ? OK ? </pre>

7-6-2 Setting mode

- 1** Using the provided maintenance key, open the coin section door.
- 2** While pressing the Enter switch, set the Test switch to ON (top position).
- 3** Use the Up or Down switch of the cross-shape button switch to change items.
- 4** Use the Right or Left switch of the cross-shape button switch to change the setting value (the Enter switch may also be used in some cases).
- 5** Set the Test switch to OFF (bottom position) to apply the setting.
 - * The Setting mode can be activated individually for the right and left stations.
 - * To return all settings of the relevant station to defaults, in the Setting mode, hold the Service switch pressed and set the Test switch to OFF.
 - * The station which is set to OFF in the "Station shutdown setting" (14) does not perform any operation. It does not accept coins or display any information on the 7-segment LED. It does not detect any error.
 - * If the Test switch is set to OFF in the Setting mode, the Attract mode will be activated, and the number of remaining plays and the game credits that are not reflected in the number of remaining plays will be cleared.

Item	Description of item	Description of display	LCD indication of relevant station
(1) Movement range setting	This is used to set the home position and the movement range limit. Follow the instructions displayed on the LCD (see P. 48 "7-4-3 Crane moving range setting").	(1) DEFAULT (Default setting) (2) GIVEN	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> 1: RANGE 1) DEFAULT ENTER-SW TO START </div>
(2) Arm power range setting	This is used to change the arm power setting range. The larger the value, the more powerful the grasping force (see P. 40 "7-4-1 (2) Arm power adjustment").	(1) NORMAL (1 to 50) (Default setting) (2) STRONG (51 to 100) (3) MAX (101 to 150)	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> 2: ARM POWER (1) NORMAL 1---50 </div>
(3) Arm opening setting	This is used to change the arm opening width. The set width is valid in the prize grasping operation and prize releasing operation during the game play.	(1) 50% (2) 67% (3) 75% (4) 100% (Default setting)	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> 3: ARM OPENING (4) 100% </div>
(4) Payout rate support setting	This is used to set the target value (target payout rate) of the payout support function. * This is automatically set to OFF if the payout sensor setting (11) is set to OFF.	(1) OFF (Default setting) (2) 5% (3) 6% (4) 7% (5) 8% (6) 9% (7) 10% (8) 11% (9) 12% (10) 13% (11) 14% (12) 15% (13) 17% (14) 20% (15) 25% (16) 30% (17) 40%	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> 4: PAYOUT PERCENT (1) OFF </div>

7. OPERATION

Item	Description of item	Description of display	LCD indication of relevant station
(5) Service mode setting	This is used to enable or disable the service mode. If the payout support function is enabled (not set to OFF), this cannot be turned ON even if the item (2) is set to ON. * This is automatically set to OFF if the payout sensor setting (11) is set to OFF.	(1) OFF (Default setting) (2) ON	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> 5: SERVICE MODE (1) OFF </div>
(6) Timer mode setting	This is used to set the time of the timer mode.	(1) OFF (Default setting) (2) 60 sec. (3) 90 sec. (4) 120 sec.	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> 6: TIME LIMIT (1) OFF </div>
(7) Drop zone setting	This is used to specify a drop zone. After the prize grasping operation, the Catcher moves to the nearest set drop zone and performs the prize releasing operation. * "0" indicates drop zone, and "#" indicates floor.	Top line: Back row (Left, Middle, Right) Middle line: Middle row (Left, Middle, Right) Bottom line: Front row (Left, Middle, Right) The initial values are shown on the right.	Left station <div style="border: 1px solid black; padding: 5px; width: fit-content;"> 7: HOLE # # # 0 # 0 >0 # 0 </div> Right station <div style="border: 1px solid black; padding: 5px; width: fit-content;"> 7: HOLE # # # # # # >0 0 0 </div>
(8) Game setting	This is used to set game details. (See P. 35 "7-3 How to play.")	(1) NORMAL (Default setting) (2) HEIGHT (3) RETRY	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> 8: GAME MODE (1) NORMAL </div>
(9) Prize releasing operation setting	This is used to select whether or not to lower the Catcher during prize releasing operation.	(1) UPPER (Default setting) (2) LOWER	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> 9: PRIZE RELEASE (1) UPPER </div>
(10) Lift timing setting	This is used to set the length of time from the moment the Catcher performs a prize grasping operation to the time when it starts rising.	(1) QUICK (2) NORMAL (Default setting) (3) LATE	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> 10: ARM LIFT TIMING (2) NORMAL </div>
(11) Payout sensor setting	This is used to enable or disable the payout sensors. When this is set to OFF, the prize counter will not count up and fanfare music will not be played when a prize is dispensed.	(1) ON (Default setting) (2) OFF	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> 11: PAYOUT SENSOR (1) ON </div>

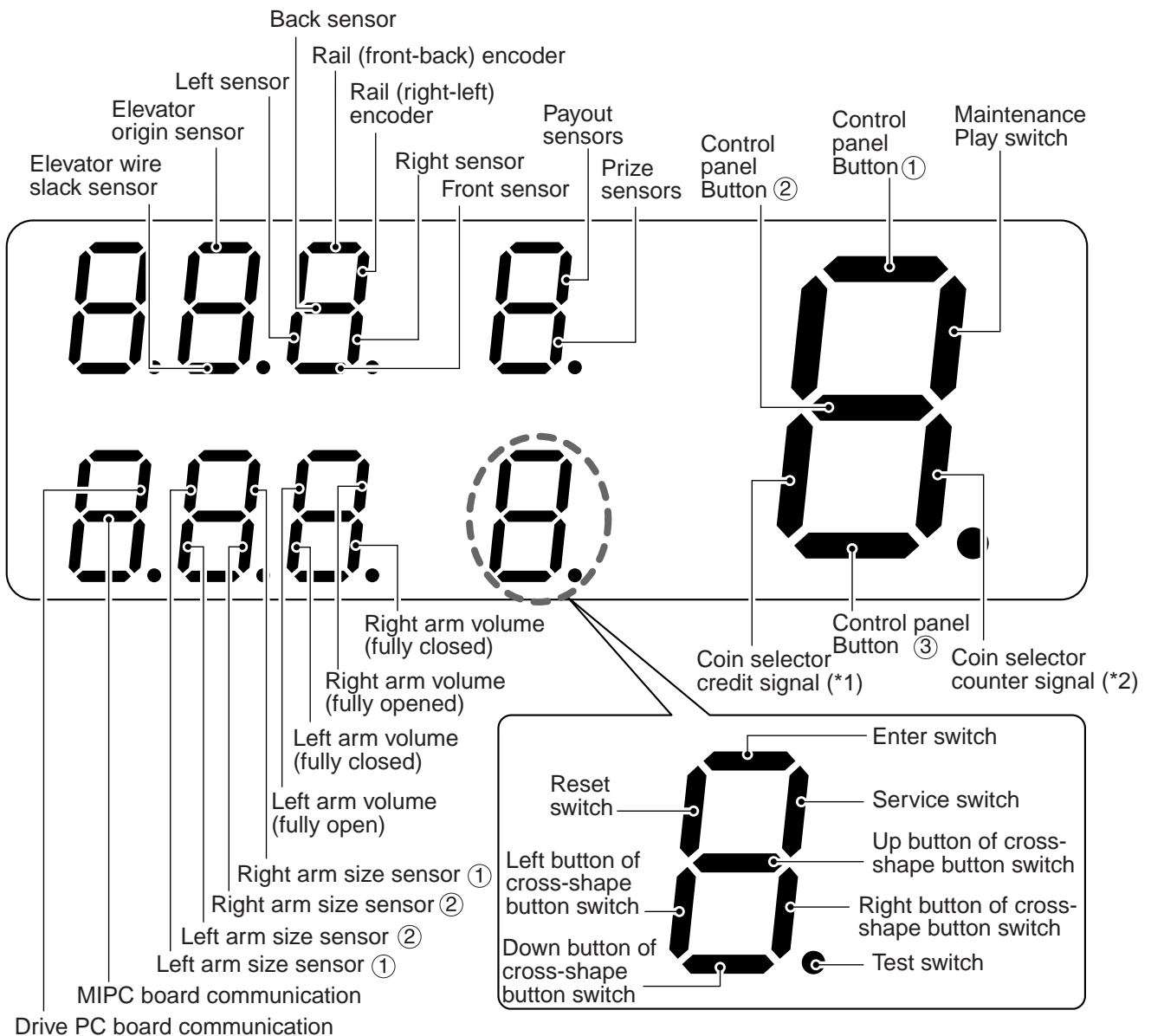
Item	Description of item	Description of display	LCD indication of relevant station
(12) Prize sensor setting	This is used to enable or disable the prize sensors. When this is set to OFF, errors will not be generated when people enter the machine or a prize is left in the outlet.	(1) OFF (Default setting) (2) ON	12:PRIZE SENSOR (1) ON
(13) Arm size sensor setting	This is used to enable or disable the arm size sensor. When this is set to OFF, the machine operates based on the assumption that the both arms are arms L.	(1) OFF (Default setting) (2) ON	13:ARM SENSOR (1) ON
(14) Station shutdown setting	This is used to select whether to operate or shut down each station. When this is set to OFF, the relevant station does not perform any operation or detect any error.	(1) OFF (Default setting) (2) ON	14:UNIT FAIL (1) ON
(15) Background music (for both right and left stations)	This is used to set background music. When this is set to OFF, background music will not be played. * If this setting is made for either right or left station, the same setting will be applied to the other station at the same time.	(1) BGM1 (Default setting) (2) BGM2 (3) BGM3 (Xmas) (4) OFF	15:BGM (1)BGM1
(16) Error sound level	This is used to set the level of error sound. The error sound level cannot be adjusted by using the sound volume dials. * When an error is generated, an error sound is produced at the sound level set by this item, even if the sound volume is set to "0."	(1) NONE (2) LOW (3) HIGH (Default setting) (4) MAX	16:ERROR SOUND (3)HIGH
(17) Display language	This is used to select the display language (for comments).	(1) JAPANESE (2) ENGLISH (Default setting)	17: LANGUAGE (2)ENG
(18) N/A	This item is not used.		18:N/A (1)****

7. OPERATION

Item	Description of item	Description of display	LCD indication of relevant station
(19) Credit	This is used to set the relationship between the credit signal output from the electronic coin selector and the number of plays.	(1) (FREE PLAY) (2) 1CR 1PLAY (Default setting) (3) 1CR 1PLAY / 2CR 3PLAY (4) 1CR 1PLAY / 5CR 6PLAY (5) 2CR 1PLAY (6) 2CR 1PLAY / 3CR 2PLAY (7) 2CR 1PLAY / 5CR 3PLAY (8) 3CR 1PLAY (9) 3CR 1PLAY / 5CR 3PLAY (10) 4CR 1PLAY (11) 5CR 1PLAY (12) 6CR 1PLAY (13) 1CR 2PLAY (14) 1CR 3PLAY (15) 1CR 4PLAY (16) 1CR 5PLAY	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> 19: CREDIT (1) 1CR 1PLAY </div>

7-6-3 Test mode

- 1** Using the provided maintenance key, open the coin section door.
 - 2** Set the Test switch to ON (top position).
 - 3** Use the Up or Down switch of the cross-shape button switch to change items.
 - 4** Set the Test switch to OFF (bottom position) to end the Test mode.
- * As soon as the Test switch is set to ON, the output test (1) is automatically initiated.
- * If the Test switch is set to OFF in the Test mode, the Attract mode will be activated, and the number of remaining plays and the game credits that are not reflected in the number of remaining plays will be cleared.
- * For items (2) through (7), the 7-segment LED will display the input conditions of switches, sensors and others.



(*1) Coin selector credit signal is output from the sensor when inserted coin reach the amount set for a credit.

(*2) Coin selector counter signal is output fro the selector based on the condition of $10P = 1$.

7. OPERATION

Item	Description	LCD display
(1) Output test	This test displays numbers, 0 through 9, in sequence on the 7-segment LED. At the same time, the illuminated switches on the control panel flash.	1: OUTPUT TEST
(2) Input test	This test displays the input conditions of buttons and switches on the service panel, prize sensors, etc. on the 7-segment LED. Since the coin switch uses an electronic selector, it is necessary to insert coins to check its operation.	2: INPUT TEST
(3) Sound test	This test reproduces the sound data in the ROM. The sound can be changed by pressing the Right or Left button of the cross-shape button switch on the service panel.	3: SOUND TEST
(4) X Rail Assy right-left motor test	This test checks the operation of the right-left motor of the X Rail Assy. Right station: Button ① for left movement, and Button ② for right movement. Left station: Button ① for right movement, and Button ② for left movement. There is no motion after reaching the end point.	4: MOTOR TEST (X-RAIL)
(5) Y Rail Assy front-back motor test	This test checks the operation of the front-back motor of the Y Rail Assy. Press Button ① for forward movement, and Button ② for backward movement. There is no motion after reaching the end point.	5: MOTOR TEST (Y-RAIL)
(6) Elevator Assy motor test	This test checks the operation of the up-down motor of the Elevator Assy. Press Button ① for descending movement, and Button ② for ascending movement. There is no motion after the top position is reached or the wire slack sensor is activated.	6: MOTOR TEST (ELEVATOR)
(7) Catcher Assy motor test	This test checks the operation of the arm opening/closing motor of the Catcher Assy. Press Button ① to open the arms, and release the button to close. If the arms remain open for a certain period of time, a protection function is activated and closes the arms. When the Enter switch is pressed, calibration is performed.	7: CATCHER TEST ENTER-SW TO RESET
(8) Maintenance mode	This moves the Catcher Assy to allow easy maintenance. When the Enter switch is pressed, the Catcher Assy starts moving.	8: MAINTENANCE PUSH ENTER-SW
(9) Transport mode	This moves the Catcher Assy to enable the installation of the shipping bracket for the transportation of the machine. When the Enter switch is pressed, the Catcher Assy starts moving. In this mode, no input other than the Test switch is accepted.	9: TRANSPORT PUSH ENTER-SW

Indication of arm size and arm position by ON/OFF of arm size sensors ① and ②

Arm position \ Arm size		L	M
		Left arm	
Right arm			
Both arms			

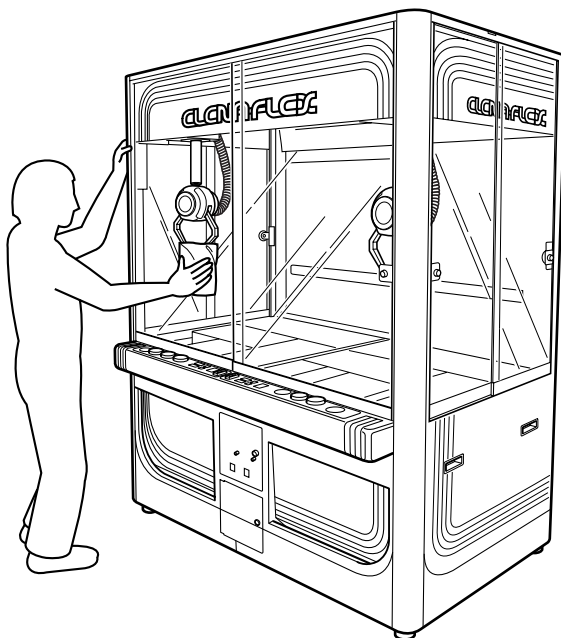
7-7 Cleaning

7-7-1 Cleaning the glass



- Do not use organic solvents such as thinner for cleaning. They can deteriorate the material.
- Be careful not to allow glass cleaner to get on resin parts.

- 1 Wipe the inside and outside surfaces with a glass cleaner.
- 2 Wipe with a dry cloth to remove residual detergent and water thoroughly.

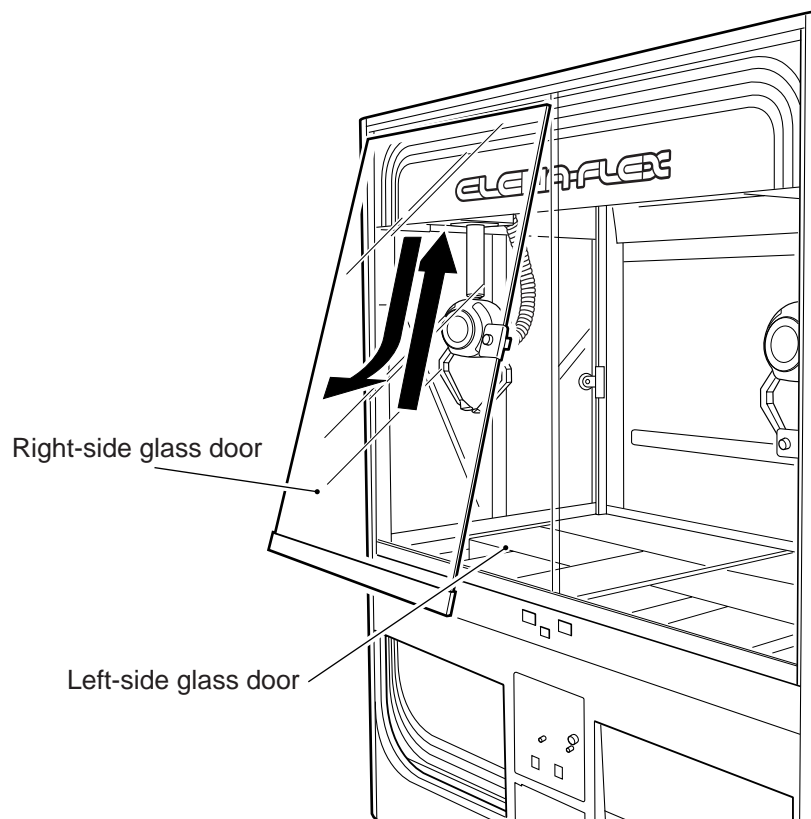


7-7-2 Removing the glass doors

CAUTION

- Handle the glass doors with care. If the glass door breaks, an accident or injury can result.

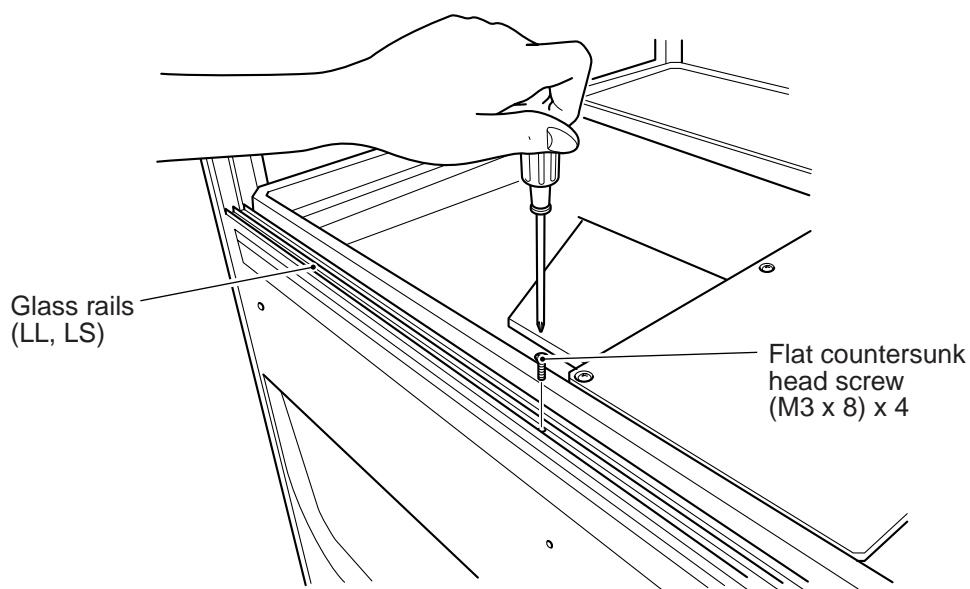
- 1** To remove the glass doors for cleaning or another reason, use the provided maintenance key open the front and side glass doors (see P. 32 "7-2-1 Adding prizes" **1**).
- 2** Remove the Control Panel Assy (see P. 16 "5-2-1 Removing the Control Panel Assy").
- 3** Move the right-side glass doors (on the front and side) to the left side, and then remove each glass door by lifting and moving the bottom section forward.



- 4** Move the left-side glass doors to the right side, and remove them in the same way.

7-7-3 Replacing the glass rails

- 1** By referring to "7-7-2 Removing the glass doors" on page 67, remove the right and left glass doors.
- 2** Remove the four flat countersunk head screws (M3 x 8).



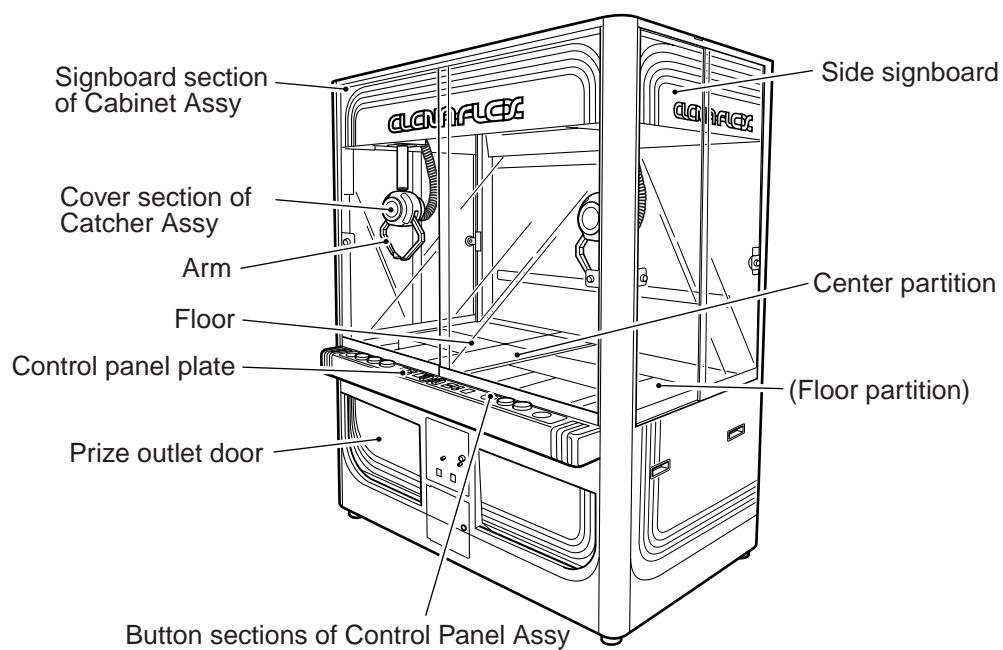
- 3** Dismount the glass rails (LL, LS).
- 4** To reinstall, follow the removal sequence in reverse.

7-7-4 Cleaning the resin parts



- Do not use organic solvents such as thinner for cleaning. They can deteriorate the material.
- Never use alkaline or acidic detergents since they can damage resins.

1 Use a neutral detergent to clean resin parts (plastic parts).



8. SERVICE

WARNING

- Before conducting service (troubleshooting, repair, parts replacement, etc.), turn off the power switch and then unplug the power cord plug from the AC outlet in order to protect the service staff and other people from electrical shock, accidents and injury.
- The PC boards inside the machine remain hot and are charged with high voltage even after the power is turned off. Do not touch them unnecessarily in order to prevent an electric shock and burns.

8-1 Inspection and service

CAUTION

- Conduct service regularly to prevent unexpected accidents.
- Conduct a pre-service check everyday to prevent accidents. (See P. 29 “7-1 Pre-service check.”)

8-1-1 Inspection items - To be conducted by a technician only -

Check the following regularly.

(1) Inspection of level adjusters

- Make sure that the machine is installed securely and stably (see P. 17 “5-3-1 Adjusting the level adjusters”).

(2) Inspection of power cord

- Make sure that the power cord is connected securely to the cord box section and AC outlet.
- If the connectors are covered with dust, clean them.
- Check the power cord to make sure that the cable sheath is not cracked or dirty. If there is any abnormality in the power cord, replace it with a new cord.

(3) Inspection of screws and bolts for looseness

Check the following screws and bolts to make sure that they are tightly fastened. If they are loose, tighten them firmly.

- Back board mounting screws (see P. 52)
- Prize outlet door mounting screws
- X Rail Assy and Y Rail Assy mounting screws (see P. 112)
- Elevator Assy mounting screws (screws on the flange section of pipe A)
- Catcher Assy mounting screws (see P. 94)
- Floor Assy mounting screws (see P. 45)
- Control Panel Assy mounting screws (see P. 16)
- Mounting screws for molded parts (signboards, Catcher Assy covers, etc.)
- Other fasteners

8-1-2 Supplying grease - To be conducted by a technician only -

(1) Elevator Assys

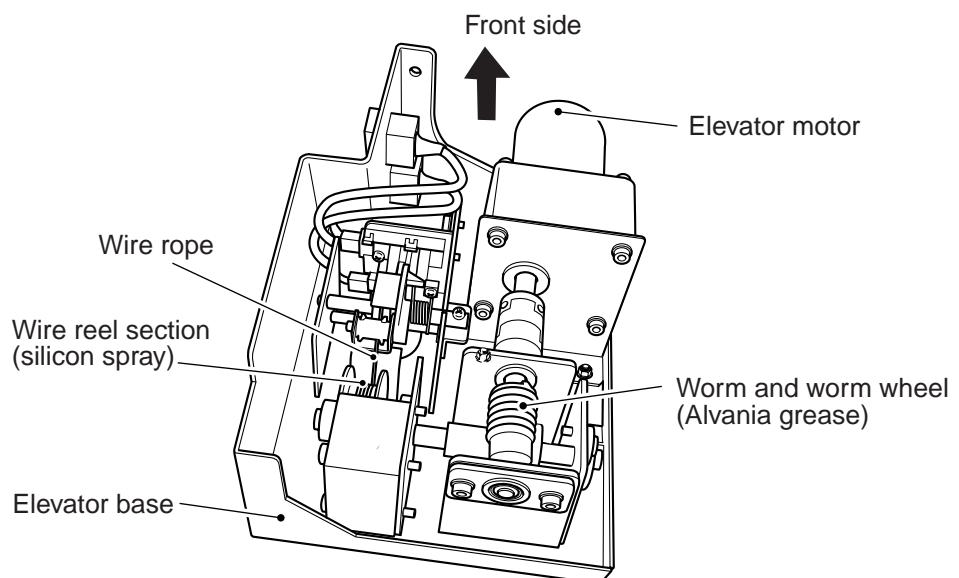
WARNING

- 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 initiating the described task.

NOTICE

- Clean the Elevator Assys and supply grease once every six months.

- 1** Using the provided maintenance key, open the front and side glass doors (see P. 32 "7-2-1 Adding prizes" **1**).
- 2** Remove the elevator base (see P. 104 "8-4-3 (1) Removing and installing the elevator base").
- 3** Remove dust from the worm and worm wheel by wiping with a clean cloth.
- 4** Apply grease (recommended grease: Alvania grease No. 2 (Showa Shell) * Use only lithium-base grease).
- 5** Apply grease to the wire reel section (recommended grease: silicon spray (Earth: ALP-S2) * Use only silicon-base grease).



- 6** Reinstall the parts by following the removal sequence in reverse.

(2) Catcher Assys

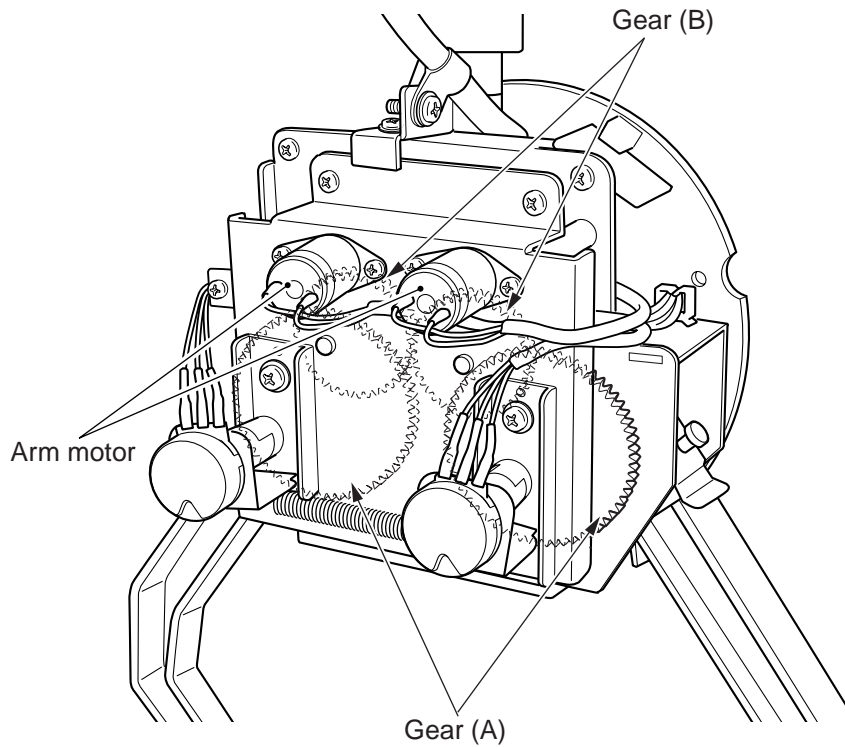
! WARNING

- 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 initiating the described task.

NOTICE

- Clean the Catcher Assys and supply grease once every six months.

- 1** Using the provided maintenance key, open the glass doors (see P. 32 "7-2-1 Adding prizes" **1**).
- 2** Remove the catcher cover (F) and catcher cover (R) (see P. 94 "8-4-2 (1) Removing and installing the catcher cover (F) and catcher cover (R)").
- 3** Apply grease to the gear surfaces of the gear (A) and gear (B) (recommended grease: Alvania grease No. 2 (Showa Shell) * Use only lithium-base grease).



- 4** Reinstall the parts by following the removal sequence in reverse.

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

[Error reset method]

Errors can be reset by setting the Test switch to ON or turning off the power switch. However, proper machine operation cannot be restored unless problems are corrected.

[Confirmation of credits]

The number of remaining credits immediately before the occurrence of an error is displayed on the 7-segment LED of the relevant station.

Item	Description	Message	LCD display of relevant station
(1) Coin switch error	Malfunction of coin selector	[Out of order.] [Please call the attendant.]	(1) COIN SW ERROR
(2) Rail Assy front-back motor error	Malfunction of Rail Assy front-back DC motor Malfunction of Rail Assy front-back sensor	[Out of order.] [Please call the attendant.]	(2) MOTOR ERROR (Y-RAIL)
(3) Rail Assy right-left motor error	Malfunction of Rail Assy right-left DC motor Malfunction of Rail Assy right-left sensor	[Out of order.] [Please call the attendant.]	(3) MOTOR ERROR (X-RAIL)
(4) Elevator Assy motor error	Malfunction of Elevator Assy right-left DC motor Malfunction of Elevator Assy right-left sensor	[Out of order.] [Please call the attendant.]	(4) MOTOR ERROR ELEVATOR
(5) Catcher Assy motor error	Malfunction of Catcher Assy right-left DC motor Malfunction of Catcher Assy right-left sensor	[Out of order.] [Please call the attendant.]	(5) MOTOR ERROR (CATCHER)
(6) Service panel switch error	Malfunction of switch on service panel	[Please call the attendant.]	(6) SERVICE PANEL-SW ERROR
(7) Payout/prize sensor error	Malfunction of payout sensor Malfunction of prize sensor Prize jammed or left in prize outlet	[Please call the attendant.]	(7) PAYOUT/ PRIZE-SEN ERROR
(8) Backup error	Malfunction of Main PC Board	[Out of order.] [Please call the attendant.]	(8) BACK-UP ERROR
(9) Link error	PC board communication error	[Out of order.] [Please call the attendant.]	(9) LINK ERROR

8-3 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 initiating the described task.
- If the generated problem is not described in “8-3 Troubleshooting” or if the corrective measure taken does not result in an improvement, turn off the power switch immediately to stop operating the machine, and contact your distributor. Operating the machine without correcting problems may cause a fire or accident.

NOTICE

- In the event of a machine malfunction, first check to make sure that all connectors are firmly connected.
- PC boards can be easily damaged by static electricity. If a person charged with static electricity handles a PC board, electronic parts on the PC board can be damaged.
Before handling a PC board, touch a grounded metal surface to release electrostatic charge from your body.
- Never use a tester to conduct a continuity test on a PC board. Internal voltage of a tester can damage ICs.
- When sending parts for repair, pack them carefully. When sending PC boards, wrap them in sponge or bubble wrap, and place them in a corrugated cardboard box to protect against external impact.

8-3-1 General - To be conducted by a technician only -

Symptom	Main cause	Remedy	Page
Machine operation is unstable, or machine malfunctions.	The supply voltage is outside the range of 210 to 250 VAC.	Disconnect large capacity electrical equipment (such as air conditioners, large ride machines, etc.) on the same power line to secure the necessary voltage level.	---
Circuit protector turns off.	The circuit protector turns off due to an abnormal current flow.	Turn on the circuit protector. If the circuit protector turns off frequently, there is a problem in the machine. Contact your distributor.	54

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

Symptom	Main cause	Remedy	Page
Error sound continues to be produced.	Prize or item is stuck at the sensor section in the prize outlet.	Remove the stuck prize or item.	---
Dispensed prize cannot be detected.	Prizes are smaller than 60 mm.	Use prizes larger than 60 mm.	32
	Payout sensors are faulty.	Replace the payout sensors.	87
Prize outlet door does not close completely.	A gap is provided in order to prevent fingers from getting caught.	If the door closes forcibly, adjust the hinge (equipped with a damper).	---
There is no sound from speakers.	The sound volume is not adjusted properly.	Adjust the sound level properly.	55, 61
	The Faston terminal is disconnected.	Connect the Faston terminal.	91
	Speakers are faulty.	Replace the speakers.	91
	The Main PC Board is faulty.	Replace the Main PC Board.	83
Fluorescent lamps do not light.	The switch in the switch box is turned off.	Turn on the switch in the switch box.	50
	Fluorescent lamps are burnt out.	Replace the fluorescent lamps.	78
Halogen lamps do not light.	The switch in the switch box is turned off.	Turn on the switch in the switch box.	50
	Halogen lamps are burnt out.	Replace the halogen lamps.	82
Illuminated switch does not respond.	The illuminated switch is faulty.	Replace the illuminated switch.	93
	The connector is disconnected.	Connect the connector.	93
	The Main PC Board is faulty.	Replace the Main PC Board.	83
Illuminated switch does not light.	The lamp is burnt out.	Replace the lamp.	93
	The connector is disconnected.	Connect the connector.	93
	The Main PC Board is faulty.	Replace the Main PC Board.	83
7-segment LED (Display PC Board) does not light.	The connector is disconnected.	Connect the connector.	16
	The Display PC Board is faulty.	Replace the 7-segment LED.	92
	The Main PC Board is faulty.	Replace the Main PC Board.	83
Volume, switch and LCD in the service panel do not respond.	The connector is disconnected.	Connect the connector.	89
	The Service PC Board is faulty.	Replace the Service PC Board.	89
	The Main PC Board is faulty.	Replace the Main PC Board.	83

8-3-3 X, Y Rail Assys - To be conducted by a technician only -

Symptom	Main cause	Remedy	Page
X, Y Rail Assy does not operate smoothly.	The connector of the Assy, motor or sensor is disconnected.	Connect the connector.	112, 113, 118
	The DC motor or gear head is faulty.	Replace the DC motor or gear head.	113
	The timing belt is stretched.	Adjust the timing belt tension. If the belt tension cannot be adjusted properly, replace the belt.	116
	The sensor is faulty.	Conduct the sensor test and replace the faulty sensor.	118
	The Drive PC Board is faulty.	Replace the Drive PC Board.	80

8-3-4 Elevator Assys - To be conducted by a technician only -

Symptom	Main cause	Remedy	Page
Catcher Assy does not move up or down, or its movement is not smooth.	The connector of the Assy, motor or sensor is disconnected.	Connector the connector.	94, 95, 96, 97
	The worm gear section and gear section of the Elevator Assy do not have sufficient grease or foreign items have entered.	Check for entry of foreign items.	---
		Clean and supply grease.	71
	The reel section of the Elevator Assy does not have sufficient grease or foreign items have entered.	Check for entry of foreign items.	---
		Clean and supply grease.	71
	The origin sensor of the Elevator Assy is faulty.	Replace the origin sensor.	108
	The wire slack sensor of the Elevator Assy is faulty.	Replace the wire slack sensor.	107
	The elevator DC motor or gear head of the Elevator Assy is faulty.	Replace the elevator DC motor or gear head.	105
	The wire of the Elevator Assy is faulty.	Replace the wire.	109
The Drive PC Board is faulty.	Replace the Drive PC Board.	80	

8-3-5 Catcher Assys - To be conducted by a technician only -

Symptom	Main cause	Remedy	Page
The arms of the Catcher Assy do not move, or their movement is not smooth.	The arms are not inserted securely.	Insert the arms all the way.	41
	The connector is disconnected.	Connector the connector.	95
	The MI PC Board setting is faulty.	Conduct calibration.	64
	The sensor is faulty.	Replace the sensor.	73
	The catcher motor is faulty.	Replace the catcher motor. Conduct calibration.	64, 96
	The MI PC Board is faulty.	Replace the MI PC Board inside the Catcher Assy.	97
	The volume is faulty.	Replace the volume.	99

8-4 Removing and installing Assys and parts

8-4-1 Main unit

(1) Replacing the ceiling fluorescent lamps

! WARNING

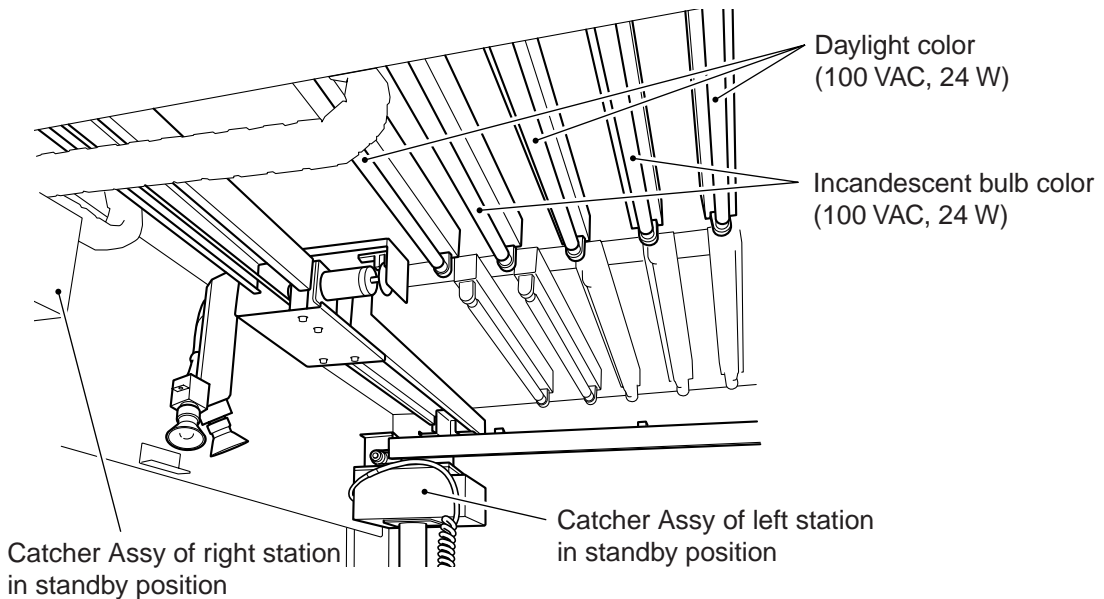
- To protect the service staff and other people from an electric shock, accident and injury, and to prevent damage to the electrical circuitry of the machine, always turn off the power switch before initiating the described task.

! CAUTION

- Fluorescent lamps become hot. Exercise caution when removing.

- Ceiling fluorescent lamps

- 1** Make sure that the right and left Crane Assys and Catcher Assys are in standby position in the Attract mode (see P. 57 "7-6-1 Attract mode").



- 2** Turn off the power switch (see P. 54 "7-5-1 Turning on the power switch").
- 3** Using the provided maintenance key, open the front and side glass doors (see P. 32 "7-2-1 Adding prizes" **1**).
- 4** Replace the fluorescent lamps (use two types of lamps: daylight color and incandescent bulb color).
- 5** Reinstall the parts by following the removal sequence in reverse.

(2) Replacing the signboard fluorescent lamps

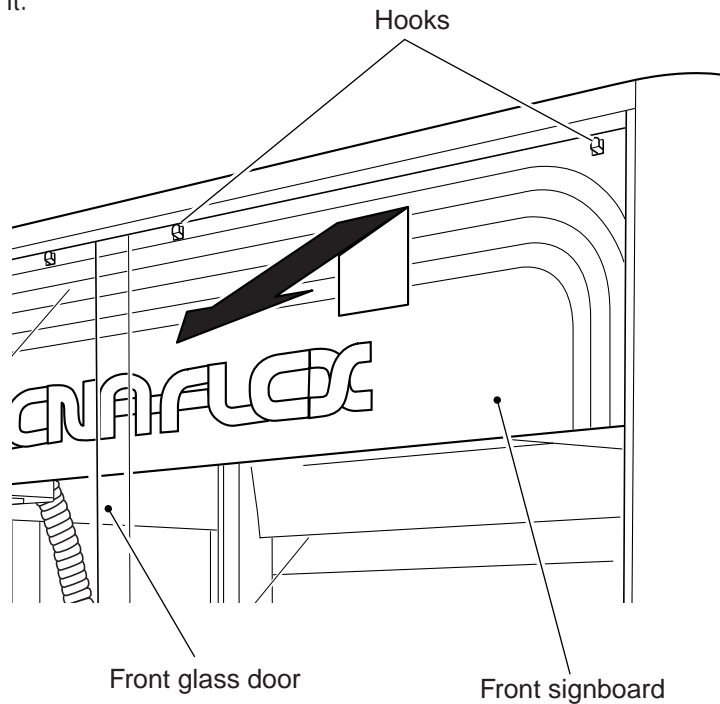
WARNING

- 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 initiating the described task.

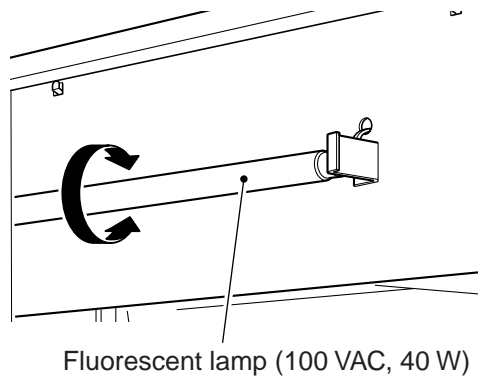
CAUTION

- Fluorescent lamps become hot. Exercise caution when removing.

- 1** Using the provided maintenance key, open the front glass door (see P. 32 "7-2-1 Adding prizes" **1**).
- 2** Lift the front signboard to disengage it from the hooks at four locations and dismount it.



- 3** Replace the fluorescent lamp.



- 4** Reinstall the parts by following the removal sequence in reverse.

(3) Removing and installing the Drive PC Board - To be conducted by a technician only -

⚠ 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 initiating the described task.

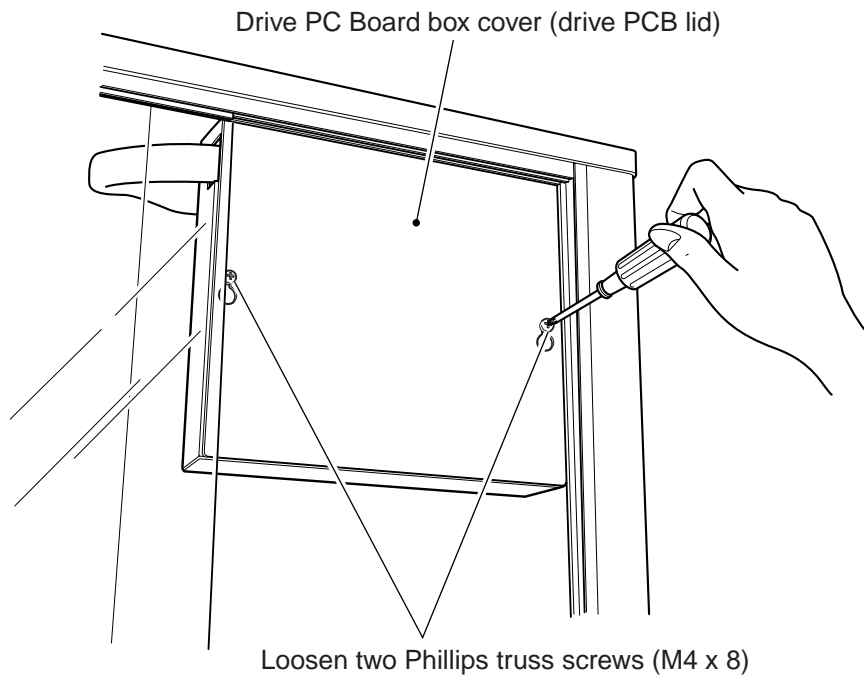
NOTICE

- PC boards can be easily damaged by static electricity. If a person charged with static electricity handles a PC board, electronic parts on the PC board can be damaged.

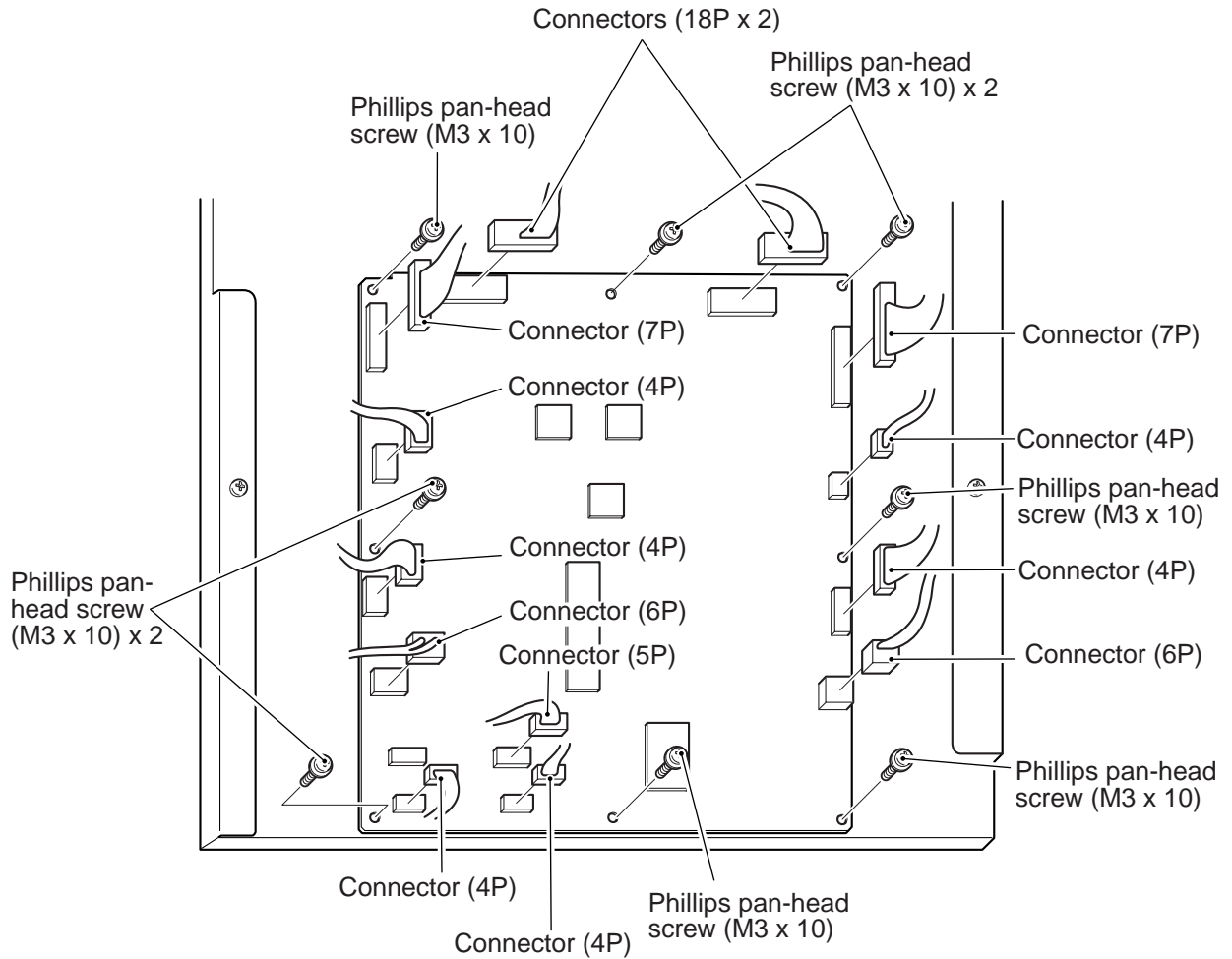
Before handling a PC board, touch a grounded metal surface to release electrostatic charge from your body.

• Removing and installing the Drive PC Board

- 1** Using the provided maintenance key, open the side glass door on the right side (see P. 32 "7-2-1 Adding prizes" **1**).
- 2** Disengage the signboard from the hooks at two locations.
- 3** Loosen the two Phillips truss screws (M4 x 8), and dismount the Drive PC Board box cover (drive PCB lid).



- 4** Disconnect the 13 connectors (4P x 6, 5P, 6P x 2, 7P x 2, 18P x 2).
- 5** Remove the eight pan-head screws (3 x 10), and dismount the Drive PC Board.



- 6** Reinstall the parts by following the removal sequence in reverse.
- 7** Be sure to check the operation and settings ([see P. 57 "7-6 Attract, Setting and Test modes"](#)).

(4) Replacing the halogen lamps

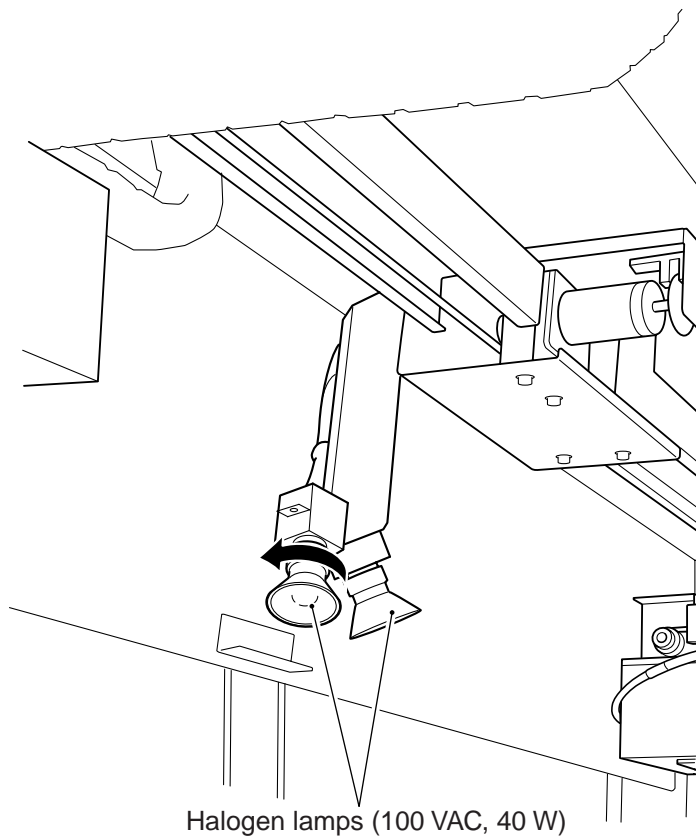
! WARNING

- 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 initiating the described task.

! CAUTION

- Halogen lamps become hot. Exercise caution when removing.

- 1** Using the provided maintenance key, open the front glass door (see P. 32 "7-2-1 Adding prizes" **1**).
- 2** Replace the halogen lamps.



- 3** Reinstall the parts by following the removal sequence in reverse.

- (5) Removing and installing the Main PC Board and switching regulators - To be conducted by a technician only -

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 initiating the described task.

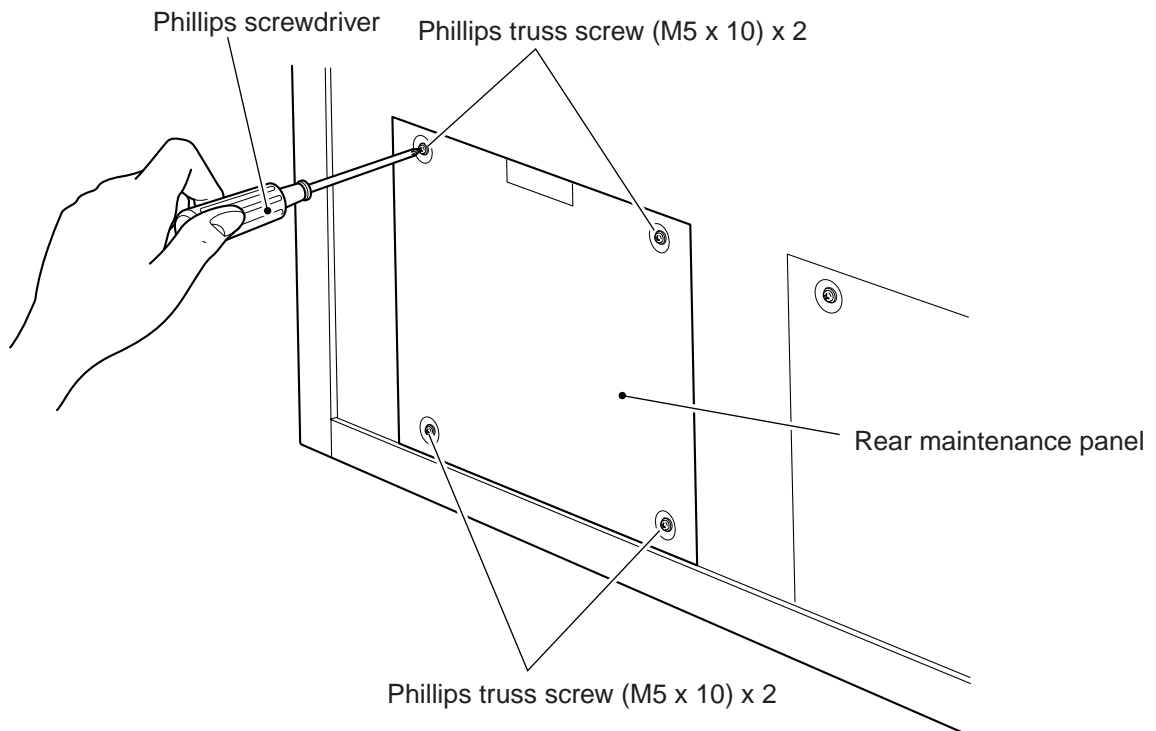
NOTICE

- PC boards can be easily damaged by static electricity. If a person charged with static electricity handles a PC board, electronic parts on the PC board can be damaged.

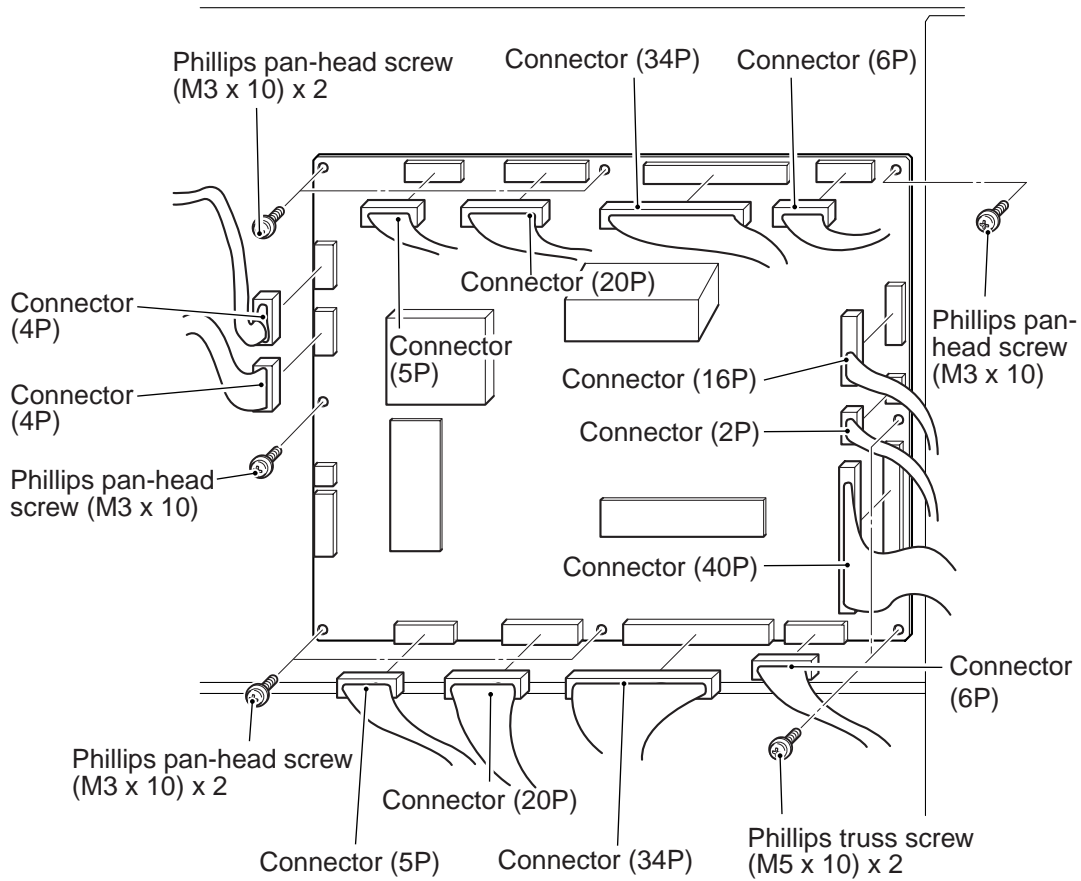
Before handling a PC board, touch a grounded metal surface to release electrostatic charge from your body.

• Removing and installing the Main PC Board

- 1** Remove the four Phillips truss screws (M5 x 10), and dismount the rear maintenance panel.



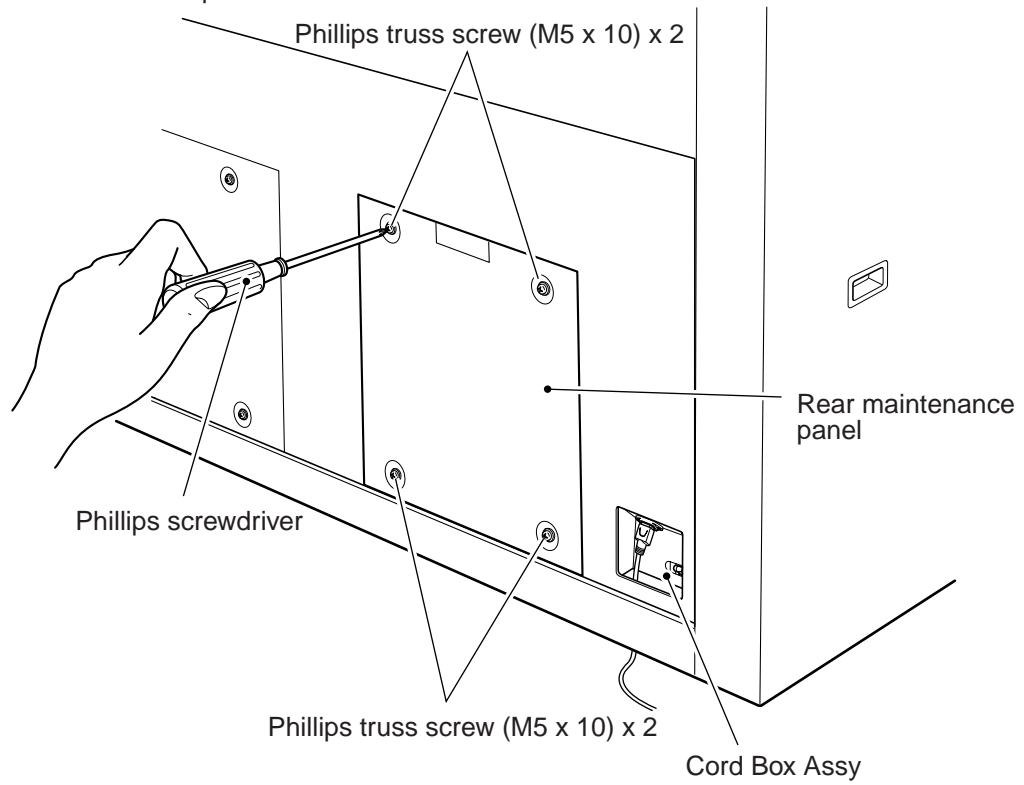
- 2** Disconnect the 13 connectors (2P, 4P x 2, 5P x 2, 6P x 2, 16P, 20P x 2, 34P x 2, 40P), remove the eight Phillips pan-head screws (M3 x 10), and dismount the Main PC Board.



- 3** Reinstall the parts by following the removal sequence in reverse.
- 4** Be sure to check the operation and settings ([see P. 57 "7-6 Attract, Setting and Test modes"](#)).

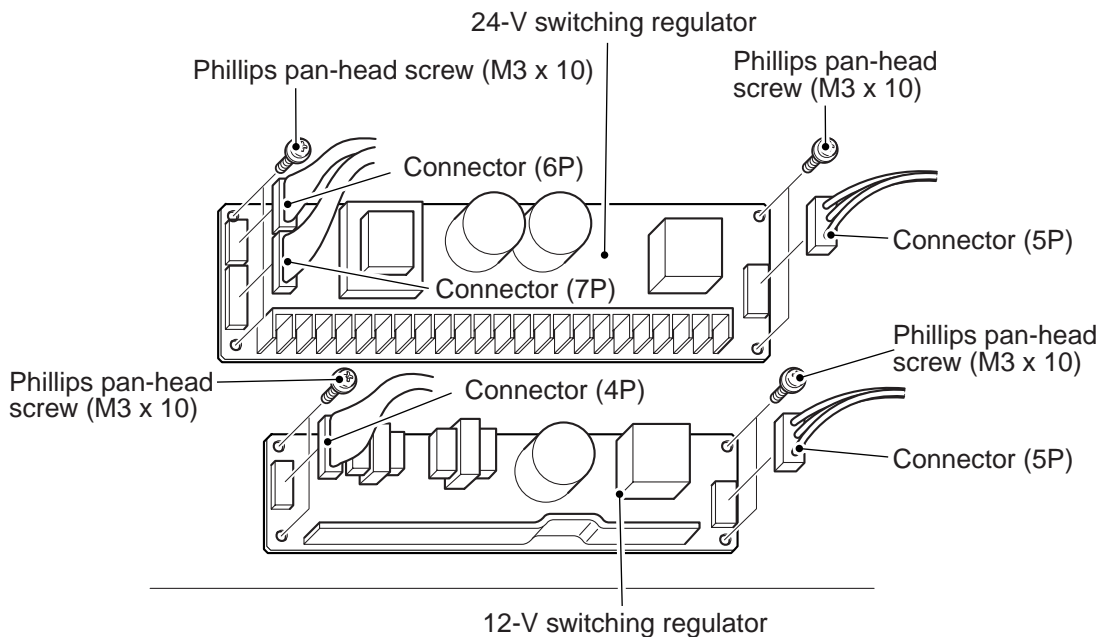
• **Removing and installing the switching regulators**

- 1** Remove the four Phillips truss screws (M5 x 10), and dismount the rear maintenance panel.



- 2** Disconnect the five connectors (4P, 5P x 2, 6P, 7P).

- 3** Remove the eight Phillips pan-head screws (with flat and spring washers) (M3 x 10), and dismount the 24-V and 12-V switching regulators.



- 4** Reinstall the parts by following the removal sequence in reverse.

- 5** Be sure to check the operation and settings ([see P. 57 "7-6 Attract, Setting and Test modes"](#)).

(6) Replacing the floor fluorescent lamps

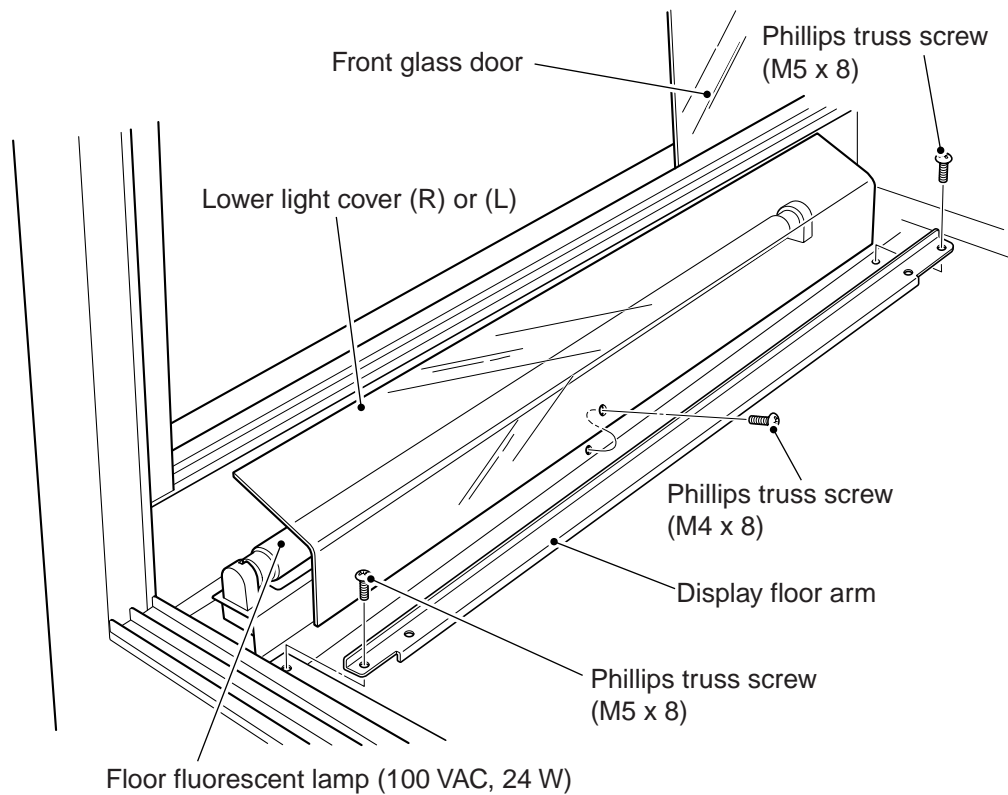
! WARNING

- 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 initiating the described task.

! CAUTION

- Fluorescent lamps become hot. Exercise caution when removing.

- 1** Using the provided maintenance key, open the front glass door (see P. 32 "7-2-1 Adding prizes" **1**).
- 2** Set the prize floor level at the highest position (see P. 44 "7-4-2 (1) Adjustment of the prize floor height" **1** through **4**).
- 3** Remove the two Phillips truss screws (M5 x 8), and dismount the display floor arm.
- 4** Remove the Phillips truss screw (M4 x 8), and dismount the lower light cover by lifting the back side.



- 5** Replace the fluorescent lamp.
- 6** Reinstall the parts by following the removal sequence in reverse.

(7) Replacing the payout sensors and prize sensors - To be conducted by a technician only -

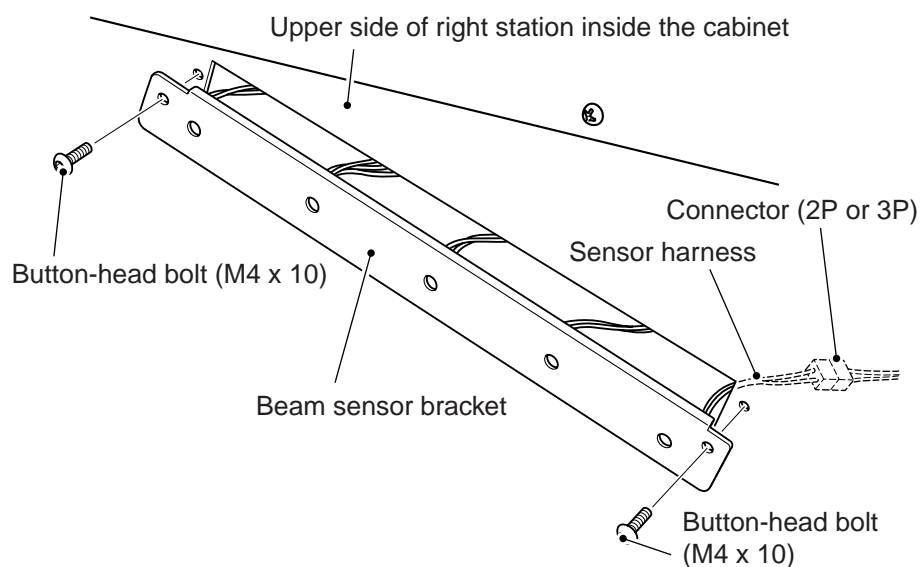
⚠ WARNING

- 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 initiating the described task.

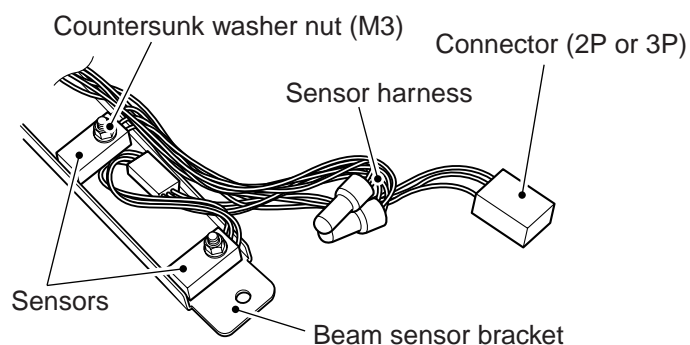
• Payout sensors

* The payout sensors are installed symmetrically in each station.

- 1 Using the provided maintenance key, open the front glass door (see P. 32 "7-2-1 Adding prizes" 1).
- 2 Set the prize floor level at the highest position (see P. 44 "7-4-2 (1) Adjustment of the prize floor height" 1 through 4).
- 3 Remove the two button-head bolts (M4 x 10), and dismount each beam sensor bracket together with the sensors and harnesses. Disconnect the connectors (2P or 3P) at the ends of the harnesses.



- 4 Remove the countersunk washer nuts (M3) and dismount the sensors (5 sensors) with harnesses from each beam sensor bracket.



NOTICE

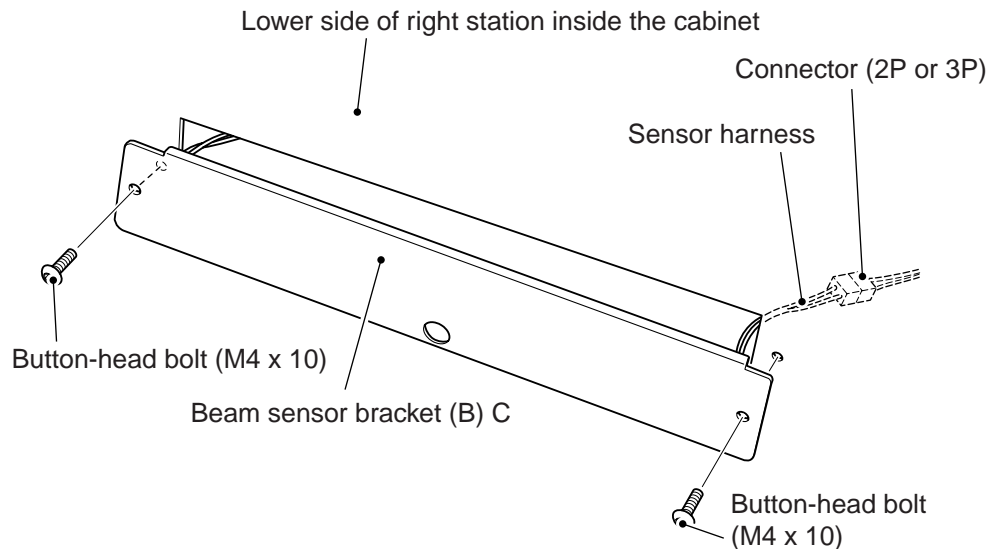
- Install the light-emitting sensors and light-receiving sensors alternately. Make sure that each set of symmetrically positioned right and left sensors consists of one light-emitting sensor and one light-receiving sensor. The light-emitting sensors have 2P connectors, while the light-receiving sensors have 3P connectors. Make sure that the connectors are connected in the correct direction. Incorrect installation can result in machine malfunction or damage.

- 5 Reinstall the parts by following the removal sequence in reverse.
- 6 Be sure to check the operation and settings (see P. 57 "7-6 Attract, Setting and Test modes").

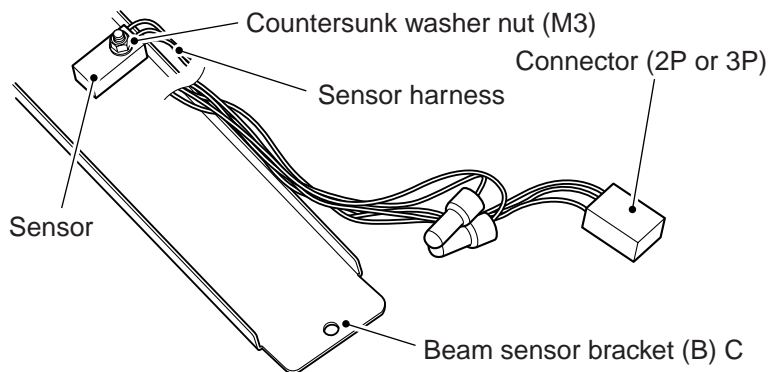
• Prize sensors

* The prize sensors are installed symmetrically in each station.

- 1 Using the provided maintenance key, open the front glass door (see P. 32 "7-2-1 Adding prizes" 1).
- 2 Set the prize floor level at the highest position (see P. 44 "7-4-2 (1) Adjustment of the prize floor height" 1 through 4).
- 3 Remove the two button-head bolts (M4 x 10), and dismount each beam sensor bracket (B) C together with the sensor and harness. Disconnect the connector (2P or 3P) at the end of the harness.



- 4 Remove the two countersunk washer nuts (M3) and dismount the sensors (5 sensors) with harnesses from the beam sensor bracket (B) C.



- Make sure that the set of symmetrically positioned right and left sensors consists of one light-emitting sensor and one light-receiving sensor. The light-emitting sensor has a 2P connector, while the light-receiving sensor has a 3P connector. Make sure that the connectors are connected in the correct direction. Incorrect installation can result in machine malfunction or damage.

- 5 Reinstall the parts by following the removal sequence in reverse.
- 6 Be sure to check the operation and settings (see P. 57 "7-6 Attract, Setting and Test modes").

(8) Removing the Service PC Board - To be conducted by a technician only -

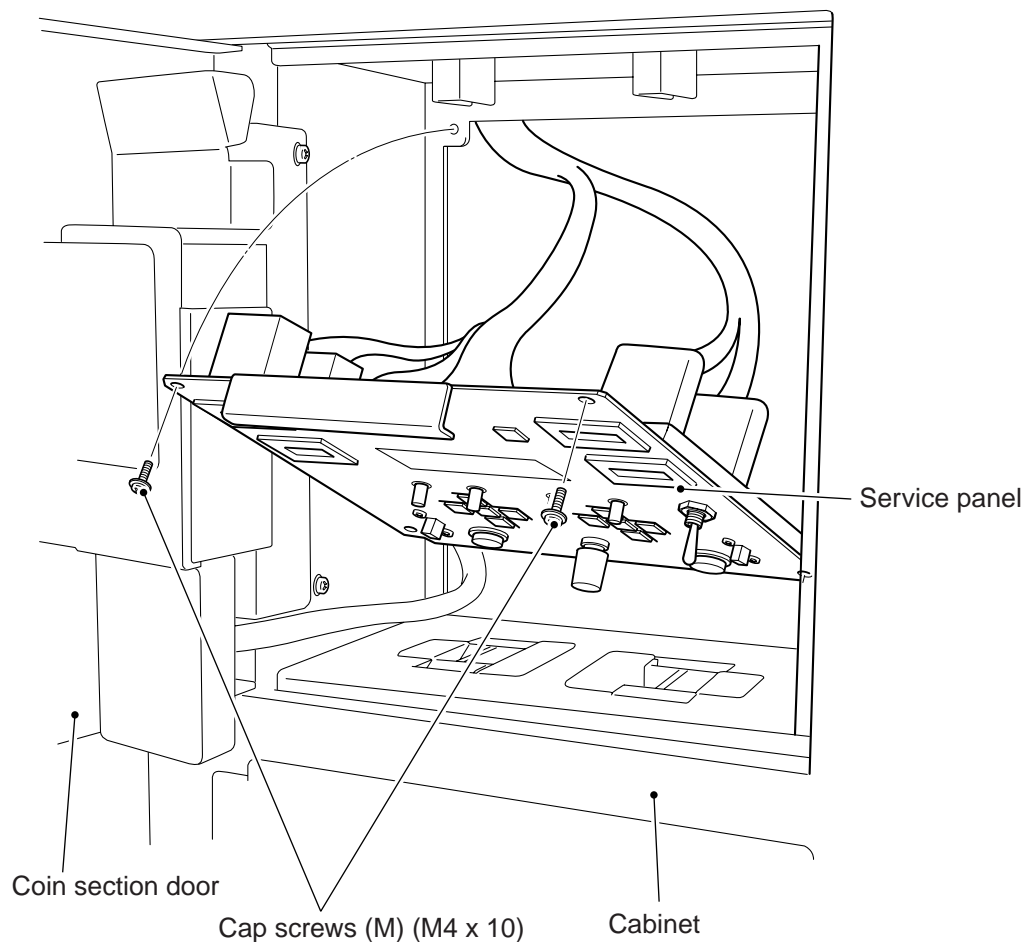
⚠ WARNING

- 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 initiating the described task.

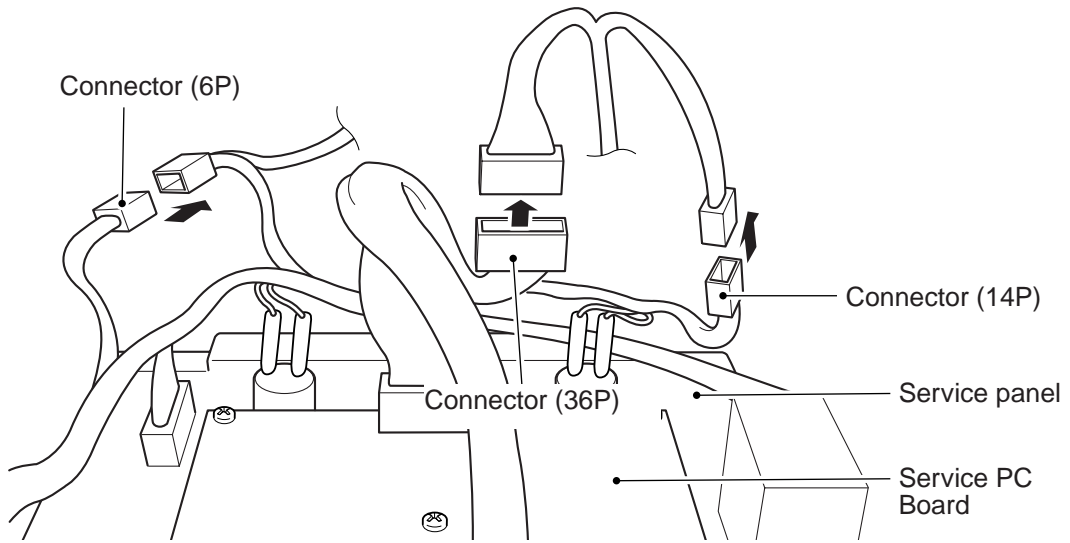
NOTICE

- PC boards can be easily damaged by static electricity. If a person charged with static electricity handles a PC board, electronic parts on the PC board can be damaged.
Before handling a PC board, touch a grounded metal surface to release electrostatic charge from your body.

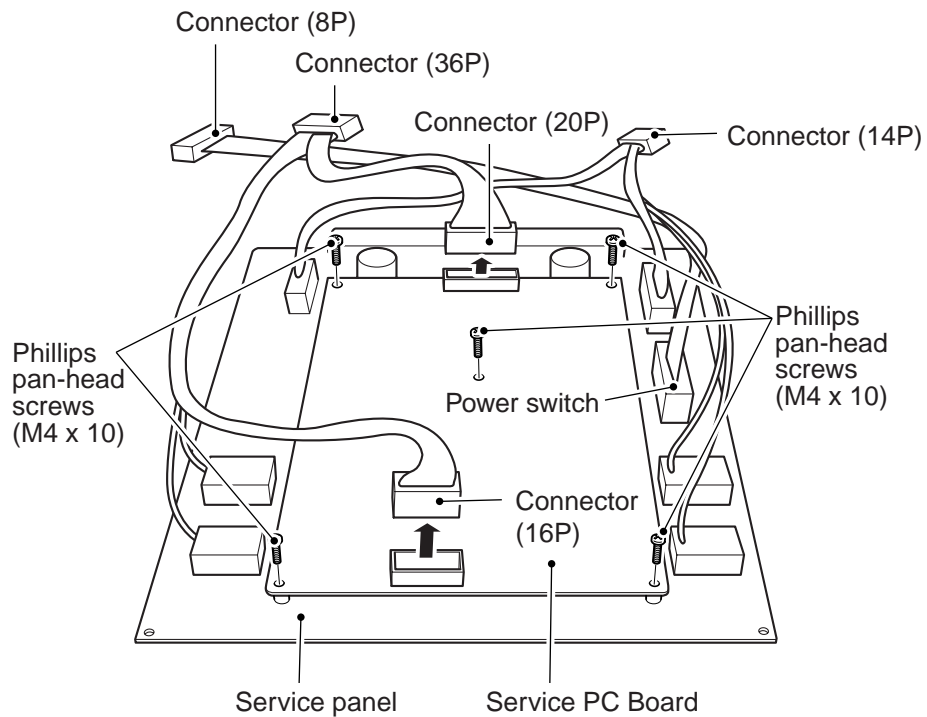
- 1 Open the coin section door.
- 2 Remove the two cap screws (M) (M4 x 10), and tilt the service panel forward.



- 3 Disconnect the three connectors (36P, 14P, 6P), and dismount the service panel.



- 4 Disconnect the two connectors (20P, 16P), remove the five Phillips pan-head screws (M4 x 10), and dismount the Service PC Board from the Service Panel Assy.



- 5 Reinstall the parts by following the removal sequence in reverse.
- 6 Be sure to check the operation and settings (see P. 57 "7-6 Attract, Setting and Test modes").

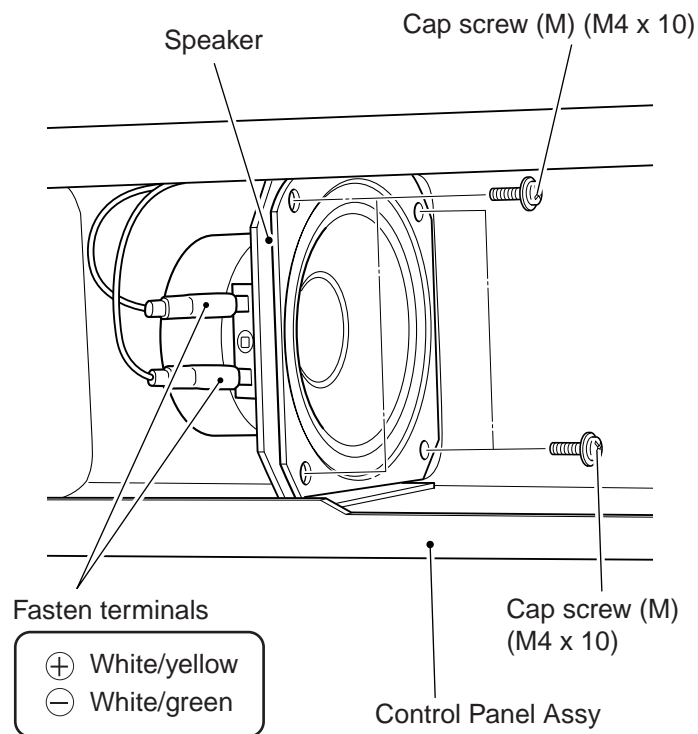
(9) Replacing the speakers - To be conducted by a technician only -

⚠ 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 initiating the described task.

* The speakers are installed at the both ends of the Control Panel Assy.

- 1** Remove the Control Panel Assy from the cabinet (see P. 16 "5-2-1 Removing the Control Panel Assy (when required by carry-in passage conditions)" **1** through **3**).
- 2** Disconnect the two Faston terminals.
- 3** Remove the four cap screws (M) (M4 x 10) to remove each speaker.



- 4** Reinstall the parts by following the removal sequence in reverse.

(10) Replacing the Display PC Board - To be conducted by a technician only -

⚠ 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 initiating the described task.

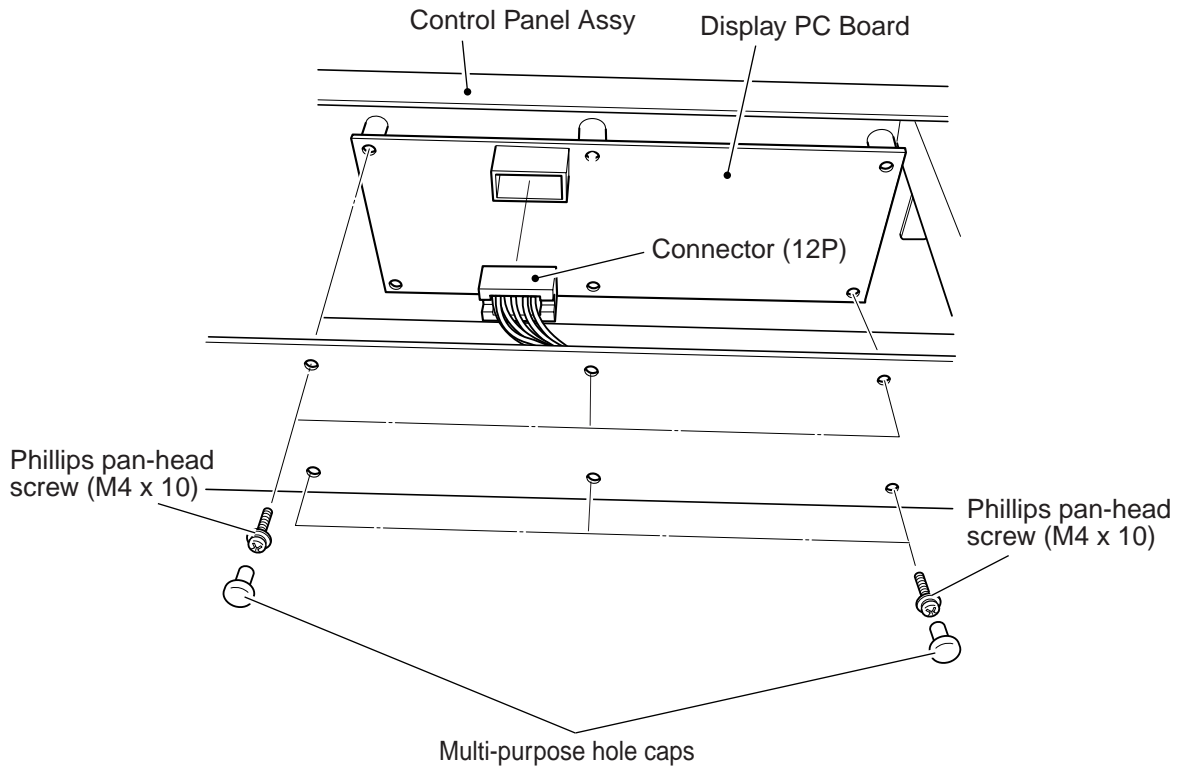
NOTICE

- PC boards can be easily damaged by static electricity. If a person charged with static electricity handles a PC board, electronic parts on the PC board can be damaged.

Before handling a PC board, touch a grounded metal surface to release electrostatic charge from your body.

* The Display PC Board is installed in each of the right and left stations.

- 1** Remove the Control Panel Assy from the cabinet (see P. 16 "5-2-1 Removing the Control Panel Assy (when required by carry-in passage conditions)" **1** through **3**).
- 2** Disconnect the connector (12P) and remove the six multi-purpose hole caps and six Phillips pan-head screws (M4 x 10). Then, dismount the 7-segment LED Display PC Board.



- 3** Reinstall the parts by following the removal sequence in reverse.
- 4** Be sure to check the operation and settings (see P. 57 "7-6 Attract, Setting and Test modes").

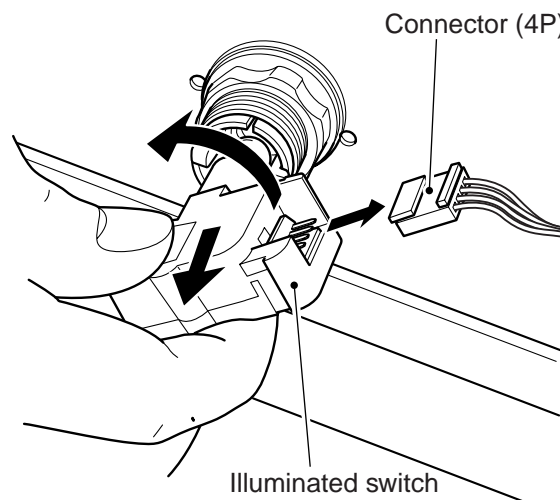
(11) Replacing the illuminated switches and lamps - To be conducted by a technician only -

⚠ WARNING

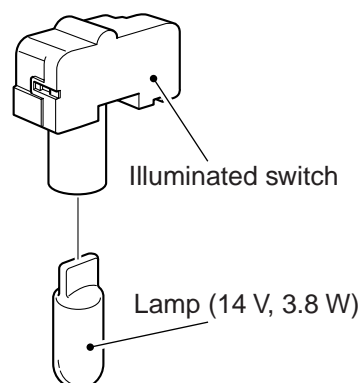
- To protect the service staff and other people from an electric shock, accident and injury, and to prevent damage to the electrical circuitry of the machine, always turn off the power switch before initiating the described task.

* Three illuminated switches are installed in each of the right and left stations.

- 1** Remove the three button-head bolts (M4 x 10) (see P. 22 "5-6 Installing Buttons ③" **1**).
- 2** Remove the control panel plate (L) or control panel plate (R) (see P. 22 "5-6 Installing Buttons ③" **1**).
- 3** Rotate and pull out the illuminated switch to be replaced.
- 4** Disconnect the connector (4P), and replace the illuminated switch.



- 5** Pull out the lamp (14 V, 3.8 W), and replace it.



- 6** Reinstall the parts by following the removal sequence in reverse.

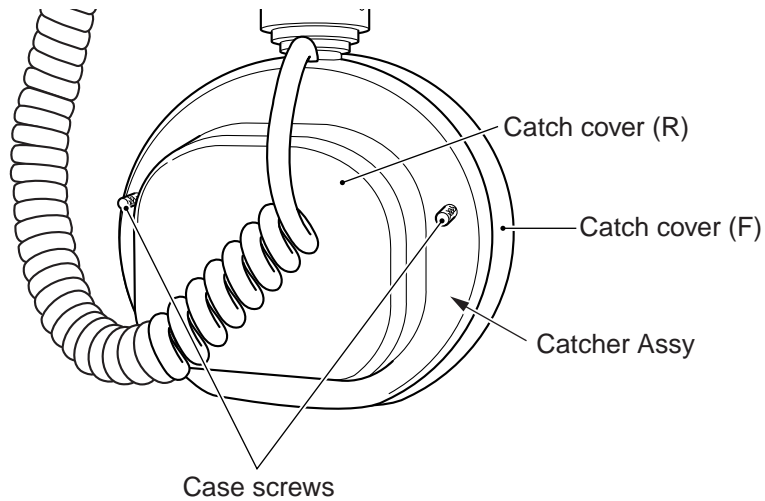
8-4-2 Catcher Assys - To be conducted by a technician only -

(1) Removing and installing the catcher cover (F) and catcher cover (R)

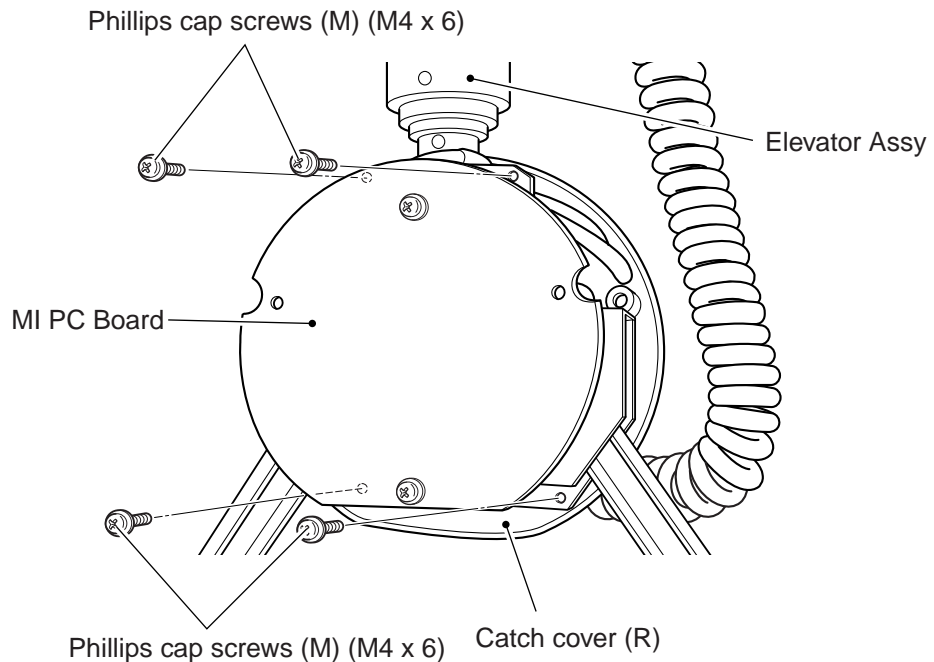
! WARNING

● 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 initiating the described task.

- 1** Using the provided maintenance key, open the front glass door (see P. 32 "7-2-1 Adding prizes" **1**).
- 2** Loosen the case screws, and dismount the catch cover (F).



- 3** Remove the four Phillips cap screws (M) (M4 x 6), and dismount the catch cover (R).



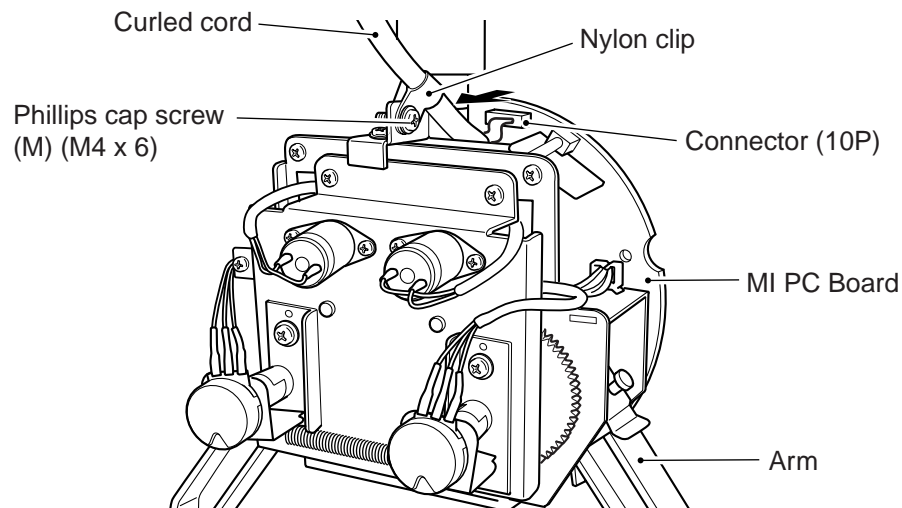
- 4** Reinstall the parts by following the removal sequence in reverse.

(2) Replacing the curled cord

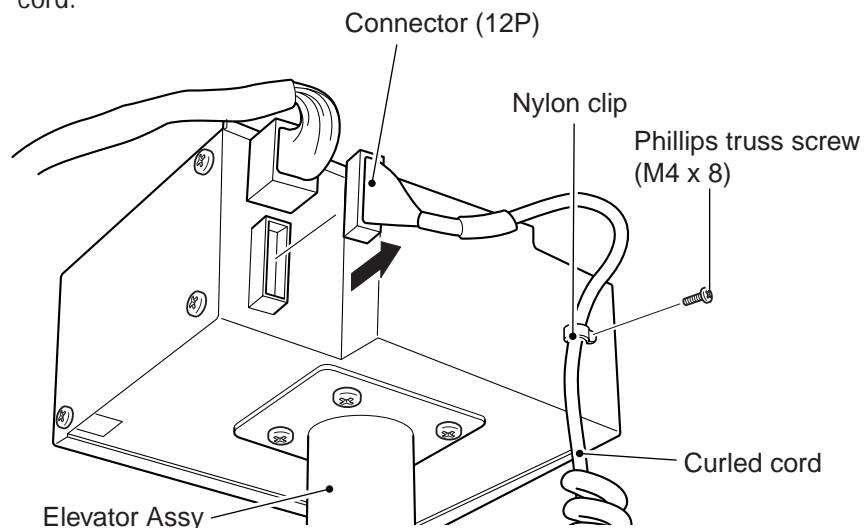
! WARNING

- 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 initiating the described task.

- 1 Using the provided maintenance key, open the front and side glass doors (see P. 32 "7-2-1 Adding prizes" **1**).
- 2 Remove the catch cover (F) and catch cover (R) (see P. 94 "8-4-2 (1) Removing and installing the catcher cover (F) and catcher cover (R)").
- 3 Disconnect the connector (10P) from the MI PC Board.
- 4 Remove the Phillips cap screw (M) (M4 x 6), and detach the nylon clip and curled cord.



- 5 Disconnect the connector (12P) from the Elevator Assy.
- 6 Remove the Phillips truss screw (M4 x 8), and detach the nylon clip and curled cord.



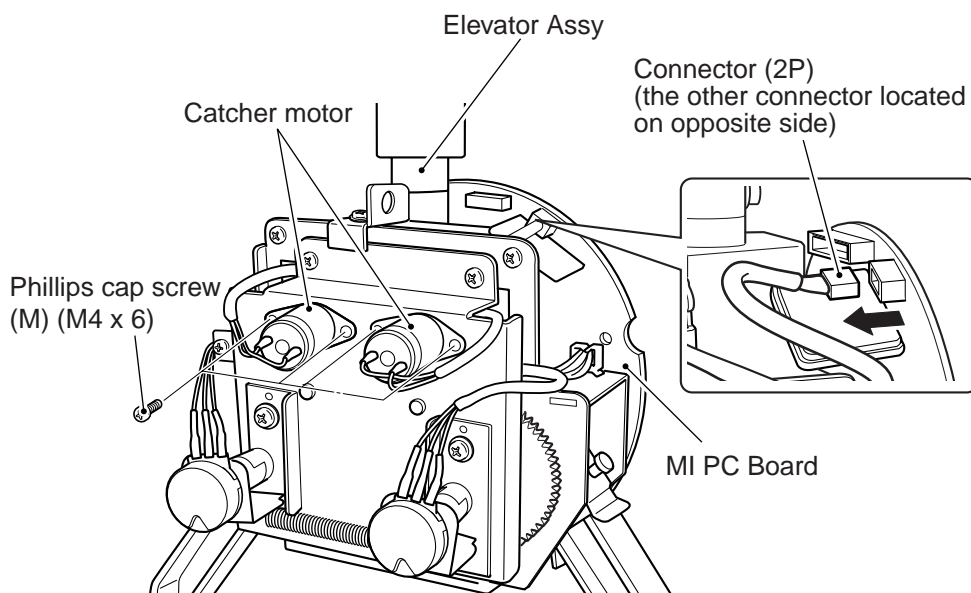
- 7 Reinstall the parts by following the removal sequence in reverse.

(3) Replacing the catcher motor - To be conducted by a technician only -

! 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 initiating the described task.

- 1** Using the provided maintenance key, open the front and side glass doors (see P. 32 "7-2-1 Adding prizes" **1**).
- 2** Remove the catch cover (F) and catcher cover (R) (see P. 94 "8-4-2 (1) Removing and installing the catcher cover (F) and catcher cover (R)").
- 3** Disconnect the connector (2P) from the MI PC Board.
- 4** Remove the two Phillips cap screws (M) (M4 x 6), and dismount the catcher motor.



- 5** Reinstall the parts by following the removal sequence in reverse.
- 6** Conduct calibration (see P. 64 "7-6-3 Test mode (7) Catcher Assy motor test").

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

WARNING

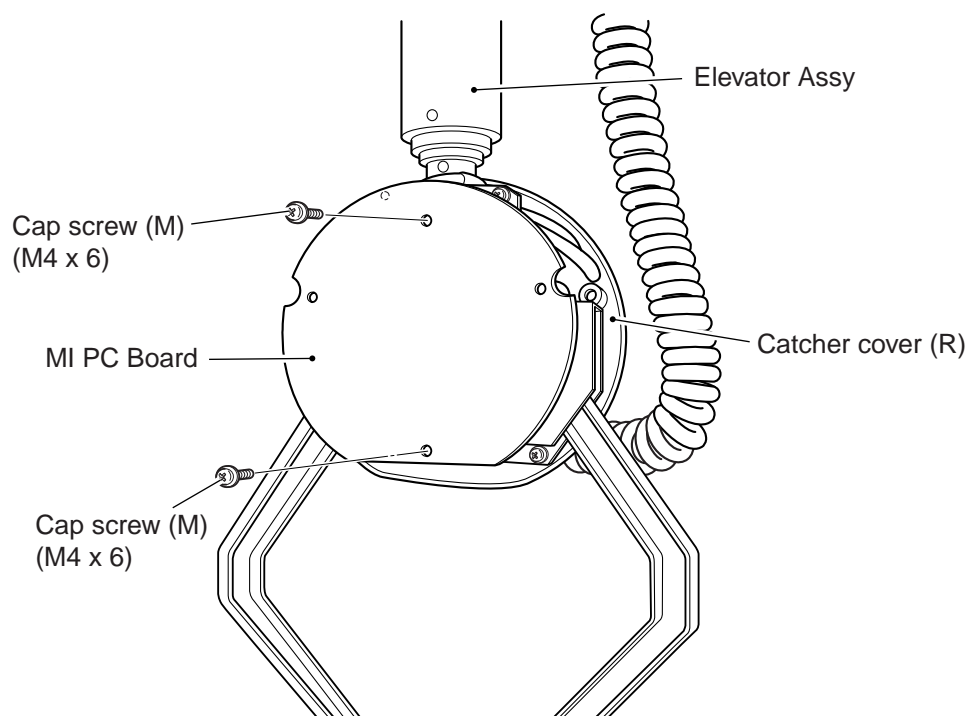
- To protect the service staff and other people from an electric shock, accident and injury, and to prevent damage to the electrical circuitry of the machine, always turn off the power switch before initiating the described task.

NOTICE

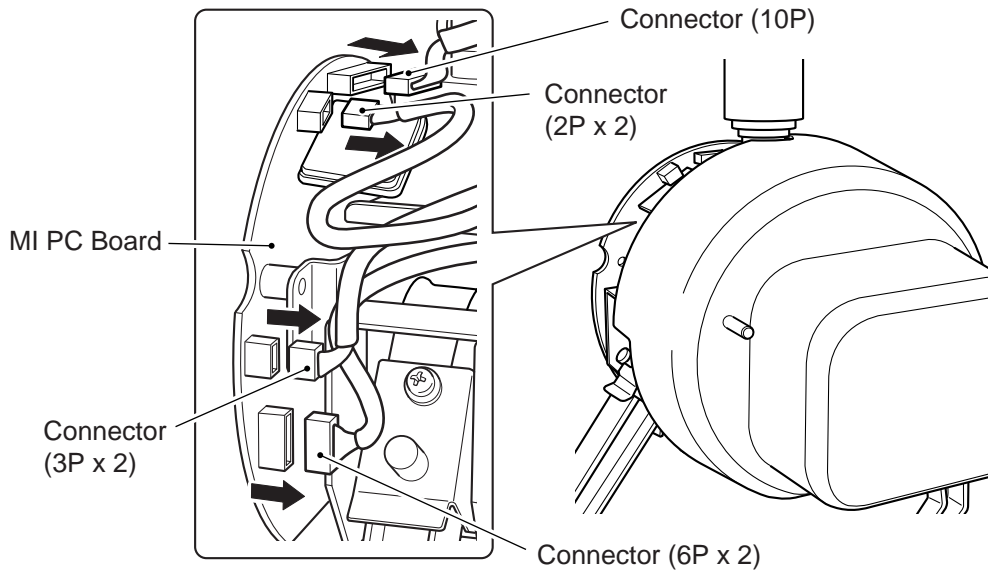
- PC boards can be easily damaged by static electricity. If a person charged with static electricity handles a PC board, electronic parts on the PC board can be damaged.

Before handling a PC board, touch a grounded metal surface to release electrostatic charge from your body.

- 1** Using the provided maintenance key, open the front glass door (see P. 32 "7-2-1 Adding prizes" **1**).
- 2** Remove the catcher cover (F) (see P. 94 "8-4-2 (1) Removing and installing the catcher cover (F) and catcher cover (R)").
- 3** Remove the two cap screws (M) (M4 x 6).



- 4 Disconnect the seven connectors (2P x 2, 3P x 2, 6P x 2, 10P) from the MI PC Board, and dismount the MI PC Board.



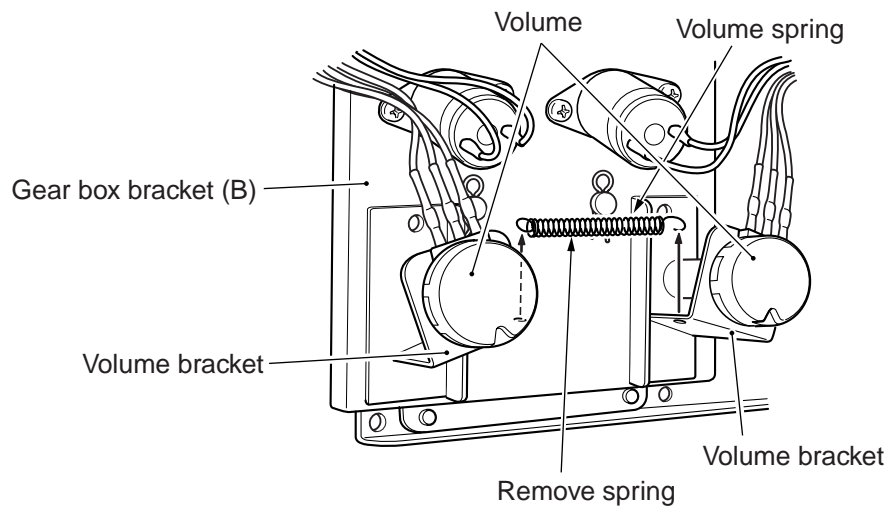
- 5 Reinstall the parts by following the removal sequence in reverse.
- 6 Conduct calibration (see P. 64 "7-6-3 Test mode (7) Catcher Assy motor test").

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

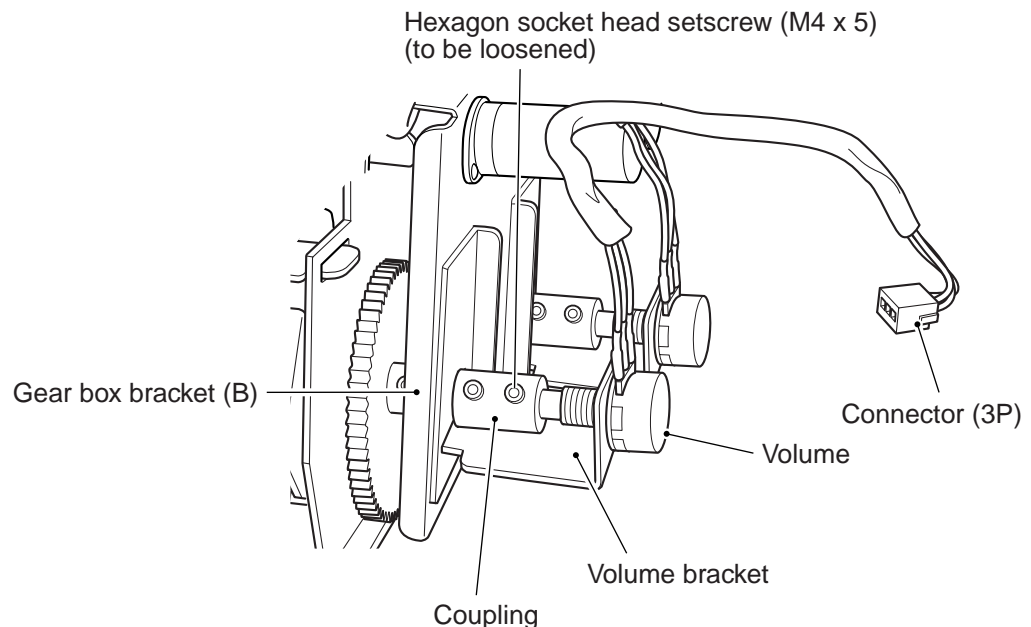
⚠ WARNING

- 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 initiating the described task.

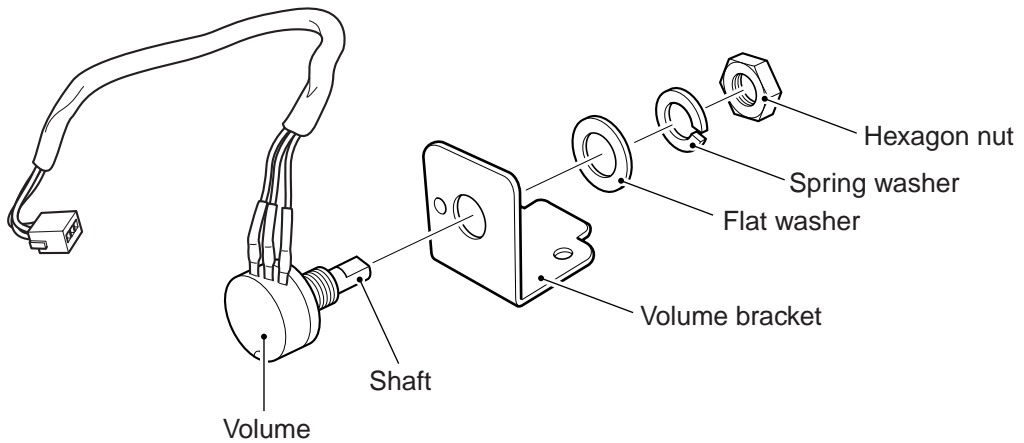
- 1 Using the provided maintenance key, open the front and side glass doors (see P. 32 "7-2-1 Adding prizes" **1**).
- 2 Remove the catch cover (F) and catch cover (R) (see P. 94 "8-4-2 (1) Removing and installing the catcher cover (F) and catcher cover (R)").
- 3 Disconnect the volume connector (3P) from the MI PC Board (see P. 97 "8-4-2 (4) Replacing the MI PC Board" **1** through **4**).
- 4 Detach the volume spring from the volume bracket.



- 5 Loosen one hexagon socket head setscrew (M4 x 5), and dismount the volume together with the volume bracket.



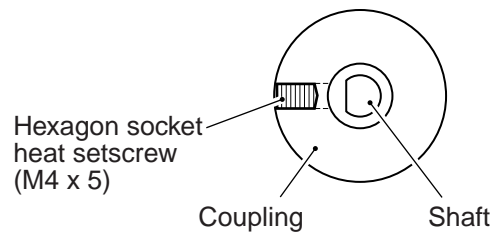
6 Dismount the volume from the volume bracket.



7 Reinstall the parts by following the removal sequence in reverse.



- When installing the volume, align the flat section on the volume shaft with the position of the hexagon socket heat setscrew (M4 x 5).



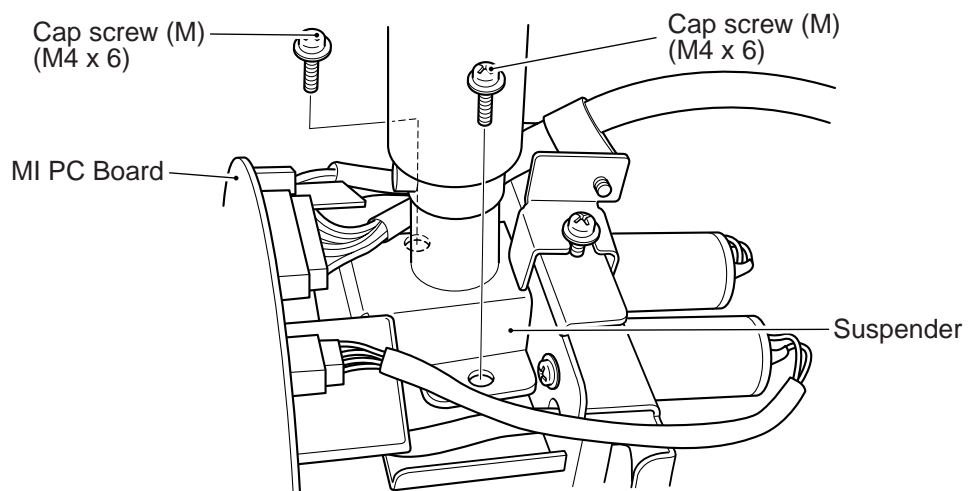
8 Conduct calibration ([see P. 64 "7-6-3 Test mode \(7\) Catcher Assy motor test"](#)).

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

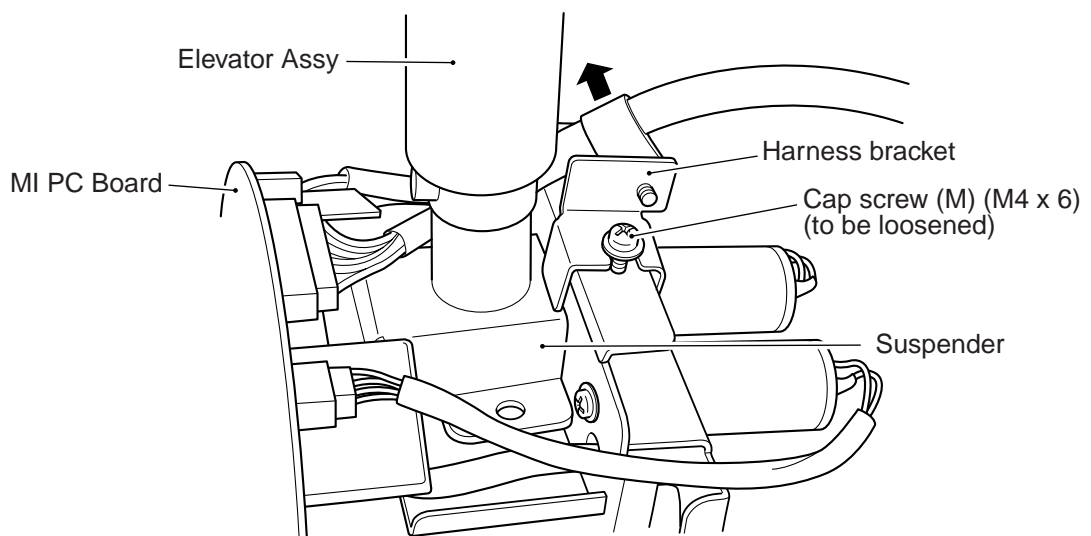
⚠ WARNING

- 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 initiating the described task.

- 1** Using the provided maintenance key, open the front glass door (see P. 32 "7-2-1 Adding prizes" **1**).
- 2** Remove the catcher cover (F) and catcher cover (R) (see P. 94 "8-4-2 (1) Removing and installing the catcher cover (F) and catcher cover (R)").
- 3** Remove the two cap screws (M) (M4 x 6) from the suspender.

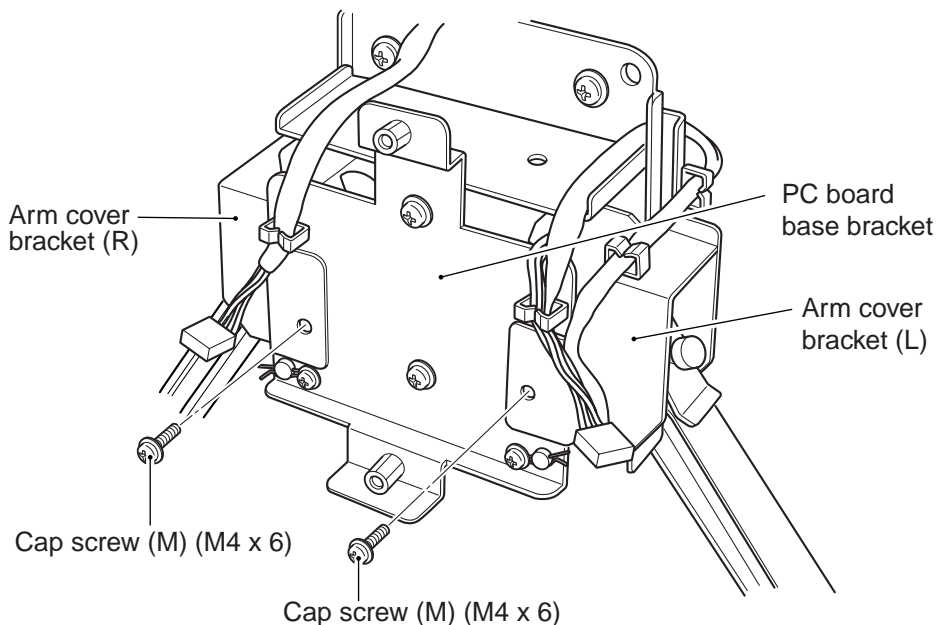


- 4** Loosen the cap screw (M) (M4 x 6) slightly, slide the harness bracket to the side, and dismount the Catcher Assy and place it on the floor.

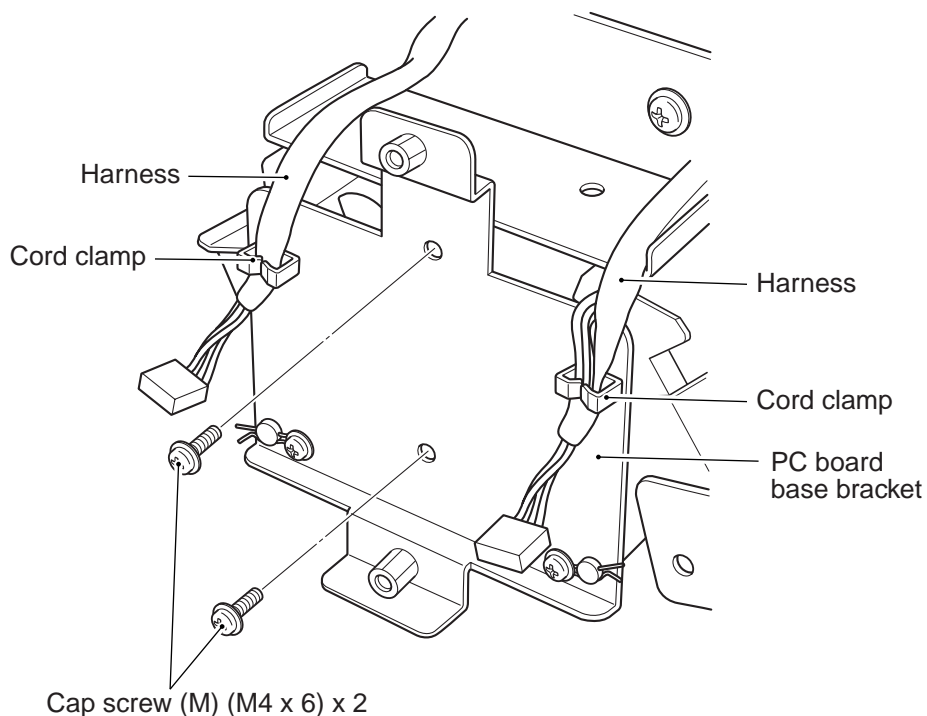


- When loosening the screw and sliding the harness bracket to the side, be careful not to let the Catcher Assy fall.

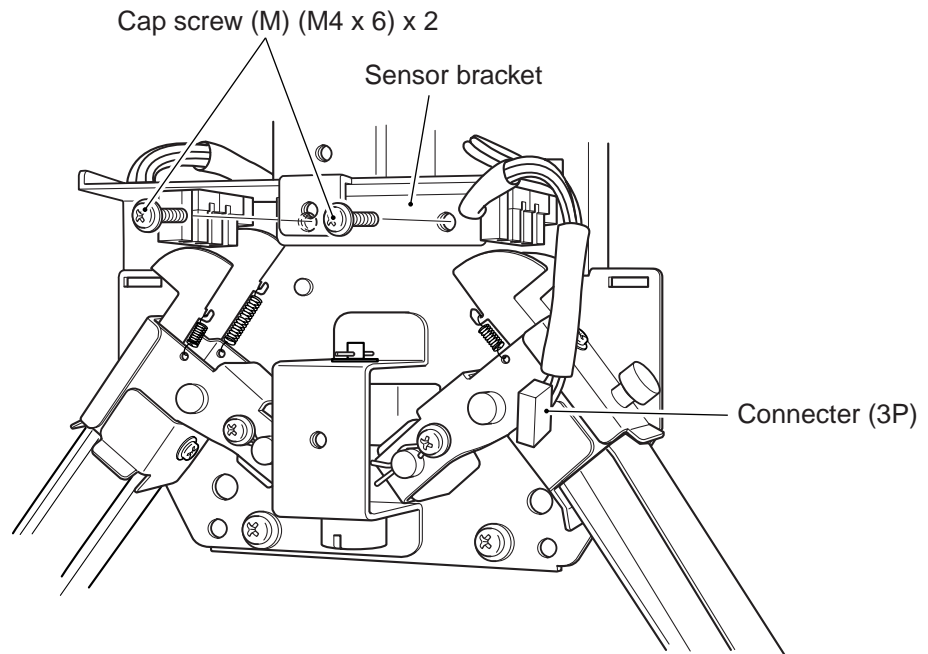
- 5 Remove the two cap screws (M) (M4 x 6), disconnect the seven connectors from the MI PC Board, and dismount the MI PC Board (see P. 97 "8-4-2 (M) Replacing the MI PC Board").
- 6 Remove the cap screw (M) (M4 x 6), and dismount the arm cover bracket (R) (likewise, remove the arm cover bracket (L) on the opposite side).



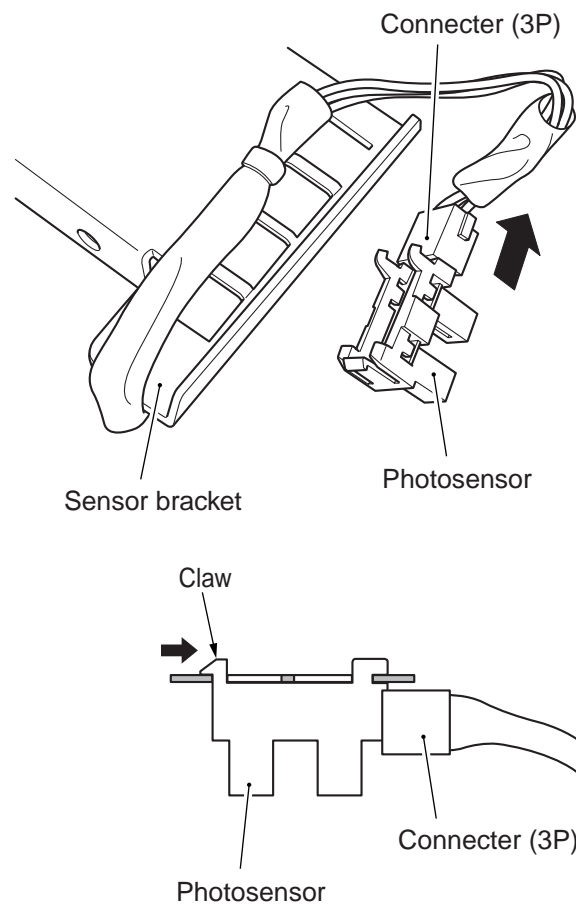
- 7 Detach the harnesses from the two cord clamps, remove the two cap screws (M) (M4 x 6), and dismount the PC board base bracket.



- 8** Remove the two cap screws (M) (M4 x 6), dismantle the sensor bracket, and disconnect the catcher photosensor connector (3P).



- 9** Disengage the sensor claw, and dismantle the catcher photosensor.



- 10** Reinstall the parts by following the removal sequence in reverse.

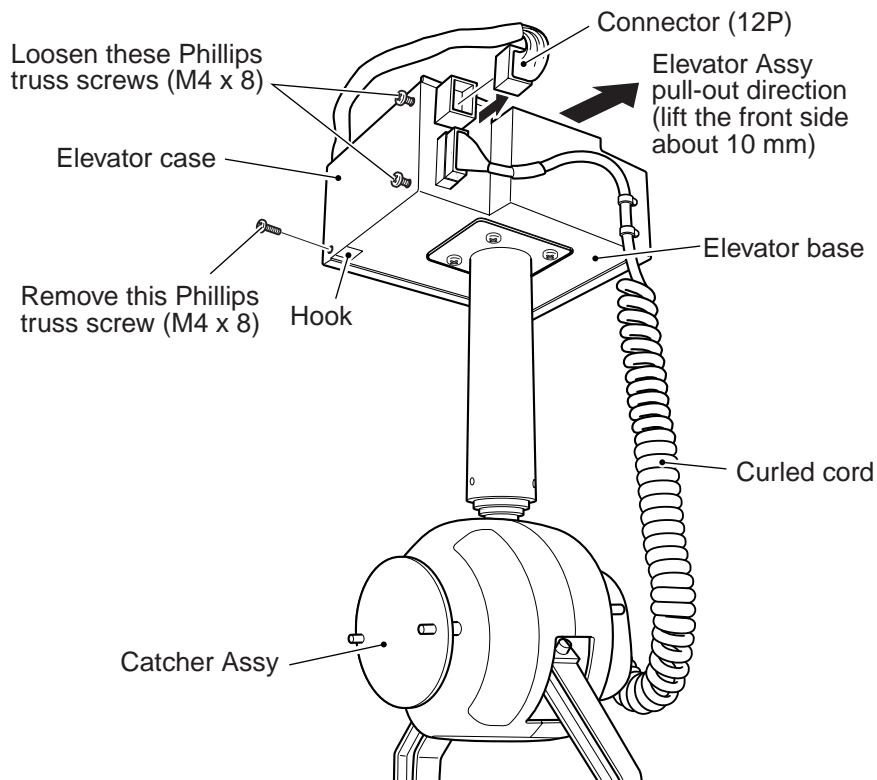
8-4-3 Elevator Assys - To be conducted by a technician only -

(1) Removing and installing the elevator base

⚠ 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 initiating the described task.

- 1** Turn on the power switch (see P. 54 "7-5-1 Turning on the power switch").
- 2** Select "Maintenance Mode" in the Test mode, and move the Elevator Assys to the take-out positions (see P. 63 "7-6-3 Test mode").
- 3** Turn off the power switch (see P. 54 "7-5-1 Turning on the power switch").
- 4** Using the provided maintenance key, open the front glass door (see P. 32 "7-2-1 Adding prizes" **1**).
- 5** Disconnect the connector (12P, on the rail side).
- 6** Remove one Phillips truss screw (M4 x 8).
- 7** Loosen two Phillips truss screws (M4 x 8).
- 8** Lift the front side of the elevator base about 10 mm, and pull it out.



- 9** Reinstall the parts by following the removal sequence in reverse.



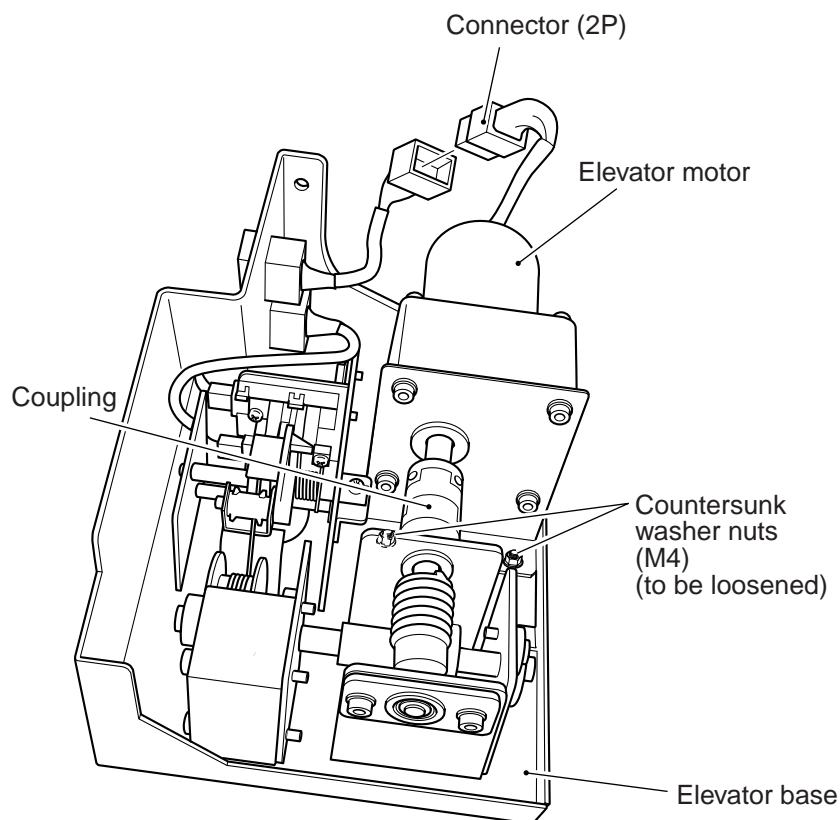
● When reinstalling the elevator base, be careful not to pinch the harness.

(2) Replacing the elevator motor

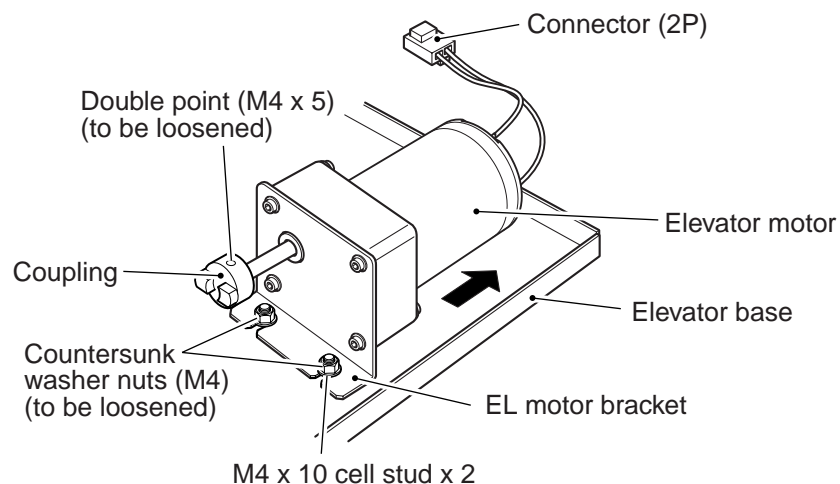
⚠ WARNING

- 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 initiating the described task.

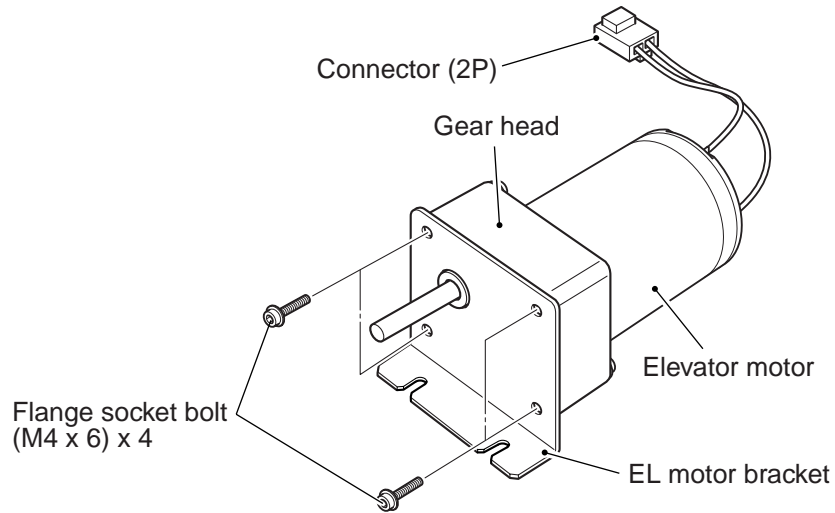
- 1** Using the provided maintenance key, open the front glass door (see P. 32 "7-2-1 Adding prizes" **1**).
- 2** Remove the elevator base (see P. 104 "8-4-3 (1) Removing and installing the elevator base" **1** through **6**).
- 3** Loosen the two countersunk washer nuts (M4).



- 4** Disconnect the connector (2P) of the elevator motor, slide the EL motor bracket, and dismount the EL motor bracket together with the motor.



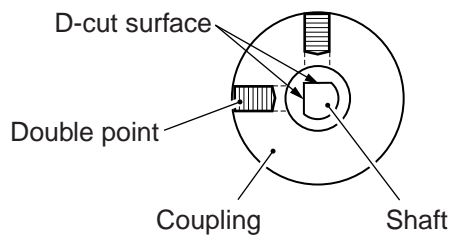
- 5** Loosen the double points (M4 x 5) and dismount the coupling.
- 6** Remove the four flange socket bolts (M4 x 6).
- 7** Dismount the elevator motor from the EL motor bracket, and replace the motor and gear head.



- 8** Reinstall the parts by following the removal sequence in reverse.



- While pressing the coupling on the side of the elevator motor and gear head lightly against the mating coupling, position the D-cut surfaces (90°, 2 locations) on the gear head shaft in such a way that each of the two double points is perpendicular to the D-cut surfaces for proper installation.

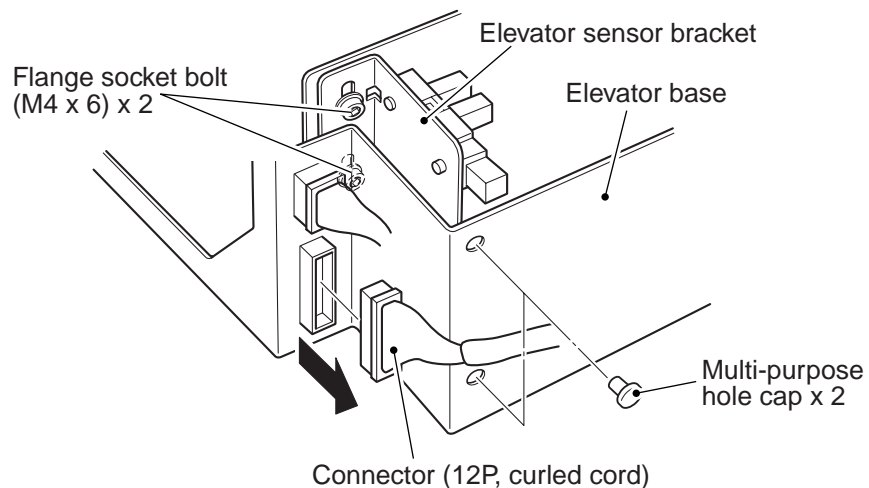


(3) Replacing the elevator wire slack sensor

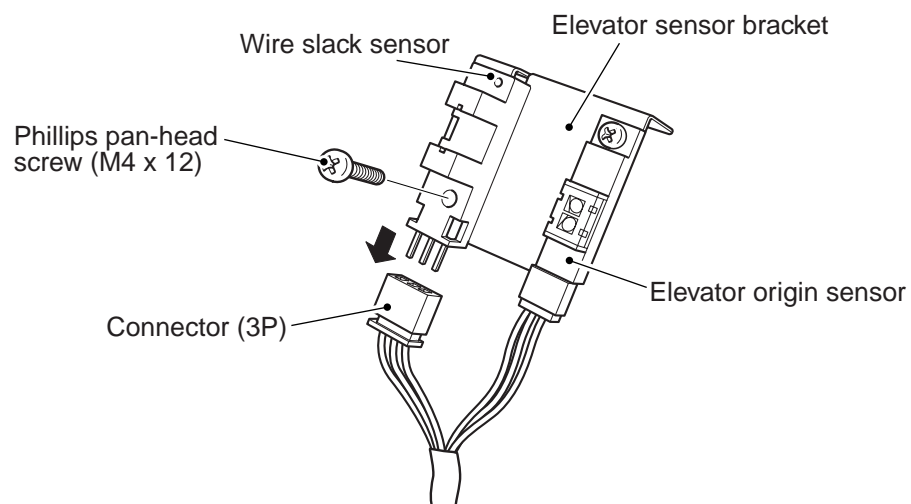
⚠ WARNING

- 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 initiating the described task.

- 1** Using the provided maintenance key, open the front glass door (see P. 32 "7-2-1 Adding prizes" **1**).
- 2** Dismount the elevator base (see P. 104 "8-4-2 (1) Removing and installing the elevator base" **1** through **8**).
- 3** Disconnect the connector (12P, curled cord).
- 4** Remove the two multi-purpose hole caps, loosen the two flange socket bolts (M4 x 6), and dismount the elevator sensor bracket together with the sensors.



- 5** Disconnect the connector (3P).
- 6** Remove the Phillips pan-head screw (M4 x 12), and dismount the wire slack sensor (recessed type) located on the top side.



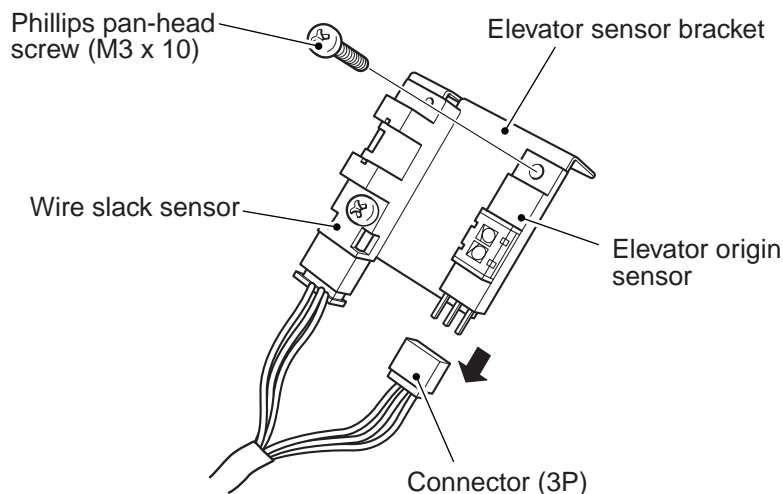
- 7** Replace the elevator wire slack sensor.
- 8** Reinstall the parts by following the removal sequence in reverse.

(4) Replacing the elevator origin sensor

⚠ 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 initiating the described task.

- 1** Using the provided maintenance key, open the front and side glass doors (see P. 32 "7-2-1 Adding prizes" **1**).
- 2** Dismount the elevator sensor bracket (see P. 107 "8-4-3 (3) Replacing the elevator wire slack sensor" **1** through **4**).
- 3** Disconnect the connector (3P).
- 4** Remove the Phillips pan-head screw (M3 x 10), and dismount the elevator origin sensor (raised type) located on the bottom side.



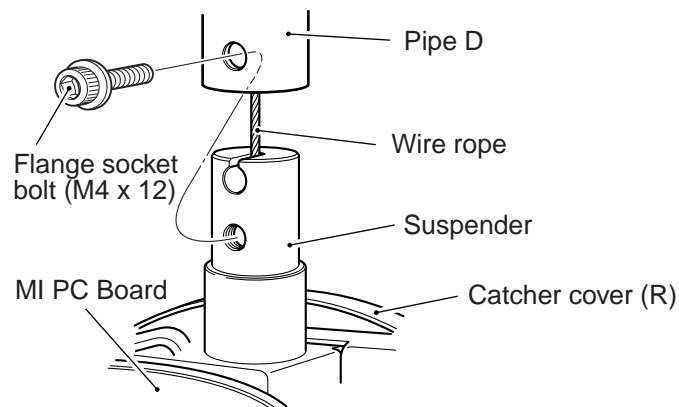
- 5** Replace the elevator origin sensor.
- 6** Reinstall the parts by following the removal sequence in reverse.

(5) Replacing the wire

! 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 initiating the described task.

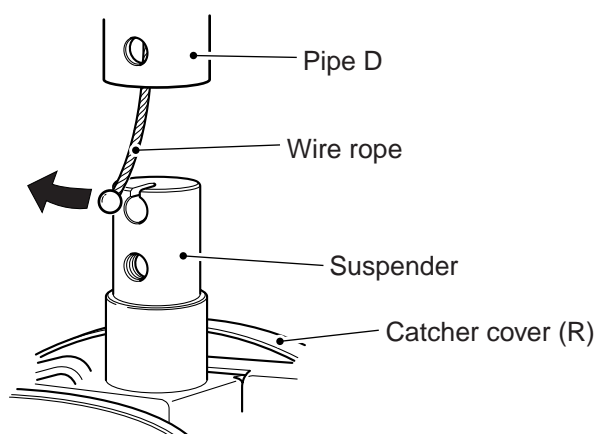
- 1** Select "Maintenance Mode" in the Test mode, and move the Elevator Assys to the take-out positions (see P. 63 "7-6-3 Test mode").
- 2** Using the provided maintenance key, open the front glass door (see P. 32 "7-2-1 Adding prizes" **1**).
- 3** Dismount the catcher cover (F) (see P. 94 "8-4-2 (1) Removing and installing the elevator base" **1**, **2**).
- 4** Disconnect the curled cord from the MI PC Board (see P. 95 "8-4-2 (2) Replacing the curled cord" **1** through **4**).
- 5** Remove the flange socket bolt (M4 x 12).



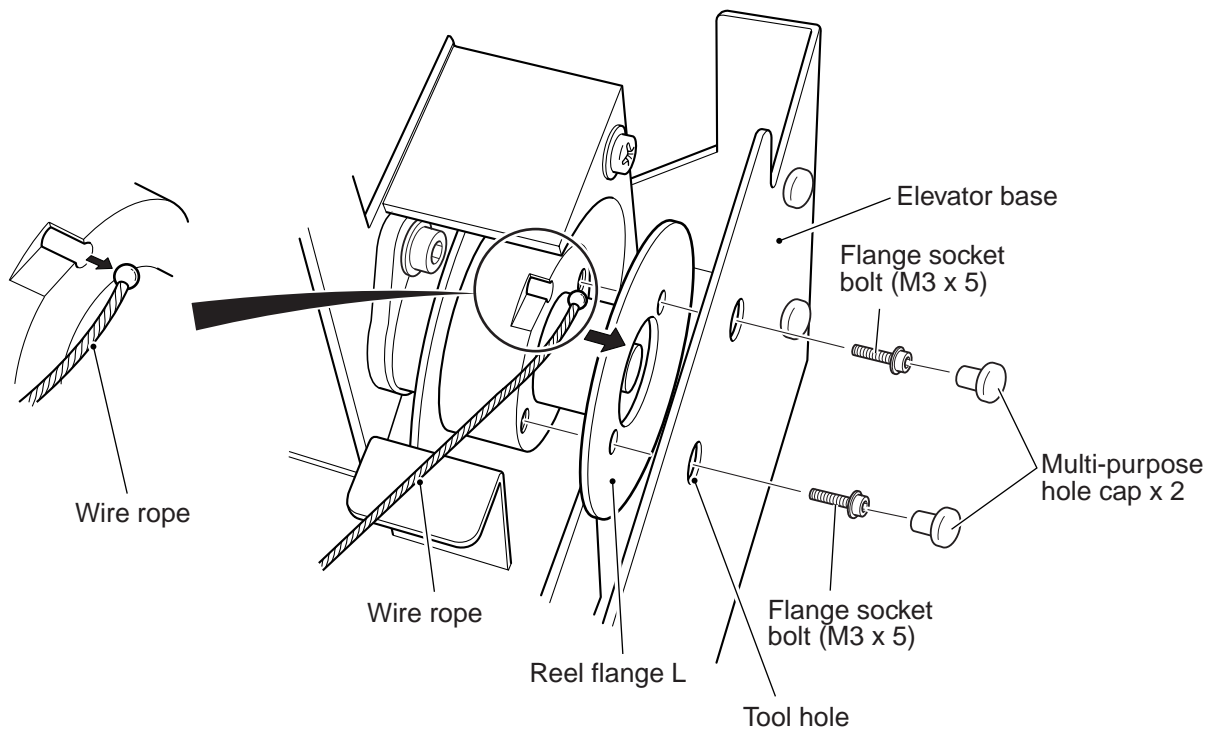
- 6** Support the Elevator Assy from the bottom side with a hand, and slide the pipe D upward.
- 7** Disengage the tip of the wire rope from the suspender, and dismount the Catcher Assy.

NOTICE

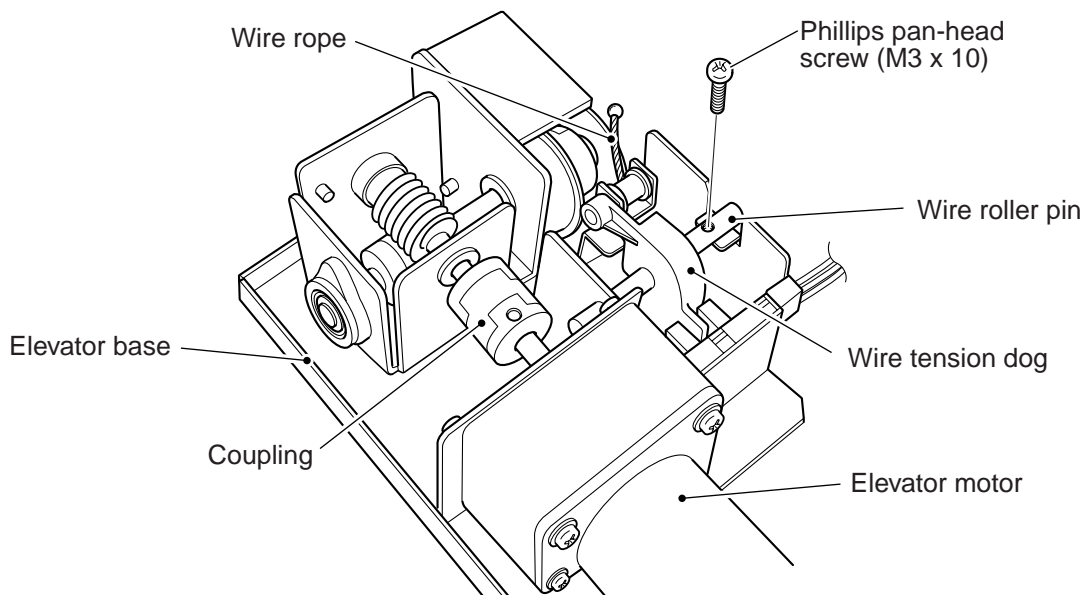
- When dismantling the Elevator Assy, set a hand along the pipe D and slowly extend the entire pipe, and prevent impact caused by dropping. Impact can result a machine malfunction.



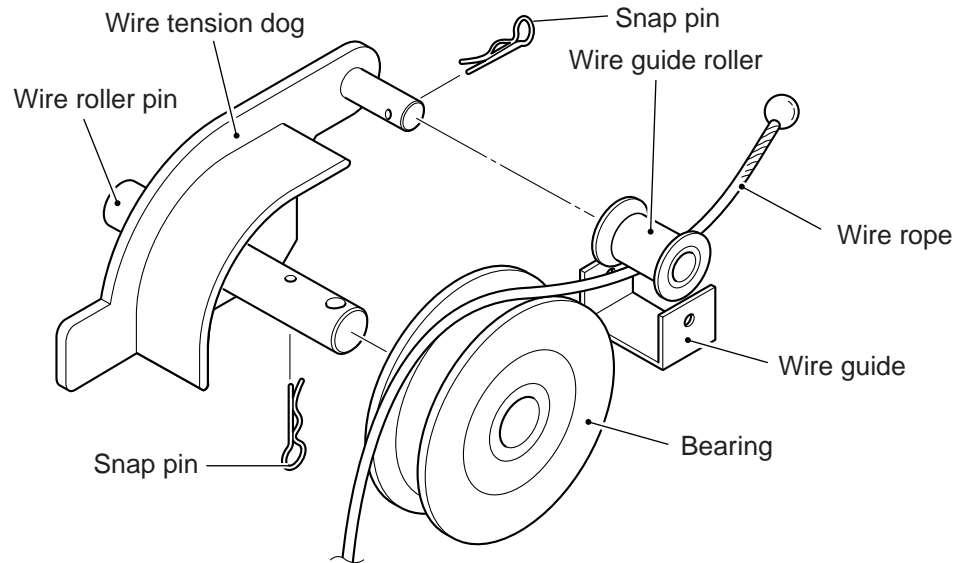
- 8** Dismount the elevator base (see P. 104 "8-4-3 (1) Removing and installing the elevator base").
- 9** Turn the coupling by hand and align the flange socket bolts (M3 x 5) with the tool holes.
- 10** Remove the two multi-purpose hole caps, and remove the two flange bolts (M3 x 5).
- 11** Remove the reel flange L.



- 12** Remove the Phillips pan-head screw (M3 x 10), and dismount the wire tension dog together with the wire roller pin.



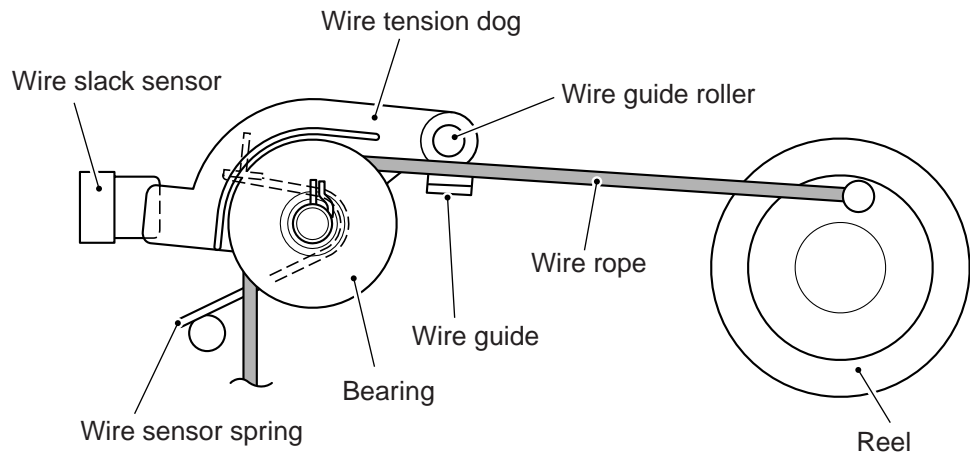
- 13** Pull the two snap pins from the wire roller pin and wire tension dog, dismount the wire guide and wire guide roller, and pull out the wire rope and replace it.



- 14** Reinstall the parts by following the removal sequence in reverse.



- During reinstallation, be sure to route the wire rope and install the wire sensor spring as shown in the diagram below.



[Wire routing diagram]

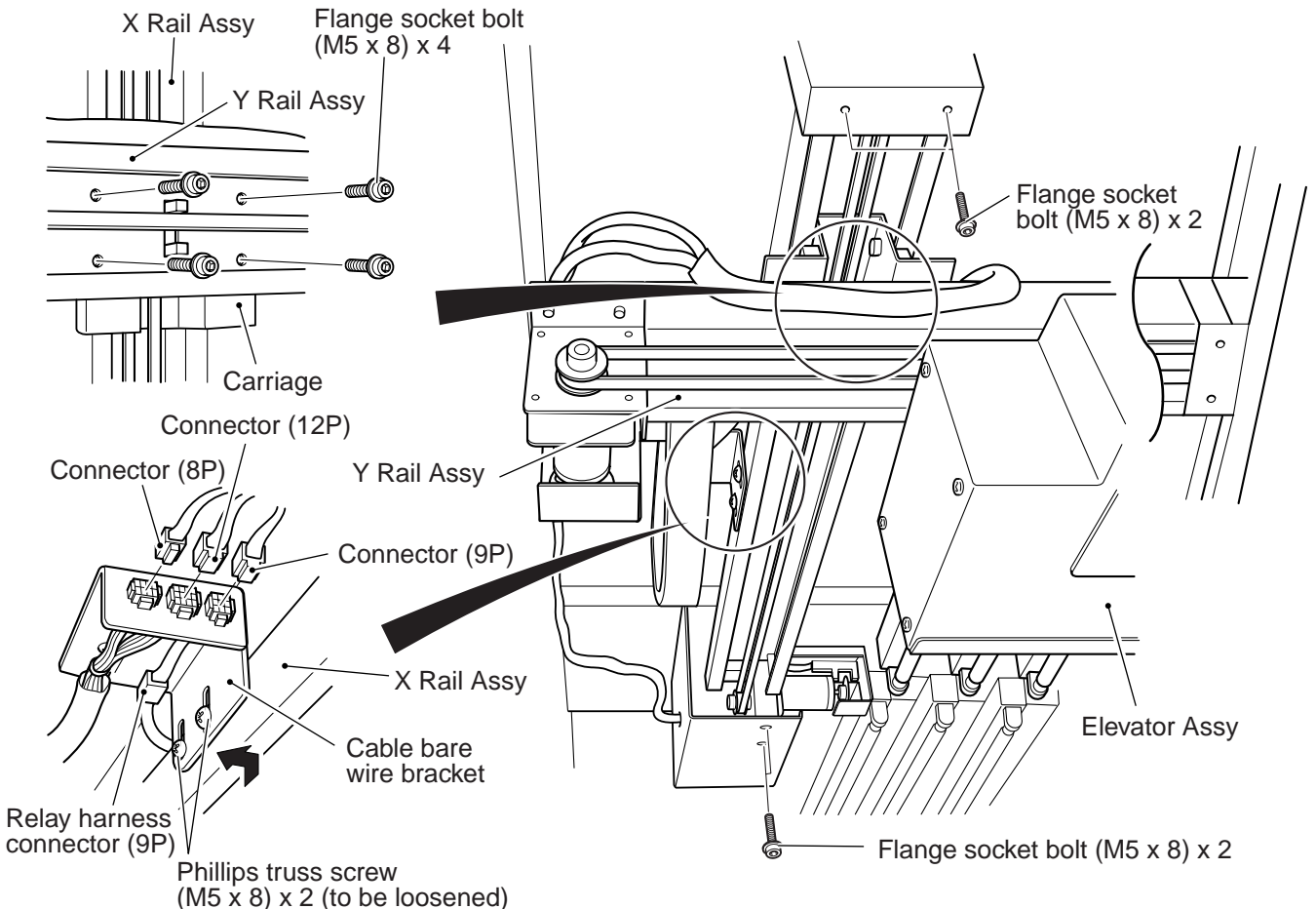
8-4-4 X Rail Assy, Y Rail Assy - To be conducted by a technician only -

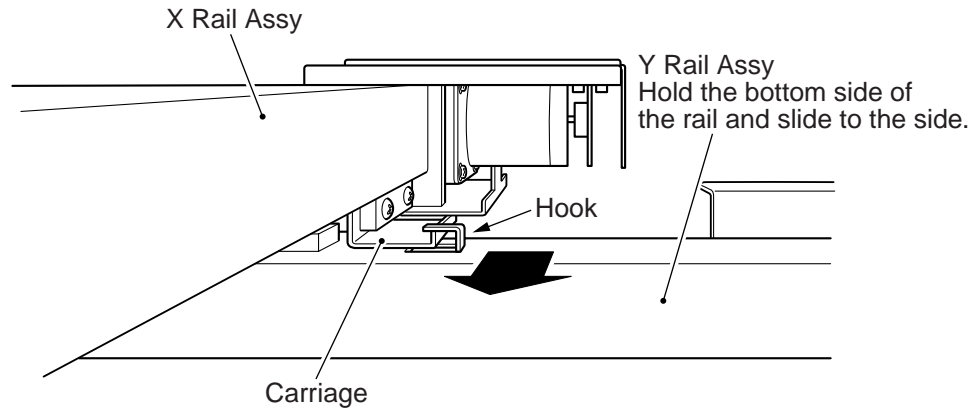
(1) Removing and installing the X Rail Assy and Y Rail Assy

⚠ 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 initiating the described task.
- If the Y Rail Assy disengages from the hook, it falls due to its own weight. When sliding the Y Rail Assy to remove it, be sure to support it from the bottom.

- 1** Using the provided maintenance key, open the front glass door (see P. 32 "7-2-1 Adding prizes" **1**).
- 2** Remove the elevator base (see P. 104 "8-4-3 (1) Removing and installing the elevator base" **1** through **6**).
- 3** Disconnect the three connectors (8P, 9P, 12P), and also disconnect the connector (9P) of the relay harness located next to the cable bare wire bracket. Then, loosen the two Phillips truss screws (M5 x 8), and dismount the cable bare wire bracket.
- 4** Remove the four flange socket bolts (M5 x 8) that hold the X Rail Assy and Y Rail Assy in place, and dismount the Y Rail Assy by sliding to the side.
- 5** Remove the four flange socket bolts (M5 x 8), and dismount the X rail.





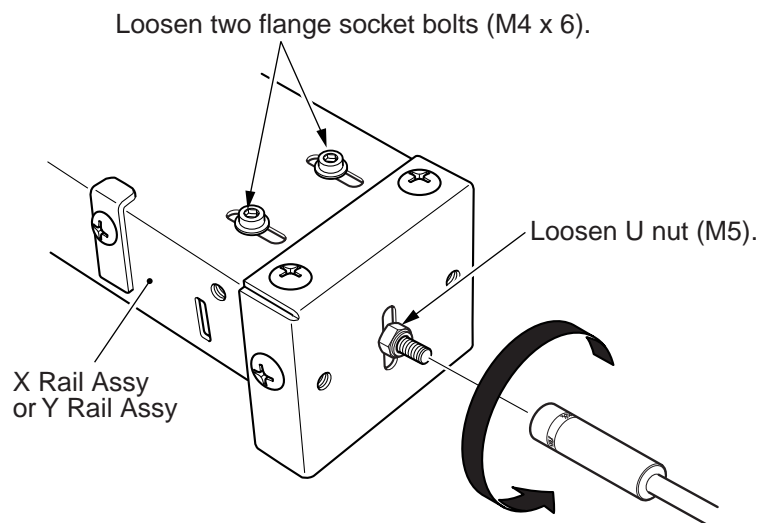
- 6** Reinstall the parts by following the removal sequence in reverse.

(2) Replacing the X rail motor, Y rail motor and gear head

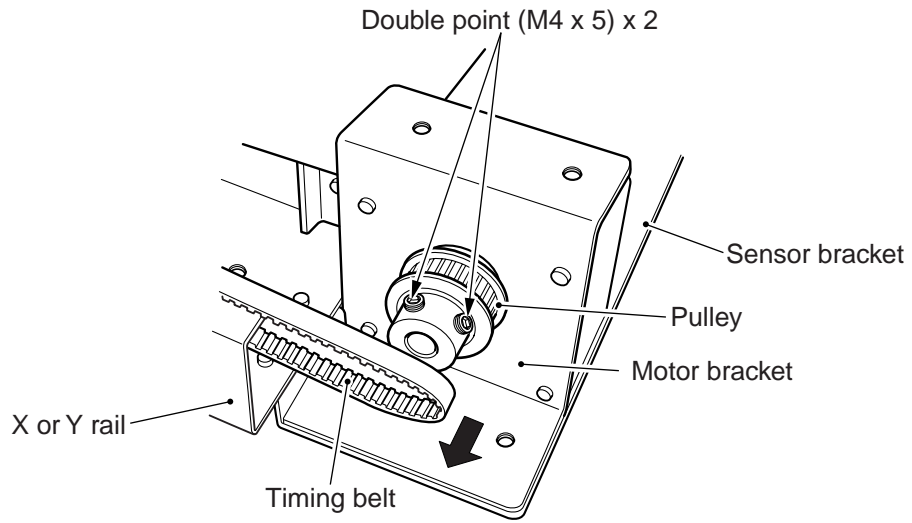
! WARNING

- 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 initiating the described task.

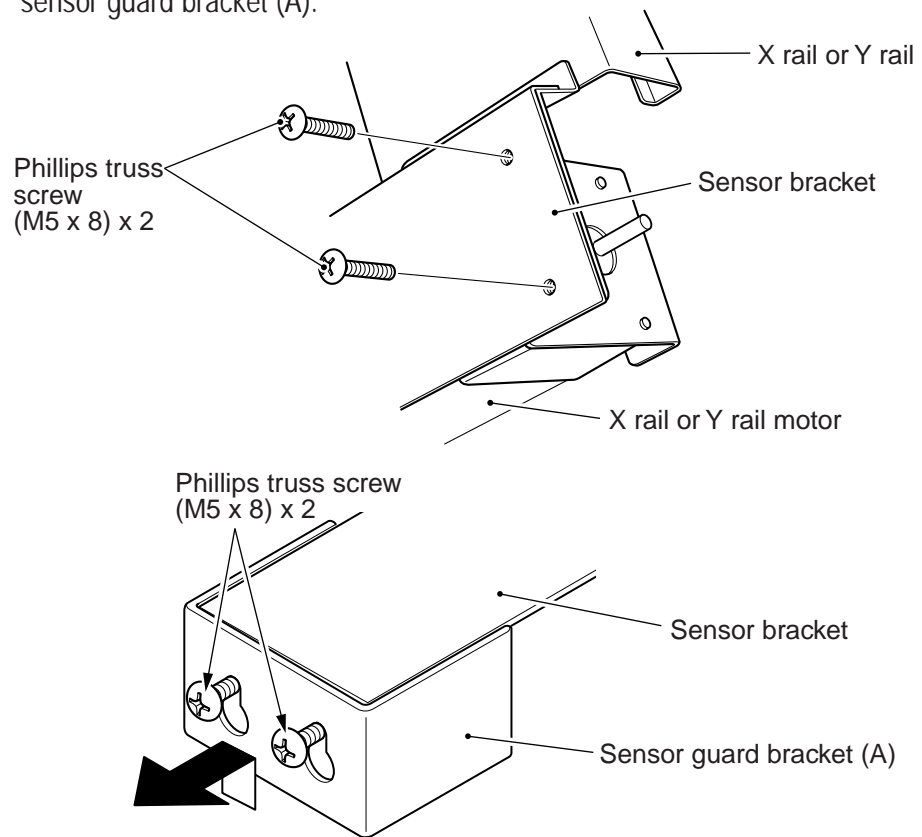
- 1** Using the provided maintenance key, open the front glass door (see P. 32 "7-2-1 Adding prizes" **1**).
- 2** Dismount the X Rail Assy or Y Rail Assy (see P. 112 "8-4-4 (1) Removing and installing the X Rail Assy and Y Rail Assy" **1** through **6**).
- 3** Loosen the two flange socket bolts (M4 x 6), loosen the U nut (M5), and remove the timing belt from the pulley on the motor side.



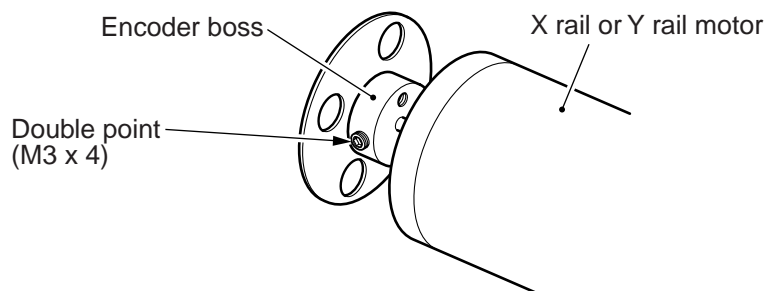
- 4** Remove the two double points (M4 x 5), and dismount the pulley.



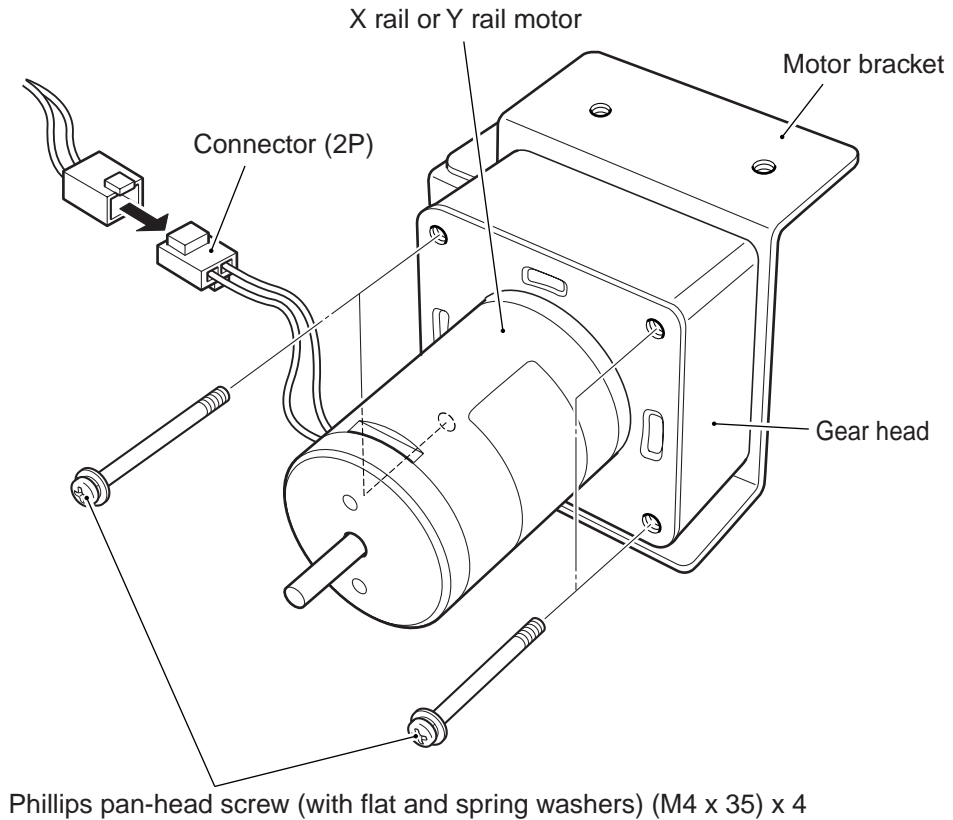
- 5** Remove the two Phillips truss screws (M5 x 8), and dismount the sensor bracket. For the Y Rail Assy, loosen the two Phillips truss screws (M5 x 8) and dismount the sensor guard bracket (A).



- 6** Remove one double point (M3 x 4), and dismount the encoder boss.



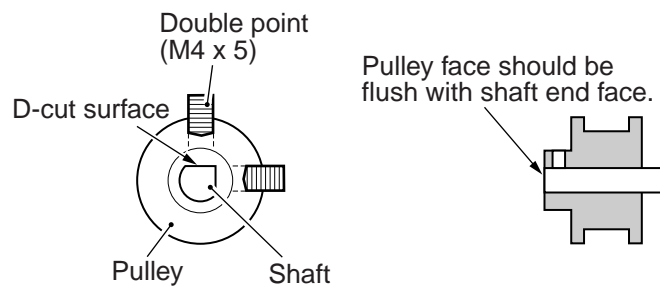
- 7** Remove the four small Phillips pan-head screws (with flat and spring washers) (M4 x 35), disconnect the connector (2P), and dismount the motor and gear head.



- 8** Reinstall the parts by following the removal sequence in reverse.



- When installing the pulley, make sure that the two double points (M4 x 5) are in contact with the two D-cut surfaces of the shaft.



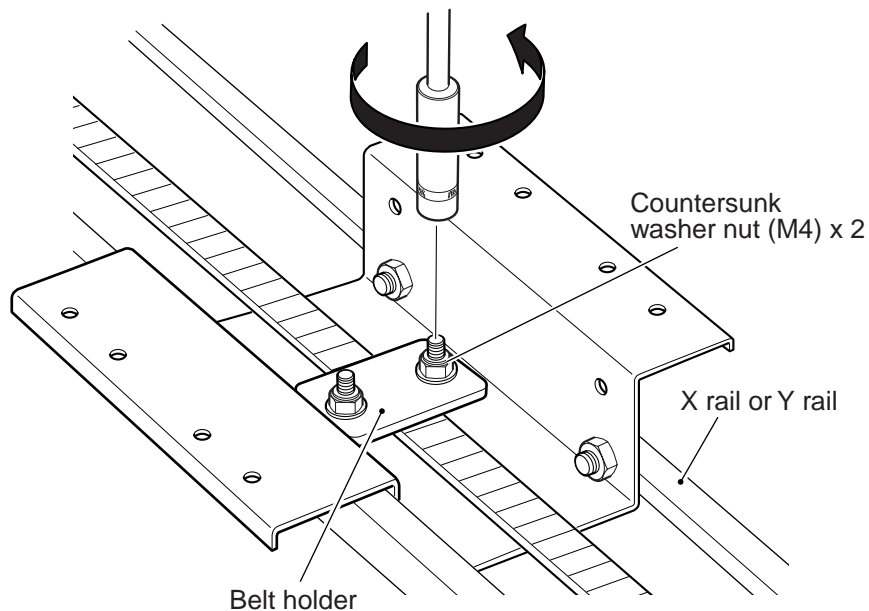
- 9** Adjust the belt tension (see P. 116 "8-4-4 (3) Replacing the belt").

(3) Replacing the belt

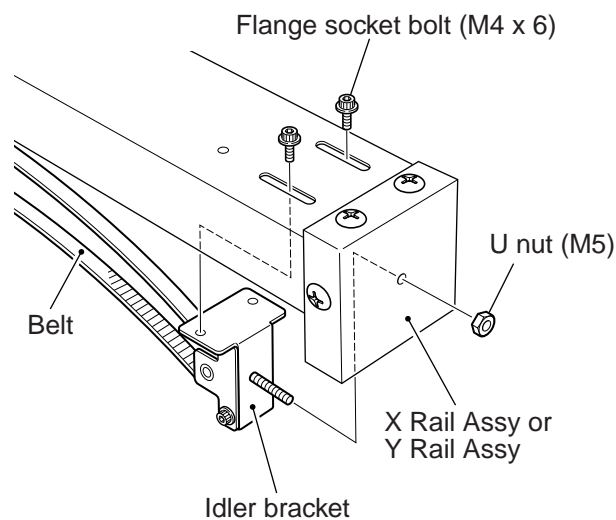
⚠ WARNING

- 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 initiating the described task.

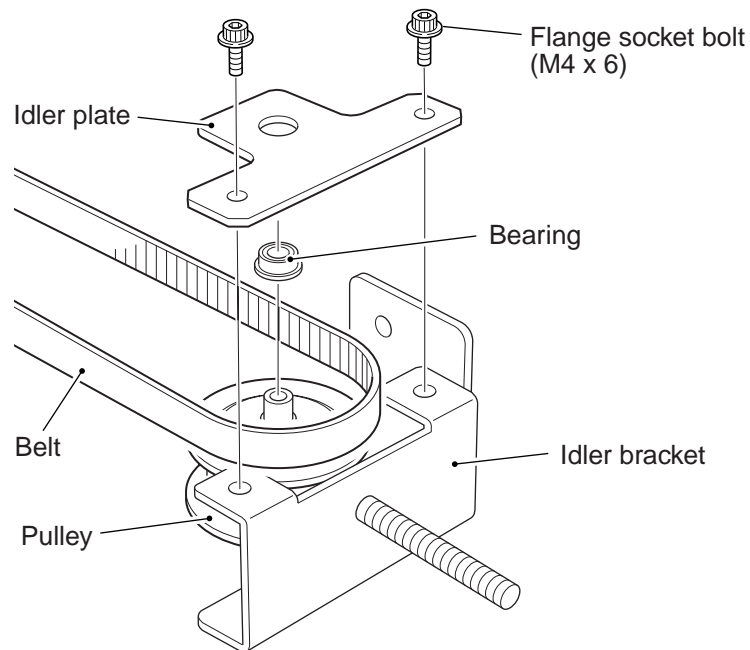
- 1** Using the provided maintenance key, open the front glass door (see P. 32 "7-2-1 Adding prizes" **1**).
- 2** Dismount the X Rail Assy or Y Rail Assy (see P. 112 "8-4-4 (1) Removing and installing the X Rail Assy and Y Rail Assy" **1** through **6**).
- 3** Remove the two countersunk washer nuts (M4), and dismount the belt holder.



- 4** Remove the two flange socket bolts (M4 x 6), remove the U nut (M5), and dismount the idler bracket from the rail.



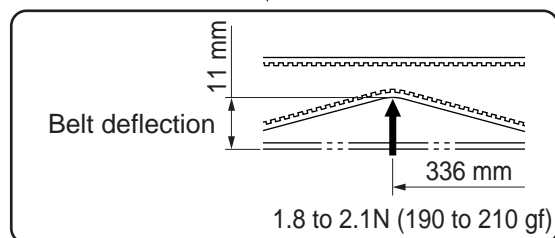
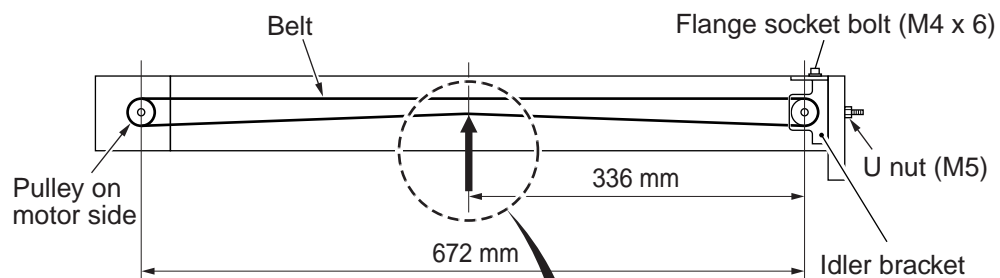
- 5** Remove the two flange socket bolts (M4 x 6), and discount the idler plate and bearing.



- 6** Remove the belt from the pulley.
- 7** Reinstall the parts by following the removal sequence in reverse.



- After reassembly, loosen the two flange socket bolts (M4 x 6) and turn the U nut (M5) to adjust the belt tension so that the belt deflects 11 mm when a force of 1.8 to 2.1 N (190 to 210 gf) is applied to the belt at a location 336 mm away from the center of the pulley.

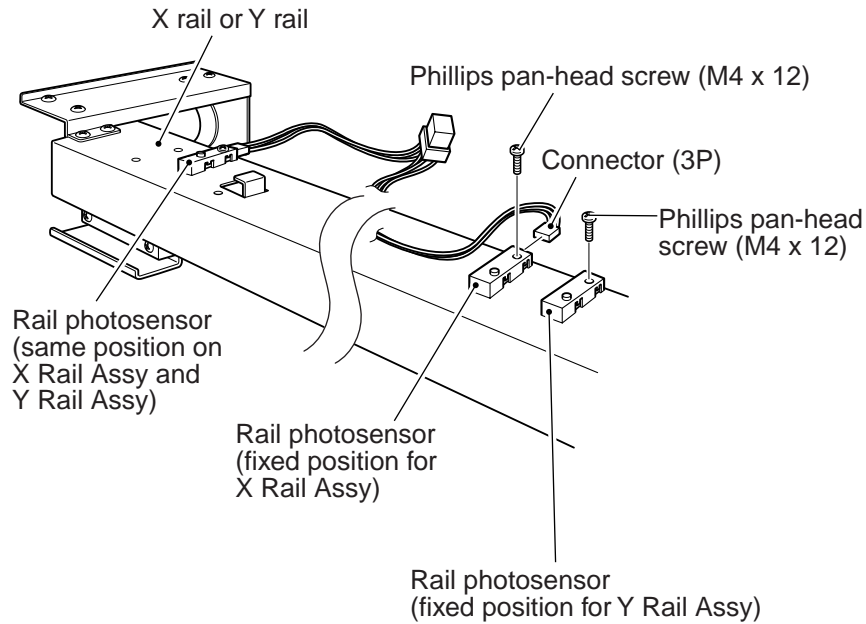


(4) Replacing the rail photosensors

⚠ 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 initiating the described task.

- 1** Using the provided maintenance key, open the front glass door (see P. 32 "7-2-1 Adding prizes" **1**).
- 2** Dismount the X Rail Assy or Y Rail Assy (see P. 112 "8-4-4 (1) Removing and installing the X Rail Assy and Y Rail Assy" **1** through **6**).
- 3** Remove the small Phillips pan-head screw (M4 x 12), disconnect the connector (3P), and dismount the rail photosensors.



NOTICE

- The rail photosensor positions are different in the X Rail Assy and Y Rail Assy. If the photosensors are not installed in the correct positions, a machine malfunction or damage may occur.

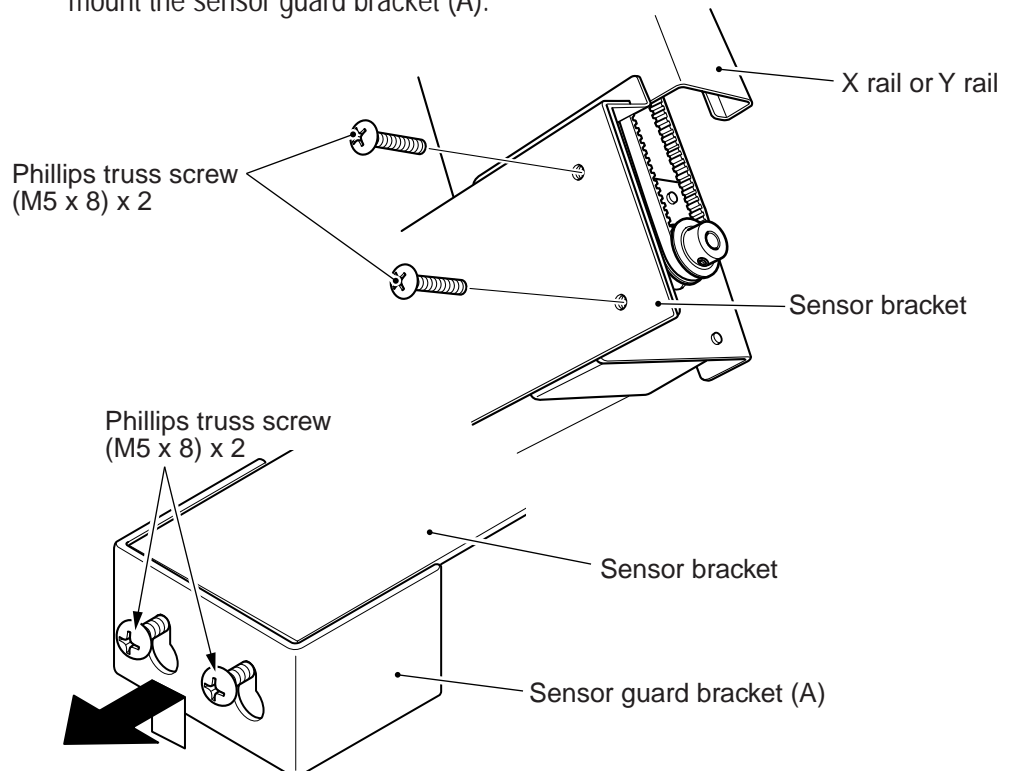
- 4** Reinstall the parts by following the removal sequence in reverse.

(5) Replacing the encoder photosensor

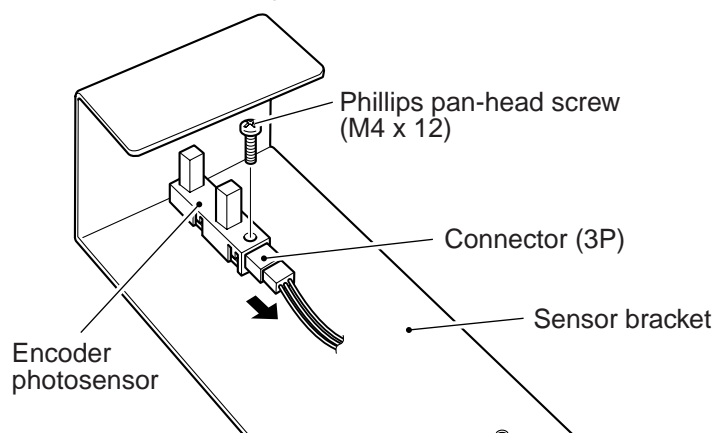
⚠ WARNING

- 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 initiating the described task.

- 1 Using the provided maintenance key, open the front glass door (see P. 32 "7-2-1 Adding prizes" **1**).
- 2 Dismount the X Rail Assy or Y Rail Assy (see P. 112 "8-4-4 (1) Removing and installing the X Rail Assy and Y Rail Assy" **1** through **6**).
- 3 Remove the two Phillips truss screws (M5 x 8), and dismount the sensor bracket. Then, for the Y Rail Assy, loosen the two Phillips truss screws (M5 x 8), and dismount the sensor guard bracket (A).



- 4 Remove the Phillips pan-head screw (M4 x 12), disconnect the connector (3P), and dismount the encoder photosensor.



- 5 Reinstall the parts by following the removal sequence in reverse.

9. DISCARDING THE MACHINE

WARNING

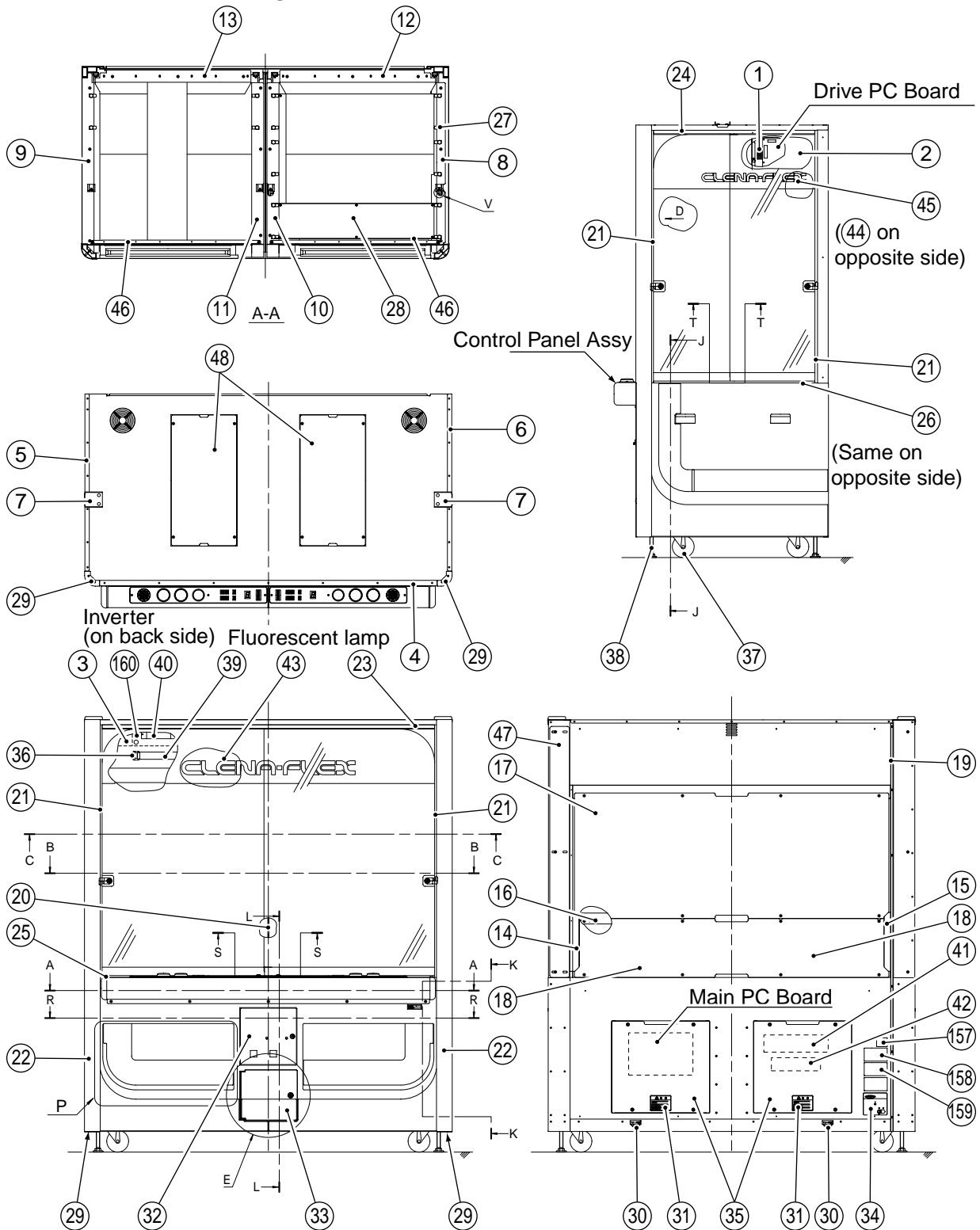
- The machine must be collected, transported and discarded in accordance with the local laws and regulations.
- When entrusting a third party to collect, transport and discard the machine, be sure to use specialist companies to perform each task.



- Compliance with WEEE regulations.
The machine must be collected, transported and discarded in accordance with the local laws and regulations.
When entrusting a third party to collect, transport and discard the machine, ensure that they are authorised to do so.
- The software used in the game machine is protected by copyright laws.
It is prohibited to copy, adapt, distribute publicly, or use the software for purposes other than the operation of this machine.
Infringement of the copyright laws may subject persons to criminal penalties.
Do not use the recording media containing the software in a machine other than the specified game machine. Doing so can result in equipment malfunction.

10. PARTS LIST

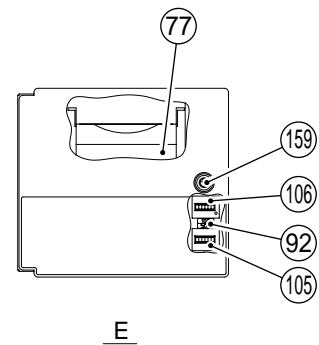
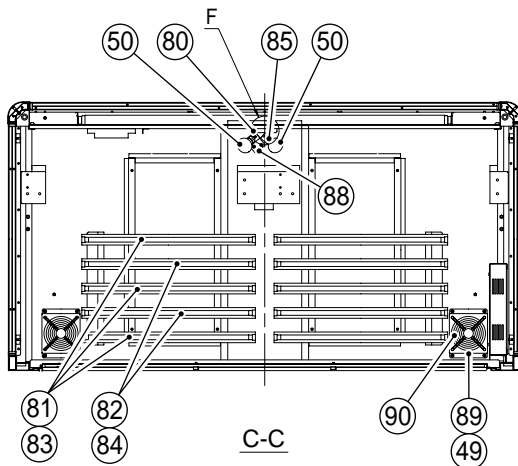
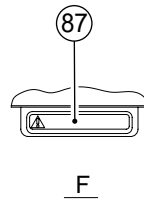
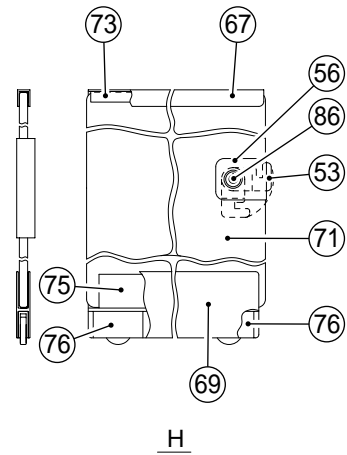
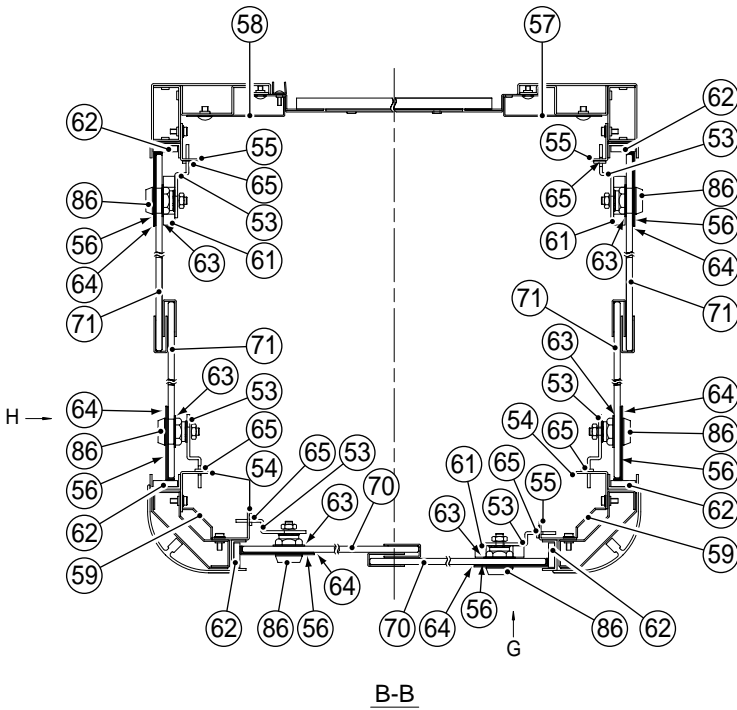
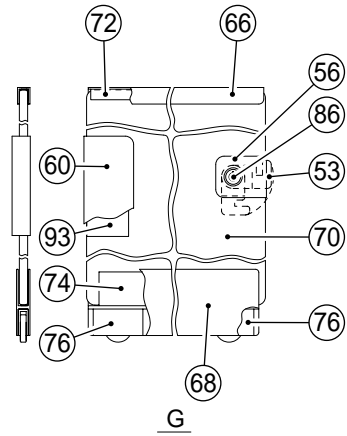
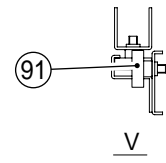
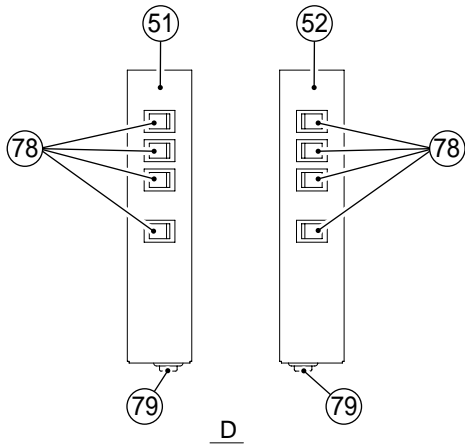
10-1 Cabinet Assy - 1



No.	Name	Qty	Type and specification	Parts No.
1	Drive PCB box	1		712-710
2	Drive PCB lid	1		712-711
3	Reflector	1		720-579
4	Upper front molding	1		712-713
5	Upper side molding (L)	1		712-714

No.	Name	Qty	Type and specification	Parts No.
6	Upper side molding (R)	1		712-715
7	Rope hook	2		712-716
8	Side slope top (RR)	1		712-719
9	Side slope top (LL)	1		712-720
10	Side slope top (RL)	1		712-721
11	Side slop top (LR)	1		712-722
12	Center slope (R)	1		712-723
13	Center slop (L)	1		712-724
14	Back board bracket (VR)	1		712-725
15	Backboard bracket (VL)	1		712-726
16	Back board bracket (H)	1		712-727
17	Back board (U)	1		712-728
18	Back board (D)	1		712-729
19	AC cable base	2		712-737
20	Center partition	1		712-739
21	Glass rail (V)	6		712-740
22	Front pillar cover	2		712-741
23	Glass rail (UL)	1		712-747
24	Glass rail (US)	2		712-748
25	Glass rail (LL)	1		712-749
26	Glass rail (LS)	2		712-750
27	Display floor frame	4		712-757
28	Display floor	2		712-758
29	Pillar cap	4		712-759
30	Fork position sticker	2		229-441
31	Warning sticker Maintenance B	2		461-539
32	Coin section door	1		720-551
33	Coin box door	1		712-782
34	Cord Box Assy	1	See "10-8 Cord Box Assy."	----
35	Rear maintenance panel	2		712-792
36	Fluorescent lamp socket	1 set	FLSBJ13-NMC4	002-436
37	Swivel caster	4	420S-N100	102-235
38	Leveling bolt	4	H-KYW16, 120, 6B	102-236
39	Fluorescent lamp (40 W), daylight color	1	AC100V 40W FL40SEX-KD	002-343
40	Inverter (40 W)	1 set	FAS-40AIN-NM	002-435
41	Switching regulator	1	ZWS150A-12/J HFP	002-213
42	Switching regulator	1	ZWS50-12/J-HFP	009-210
43	Front signboard	1		712-762
44	Side signboard (L)	1		712-763
45	Side signboard (R)	1		712-764
46	Display floor frame B	2		712-760
47	Connection plate	1		712-761
48	Top hatch	2		712-778

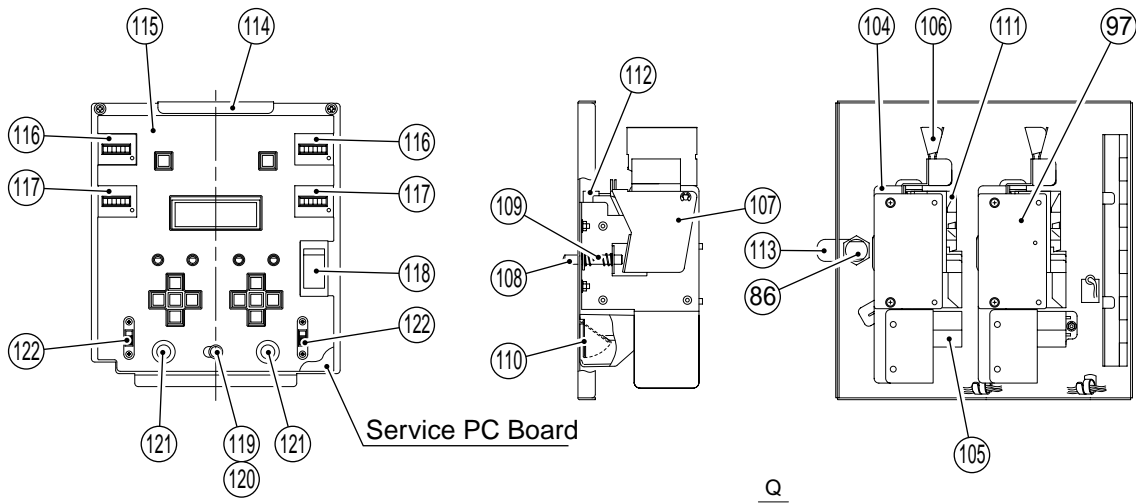
10-1 Cabinet Assy - 2



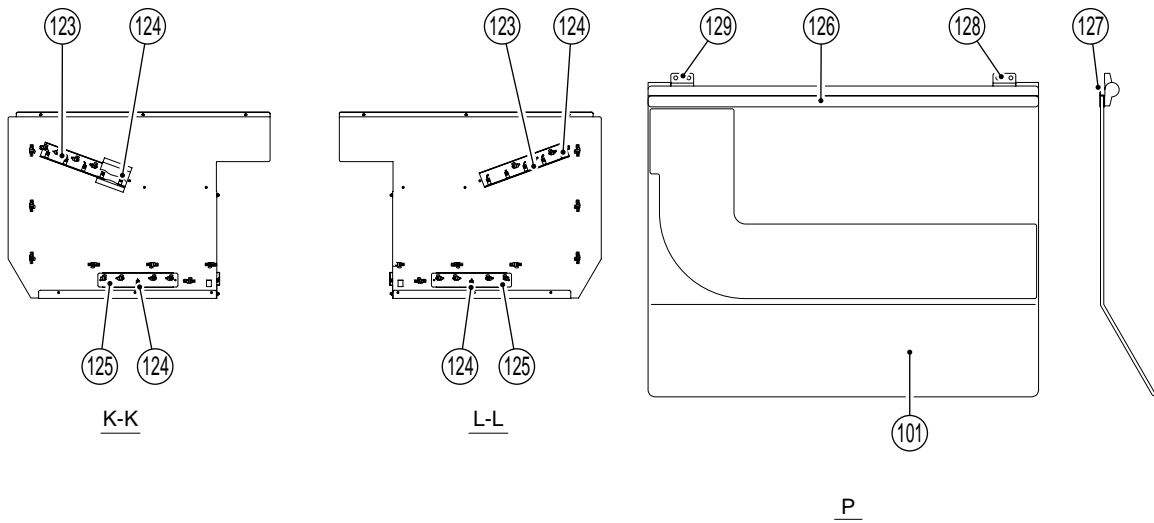
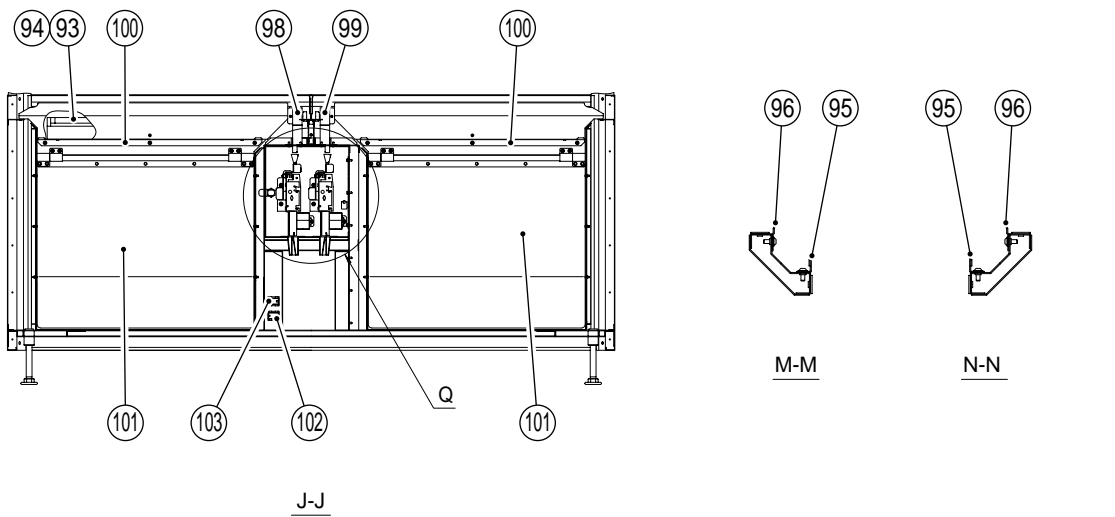
No.	Name	Qty	Type and specification	Parts No.
49	Fan bracket	2		712-777
50	Halogen lamp	2	AC100V 40W JDR 110V 40WL M/K	002-396
51	Light switch bracket (R)	1		720-552
52	Light switch bracket (L)	1		720-553
53	Key hook	6		712-730
54	Key lock (L)	3		712-731
55	Key lock (R)	3		712-732
56	Key plate	6		712-733
57	Cabinet harness cover (R)	1		712-734
58	Cabinet harness cover (L)	1		712-735
59	Cabinet harness CV (F)	2		712-736
61	Key cushion	3		712-742
62	Window cushion	6		712-743
63	Key spacer	6		712-744
64	Key plate spacer	6		712-745
65	Key hook cushion	6		712-746
66	Glass skirt (UL)	2		712-751
67	Glass skirt (US)	4		712-752
68	Glass skirt (LL)	2		712-753
69	Glass skirt (LS)	4		712-754
70	Glass (L)	2		712-755
71	Glass (S)	4		712-756
72	Glass tape (UL)	2		712-766
73	Glass tape (US)	4		712-767
74	Glass tape (LL)	2		712-768
75	Glass tape (LS)	4		712-769
76	Glass door roller	12	Type AL5-40N (flangeless wheel)	102-234
77	Main coin box	1	For DLD-W2-2WAY	100-232
78	Switch (daylight color, incandescent bulb color, halogen)	8	SL-10K2-7	000-637
79	Service switch (Maintenance Play)	2	SDP-103C-22-YB (Yellow)	000-495
80	Halogen lamp cover	2		720-566
81	Fluorescent lamp fixture (with daylight color fluorescent lamp)	6	LWV-24101	002-445
82	Fluorescent lamp fixture (with incandescent bulb color fluorescent lamp)	4	LWV-24101	002-446
83	Fluorescent lamp (daylight color)	6	AC100V 24W FHF-24SED	002-433
84	Fluorescent lamp (incandescent bulb color)	4	AC100V 24W FHF-24SEN	002-434
85	Halogen lamp fixture	2 set	E-11 GS	002-439
86	Coin lock	7	C-88-1	101-011
87	Warning sticker High Temperature (NEL)	1		461-544
88	Halogen lamp bracket	1		720-555
89	Fan guard	4	B-5	005-237
90	AC fan	2	UT 120CH	005-429
91	Delrin bearing	4	DR-22-B5-M5-JH	103-152
92	Coin counter sticker	1		720-554

* If a non-random number is required for Part No. 86, specify your request when ordering.

10-1 Cabinet Assy - 3



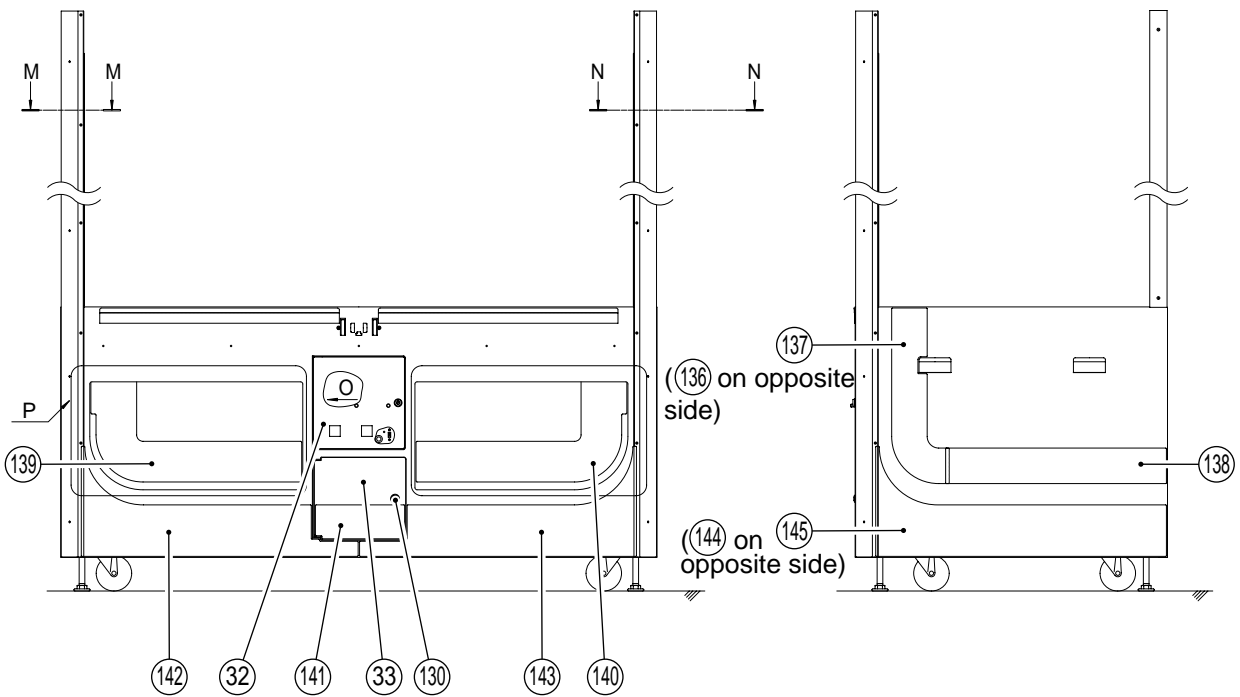
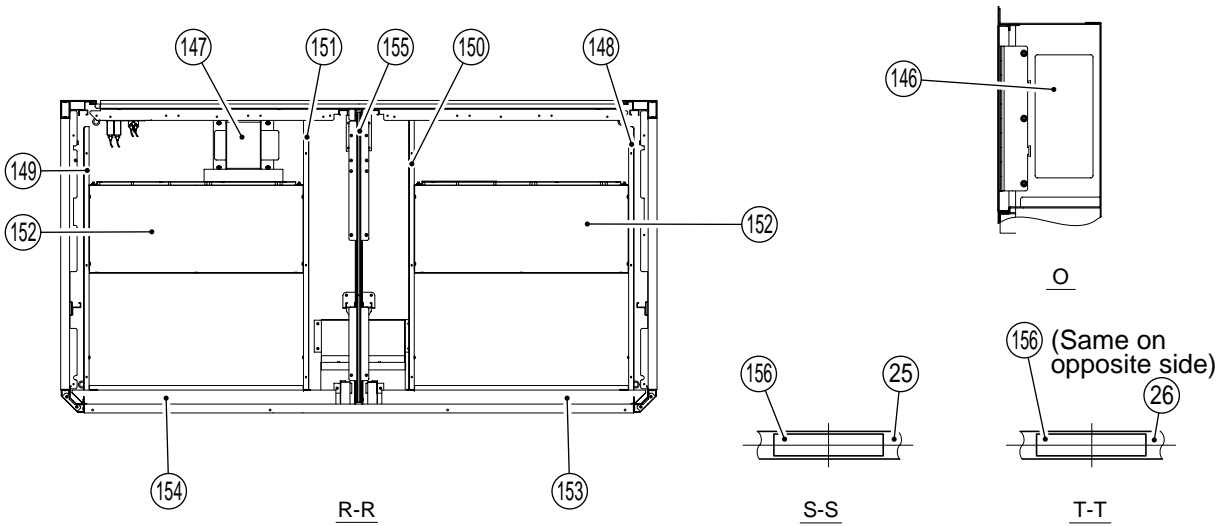
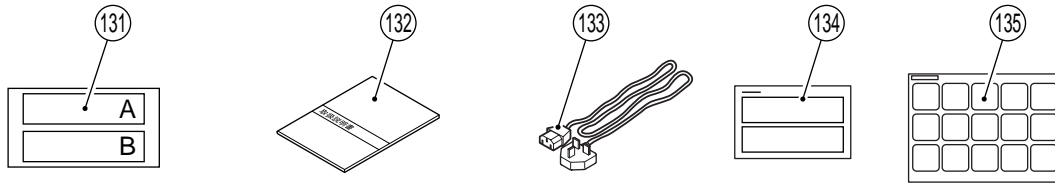
Detail view of service panel



10. PARTS LIST

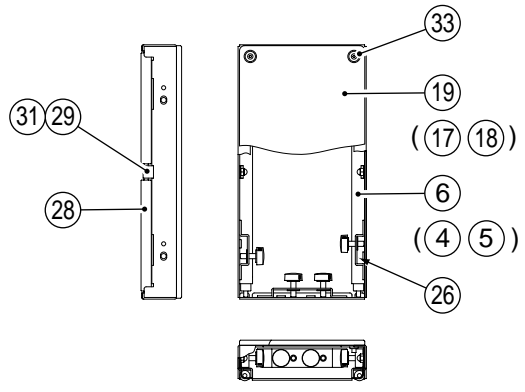
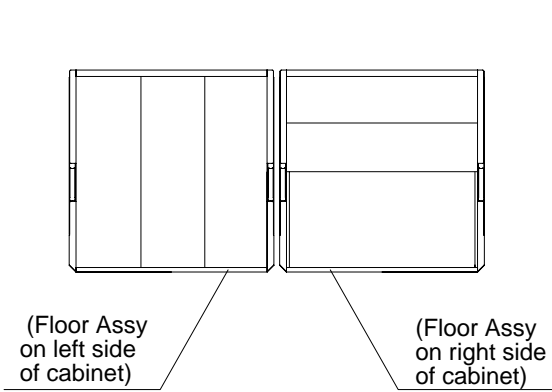
No.	Name	Qty	Type and specification	Parts No.
93	Fluorescent lamp fixture (with daylight white color fluorescent lamp)	2	LWV-24101	002-444
94	Fluorescent lamp (daylight white color)	2	AC100V 24W FHF-24SEL	002-439
95	LSW box bracket	2		712-803
96	Light SW box retainer	2		712-804
97	Selector plate A	2		720-567
98	Coin rail M (L)	1		712-789
99	Coin rail M (R)	1		712-790
100	Lower light bracket	2		712-798
101	Prize outlet door	2		712-805
102	Coin counter (500 yen)	1		003-049
103	Coin counter (100 yen)	1		003-047
104	Selector bracket	2		720-556
105	Returned coin outlet (B)	2		412-518
106	Chuter B	2		720-559
107	Reject bracket	2		720-560
108	Reject pin	2		720-561
109	Compression spring	2	DC-541	105-153
110	Returned coin outlet cover	2		695-670
111	Electronic selector	2	CASHFLOW340	----
112	Selector plate B	2		720-568
113	Clasp	1	Universal type, t: 2.3	101-176
114	Service panel	1		720-557
115	Maintenance panel sticker	1		720-558
116	Income counter (with 2P connector)	2		003-047
117	Prize counter (with 3P connector)	2		003-049
118	Switch (sub-power switch)	1	250V 16A BAM215131	000-636
119	Volume (Sound)	1	RK163111-F20-C0-B103-L	008-062
120	Volume dial	1	KL-13	008-063
121	Switch (Service)	2	SDP-103C-22RB (Red)	000-336
122	Switch (Test)	2	SDS-103A-03# 13BJ	000-312
123	Beam sensor bracket	4		712-795
124	Transmission-type sensor (for prize and payout detection)	12 set	OMT-15D	000-633
125	Beam sensor bracket (B) C	4		712-875
126	Prize outlet door plate	2		712-797
127	Prize outlet door bracket	2		712-796
128	Torque hinge set	2	TD27A1-5/13K-R	101-164
129	Torque hinge set	2	TD28B1-5/13K-L	101-183

10-1 Cabinet Assy - 4



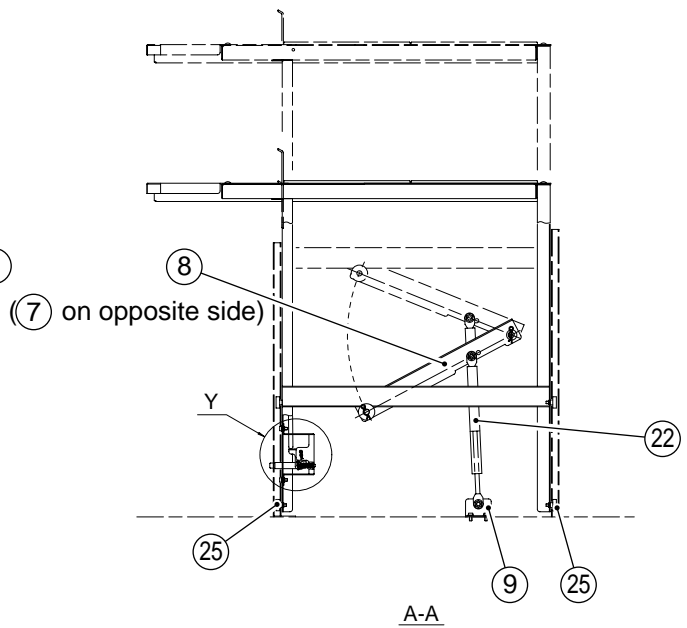
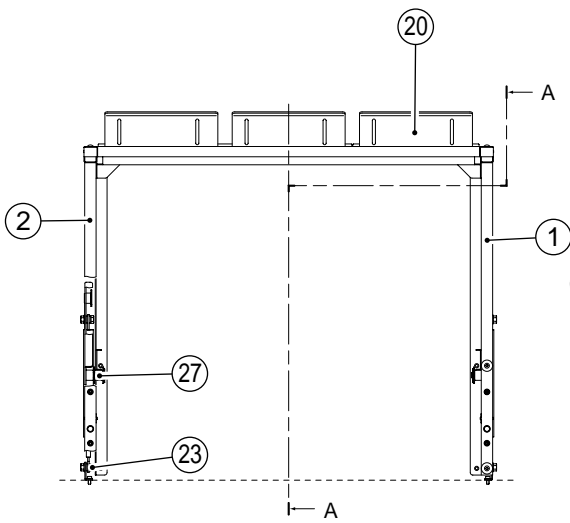
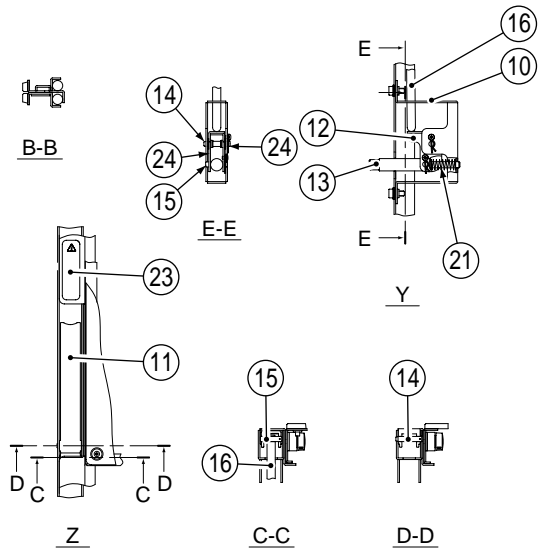
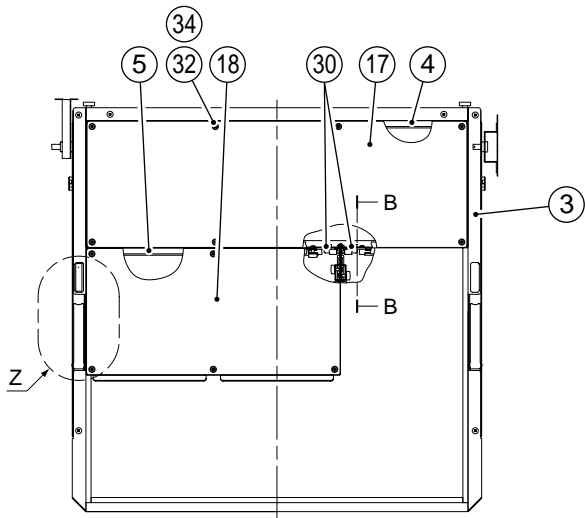
No.	Name	Qty	Type and specification	Parts No.
130	Cam lock	1	F 940-R90	101-72
131	Explanation sticker (A and B per set)	1	(accessory parts)	720-562
132	CLENA FLEX Operation Manual (This manual)	1		----
133	Power cord	1	SY-029+SY-020	----
134	Game instructions sticker	1		720-569
135	Game fee sticker	2		720-606
136	Side sticker (L)	1		712-810
137	Side sticker (R)	1		712-811
138	Sub-side sticker	2		712-812
139	Prize out sticker (L)	1		720-563
140	Prize out sticker (R)	1		720-564
141	Coin box door sticker	1		712-815
142	Front lower sticker (L)	1		712-816
143	Front lower sticker (R)	1		712-817
144	Side lower sticker (L)	1		712-818
145	Side lower sticker (R)	1		712-819
146	Main instructions sticker	1		720-565
147	Transformer (230 V)	1	NC8745A	004-659
148	Side slope (RR)	1		712-784
149	Side slope (LL)	1		712-785
150	Side slope (RL)	1		712-786
151	Side slope (LR)	1		712-787
152	Middle slope (UK)	2		720-578
153	Lower light cover (R)	1		712-807
154	Lower light cover (L)	1		712-808
155	Center partition bracket	1		712-793
156	Both-sided adhesive tape	3		007-354
157	Warning sticker (CE Earth)	1		461-581
158	Caution sticker (13 A) EXP	1		461-582
159	Caution sticker (230 V)	1		461-580
160	Ballast cover	1		720-580

10-2 Floor Assy



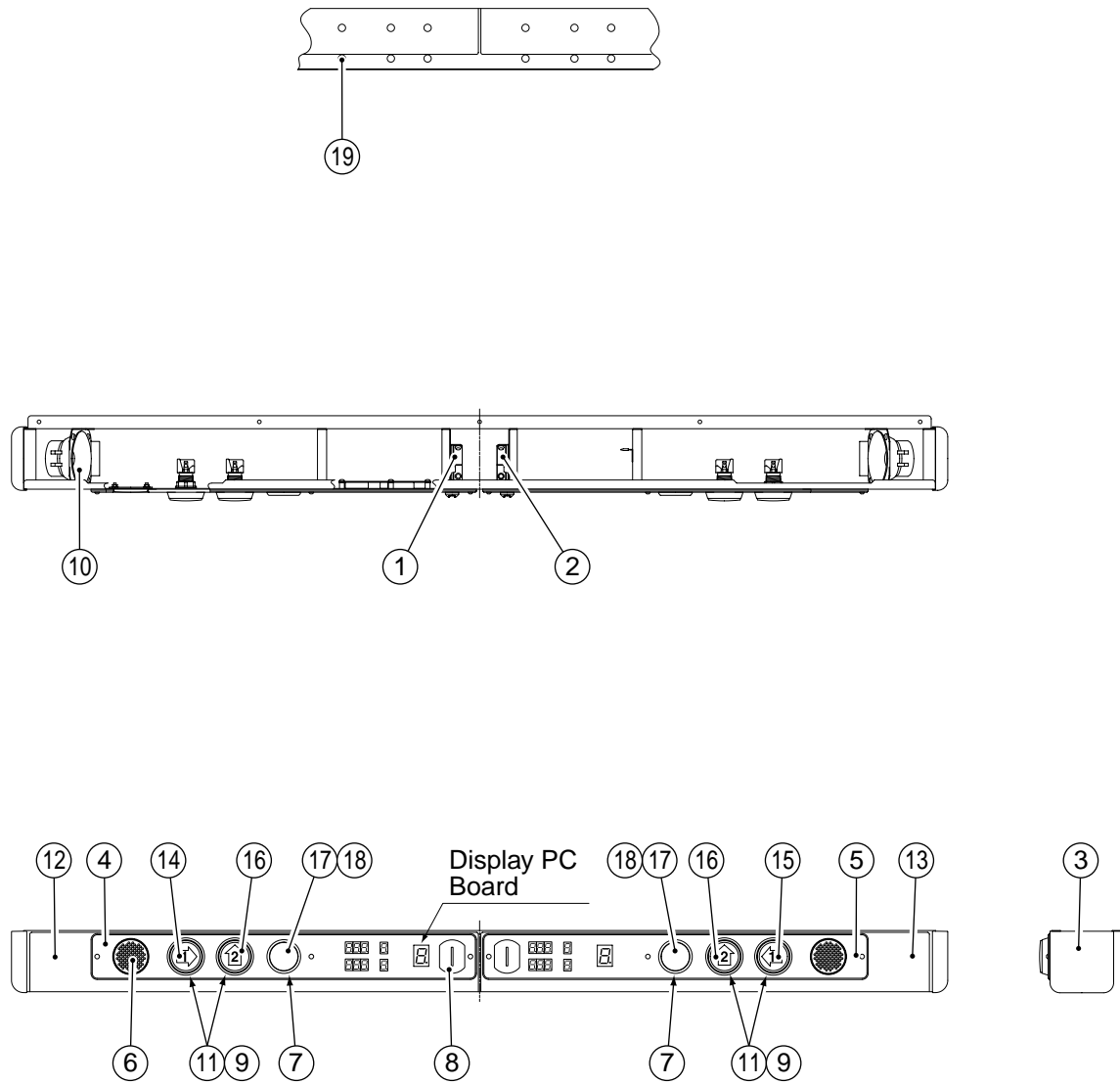
Detail view of floor

Floor assembly instructions



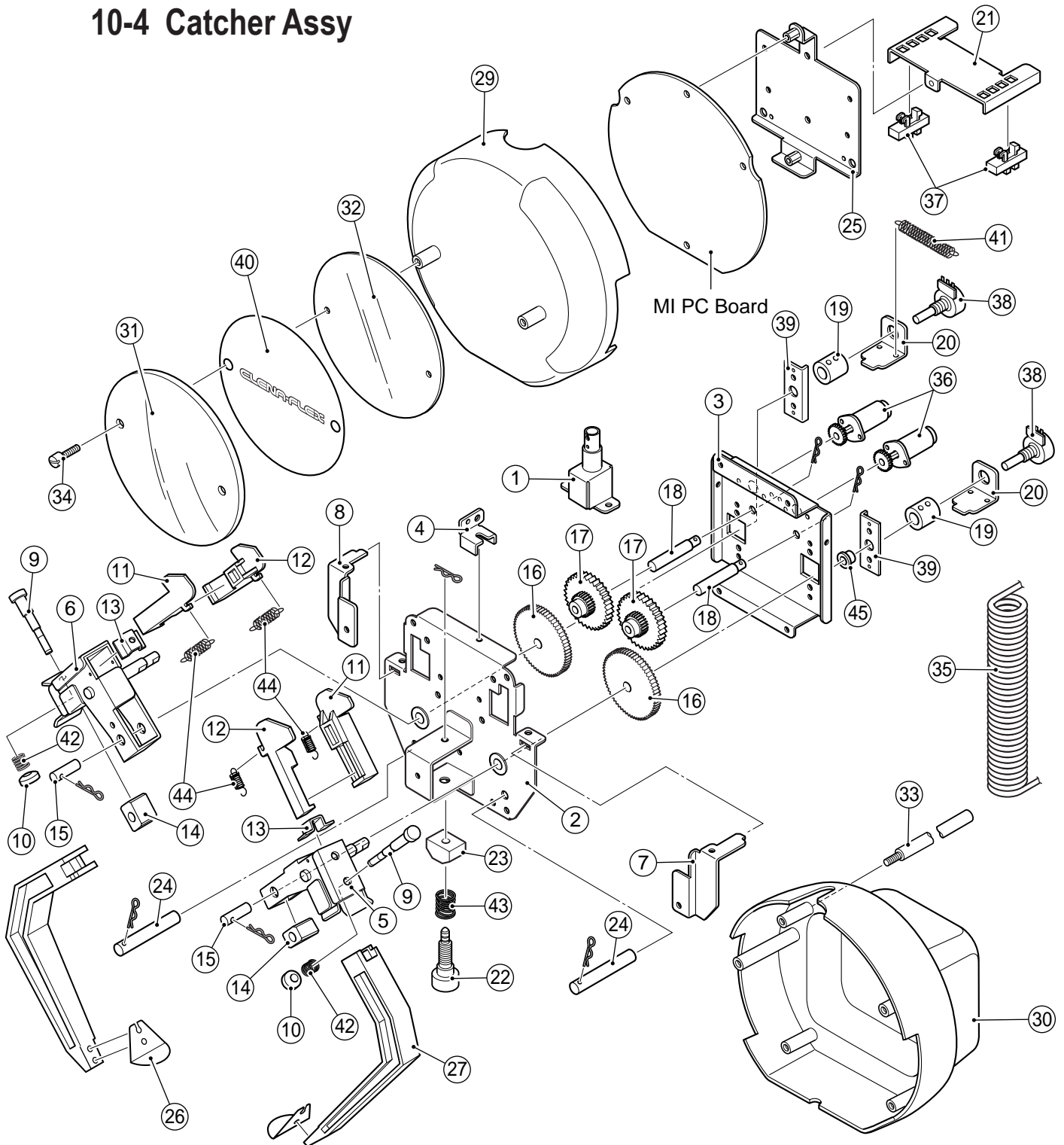
No.	Name	Qty	Type and specification	Parts No.
1	Floor roller frame (R)	1		712-830
2	Floor roller frame (L)	1		712-831
3	Floor base frame	1		720-570
4	Floor (L)	1		712-833
5	Floor (M)	2		712-834
6	Floor (S)	1		712-836
7	Gas spring link (L)	1		712-837
8	Gas spring link (R)	1		712-838
9	Gas SP base bracket	2		712-839
10	Stopper spring bracket	2		712-840
11	Stopper lever	2		712-841
12	Stopper link (A)	2		712-842
13	Stopper	2		712-843
14	Stopper lever shaft	4		712-844
15	Stopper link shaft	4		712-845
16	Stopper link shaft (V)	2		712-846
17	Floor panel (L)	1		712-847
18	Floor panel (M)	2		712-848
19	Floor panel (S)	1		712-850
20	Floor partition	6		712-851
21	Compression spring	2	DC-541	105-153
22	Gas spring (with bolt)	2	3765XR	105-181
23	Caution sticker Pinching (EXP)	2		461-593
24	Oil-less flange bushing #80	4	0504	104-055
25	Delrin bearing	8	DR-22-B5-M5-JH	103-152
26	Screw fall prevention washer	40	TM-147-3	104-089
27	Floor link roller	2		712-852
28	Floor roller	36		712-853
29	Floor roller holder	26		712-854
30	Floor hook	6		712-855
31	Cap nut	26	(10 per bag)	110-033
32	Plastic knurled screw	52	(10 per bag)	110-034
33	Thin-head screw	28	(10 per bag)	110-035
34	Floor partition (B)	8		712-856

10-3 Control Panel Assy



No.	Name	Qty	Type and specification	Parts No.
1	Coin rail B (L)	1		720-571
2	Coin rail B (R)	1		720-572
3	Control panel cover	2		712-863
4	Control panel plate (L)	1		720-573
5	Control panel plate (R)	1		720-574
6	Speaker cover	2		712-866
7	Dummy cover	2		712-867
8	Coin plate	2		720-575
9	Wedge lamp	4	14V, 3.8W	002-215
10	Speaker	2	8 ohm, 12W F92A33-3	006-079
11	Illuminated switch	4	OBSA-60MW-1F 12V	000-638
12	Control panel base sticker (L)	1		712-868
13	Control panel base sticker (R)	1		712-869
14	Button sticker (1) L	1		Button sticker set 712-870 [713-014]
15	Button sticker (1) R			
16	Button sticker (2)	2		
17	Button sticker (3)	2		
18	Dummy sticker	2		712-874
19	Multi-purpose hole cap	12	KD-771-65W	106-169

10-4 Catcher Assy

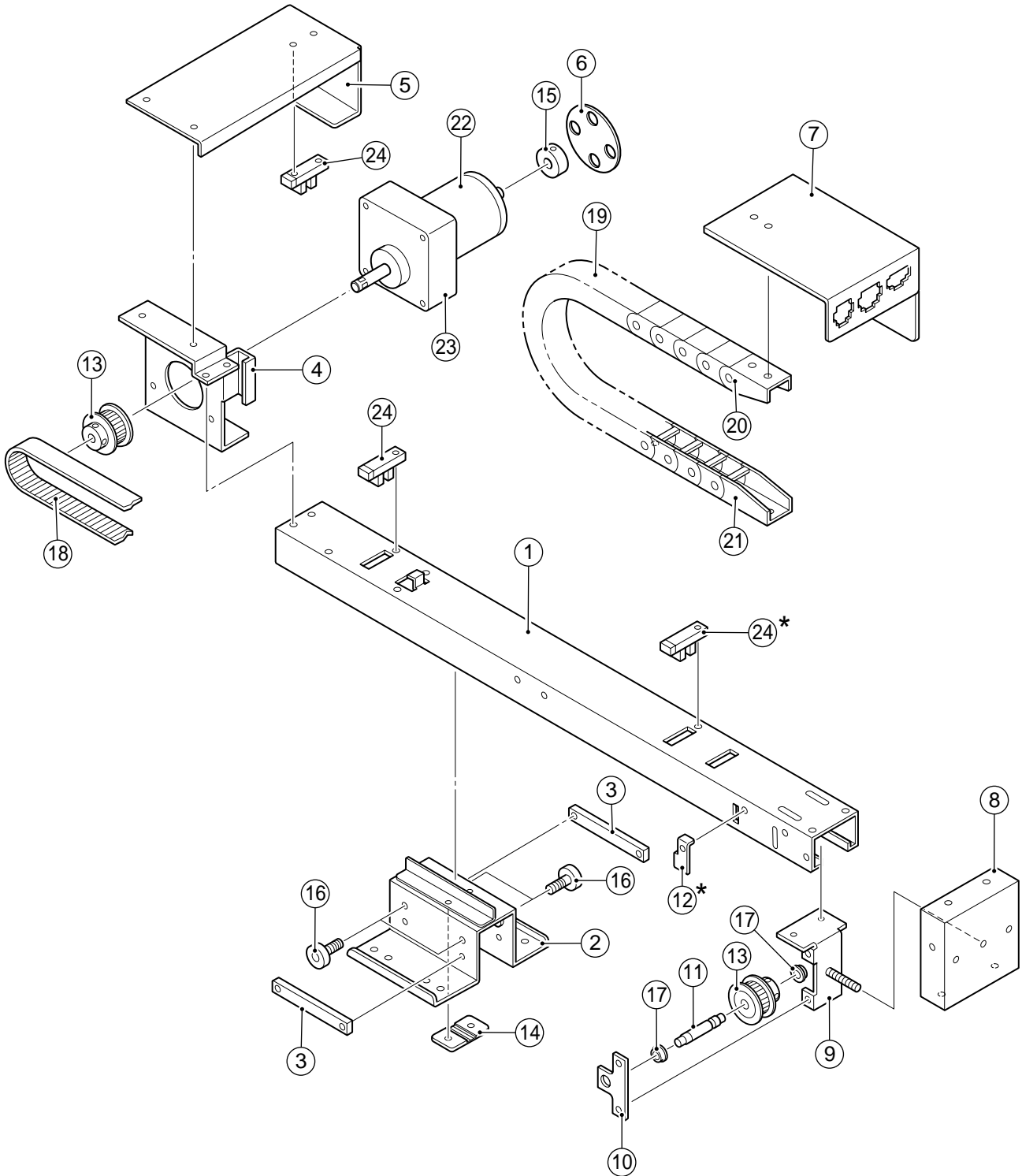


No.	Name	Qty	Type and specification	Parts No.
1	Suspender	1		712-940
2	Gear box bracket (A)	1		712-941
3	Gear box bracket (B)	1		712-942
4	Harness bracket	1		712-943
5	Arm holder bracket (L)	1		712-944
6	Arm holder bracket (R)	1		712-945
7	Arm cover bracket (L)	1		712-946
8	Arm cover bracket (R)	1		712-947

No.	Name	Qty	Type and specification	Parts No.
9	Bushing pin	2		712-948
10	Pin stopper	2		712-949
11	Slide slit (L)	2		712-950
12	Slide slit (R)	2		712-951
13	Slit guide bracket	2		712-952
14	Polyurethane stopper	2		712-953
15	Stopper shaft (A)	2		712-954
16	Gear (A)	2		712-955
17	Gear (B)	2		712-956
18	Gear shaft	2		712-957
19	Coupling	2		712-958
20	Volume bracket	2		712-959
21	Sensor bracket	1		712-960
22	Adjustable bar	1		712-961
23	Stopper block	1		712-962
24	Stopper shaft (B)	2		712-963
25	PC board base bracket	1		712-964
26	Round claw (M) 35	4		712-989
27	Arm (M)	2		712-966
28	Arm (L)	2	(accessory parts)	712-967
29	Catcher cover (F)	1		712-968
30	Catcher cover (R)	1		712-969
31	Plate cover	1		712-970
32	Signboard plate	1		712-971
33	Case screw	2		712-972
34	Panel screw	2		712-973
35	Curled cord	1	NC-C001A	007-278
36	Catcher motor (with gear)	2	24V 4/3W LN18	005-377
37	Photo-interrupter	4	GP1A71A	000-596
38	Volume (claw position detection)	2	EWSV8AF20E 13(95 degree)	008-027
39	Bearing plate	2		712-981
40	Signboard plate sticker	1		712-982
41	Tension spring	2	2092	105-169
42	Compression spring	2	1054	105-166
43	Compression spring	1	5602	105-167
44	Tension spring	4	2029	105-168
45	Bearing	2	80F-0605	225-101

No.	Name	Qty	Type and specification	Parts No.
1	Elevator base	1		712-910
2	Elevator case	1		712-911
3	EL motor bracket	1		712-912
4	Elevator sensor bracket	1		712-913
5	Worm shaft	1		712-914
6	Worm collar	2		712-915
7	Bearing plate	1		712-916
8	Reel shaft	1		712-917
9	Reel shaft collar	1		712-918
10	Wire tension dog	1		712-919
11	Wire guide roller	1		712-920
12	Wire guide	1		712-921
13	Wire roller pin	1		712-922
14	Pipe stopper shaft	1		712-923
15	Wire sensor spring	1		712-924
16	Wire rope	1		712-925
17	Pipe A	1		712-926
18	Pipe B	1		712-927
19	Pipe C	1		712-928
20	Pipe D	1		712-929
21	Pipe sleeve A	1		712-930
22	Pipe sleeve B	1		712-931
23	Pipe sleeve C	1		712-932
24	Pipe sleeve D	1		712-933
25	Cap B	1		712-934
26	Cap C	1		712-935
27	Reel L	1		904-967
28	Reel flange B	1		704-974
29	Guide block	1		704-990
30	Worm	1		704-995
31	Worm wheel	1		704-996
32	Coupling	1	MCO-17-6-8	107-145
33	Bearing	2	FL696ZZ	103-163
34	Pillow block	2	UFL08	103-042
35	Elevator motor (with gear head)	1	TG30P-BM5 24V	005-376
36	Photo-interrupter (wire slack)	1	KI-1300-AA07	000-601
37	Photo-interrupter (elevator origin)	1	GP2A25	000-521
38	Bearing	1	DU28-H6W1	103-174
39	Multi-purpose hole cap	6		106-169
40	Pipe unit	1	Assembly of parts No. 17 through No. 26	712-936
41	Connector sticker	1		720-576

10-6 X Rail Assy

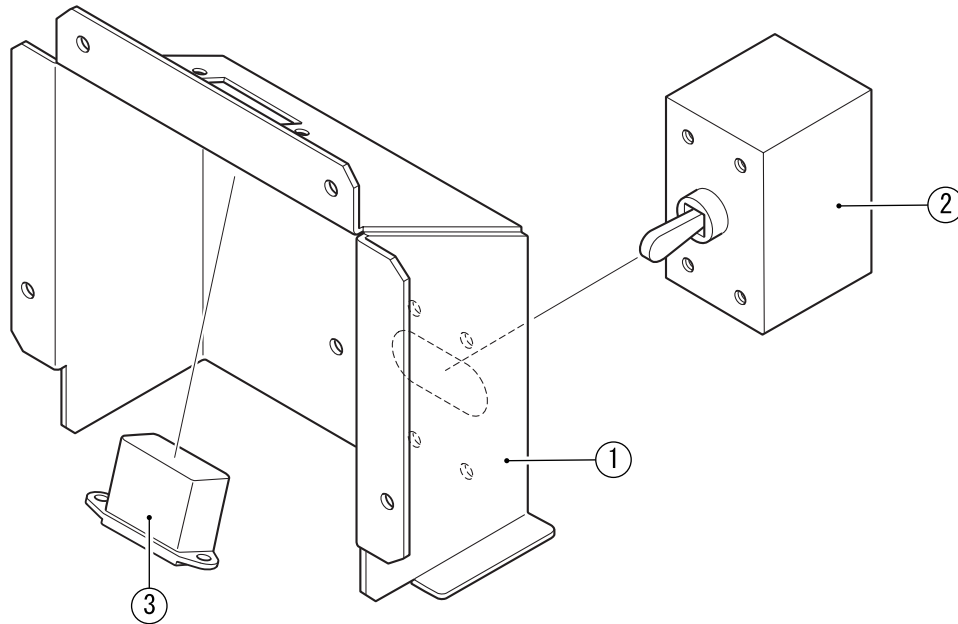


*: This part is inserted in one of the two square holes that is closer to the center side.

No.	Name	Qty	Type and specification	Parts No.
1	Rail frame	1		712-880
2	Carriage	1		712-881
3	Slider	2		712-882
4	Motor bracket	1		712-883
5	Sensor bracket	1		712-884
6	Encoder	1		712-885
7	Cable bare wire bracket	1		712-886
8	End cover bracket	1		712-887
9	Idler bracket	1		712-888
10	Idler plate	1		712-889
11	Idler shaft	1		712-890
12	Stopper bracket	1		712-891
13	Pulley	2		712-892
14	Belt holder	1		712-893
15	Encoder boss	1		712-894
16	Bearing	4	DR-22-B5-M5-JH	103-152
17	Bearing	2	MF85ZZS	103-153
18	Belt	1	1422-3GT-6	108-0053
19	Cable bare wire	1	TKP0250-20B-R28-16L	108-054
20	Cable bare wire fixed side	1	TKP0250-20B-PKA-1K	108-055
21	Cable bare wire moving side	1	TKP0250-20B-PIA-1K	108-056
22	DC motor	1	DME37B6HPB-112	005-374
23	Gear head	1	6DG50-7	005-333
24	Photo-interrupter (encoder, left, right)	3	KI 1248AA	000-639

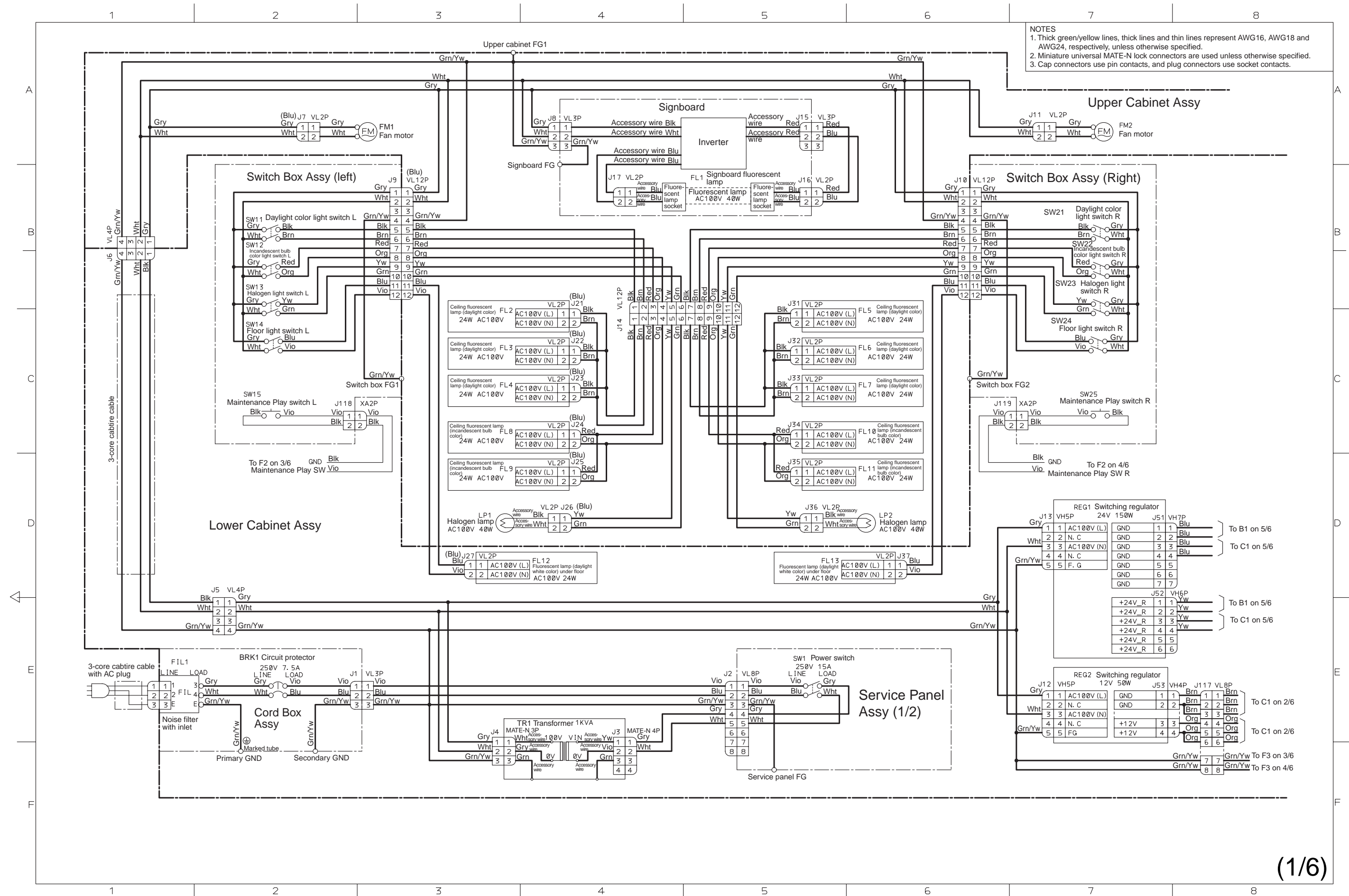
No.	Name	Qty	Type and specification	Parts No.
1	Rail frame	1		712-880
2	Carriage	1		712-881
3	Slider	2		712-882
4	Motor bracket (Y)	1		712-900
5	Sensor bracket	1		712-884
6	Encoder	1		712-885
7	Cable bare wire bracket (Y)	1		712-902
8	End cover bracket	1		712-887
9	Idler bracket	1		712-888
10	Idler plate	1		712-889
11	Idler shaft	1		712-890
12	Stopper bracket	1		712-891
13	Pulley	2		712-892
14	Belt holder	1		712-893
15	Encoder boss	1		712-894
16	Bridge bracket	1		712-901
17	Bearing	8	DR-22-B5-M5-JH	103-152
18	Bearing	2	MF85ZZS	103-153
19	Belt	1	1422-3GT-6	108-053
20	Cable bare wire	1	TKP0250-20B-R28-16L	108-054
21	Cable bare wire fixed side	1	TKP0250-20B-PKA-1K	108-055
22	Cable bare wire moving side	1	TKP0250-20B-PIA-1K	108-056
23	DC motor	1	DME37B6HPB-112	005-374
24	Gear head	1	6DG50-7	005-333
25	Photo-interrupter (encoder, left, right)	3	KI 1248 AA	000-639
26	Sensor guard bracket (A)	1		713-019

10-8 Cord Box Assy

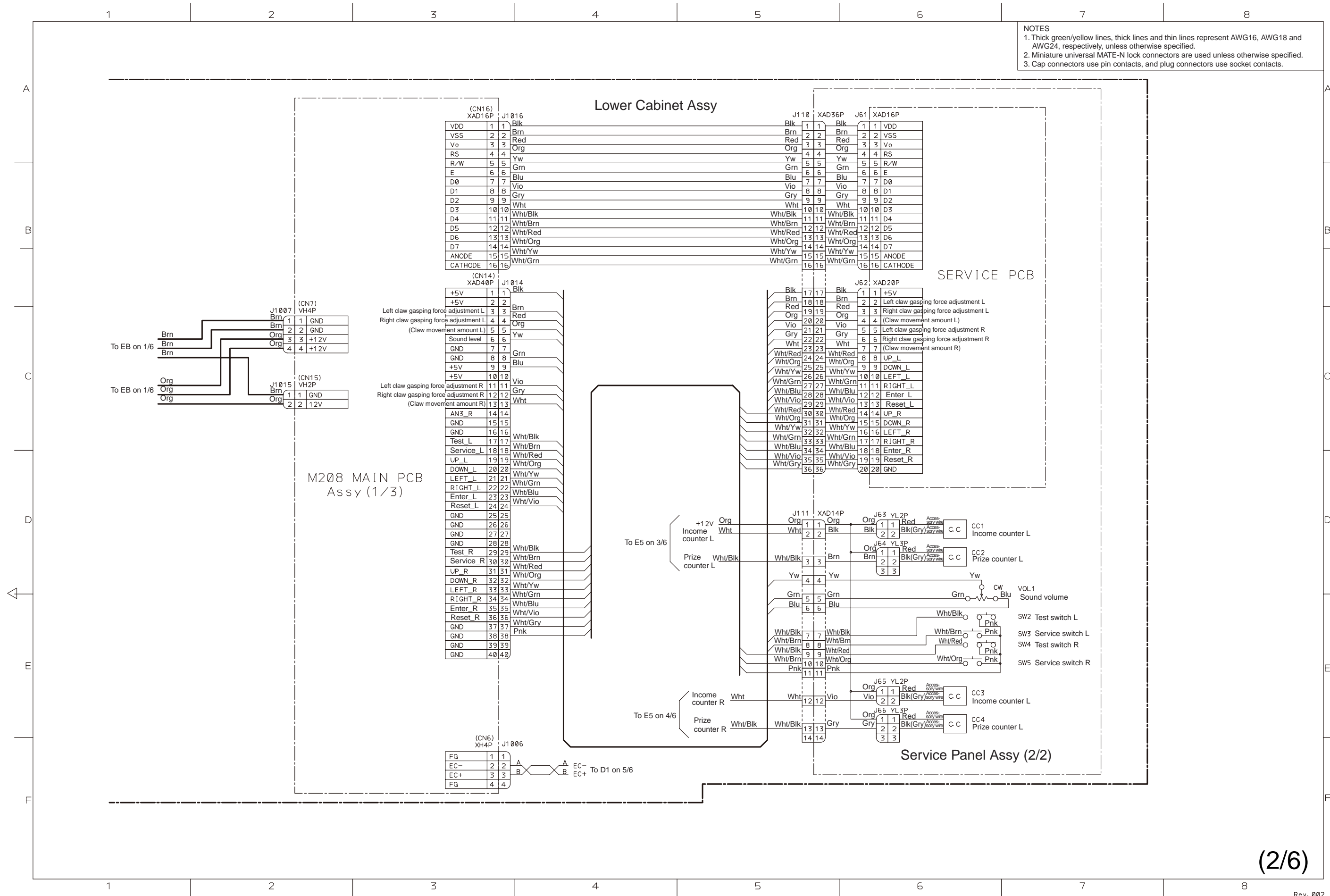


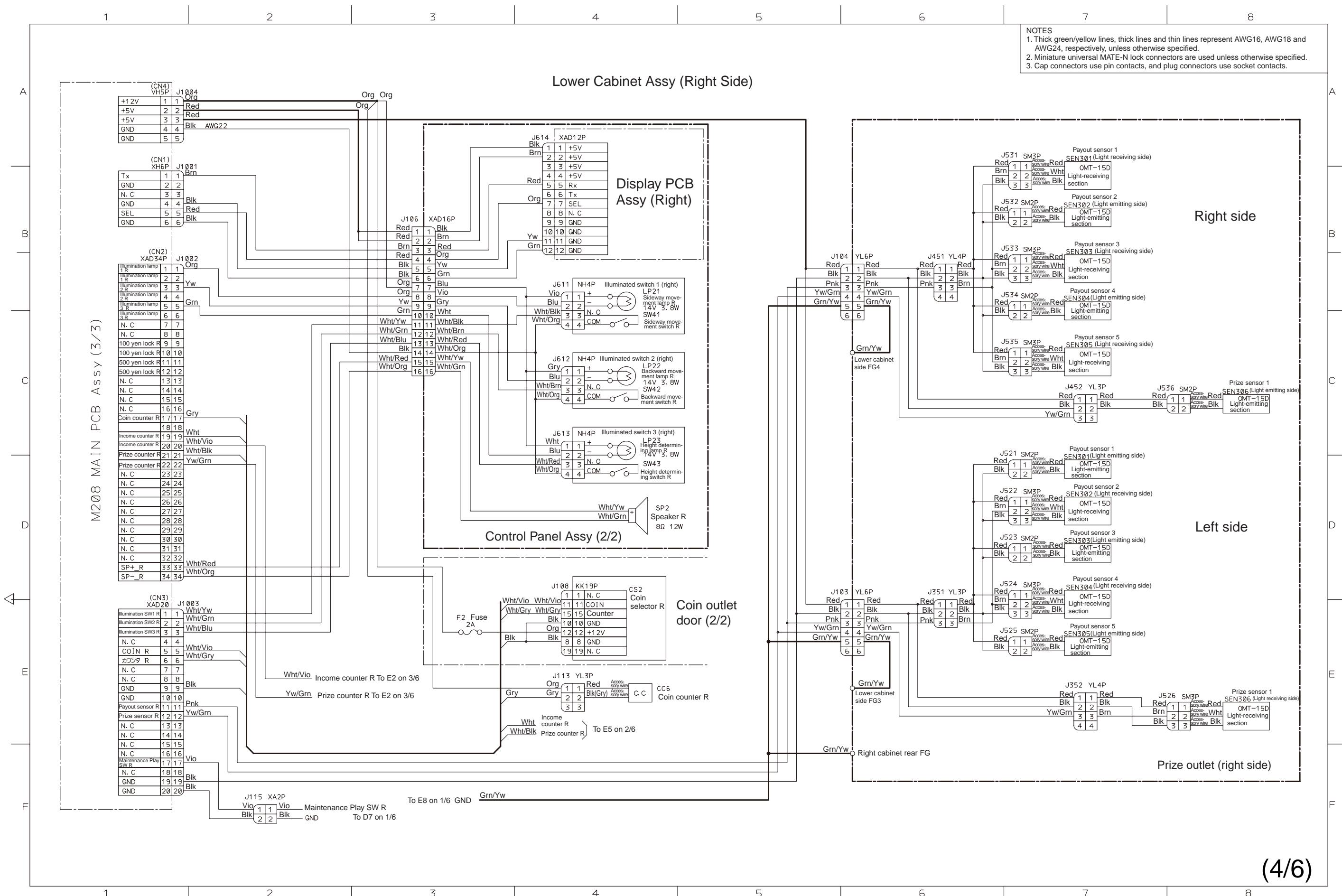
No.	Name	Qty	Type and specification	Parts No.
1	Cord box	1		720-577
2	Circuit protector (circuit breaker)	1	CP32VM/7.5D	007-733
3	Noise filter with inlet	1	15GEEG3E-R	007-184

11. WIRING DIAGRAMS



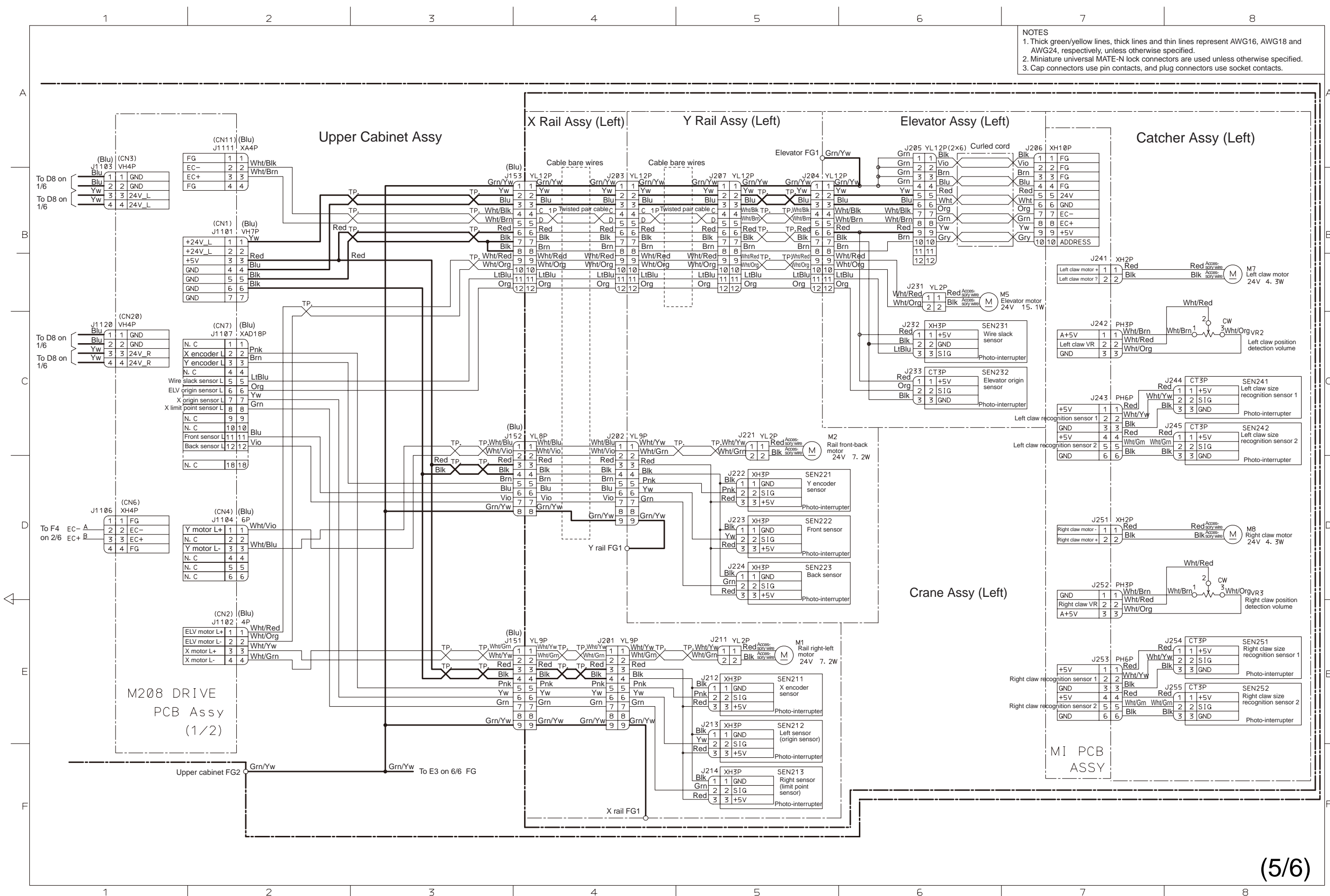
NOTES
 1. Thick green/yellow lines, thick lines and thin lines represent AWG16, AWG18 and AWG24, respectively, unless otherwise specified.
 2. Miniature universal MATE-N lock connectors are used unless otherwise specified.
 3. Cap connectors use pin contacts, and plug connectors use socket contacts.



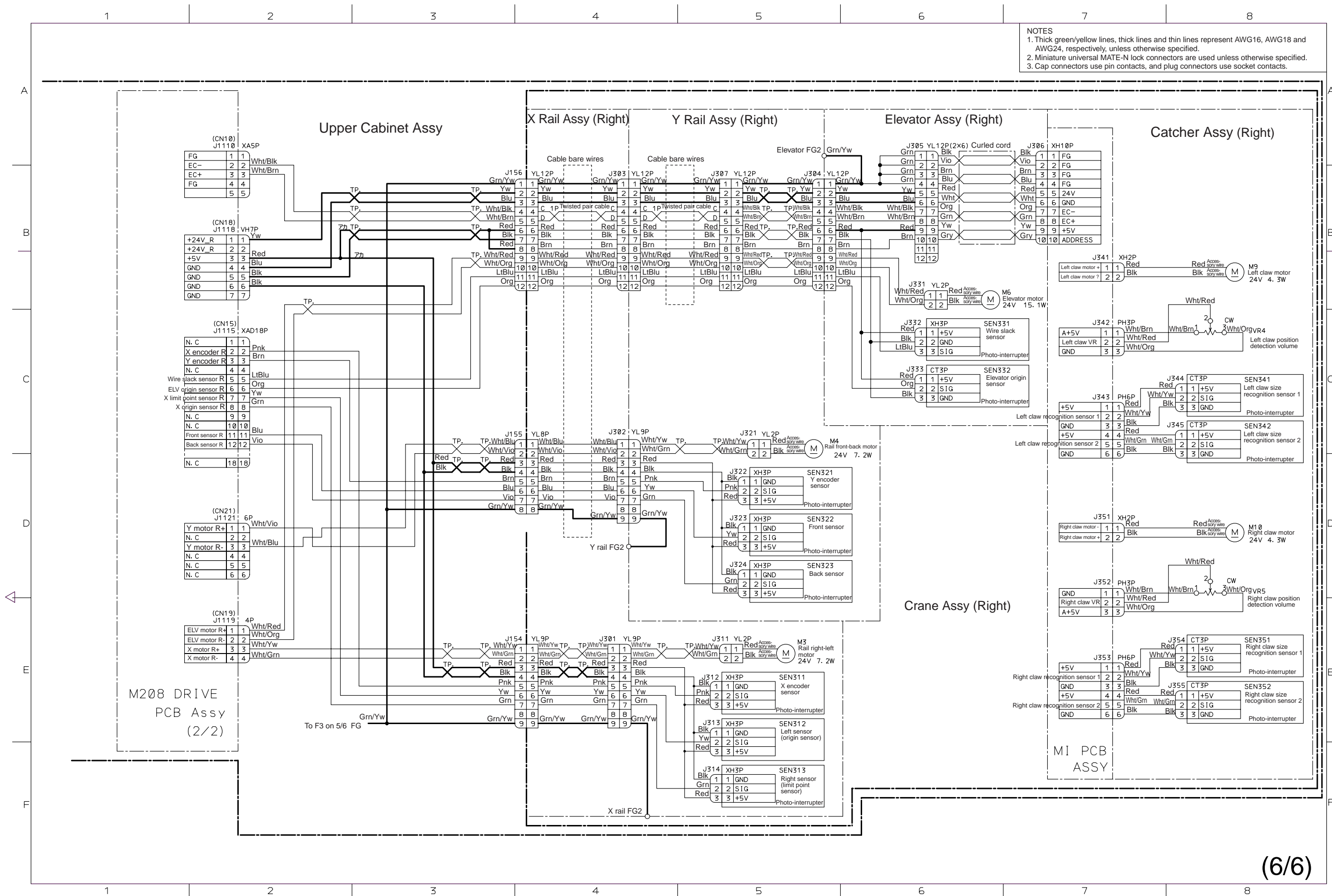


NOTES
 1. Thick green/yellow lines, thick lines and thin lines represent AWG16, AWG18 and AWG24, respectively, unless otherwise specified.
 2. Miniature universal MATE-N lock connectors are used unless otherwise specified.
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(4/6)



(5/6)



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