To ensure safe operation of the machine, be sure to read this Operation Manual before use.

Keep this Operation Manual in a safe place for quick access whenever needed.

NAMCO BANDAI Games Inc.
Introduction

Thank you very much for purchasing PAC-MAN SMASH (referred to as “the machine” in this manual).
This Operation Manual describes:
• How to safely install, move, transport, operate, service and dispose of the machine.
• How to make full use of the machine’s functions and operate it correctly.
• How to ensure the safety of players and bystanders.

Contact for this machine and machine repair inquiries
• For inquiries regarding the machine or machine repairs, contact your distributor.
1. Safety Precautions

Instructions to the Owner
If you delegate the work for installing, moving, transporting, operating, servicing or disposing the machine to other people, ensure that these people read the relevant sections of this operation manual carefully before starting work, and observe the corresponding precautions.

1-1 Levels of Risk
The safety and property damage precautions on the machine labels and in this Operation Manual are classified according to their risk level, as follows.

⚠️ WARNING : Failure to avoid these risks may result in serious injury or death.

⚠️ CAUTION : Failure to avoid these risks may result in light injury or damage to other property.

Notes about functionality that are not linked to safety are indicated with the following symbol.

️ NOTICE : Information about product functions or protection.

1-2 Definition of "Technician"
This Operation Manual is designed for arcade personnel. However, the sections marked “Must be performed by a technician” in the Table of Contents are written for technicians. These tasks must be performed by technicians only.

Technician: A person involved in design, manufacture, inspection or service at an amusement device manufacturer, or a person involved routinely in the service or management (such as repair) or amusement devices and who has specialist knowledge of electricity, electronics or mechanical engineering equivalent to or higher than a technical high school graduate.
1. Safety Precautions - Be sure to read to ensure safe operation

1-3 Critical Safety Precautions

**WARNING**

- Should an abnormality occur, turn off the power switch immediately to stop operations. Then, be sure to disconnect the power cord plug from the outlet. Operating the machine while the abnormality persists may result in a fire or accident.

- This machine includes important parts used to ensure the safety of players and bystanders. Operating the machine while these “important parts for ensuring player and bystander safety” are broken, damaged or deteriorated, or with defective installation may result in an injury to the players or bystanders. If you discover an abnormality, replace the affected part immediately. To order parts, contact your distributor.

- Dust accumulating on the power cord plug may result in a fire. Inspect the plug regularly and remove any dust.

- Fully insert the power cord plug into the outlet. Poor contact may generate heat and result in a fire or burns.

- Damage to the power cord may result in a fire, electric shock or electrical leakage. Be sure to observe the following.

  - Keep the power cord away from heaters.
  - Do not twist the power cord.
  - Do not forcibly bend the power cord.
  - Do not alter the power cord.
  - Do not pull the power cord. (Always unplug by holding the plug and not the power cord.)
  - Do not bundle the power cord.
  - Do not place objects on the power cord.
  - Do not allow the power cord to be caught between the machine and other devices or the wall.
  - Do not do anything else that might damage the power cord.

- Do not expose the power cord and power cord plug to water. It may result in electric shock or electrical leakage.

- Do not touch the power cord plug with wet hands. It may result in electric shock.

- The power capacity of the machine is AC 120 V (or 220 V), maximum current consumption 3 A. To prevent fire and electric shock, use indoor wiring that conforms to these power supply specifications.

- Use a power supply voltage range of AC 110 V to 130 V (or 210 V to 230 V). Using a voltage outside this range may result in a fire or electric shock. However, to ensure that the machine operates in the optimum condition, keep the voltage at AC 120 V (or 220 V) as much as possible.

- To ensure safe use of the machine, be sure to perform the pre-operation inspection (See “7-4 Pre-operation Inspection” on page 35.) and service (See “8B Service” on page 109.). Omitting these inspections or service may result in an accident.

- Use the consumables and service parts (including screws) that are specified by NAMCO BANDAI Games Inc. To order parts, contact your distributor.

- Do not modify the machine without permission. Do not perform any operations that are not described in this Operation Manual. Modifying the machine may create unforeseen hazards.

- If you decide to transfer ownership of this machine, be sure to provide this Operation Manual with the machine.
1. Safety Precautions - Be sure to read to ensure safe operation

1-4 Machine Warning Labels

**WARNING**

- The warning labels attached to the machine contain important information for ensuring safety. Be sure to observe the following.
  - To ensure that the warning labels attached to the machine are always clearly visible, install the machine in an appropriate location with ample illumination and keep the labels clean at all times. Make sure that the labels are not hidden by other machines or objects.
  - Do not remove or alter the warning labels.
  - If a warning label becomes excessively dirty or damaged, replace it with a new one. To order warning labels, contact your distributor.

Warning sticker Goal (red)
Part No.: 461-769

Warning sticker Goal (blue)
Part No.: 461-768
1. Safety Precautions - Be sure to read to ensure safe operation -
When transporting the side tower cabinet.

(Warning sticker)

WARNING
When installing and operating the machine
After installing the machine, please remove this part by reading the operation manual. Otherwise, the customers may get injured or turn over.

When moving the machine
Before separating and moving the machine, please attach this part. Otherwise, the machine may be turned over.

Warning sticker Installation and Transport
Part No.: 461-770
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2. Specifications

(1) Rated power supply
AC 120 ±10 V (50/60 Hz), AC 220 ±10 V (50/60 Hz)

(2) Rated power consumption
310 W

(3) Maximum current consumption
3 A

(4) Cashbox capacity
Approx. 200,000 yen (2,000 100 yen coins)

(5) Dimensions
1) When installed
Width (W) 2,030 x Depth (D) 2,570 x Height (H) 2,170 [mm]

2) When disassembled
Table Width (W) 1,690 x Depth (D) 2,570 x Height (H) 1,350 [mm]
2. Specifications

Table top assembly Width (W) 1,490 x Depth (D) 2,080 x Height (H) 120 [mm]

Cabinet (L) assembly Width (W) 1,530 x Depth (D) 1,240 x Height (H) 840 [mm]

Cabinet (R) assembly Width (W) 1,530 x Depth (D) 1,240 x Height (H) 840 [mm]
2. Specifications

Side tower assembly
- Width (W) 960 x Depth (D) 1,030 x Height (H) 2,050 [mm]
- (When the signboard is removed)
- Width (W) 960 x Depth (D) 1,030 x Height (H) 1,700 [mm]

Hopper assembly
- Width (W) 880 x Depth (D) 520 x Height (H) 530 [mm]

Side tower cabinet
- Width (W) 920 x Depth (D) 620 x Height (H) 2,050 [mm]

(6) Weight
1) When installed
- Approx. 395 kg

2) When disassembled
- Table
  - Approx. 280 kg
- Side tower assembly
  - Approx. 115 kg
3. Package Contents

The following items are included when this machine is shipped.

(1) Side tower cabinet
   Width (W) 920 x Depth (D) 850 x Height (H) 1,890 [mm]
   Weight 85 kg

(2) Cabinet (R) assembly
   Width (W) 1,540 x Depth (D) 1,240 x Height (H) 780 [mm]
   Weight 130 kg

(3) Cabinet (L) assembly
   Width (W) 1,540 x Depth (D) 1,240 x Height (H) 780 [mm]
   Weight 115 kg

(4) Table top assembly
   Width (W) 2,100 x Depth (D) 1,520 x Height (H) 160 [mm]
   Weight 100 kg

(5) Hopper assembly
   Width (W) 950 x Depth (D) 570 x Height (H) 360 [mm]
   Weight 30 kg

(6) Center guard
   Width (W) 1,650 x Depth (D) 700 x Height (H) 70 [mm]
   Weight 8 kg

(7) Side net
   Width (W) 1,240 x Depth (D) 1,130 x Height (H) 160 [mm]
   Weight 20 kg

(8) Light Assembly
   Width (W) 1,370 x Depth (D) 440 x Height (H) 320 [mm]
   Weight 16 kg

**NOTICE**
- Make sure that all the items below are contained in the product package.
- If any items are missing, contact your distributor.
3. Package Contents

(1) Side tower cabinet

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Specification</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Operation Manual (this manual)</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Service key</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Torx wrench</td>
<td>T25, for M5</td>
<td>1</td>
</tr>
</tbody>
</table>
### Package Contents

#### (2) Cabinet (R) assembly

![Diagram of Cabinet (R) assembly]

#### Package contents

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Specification</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Service key</td>
<td>![Service key image]</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Goal (R) assembly</td>
<td>![Goal (R) assembly image]</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Rail (L) assembly</td>
<td>![Rail (L) assembly image]</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Rail (R) assembly</td>
<td>![Rail (R) assembly image]</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Signboard</td>
<td>![Signboard image]</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Goal cover A</td>
<td>(with game select illuminated buttons)</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Goal cover B</td>
<td>![Goal cover B image]</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Corner cover</td>
<td>Four types: (Red • L), (Red • R), (Blue • L), (Blue • R)</td>
<td>4 types</td>
</tr>
<tr>
<td>9</td>
<td>Mallet</td>
<td>![Mallet image]</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>Big puck</td>
<td>![Big puck image]</td>
<td>100</td>
</tr>
<tr>
<td>11</td>
<td>Mini puck</td>
<td>(Pink, orange, green: 100 each)</td>
<td>300</td>
</tr>
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</table>
3. Package Contents

(3) Cabinet (L) assembly

![Diagram of Cabinet (L) assembly]

### Package contents

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<tr>
<td>2</td>
<td>Screws</td>
<td>See &quot;List of screws&quot; on page 20.</td>
<td>1 set</td>
</tr>
<tr>
<td>3</td>
<td>Goal (L) assembly</td>
<td></td>
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</tr>
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<td>4</td>
<td>Blower fan</td>
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<td>5</td>
<td>Cash box key</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>Side wall</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>Side tower bracket (L)</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Side tower bracket (R)</td>
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<tr>
<td>9</td>
<td>Center guard bracket (A)</td>
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### 3. Package Contents

#### Package Contents

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<th>Specification</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Center guard bracket (B)</td>
<td></td>
<td>1</td>
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<tr>
<td>11</td>
<td>Triangle bracket</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>Blower bracket (L)</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>Blower bracket (R)</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>14</td>
<td>Hopper wall</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

(4) Table top assembly

![Table top assembly](image)

- **Package contents**

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Specification</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Table top assembly</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>
### 3. Package Contents

#### (5) Hopper assembly

![Hopper assembly diagram]

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Specification</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hopper assembly</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

#### (6) Center guard

![Center guard diagram]

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
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<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Center guard unit</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>
### 3. Package Contents

#### (7) Side net

![Side net diagram](image)

**Package contents**

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
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<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Net L frame (L)</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Net L frame (R)</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Net S frame (L)</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Net S frame (R)</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

#### (8) Light Assembly

![Light assembly diagram](image)

**Package contents**

<table>
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<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Light arm L</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Light arm R</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Light frame unit</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Connector cover</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>
3. Package Contents

- List of screws (included with the cabinet (L) assembly)

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Specification</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>Phillips hexagon socket head bolt (with flat and spring washers)</td>
<td>M8×35</td>
<td>12</td>
</tr>
<tr>
<td>B2</td>
<td>Button head bolt</td>
<td>M5×16</td>
<td>5</td>
</tr>
<tr>
<td>B3</td>
<td>Button head bolt</td>
<td>M5×35</td>
<td>2</td>
</tr>
<tr>
<td>B4</td>
<td>Button head bolt</td>
<td>M6×16</td>
<td>3</td>
</tr>
<tr>
<td>B5</td>
<td>Button head bolt</td>
<td>M6×25</td>
<td>12</td>
</tr>
<tr>
<td>B6</td>
<td>Button head bolt</td>
<td>M6×40</td>
<td>16</td>
</tr>
<tr>
<td>B7</td>
<td>Button head bolt</td>
<td>M6×50</td>
<td>18</td>
</tr>
<tr>
<td>B8</td>
<td>Flange socket bolt</td>
<td>M5×10</td>
<td>8</td>
</tr>
<tr>
<td>B9</td>
<td>Flange socket bolt</td>
<td>M5×16</td>
<td>6</td>
</tr>
<tr>
<td>B10</td>
<td>Flange socket bolt</td>
<td>M5×30</td>
<td>4</td>
</tr>
<tr>
<td>B11</td>
<td>Flange socket bolt</td>
<td>M5×35</td>
<td>2</td>
</tr>
<tr>
<td>B12</td>
<td>Flange socket bolt</td>
<td>M6×20</td>
<td>12</td>
</tr>
<tr>
<td>B13</td>
<td>Torx bolt</td>
<td>M5×8</td>
<td>4</td>
</tr>
<tr>
<td>B14</td>
<td>Torx bolt</td>
<td>M5×12</td>
<td>8</td>
</tr>
</tbody>
</table>
### 3. Package Contents

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Specification</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>B15</td>
<td>Torx bolt (silvery white)</td>
<td>M5×16</td>
<td>4</td>
</tr>
<tr>
<td>B16</td>
<td>Torx bolt (silver)</td>
<td>M5×16</td>
<td>8</td>
</tr>
<tr>
<td>B17</td>
<td>Torx bolt</td>
<td>M5×20</td>
<td>4</td>
</tr>
<tr>
<td>B18</td>
<td>Countersunk cap bolt</td>
<td>M5×35</td>
<td>2</td>
</tr>
<tr>
<td>B19</td>
<td>Square washer</td>
<td>M8</td>
<td>12</td>
</tr>
<tr>
<td>B20</td>
<td>Spring washer</td>
<td>M6</td>
<td>6</td>
</tr>
<tr>
<td>B21</td>
<td>Flat washer</td>
<td>M5</td>
<td>13</td>
</tr>
<tr>
<td>B22</td>
<td>Flat washer</td>
<td>ø24 for M5</td>
<td>4</td>
</tr>
<tr>
<td>B23</td>
<td>Flat washer</td>
<td>M6</td>
<td>23</td>
</tr>
<tr>
<td>B24</td>
<td>Flat washer</td>
<td>ø16 for M6</td>
<td>14</td>
</tr>
<tr>
<td>B25</td>
<td>Phillips pan head screw (with flat and spring washers)</td>
<td>M4×10</td>
<td>5</td>
</tr>
<tr>
<td>B26</td>
<td>Flat washer</td>
<td>ø7×24</td>
<td>4</td>
</tr>
<tr>
<td>B27</td>
<td>Flange socket bolt</td>
<td>M6×16</td>
<td>2</td>
</tr>
</tbody>
</table>
4. Overall Structure (Part Names)

- Overall

![Diagram of the game structure with labeled parts]

- Score LED (Score LED PC board)
- Time LED (Time LED PC board)
- Illuminator assembly
- Mini puck stock area
- Signboard
- Cover panel
- Circle LED
- LED Fluorescent Light
- Light Assembly
- Mini puck stock area
- Big puck (L puck)
- Mini puck (S puck)
- Mallet
- Goal cover
- Speaker
- Game select illuminated buttons
- Corner cover
- Selector door
- Coin box door
- Caster
- Level adjuster
- Blower fan
- Goal
- Playing field
- Table top assembly
- Cabinet (R) assembly
- Cabinet (L) assembly
- Table
■ Overall (back and interior)
5. Installation

⚠️ WARNING ⚠️
- Install the machine according to the instructions in this Operation Manual. Failure to follow these instructions may result in a fire, electric shock, injury or malfunction. (See “8A Installation and Assembly” on page 74.)
- Install the machine securely by using the level adjusters. Unstable machine installation may result in an accident or injury. (See “8A-2-2 Level Adjuster Adjustment” on page 90.)
- Fully insert the power cord plug into the outlet. Poor contact may generate heat and result in a fire or burns.
- Be sure to install the ground wire. Failure to install the ground wire may result in electric shock in the event of electrical leakage. (See “8A-3 Connecting the Power Cord and Ground” on page 106.)

5-1 Installation Conditions

5-1-1 Installation Locations to Avoid

⚠️ WARNING ⚠️
- The machine is designed for indoor use. Do not install the machine outdoors. Also, never install the machine in the following locations.
  - A location exposed to direct sunlight
  - A location exposed to rain or water leaks
  - A damp location
  - A dusty location
  - A location close to heaters
  - A hot location
  - An extremely cold location
  - A location exposed to condensation caused by temperature differences
  - A location that obstructs an emergency exit or fire extinguishing equipment
  - An unstable location or a location exposed to vibration
5-1-2 Play Zone for the Installed Machine

**CAUTION**

- Create a play zone around the machine so that players do not bump into bystanders or passersby.

**NOTICE**

- Leave a space of 100 cm or more between the machine and the wall or other machines so that parts can be removed when performing service work.
- A ceiling height of 2 m 10 cm or more is required.

---

![Diagram of play zone and service zone dimensions](image-url)
5-2 Required Dimensions for the Delivery Route (Such as Doors and Corridors)

Entranceways and the delivery route must be larger than the dimensions noted below.

- **Table**
  - Width (W) 2,570 x Depth (D) 1,690 x Height (H) 1,350 [mm]
  - Weight 280 kg

In addition, the table can be disassembled as follows. (Condition when shipped from the factory)
- **Table top assembly**
  - Width (W) 2,080 x Depth (D) 1,490 x Height (H) 120 [mm]
  - Weight 95 kg
- **Cabinet (L) assembly (without net L and S)**
  - Width (W) 1,530 x Depth (D) 1,240 x Height (H) 840 [mm]
  - Weight 85 kg
- **Cabinet (R) assembly (without net L and S)**
  - Width (W) 1,530 x Depth (D) 1,240 x Height (H) 840 [mm]
  - Weight 75 kg

- **Side tower assembly**
  - Width (W) 960 x Depth (D) 1,030 x Height (H) 2,050 [mm]
  - Weight 115 kg

The side tower assembly can be further disassembled as follows. (Condition when shipped from the factory)
- **Side tower cabinet**
  - Width (W) 920 x Depth (D) 620 x Height (H) 1,700 [mm]
  - Weight 90 kg
- **Hopper assembly**
  - Width (W) 880 x Depth (D) 520 x Height (H) 530 [mm]
  - Weight 25 kg
6. Moving and transporting

**WARNING**

- Do not leave the machine on a slope. It may fall over or result in an accident.

6-1 Moving (On the Same Floor)

**NOTICE**

- Move the machine carefully to avoid damaging it.
- The plastic parts are weak. Do not exert strong force on these areas.
- When moving the machine, be sure to raise the level adjusters to their highest level.
- Be sure to turn off the power switch before starting work.
- Handle the power cord carefully.
6-2 Transporting

6-2-1 Transporting Manually (Such as Carrying on Stairs)

**WARNING**

- Before transporting the machine manually, be sure to disassemble it into the table and side tower assembly, and disassemble the hopper assembly from the side tower assembly for easier carrying. Overburdening yourself by attempting to transport the fully assembled machine may result in an accident or injury.
- Disassemble the table in accordance with the delivery route. (See "5-2 Required Dimensions for the Delivery Route (Such as Doors and Corridors)" on page 26.)
- When transporting the machine manually, be sure to use the following number of people. Overburdening yourself may result in an accident or injury.

- Table (280 kg): 12 people or more
- Side tower cabinet (excluding the hopper assembly: 90 kg): 4 people or more
- Hopper assembly (25 kg): 2 people or more
6. Moving and transporting

**WARNING**

- When transporting the machine manually, be sure to use the following number of people. Overburdening yourself may result in an accident or injury.

[When the table is disassembled]

- Table top assembly (95 kg): 4 people or more
- Cabinet (L) assembly (85 kg): 4 people or more
- Cabinet (R) assembly (75 kg): 4 people or more
- Goal (L) assembly (17 kg): 2 people or more
- Goal (R) assembly (17 kg): 2 people or more

**NOTICE**

- Do not subject the machine to impact while lowering it.
When using a forklift to transport the machine, observe the following. Failure to observe the following instructions may result in an accident, such as the machine falling over.

- Be sure to insert the fork into the specified positions.
- Make sure that the machine is balanced properly during transportation.

Do not subject the machine to impact while lowering it.
6-2-3 Transporting on a Vehicle

**WARNING**
- When transporting the machine on a vehicle, secure the machine firmly so that it does not move during vehicle transport. Failure to secure the machine may result in an accident.

**NOTICE**
- Do not subject the machine to impact while lowering it.
- Remove any pucks from inside the side tower cabinet when transporting the machine.
- When securing the machine with a rope, observe the following.
  - Be sure to secure the machine with the rope or belt in the position shown in the figure below.
  - Place blankets or other shock absorbing material between the machine and the rope or belt to protect the machine surfaces.
- Place Styrofoam or other shock absorbing material between the machine and the truck bed and any other equipment or items to protect the machine surfaces.
- When transporting the machine in rainy weather, use a vehicle with a cargo cover, a container truck, or similar vehicle to protect the machine from direct exposure to rain.

![Diagram showing transportation on a vehicle with various parts labeled: Side tower cabinet, Blanket, etc., Padding, etc., Cabinet (L) and (R) assemblies, Hopper assembly, Styrofoam, etc., Rope, etc., Table top assembly, Center guard, side net.]
7. Operation

WARNING

- Should an abnormality occur, turn off the power switch immediately to stop operations. Then, be sure to disconnect the power cord plug from the outlet. Operating the machine while the abnormality persists may result in a fire or accident.
- Dust accumulating on the power cord plug may result in a fire. Inspect the plug regularly and remove any dust.
- Fully insert the power cord plug into the outlet. Poor contact may generate heat and result in a fire or burns.
- Before operating the machine, be sure to check that installation has been performed according to the instructions and specified procedures (See “5 Installation” on page 24.) in this Operation Manual. Failure to install the machine correctly may result in a fire, electric shock, injury or malfunction.
- The warning labels attached to the machine contain important information for ensuring safety. Be sure to observe the following. (For the warning label locations, see “1-4 Machine Warning Labels” on page 3.)
  - To ensure that the warning labels attached to the machine are always clearly visible, install the machine in an appropriate location with ample illumination and keep the labels clean at all times. Make sure that the labels are not hidden by other machines or objects.
  - Do not remove or alter the warning labels.
  - If a warning label becomes excessively dirty or damaged, replace it with a new one. To order warning labels, contact your distributor.
- To ensure safe use of the machine, be sure to perform the pre-operation inspection (See “7-4 Pre-operation Inspection” on page 35.) and service (See “8B Service” on page 109.) described in this Operation Manual. Omitting these inspections or service may result in an accident.

NOTICE

- Due to the nature of this product, the mallets and pucks may get stolen. If possible, install and operate the machine in a location where it can be observed by venue staff.
- Mallets and pucks may be left on the playing field after game play has finished. In these cases, return the mallets to the mallet holders, and place the pucks inside the goals.
- Caution players and bystanders not to place drinks or other items on the playing field. In the event that drinks are spilled onto the machine by accident, wipe away any liquid immediately.
7-1 People Who Should Avoid Playing

⚠️ WARNING ⚠️

- To ensure the safety of players, be careful not to let the following types of people play. Otherwise, this may result in an accident.
  - People who disregard the warning labels attached to the machine

7-2 Safety Precautions for Playing

⚠️ WARNING ⚠️

- If you discover anyone behaving as follows, be sure to caution them. Otherwise, this may result in an accident.
  - A person other than the player in the play zone
- Make sure that players do not perform the following actions, as this may cause pucks to fly out of the machine and strike people or otherwise result in injury or an accident.
  - Striking pucks with more power than is necessary
  - Striking pucks while off-balance, leaning in or an otherwise unstable body posture
  - Using items other than the supplied mallets and pucks

⚠️ CAUTION ⚠️

- Make sure that players do not perform the following actions, as this may result in injury or an accident.
  - Holding mallets by the circumference.
  - Placing hands not holding a mallet in the playing field.
  - Placing hands inside the goal holes.
- Accessories such as necklaces and bracelets, neckties, wristwatches, small items in breast pockets and other loose items may fall and enter the goals as a result of vigorous movements during game play. Instruct players to remove these items before playing in order to prevent damage or an accident. Otherwise, this may result in an accident.
7-3 Important Parts for Ensuring Player and Bystander Safety

⚠️ WARNING ⚠️
This machine includes important parts used to ensure the safety of players and bystanders. Operating the machine while these “important parts for ensuring player and bystander safety” are broken, damaged or deteriorated, or with defective installation may result in an injury to the players or bystanders. If you discover an abnormality, replace the affected part immediately. To order parts, contact your distributor.

- **Side wall**
  - Part No.: 731-448
  - This part is used to keep pucks from flying out of the machine during game play.

- **Net S**
  - Part No.: 731-338
  - This part is used to keep pucks from flying out of the machine during game play.

- **Center guard**
  - Part No.: 731-332
  - This part is used to keep pucks from flying towards the opponent’s side during game play.

- **Net L**
  - Part No.: 731-337
  - This part is used to keep pucks from flying out of the machine during game play.
7-4 Pre-operation Inspection

Check the items below before starting machine operations. If there is an abnormality, resolve it by referring to “8B-3 Troubleshooting” on page 130.

7-4-1 Safety Inspection Items (Before Power On)

⚠️ WARNING

- Before operating the machine, check the following locations. This is required to prevent accidents or injury.

1. Are all warning labels in place? (See “1-4 Machine Warning Labels” on page 3.)
2. Are all warning labels legible? (See “1-4 Machine Warning Labels” on page 3.)
3. Are all level adjusters adjusted properly? (See “8A-2-2 Level Adjuster Adjustment” on page 90.)
4. Is the specified play zone provided? (See “5-1-2 Play Zone for the Installed Machine” on page 25.)
5. Is the power cord laid out safely so that it will not cause players or other customers to trip over it?
6. Is the power cord securely connected to the outlet and the power supply input of the machine? (See “8A-3 Connecting the Power Cord and Ground” on page 106.)
7. Is the power cord plug free from dust?
8. Are the mallets damaged?
9. Are the mallet grips loose?
10. Are the net S, net L, center guard or side guards damaged? (See “7-3 Important Parts for Ensuring Player and Bystander Safety” on page 34.)
11. Are the goal covers or corner covers damaged?
12. Are the guide L or guide R damaged?

Inspect the following items after turning on the power switch. If you discover an abnormality, turn off the power switch immediately to stop operations. Then, disconnect the power cord plug from the outlet and contact your distributor.

13. Is any part of the power cord or plug abnormally hot?
14. Does touching the machine give a tingling electric shock?
15. Is there a burning smell, abnormal noise or vibration?
16. Is there any other abnormality or malfunction?
7-4-2  Function Inspection Items (After Power On)

(1) Check the lights. (Do the score LED, time LED, circle LED and game select illuminated buttons light up?)
   (See “7-8-2 Score LED, Time LED, Circle LED and Game Select Illuminated Button Test” on page 42.)

(2) Check the switch inputs.
   (See “7-8-3 Switch Input Test” on page 43.)

(3) Check the blower fan.
   (See “7-8-4 Blower Fan ON/OFF Test and Sensor Check” on page 45.)

(4) Check each solenoid.
   (See “7-8-5 Solenoid ON/OFF Test and Sensor Check” on page 46.)

(5) Check the L hopper motor operation.
   (See “7-8-6 L Hopper Motor ON/OFF Test and Sensor Check” on page 47.)

(6) Check the S hopper motor operation.
   (See “7-8-7 S Hopper Motor ON/OFF Test and Sensor Check” on page 48.)

(7) Check the audio. (Is sound produced by each speaker?)
   (See “7-8-8 Sound Test” on page 49.)

(8) Check the mini pucks. (Are there ten mini pucks in each of the mini puck stock areas on the right and left?)
   (See “7-8-7 S Hopper Motor ON/OFF Test and Sensor Check” on page 48.)
7-5 Opening and Closing Doors

7-5-1 Opening and Closing the Selector Door

1 Use the supplied service key to open the selector door.

2 To close the door, perform the procedure in reverse.

7-5-2 Opening and Closing the Coin Box Door

1 Use the supplied cash box key to open the coin box door.

2 To close the door, perform the procedure in reverse.
7-5-3 Opening and Closing the Goal (L) and (R) Assemblies

The description below explains how to open and close the (L) side. Follow the same procedure to open and close the (R) side.

1. Use the supplied service key to unlock the lock (①) on the left side of the goal (L) assembly, and then remove the service key from the lock.

2. Insert the removed service key into the lock (②) on the right side of the goal (L) assembly, unlock the lock, and then open the goal (L) assembly.

3. To close the door, perform the procedure in reverse.
7-6 Explanation of the Power Switch and Adjustment Switches

7-6-1 Turning the Power Switch On

![Power switch diagram]

- After finishing the installation work, turn on the power switch.
- When turning the power switch on and off, wait 30 seconds or more between operations. Do not turn the power switch on and off needlessly. It may corrupt the contents of the backup memory.

7-6-2 Adjustment Switches

The adjustment switches are located inside the selector door.

- Select switch
  - In Test mode, flip this switch up or down to select an item or setting (numerical value).

- Audio volume
  - This adjusts the speaker volume.
  - Turn counter-clockwise to decrease the volume.
  - Turn clockwise to increase the volume.

- Test switch
  - Set this switch to ON to enter Test mode. This is used to test each part of the machine, such as the switch input test, in the Test mode. (See “7-8 Test Mode” on page 41.)

- Service button (red)
  - Press this button to increase the credit count without operating the coin counter.

- Enter button (green)
  - After selecting an item or setting (numerical value) with the Select switch, press this button to enter or execute the selection.
7-7 Playing the Game

This machine is an air hockey game where players use mallets to hit pucks supplied automatically during the set time into the opponent’s goal to score points. Two game modes can be selected: “Big Bang Mode” that uses two kinds of pucks (big, mini), and “Normal Hockey Mode” that uses only big pucks.

7-7-1 Big Bang Mode

(1) The start sound is output, and then a big puck is supplied to the playing field. At the same time, the time LED blinks.
(2) Players use the mallets to hit the big puck towards the opponent’s goal.
(3) When the big puck enters a goal, 100 points are added to the score LED of the scoring player, and the goal sound (ascending musical scale) is output three times from the speaker on the side where the goal was scored.
(4) A big puck is supplied to the playing field on the side where the goal was scored.
(5) 20 mini pucks are supplied to the game all at once at random times during game play and toward the end of game play.
(6) When a mini puck enters a goal, 30 points are added to the score LED of the scoring player and the goal sound (ascending musical scale) is output one time.
(7) The countdown sound is output starting from 10 seconds before the game ends. When the end whistle is output, the game ends and subsequent goals are not added to the score.

*The number of mini puck supply times varies according to “7-9-4 Big Bang Mode play time”, “7-9-6 Mini puck supply frequency more/less setting for Big Bang Mode” and the goal status during game play.

7-7-2 Normal Hockey Mode

(1) The start sound is output, and then a big puck is supplied to the playing field. At the same time, the time LED blinks.
(2) Players use the mallets to hit the big puck towards the opponent’s goal.
(3) When the big puck enters a goal, 100 points are added to the score LED of the scoring player, and the goal sound (ascending musical scale) is output three times from the speaker on the side where the goal was scored.
(4) A big puck is supplied to the playing field on the side where the goal was scored.
(5) The countdown sound is output starting from 10 seconds before the game ends. When the end whistle is output, the game ends and subsequent goals are not added to the score.

7-7-3 Starting the Game and Game End

(1) Insert a number of coins equal to the set game cost into the coin slot.
When the coins are inserted, the game select illuminated button (red) starts to blink.
(2) Press the Big Bang Mode button (red) or the Normal Hockey Mode button (green) to select the game.
The selected illuminated button lights and the game starts.
*If no selection is made, Big Bank Mode is automatically selected after a short while.
(3) When the set time is exceeded, the game ends.
*In Big Bang Mode, the set time may be extended slightly depending on the number of mini puck supply times.
### 7-8 Test Mode

The machine displays the test contents on the signboard that displays the score and timer.

#### 7-8-1 Test Item Selection Mode

1. Use the supplied service key to open the selector door and set the Test switch to ON (slide the switch upward) to enter the Test Item Selection Mode. (See “7-6-2 Adjustment Switches” on page 39.)

2. Flip the Select switch up and down to select the item.

3. Perform the test for each item.

4. After finishing all the tests, set the Test switch to OFF.

**NOTICE** Before setting the Test switch to OFF, make sure that there are ten mini pucks in each of the mini puck stock areas on the right and left.

<table>
<thead>
<tr>
<th>Item order</th>
<th>Item name (Display in Test Item Selection Mode)</th>
<th>Item</th>
<th>Reference page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><img src="image1" alt="LED" /></td>
<td>Score LED, Time LED, Circle LED and Game Select Illuminated Button Test</td>
<td>Page 42</td>
</tr>
<tr>
<td>2</td>
<td><img src="image2" alt="SIR" /></td>
<td>Switch Input Test</td>
<td>Page 43</td>
</tr>
<tr>
<td>3</td>
<td><img src="image3" alt="FAN" /></td>
<td>Blower Fan ON/OFF Test and Sensor Check</td>
<td>Page 45</td>
</tr>
<tr>
<td>4</td>
<td><img src="image4" alt="SOI" /></td>
<td>Solenoid ON/OFF Test and Sensor Check</td>
<td>Page 46</td>
</tr>
<tr>
<td>5</td>
<td><img src="image5" alt="LHP" /></td>
<td>L Hopper Motor ON/OFF Test and Sensor Check</td>
<td>Page 47</td>
</tr>
<tr>
<td>6</td>
<td><img src="image6" alt="SHP" /></td>
<td>S Hopper Motor ON/OFF Test and Sensor Check</td>
<td>Page 48</td>
</tr>
<tr>
<td>7</td>
<td><img src="image7" alt="SAD" /></td>
<td>Sound Test</td>
<td>Page 49</td>
</tr>
<tr>
<td>8</td>
<td><img src="image8" alt="DIS" /></td>
<td>Ticket Dispenser Test <em>(This is displayed only when the ticket dispenser usesetting is “on”.</em> (See “7-8-9 Ticket Dispenser Test” on page 50.)</td>
<td>Page 50</td>
</tr>
</tbody>
</table>
7. Operation

7-8-2  Score LED, Time LED, Circle LED and Game Select Illuminated Button Test

Test item selection display (Score LED, time LED, circle LED and game select illuminated button test)

1. In this Test Item Selection Mode, “LED” is displayed in the left side score LED. The “model (1-digit number)” and “version (one alphabet character + 2-digit number)” are displayed in the right side score LED. The model is indicated by a number, and has the following meaning.

<table>
<thead>
<tr>
<th>Model No.</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model contents</td>
<td>Foreign</td>
</tr>
</tbody>
</table>

2. Press the Enter switch (green) to start the test as follows.

   (1) Numbers are displayed in the score LED, switching repeatedly in order of 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9.

   (2) The time LED switches repeatedly in the order of all off, ⑨ only lighted, ⑨ and ⑧ only lighted, ..., all lighted.

   (3) The circle LED (illuminator assembly) switches repeatedly in the order of lighted red, green, blue, light blue, purple, yellow, white, and off.

   (4) The game select illuminated buttons (red) + (green) alternately light and turn off repeatedly.

3. Press the Enter switch (green) again to return to the Test Item Selection Mode.
7-8-3 Switch Input Test

Test item selection display (Switch input test)

1. In this Test Item Selection Mode, “Sin” is displayed in the left side score LED.
Press the Enter switch (green). The following test display appears.

Switch input test display

- The coin switch counter value (two digits) is displayed in the left side score LED. The right side displays the bill counter input count (two digits).
  1. The value counts up each time there is switch input.
  2. The value returns to 00 after 99.
- The time LED displays the switch input states as follows.
  (ON: Lighted, OFF: Off)

<table>
<thead>
<tr>
<th>LED No.</th>
<th>Switch name</th>
</tr>
</thead>
<tbody>
<tr>
<td>①</td>
<td>Service button (red)</td>
</tr>
<tr>
<td>②</td>
<td>Enter button (green)</td>
</tr>
<tr>
<td>③</td>
<td>Selector switch UP</td>
</tr>
<tr>
<td>④</td>
<td>Selector switch DOWN</td>
</tr>
<tr>
<td>⑤</td>
<td>Game select illuminated button (red)</td>
</tr>
<tr>
<td>⑥</td>
<td>Game select illuminated button (green)</td>
</tr>
<tr>
<td>⑦</td>
<td>COIN</td>
</tr>
<tr>
<td>⑧</td>
<td>Bill counter input signal</td>
</tr>
<tr>
<td>⑨</td>
<td>Not used</td>
</tr>
</tbody>
</table>

Press both the Service switch (red) and the Enter switch (green) at the same time to return to the Test Item Selection Mode.
7-8-4  Blower Fan ON/OFF Test and Sensor Check

1. In this Test Item Selection Mode, “FAn” is displayed in the left side score LED.

2. The time LED displays the sensor states as follows. (ON: Lighted, OFF: Off)

<table>
<thead>
<tr>
<th>LED No.</th>
<th>Sensor name</th>
<th>Reference page</th>
</tr>
</thead>
<tbody>
<tr>
<td>①</td>
<td>Rail (L) sensor (lower)</td>
<td>Page 147</td>
</tr>
<tr>
<td>②</td>
<td>Rail (L) sensor (middle)</td>
<td>Page 145</td>
</tr>
<tr>
<td>③</td>
<td>Rail (L) sensor (upper)</td>
<td>Page 145</td>
</tr>
<tr>
<td>④</td>
<td>Goal (L) sensor</td>
<td>Page 144</td>
</tr>
<tr>
<td>⑤</td>
<td></td>
<td></td>
</tr>
<tr>
<td>⑥</td>
<td>Goal (R) sensor</td>
<td>Page 144</td>
</tr>
<tr>
<td>⑦</td>
<td>Rail (R) sensor (upper)</td>
<td>Page 145</td>
</tr>
<tr>
<td>⑧</td>
<td>Rail (R) sensor (middle)</td>
<td>Page 145</td>
</tr>
<tr>
<td>⑨</td>
<td>Rail (R) sensor (lower)</td>
<td>Page 147</td>
</tr>
</tbody>
</table>

3. Press the game select illuminated button (red) to control the blower fan ON and OFF. (ON: Lighted, OFF: Off)
7-8-5 Solenoid ON/OFF Test and Sensor Check

1. In this Test Item Selection Mode, “SoL” is displayed in the left side score LED.

2. The time LED displays the sensor states as follows. (ON: Lighted, OFF: Off)

<table>
<thead>
<tr>
<th>LED No.</th>
<th>Sensor name</th>
<th>Reference page</th>
</tr>
</thead>
<tbody>
<tr>
<td>①</td>
<td>Stock sensor (L)</td>
<td>Page 166</td>
</tr>
<tr>
<td>②</td>
<td>Stopper sensor (L)</td>
<td>Page 165</td>
</tr>
<tr>
<td>③</td>
<td></td>
<td></td>
</tr>
<tr>
<td>④</td>
<td></td>
<td></td>
</tr>
<tr>
<td>⑤</td>
<td>L divider sensor</td>
<td>Page 170</td>
</tr>
<tr>
<td>⑥</td>
<td></td>
<td></td>
</tr>
<tr>
<td>⑦</td>
<td></td>
<td></td>
</tr>
<tr>
<td>⑧</td>
<td>Stopper sensor (R)</td>
<td>Page 165</td>
</tr>
<tr>
<td>⑨</td>
<td>Stock sensor (R)</td>
<td>Page 166</td>
</tr>
</tbody>
</table>

3. Press the game select illuminated button (red) to control the L divider solenoid ON and OFF, and press the game select illuminated button (green) to control the S stopper solenoids (L) and (R) ON and OFF. (ON: Lighted, OFF: Off)

   * Each solenoid automatically turns off 3 seconds after it is turned on.

**NOTICE**
- Before setting the Test switch to OFF, make sure that there are ten mini pucks in each of the mini puck stock areas on the right and left.
7-8-6  L Hopper Motor ON/OFF Test and Sensor Check

In this Test Item Selection Mode, “LHoP” is displayed in the left side score LED.

The time LED displays the sensor states as follows.
(ON: Lighted, OFF: Off)

<table>
<thead>
<tr>
<th>LED No.</th>
<th>Sensor name</th>
<th>Reference page</th>
</tr>
</thead>
<tbody>
<tr>
<td>①</td>
<td>L hopper motor sensor</td>
<td>Page 156</td>
</tr>
<tr>
<td>②</td>
<td></td>
<td></td>
</tr>
<tr>
<td>③</td>
<td>L divider (L) outlet sensor</td>
<td>Page 171</td>
</tr>
<tr>
<td>④</td>
<td>L divider (R) outlet sensor</td>
<td></td>
</tr>
<tr>
<td>⑤</td>
<td></td>
<td></td>
</tr>
<tr>
<td>⑥</td>
<td></td>
<td></td>
</tr>
<tr>
<td>⑦</td>
<td></td>
<td></td>
</tr>
<tr>
<td>⑧</td>
<td></td>
<td></td>
</tr>
<tr>
<td>⑨</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Press the game select illuminated button (red) to release a big puck from the L side, and press the game select illuminated button (green) to release a big puck from the R side. The illuminated button lights up while releasing the big puck, and turns off after the big puck is released.

**NOTICE**

- Even when the machine state is normal, the “L Hopper Idling Error (Err14)” may occur when puck supply operation is performed immediately after installation is complete. In this case, perform the test again.
7-8-7  S Hopper Motor ON/OFF Test and Sensor Check

In this Test Item Selection Mode, “SHoP” is displayed in the left side score LED.

The time LED displays the sensor states as follows.
(ON: Lighted, OFF: Off)

### LED No. | Sensor name | Reference page
--- | --- | ---
1 | S hopper motor sensor | Page 160
2 | | 
3 | S divider (L) outlet sensor | Page 168
4 | S divider (R) outlet sensor | 
5 | | 
6 | | 
7 | | 
8 | | 
9 | | 

Press the game select illuminated button (red) to release and add mini pucks. The illuminated button lights up while releasing and adding pucks, and turns off after the mini pucks have been added.

**NOTICE**

- Even when the machine state is normal, the “S Hopper Idling Error (Err13)” may occur when puck supply operation is performed immediately after installation is complete. In this case, perform the test again.
- Before setting the Test switch to OFF, make sure that there are ten mini pucks in each of the mini puck stock areas on the right and left.
7-8-8  Sound Test

In this Test Item Selection Mode, “Snd” is displayed in the left side score LED.

Press the game select illuminated button (red) to play the speaker test sound from only the L side speaker, only the R side speaker, and both the L and R side speakers, in that order.

The sound volume (0 to 15) is displayed in the right side score LED.

* The sound volume (0 to 15) is displayed as a binary value in the time LED.
7-8-9 Ticket Dispenser Test

* This item is displayed only when the ticket dispenser use setting is “on”.
(See “7-9-11 Ticket Dispenser Use Setting” on page 63.)

![Test item selection display (Ticket dispenser test)](image)

1. In this Test Item Selection Mode, “diS” is displayed in the left side score LED.

2. The time LED displays the status of the following sensors.
   (ON: lighted, OFF: off)

<table>
<thead>
<tr>
<th>LED No.</th>
<th>Sensor name</th>
<th>Reference page</th>
</tr>
</thead>
<tbody>
<tr>
<td>①</td>
<td>Ticket dispenser (L) ticket payout sensor</td>
<td>—</td>
</tr>
<tr>
<td>②</td>
<td></td>
<td></td>
</tr>
<tr>
<td>③</td>
<td></td>
<td></td>
</tr>
<tr>
<td>④</td>
<td></td>
<td></td>
</tr>
<tr>
<td>⑤</td>
<td></td>
<td></td>
</tr>
<tr>
<td>⑥</td>
<td></td>
<td></td>
</tr>
<tr>
<td>⑦</td>
<td></td>
<td></td>
</tr>
<tr>
<td>⑧</td>
<td></td>
<td></td>
</tr>
<tr>
<td>⑨</td>
<td>Ticket dispenser (R) ticket payout sensor</td>
<td>—</td>
</tr>
</tbody>
</table>

3. Press the game select illuminated button (red) to pay out one ticket from the L side, and the game select illuminated button (green) to pay out one ticket from the R side. The respective illuminated button lights while the ticket is being paid out, and turns off when payout is finished.
7-9 Setting Mode

The machine displays the setting contents on the signboard that displays the score and timer.

7-9-1 Setting Item Selection Mode

1. Use the supplied service key to open the selector door, and set the Test switch to ON (slide the switch upward) while pressing the Enter switch (green) to enter the Setting Mode. (See “7-6-2 Adjustment Switches” on page 39.)
2. Flip the Select switch up and down to select the item.
3. Press the Enter switch (green) to enter the selected item.
4. Flip the Select switch up and down to select the setting value.
5. Press the Enter switch (green) to return to the Setting Item Selection Mode.
6. After finishing all the settings, set the Test switch to OFF. Changed setting values are saved when the Test switch is set to OFF.
   *If the power switch is turned off before the Test switch is set to OFF, the setting values will not be reflected.
7. Operation

<table>
<thead>
<tr>
<th>Item order</th>
<th>Item name (Display in Setting Item Selection Mode)</th>
<th>Item</th>
<th>Reference page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><img src="image" alt="Coin Display" /></td>
<td>Number of coins per game</td>
<td>Page 53</td>
</tr>
<tr>
<td>2</td>
<td><img src="image" alt="Play Display" /></td>
<td>Number of plays per game</td>
<td>Page 54</td>
</tr>
<tr>
<td>3</td>
<td><img src="image" alt="Big Bang Display" /></td>
<td>Big Bang Mode play time</td>
<td>Page 55</td>
</tr>
<tr>
<td>4</td>
<td><img src="image" alt="Normal Hockey Display" /></td>
<td>Normal Hockey Mode play time</td>
<td>Page 56</td>
</tr>
<tr>
<td>5</td>
<td><img src="image" alt="Mini Puck Display" /></td>
<td>Mini puck supply frequency more/less setting for Big Bang Mode</td>
<td>Page 57</td>
</tr>
<tr>
<td>6</td>
<td><img src="image" alt="3-Puck Display" /></td>
<td>3-puck setting for Normal Hockey Mode</td>
<td>Page 58</td>
</tr>
<tr>
<td>7</td>
<td><img src="image" alt="Attract BGM Display" /></td>
<td>Attract BGM ON/OFF</td>
<td>Page 59</td>
</tr>
<tr>
<td>8</td>
<td><img src="image" alt="Mini Puck Low Warning Display" /></td>
<td>Mini puck low warning ON/OFF</td>
<td>Page 60</td>
</tr>
<tr>
<td>9</td>
<td><img src="image" alt="Error Log Display" /></td>
<td>Error log</td>
<td>Page 61</td>
</tr>
<tr>
<td>10</td>
<td><img src="image" alt="Ticket Dispenser Display" /></td>
<td>Ticket dispenser use setting</td>
<td>Page 63</td>
</tr>
<tr>
<td>11</td>
<td><img src="image" alt="Number of Tickets Paid to Winner Display" /></td>
<td>Number of tickets paid to winner * This is displayed only when the ticket dispenser use setting is “on”. (See “7-9-12 Number of Tickets Paid to Winner” on page 64.)</td>
<td>Page 64</td>
</tr>
<tr>
<td>12</td>
<td><img src="image" alt="Number of Tickets Paid to Loser Display" /></td>
<td>Number of tickets paid to loser * This is displayed only when the ticket dispenser use setting is “on”. (See “7-9-13 Number of Tickets Paid to Loser” on page 65.)</td>
<td>Page 65</td>
</tr>
<tr>
<td>13</td>
<td><img src="image" alt="Number of Tickets Paid in Case of a Tie Display" /></td>
<td>Number of tickets paid in case of a tie * This is displayed only when the ticket dispenser use setting is “on”. (See “7-9-14 Number of Tickets Paid in case of a Tie” on page 66.)</td>
<td>Page 66</td>
</tr>
<tr>
<td>14</td>
<td><img src="image" alt="Game Mode Setting Display" /></td>
<td>Game mode setting</td>
<td>Page 67</td>
</tr>
<tr>
<td>15</td>
<td><img src="image" alt="Return All Settings to Default Settings Display" /></td>
<td>Return all settings to default settings (factory settings)</td>
<td>Page 68</td>
</tr>
</tbody>
</table>
7-9-2 Number of coins per game

1. In this Setting Item Selection Mode, “coin” is displayed in the left side score LED and the number of coins is displayed in the right side score LED.

2. Press the Enter switch (green). The right side score LED display blinks and the machine enters the Setting Change Mode.

3. In the Setting Change Mode, flip the Select switch up and down to change the value.
   - The values that can be set are FrEE, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18 and 19.
   - Flip the Select switch up to increase the value. The value returns to FrEE after 19.
   - Flip the Select switch down to decrease the value. The value returns to 19 after FrEE.
   - Set “FrEE” to set the Free Play Mode.
   * The default setting (factory setting) is “2”.

4. Press the Enter switch (green) again to return to the Setting Item Selection Mode.
7. Operation

7-9-3 Number of plays per game

In this Setting Item Selection Mode, “PLAy” is displayed in the left side score LED and the number of plays is displayed in the right side score LED.

2 Press the Enter switch (green). The right side score LED display blinks and the machine enters the Setting Change Mode.

3 In the Setting Change Mode, flip the Select switch up and down to change the value.
   - The values that can be set are 1, 2, 3, 4, 5, 6, 7, 8 and 9.
   - Flip the Select switch up to increase the value. The value returns to 1 after 9.
   - Flip the Select switch down to decrease the value. The value returns to 9 after 1.
   * The default setting (factory setting) is “1”.

4 Press the Enter switch (green) again to return to the Setting Item Selection Mode.
7-9-4  Big Bang Mode play time

1  In this Setting Item Selection Mode, “b-PL” is displayed in the left side score LED and the play time (seconds) is displayed in the right side score LED.

2  Press the Enter switch (green). The right side score LED display blinks and the machine enters the Setting Change Mode.

3  In the Setting Change Mode, flip the Select switch up and down to change the value.
   ● The values that can be set are 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160, 170, 180, 210, 240, 270 and 300.
   ● Flip the Select switch up to increase the value. The value returns to 60 after 300.
   ● Flip the Select switch down to decrease the value. The value returns to 300 after 60.
   ● When a longer time is set than the Normal Hockey Mode play time, the Normal Hockey Mode play time is changed to the same time as the Big Bang Mode play time.
   * The default setting (factory setting) is “70”.

4  Press the Enter switch (green) again to return to the Setting Item Selection Mode.
   *In Big Bang Mode, the set time may be extended slightly depending on the goal status.
7-9-5 Normal Hockey Mode play time

In this Setting Item Selection Mode, “n-PL” is displayed in the left side score LED and the play time (seconds) is displayed in the right side score LED.

Press the Enter switch (green). The right side score LED display blinks and the machine enters the Setting Change Mode.

In the Setting Change Mode, flip the Select switch up and down to change the value.

1. The values that can be set are 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160, 170, 180, 210, 240, 270, 300, 330, 360, 390, 420, 450, 480, 510, 540, 570 and 600.

However, a time shorter than the Big Bang Mode play time cannot be set.

2. Flip the Select switch up to increase the value. The value returns to the Big Bang Mode play time (minimum time) after 600.

3. Flip the Select switch down to decrease the value. The value returns to 600 after the Big Bang Mode play time (minimum time).

* The default setting (factory setting) is “150”.

4. Press the Enter switch (green) again to return to the Setting Item Selection Mode.
7-9-6 Mini puck supply frequency more/less setting for Big Bang Mode

Setting item selection display (Mini puck supply frequency more/less setting for Big Bang Mode)

1. In this Setting Item Selection Mode, “b-PC” is displayed in the left side score LED and “oFF” or “on” is displayed in the right side score LED.

2. Press the Enter switch (green). The right side score LED display blinks and the machine enters the Setting Change Mode.

3. In the Setting Change Mode, flip the Select switch up and down to change the value.
   - The values that can be set are “on” (more) and “oFF” (less).
   * The default setting (factory setting) is “oFF” (less).

4. Press the Enter switch (green) again to return to the Setting Item Selection Mode.
7-9-7 3-puck setting for Normal Hockey Mode

In this Setting Item Selection Mode, “n-PC” is displayed in the left side score LED and “oFF” or “on” is displayed in the right side score LED.

Press the Enter switch (green). The right side score LED display blinks and the machine enters the Setting Change Mode.

In the Setting Change Mode, flip the Select switch up and down to change the value.
- The values that can be set are “oFF” (1 puck) and “on” (maximum 3 pucks).
  *The default setting (factory setting) is “oFF” (1 puck).
  *Even when set to “on”, three pucks may not be released depending on the time setting.

Press the Enter switch (green) again to return to the Setting Item Selection Mode.
7-9-8 Attract BGM ON/OFF

1. In this Setting Item Selection Mode, “ASnd” is displayed in the left side score LED and “on” or “off” is displayed in the right side score LED.

2. Press the Enter switch (green). The right side score LED display blinks and the machine enters the Setting Change Mode.

3. In the Setting Change Mode, flip the Select switch up and down to change the value.
   - The values that can be set are “off” (Attract BGM off) and “on” (Attract BGM on).
   - * The default setting (factory setting) is “on” (Attract BGM on).

4. Press the Enter switch (green) again to return to the Setting Item Selection Mode.
7-9-9 Mini puck low warning ON/OFF

This function informs when the number of mini pucks has decreased.
* When the number of mini pucks decreases by 50 pucks or more during game operation due to loss or other reasons, the 4-digit score in the left side score LED blinks while the machine is in the standby state to inform that the number of mini pucks has decreased.

![Setting item selection display (Mini puck low warning ON/OFF)]

1. In this Setting Item Selection Mode, “PC-A” is displayed in the left side score LED and warning “on/off” and the mini puck decrease count is displayed in the right side score LED.

2. Press the Enter switch (green). The right side score LED display blinks and the machine enters the Setting Change Mode.

3. In the Setting Change Mode, flip the Select switch up and down to change the setting.
   - The values that can be set are “off” (warning off) and “on” (warning on).
   - When set to “on”, the right two digits of the right side score LED display the mini puck decrease count (number of mini pucks supplied to the playing field - number of mini pucks that have entered the goals). Values less than 0 are displayed as 0, and values greater than 99 are displayed as 99.
   - To reset the mini puck decrease count to 0, press the Service switch (red) in the Setting Change Mode.
   - The mini puck decrease count is also reset to 0 when the setting value is changed from “on” to “off”.
   * The default setting (factory setting) is “on” (warning on).

4. Press the Enter switch (green) again to return to the Setting Item Selection Mode.

**NOTICE**
- Make sure that there are ten mini pucks in each of the right and left sides of the mini puck stock area before resetting the mini puck decrease count. (See “7-8-7 S Hopper Motor ON/OFF Test and Sensor Check” on page 48.)
- Be sure to press the Service switch (red) and reset the mini puck decrease count to 0 when starting up the game for the first time or when adding mini pucks.
7-9-10 Error log

(1) Number of Errors Saved in Error Log Display Mode

1. In this Setting Item Selection Mode, “ErrL” is displayed in the left side score LED and the number of errors saved in the error log is displayed in the right side score LED.

2. Press the Enter switch (green) to enter the Error Log Contents Display Mode that displays the errors saved in the error log.
   * The default setting (factory setting) is “0”.
   * The machine can save up to ten error log entries.
(2) Error Log Contents Display Mode

```
1 “Err0” to “Err9” is displayed in the left side score LED, and the corresponding error code saved in the error log is displayed in the right side score LED.
   • An error code of “00” indicates that no error is saved.
   • “Err0” is the newest error, and the errors become progressively older as the value increases.

2 Flip the Select switch up and down to change the value.
   • Flip the Select switch up to increase the value. The value returns to Err0 after Err9.
   • Flip the Select switch down to decrease the value. The value returns to Err9 after Err0.

3 Press the Service switch (red) in this error log contents display mode to clear the entire error log.

4 Press the Enter switch (green) again to return to the Setting Item Selection Mode.
```
7-9-11 Ticket Dispenser Use Setting

1. In this Setting Item Selection Mode, “TdIS” is displayed in the left side score LED, and “on” or “oFF” is displayed in the right side score LED.

2. Press the Enter switch (green). The right side score LED display blinks and the machine enters the Setting Change Mode.

3. In the Setting Change Mode, flip the Select switch up and down to change the value.
   - The values that can be set are “oFF” (Ticket dispenser not used) and “on” (Ticket dispenser used).
   * The default setting (factory setting) is “oFF” (Ticket dispenser not used).

4. Press the Enter switch (green) again to return to the Setting Item Selection Mode.
7-9-12 Number of Tickets Paid to Winner

* This item is displayed only when the ticket dispenser use setting is “on”.  
(See “7-9-11 Ticket Dispenser Use Setting” on page 63.)

The default setting (factory setting) is “0”.

1. In this Setting Item Selection Mode, “PAY0” is displayed in the left side score LED, and the number of tickets paid to the winner is displayed in the right side score LED.

2. Press the Enter switch (green). The right side score LED display blinks and the machine enters the Setting Change Mode.

3. In the Setting Change Mode, flip the Select switch up and down to change the value.
   - The values that can be set are 0, 1, ..., 49 and 50.
   - Flip the Select switch up to increase the value. The value returns to 0 after 50.
   - Flip the Select switch down to decrease the value. The value returns to 50 after 0.
   - When a value less than the number of tickets paid to the loser is set, the number of tickets paid to the loser is changed to the same value as the number of tickets paid to the winner.
   - When a value less than the number of tickets paid in case of a tie is set, the number of tickets paid in case of a tie is changed to the same value as the number of tickets paid to the winner.

4. Press the Enter switch (green) again to return to the Setting Item Selection Mode.
7-9-13 Number of Tickets Paid to Loser

* This item is displayed only when the ticket dispenser use setting is “on”.
(See “7-9-11 Ticket Dispenser Use Setting” on page 63.)

 Setting item selection display (Number of tickets paid to loser)

1. In this Setting Item Selection Mode, “PAY1” is displayed in the left side score LED, and the number of tickets paid to the loser is displayed in the right side score LED.

2. Press the Enter switch (green). The right side score LED display blinks and the machine enters the Setting Change Mode.

3. In the Setting Change Mode, flip the Select switch up and down to change the value.
   - The values that can be set are 0, 1, ..., 49 and 50.
   - However, a value greater than the number of tickets paid to the winner cannot be set.
   - Flip the Select switch up to increase the value. The value returns to 0 after the number of tickets paid to the winner.
   - Flip the Select switch down to decrease the value. The value returns to the number of tickets paid to the winner after 0.
   - When a value greater than the number of tickets paid in case of a tie is set, the number of tickets paid in case of a tie is changed to the same value as the number of tickets paid to the loser.
   * The default setting (factory setting) is “0”.

4. Press the Enter switch (green) again to return to the Setting Item Selection Mode.
7-9-14 Number of Tickets Paid in case of a Tie

* This item is displayed only when the ticket dispenser use setting is “on”.
(See “7-9-11 Ticket Dispenser Use Setting” on page 63.)

![Setting item selection display (Number of tickets paid in case of a tie)]

1. In this Setting Item Selection Mode, “PAy2” is displayed in the left side score LED, and the number of tickets paid in case of a tie is displayed in the right side score LED.

2. Press the Enter switch (green). The right side score LED display blinks and the machine enters the Setting Change Mode.

3. In the Setting Change Mode, flip the Select switch up and down to change the value.
   - The values that can be set are 0, 1, ..., 49 and 50.
     However, a value greater than the number of tickets paid to the winner or less than the number of tickets paid to the loser cannot be set.
   - Flip the Select switch up to increase the value. The value returns to the number of tickets paid to the loser after the number of tickets paid to the winner.
   - Flip the Select switch down to decrease the value. The value returns to the number of tickets paid to the winner after the number of tickets paid to the loser.
   * The default setting (factory setting) is “0”.

4. Press the Enter switch (green) again to return to the Setting Item Selection Mode.
7-9-15 Game mode setting

1. In this Setting Item Selection Mode, “Lony” is displayed in the left side score LED and “on” or “off” is displayed in the right side score LED.

2. Press the Enter switch (green). The right side score LED display blinks and the machine enters the Setting Change Mode.

3. In the Setting Change Mode, flip the Select switch up and down to change the value.
   - The values that can be set are “off” (Big Bang Mode selection enabled) and “on” (Normal Hockey Mode only).
   - When set to “on” and required coins are inserted, game selection is not performed and the game starts in Normal Hockey Mode (using only big pucks). In addition, the mini puck related error checks are not performed.
   - * The default setting (factory setting) is “off” (Big Bang Mode selection enabled).

4. Press the Enter switch (green) again to return to the Setting Item Selection Mode.
7. Operation

7-9-16 Return all settings to default settings (factory settings)

In this Setting Item Selection Mode, “AdEF” is displayed in the left side score LED and a value indicating whether the settings are the same as the default settings (factory settings) is displayed in the right side score LED.

- The right side score LED displays “0” when the setting values are the default settings (factory settings), or “1” when there are settings other than the default settings (factory settings).

1. Press the Enter switch (green). The value in the right side score LED starts to blink.

2. If the Service switch (red) is pressed while the value in the right side score LED is blinking, all settings are returned to the default settings (factory settings) and the value changes to “0”.

3. If the Enter switch (green) is pressed while the value in the right side score LED is blinking, the value stops blinking and the machine returns to the Setting Item Selection Mode.

* The error log and the mini puck decrease count are also cleared.
7-10 Mini Puck Low Warning and Adding Mini Pucks

7-10-1 Mini Puck Low Warning

When the mini puck low warning ON/OFF setting mode is set to ON and the number of mini pucks decreases by 50 or more, the 4-digit score in the left side score LED (signboard) blinks while the machine is in the standby state.

![Score LED Blinks]

- When this blinking is confirmed, add mini pucks.

7-10-2 Adding Mini Pucks

When the mini puck low warning is displayed or the number of mini pucks is otherwise confirmed to have decreased, follow the procedure below to add mini pucks.

1. Block the goals so that mini pucks cannot enter.
2. Use Test mode and release all of the mini pucks to the playing field. (See “7-8-7 S Hopper Motor ON/OFF Test and Sensor Check” on page 48.)
3. Count the number of mini pucks, and add mini pucks so that there is a total of 120 pucks.
4. Unblock the goal (L) so that the mini pucks can enter.
5. Put the mini pucks into the goal (L).

- Put the mini pucks into the goal (L) one to three pucks at a time. If many pucks are put into the goal at once, the pucks may become jammed inside the machine and prevent normal operation.
- Be sure to put the mini pucks into the goal (L).

6. Reset the decrease count of the mini puck low warning to “0”. (See “7-9-9 Mini puck low warning ON/OFF” on page 60.)
7-11 Daily Cleaning

7-11-1 Cleaning the Playing Field

- Be careful not to scratch the playing field when cleaning.
- Do not use thinner, benzene, gasoline, alcohol or other organic solvents. This may degrade the materials.
- Do not use wax or other substances that may block the air holes. The pucks will not slide well.
- If the air holes in the playing field become blocked by dust or dirt, the pucks will not slide well. Periodically clean the air holes in the playing field.

1. Wipe away any dirt using a soft cloth moistened with water or a neutral cleanser diluted with water and then firmly wrung out.

2. Wipe dry so that no detergent or water remains, and then allow to dry thoroughly.

3. When the air holes are clogged with dust or dirt, insert a paper clip or other pin-like object into the air holes and remove the dirt.

- Check the air holes by sliding a puck over the playing field in the condition with the blower fan rotating. If the puck does not slide well, remove any dust and dirt from the air holes.
7-11-2 Cleaning the Goal Covers and Corner Covers

**NOTICE**

- Do not use thinner, benzene, gasoline, alcohol or other organic solvents. This may degrade the materials.

1. Wipe away any dirt using a soft cloth moistened with water or a neutral cleanser diluted with water and then firmly wrung out.

2. Wipe dry so that no detergent or water remains, and then allow to dry thoroughly.

7-11-3 Cleaning the Pucks and Mallets

**NOTICE**

- Do not use thinner, benzene, gasoline, alcohol or other organic solvents. This may degrade the materials.

1. Wipe away any dirt using a soft cloth moistened with water or a neutral cleanser diluted with water and then firmly wrung out.

2. Wipe dry so that no detergent or water remains, and then allow to dry thoroughly.
7-11-4 Cleaning the Signboard and Cover Panel

**NOTICE**
- Do not use thinner, benzene, gasoline, alcohol or other organic solvents. This may degrade the materials.

1. Wipe away any dirt using a soft cloth moistened with water or a neutral cleanser diluted with water and then firmly wrung out.

2. Wipe dry so that no detergent or water remains, and then allow to dry thoroughly.
7-11-5 Cleaning the Sloped Areas

**NOTICE**
- Do not use thinner, benzene, gasoline, alcohol or other organic solvents. This may degrade the materials.

1. Wipe away any dirt using a soft cloth moistened with water or a neutral cleanser diluted with water and then firmly wrung out.

2. Wipe dry so that no detergent or water remains, and then allow to dry thoroughly.
8. Technician’s Manual - Must be performed by a technician -

8A. Installation and Assembly

8A-1 Number of Workers, Work Time and Work Space

8A-1-1 Number of Workers and Work Time

(1) Number of Workers

The work should be performed by four technicians.

(2) Work Time

The estimated work time for four workers (technicians) is 2 hours.

8A-1-2 Securing Work Space

Secure the following space around the cabinet for performing the installation work.
8A-2 Assembly

8A-2-1 Assembling the Table

(1) Assembling the Table, Goals and Corner Covers

1. Join the cabinet (L) and (R) assemblies with 12 Phillips hexagon socket head bolts (with flat and spring washers) (M8 x 35) and 12 square washers (M8), and connect the three connectors.

Phillips hexagon socket head bolt (with flat and spring washers) (M8 x 35)

2. Open the coating clip, and release the bundled harness.

Harness
3. Attach the harness released in step 2 with the six coating clips as shown in the figure.

4. Open the goal (L) assembly. (See “7-5-3 Opening and Closing the Goal (L) and (R) Assemblies” on page 38.)

5. Lead out the two connectors through the holes, and secure them with the coating clips.
6. Remove the two flange socket bolts (M5 x 16).

Flange socket bolt (M5 x 16)

7. Close the goal (L) assembly. (See “7-5-3 Opening and Closing the Goal (L) and (R) Assemblies” on page 38.)

8. Lift the goal (L) assembly straight up with two people, and remove it.

9. Follow the same procedure as steps 4 to 8 to remove the goal (R) assembly.
10 Attach the blower brackets (L) and (R) to the table top assembly with the flange socket bolts (M5 x 16) each.

**NOTICE**

- Do not place the table top assembly on the floor or other location with the surface to which the blower brackets (L) and (R) are attached on the bottom. Doing so may cause the parts to deform.
When attaching the table top assembly, be careful where you place your hands to avoid trapping your hands.

- The table top assembly has an orientation. Assemble so that the area without the table bumper is on the same side as the opening in the cabinet.

Lift up the table top assembly with four people as shown in the figure, and fit it onto the top of the cabinet assembled in step 1.

(Align the area without the table bumper with the opening in the cabinet.)
12 Attach the table top assembly to the cabinet with six button head bolts (M6 x 40) and six spring washers (M6).

**NOTICE**
- It may be difficult to attach the screws if the floor surface is not level. In these cases, adjust the level adjusters so that the cabinet is level.

13 Insert the goal (L) and (R) assemblies removed in steps 8 and 9 into the cabinet from above. At this time, insert the lower edges of the goal (L) and (R) assemblies into the goal set brackets.

14 Open the goal (L) assembly. (See “7-5-3 Opening and Closing the Goal (L) and (R) Assemblies” on page 38.)
15 Lead out and connect the two connectors through the holes, and secure them with the coating clips.

**NOTICE**
- Store the excess harness length below the holes so that there is no slack in the connected connectors and harnesses above the holes.

16 Temporarily secure the goal (L) assembly with the two flange socket bolts (M5 x 16) removed in step 6 and four flange socket bolt (M5 x 10).

**NOTICE**
- When installing, be sure to use bolts of the specified length.
- When installing, be careful not to pinch the connectors.

17 Follow the same procedure as steps 14 to 16 to temporarily secure the goal (R) assembly.
18. Set the corner covers (red • L, red • R, blue • L and blue • R) on the respective corners of the cabinet, and secure them with two button head bolts (M6 x 40), one button head bolt (M6 x 25) and three flat washers (M6) each.

- NOTICE -

- If the bolts are difficult to tighten, loosen the screws fixing the goal bumper (L) • (R) and corner bumper, shift each bumper towards the outside of the table, and then tighten the screws.
- If any of the bumper fixing screws are loose, tighten the screws.
- When installing, be careful not to pinch the harnesses and connectors.

19. Tighten the bolts temporarily secured in steps 16 and 17 and secure the goal (L) and (R) assemblies.

20. Close the goal (L) assembly. (See “7-5-3 Opening and Closing the Goal (L) and (R) Assemblies” on page 38.)
21 Connect the connector, and place the goal cover A on the goal (L) assembly.

22 Attach the goal cover A with two Torx bolts (M5 x 16, silvery white) and two flat washers (M5), and with two Torx bolts (M5 x 20) and two flat washers (M5).

**NOTICE**
- When installing, be sure to use bolts of the specified length.

23 Open the goal (L) assembly. (See “7-5-3 Opening and Closing the Goal (L) and (R) Assemblies” on page 38.)
Secure the goal cover A with two Torx bolts (M5 x 8).

Follow the same procedure as steps 20 to 24 to install the goal (R) assembly and goal cover B.

Close the goal (L) and (R) assemblies. (See “7-5-3 Opening and Closing the Goal (L) and (R) Assemblies” on page 38.)
[If the goal (L) and (R) assembly locks are stiff, cannot be locked, or are loose, perform the procedure below.]

27 Remove the goal cover of the goal to be adjusted by reversing the procedure in steps 21 to 26.

28 Loosen the four Phillips pan head screws (with flat and spring washers) (M4 x 10).

29 Shift the goal outer beam toward you until it stops, and then retighten the four Phillips pan head screws (with flat and spring washers) (M4 x 10) secure it.

*If the lock is stiff, shift the goal outer beam toward the back slightly before securing it.

30 Follow the procedure in steps 20 to 26 to reinstall the goal cover.
(2) Installing the Nets

1. Attach the center guard bracket (A) with four button head bolts (M6 x 25) and four flat washers (M6).

   **NOTICE**

   - Install the center guard bracket (A) in a level manner so that it is not tilted.

2. Attach the center guard bracket (B) with four button head bolts (M6 x 25) and four flat washers (M6).
3. Insert the center guard into the center guard brackets (A) and (B), and then secure it with three button head bolts (M6 x 16) and three flat washers (M6).

Install the center guard so that the center guard retainer is facing the L side.

4. Insert the hooks of the net S frame (L) into the cabinet (L) assembly, and then secure it with four button head bolts (M6 x 50) and four flat washers (ø16 for M6).
Follow the same procedure in step 4 to attach the net S frame (R) to the cabinet (R) assembly.

Insert the hooks of the net L frame (L) into the cabinet (L) assembly, and then secure it with three button head bolts (M6 x 50), three flat washers (ø16 for M6), and one flange socket bolt (M5 x 35).
7 Follow the same procedure in step 6 to attach the net L frame (R) to the cabinet (R) assembly.
8 Attach the triangle bracket with five button head bolts (M5 x 16) and five flat washers (M5).

(3) Installing the Blower Fan

1 Remove the front door. (See “8A-5-1 Opening and Closing the Front Doors” on page 107.)
2 Insert the blower mounting plate into the blower brackets (L) and (R) from the goal (L) side, and secure it with four flange socket bolts (M5 x 30) and four flat washers (ø24 for M5).
3 Connect the connector.
4 Reattach the front door. (See “8A-5-1 Opening and Closing the Front Doors” on page 107.)
8A-2-2  Level Adjuster Adjustment

**WARNING**

- Adjust the level adjusters so that the table casters are at a height of approximately 5 mm from the floor. (The casters should be able to turn freely.) If the machine is unstable, it may move during game play.

**NOTICE**

- Adjust the level adjusters so that the table top surface is level. If the table top surface is tilted excessively, it may be difficult to collect the pucks and the machine may not function properly.

1. Install the table in accordance with “5-1 Installation Conditions” on page 24.

2. Adjust the level adjusters (four locations) so that the table casters are at a height of approximately 5 mm from the floor.

3. Secure the level adjusters with the lock nuts.

![Diagram of level adjusters and casters](image-url)
8A-2-3 Assembling the Side Tower Assembly

1. Attach the signboard with eight Torx bolts (M5 x 12).

2. Remove the wing bolt (M4 x 6), slide the S bucket and S hopper cover toward the outside, and remove them.

3. Remove the wing bolt (M4 x 6), slide the L bucket and L hopper cover toward the outside, and remove them.
\section*{WARNING}

- Do not move the side tower cabinet in the condition with the caster brackets (F) removed. Doing so may cause the side tower cabinet to fall over.

\begin{enumerate}
\item Remove the four Phillips hexagon socket head bolts (with flat and spring washers) (M6 x 16), and remove the two caster brackets (F).
\item The removed caster brackets (F) and bolts are required during transport. Be sure to keep them in a safe place.
\end{enumerate}

\begin{enumerate}
\item Attach the hopper assembly with four flange socket bolts (M6 x 20).
\item Connect the connector.
\item Reattach the L bucket and L hopper cover by reversing the procedure in step 3.
\item Reattach the S bucket and S hopper cover by reversing the procedure in step 2.
\end{enumerate}
9. Attach the hopper wall with four Phillips pan head screws (with flat and spring washers) (M4 x 10).

10. Remove the two Phillips pan head screws (with flat and spring washers) (M4 x 10), and remove the hopper wall B. Reverse the direction of the removed hopper wall B, and then reattach it with the removed screws.
8A-2-4 Installing the Light Assembly

**WARNING**

- The light assembly is installed while standing in a high location. Use a stool or similar platform. Working in an unnatural body posture may cause an injury or machine damage.

1. Lead the connector extending from the light arm L through the hole in the side tower assembly and into the machine.

2. Attach the light arm L with two button head bolts (M6 x 50) and two flat washers (ø7 x ø24).

3. Follow the same procedure to install the light arm R.

4. Insert the light arms L and R into the light frame unit, and attach them with flange socket bolts (M6 x 16).
5. Connect the connectors.

6. Attach the connector cover with a Phillips pan head screw (with flat and spring washers) (M4 x 10).

7. Remove the rear panel. (See “8A-5-3 Opening and Closing the Rear Panel” on page 108.)

8. Connect the connector.

9. Install the rear panel. (See “8A-5-3 Opening and Closing the Rear Panel” on page 108.)
8A-2-5 Installing the Side Tower Assembly

1. Lead out the five connectors from the right and left holes in the front of the side tower cabinet.

2. Remove the Torx bolt (M5 x 25).
3. Secure the harness clamp of the harness led out in step 1 with the Torx bolt (M5 x 25) removed in step 2.

4. Attach the side tower bracket (L) and side tower bracket (R) with two flange socket bolts (M6 x 20) each.

- Must be performed by a technician -
5 While lifting up the sloped area of the side tower assembly, insert the hopper assembly into the opening in the side surface of the table until the front of the side tower assembly touches the side surface of the table.

6 Attach the side tower assembly to the table with four flange socket bolts (M6 x 20).
7 Attach the side tower assembly with two countersunk cap bolts (M5 x 35), two button head bolts (M5 x 35) and two button head bolts (M6 x 40).

[If the bolt holes are not aligned during this work, go to step 20.]

8 Remove the service door L. (See “8A-5-2 Opening and Closing the Service Doors L and R” on page 107.)

9 Connect the two connectors inside the cabinet (L) assembly.
10 Insert the tip of the rail (L) assembly into the square hole in the back side of the hopper assembly, and hook the hook on the opposite side of the rail (L) assembly onto the corner rail (L).

11 Connect the connector.

12 Reattach the service door L. (See “8A-5-2 Opening and Closing the Service Doors L and R” on page 107.)
13. Remove the service door R. (See “8A-5-2 Opening and Closing the Service Doors L and R” on page 107.)

14. Connect the three connectors inside the cabinet (R) assembly.

15. Insert the tip of the rail (R) assembly into the square hole in the front side of the hopper assembly, and hook the hook on the opposite side of the rail (R) assembly onto the corner rail (R).
16 Connect the connector.

17 Reattach the service door R. (See "8A-5-2 Opening and Closing the Service Doors L and R" on page 107.)

18 Attach the two side walls with four Torx bolts (M5 x 16, silver) each.
19 Remove the four Phillips hexagon socket head bolts (with flat and spring washers) (M6 x 16), and remove the two caster brackets (R).

- The removed caster brackets (R) and bolts are required during transport. Be sure to keep them in a safe place.

[This completes the assembly work. Go to “8A-2-6 Preparing the Pucks and Mallets”. If the bolt holes were not aligned in step 7, perform the procedure below.]

20 Remove the rear panel. (See “8A-5-3 Opening and Closing the Rear Panel” on page 108.)

21 Loosen the four Phillips pan head screws (with flat and spring washers) (M4 x 10).

22 Loosen the four Phillips pan head screws (with flat and spring washers) (M4 x 35), and adjust so that the sloped area matches the height of the playing field.
23 Attach the side tower assembly with two countersunk cap bolts (M5 x 35), two button head bolts (M5 x 35) and two button head bolts (M6 x 40).

24 Tighten the four Phillips pan head screws (with flat and spring washers) (M4 x 35).

25 Tighten the four Phillips pan head screws (with flat and spring washers) (M4 x 10).

26 Reattach the rear panel. (See “8A-5-3 Opening and Closing the Rear Panel” on page 108.)

27 Go to step 8.
8A-2-6 Preparing the Pucks and Mallets

1. Place the mallets on the corner covers.

2. Put 50 of each of the big pucks and mini pucks (green, pink, orange) into the goal (L).

**NOTICE**

- Put the pucks into the goal (L) one to three pucks at a time. If many pucks are put into the goal at once, the pucks may become jammed inside the machine and prevent normal operation.
- Be sure to put the pucks into the goal (L) side.
- Do not put 60 or more big pucks or a total of 160 or more mini pucks of any color into the machine. Doing so may cause a malfunction.
**8A-3 Connecting the Power Cord and Ground**

**WARNING**

- Be sure to install the ground wire. Failure to install the ground wire may result in electric shock in the event of electrical leakage.

1. Insert the socket side of the power cord into the power supply input socket of the cordbox assembly.

![Cord box assembly](image)

2. Insert the power cord plug into an outlet.

**8A-4 Checks after Installation**

After installation is complete, test each item in the Test mode, and set the necessary items in the Setting mode. (See “7-8 Test Mode” on page 41 and “7-9 Setting Mode” on page 51.)

- After installation is complete, be sure to perform the puck supply operation to add pucks into the machine. (See “L Hopper Motor ON/OFF Test and Sensor Check” on page 47 and “7-8-7 S Hopper Motor ON/OFF Test and Sensor Check” on page 48.)

- After adding mini pucks into the machine, check that there are ten mini pucks in each of the right and left sides of the mini puck stock area, and then be sure to reset the mini puck decrease count. (See “7-9-9 Mini puck low warning ON/OFF” on page 60.)
8A-5 Opening and Closing Doors

8A-5-1 Opening and Closing the Front Doors

1. Remove the two Torx bolts (M5 x 35), and remove the front door on the side to be opened.

2. To install, perform the procedure in reverse.

8A-5-2 Opening and Closing the Service Doors L and R

1. Remove the two Torx bolts (M5 x 35).

2. Use the supplied service key to unlock, and remove the service door L or service door R.

3. To install, perform the procedure in reverse.
8A-5-3 Opening and Closing the Rear Panel

1. Remove the four Torx bolts (M5 x 25).

2. Use the supplied service key to unlock, and remove the rear panel.

3. To install, perform the procedure in reverse.

8A-5-4 Opening and Closing the Service Door

1. Remove the three Torx bolts (M5 x 25), and remove the service door.

2. To install, perform the procedure in reverse.
8B. Service - Must be performed by a technician -

**WARNING**

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before performing service work (such as repairs or correcting malfunctions).

8B-1 Inspection and Service

**WARNING**

- Perform periodic service. Failure to perform service may result in an accident.

8B-1-1 Inspection Items

Check the following inspection items periodically for any abnormalities.

1. Level Adjuster Inspection
   - Check that the level adjusters are fixed securely. (See “8A-2-2 Level Adjuster Adjustment” on page 90.)

2. Power Cord Plug Inspection
   - Check that the power cord is firmly inserted into the power outlet in the machine’s cord box.
   - Clean any dust or other dirt from the connection parts.
   - Check for cracks or dirt on the power cord covering. If there is any abnormality on the power cord, be sure to replace it.

3. Screw Looseness Inspection
   - Check the following parts for loose screws. Fully retighten any loose screws.
     - Corner covers and goal covers (See “8A-2-1 (1) Assembling the Table, Goals and Corner Covers” on page 75.)
     - Net L and S, center guard, and side wall (See “8A-2-1 (2) Installing the Nets” on page 86.)
     - Goal bumpers (L) and (R), bumpers S (L) and (R), bumper L, and corner bumpers
8B. Service

- Must be performed by a technician -

8B-1-2 Cleaning the Puck Paths

(1) Cleaning the Insides of the Goal (L) and (R) Assemblies

The description below explains how to clean the (L) side. Follow the same procedure to clean the (R) side.

**WARNING**

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

**NOTICE**

- Do not use thinner, benzene, gasoline, alcohol or other organic solvents. This may degrade the materials.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)

2. Open the goal (L) assembly. (See “7-5-3 Opening and Closing the Goal (L) and (R) Assemblies” on page 38.)

3. Wipe away any dirt from the puck paths using a soft cloth moistened with water or a neutral cleanser diluted with water and then firmly wrung out.

4. Wipe dry using a soft cloth so that no water or detergent remains, and then allow to dry completely.

5. To install, perform the procedure in reverse.
(2) Cleaning the Rail (L) and (R) Assemblies

The description below explains how to clean the (L) side. Follow the same procedure to clean the (R) side.

--- WARNING ---

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

--- NOTICE ---

- Do not use thinner, benzene, gasoline, alcohol or other organic solvents. This may degrade the materials.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)
2. Remove the rail (L) assembly by reversing the installation procedure. (See steps 5 - 9 of “8A-2-5 Installing the Side Tower Assembly” on page 96.)
3. Wipe away any dirt from the puck paths using a soft cloth moistened with water or a neutral cleanser diluted with water and then firmly wrung out.
   * Use a cotton swab to clean narrow parts.

   Rail (L) assembly
   
   ![Rail (L) assembly diagram]

   Puck path

   Rail (R) assembly
   
   ![Rail (R) assembly diagram]

   Puck path

4. Wipe dry using a soft cloth so that no water or detergent remains, and then allow to dry completely.
5. To install, perform the procedure in reverse.
(3) Cleaning the Insides of the L and S Buckets (Hopper Assembly)

**WARNING**

To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

**NOTICE**

- Do not perform the following operations. Doing so may cause pucks to jam or other malfunctions.
  - Rotating the L hopper disk in the clockwise direction as viewed from above.
  - Rotating the S hopper disk in the counter-clockwise direction as viewed from above.
- Do not use thinner, benzene, gasoline, alcohol or other organic solvents. This may degrade the materials.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)
2. Remove the side tower assembly. (See “8B-4-4 (1) Removing and Installing the Side Tower Assembly” on page 148.)
3. Remove any pucks from inside the L and S buckets.
4. Wipe away any dirt from the puck paths using a soft cloth moistened with water or a neutral cleanser diluted with water and then firmly wrung out.
   * Use a cotton swab to clean narrow parts.
5. Wipe dry using a soft cloth so that no water or detergent remains, and then allow to dry completely.
6. To install, perform the procedure in reverse.
(4) Cleaning the Hopper Disks and Hopper Bottoms (Hopper Assembly)

The description below explains how to clean the S hopper disk. Follow the same procedure to clean the L hopper disk.

**WARNING**

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

**NOTICE**

- Do not perform the following operations. Doing so may cause pucks to jam or other malfunctions.
  - Rotating the L hopper disk in the clockwise direction as viewed from above.
  - Rotating the S hopper disk in the counter-clockwise direction as viewed from above.
- Do not use thinner, benzene, gasoline, alcohol or other organic solvents. This may degrade the materials.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)
2. Remove the side tower assembly. (See “8B-4-4 (1) Removing and Installing the Side Tower Assembly” on page 148.)
3. Remove any pucks from inside the S bucket.
4. Remove the wing bolt (M4 x 6), slide the S hopper cover toward the outside, and remove it.

![Diagram showing S bucket and S hopper cover, L bucket and L hopper cover, and wing bolt (M4 x 6)]
5. Remove the cord clip and disconnect the two connectors.

6. Loosen the four pan head screws (with flat and spring washers) (M4 x 10), and remove the S hopper motor bracket.

7. Remove the three pan head screws (with flat and spring washers) (M4 x 10), and remove the disk top.

8. Remove the pan head screw (with flat and spring washers) (M4 x 10), and remove the hopper spring base.
9. Remove the two pan head screws (with flat and spring washers) (M4 x 10), and remove the disk retainer bracket. (Perform this step only for the S hopper disk.)

Pan head screw (with flat and spring washers) (M4 x 10)

Disk retainer bracket

10. Remove the E-ring (nominal diameter: 10), and remove the flat washer (M12) and the S hopper disk.

Flat washer (M12)

E-ring (nominal diameter: 10)

S hopper disk

11. Wipe away any dirt from the puck paths using a soft cloth moistened with water or a neutral cleanser diluted with water and then firmly wrung out.

12. Wipe dry using a soft cloth so that no water or detergent remains, and then allow to dry completely.

13. To install, perform the procedure in reverse.

**NOTICE**

- When installing, press the hopper motor bracket toward the hopper disk so that the hopper gear and hopper disk teeth mesh properly.
(5) Cleaning the S Slider Assembly

**WARNING**

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

**NOTICE**
- Do not use thinner, benzene, gasoline, alcohol or other organic solvents. This may degrade the materials.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)

2. Remove the illuminator base plates L and R. (See steps 2 - 5 of “8B-4-10 (1) Replacing the Circle LED” on page 174.)

3. Remove the three Torx bolts (M5 x 12), and remove the cover panel retainer L.
4 Remove the two Torx bolts (M5 x 12), and remove the cover panel.

5 Wipe away any dirt from the puck paths using a soft cloth moistened with water or a neutral cleanser diluted with water and then firmly wrung out.

6 Wipe dry using a soft cloth so that no water or detergent remains, and then allow to dry completely.

7 To install, perform the procedure in reverse.
8B. Service

- Must be performed by a technician -

8B-1-3 Removing Jammed Pucks

**NOTICE**
- Check that pucks are not damaged or deformed before putting them back into the machine. Otherwise, the pucks may jam again.

(1) Inside the Goal (L) or (R) Assembly

The description below explains how to remove jammed pucks from the (L) side. Follow the same procedure to remove jammed pucks from the (R) side.

---

**WARNING**

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)
2. Open the goal (L) assembly. (See “7-5-3 Opening and Closing the Goal (L) and (R) Assemblies” on page 38.)
3. Remove the jammed puck.
4. To install, perform the procedure in reverse.

(2) In case of the rail (L)/(R) assembly

The description below explains how to remove jammed pucks from the (L) side. Follow the same procedure to remove jammed pucks from the (R) side.

---

**WARNING**

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)
2. Remove the rail (L) assembly by reversing the installation procedure. (See steps 5-9 of “8A-2-5 Installing the Side Tower Assembly” on page 96.)
3. Remove the jammed puck.
4. To install, perform the procedure in reverse.
(3) Inside the Corner Rail (L) or (R)

The description below explains how to remove jammed pucks from the (L) side. Follow the same procedure to remove jammed pucks from the (R) side.

**WARNING**

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)
2. Open the service door L. (See “8A-5-2 Opening and Closing the Service Doors L and R” on page 107.)
3. Insert a rod (wrench, etc.) into the gap of the corner outer R (L), and remove the jammed puck.

![Diagram](image)

Corner rail cover (L)
Corner outer R (L)
Rail (L) assembly

[If the jammed puck cannot be removed by the above procedure, perform the procedure below.]

4. Remove the rail (L) assembly by reversing the installation procedure. (See steps 5 - 9 of “8A-2-5 Installing the Side Tower Assembly” on page 96.)
5. Remove the two wing bolts (M4 x 10), and remove the corner rail cover (L).
6. Open the corner outer R (L) slightly, insert a rod (wrench, etc.) into the gap, and remove the jammed puck.
7. To install, perform the procedure in reverse.
(4) Inside the L or S Bucket (Hopper Assembly)

⚠️ WARNING ⚠️

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)

2. Remove the side tower assembly. (See “8B-4-4 (1) Removing and Installing the Side Tower Assembly” on page 148.)

3. Remove any pucks from inside the L or S bucket, and then remove the jammed puck.

4. To install, perform the procedure in reverse.

(5) Inside a Hopper Disk or Hopper Bottom (Hopper Assembly)

The description below explains how to remove jammed pucks from the S hopper disk. Follow the same procedure to remove jammed pucks from the L hopper disk.

⚠️ WARNING ⚠️

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

 предостережение

Do not perform the following operations. Doing so may cause pucks to jam or other malfunctions.

- Rotating the L hopper disk in the clockwise direction as viewed from above.
- Rotating the S hopper disk in the counter-clockwise direction as viewed from above.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)

2. Remove the side tower assembly. (See “8B-4-4 (1) Removing and Installing the Side Tower Assembly” on page 148.)

3. Remove the S hopper disk. (See steps 3-10 of “8B-1-2 (4) Cleaning the Hopper Disks and Hopper Bottoms (Hopper Assembly)” on page 113.)

4. Remove the jammed puck.

5. To install, perform the procedure in reverse.
(6) In case of S Escalator Assembly

The description below explains how to remove jammed pucks from the L side. Follow the same procedure to remove jammed pucks from the R side.

**WARNING**

To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)
2. Remove the rear panel. (See “8A-5-3 Opening and Closing the Rear Panel” on page 108.)
3. Remove the four countersunk washer nuts (M4), disconnect the connector, and remove the joint rail cover L.

- Joint rail cover L
- Countersunk washer nut (M4)
- Connector

4. Remove the jammed puck.

5. To install, perform the procedure in reverse.
(7) In case of L Escalator Assembly

**WARNING**

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)
2. Remove the rear panel. (See “8A-5-3 Opening and Closing the Rear Panel” on page 108. See “8A-5-3 Opening and Closing the Rear Panel” on page 108.)
3. Disconnect the connector.
4. Remove the four countersunk washer nuts (M4), loosen the two countersunk washer nuts (M4), and remove the L rail (H) cover.
5. Remove the jammed puck.
6. To install, perform the procedure in reverse.
(8) In case of the Slider Assembly

**WARNING**

To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)
2. Remove the cover panel. (See steps 2 - 4 of “8B-1-2 (5) Cleaning the S Slider Assembly” on page 116.)
3. Remove the jammed puck.
4. To install, perform the procedure in reverse.
8B-1-4  Adding Big Pucks

**WARNING**

*To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.*

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)

2. Open the service door R. (See “8A-5-2 Opening and Closing the Service Doors L and R” on page 107.)

3. Count the number of big pucks inside the L bucket.

4. Add big pucks so that there are 20 to 30 big pucks inside the L bucket.

5. To install, perform the procedure in reverse.
### 8B-2 Error Display (for Technicians)

#### 8B-2-1 Display when an Error Occurs

When an error occurs, “Err” is displayed in the left side score LED, and the error number is displayed in the right side score LED. The same error number is displayed as a binary value in the time LED.

![Score and Time LED Diagram]

#### 8B-2-2 Resolving Errors

<table>
<thead>
<tr>
<th>Error number</th>
<th>Error name</th>
<th>Cause</th>
<th>Action</th>
<th>Reference page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Coin switch error</td>
<td>• A coin selector malfunction.</td>
<td>• Replace the coin selector.</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Main PC board malfunction.</td>
<td>• Replace the main PC board.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Service switch error</td>
<td>• Service button malfunction.</td>
<td>• Contact your distributor.</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Main PC board malfunction.</td>
<td>• Replace the main PC board.</td>
<td>Page 149</td>
</tr>
<tr>
<td>3</td>
<td>Sound IC error</td>
<td>• Main PC board malfunction.</td>
<td>• Replace the main PC board.</td>
<td>Page 149</td>
</tr>
<tr>
<td>4</td>
<td>Communication error with time LED PC board</td>
<td>• A time LED PC board malfunction.</td>
<td>• Replace the time LED PC board.</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>• Main PC board malfunction.</td>
<td>• Replace the main PC board.</td>
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</tr>
<tr>
<td>5</td>
<td>Communication error with score LED PC board</td>
<td>• A score LED PC board malfunction.</td>
<td>• Replace the score LED PC board.</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>• Main PC board malfunction.</td>
<td>• Replace the main PC board.</td>
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</tr>
</tbody>
</table>

**Notice**

Before checking for a malfunction, first make sure that all the connectors are connected securely.
<table>
<thead>
<tr>
<th>Error number</th>
<th>Error name</th>
<th>Cause</th>
<th>Action</th>
<th>Reference page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Goal (L) sensor error</td>
<td>• A puck or foreign object is jammed inside the L side goal.</td>
<td>• Remove the jammed puck or foreign object from inside the goal (L).</td>
<td>Page 118</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• A puck or foreign object is jammed inside the corner rail (L).</td>
<td>• Remove the jammed puck or foreign object from inside the goal (L).</td>
<td>Page 119</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• The goal (L) sensor is dirty.</td>
<td>• Clean the inside of the goal (L) sensor.</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>• Goal (L) sensor malfunction.</td>
<td>• Replace the goal (L) sensor.</td>
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</tr>
<tr>
<td>7</td>
<td>Goal (R) sensor error</td>
<td>• A puck or foreign object is jammed inside the R side goal.</td>
<td>• Remove the jammed puck or foreign object from inside the goal (R).</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>• A puck or foreign object is jammed inside the corner rail (R).</td>
<td>• Remove the jammed puck or foreign object from inside the goal (R).</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>• The goal (R) sensor is dirty.</td>
<td>• Clean the inside of the goal (R) sensor.</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>• Goal (R) sensor malfunction.</td>
<td>• Replace the goal (R) sensor.</td>
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</tr>
<tr>
<td>8</td>
<td>Stopper solenoid (L) error</td>
<td>• Stopper solenoid (L) malfunction.</td>
<td>• Replace the stopper solenoid (L).</td>
<td>Page 163</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Stopper (L) sensor malfunction.</td>
<td>• Replace the stopper (L) sensor.</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>• Switching regulator (24V) malfunction.</td>
<td>• Replace the switching regulator (24V).</td>
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<tr>
<td>9</td>
<td>Stopper solenoid (R) error</td>
<td>• Stopper solenoid (R) malfunction.</td>
<td>• Replace the stopper solenoid (R).</td>
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<tr>
<td></td>
<td></td>
<td>• Stopper (R) sensor malfunction.</td>
<td>• Replace the stopper (R) sensor.</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>• Switching regulator (24V) malfunction.</td>
<td>• Replace the switching regulator (24V).</td>
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<tr>
<td>10</td>
<td>L divider solenoid error</td>
<td>• L divider solenoid malfunction.</td>
<td>• Replace the L divider solenoid.</td>
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<tr>
<td></td>
<td></td>
<td>• L divider sensor malfunction.</td>
<td>• Replace the L divider sensor.</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>• Switching regulator (24V) malfunction.</td>
<td>• Replace the switching regulator (24V).</td>
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<tr>
<td>Error number</td>
<td>Error name</td>
<td>Cause</td>
<td>Action</td>
<td>Reference page</td>
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</tr>
<tr>
<td>11</td>
<td>S hopper motor error</td>
<td>• A mini puck is jammed inside the hopper.</td>
<td>• Remove the jammed puck.</td>
<td>Page 120</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• A foreign object other than a mini puck has entered the hopper.</td>
<td>• Remove the foreign object from inside the hopper.</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>• S hopper sensor malfunction.</td>
<td>• Replace the S stopper sensor.</td>
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<tr>
<td></td>
<td></td>
<td>• S hopper motor malfunction.</td>
<td>• Replace the S stopper motor.</td>
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<tr>
<td>12</td>
<td>L hopper motor error</td>
<td>• A big puck is jammed inside the hopper.</td>
<td>• Remove the jammed puck.</td>
<td>Page 120</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• A foreign object other than a big puck has entered the hopper.</td>
<td>• Remove the foreign object from inside the hopper.</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>• L hopper motor sensor malfunction.</td>
<td>• Replace the L hopper motor sensor.</td>
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<tr>
<td></td>
<td></td>
<td>• L hopper motor malfunction.</td>
<td>• Replace the L hopper motor.</td>
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<tr>
<td></td>
<td></td>
<td>• Switching regulator (24V) malfunction.</td>
<td>• Replace the switching regulator (24V).</td>
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</tr>
<tr>
<td>13</td>
<td>S hopper idling error</td>
<td>• There are no mini pucks inside the hopper.</td>
<td>• Add mini pucks to the hopper.</td>
<td>Page 105</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• A puck is standing on edge inside the hopper.</td>
<td>• Remove all of the pucks from the hopper, and then put the pucks back into the hopper correctly.</td>
<td>Page 120</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• A mini puck is jammed inside the hopper.</td>
<td>• Remove the jammed puck.</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>• S divider outlet sensor malfunction.</td>
<td>• Replace the S divider outlet sensor.</td>
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<tr>
<td>14</td>
<td>L hopper idling error</td>
<td>• There are no big pucks inside the hopper.</td>
<td>• Add big pucks to the hopper.</td>
<td>Page 105</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• A puck is standing on edge inside the hopper.</td>
<td>• Remove all of the pucks from the hopper, and then put the pucks back into the hopper correctly.</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>• A big puck is jammed inside the hopper.</td>
<td>• Remove the jammed puck.</td>
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<tr>
<td></td>
<td></td>
<td>• L divider outlet sensor malfunction.</td>
<td>• Replace the L divider outlet sensor.</td>
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<tr>
<td>Error number</td>
<td>Error name</td>
<td>Cause</td>
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</tr>
<tr>
<td>15</td>
<td>Rail (L) jamming error</td>
<td>• A puck is jammed inside the rail (L).</td>
<td>• Remove the jammed puck.</td>
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<tr>
<td>16</td>
<td>Rail (R) jamming error</td>
<td>• A puck is jammed inside the rail (R).</td>
<td>• Remove the jammed puck.</td>
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<tr>
<td>17</td>
<td>S divider (L) outlet sensor error</td>
<td>• A puck is jammed in the S divider outlet.</td>
<td>• Remove the jammed puck.</td>
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<tr>
<td>18</td>
<td>S divider (R) outlet sensor error</td>
<td>• A puck is jammed in the S divider outlet.</td>
<td>• Remove the jammed puck.</td>
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</tr>
<tr>
<td>19</td>
<td>Corner rail jamming error (L)</td>
<td>• A puck is jammed inside the corner rail.</td>
<td>• Remove the jammed puck.</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>• The rail (L) sensor is dirty.</td>
<td>• Clean the inside of the rail (L) sensor.</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>• The rail (L) sensor malfunction.</td>
<td>• Replace the rail (L) sensor.</td>
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<tr>
<td>20</td>
<td>Corner rail jamming error (R)</td>
<td>• A puck is jammed inside the corner rail.</td>
<td>• Remove the jammed puck.</td>
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<tr>
<td></td>
<td></td>
<td>• The rail (R) sensor is dirty.</td>
<td>• Clean the inside of the rail (R) sensor.</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>• The rail (R) sensor malfunction.</td>
<td>• Replace the rail (R) sensor.</td>
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<tr>
<td>21</td>
<td>S divider (L) outlet sensor skip error</td>
<td>• S divider (L) outlet sensor is dirty.</td>
<td>• Clean the S divider (L) outlet sensor.</td>
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<tr>
<td></td>
<td></td>
<td>• S divider (L) outlet sensor malfunction.</td>
<td>• Replace the S divider (L) outlet sensor.</td>
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</tr>
<tr>
<td>22</td>
<td>S divider (R) outlet sensor skip error</td>
<td>• S divider (R) outlet sensor is dirty.</td>
<td>• Clean the S divider (R) outlet sensor.</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>• S divider (R) outlet sensor malfunction.</td>
<td>• Replace the S divider (R) outlet sensor.</td>
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</tr>
<tr>
<td>23</td>
<td>S hopper motor sensor error</td>
<td>• S hopper motor sensor is dirty.</td>
<td>• Replace the S hopper motor sensor.</td>
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<tr>
<td></td>
<td></td>
<td>• S hopper motor sensor malfunction.</td>
<td>• Replace the S hopper motor sensor.</td>
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<tr>
<td>24</td>
<td>L hopper motor sensor error</td>
<td>• L hopper motor sensor is dirty.</td>
<td>• Replace the L hopper motor sensor.</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>• L hopper motor sensor malfunction.</td>
<td>• Replace the L hopper motor sensor.</td>
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</tr>
<tr>
<td>Error number</td>
<td>Error name</td>
<td>Cause</td>
<td>Action</td>
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<tr>
<td>--------------</td>
<td>---------------------</td>
<td>-----------------------------------------------------------------------</td>
<td>-------------------------------------------------------------</td>
<td>----------------</td>
</tr>
</tbody>
</table>
| 25           | Ticket dispenser (L) error | • The dispenser has run out of tickets.  
• A ticket dispenser (L) malfunction. | • Add tickets.  
• Replace the ticket dispenser (L). | —              |
| 26           | Ticket dispenser (R) error   | • The dispenser has run out of tickets.  
• A ticket dispenser (R) malfunction. | • Add tickets.  
• Replace the ticket dispenser (R). | —              |
| 99           | Start-up error       | • The power switch was turned off, and then immediately turned back on again. | • Turn off the power switch, wait for 30 seconds or more, and then turn on the power switch again. | Page 106      |
To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

If the problem is not described in “8B-3 Troubleshooting” or the problem persists despite taking the appropriate action, turn off the power switch immediately to stop operation, and contact your distributor. Continuing operations may result in an accident.

Before checking for a malfunction, first make sure that all the connectors are connected securely.

Never perform a conductivity check of the boards with a tester or any other tool. The IC may be damaged by the internal voltage of the tester.

When sending parts for repair, be sure to pack them properly. Particularly when sending the main PC board, wrap the part in sponge or air bubble wrapping before packing it in a cardboard box to make sure that the part is not exposed to external force.
### 8B-3-1 Overall

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Main cause</th>
<th>Action</th>
<th>Reference page</th>
</tr>
</thead>
<tbody>
<tr>
<td>The machine does not start even when the power switch is turned on.</td>
<td>The power cord is disconnected from the outlet or the machine, or is not connected securely.</td>
<td>• Connect the power cord correctly and securely.   • Turn on the power switch again.</td>
<td>Page 106</td>
</tr>
<tr>
<td></td>
<td>The PCB base is not installed correctly.</td>
<td>Install the PCB base correctly.</td>
<td>Page 149</td>
</tr>
<tr>
<td></td>
<td>Main PC board malfunction.</td>
<td>Replace the main PC board.</td>
<td>Page 149</td>
</tr>
<tr>
<td></td>
<td>Switching regulator malfunction.</td>
<td>Replace the switching regulator.</td>
<td>Page 151</td>
</tr>
<tr>
<td>Operation is not stable.</td>
<td>The power supply voltage is not within the range of AC 110 V to 130 V (or 210 V to 230 V).</td>
<td>Disconnect any high-capacity devices (such as an air conditioner or large machine) from the same line to secure the specified power supply voltage.</td>
<td>—</td>
</tr>
<tr>
<td>The power turns off during operation.</td>
<td>The circuit protector has operated to turn off the power switch. *The circuit protector turns off the current when an abnormal current occurs.</td>
<td>Turn on the power switch again. If the circuit protector operates frequently, there is a mechanical abnormality. Contact your distributor.</td>
<td>—</td>
</tr>
</tbody>
</table>

### 8B-3-2 Table top assembly

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Main cause</th>
<th>Action</th>
<th>Reference page</th>
</tr>
</thead>
<tbody>
<tr>
<td>The pucks do not slide.</td>
<td>The machine is in Attract (standby) mode.</td>
<td>When the game starts, the blower fan operates so that the pucks slide.</td>
<td>Page 40</td>
</tr>
<tr>
<td></td>
<td>The inside of the playing field.</td>
<td>Clean the playing field.</td>
<td>Page 70</td>
</tr>
<tr>
<td></td>
<td>A puck is deformed.</td>
<td>Replace the deformed puck with a spare puck.</td>
<td>Page 105</td>
</tr>
<tr>
<td></td>
<td>A puck is dirty.</td>
<td>Clean the puck.</td>
<td>Page 71</td>
</tr>
<tr>
<td></td>
<td>The blower fan malfunction.</td>
<td>Replace the blower fan.</td>
<td>Page 139</td>
</tr>
<tr>
<td></td>
<td>SSR malfunction.</td>
<td>Replace the SSR.</td>
<td>Page 152</td>
</tr>
</tbody>
</table>
### 8B-3-3 Goal (L) and (R) Assemblies

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Main cause</th>
<th>Action</th>
<th>Reference page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pucks jam frequently.</td>
<td>One or both of the goal coin locks are not closed.</td>
<td>Use the service key and close the goal.</td>
<td>Page 38</td>
</tr>
<tr>
<td></td>
<td>A deformed puck is being used.</td>
<td>Replace the deformed puck with a spare puck.</td>
<td>Page 105</td>
</tr>
<tr>
<td></td>
<td>A puck is dirty.</td>
<td>Clean the puck.</td>
<td>Page 71</td>
</tr>
<tr>
<td></td>
<td>A foreign object has entered the goal.</td>
<td>Remove the foreign object.</td>
<td>Page 110</td>
</tr>
<tr>
<td></td>
<td>The inside of the goal is dirty.</td>
<td>Clean the inside of the goal.</td>
<td>Page 110</td>
</tr>
<tr>
<td>Sound is not output.</td>
<td>The volume setting is low.</td>
<td>Adjust the volume.</td>
<td>Page 39</td>
</tr>
<tr>
<td></td>
<td>Main PC board malfunction.</td>
<td>Replace the main PC board.</td>
<td>Page 149</td>
</tr>
</tbody>
</table>

### 8B-3-4 Rail (L) and (R) Assemblies

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Main cause</th>
<th>Action</th>
<th>Reference page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pucks jam frequently.</td>
<td>The rail is not installed correctly.</td>
<td>Install the rail correctly.</td>
<td>Page 96</td>
</tr>
<tr>
<td></td>
<td>A deformed puck is being used.</td>
<td>Replace the deformed puck with a spare puck.</td>
<td>Page 105</td>
</tr>
<tr>
<td></td>
<td>A puck is dirty.</td>
<td>Clean the puck.</td>
<td>Page 71</td>
</tr>
<tr>
<td></td>
<td>A foreign object has entered the rail.</td>
<td>Remove the foreign object.</td>
<td>Page 111</td>
</tr>
<tr>
<td></td>
<td>The inside of the rail is dirty.</td>
<td>Clean the inside of the rail.</td>
<td>Page 111</td>
</tr>
</tbody>
</table>

### 8B-3-5 Coin Assembly

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Main cause</th>
<th>Action</th>
<th>Reference page</th>
</tr>
</thead>
<tbody>
<tr>
<td>The game does not start even when sufficient coins are inserted.</td>
<td>Coin selector malfunction.</td>
<td>Replace the coin selector.</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>Main PC board malfunction.</td>
<td>Replace the main PC board.</td>
<td>Page 149</td>
</tr>
</tbody>
</table>
## 8B-3-6 Hopper assembly

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Main cause</th>
<th>Action</th>
<th>Reference page</th>
</tr>
</thead>
<tbody>
<tr>
<td>The hopper disk does not operate.</td>
<td>A foreign object has entered the hopper.</td>
<td>Remove the side tower assembly, and remove the foreign object from inside the hopper.</td>
<td>Page 120</td>
</tr>
<tr>
<td></td>
<td>A puck is jammed inside the hopper.</td>
<td>Remove the side tower assembly, and remove all pucks from inside the hopper.</td>
<td>Page 120</td>
</tr>
<tr>
<td></td>
<td>The hopper motor bracket is not installed correctly.</td>
<td>Install the hopper motor bracket correctly.</td>
<td>Page 153</td>
</tr>
<tr>
<td></td>
<td>The hopper gear is not installed correctly.</td>
<td>Install the hopper gear correctly.</td>
<td>Page 153</td>
</tr>
<tr>
<td></td>
<td>Hopper motor malfunction.</td>
<td>Replace the hopper motor.</td>
<td>Page 153</td>
</tr>
<tr>
<td></td>
<td>Hopper motor driver PC board malfunction.</td>
<td>Replace the hopper motor driver PC board.</td>
<td>Page 161</td>
</tr>
<tr>
<td></td>
<td>Switching regulator (24V) malfunction.</td>
<td>Replace the switching regulator (24V).</td>
<td>Page 151</td>
</tr>
<tr>
<td></td>
<td>Main PC board malfunction.</td>
<td>Replace the main PC board.</td>
<td>Page 149</td>
</tr>
<tr>
<td>The hopper disk operates, but pucks do not come out.</td>
<td>There are not enough pucks.</td>
<td>Add spare pucks to the hopper.</td>
<td>Page 105</td>
</tr>
<tr>
<td></td>
<td>A puck is standing on edge inside the hopper.</td>
<td>Remove the side tower assembly, remove all pucks from inside the hopper, and then put the pucks back into the hopper correctly.</td>
<td>Page 120</td>
</tr>
<tr>
<td></td>
<td>The hopper spring is not installed correctly.</td>
<td>Install the hopper spring correctly.</td>
<td>Page 113</td>
</tr>
<tr>
<td>Mini pucks frequently mix into the L hopper.</td>
<td>The pendulum stopper on rail (L) assembly is not installed correctly.</td>
<td>Install the pendulum stopper correctly.</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>The rail (R) assembly puck paths are dirty.</td>
<td>Clean the puck paths.</td>
<td>Page 111</td>
</tr>
</tbody>
</table>
### 8B-3-7 Slider Assembly

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Main cause</th>
<th>Action</th>
<th>Reference page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini pucks are not supplied during game play.</td>
<td>Normal Hockey Mode was selected at the start of the game.</td>
<td>Select Big Bang Mode at the start of the game.</td>
<td>Page 40</td>
</tr>
<tr>
<td></td>
<td>The machine is set to operate in Normal Hockey Mode only.</td>
<td>Change the setting to “OFF”.</td>
<td>Page 67</td>
</tr>
<tr>
<td></td>
<td>There are not enough pucks.</td>
<td>Add spare pucks to the hopper.</td>
<td>Page 105</td>
</tr>
<tr>
<td></td>
<td>One or more deformed pucks is mixed into the pucks.</td>
<td>Remove any deformed pucks, and replace with spare pucks.</td>
<td>Page 105</td>
</tr>
<tr>
<td></td>
<td>The stopper base is not installed correctly.</td>
<td>Install the stopper base correctly.</td>
<td>Page 163</td>
</tr>
<tr>
<td></td>
<td>Stopper solenoid malfunction.</td>
<td>Replace the stopper solenoid.</td>
<td>Page 163</td>
</tr>
<tr>
<td></td>
<td>Main PC board malfunction.</td>
<td>Replace the main PC board.</td>
<td>Page 149</td>
</tr>
<tr>
<td></td>
<td>Switching regulator (24V) malfunction.</td>
<td>Replace the switching regulator (24V).</td>
<td>Page 151</td>
</tr>
<tr>
<td></td>
<td>The cover panel is not installed correctly.</td>
<td>Install the cover panel correctly.</td>
<td>Page 116</td>
</tr>
<tr>
<td></td>
<td>The illuminator assembly is not installed correctly.</td>
<td>Install the illuminator assembly correctly.</td>
<td>Page 174</td>
</tr>
</tbody>
</table>

### 8B-3-8 S Escalator Assembly

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Main cause</th>
<th>Action</th>
<th>Reference page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pucks remain inside the joint rail cover.</td>
<td>S divider outlet sensor malfunction.</td>
<td>Replace the S divider outlet sensor.</td>
<td>Page 168</td>
</tr>
</tbody>
</table>

### 8B-3-9 L Escalator Assembly

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Main cause</th>
<th>Action</th>
<th>Reference page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple big pucks are supplied at once.</td>
<td>The L rail (H) cover is not installed correctly.</td>
<td>Install the L rail (H) cover correctly.</td>
<td>Page 122</td>
</tr>
<tr>
<td></td>
<td>L divider outlet sensor malfunction.</td>
<td>Replace the L divider outlet sensor.</td>
<td>Page 171</td>
</tr>
<tr>
<td></td>
<td>A foreign object has entered the L escalator assembly.</td>
<td>Remove the L rail (H) cover, and remove the foreign object.</td>
<td>Page 122</td>
</tr>
<tr>
<td></td>
<td>L divider solenoid malfunction.</td>
<td>Replace the L divider solenoid.</td>
<td>Page 169</td>
</tr>
<tr>
<td></td>
<td>Switching regulator (24V) malfunction.</td>
<td>Replace the switching regulator (24V).</td>
<td>Page 151</td>
</tr>
</tbody>
</table>
### 8B-3-10 Signboard assembly

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Main cause</th>
<th>Action</th>
<th>Reference page</th>
</tr>
</thead>
<tbody>
<tr>
<td>The time LED PC board does not light.</td>
<td>A time LED PC board malfunction.</td>
<td>Replace the time LED PC board.</td>
<td>Page 172</td>
</tr>
<tr>
<td></td>
<td>Main PC board malfunction.</td>
<td>Replace the main PC board.</td>
<td>Page 149</td>
</tr>
<tr>
<td>The score LED PC board does not light.</td>
<td>A score LED PC board malfunction.</td>
<td>Replace the score LED PC board.</td>
<td>Page 173</td>
</tr>
<tr>
<td></td>
<td>Main PC board malfunction.</td>
<td>Replace the main PC board.</td>
<td>Page 149</td>
</tr>
</tbody>
</table>

### 8B-3-11 Illuminator assembly

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Main cause</th>
<th>Action</th>
<th>Reference page</th>
</tr>
</thead>
<tbody>
<tr>
<td>The circle LED does not light.</td>
<td>A circle LED malfunction.</td>
<td>Replace the circle LED.</td>
<td>Page 174</td>
</tr>
<tr>
<td></td>
<td>Main PC board malfunction.</td>
<td>Replace the main PC board.</td>
<td>Page 149</td>
</tr>
</tbody>
</table>
8B-4 Removing, Installing and Replacing Assemblies and Parts

8B-4-1 Table

(1) Removing and Installing the Goal (L) and (R) Assemblies

The description below explains how to remove and install the L side. Follow the same procedure to remove and install the R side.

**WARNING**

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

**CAUTION**

- When lifting up the goal (L) or (R) assembly, be sure to perform the work with two or more people.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)

2. Remove the two button head bolts (M6 x 40), one button head bolt (M6 x 25) and three flat washers (M6) from each corner cover.

3. Slide the corner covers toward the outside, and remove them.

**NOTICE**

- When removing and installing, be careful not to pinch the harness and connectors.

4. Open the goal (L) assembly. (See “7-5-3 Opening and Closing the Goal (L) and (R) Assemblies” on page 38.)
5 Disconnect the two connectors.

6 Remove the four flange socket bolts (M5 x 10) and two flange socket bolts (M5 x 16) from the right and left of the goal (L) assembly.

**NOTICE**
- When installing, be sure to use bolts of the specified length.

7 Close the goal (L) assembly. (See "7-5-3 Opening and Closing the Goal (L) and (R) Assemblies" on page 38.)

8 Lift the goal (L) assembly straight up with two people, and remove it.
(2) Removing and Installing the Rail (L) and (R) Assemblies

WARNING

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)
2. Remove the rail (L) and (R) assemblies by reversing the installation procedure. (See steps 5 to 14 of “8A-2-5 Installing the Side Tower Assembly” on page 96.)
(3) Replacing the Blower Fan

**WARNING**

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)
2. Open the front door. (See “8A-5-1 Opening and Closing the Front Doors” on page 107.)
3. Disconnect the connector.
4. Remove the four flange socket bolts (M5 x 30) and the four flat washers (ø24 for M5).

5. Slide the blower mounting plate toward the left side, and remove it.
6 Remove the four flange socket bolt (M5 x 16), the four Flat washer (ø24 for M5), and remove the blower fan from the blower fan mounting plate.

7 To install, perform the procedure in reverse.
8B-4-2 Goal (L) and (R) Assemblies

(1) Replacing the Illuminated Buttons and Lamps

**WARNING**

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

1. Turn off the power switch. (See "7-6-1 Turning the Power Switch On" on page 39.)
2. Remove the four button head bolts (M4 x 8), and remove the Select switch panel.
3. Disconnect the two connectors.
4 Disconnect the connector (green side).

5 Twist the illuminated button (green) (terminal side) in the clockwise direction, and remove it.

6 Remove the LED lamp from the illuminated button (green) (terminal side), and replace the malfunctioned part.

*The LED lamp has a polarity. Be careful of the direction of the LED lamp + mark when installing the LED lamp.
To install, perform the procedure in reverse.

* Follow the same procedure for replacement of the illuminated button (red).

**NOTICE**

- When installing, connect the connectors to the connectors with matching labels.
- When installing, check that the connectors are aligned properly, and insert them all the way until they are securely locked.
- When installing, be careful not to pinch the harnesses and connectors.
- After replacement, be sure to check the button operation and LED lamp lighting.

(See “7-8 Test Mode” on page 41.)
(2) Replacing the Goal (L) and (R) Sensors (Photosensor Side) and (Photo-emitter Side)

The description below explains how to replace the (L) side. Follow the same procedure for replacement of the (R) side.

**WARNING**

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)

2. Remove the goal (L) assembly. (See “8B-4-1 (1) Removing and Installing the Goal (L) and (R) Assemblies” on page 136.)

3. Disconnect the two connectors of the goal (L) sensor (photosensor side) and (photo-emitter side).

4. Remove the two countersunk washer nuts (M3), and remove the goal (L) sensor (photosensor side) and (photo-emitter side).

5. To install, perform the procedure in reverse.
8B-4-3 Rail (L) and (R) Assemblies

(1) Replacing the Rail (L) and (R) Sensors (Upper) and (Middle)

The description below explains how to replace the (L) side. Follow the same procedure for replacement of the (R) side.

⚠️ WARNING ⚠️

To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)
2. Remove the rail (L) assembly by reversing the installation procedure. (See steps 5 - 9 of “8A-2-5 Installing the Side Tower Assembly” on page 96.)
3. Disconnect the two connectors of the rail (L) sensor (upper) and (middle).
4. Remove the two countersunk washer nuts (M3), and remove the rail sensor bracket (B).

⚠️ NOTICE ⚠️

When assembling, press the rail sensor bracket (B) toward the hook side.

![Diagram of rail sensor bracket and hook](image-url)
5 Remove the two pan head screws (M3 x 6), and remove the rail (L) sensors (upper) and (middle).

**NOTICE** When assembling, press the rail (L) sensors (upper) and (middle) in the direction of the arrow in the figure below.

![Image of rail sensor components]

(Rail (L) sensor (upper)
[Reflective type photo-interrupter]

Phillips pan head screw (M3 x 6)

Rail (L) sensor (middle)
[Reflective type photo-interrupter]

(Rail sensor bracket (B)

6 To install, perform the procedure in reverse.
(2) Replacing the Rail (L) and (R) Sensors (Lower)

The description below explains how to replace the (L) side. Follow the same procedure for replacement of the (R) side.

⚠️ WARNING ⚠️

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)
2. Remove the rail (L) assembly. Reverse the installation procedure. (See steps 5 to 9 of “8A-2-5 Installing the Side Tower Assembly” on page 96.)
3. Disconnect the connector of the rail (L) sensor (lower).
4. Remove the two countersunk washer nuts (M3), and remove the rail sensor bracket (A).

**NOTICE**

- When assembling, press the rail sensor bracket (A) toward the hook side.

(Hopper side)

![Diagram of rail sensor bracket (A) and countersunk washer nut (M3)]

5. Remove the pan head screw (M3 x 6), and remove the rail (L) sensor (lower).

**NOTICE**

- When assembling, press the rail (L) sensors (lower) in the direction of the arrow in the figure below.

![Diagram of Phillips pan head screw (M3 x 6) and rail (L) sensor (lower) in case of the rail (L) assembly]

6. To install, perform the procedure in reverse.
8B-4-4 Side tower assembly

(1) Removing and Installing the Side Tower Assembly

**WARNING**

To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)

2. Remove the side tower assembly by reversing the installation procedure. (See steps 2 of “8A-2-5 Installing the Side Tower Assembly” on page 96.)

3. To install, perform the procedure in reverse.
(2) Replacing the Main PC Board

**WARNING**

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

**NOTICE**

- PC boards are sensitive to static electricity. If a person handles a PC board while charged with static electricity, the parts on the PC board may be damaged. Before handling a PC board, discharge the static electricity from your body; for example, by touching the surface of grounded metal.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)
2. Remove the two wing bolts (M5 x 16), disconnect the 15 connectors, and pull out the PCB base.
Unlock the 7 spacer locks, and replace the main PC board.

To install, perform the procedure in reverse.
(3) Replacing the Switching Regulator

**WARNING**

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

**NOTICE**

- PC boards are sensitive to static electricity. If a person handles a PC board while charged with static electricity, the parts on the PC board may be damaged. Before handling a PC board, discharge the static electricity from your body; for example, by touching the surface of grounded metal.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)
2. Pull out the PCB base. (See “8B-4-4 (2) Replacing the Main PC Board” on page 149.)
3. Disconnect the connectors (two in case of 12 V, three in case of 24 V) of the switching regulator to be replaced.

4. Unlock the four spacer locks, and replace the switching regulator.

5. To install, perform the procedure in reverse.
(4) Replacing the SSR

**WARNING**

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)
2. Pull out the PCB base. (See “8B-4-4 (2) Replacing the Main PC Board” on page 149.)
3. Disconnect the four Faston terminals.

4. Remove the two pan head screws (with spring washer) (M4 x 16), and remove the SSR.
5. To install, perform the procedure in reverse.

**NOTICE**

- The SSR has a polarity.
  - The numbers indicated in the figure are marked on the SSR, so be careful and install the SSR with the correct alignment.
- When installing, be careful not to mix up the Faston terminal colors.
8B-4-5 Hopper assembly

(1) Replacing the L Hopper Motor

**WARNING**

To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

1. Turn off the power switch. (See "7-6-1 Turning the Power Switch On" on page 39.)

2. Remove the side tower assembly by reversing the installation procedure. (See steps 2-15 of "8A-2-5 Installing the Side Tower Assembly" on page 96.)

3. Remove the wing bolt (M4 x 6), and remove the L hopper cover.

4. Remove the cord clip and disconnect the connector.
5. Loosen the four pan head screws (with flat and spring washers) (M4 x 10), and remove the L hopper motor bracket.

6. Disconnect the connector.

7. Remove the encoder bracket. (See the step 3 of “8B-4-5 (2) Replacing the L Hopper Motor Sensor” on page 156.)

8. Remove the two double points (M4 x 10), and remove the L hopper gear.
9 Remove the four Phillips pan head screws (with flat and spring washers) (M5 x 40), and replace the L hopper motor.

10 To install, perform the procedure in reverse.

- When installing, align the lower surface of the hopper gear with the tip of the motor shaft.

- When installing, install so that the double points are perpendicular to the flat surfaces of the motor shaft.

- When installing, press the hopper motor bracket toward the hopper disk so that the hopper gear and hopper disk teeth mesh properly.
(2) Replacing the L Hopper Motor Sensor

**WARNING**

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)

2. Remove the L hopper motor bracket. (See steps 2 - 6 of “8B-4-5 (1) Replacing the L Hopper Motor” on page 153.)

3. Remove the Phillips pan head screw (with flat and spring washers) (M4 x 10), and remove the encoder bracket.

4. Release the lock, and replace the L hopper motor sensor.

5. To install, perform the procedure in reverse.
(3) Replacing the S Hopper Motor

**WARNING**

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)

2. Remove the side tower assembly by reversing the installation procedure. (See steps 2-15 of “8A-2-5 Installing the Side Tower Assembly” on page 96.)

3. Remove the wing bolt (M4 x 6), slide the S hopper cover toward the outside, and remove it.

4. Remove the cord clip and disconnect the two connectors.

5. Loosen the four pan head screws (with flat and spring washers) (M4 x 10), and remove the S hopper motor bracket.
**6** Remove the encoder bracket. (See the step 3 of “8B-4-5 (4) Replacing the S Hopper Motor Sensor” on page 160.)

**7** Remove the two double points (M4 x 10), and remove the S hopper gear.

**8** Remove the four Phillips pan head screws (with flat and spring washers) (M5 x 8), and replace the S hopper motor.
9. To install, perform the procedure in reverse.

**NOTICE**

- When installing, align the bottom surface of the hopper gear with the tip of the motor shaft.

![Diagram of hopper gear bottom surface and tip of shaft]

- When installing, install so that the double points are perpendicular to the flat surfaces of the motor shaft.

![Diagram of double points and motor shaft]

- When installing, press the hopper motor bracket toward the hopper disk so that the hopper gear and hopper disk teeth mesh properly.
(4) Replacing the S Hopper Motor Sensor

**WARNING**

To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)

2. Remove the S hopper motor bracket. (See steps 2 - 5 of “8B-4-4 (3) Replacing the S Hopper Motor” on page 157.)

3. Remove the Phillips pan head screw (with flat and spring washers) (M4 x 10), and remove the encoder bracket.

4. Release the lock, and replace the S hopper motor sensor.

5. To install, perform the procedure in reverse.
(5) Replacing the S Hopper Motor Driver PC Board

**WARNING**

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

**NOTICE**

- PC boards are sensitive to static electricity. If a person handles a PC board while charged with static electricity, the parts on the PC board may be damaged. Before handling a PC board, discharge the static electricity from your body; for example, by touching the surface of grounded metal.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)

2. Remove the side tower assembly by reversing the installation procedure. (See steps 2-15 of “8A-2-5 Installing the Side Tower Assembly” on page 96.)

3. Remove the one wing bolt (M4 x 6) each, and remove the L hopper cover and the S hopper cover.

![Diagram of hopper and cover parts](image-url)
4 Disconnect the four connectors, remove the four Phillips pan head screws (with flat and spring washers) (M4 x 25), and replace the S hopper motor driver PC board.

5 To install, perform the procedure in reverse.
8B-4-6 Slider Assembly

(1) Replacing the Stopper Solenoids (L) and (R)

The description below explains how to replace the (L) side. Follow the same procedure for replacement of the (R) side.

**WARNING**

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)
2. Remove the rear panel. (See “8A-5-3 Opening and Closing the Rear Panel” on page 108.)
3. Disconnect the connector, remove the four countersunk washer nuts (M4) and two Phillips pan head screws (with flat and spring washers) (M4 x 10), loosen the two countersunk washer nuts (M4), and remove the L rail (H).
4 Disconnect the two connectors, remove the two countersunk washer nuts (M4), and remove the stopper base L.

![Diagram of stopper base L and connectors]

5 Remove the four Phillips pan head screw (with flat and spring washers) (M3 x 6), and replace the stopper solenoid.

![Diagram of stopper solenoid and screws]

6 To install, perform the procedure in reverse.
(2) Replacing the Stopper (L) and (R) Sensors

The description below explains how to replace the (L) side. Follow the same procedure for replacement of the (R) side.

**WARNING**

To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)

2. Remove the stopper base L. (See steps 2 - 4 of “8B-4-6 (1) Replacing the Stopper Solenoids (L) and (R)” on page 163.)

3. Release the lock, and replace the stopper (L) sensor.

4. To install, perform the procedure in reverse.
(3) Replacing the Stock (L) and (R) Sensors

The description below explains how to replace the (L) side. Follow the same procedure for replacement of the (R) side.

**WARNING**

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)
2. Remove the rear panel. (See “8A-5-3 Opening and Closing the Rear Panel” on page 108.)
3. Disconnect the connector, remove the countersunk washer nut (M4), and remove the slider sensor bracket.
4. Remove the Phillips pan head screw (M3 x 6), and replace the stock (L) sensor.

5. To install, perform the procedure in reverse.
8B-4-7 S escalator Assembly

(1) Replacing the S divider (L) and (R) Outlet Sensors

The description below explains how to replace the (L) side. Follow the same procedure for replacement of the (R) side.

**WARNING**

To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)
2. Remove the rear panel. (See “8A-5-3 Opening and Closing the Rear Panel” on page 108.)
3. Disconnect the connector, remove the countersunk washer nut (M4), and remove the escalator sensor bracket.

4. Remove the Phillips pan head screw (M3 x 6), and replace the S divider (L) outlet sensor.

5. To install, perform the procedure in reverse.
8B-4-8 L escalator assembly

(1) Replacing the L divider Solenoid

**WARNING**

To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)
2. Remove the rear panel. (See “8A-5-3 Opening and Closing the Rear Panel” on page 108.)
3. Disconnect the connector.

4. Remove the four Phillips pan head screws (with flat and spring washers) (M3 x 6), and replace the L divider solenoid.

5. To install, perform the procedure in reverse.
(2) Replacing the L divider Sensor

**WARNING**

To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

1. Turn off the power switch. (See "7-6-1 Turning the Power Switch On" on page 39.)

2. Remove the rear panel. (See “8A-5-3 Opening and Closing the Rear Panel” on page 108.)

3. Disconnect the connector, remove the Phillips pan head screw (with flat and spring washers) (M4 x 10), and remove the encoder bracket.

4. Release the lock, and replace the L divider sensor.

5. To install, perform the procedure in reverse.
(3) Replacing the L divider (L) and (R) Outlet Sensors

The description below explains how to replace the (L) side. Follow the same procedure for replacement of the (R) side.

⚠️ WARNING ⚠️

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)
2. Remove the rear panel. (See “8A-5-3 Opening and Closing the Rear Panel” on page 108.)
3. Disconnect the connector, remove the countersunk washer nut (M4), and remove the escalator sensor bracket.

![Diagram of the escalator sensor bracket and related parts]

4. Remove the Phillips pan head screw (M3 x 6), and replace the L divider (L) outlet sensor.

![Diagram showing the removal of the Phillips pan head screw and installation of the L divider outlet sensor]

5. To install, perform the procedure in reverse.
8B-4-9 Signboard assembly

(1) Replacing the Time LED (Time LED PC Board)

**WARNING**

To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

**NOTICE**

- PC boards are sensitive to static electricity. If a person handles a PC board while charged with static electricity, the parts on the PC board may be damaged. Before handling a PC board, discharge the static electricity from your body; for example, by touching the surface of grounded metal.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)

2. Remove the side tower assembly by reversing the installation procedure. (See steps 2 - 15 of “8A-2-5 Installing the Side Tower Assembly” on page 96.)

3. Remove the eight Torx bolts (M5 x 12), and remove the signboard.

4. Disconnect the connector, remove the five Phillips pan head screws (with flat and spring washers) (M4 x 10), and replace the time LED (time LED PC board).
5. To install, perform the procedure in reverse.

(2) Replacing the Score LED (Score LED PC Board)

**WARNING**

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

**NOTICE**

- PC boards are sensitive to static electricity. If a person handles a PC board while charged with static electricity, the parts on the PC board may be damaged. Before handling a PC board, discharge the static electricity from your body; for example, by touching the surface of grounded metal.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)

2. Remove the side tower assembly by reversing the installation procedure. (See steps of “8A-2-5 Installing the Side Tower Assembly” on page 96.)

3. Disconnect the two connectors, remove the six Phillips pan head screws (with flat and spring washers) (M4 x 10), and replace the score LED (score LED PC board).

4. To install, perform the procedure in reverse.
8B-4-10 Illuminator assembly

(1) Replacing the Circle LED

The description below explains how to replace the L side. Follow the same procedure for replacement of the R side.

**WARNING**

- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

**NOTICE**

- PC boards are sensitive to static electricity. If a person handles a PC board while charged with static electricity, the parts on the PC board may be damaged. Before handling a PC board, discharge the static electricity from your body; for example, by touching the surface of grounded metal.
- When installing, be careful not to pinch the harnesses and connectors.

1. Turn off the power switch. (See “7-6-1 Turning the Power Switch On” on page 39.)

2. Remove the side tower assembly by reversing the installation procedure. (See steps 2 - 15 of “8A-2-5 Installing the Side Tower Assembly” on page 96.)

3. Remove the rear panel. (See “8A-5-3 Opening and Closing the Rear Panel” on page 108.)
4 Disconnect the connector, and remove the Phillips pan head screw (with flat and spring washers) (M4 x 10).

5 Remove the five Torx bolts (M5 x 25), and remove the illumination place (L) and illumination base plate (L).
6. Remove the four Phillips countersunk wood screws (3.1 x 8), and remove the illumination base plate.

7. Disconnect the connector, and remove the circle LED.

8. To install, perform the procedure in reverse.
8B-4-11 Replacing the LED Fluorescent Light

1. Remove the side tower assembly. (See the side tower assembly installation procedure.)
2. Remove the light frame unit. (See the light assembly installation procedure.)
3. Remove the five Phillips truss head machine screws (M4 x 10), and remove the two light cover retainers and the light cover.

Notice: Use only the specified LED fluorescent light.

4. Replace the LED fluorescent light.
9. Disposal

![WARNING]

- When disposing of the machine, follow the applicable regulations for collection, transportation and disposal.
- When delegating the collection, transportation and disposal of the machine, be sure to delegate to specialists in each field.
10. Parts List

10-1 Overall

- Side tower assembly
- Z (Back)

Opposite side: 12

Back side: 22, 23, 24

Back side: 25, 26

Z (Back)
### Parts List

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Qty.</th>
<th>Type and rating</th>
<th>Part No.</th>
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<td>Side tower bracket (R)</td>
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<td>3</td>
<td>Mallet</td>
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<td>731-322</td>
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*Condition with the side tower assembly removed*
10-2 Table top assembly
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10-3 Cabinet (L) assembly
## 10. Parts List

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10-4 Goal (L) assembly
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10-6 Coin assembly

1. Rail (L) Assembly
2. Coin Assembly

A - A
B - B
C - C

10. Parts List

Test Mode
Troubleshooting
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10-7 Cabinet (R) assembly

(Detailed view of part 6)

Corner rail part (5, 6)
10. Parts List

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10-8 Goal (R) assembly

(Condition with 11 removed)
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### 10-9 Rail (R) assembly

**Condition with ① and ⑨ removed (Z direction)**

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10-10 Side tower assembly

[Diagram of the side tower assembly with labeled parts]

Parts List

Test Mode

Troubleshooting
Condition with ② and ③ removed

Detailed view of ②

Main PC board

Detailed view of ④

Cross-sectional diagram B – B

① lower front side during transport

① lower back side during transport
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10. Parts List

10-11 Hopper assembly

Cross-sectional diagram A-A

Cross-sectional diagram B-B
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10-12 Slider assembly
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10-13 S escalator assembly

Cross-sectional diagram A-A

Detailed view of 3

Detailed view of 1
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10-14 L escalator assembly
10. Parts List

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Detailed view of Fig. 3
10-15 Signboard assembly

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10-16 Cord box assembly

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10-17 Illuminator assembly

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10. Parts List

10-18 Light Assembly

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