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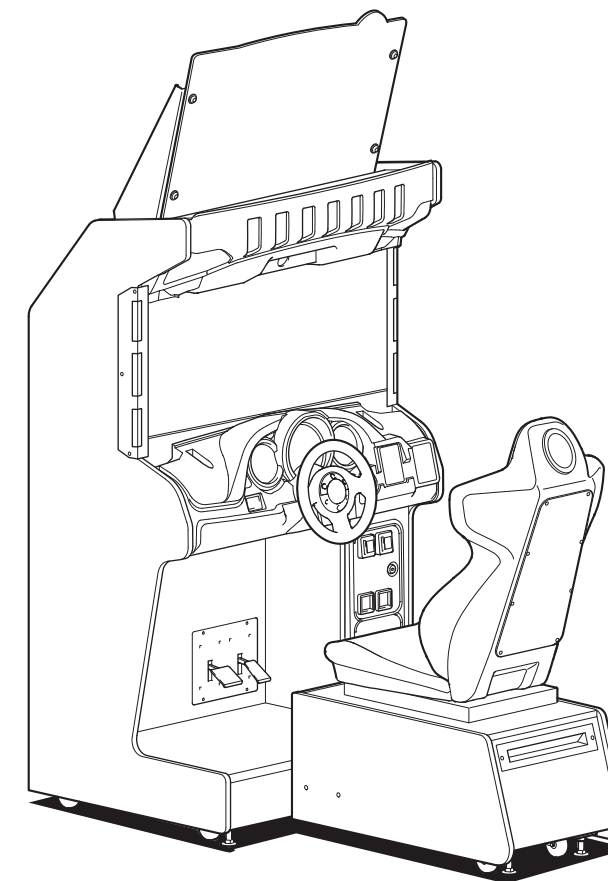
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Amusement



MARIOKART ARCADE GP DX Operation Manual

MARIOKART ARCADE GP DX Operation Manual

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First Edition Published in December 2013
Part No: M34576367-00

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

**AS OF 12/2016 ALL VERSIONS OF MARIO KART ARCADE GP DX ARE NOW
OFFLINE VERSIONS, PLEASE DISREGARD ANY REFERENCE TO ONLINE
VERSIONS WITHIN THIS MANUAL**

⚠ WARNING

- 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.

The specifications of the machine and the contents of this operation manual are subject to change without prior notice due to product improvements.

NAMCO BANDAI Amusement America Inc.

NAMCO BANDAI Amusement America Inc.

Introduction

Thank you very much for purchasing MARIOKART ARCADE GP DX (referred to as the “machine” in this manual).

This Operation Manual describes:

- How to safely install, operate, move, transport, maintain 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 Machine and Machine Repair Inquiries

- For inquiries regarding the machine or machine repairs, contact your distributor.

The copyrights, trademarks and other rights used by the machine are noted at the end of this Operation Manual.

1. Safety Precautions – Be sure to read to ensure safe operation –


Instructions to the Owner

If you delegate the work for installing, operating, moving, transporting, maintaining 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.



: 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 must be performed by technicians only.

Technician: A person involved in the design, manufacture, inspection, maintenance or service at an amusement device manufacturer, or a person involved routinely in the maintenance or management (such as repair) of amusement devices and has specialist knowledge of electricity, electronics or mechanical engineering equivalent to or higher than a technical high school graduate.

1-3 Critical Safety Precautions

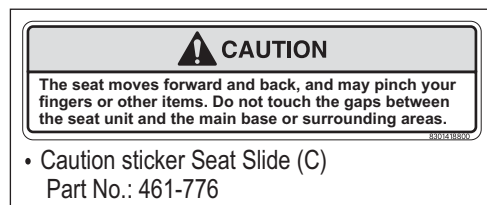
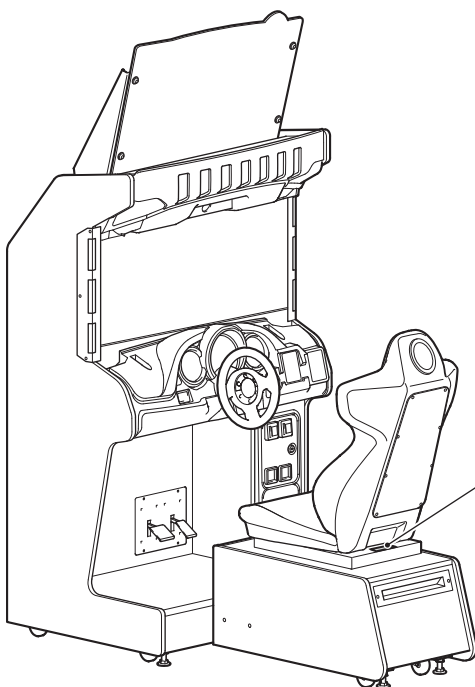
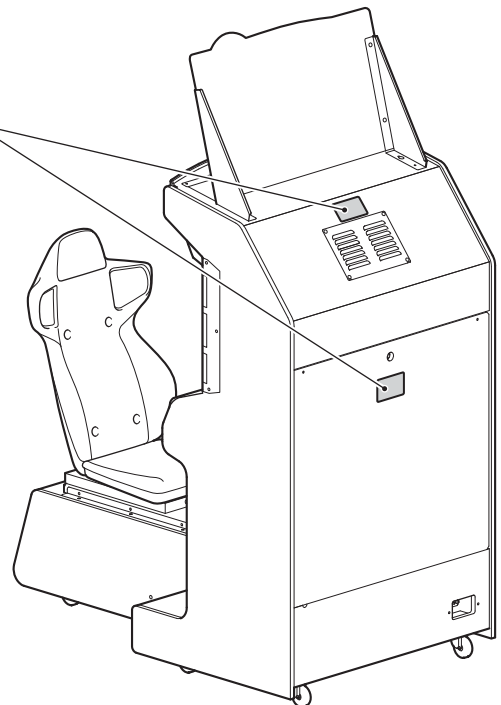
WARNING

- 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.
- Sections of the LCD monitor remain at a high temperature and high voltage even after the power switch is turned off.
To avoid electric shock or burns, be careful not to accidentally touch these sections.
- Dust accumulating on the power cord plug may cause 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 cause 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 bundle the power cord.
 - Do not pull the power cord. (Always unplug by holding the plug and not 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 AC 230 V), 3.2 A. To prevent fire and electric shock, use interior wiring that conforms to these power supply specifications.
- Use a power supply voltage range of AC 110 V to 130 V (or AC 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 AC 230 V) as much as possible.
- To ensure safe use of the machine, be sure to perform the pre-operation inspection (see “7-2 Pre-operation Inspection” on page 20) and service (see “8B. Service” on page 59) described in this Operation Manual. Omitting these inspections or service may result in an accident.
- Use the consumables and service parts (including screws) that are specified by our company. 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 the ownership of this machine, be sure to provide this Operation Manual with the machine.

1-4 Machine Warning Labels

⚠ WARNING

- The warning labels 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 game 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.



1
2
3
4
5
6
7
8A
8B
9
10
11

Table of Contents

Introduction

1. Safety Precautions – Be sure to read to ensure safe operation –	1
1-1 Levels of Risk	1
1-2 Definition of “Technician”	1
1-3 Critical Safety Precautions	2
1-4 Machine Warning Labels	3
Table of Contents	4
2. Specifications	8
3. Package Contents	10
4. Overall Structure (Part Names)	12
5. Delivery and Installation Conditions	13
5-1 Installation Conditions	13
5-1-1 Installation Locations to Avoid	13
5-1-2 Play Zone for the Installed Machine	14
5-2 Required Dimensions for the Delivery Route (Such as Doors and Corridors)	15
6. Moving and Transporting	16
6-1 Moving (On the Same Floor)	16
6-2 Transporting	17
6-2-1 Transporting Manually (Such as Carrying on Stairs)	17
6-2-2 Transporting on a Vehicle	18
7. Operation	19
7-1 Safety Precautions for Playing	19
7-2 Pre-operation Inspection	20
7-2-1 Safety Inspection (Before Power On)	20
7-2-2 Function Inspection (After Power On)	21
7-3 Playing the Game	22
7-4 Explanation of the Power Switch and Adjustment Switches	24
7-4-1 Power Switch Position and Turning the Power Switch On	24
7-4-2 Adjustment Switches	25
7-5 Flow during Game Startup	26
7-5-1 Self-test	26
7-5-2 Network Status Indication in the Title Screen	27
7-5-3 Software Update	28
7-5-4 Reload NBLINE POINTS Notification Screen	30
7-6 Test Mode	31
7-6-1 MENU Screen	31
7-6-2 Game Cost and Free Play Settings (COIN OPTIONS)	33
7-6-3 Game Contents Settings (GAME OPTIONS)	34

7-6-4 Input/Output Test of Switches (I/O TEST)	36
(a) SWITCH TEST	37
(b) LAMP TEST	39
(c) NAMCAM (CAMERA) TEST	40
7-6-5 Screen Adjustment (MONITOR TEST)	41
7-6-6 Volume Adjustment (SOUND TEST)	42
7-6-7 NETWORK TEST	44
(a) NETWORK STATUS	45
(b) LOCAL NETWORK CHECK	46
(c) ONLINE NETWORK CHECK	47
(d) UPDATE CHECK	48
7-6-8 Displaying Game Data (BOOKKEEPING)	49
7-6-9 OTHER OPTIONS	50
(a) REFORMAT OPTIONS	51
7-6-10 RELOAD NBLINE POINTS	52
7-6-11 Adjustments after Parts Replacement (GO TO I/F INITIALIZE)	53
7-7 Daily Cleaning	54
8. Technician's Manual — Must be performed by a technician —	55
8A. Installation and Assembly	55
8A-1. Assembly	55
8A-1-1 Installing the Signboard Assembly	55
8A-1-2 Connecting the Front Assembly to the Seat Assembly and Level Adjuster Adjustment	57
8A-1-3 Inserting the USB Dongle	59
8A-2. Connecting the Communication Cables	61
8A-2-1 Connection Diagrams	62
(1) Example of connection	62
8A-2-2 Connection Method	63
8A-2-3 Connecting the Power Cord and Ground	66
8A-2-4 Power Switch Position and Turning the Power Switch On	67
8A-3. Setting the PCB ID	68
8B. Service	69
8B-1 Inspections and Service	69
8B-1-1 Inspection Items	69
(1) Level Adjuster Inspection	69
(2) Power Cord Plug Inspection	69
(3) Screw Looseness Inspection	69
8B-2 Troubleshooting	70
8B-2-1 General	70
8B-2-2 Front Assembly	71
8B-2-3 Steering Assembly	71
8B-2-4 Pedal Assembly	72
8B-2-5 Seat Assembly	72

1
2
3
4
5
6
7
8A
8B
9
10
11

Table of Contents

Test Mode
Troubleshooting

8B-3 Error Displays	73
(1) Network Errors	73
(2) Steering Assembly Errors	74
(3) Other Hardware Errors.....	75
8B-4 Removing and Installing Assemblies and Parts.....	76
8B-4-1 Front Assembly	76
(1) Replacing the Rainbow PC Board (top cover)	76
(2) Removing and Installing the Control Cover	77
(3) Replacing the Item Button, Mario Button and Lamps	78
(4) Replacing the LCD Monitor.....	79
(5) Replacing the Steering Assembly	83
(6) Replacing the Rainbow PC Board (monitor side)	85
(7) Replacing the Camera	86
(8) Replacing the LED Bar (L).....	87
8B-4-2 Front Assembly Rear Side	88
(1) Replacing the Game PC Board.....	88
(2) Replacing the STR4 (M) PC Board.....	91
(3) Replacing the NA-JV (M) PC Board.....	92
(4) Replacing the Amp PC Board	93
(5) Replacing the Switching Regulator (12 V)	94
(6) Replacing the Fuse.....	95
8B-4-3 Pedal Assembly	96
(1) Removing and Installing the Pedal Assembly	96
8B-4-4 Seat Assembly	97
(1) Replacing the Slide Unit.....	97
(2) Replacing the LED Bar (S).....	98
(3) Replacing the Rainbow PC Board (seat)	101
9. Disposal.....	103
10. Parts List.....	104
10-1 Front Assembly 1/2	104
10-1 Front Assembly 2/2	106
10-2 Cord Box Assembly.....	108
10-3 Signboard Assembly	109
10-4 Seat Assembly	110
10-5 Pedal Assembly	112
10-6 Steering Assembly	113
11. Wiring Diagram	114

MEMO

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8A
- 8B
- 9
- 10
- 11

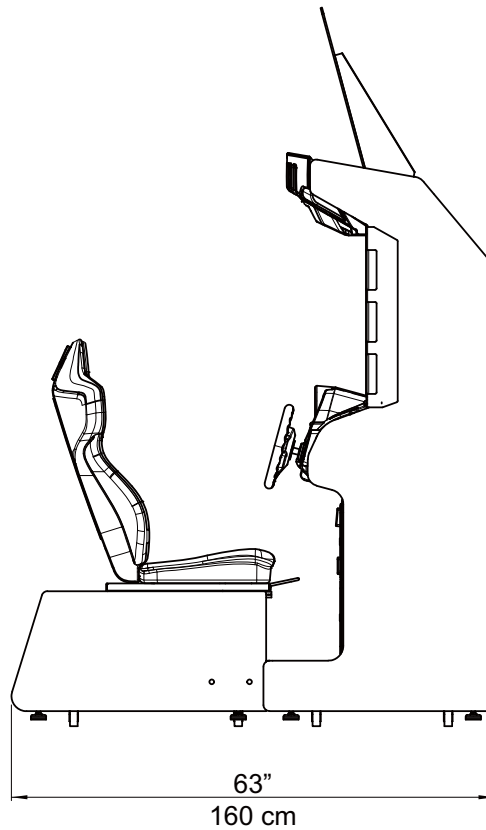
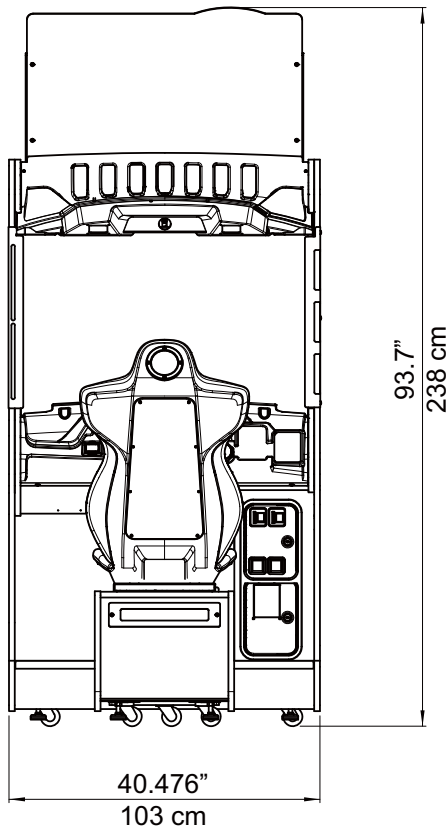
Table of Contents

Test Mode

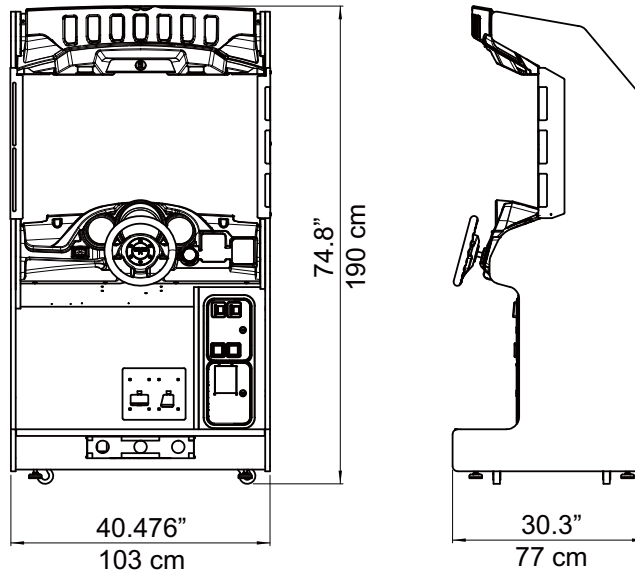
Troubleshooting

2. Specifications

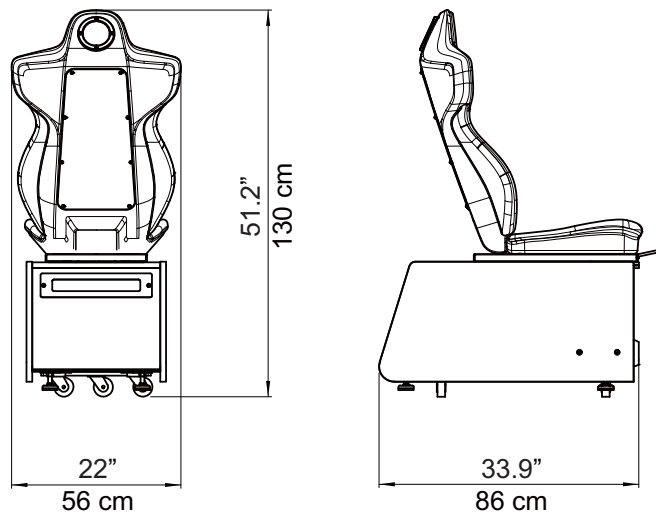
(1) Rated power supply AC	120 ± 10 V (50/60 Hz)/230 V ± 10 V (50/60 Hz)
(2) Rated power consumption	570 W
(3) Maximum consumption current	4.75 A/2.4 A
(4) Monitor	LCD monitor (42-inch)
(5) Dimensions when installed	Width (W) 40.476" × depth (D) 63" × height (H) 93.7"
	103 cm 160 cm 238 cm



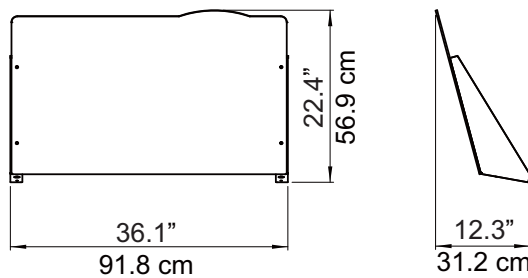
Front assembly Width (W) 40.476" × depth (D) 30.3" × height (H) 74.8"
 103 cm 77 cm 190 cm



Seat assembly Width (W) 22" × depth (D) 33.9" × height (H) 51.2"
 56 cm 86 cm 130 cm



Signboard assembly Width (W) 36.1" × depth (D) 12.3" × height (H) 22.4"
 91.8 cm 31.2 cm 56.9 cm



(6) Weight

- ① When installed Approx. 506 lb 230 kg.
- ② When disassembled
 - Front assembly Approx. 402.6 lb 183 kg.
 - Seat assembly Approx. 96.8 lb 44 kg.
 - Signboard assembly Approx. 6.6 lb 3 kg.

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 8A
 8B
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 11

Specifications

Test Mode





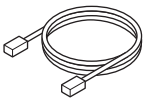
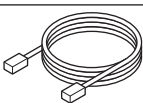
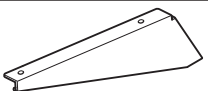
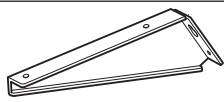
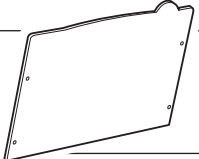

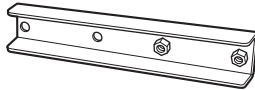





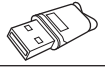

Troubleshooting

3. Package Contents



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

● Supplied Item List

No.	Name	Specification	Qty.
1	Operation Manual	(this manual) 	1
2	Service key (FRONT)		2
3	Service key (BACK)		2
4	Cashbox key		2
5	Communication cable	1 m 	1*2
6	Communication cable	5 m 	1
7	POP bracket (L)		1
8	POP bracket (R)		1
9	Title panel		1
10	Torx bolt	M5 x 16 	8
11	Connection bracket		2
12	Button head bolt (black)	M8 x 30 	8
13	Flat washer	ø9 x 30 x 2.3 	4
14	Contents router*1		1*2
15	Torx wrench	M5-T25 	1
16	Torx wrench	M8-T40 	1
17	USB dongle		1
18	Power cord		1

*1 Keep any unused contents routers in a safe place to avoid losing them.

*2 The quantity noted in the table above is the quantity per 2 ~ 4 machines.

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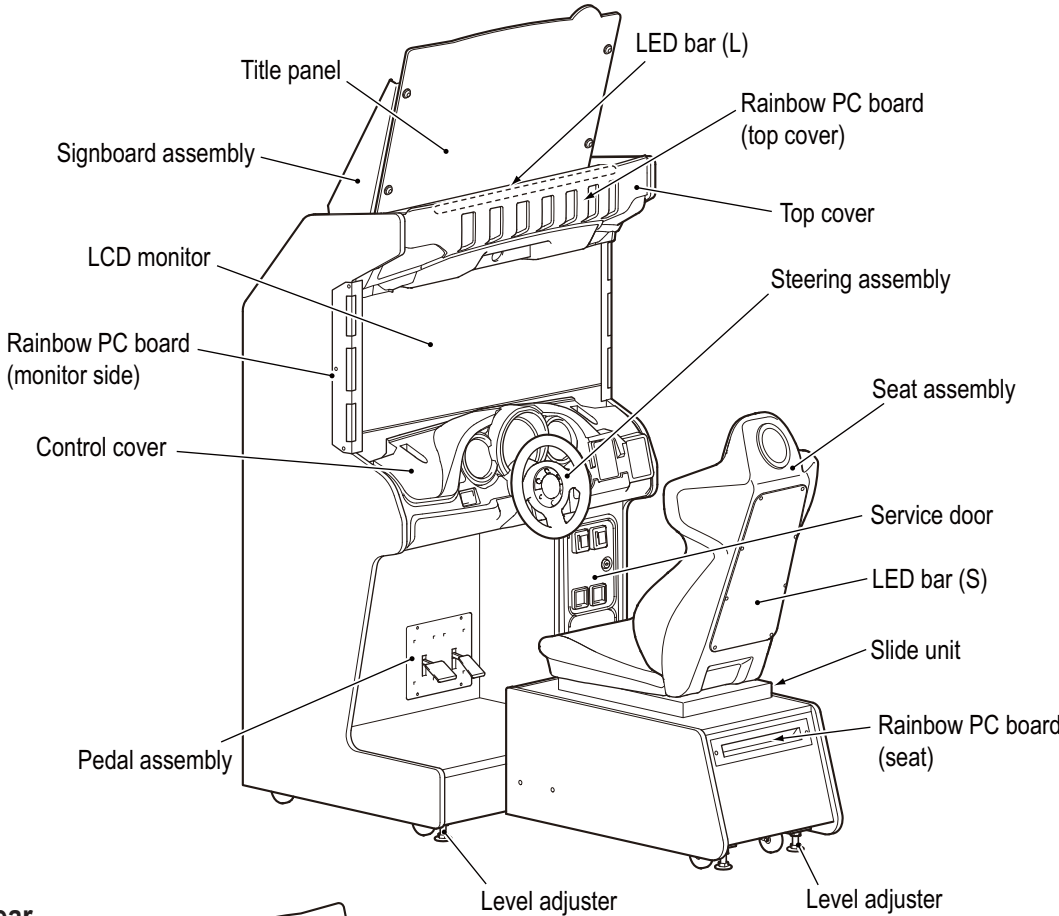
Package Contents

Test Mode

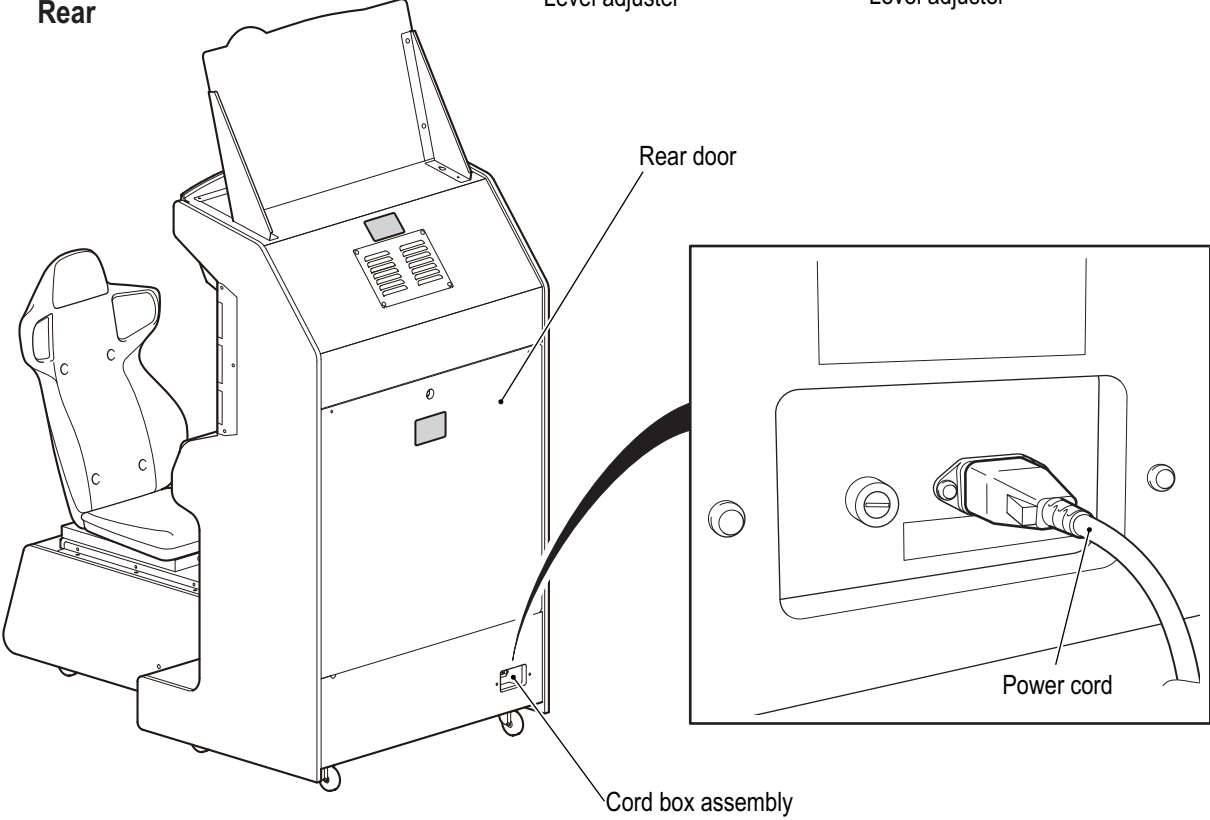
Troubleshooting

4. Overall Structure (Part Names)

Front



Rear



5. Delivery and Installation Conditions

WARNING

- Install the machine according to the instructions in this Operation Manual. If you do not follow these instructions, it may result in a fire, electric shock, injury or malfunction.
- Fully insert the power cord plug into the outlet. Poor contact may generate heat and cause 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-2-3 Connecting the Power Cord and Ground” on page 66.)
- Install the machine securely by using the level adjusters. Unstable machine installation may result in an accident or injury. (See “8A-1-2 Connecting the Front Assembly to the Seat Assembly and Level Adjuster Adjustment” on page 57.)

5-1 Installation Conditions

5-1-1 Installation Locations to Avoid

WARNING

- The machine is designed for indoor use. Never install the machine outside or 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

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Delivery and Installation Conditions

Test Mode

Troubleshooting

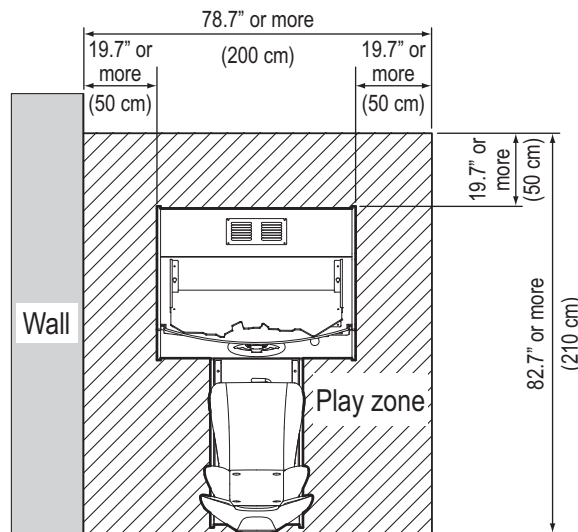
5-1-2 Play Zone for the Installed Machine

⚠ CAUTION

- Create a play zone around the machine so that the player does not make contact with bystanders or passersby.

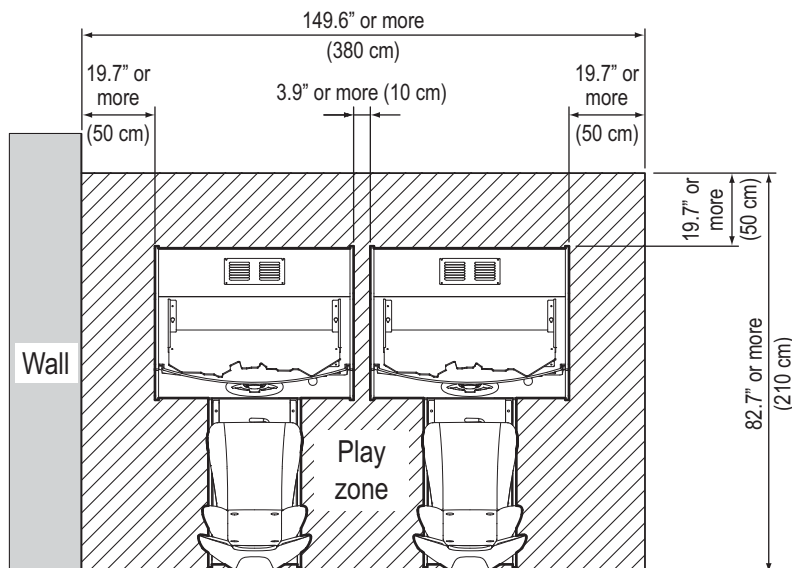
NOTICE

- Keep 19.7" (50 cm) or more between the rear of the machine and the wall or other machines to enable the rear door to be removed for service.
- The room height must be 94.5" (240 cm) or more from the floor to the ceiling.



- When installing two or more machines, keep a gap of 3.9" (10 cm) or more between the machines.

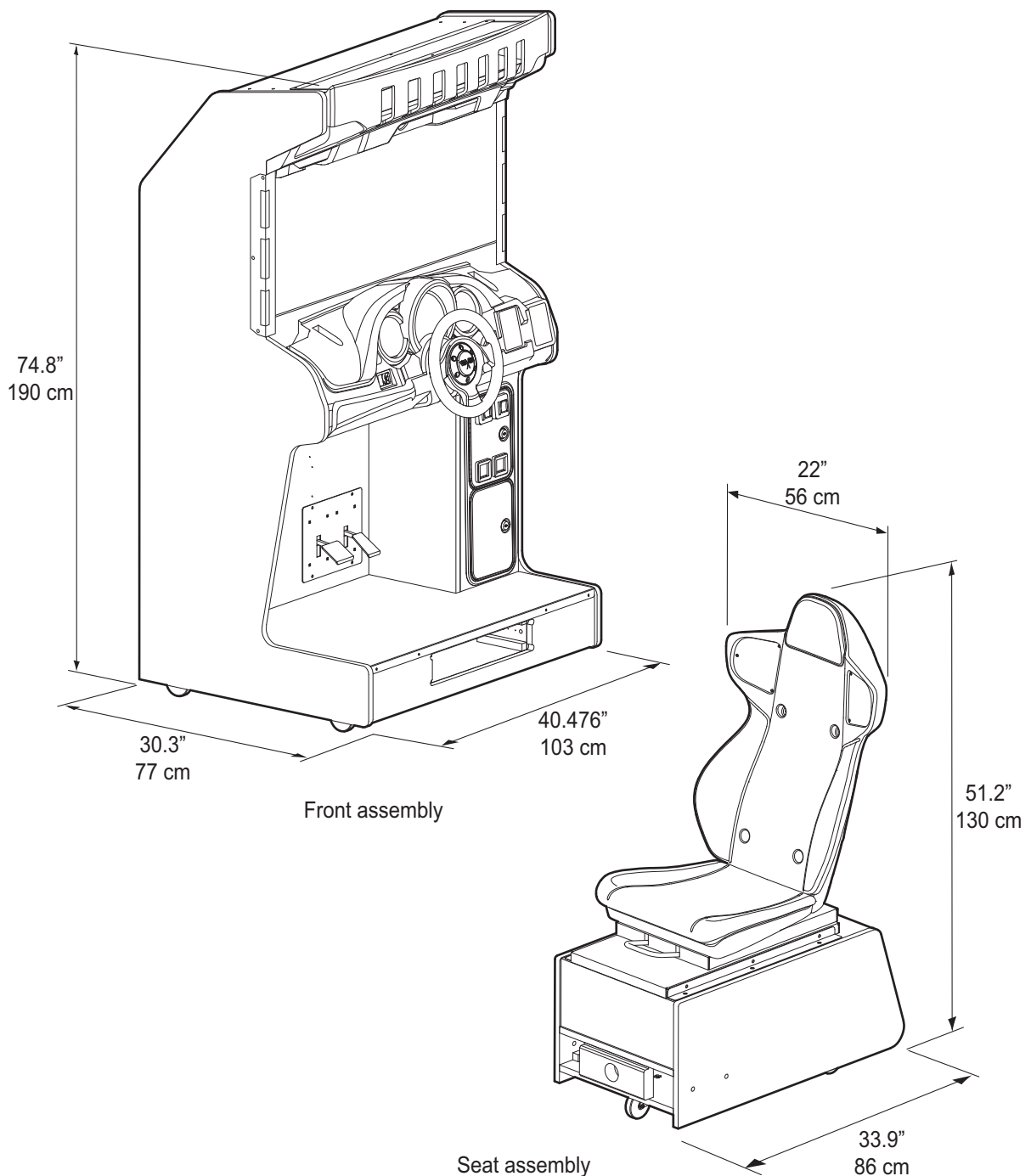
Example: Installing two machines



5-2 Required Dimensions for the Delivery Route (Such as Doors and Corridors)

The machine is disassembled at the time of shipment. The sizes of the main parts are as follows.

- Front assembly Width (W) 40.476" (103 cm.) (x depth (D) 30.3" (77cm.) x height (H) 74.8" (190 cm.) Weight 402.6 lb 183 Kg.
- Seat assembly Width (W) 22"(56 cm.) x depth (D) 33.9"(86 cm.) x height (H) 51.2"(130cm) Weight 96.8 lb 44 kg



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Delivery and Installation Conditions

Test Mode

Troubleshooting

6. Moving and Transporting

WARNING

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

6-1 Moving (On the Same Floor)

WARNING

- When moving the machine on the same floor, first separate the front assembly from the seat assembly.
Failure to do this may result in floor damage, or the machine may block your view and result in a collision or other accident.
(See “8A-1 Assembly” on page 55.)
- (See **6** in “8A-1-2 Connecting the Front Assembly to the Seat Assembly and Level Adjuster Adjustment” on page 57.)



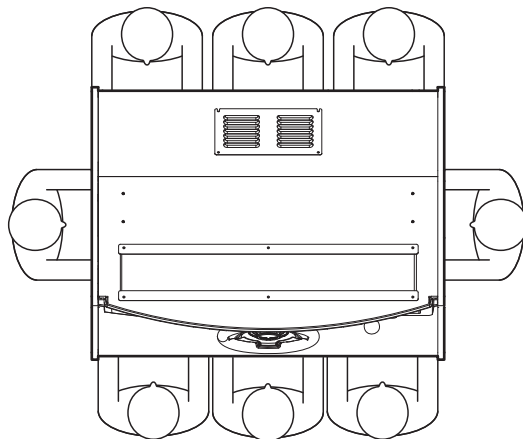
- Move the machine carefully to avoid damaging it.
- The plastic areas are weak. Do not exert strong amounts of force on them.
- Even when moving the machine only a short distance, be sure to raise the level adjusters to their highest level.
(See “8A-1-2 Connecting the Front Assembly to the Seat Assembly and Level Adjuster Adjustment” on page 57.)
- Be sure to turn the power off before performing these operations.
- Handle the power cord carefully. (See “8A-2-3 Connecting the Power Cord and Ground” on page 66.)

6-2 Transporting

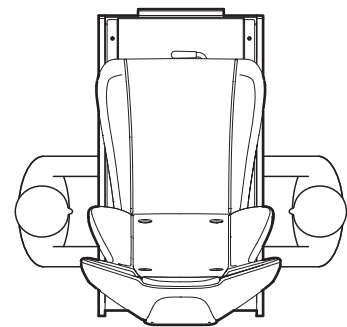
6-2-1 Transporting Manually (Such as Carrying on Stairs)

WARNING

- Before transporting the machine manually, be sure to separate the front assembly, seat assembly and signboard assembly, and raise all the level adjusters to their highest level. (See “8A-1 Assembly” on page 55.) Transporting the machine (such as carrying it on stairs) while it is fully assembled may result in an accident.
- When transporting the machine manually, be sure to use the following number of people. Overburdening yourself may result in an accident or injury.
 - Front assembly (approx. 402.6 lb 183 kg): 8 people or more
 - Seat assembly (approx. 96.8 lb 44 kg): 2 people or more



Front assembly



Seat assembly



- Do not subject the machine to impact while lowering it.

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Moving and Transporting

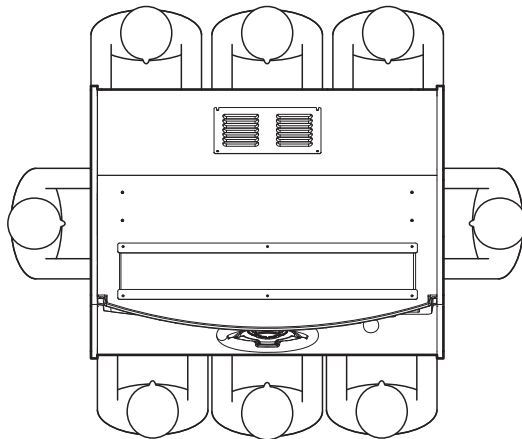
Test Mode

Troubleshooting

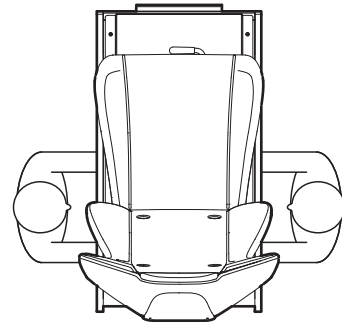
6-2-2 Transporting on a Vehicle

WARNING

- Before transporting the machine on a vehicle, be sure to separate the front assembly, seat assembly and signboard assembly, and raise all the level adjusters to their highest level.
Transporting the machine while it is fully assembled may result in an accident.
- When using a fork lift to transport the machine, observe the following. Failure to observe the following instruction may result in an accident, such as the machine falling over.
 - Make sure that the machine is balanced properly during transportation.
- When transporting the machine manually, be sure to use the following number of people. Overburdening yourself may result in an accident or injury.
 - Front assembly (approx. 402.6 lb 183 kg) : 8 people or more
 - Seat assembly (approx. 96.8 lb 44 kg) : 2 people or more



Front assembly



Seat assembly



- Do not subject the machine to impact while lowering it.

7. Operation

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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 cause 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 cause a fire or burns.
- Before operating the machine, be sure to check that installation has been performed according to the instructions and specified procedures (5. Delivery and Installation Conditions, page 13) in this Operation Manual. Failure to install the machine correctly may result in a fire, electric shock, injury or malfunction.
- The warning labels 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 game 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 “7-2 Pre-operation Inspection” on page 20) and service (see “8B. Service” on page 69) described in this Operation Manual. Omitting these inspections or service may result in an accident.

7-1 Safety Precautions for Playing

CAUTION

- If players start feeling ill because of the game images or light stimulation, they must stop playing immediately.
- In rare cases, stimulation by lights or video images may cause the player to have a seizure or lose consciousness. If this happens, advise the player to consult a doctor as soon as possible. When pre-school children play, instruct their parents or guardians to observe them.

Test Mode

Troubleshooting

7-2 Pre-operation Inspection

Check the items below before starting machine operations.

If there is an abnormality, resolve it by referring to “8B-2 Troubleshooting” on page 70.

7-2-1 Safety Inspection (Before Power On)

WARNING

- Before operating the machine, perform “7-2-1 Safety Inspection (Before Power On)” on page 20.
This is required to prevent accidents or injuries.
- Before operating the machine, check “5-1-1 Installation Locations to Avoid” on page 13. This is required to prevent accidents or injuries.
- Operating the machine while parts are broken, damaged or deteriorated, or while the installation is defective, may result in an injury to the player or a bystander. If you discover an abnormality, replace the affected part immediately. To order parts, contact your distributor.

- (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-1-2 Connecting the Front Assembly to the Seat Assembly and Level Adjuster Adjustment” on page 57.)
- (4) Is the specified play zone provided? (See “5-1-2 Play Zone for the Installed Machine” on page 14.)
- (5) Are the power cord and communication cables laid out safely so they will not cause players or other customers to trip over them?
- (6) Is the power cord securely connected to the outlet and the cord box assembly on the bottom of the machine rear? (See “8A-2-3 Connecting the Power Cord and Ground” on page 66.)
- (7) Is the power cord plug free from dust? (See “8A-2-3 Connecting the Power Cord and Ground” on page 66.)
- (8) Are molded parts such as the seat assembly free from damage?

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.

- (9) Is any part of the power cord or plug abnormally hot?
- (10) Does touching the machine give a tingling electric shock?
- (11) Is there a burning smell, abnormal noise or vibration?
- (12) Is there any other abnormality, damage or malfunction?

7-2-2 Function Inspection (After Power On)

Check the following items in Test mode. (See “7-4-2 Adjustment Switches” on page 25.)

- (1) Check the lamps. (Do the fluorescent lamp and Mario button light up?)
(See “7-6-4 (b) LAMP TEST” on page 39.)
- (2) Check the Mario button operation.
(See “7-6-4 (a) SWITCH TEST” on page 37.)
- (3) Check the steering operation.
(See “7-6-4 (a) SWITCH TEST” on page 37.)
- (4) Check the pedal operation.
(See “7-6-4 (a) SWITCH TEST” on page 37.)
- (5) Check the displayed images. (Does the monitor operate properly?)
(See “7-6-5 Screen Adjustment (MONITOR TEST)” on page 41.)
- (6) Check the audio. (Is sound produced by each speaker?)
(See “7-6-6 Volume Adjustment (SOUND TEST)” on page 42.)

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Operation

Test Mode

Troubleshooting

7-3 Playing the Game

CAUTION

- If you discover anyone behaving as follows, tell them to stop immediately. Such behavior may cause an accident.
 - Two people sitting on the machine at the same time.
 - A person other than the player touching the control parts (steering wheel).
- If players start feeling ill because the game images or light stimulation, they must stop playing immediately.
- In rare cases, stimulation by lights or video images may cause the player to have a seizure or lose consciousness. If this happens, advise the player to consult a doctor as soon as possible. When pre-school children play, instruct their parents or guardians to observe them.

■ Game Overview

- This action racing game allows communication-linked VS Race game play by up to four players. Players operate karts driven by game characters and participate in races. During a race players can use items to obstruct rival karts or power-up their own kart in order to gain advantages with the goal of ultimately winning the race.
- Three game modes are available to support game play by various numbers of players. These are the single-player GRAND PRIX mode, the Two Player CO-OP mode, and a VERSUS mode for two to four players (in case of two players this becomes Two Player VERSUS mode).

■ Flow when starting the game

- When a player inserts the required number of coins, the player's entry in a VS Race is registered.
At this time the displays of other communication-linked cabinets change to the VS Race entry screen and the game waits for other players to join. If other players insert the required number of coins within the time limit, a VS Race game is established. The game starts when VS Race entry is registered at all communication-linked cabinets or when the entry time limit counts down to "0". (When there are no VS Race challengers, a single-player game starts.)
- After that the players select their characters, shoot facial photos, and make other selections, and then operation shifts to the respective game mode according to the number of players.

■ GRAND PRIX Mode (single-player game)

- In this mode the player competes in various Cup races consisting of distinctive courses such as the TOAD CUP or the MARIO CUP.
- All race opponents are played by the CPU (computer).
- Each Cup race consists of four rounds. Rounds 1 and 3 and Rounds 2 and 4 use the same courses, but the difficulty level differs.
- One game play consists of a single round.

■ Two Player CO-OP mode (two-player game)

- Two Player CO-OP mode can be selected when two players register to enter a game. Unlike a normal race, in this mode the two players form a team and compete against teams played by the CPU. The race results convert each player's ranking into a point score, and the total points of the two players in each team are compared to determine the team rankings.
- In Two Player CO-OP mode, players can use a special item called a Fusion Kart. When either player uses this item, the team member in the rear is instantly transported to the position of the team member in front, and the players' karts fuse together to form a single large kart.
In addition, in the Fusion Kart state, the player that used the item becomes the gunner and the other player becomes the driver.
The gunner rotates the turret by operating the steering wheel, and can fire projectiles to attack rival karts by pressing the Item button.
The driver performs the same operations as normal to drive the kart.
In addition, in the Fusion Kart state the players' kart becomes invincible and opponents' attacks have no effect. The Fusion effect ends after a certain time, and the Fusion Kart splits into two karts at that point. (* Fusion Kart is not available to CPU teams.)
- When the two players of the player team drive within a certain closeness to each other, a Friendship shield is generated.
This shield lets players defend against attacks from CPU teams. (* The Friendship shield effect is not available to CPU teams.)

■ VERSUS mode (2-player to 4-player game * In case of two players this is displayed as Two Player VERSUS mode.)

- This mode allows players within the same venue to race against each other.
- The course selection is decided by a majority vote. If two courses receive the same number of votes, the easier course is selected.

■ Auto-Accel function

- To enable children who are too small to reach the accelerator pedal to play the game, all modes feature an Auto-Accel function that automatically starts running the kart when the accelerator pedal is not pressed for one second or more.
The screen displays the message "Auto-Accel is on!" during auto acceleration.
If the accelerator pedal or the brake pedal is pressed, the Auto-Accel function is canceled.

■ Easy facial photos

- This product has a function that uses software to automatically recognize the position of the player's face and align the frame with that position when taking the facial photo displayed during the race.
This lets players take photos without having to adjust their face position.

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Operation

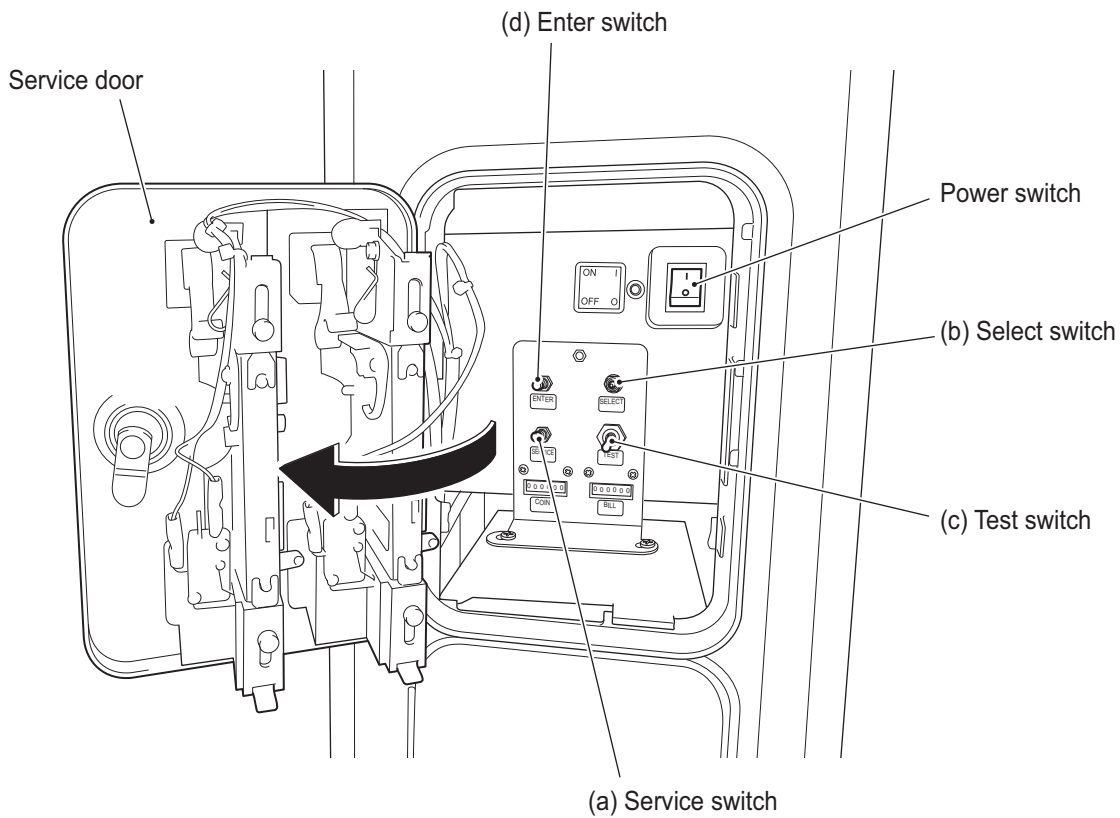
Test Mode

Troubleshooting

7-4 Explanation of the Power Switch and Adjustment Switches

7-4-1 Power Switch Position and Turning the Power Switch On

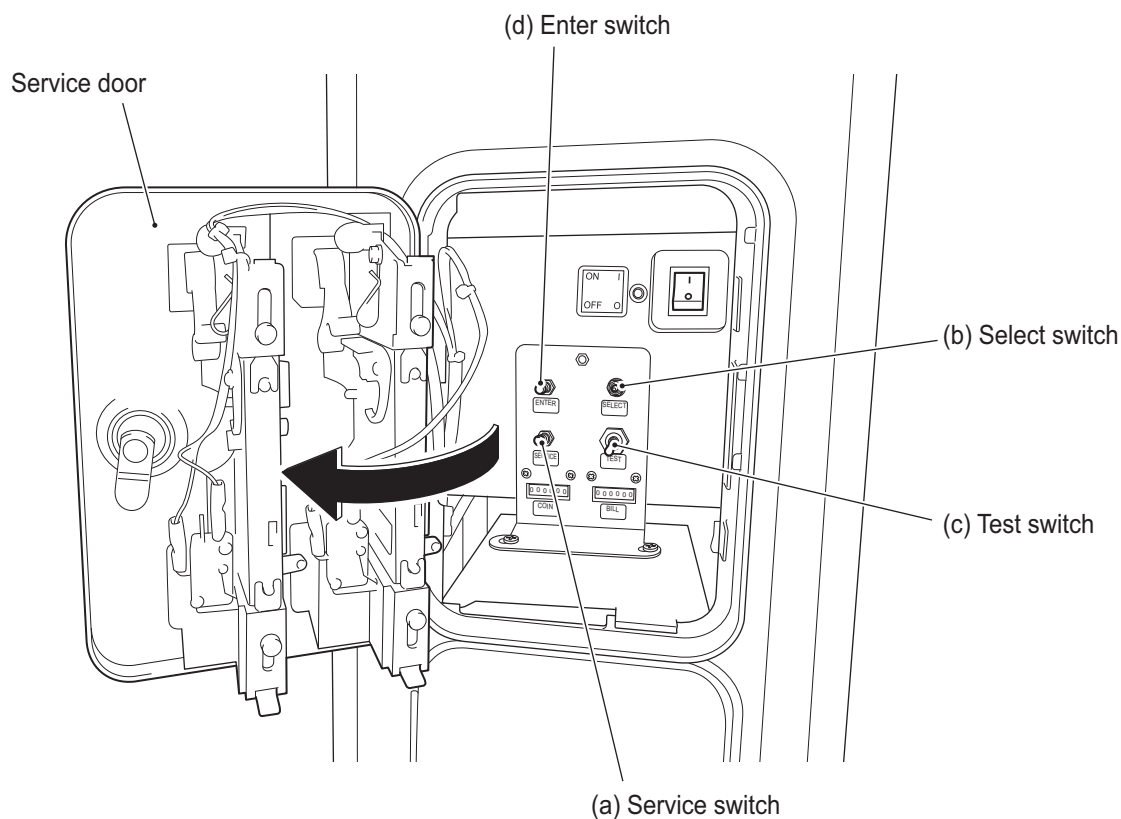
- 1 Turn on the power switch of the machine.



- Do not turn the power switch on and off repeatedly, because it may cause a machine malfunction.

7-4-2 Adjustment Switches

Open the service door for access to the adjustment switches.



(a) Service switch (red)

Press this button to increase the coin count without operating the coin counter.

(b) Select switch

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

(c) Test switch

Turn this switch on to activate Test mode.

Test mode is used to test the monitor and other parts.

(d) Enter switch (red)

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

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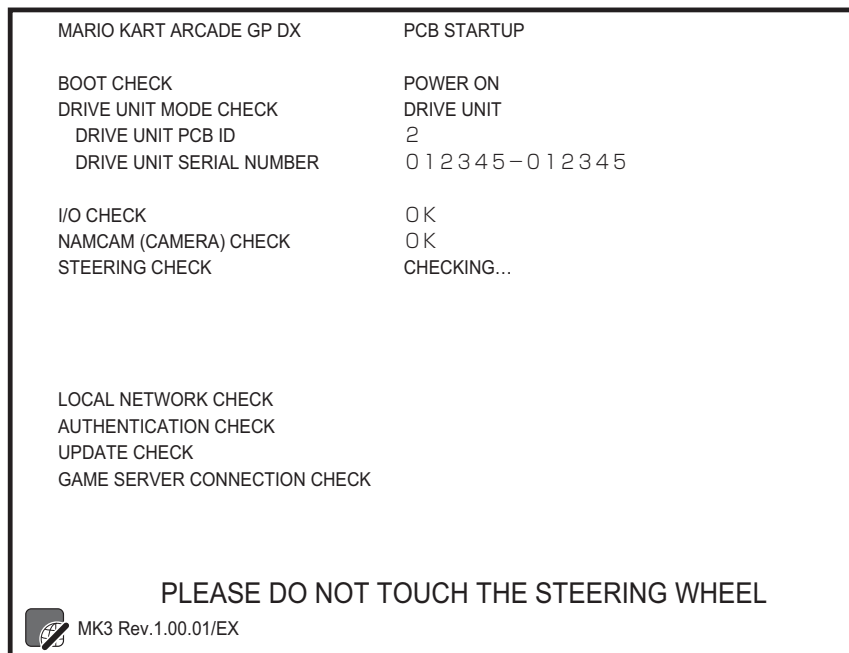
Test Mode

Troubleshooting

7-5 Flow during Game Startup

7-5-1 Self-test

The machine automatically executes a self-test after the power is turned on. When the power switch is turned on, the self-test screen appears on the monitor. If no problems are found, the display then changes to the title screen. If an abnormality is found, an error message is displayed on the monitor and the machine stops operating. When an error message is displayed, refer to “8B-2 Troubleshooting” on page 70 and cancel the error.



Self-test screen



- Do not touch the steering wheel while the self-test is underway. If the steering wheel is moved, the machine may display an error message and stop operating.

7-5-2 Network Status Indication in the Title Screen

The NBLINE connection status is displayed in the title screen.



(a) NBLINE connection status



Online: The machine is correctly connected to NBLINE.



Offline: The machine is not connected to NBLINE. The game cannot be operated properly in this condition, so see “8B-3 (1) Network Errors” on page 73 and resolve the problem.

(b) Display when game play includes credits added using the Service switch

The color of the CREDIT(S) text displayed at the lower right of the title screen indicates whether game play includes credits added using the Service switch.

Text color	Description
White	Does not include credits added using the Service switch
Red	Includes credits added using the Service switch

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Operation

Test Mode

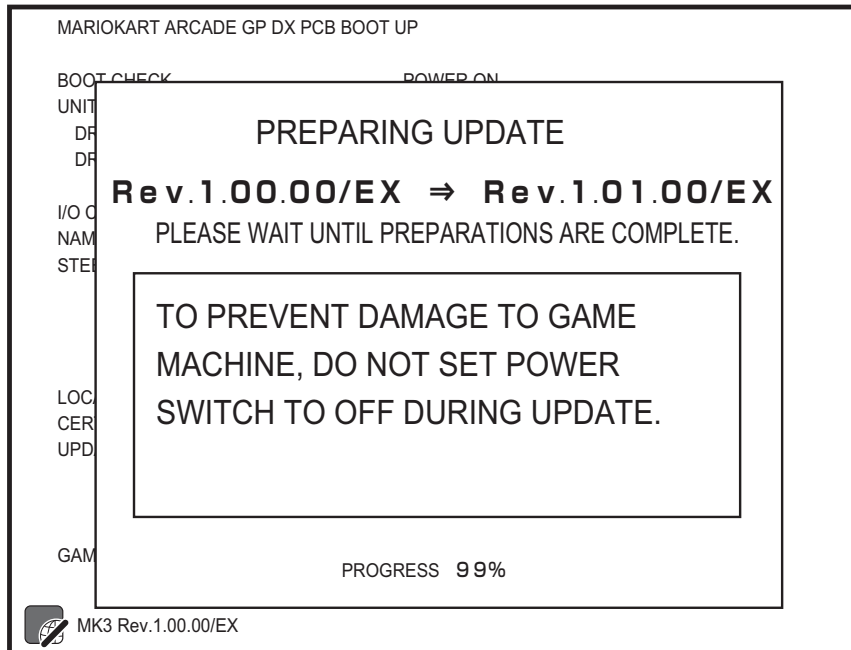
Troubleshooting

7-5-3 Software Update



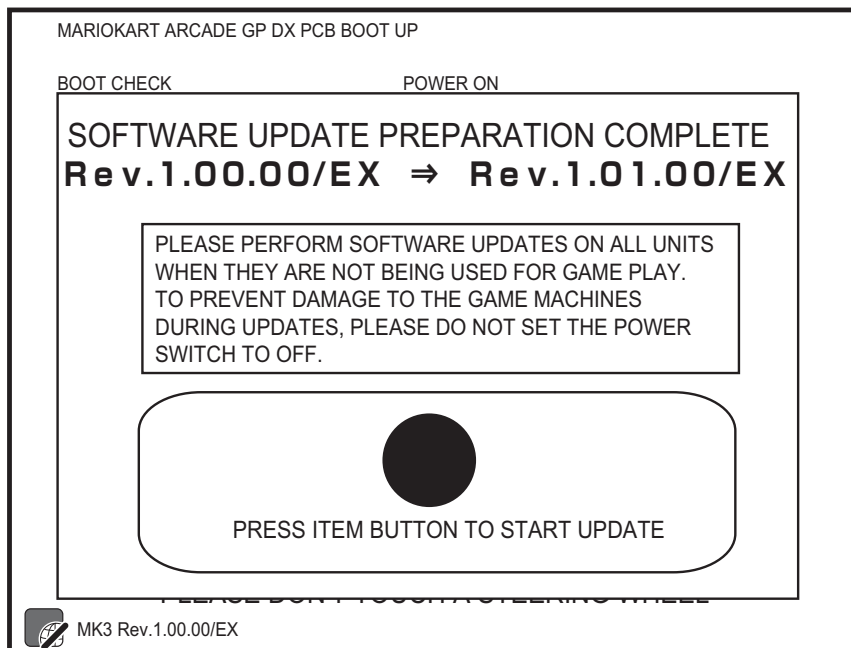
- Once the software update preparations have started, do not turn off the power switch until the update is complete and the title screen appears on the monitor. Turning off the power partway through the update may corrupt the data on the HDD.

- 1 When software update data is found on the network server during the self-test, the machine displays the “PREPARING UPDATE” screen and downloads the update data. The machine restarts automatically when the download is complete.



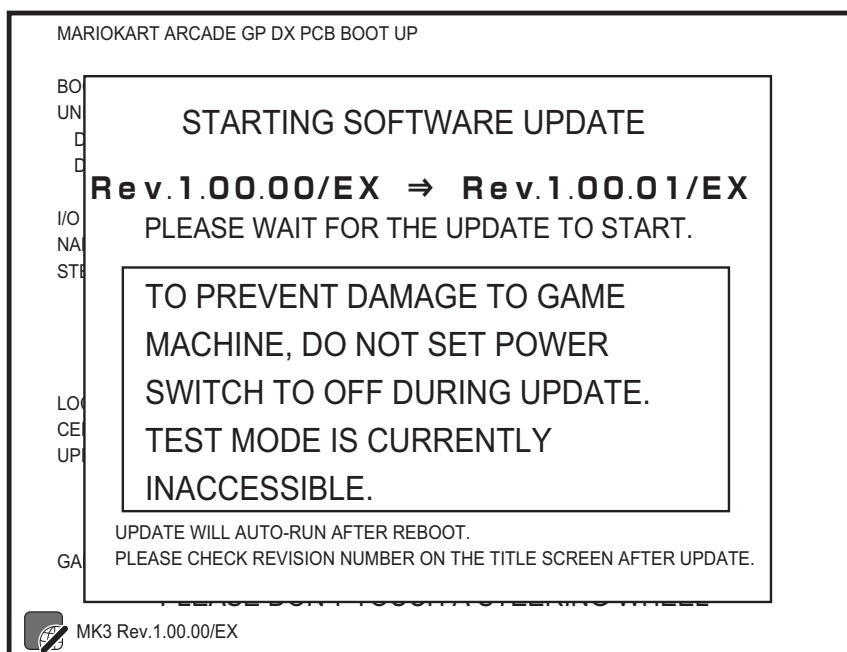
PREPARING UPDATE screen

- 2 After the machine restarts, the “SOFTWARE UPDATE PREPARATION COMPLETE” screen appears. Press the Item button to start the update. The game cannot be started unless the software is updated.



SOFTWARE UPDATE PREPARATION COMPLETE screen

- 3 Press the Item button to start data expansion. When data expansion is complete, the machine automatically restarts and rewrites the data.



STARTING SOFTWARE UPDATE screen

- 4 After the update is complete, check the software revision number in the title screen.



Revision No.

Title screen



- When an urgent update becomes necessary during operation, the message “Software update required” appears in the title screen. Follow the instructions on the screen, and turn the power switch off and then on again to update the software.
- When turning the power switch off and then on again, wait 30 seconds or more between operations to protect the electronic circuits.

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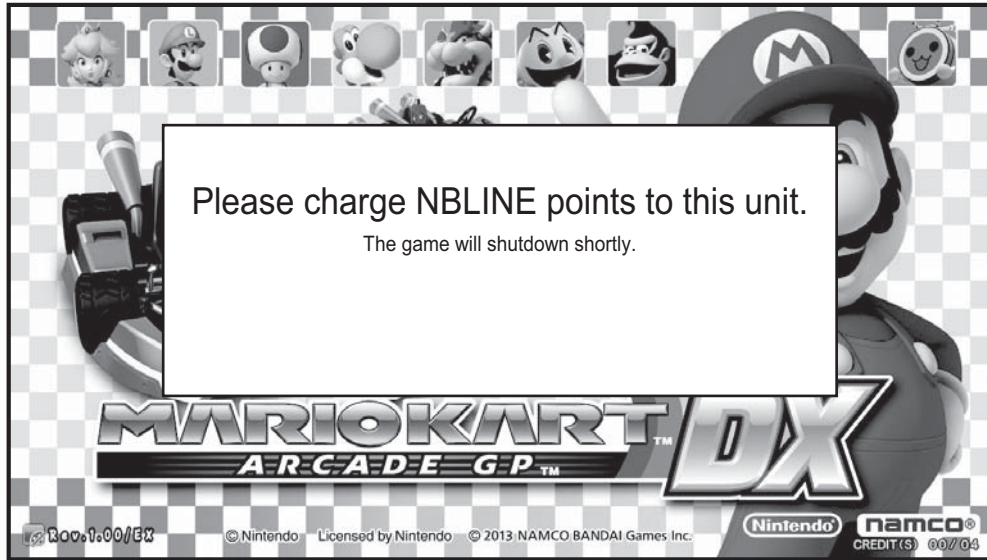
Operation

Test Mode

Troubleshooting

7-5-4 Reload NBLINE POINTS Notification Screen

- 1 When the remaining NBLINE POINTS become low during operation, a message notifying that the points are low appears.
Refer to “7-6-10 RELOAD NBLINE POINTS” on page 52 and reload the NBLINE POINTS.

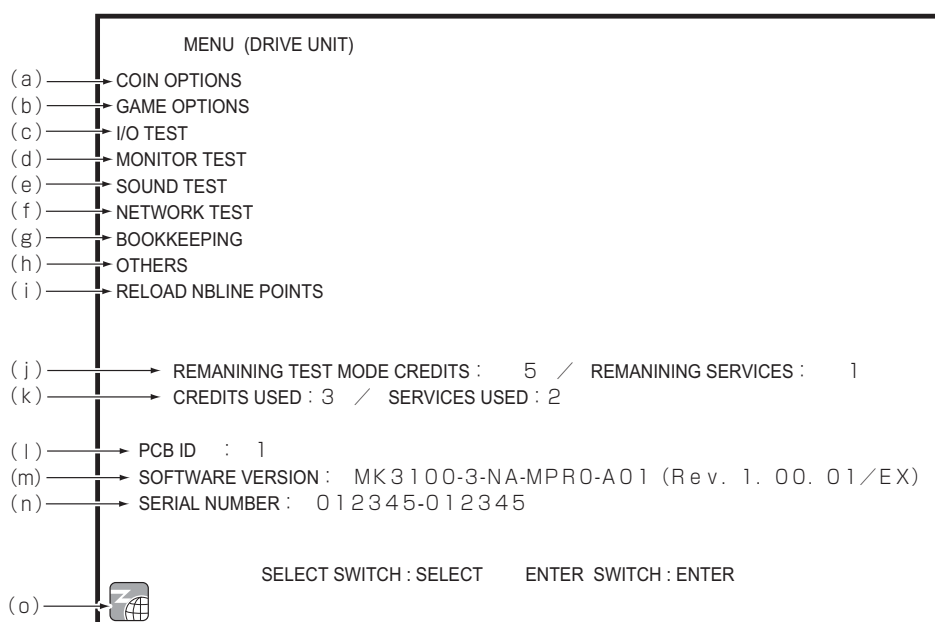


Remaining NBLINE POINTS Low screen

7-6 Test Mode

7-6-1 MENU Screen

- 1** Use the supplied service key to open the service door.
- 2** When the Test switch is set to ON, the MENU screen appears on the monitor.
(See "7-4-2 Adjustment Switches" on page 25.)
- 3** Flip the Select switch up and down to select the item.
The selected item blinks.
- 4** Press the Enter switch to enter the selected item.
When the selection is entered, the Test menu for that item appears.
- 5** After finishing all the adjustments, set the Test switch to Off. The display returns to the game screen.



MENU screen

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Operation

Test Mode

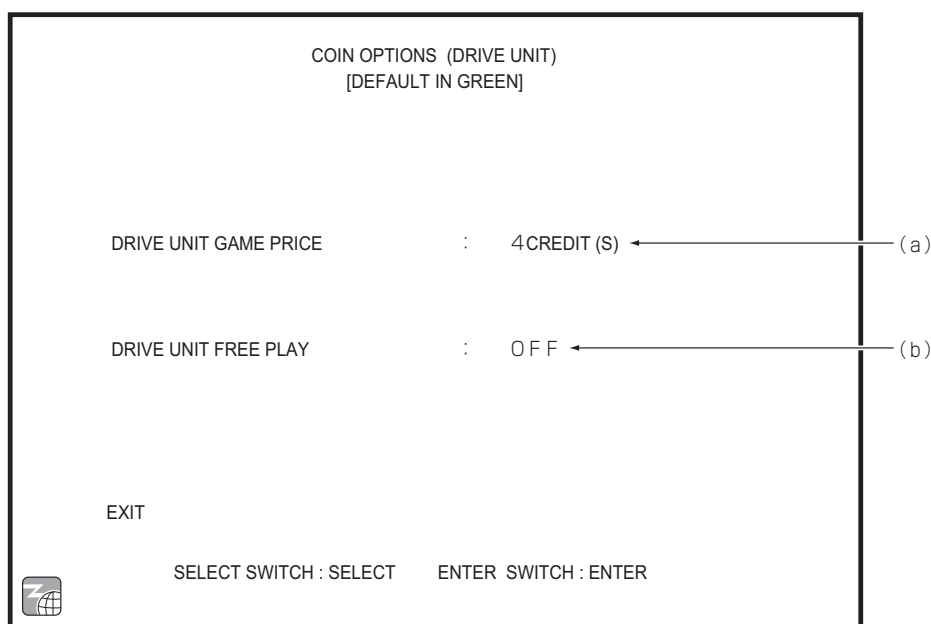
Troubleshooting

Item	Description	Reference section
(a) COIN OPTIONS	Game cost and other settings	See 7-6-2.
(b) GAME OPTIONS	Game contents and equipment use settings	See 7-6-3.
(c) I/O TEST	Switch, light and other settings	See 7-6-4.
(d) MONITOR TEST	This displays the monitor adjustment screen.	See 7-6-5.
(e) SOUND TEST	Volume adjustment, etc.	See 7-6-6.
(f) NETWORK TEST	Network related settings	See 7-6-7.
(g) BOOKKEEPING	This displays play conditions and error log	See 7-6-8.
(h) OTHERS	Setting initialization, etc.	See 7-6-9.
(i) RELOAD NBLINE POINTS	Displays the RELOAD NBLINE POINTS screen.	See 7-6-10.
(j) REMAINING TEST MODE CREDITS	When Test mode is activated, all remaining credits (coins) and service credits disappear, so this displays the number of credits and service credits remaining just before Test mode activation.	
(k) PREVIOUS CONDITIONS NAME	This displays the play conditions (CREDITS USED, SERVICES USED) just before Test mode activation.	
(l) PCB ID	This displays the PCB ID.	See 7-6-3.
(m) SOFTWARE VERSION	This displays the software version and revision number.	
(n) SERIAL NUMBER	This displays the serial number of the inserted USB dongle. When the serial number cannot be displayed, "-" appears.	
(o) Online/Offline icon	This indicates the online/offline status.	See 7-5-4.

7-6-2 Game Cost and Free Play Settings (COIN OPTIONS)

This screen displays the various game cost settings.

- 1** In the MENU screen, select COIN OPTIONS. The following screen appears.
- 2** After checking all the items, flip the Select switch up or down to select EXIT and press the Enter switch to return to the MENU screen.



COIN OPTIONS screen

Item	Description	Default
(a) DRIVE UNIT GAME PRICE	Setting for the number of coins required for a game Setting range: 1 to 19	4
(b) DRIVE UNIT FREE PLAY*1	Free play setting OFF: Normal coin operation ON: Free play operation	OFF

*1 When FREE PLAY is set to ON, all other COIN OPTIONS items appear grayed-out and cannot be selected. (The settings are held.)

When FREE PLAY is returned to OFF, operation returns to the held settings.

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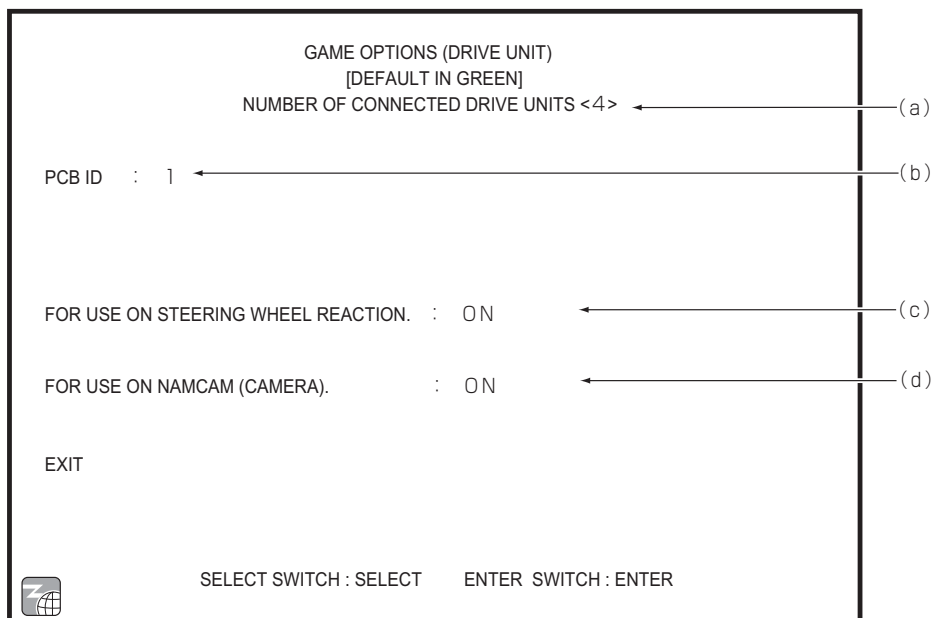
Test Mode

Troubleshooting

7-6-3 Game Contents Settings (GAME OPTIONS)

This screen is used to make various game settings.

- 1** In the MENU screen, select GAME OPTIONS. The following screen appears.
- 2** Flip the Select switch up and down to select the item. The selected item blinks.
- 3** Press the Enter switch to enter the selected item. When the selection is entered, the setting for that item can be changed.
- 4** Flip the Select switch up or down to set the desired setting.
When the desired value is set, press the Enter switch to save the setting value.
- 5** When finished making all the settings, flip the Select switch up or down to select EXIT and press the Enter switch to return to the MENU screen.



GAME OPTIONS screen

Default settings (factory settings) are indicated in green, and other settings are in yellow.

Item	Description	Default
(a) NUMBER OF CONNECTED DRIVE UNITS	This displays the number of communication-linked Driver Cabinets. NUMBER OF CONNECTED DRIVE UNITS <4>: Proper communication by four machines NUMBER OF CONNECTED DRIVE UNITS <3>: Proper communication by three machines NUMBER OF CONNECTED DRIVE UNITS <2>: Proper communication by two machines NUMBER OF CONNECTED DRIVE UNITS <1>: Proper communication by one machine	
(b) PCB ID and duplicate ID notice display	This sets the PCB ID. Setting range: 1→2→3→4→1... When the same PCB ID is already in use by another Driver Cabinet, the following notice appears. <PCB ID CONFLICT. PLEASE CHANGE PCB ID.>	1
(c) FOR USE ON STEERING WHEEL REACTION* ¹	Enables or disables the steering wheel feedback (reactive force) feature. ON : Provides feedback (reactive force) to the steering wheel. OFF : Does not provide feedback (reactive force) to the steering wheel.	ON
(d) FOR USE ON NAMCAM (CAMERA)* ¹	Enables or disables use of NAMCAM (camera) game. ON : Uses NAMCAM (camera) OFF : Does not uses NAMCAM (camera)	ON

*¹ When FOR USE ON STEERING WHEEL REACTION and FOR USE ON NAMCAM (CAMERA) are set to OFF, the corresponding equipment cannot be tested in Test mode.
Even when FOR USE ON STEERING WHEEL REACTION is changed from OFF to ON, the Test switch must be set to Off and the self-test performed in order to check the usage and operation of the equipment.

Items for equipment that requires self-test are indicated by *¹ in the table above.

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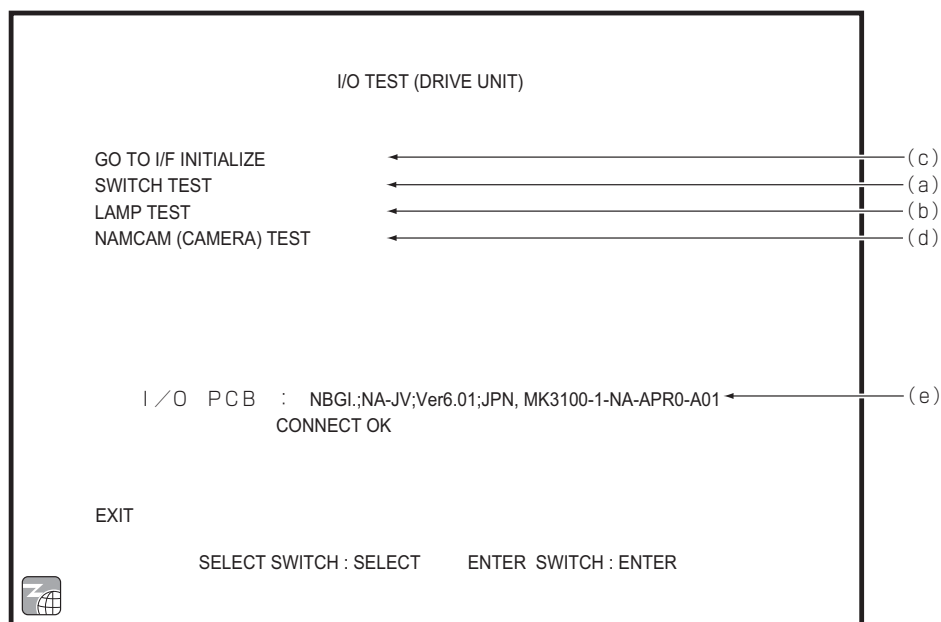
Test Mode

Troubleshooting

7-6-4 Input/Output Test of Switches (I/O TEST)

This screen is used to initialize the analog potentiometer and perform tests for each switch and light, etc.

- 1** In the MENU screen, select I/O TEST. The following screen appears.
- 2** Flip the Select switch up and down to select the item. The selected item blinks.
- 3** Press the Enter switch to enter the selected item. When the selection is entered, the Test menu for that item appears.
- 4** After checking all the items, flip the Select switch up or down to select EXIT and press the Enter switch to return to the MENU screen.

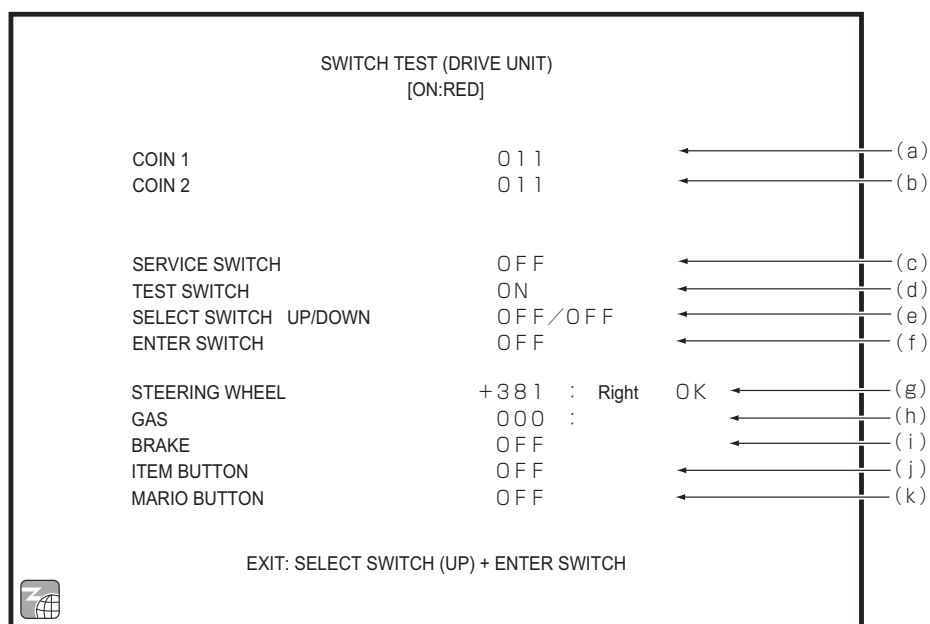


I/O TEST screen

Item	Description
(a) SWITCH TEST	This screen is used to test each switch and button.
(b) LAMP TEST	This screen is used to test the lighting of illuminated buttons and decorative lights.
(c) GO TO I/F INITIALIZE	This is used to initialize the analog potentiometer. (See "7-6-11 Adjustments after Parts Replacement (GO TO I/F INITIALIZE)" on page 53.)
(d) NAMCAM (CAMERA) TEST	This screen is used to test NAMCAM (camera).
(e) I/O PCB	This displays the I/O PCB connection status. CONNECT OK (green): Communication can be performed normally. CONNECT NG! (red): Communication cannot be performed normally. Check the I/O PCB connection.

(a) SWITCH TEST

This screen is used to test each switch and button.



SWITCH TEST screen

Item	Description
(a) COIN 1	Status of coin switch 1 Each time the switch 1 is activated, the counter increments by one. 000 to 999 (The counter returns to 000 after 999.)
(b) COIN 2	Status of coin switch 2 Each time the switch 2 is activated, the counter increments by one. 000 to 999 (The counter returns to 000 after 999.)
(c) SERVICE SWITCH	Status of Service switch OFF : Normal ON (red) : Pressed in
(d) TEST SWITCH	Status of Test switch OFF : Normal ON (red) : Pressed in
(e) SELECT SWITCH UP/DOWN	Status of Select switch OFF : Normal ON (red) : Flipped up or down
(f) ENTER SWITCH	Status of Enter switch OFF : Normal ON (red) : Pressed in
(g) STEERING WHEEL	Status of steering wheel Turning the steering wheel to the right changes the numerical value in the positive direction, and turning the steering wheel to the left changes the numerical value in the negative direction. Right (Left) OK (red) appears on the screen when normal right (left) operation is detected. (* Note)

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Operation

Test Mode

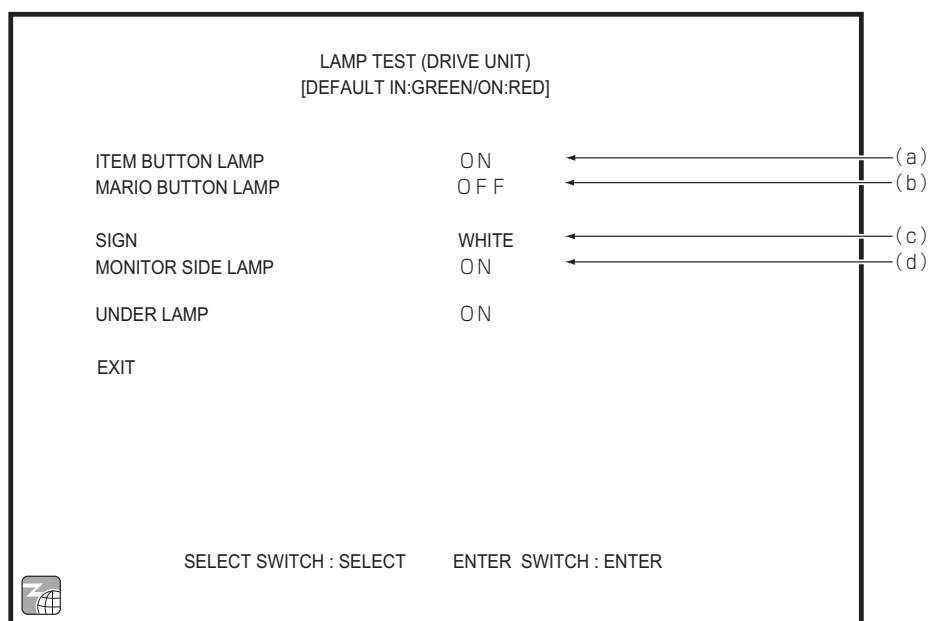
Troubleshooting

Item	Description
(h) GAS	Status of accelerator pedal Stepping on the pedal changes the numerical value in the positive direction. OK (red) appears on the screen near the setting limit. (* Note)
(i) BRAKE	Status of brake pedal OFF : Normal ON : Stepped on
(j) ITEM BUTTON	Status of Item button OFF : Normal ON (red) : Pressed in
(k) MARIO BUTTON	Status of Mario button OFF : Normal ON (red) : Pressed in

* If OK is not displayed when the steering wheel/pedal is turned/depressed fully, the steering wheel or pedal must be initialized. (See "7-6-11 Adjustments after Parts Replacement (GO TO I/F INITIALIZE)" on page 53.)
Flip the Select switch up and press the Enter switch to return to the I/O TEST screen.

(b) LAMP TEST

This screen is used to test the lighting of illuminated buttons and decorative lights.



LAMP TEST screen

Default settings (factory settings) are indicated in green, and other settings are in red.

Item	Description
(a) ITEM BUTTON LAMP	Lighting status of Item button light OFF : Off ON (red) : Lighted
(b) MARIO BUTTON LAMP	Lighting status of Mario button light OFF : Off ON (red) : Lighted
(c) SIGN (d) MONITOR SIDE LAMP (e) UNDER LAMP	Lighting status of signboard, monitor side lamp and under lamp OFF : Off RED : Lighted red GREEN : Lighted green BLUE : Lighted blue WHITE : Lighted white PATTERN 1 PATTERN 2 PATTERN 3 PATTERN 4 PATTERN 5 PATTERN 6 PATTERN 7 } Lighting variation patterns used in the game

* Lights that are lighted turn off when the LAMP TEST screen is exited.

To return to the I/O TEST screen, select EXIT and press the Enter switch.

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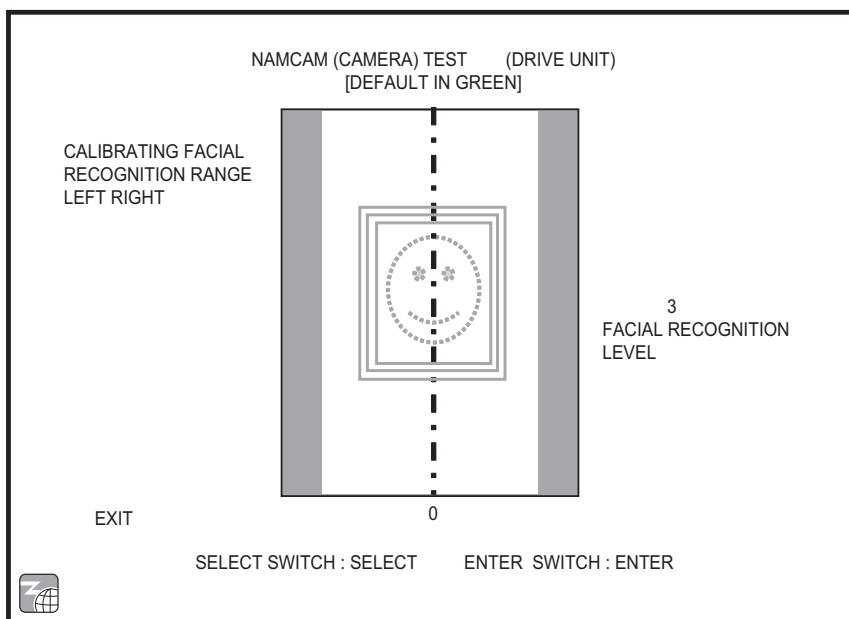
Operation

Test Mode

Troubleshooting

(c) NAMCAM (CAMERA) TEST

This screen is used to adjust the facial recognition position of the NamCam (camera).



NAMCAM (CAMERA) TEST screen



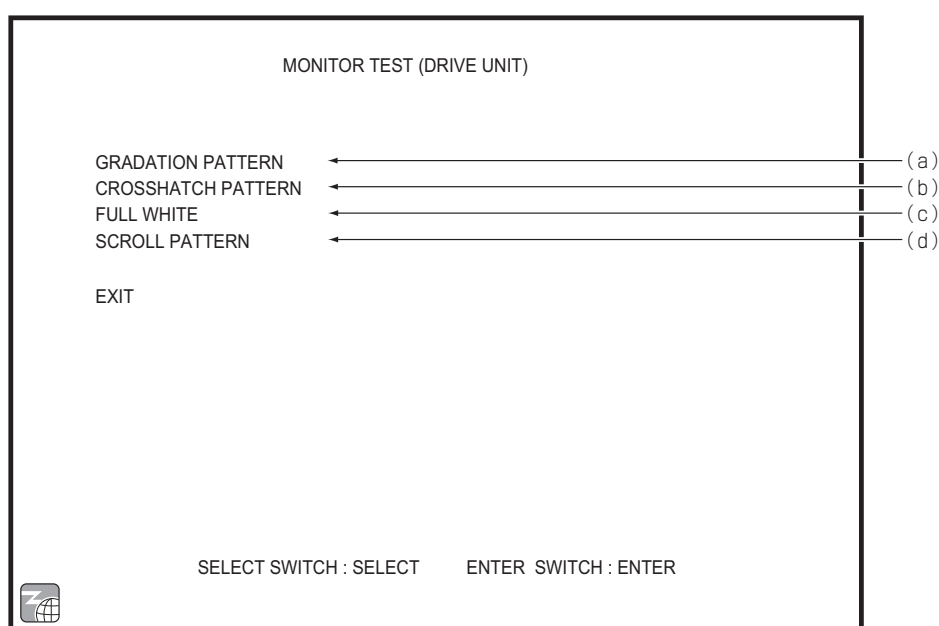
- **Adjust the cabinet installation position to enable facial recognition during game play.**
 - Adjust the ambient lighting environment so that two or more frames appear around the player's face (Facial Recognition Level 2 or 3) when sitting in the seat and facing the camera.
 - At minimum adjust so that at least one frame appears around the player's face (Facial Recognition Level 1).
- **When a Facial Recognition Level of 2 or more cannot be achieved, check the following points and adjust the environment.**
 - Facial recognition may be difficult if there are bright lights around the seat or if bright light directly enters the camera lens.
 - Facial recognition may be difficult if it is too dark around the seat.
 - Facial recognition may be difficult if a bright light such as a spotlight directly shines on the player's face.
 - When making the adjustment, do not wear sunglasses, a mask, or a cap, etc.

Item (Facial recognition range)	Setting value variable range	Default
Right/left adjustment	-15 to +15	0

7-6-5 Screen Adjustment (MONITOR TEST)

This screen is used to make various monitor adjustments.

- 1** In the MENU screen, select MONITOR TEST. The following screen appears.
- 2** Flip the Select switch up and down to select the item. The selected item blinks.
- 3** Press the Enter switch to display the adjustment screen for the selected item.
- 4** Press the Enter switch again to return to the MONITOR TEST screen.
- 5** After finishing all the adjustments, flip the Select switch up or down to select EXIT and press the Enter switch to return to the MENU screen.



MONITOR TEST screen

Item	Description
(a) GRADATION PATTERN	Displays a gradation pattern.
(b) CROSSHATCH PATTERN	Displays a crosshatch pattern.
(c) FULL WHITE	Displays a white screen.
(d) SCROLL PATTERN	Displays a screen scrolling test pattern.

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Operation

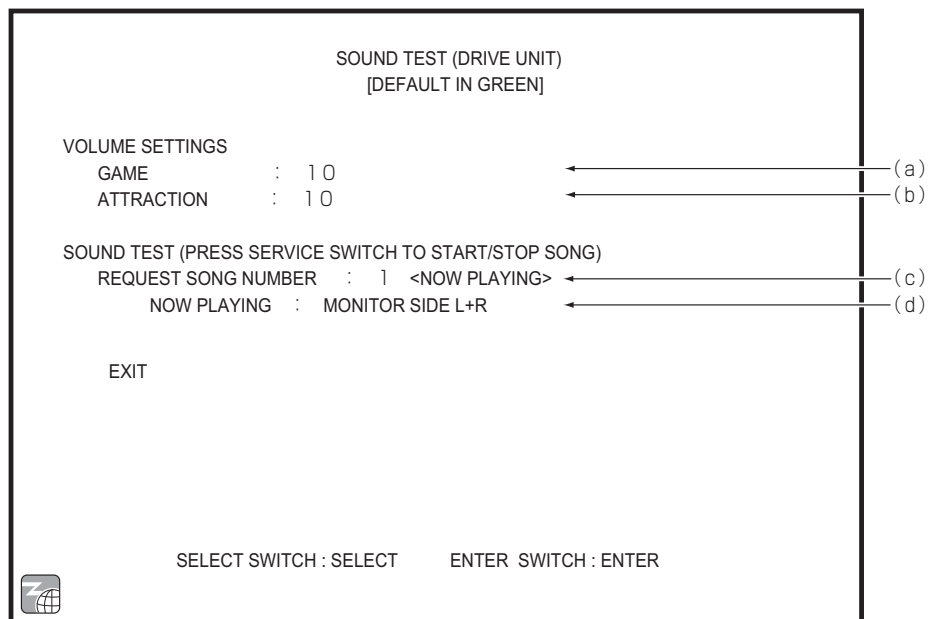
Test Mode

Troubleshooting

7-6-6 Volume Adjustment (SOUND TEST)

This screen is used to adjust the sound volume.

- 1** In the MENU screen, select SOUND TEST. The following screen appears.
- 2** Flip the Select switch up and down to select the item. The selected item blinks.
- 3** Press the Enter switch to enter the selected item. When the selection is entered, the setting for that item can be changed.
- 4** Flip the Select switch up or down to set the desired setting.
When the desired value is set, press the Enter switch to save the setting value.
- 5** Press the Service switch to play back the song selected by REQUEST SONG NUMBER.
Press the Service switch again to stop playback.
Change the REQUEST SONG NUMBER setting to switch the test sound and song.
- 6** After finishing all the adjustments, flip the Select switch up or down to select EXIT and press the Enter switch to return to the MENU screen.



SOUND TEST screen

Default settings (factory settings) are indicated in green, and other settings are in yellow.

Item	Description	Default
(a) GAME	Sets the volume during game play. Setting range: 0 (min.) to 15 (max.) Flip the Select switch up or down to increase or decrease the numerical value.	10
(b) ATTRACTION	Sets the volume in Attract mode. Setting range: 0 (min.) to 15 (max.) Flip the Select switch up or down to increase or decrease the numerical value.	10
(c) REQUEST SONG NUMBER	0 No sound 1 Stereo test (monitor side) 2 Sample music (game) 3 Sample music (Attract)	0
(d) NOW PLAYING	Displays the name of the music selected by REQUEST SONG NO. 0 NO SOUND 1 MONITOR SIDE L MONITOR SIDE R MONITOR SIDE L+R * The test sound is produced from the speakers in order. 2 SAMPLE (GAME) 3 SAMPLE (ATTRACT)	

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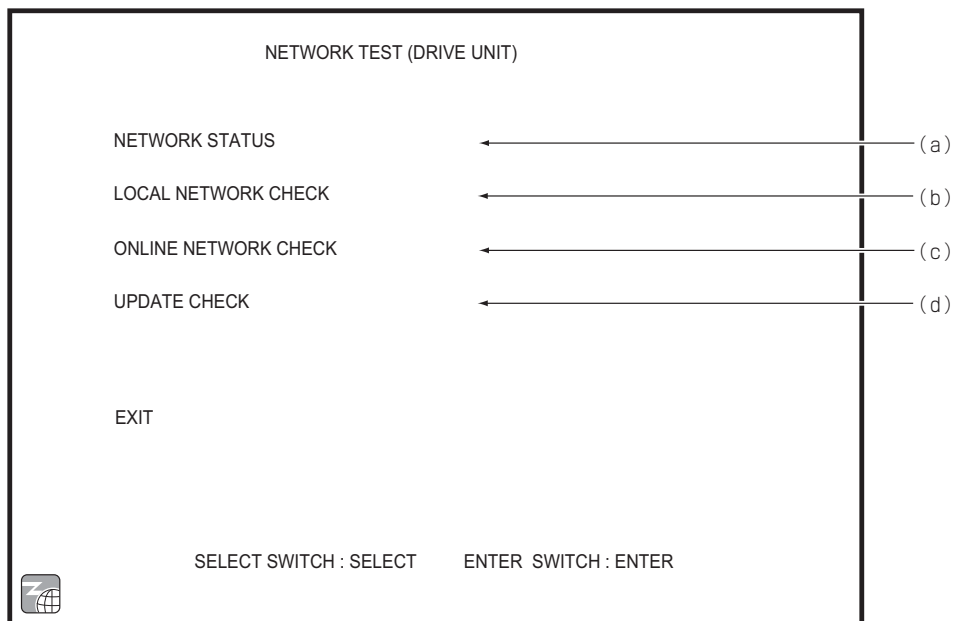
Test Mode

Troubleshooting

7-6-7 NETWORK TEST

This screen is used to test the network connection.

- 1** In the MENU screen, select NETWORK TEST. The following screen appears.
- 2** Flip the Select switch up and down to select the item. The selected item blinks.
- 3** Press the Enter switch to enter the selected item. When the selection is entered, the Test menu for that item appears.
- 4** After checking all the items, flip the Select switch up or down to select EXIT and press the Enter switch to return to the MENU screen.



NETWORK TEST screen

Item	Description
(a) NETWORK STATUS	This screen is used to check the network status and IP address, and to reacquire the network status.
(b) LOCAL NETWORK CHECK	This screen is used to check the connection to the local network.
(c) ONLINE NETWORK CHECK	This screen is used to check the connection to the online network check.
(d) UPDATE CHECK	This screen is used to check the update status.



- **The connection status cannot be checked during server service periods, so avoid server service periods when performing the network status check and the online network check.**

(a) NETWORK STATUS

This screen is used to check the network status and IP address, and to reacquire the network status. These checks cannot be performed during network service periods.

NETWORK STATUS (DRIVE UNIT)

NBLINE LICENSE	OK	} ← (a)
UPDATE SERVER	LINK OK	
GAME SERVER	LINK OK	
IP ADDRESS	000. 000. 000. 000	
SUBNET MASK	000. 000. 000. 000	
GATEWAY	000. 000. 000. 000	
VENUE ROUTER	000. 000. 000. 000	
PRIMARY DNS	000. 000. 000. 000	
SECONDARY DNS	000. 000. 000. 000	
NBLINE STORE NAME	USA /	← (b)
REACQUIRING NETWORK STATUS	ACQUIRED	← (c)
EXIT		
PCB ID	: 1	
SOFTWARE VERSION	: MK3100-3-NA-MPRO-A01 (Rev. 1. 00. 01/EX)	
SERIAL NUMBER	: 012345-012345	
SELECT SWITCH : SELECT ENTER SWITCH : ENTER		

NETWORK STATUS screen

Item	Description
(a) Network status displays	<p>The following items are displayed.</p> <ul style="list-style-type: none"> • NBLINE LICENSE: NBLINE certification results • UPDATE SERVER: Connection status with update server • GAME SERVER: Connection status with game server • IP ADDRESS: IP address of this Driver Cabinet • SUBNET MASK: Subnet mask setting value • GATEWAY: IP address of gateway • VENUE ROUTER: IP address of VENUE router • PRIMARY DNS: IP address of primary DNS • SECONDARY DNS: IP address of secondary DNS
(b) NBLINE STORE NAME	Displays the shop name acquired during NBLINE certification
(c) REACQUIRING NETWORK STATUS	<p>This performs the following operations.</p> <ul style="list-style-type: none"> • Reacquires the DNS and DHCP address, the shop name and the time • Performs NBLINE certification again • Checks the game server • Updates the network status displays according to the results

To return to the NETWORK TEST screen, select EXIT and press the Enter switch.

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Operation

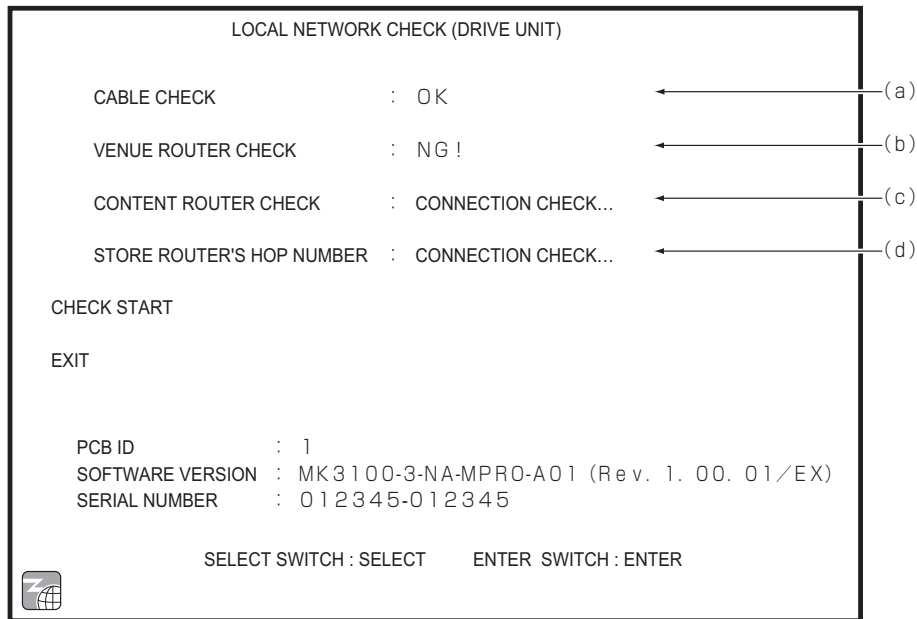
Test Mode

Troubleshooting

(b) LOCAL NETWORK CHECK

This screen is used to check the connection to the local network.

- 1** Flip the Select switch up or down to select CHECK START and press the Enter switch. The local network check is executed.
- 2** To return to the NETWORK TEST screen after checking the connection status, select EXIT and press the Enter switch.



LOCAL NETWORK CHECK screen

Item	Description
(a) CABLE CHECK	Checks whether the communication cable is connected to the game PC board.
(b) VENUE ROUTER CHECK	Checks whether connection to the venue router is possible.
(c) CONTENT ROUTER CHECK	Checks whether connection to the content router is possible.
(d) STORE ROUTER'S HOP NUMBER	Checks the number of routers connected between the machine and the venue router.

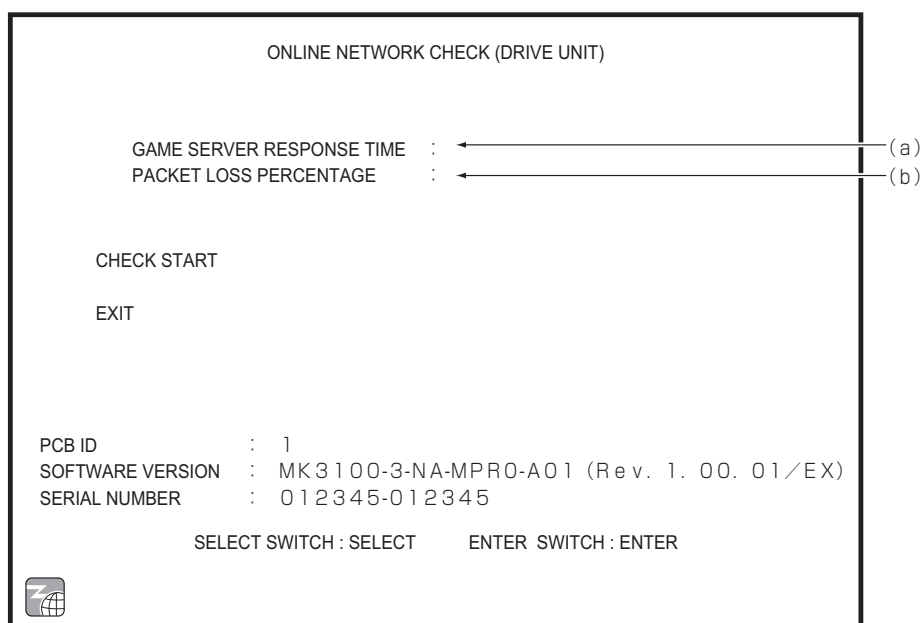


- When the communication cable is connected correctly, there are the two routers of the venue router and the content router, so the HOP COUNT indicates “2”.
- When the HOP COUNT indicates “3” or more, check whether there are other routers connected. Additional routers may result in communication errors.

(c) ONLINE NETWORK CHECK

This screen is used to check the connection to the online network.

- 1** Flip the Select switch up or down to select CHECK START and press the Enter switch. The online network check is executed.
- 2** To return to the NETWORK TEST screen after checking the connection status, select EXIT and press the Enter switch.



ONLINE NETWORK CHECK screen

Item	Description
(a) GAME SERVER RESPONSE TIME	This measures the game server response time and investigates whether there is any problem with communication.
(b) PACKET LOSS PERCENTAGE	This measures the packet loss percentage and investigates whether there is any problem with communication.



- The connection status cannot be checked during server service periods, so avoid server service periods when performing the online network check.

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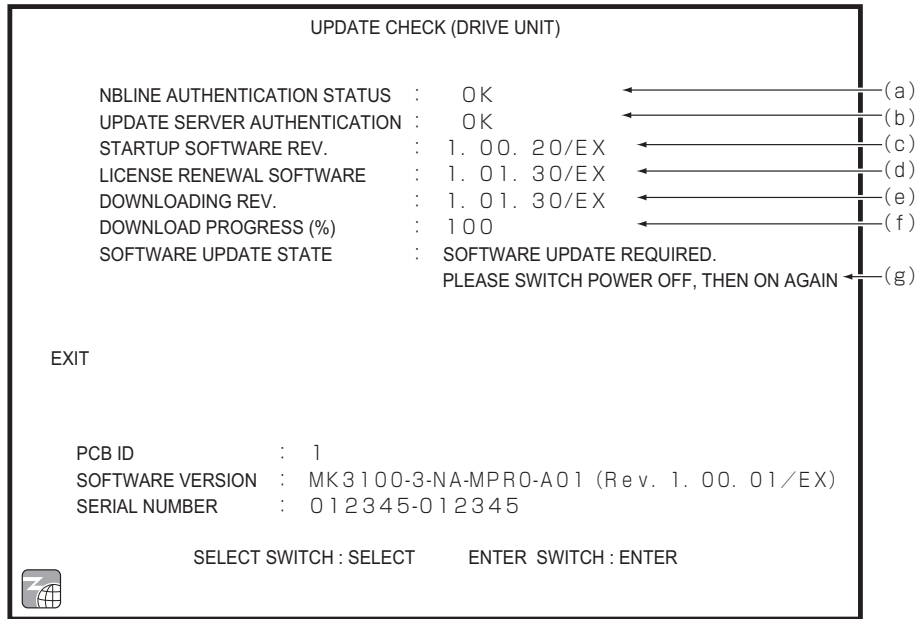
Operation

Test Mode

Troubleshooting

(d) UPDATE CHECK

This screen displays the update status.



UPDATE CHECK screen

To return to the NETWORK TEST screen, select EXIT and press the Enter switch.

Item	Description
(a) NBLINE AUTHENTICATION STATUS	Displays the NBLINE certification status.
(b) UPDATE SERVER AUTHENTICATION	Displays the update server certification status.
(c) STARTUP SOFTWARE REV.	Displays the software revision at startup.
(d) LICENSE RENEWAL SOFTWARE	Displays the revision when there is a revision available for update.
(e) DOWNLOADING REV.	Displays the revision when there is a revision being downloaded.
(f) DOWNLOAD PROGRESS	Displays the progress (%) while downloading is underway.
(g) SOFTWARE UPDATE STATE	Displays the current software update status.

7-6-8 Displaying Game Data (BOOKKEEPING)

This screen displays various game related data.

- 1** In the MENU screen, select BOOKKEEPING to display the BOOKKEEPING screen.
- 2** Flip the Select switch up and down to select the item. The selected item blinks.
- 3** Press the Enter switch to enter the selected item. The screen for the selected item appears.
- 4** After checking all the items, flip the Select switch up or down to select EXIT and press the Enter switch to return to the MENU screen.

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Operation

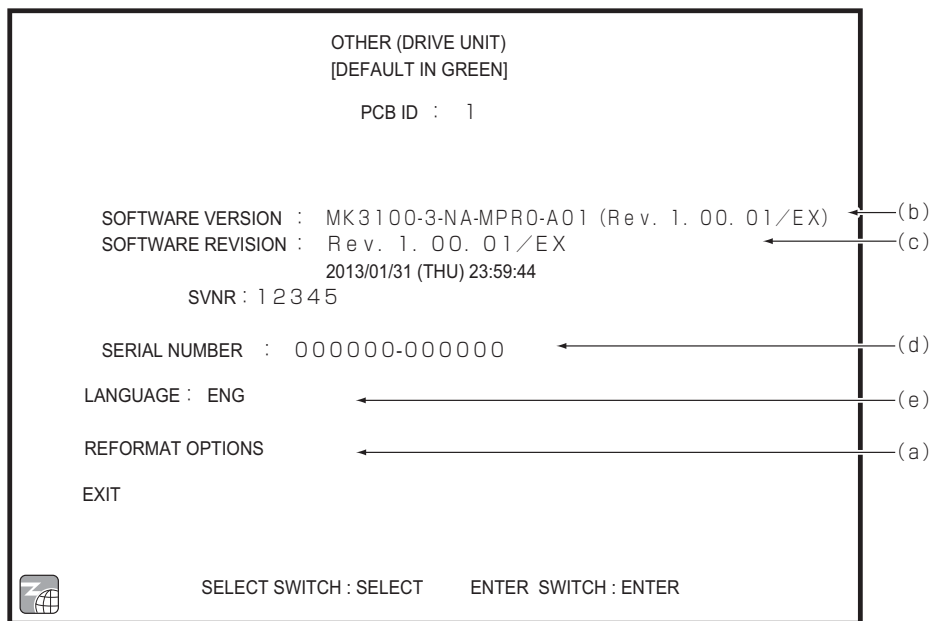
Test Mode

Troubleshooting

7-6-9 OTHER OPTIONS

This screen displays various information such as the current time and software version, and is used to access the REFORMAT OPTIONS screen.

- 1** In the MENU screen, select OTHERS. The following screen appears.
- 2** Flip the Select switch up and down to select the item. The selected item blinks.
- 3** Press the Enter switch to enter the selected item. The screen for the selected item appears.
- 4** After checking all the items, flip the Select switch up or down to select EXIT and press the Enter switch to return to the MENU screen.



OTHER screen

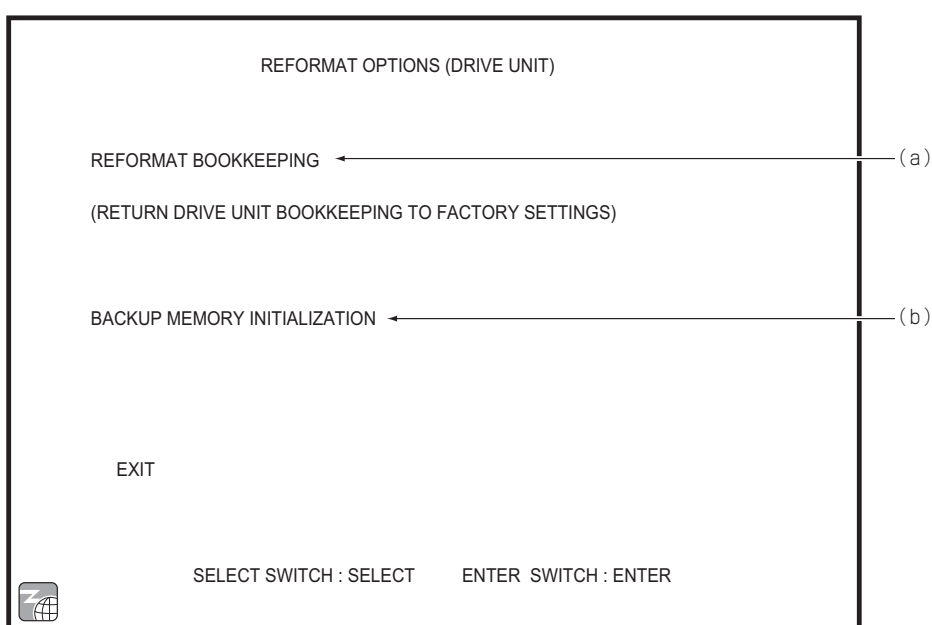
Default settings (factory settings) are indicated in green, and other settings are in yellow.

Item	Description
(a) REFORMAT OPTIONS	Used to initialize settings.
(b) SOFTWARE VERSION	Displays the software version.
(c) SOFTWARE REVISION	Displays the software revision and the update date and time.
(d) SERIAL NUMBER	Displays the serial number of the USB dongle.
(e) LANGUAGE	Displays the language setting.

(a) REFORMAT OPTIONS

This screen can be used to initialize individual Test mode settings.

- 1** In the OTHERS screen, select REFORMAT OPTIONS. The following screen appears.
- 2** Flip the Select switch up and down to select the item. The selected item blinks.
- 3** Press the Enter switch to enter the selected item. The screen for the selected item appears.
- 4** When initialization is finished, flip the Select switch up or down to select EXIT and press the Enter switch to return to the OTHERS screen.



INITIALIZE SETTINGS screen

Item	Description
(a) REFORMAT BOOKKEEPING	Initialized contents (only within bookkeeping) <ul style="list-style-type: none"> • All bookkeeping data • All error log entries
(b) BACKUP MEMORY INITIALIZATION	Initialized contents <ul style="list-style-type: none"> • Game options • Analog potentiometer initialize settings • Sound level settings • Remaining credits, remaining service credits • Play under the previous conditions displays • All bookkeeping data • All error log entries



- After BACKUP MEMORY INITIALIZATION is executed, be sure to refer to “7-6-11 Adjustments after Parts Replacement (GO TO I/F INITIALIZE)” on page 53 and initialize the analog potentiometers.

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Operation

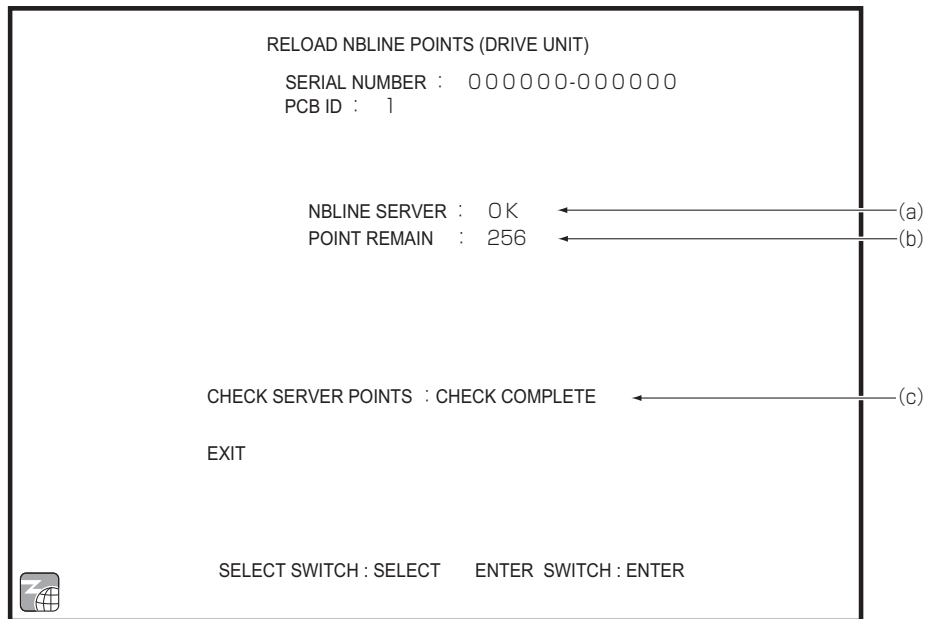
Test Mode

Troubleshooting

7-6-10 RELOAD NBLINE POINTS

This screen displays the NBLINE POINTS charged in the machine.

- 1** In the MENU screen, select RELOAD NBLINE POINTS. The following screen appears.
- 2** Flip the Select switch up or down to select CHECK SERVER POINTS and press the Enter button. The charged NBLINE POINTS are displayed.
- 3** Select EXIT and press the Enter button to return to the MENU screen.



RELOAD NBLINE POINTS screen

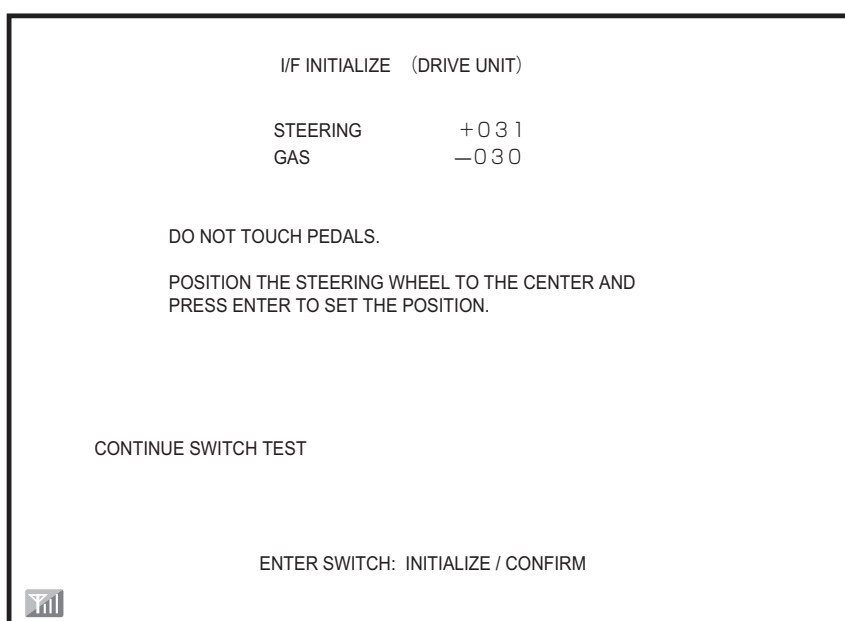
Item	Description
(a) NBLINE SERVER	Displays the connection status with the NBLINE SERVER.
(b) POINT REMAIN	Displays the charged NBLINE POINTS.
(c) CHECK SERVER POINTS	Select this item to communicate with the server and check the remaining NBLINE POINTS.

7-6-11 Adjustments after Parts Replacement (GO TO I/F INITIALIZE)



- Be sure to perform the following initialization process after replacing the game PC board, steering assembly interface or pedal assembly interface, or after initializing the backup data. The game will not play properly without performing this initialization.
- After initializing the analog interfaces, the SWITCH TEST screen (see “7-6-4 (a) SWITCH TEST” on page 37) appears. Make sure that OK is displayed on the screen when the steering wheel, accelerator pedal and brake pedal are operated.

- 1 Set the Test switch to ON and select I/O TEST in the MENU screen. (See “7-6-4 Input/Output Test of Switches (I/O TEST)” on page 36.)
- 2 In the I/O TEST screen, select GO TO I/F INITIALIZE. The following screen appears.
- 3 Set the steering wheel to the center position, release your hands from the steering wheel, and also release your feet from the accelerator and brake pedals. (* Initialization will not be completed successfully if the steering wheel or the accelerator or brake pedals are operated.)
- 4 In this condition, press the Enter switch. The analog interfaces will be initialized.
- 5 After the initialization is complete, the SWITCH TEST screen (see “7-6-4 (a) SWITCH TEST” on page 37) appears. Turn the steering wheel fully to the right and then fully to the left, and make sure that RIGHT OK and LEFT OK are displayed on the screen.
- 6 Fully depress the accelerator pedal, and make sure that OK is displayed on the screen for each.
- 7 Flip the Select switch up and press the Enter switch to return to the I/O TEST screen.



I/F INITIALIZE screen

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Operation

Test Mode

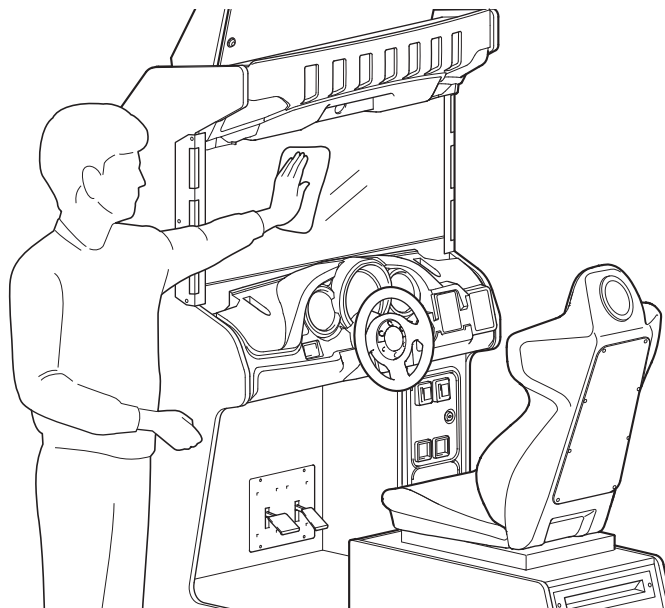
Troubleshooting

7-7 Daily Cleaning



- Do not use alcohol or other organic solvents. This may degrade the materials.

- 1 Wipe away any dirt with a dry soft cloth. When the machine becomes extremely dirty, wipe away the dirt using a soft cloth moistened with a neutral cleanser, then wipe lightly using a cloth dampened with a small amount of water, and finally wipe dry using a dry soft cloth.



8A. Installation and Assembly

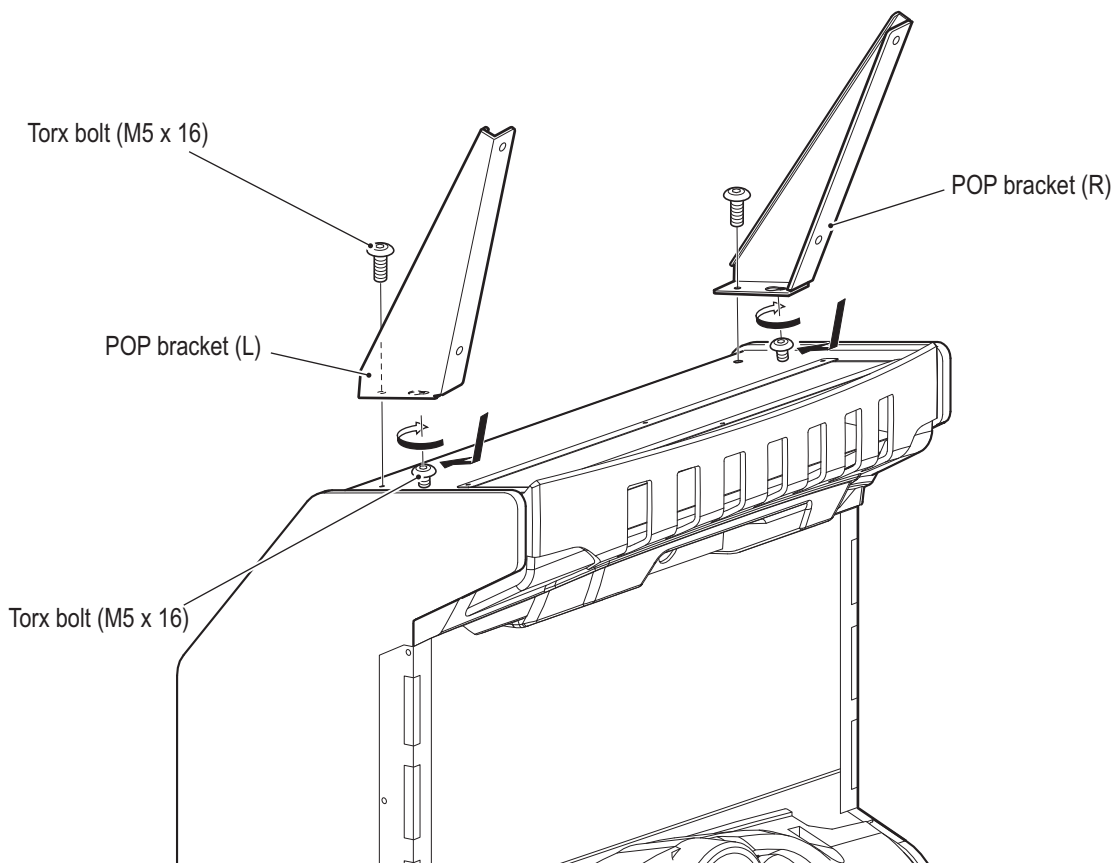
8A-1. Assembly

8A-1-1 Installing the Signboard Assembly

⚠ WARNING

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

- 1** On the top of the front assembly, install two torx bolts (M5 x 16) until the bolt heads protrude by approx. 0.1".
- 2** Temporarily attach POP bracket (R) and POP bracket (L) to the torx bolts installed in step **1**, and then fully tighten the POP brackets with the torx bolts installed in step **1** and two more torx bolts (M5 x 16).



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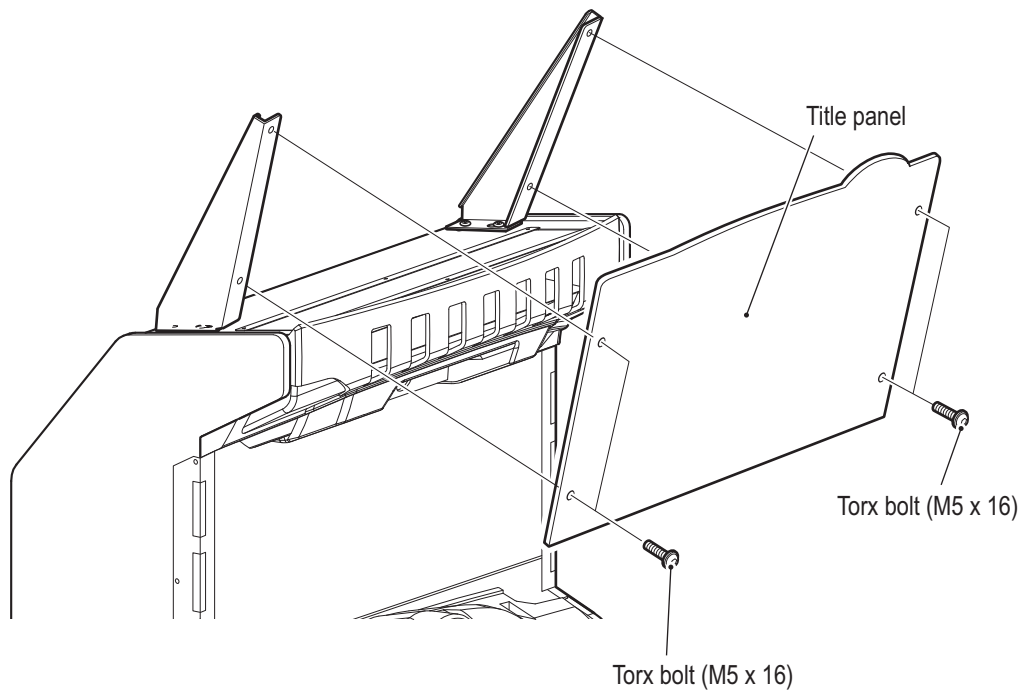
Installation and Assembly • Technician's Manual

Test Mode

Troubleshooting

— Must be performed by a technician —

- 3 Fasten the title panel with four torx bolts (M5 x 16).

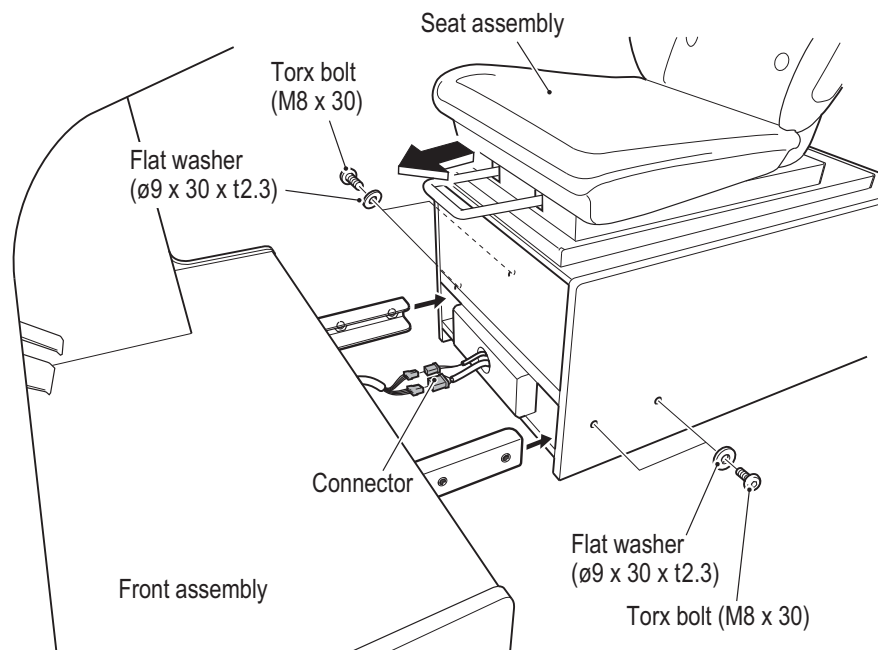
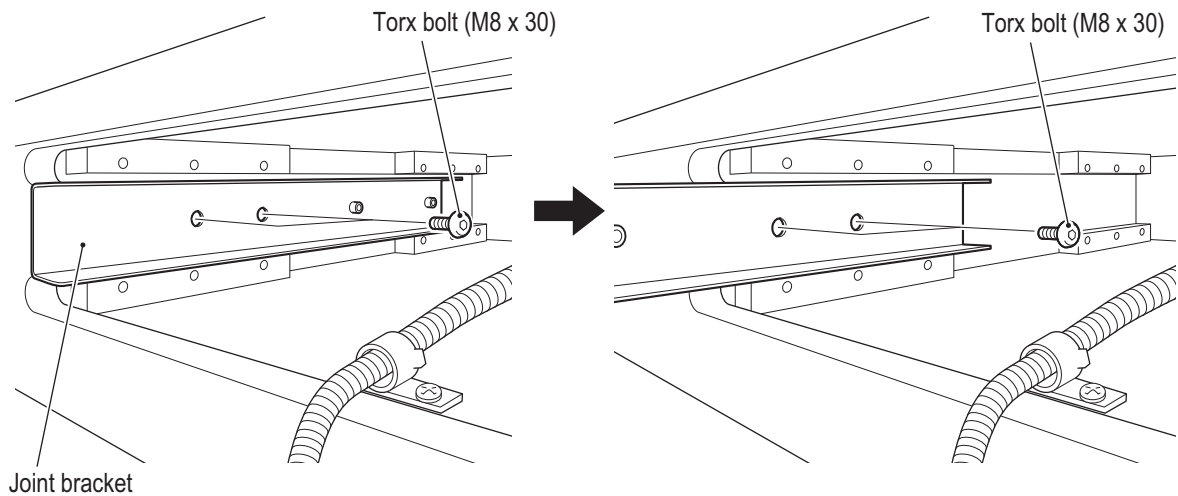


- 4 To remove, perform the procedure in reverse.

— Must be performed by a technician —

8A-1-2 Connecting the Front Assembly to the Seat Assembly and Level Adjuster Adjustment

- 1** The joint brackets for the seat are shipped inside the front assembly as shown in the figure on the left. Loosen the bolt retaining the bracket, remove the bracket and rotate it so the narrow slot is facing forward (away from the seat) as shown in the figure on the right. Then tighten the bolt and add a second bolt from the spare parts kit as shown. For ease of installation, the bolts (M8 x 30 torx bolt) may be installed by hand leaving a gap slightly larger than thickness of the bracket and then the bracket can be installed by placing the large holes of the bracket over the bolts and then sliding the bracket as shown toward the player. Once in place tighten using a ratchet wrench.



- 2** Place the seat assembly near the front assembly, and pull out two connectors from inside the front assembly.
- 3** Pull out two connectors from inside the seat assembly, and connect them to the connector from step **2**.

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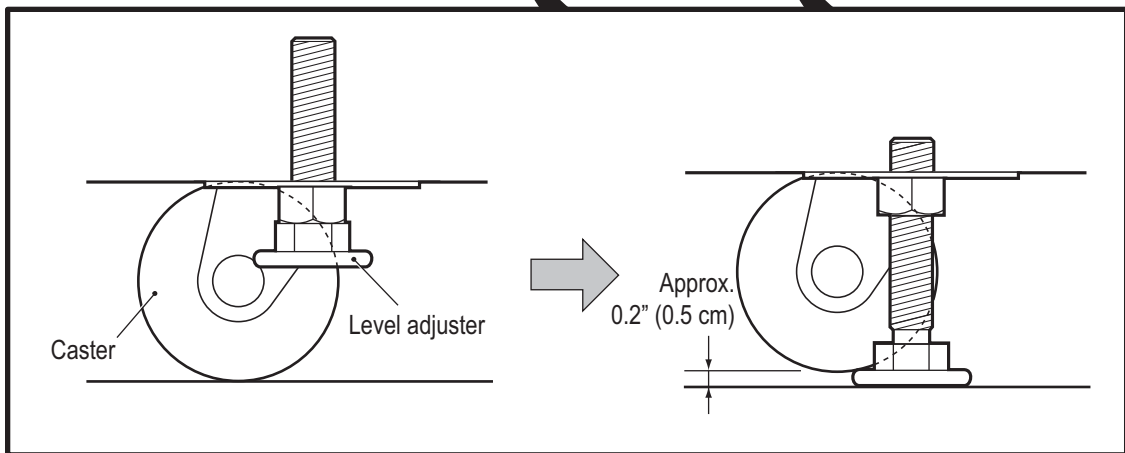
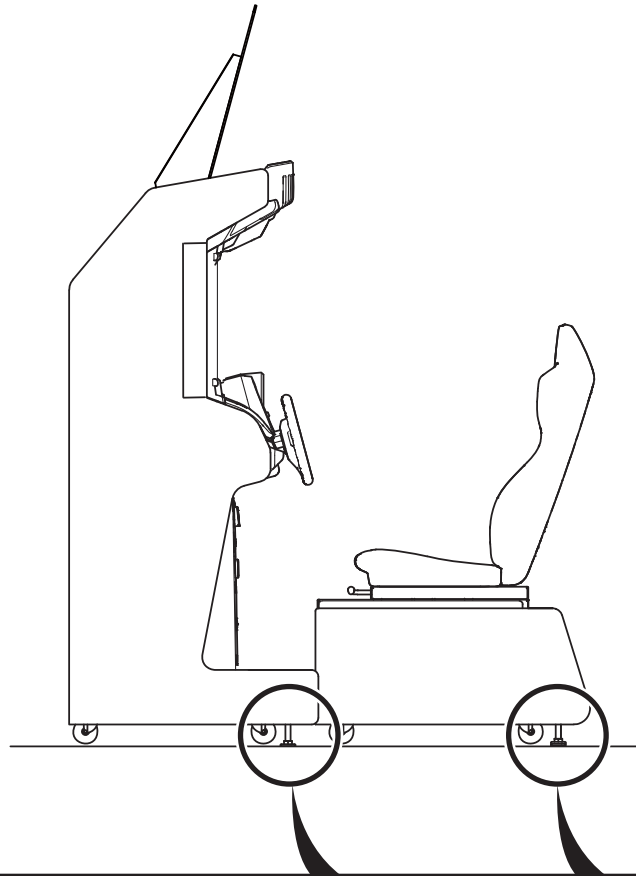
Installation and Assembly • Technician's Manual

Test Mode

Troubleshooting

— Must be performed by a technician —

- 4** Insert the joint bracket into the seat assembly. While connecting these parts, be careful not to pinch the connectors or harness.
- 5** From the side surfaces of the seat assembly, fasten the seat assembly to the front assembly with two flat washers ($\varnothing 9 \times 30 \times t2.3$) on each side (four in total) and two torx bolts (M8 x 30) on each side (four in total).
- 6** Lower the level adjusters until the casters are at a height of approx. 0.2" (0.5 cm) from the floor. (Two on the front assembly and two on the seat assembly; four in total.)

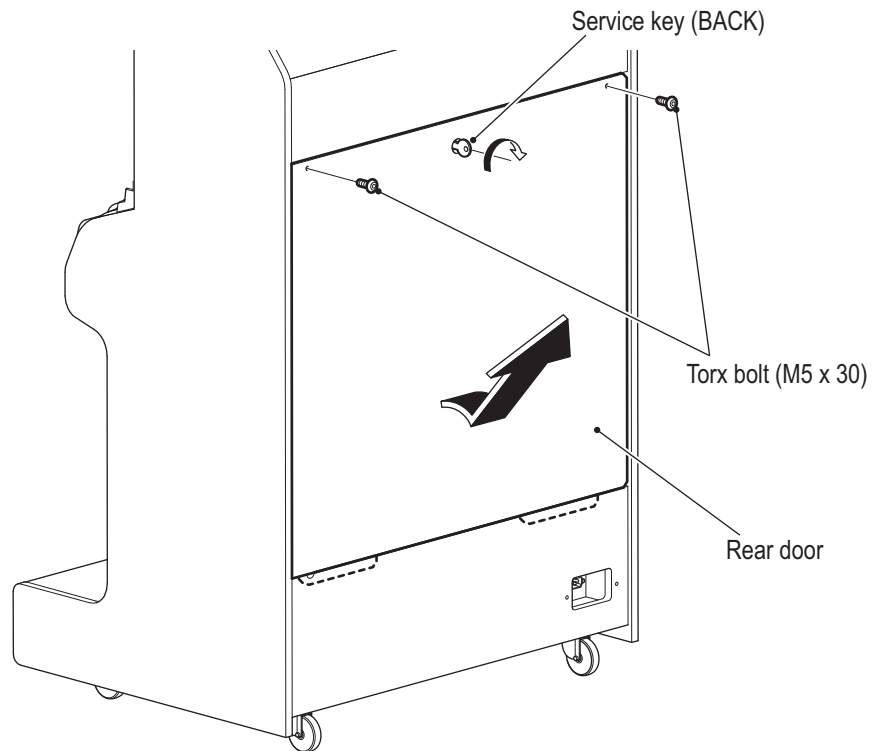


— Must be performed by a technician —

8A-1-3 Inserting the USB Dongle

⚠ WARNING

- To avoid electric shock accident or injury to yourself or others as well as damage to the electronic circuitry, be sure to turn off the power switch before starting this task.
 - The USB dongle is for use exclusively with this machine. Do not use it with other equipment. Do not insert other USB dongles into this machine. Doing so may cause the machine to malfunction.
 - Be sure to turn off the power switch before inserting the USB dongle.
- 1** Remove the rear door. (See in “8B-4-1 (4) Replacing the LCD Monitor” on page 79.)



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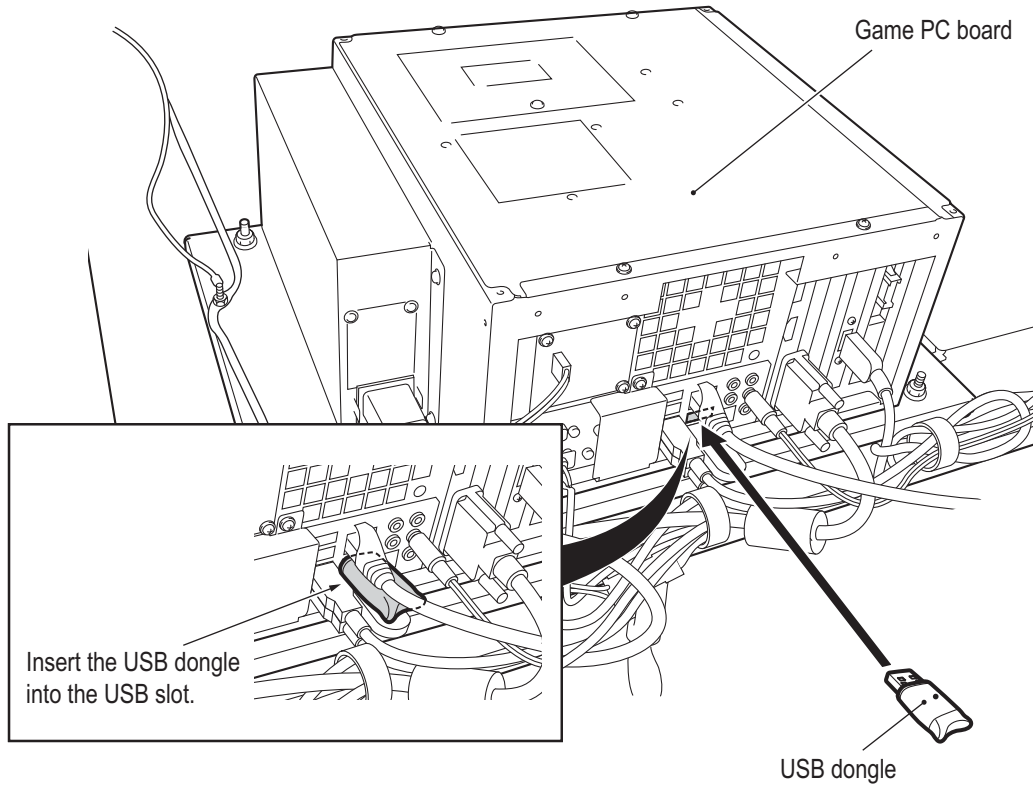
Installation and Assembly • Technician's Manual

Test Mode

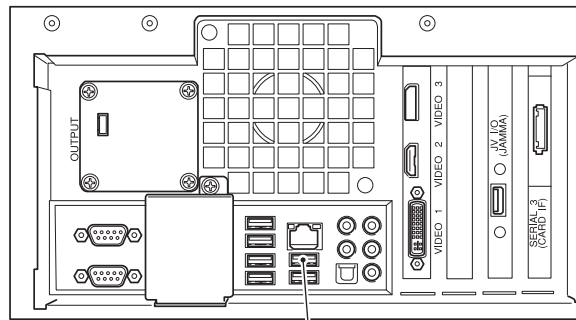
Troubleshooting

— Must be performed by a technician —

- 2 Insert the USB dongle into the USB slot of the game PC board (see the figure below).



[USB dongle connection location diagram]



USB dongle

— Must be performed by a technician —

8A-2. Connecting the Communication Cables

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 game cabinet power switch before starting work.
- Be careful not to let the cabinet sheet metal or other objects damage the cables extending from the bottom of the cabinet. It may result in fire or electric shock.

CAUTION

- Lay out the communication cables safely so that they will not cause players, bystanders or passersby to trip over them.

NOTICE

- Careless network system installation or other work makes networks susceptible to hacking, and can result in communication errors, lost data, and other trouble. In consideration of recovery when trouble occurs and hacking countermeasures, it is recommended to commission installation and other work to professionals.
- When laying communication cables on the floor, it is recommended to use commercially available cable molding to protect the cables.
- Failure to observe the following items may result in communication trouble and prevent proper game play. Be sure to connect the communication cables correctly according to the instructions.
 - Disconnected communication cables may result in communication trouble. When laying communication cables on the floor, be sure to arrange the cables so that passersby do not trip over them.
 - Do not bundle communication cables with power cords or pass them through the same cable moldings as power cords.
 - Install the communication cables with sufficient leeway so that they are not forcibly bent or stretched and there is no excessive load applied.

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Installation and Assembly • Technician's Manual

Test Mode

Troubleshooting

— Must be performed by a technician —

8A-2-1 Connection Diagrams

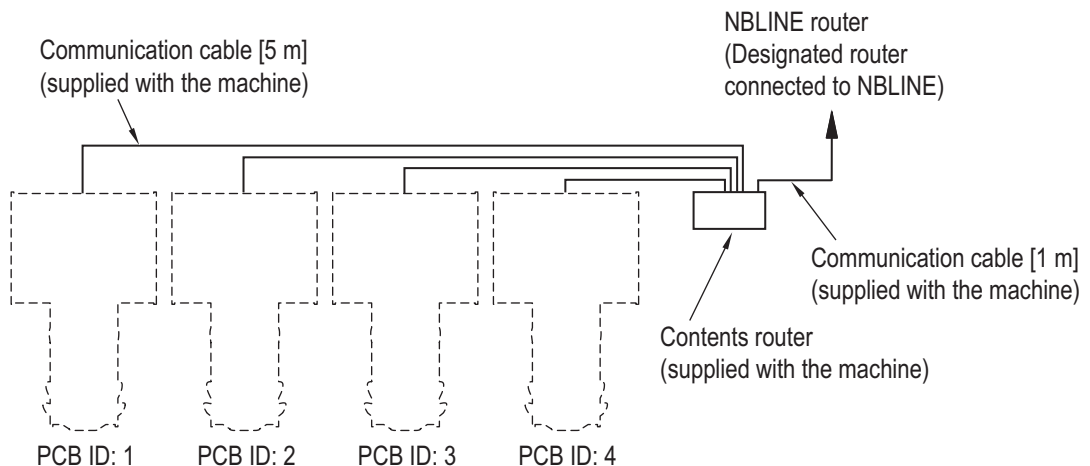
⚠ WARNING

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

1 Refer to the figures below, and connect the supplied router and communication cables.

- Be sure to connect the communication cables from the Game PC Board to the contents router to maintain a stable communication environment.
- Up to four machines can be connected to a single contents router.
- The connection work required for network communication differs according to the conditions of the installation location. Therefore, this Operation Manual describes an outline of the connections.
- For inquiries regarding individual support at each installation location, contact your distributor.

(1) Example of connection.

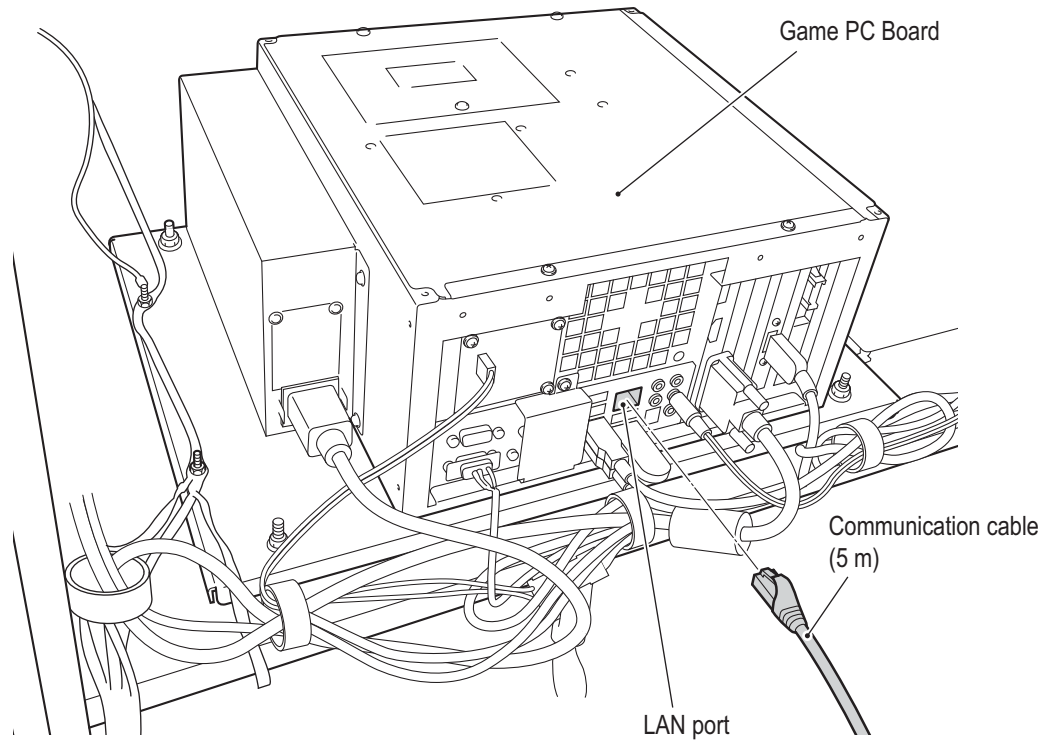


- Set the PCB ID of each machine before performing communication-linked VS Race game play. The setting method is described in “8A-3 Setting the PCB ID” on page 68.

— Must be performed by a technician —

8A-2-2 Connection Method

- 1** Turn off the power switch. (See “8A-2-4 Power Switch Position and Turning the Power Switch On” on page 67.)
- 2** Remove the rear door. (See “8B-4-1 (4) Replacing the LCD Monitor” on page 79.)
- 3** Connect the communication cable (5 m) to the LAN port of the Game PC Board.



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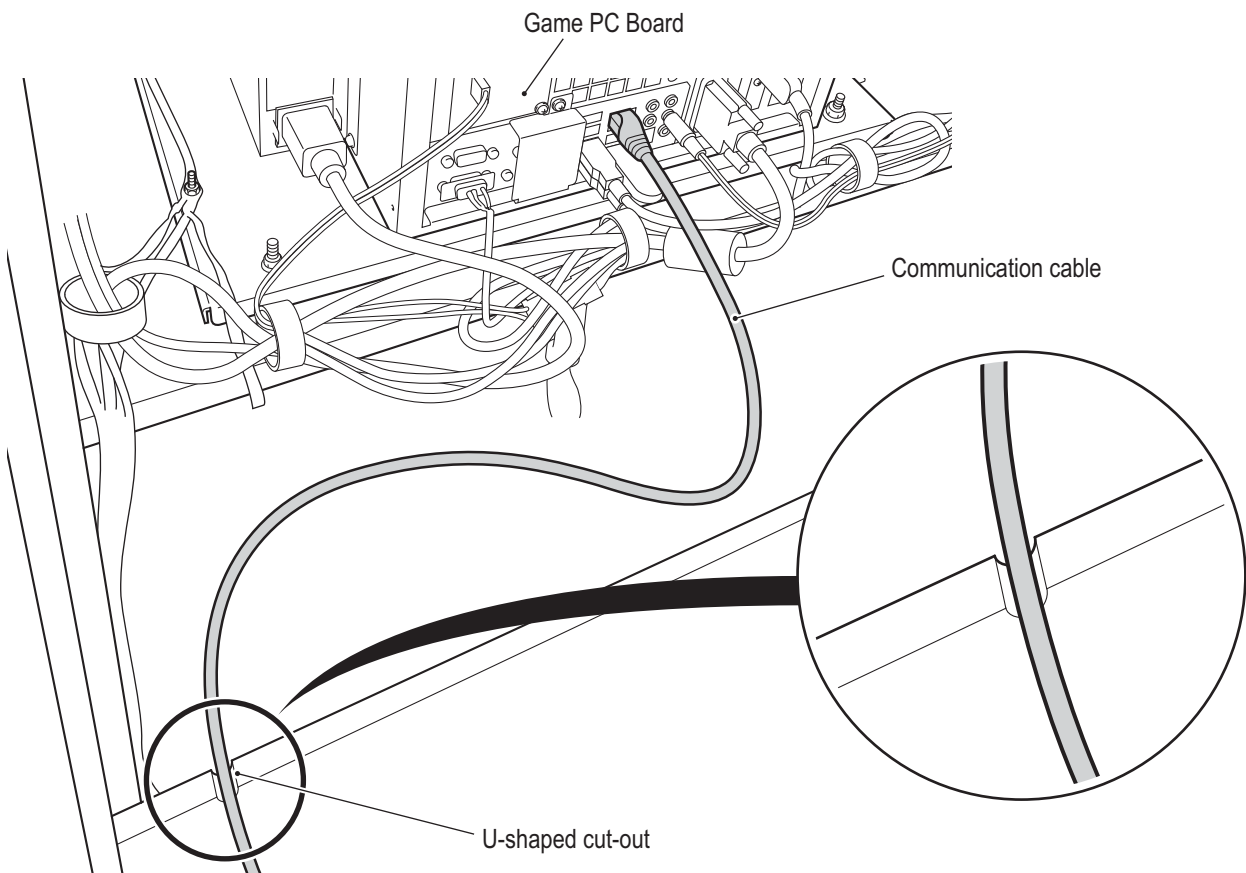
Installation and Assembly • Technician's Manual

Test Mode

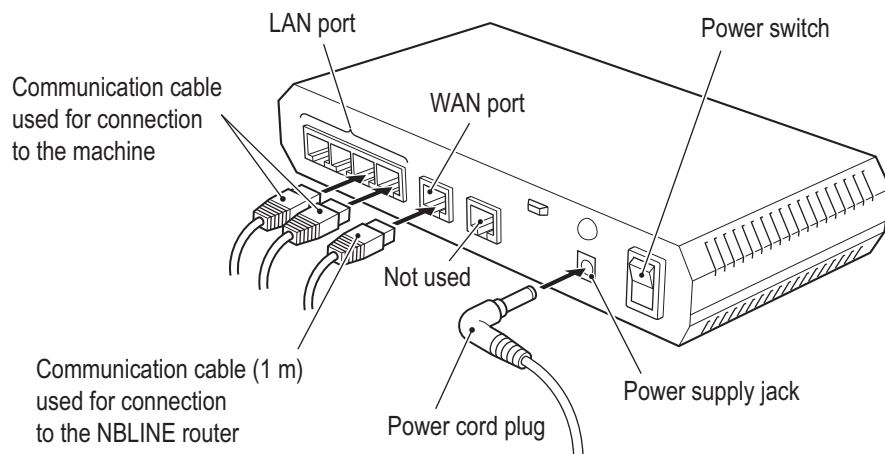
Troubleshooting

— Must be performed by a technician —

- 4 Position the communication cable (5 m) in the U-shaped cut-out on the lower panel, and return the rear door to its original position.



- 5 Attach the rear door.
- 6 Connect the power cord plug to the power supply jack and the communication cables (5 m) to the LAN ports of the supplied contents router.



- 7 Connect the communication cable (1 m) used for connection to the NBLINE router (the router connected to NBLINE) to the WAN port.

— Must be performed by a technician —



- Check the shape of the communication cable connectors and insert them with the proper alignment.
- Insert the communication cable connectors firmly. If a connector becomes loose, communication will not operate properly.
- Clamp the harnesses and communication cables with sufficient leeway so that they are not stretched and there is no excessive force applied.

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Installation and Assembly • Technician's Manual

Test Mode

Troubleshooting

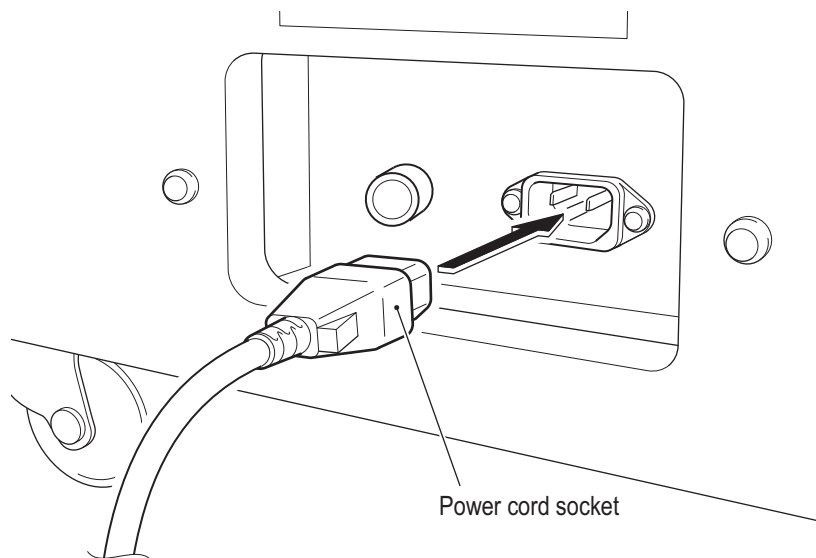
— Must be performed by a technician —

8A-2-3 Connecting the Power Cord and Ground

WARNING

- Be sure to install the ground wire using one of the methods below. Failure to install the ground wire may result in electric shock. Connect the ground using a 3P plug.

- 1** Insert the socket side of the power cord into the power input of the cord box assembly on the bottom of the front assembly rear panel.

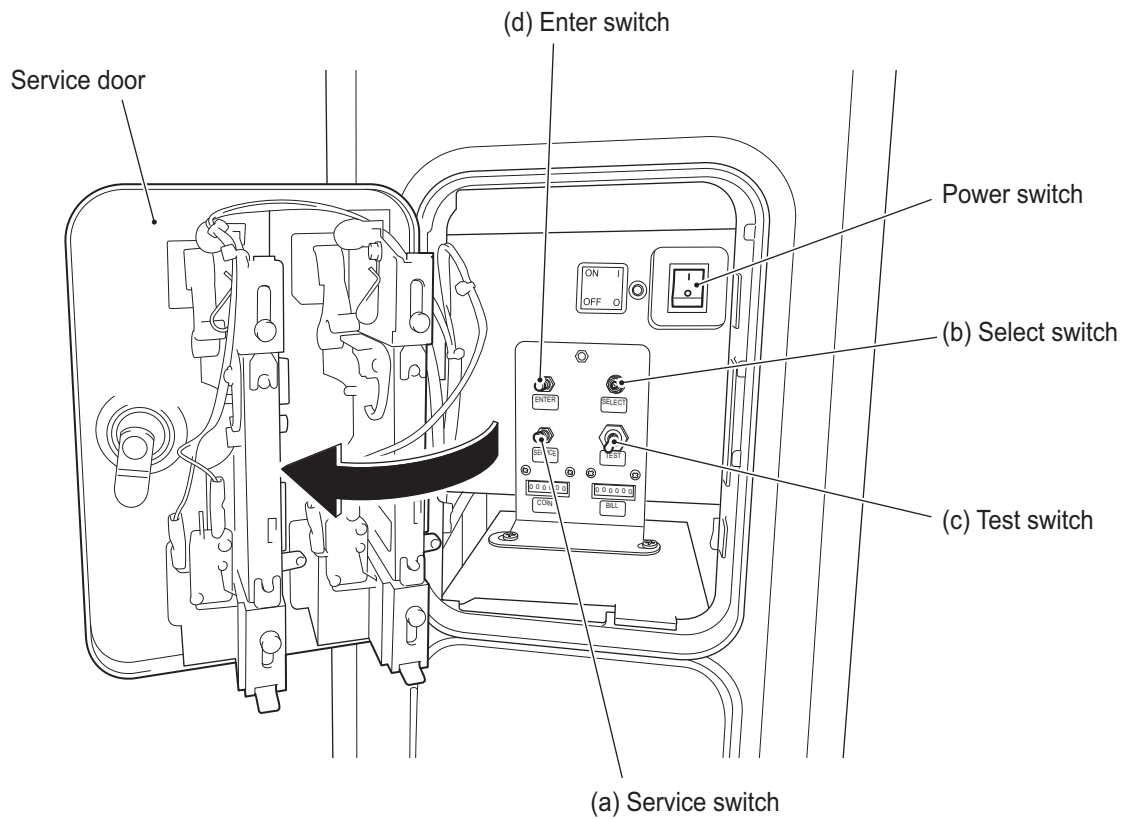


- 2** Insert the power plug of the power cord into the outlet.

— Must be performed by a technician —

8A-2-4 Power Switch Position and Turning the Power Switch On

- 1 Turn on the power switch of the machine.



- Be sure to turn the power switches on in the following order.

1. Contents router
2. This machine

If the power is not turned on in this order, communication will not be performed correctly between the game server and the machine, and the game may not operate properly.

- Do not turn the power switch on and off repeatedly, because it may cause a machine malfunction.
- When turning the power switch off and on, wait 30 seconds or more between operations.

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Installation and Assembly • Technician's Manual

Test Mode

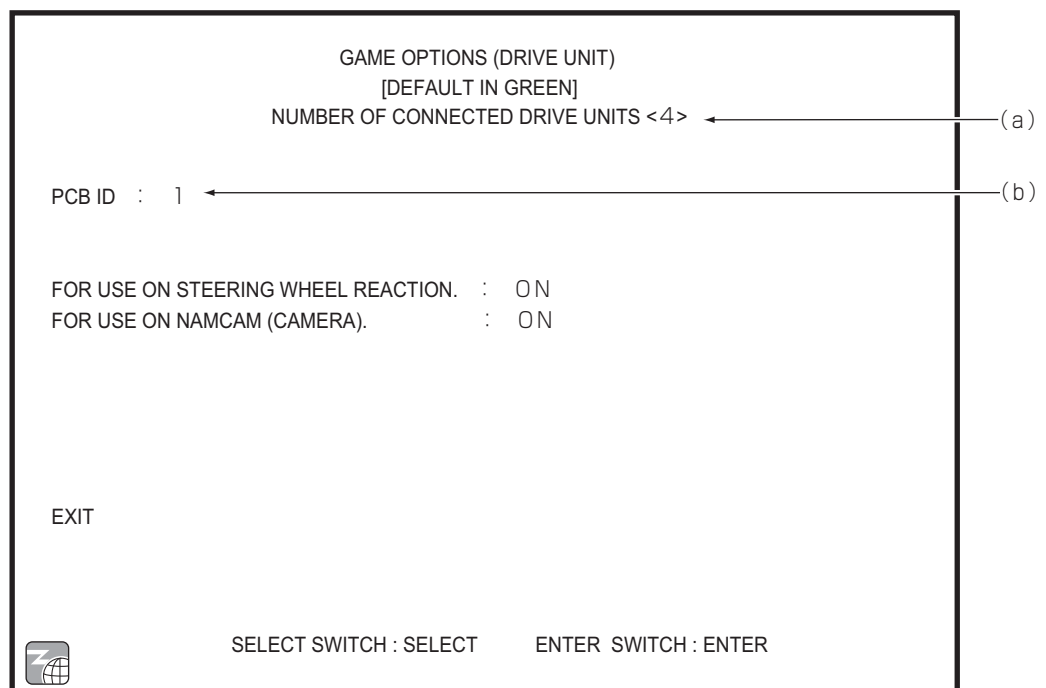
Troubleshooting

— Must be performed by a technician —

8A-3. Setting the PCB ID

When connecting two to four machines for communication-linked VS Race game play, make the following setting.

- 1** Use the supplied service key (FRONT) to open the service door.
- 2** When the Test switch is set to ON, the MENU screen appears on the monitor. (See “7-4-2 Adjustment Switches” on page 25.)
- 3** Flip the Select switch up or down to select GAME OPTIONS and press the Enter switch to display the GAME OPTIONS screen.



GAME OPTIONS screen

- 4** Check that (a) NUMBER OF CONNECTED DRIVE UNITS matches the number of actually connected Driver Cabinets with the power turned on.
- 5** Set (b) PCB ID to “1,” “2,” “3” and “4” in order from the leftmost Cabinet.
* When more than one Driver Cabinet has the same PCB ID, an error message appears.
- 6** Set the Test switch to OFF and close the service door.

8B. Service

⚠ WARNING

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

8B-1 Inspections and Service

⚠ WARNING

- Perform periodic service. Failure to perform service may result in an accident.
- Perform the inspections every day before starting operations. These are required to prevent accidents.
(See “7-2 Pre-operation Inspection” on page 20.)

8B-1-1 Inspection Items

After performing “7-2 Pre-operation Inspection” on page 20, check the following items periodically for any abnormalities.

(1) Level Adjuster Inspection

1. Check that the level adjusters are fixed securely. (See “8A-1-2 Connecting the Front Assembly to the Seat Assembly and Level Adjuster Adjustment” on page 57.)

(2) Power Cord Plug Inspection

1. Check that the power cord is firmly inserted into the machine’s cord box and the power outlet.
2. Clean any dust or other dirt from the connection parts.
3. 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 looseness. Fully retighten any loose parts.

1. Cap bolts (M6 x 30) for fastening the steering assembly
(See “8B-4-1 (5) Replacing the Steering Assembly” on page 83.)
2. Torx bolts (M5 x 25) for fastening the pedal assembly
(See “8B-4-3 (1) Removing and Installing the Pedal Assembly” on page 96.)

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Service • Technician's Manual

Test Mode

Troubleshooting

— Must be performed by a technician —

8B-2 Troubleshooting

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.
- If the problem is not described in “8B-2 Troubleshooting” or the problem persists despite taking the appropriate action, turn off the power switch immediately to stop operations and contact your distributor. Continuing operations may result in an accident.

NOTICE

- If a malfunction occurs, first make sure that all the connectors are connected securely.
- Repair of the PC boards will be performed by your distributor, so never perform a continuity check of a board with a tester or any other tool. The IC may be damaged by the internal voltage of the tester.
- To order repairs or parts, contact your distributor.
- When sending parts for repair, be sure to pack them properly. Particularly when sending the Game PC Board, wrap the part in sponge or air bubble wrapping before packing it in a cardboard box. Make sure that the box is not exposed to outside pressure.

8B-2-1 General

Symptom	Cause	Action	Reference
• The machine does not start.	• A connector is disconnected.	• Insert the connector securely.	Page 88
	• A Game PC Board malfunction.	• Replace the Game PC Board. Contact your distributor.	
• Operation is not stable or the machine operates incorrectly.	• The power supply voltage is not in the range of AC 110 V to 130 V.	• Disconnect a high-capacity device (such as an air conditioner or large machine) from the same line to reduce the voltage to the specified power supply voltage.	
• The power turns off during operation.	• The circuit protector has operated to turn the power switch off. * The circuit protector turns off the current when an abnormal current occurs.	• Turn on the power switch again. If the circuit protector operates frequently, there is a mechanical abnormality. Contact your distributor.	Page 67
• Resetting is performed during startup.	• The internal battery of the Game PC Board has run out.	• Replace the Game PC Board. Contact your distributor.	
	• A Game PC Board malfunction.		

— Must be performed by a technician —

8B-2-2 Front Assembly

Symptom	Cause	Action	Reference
• Sound is not output from the speakers.	• The volume setting is low.	• Reset the volume.	Page 42
	• A connector or Faston terminal is disconnected.	• Insert the connector or Faston terminal securely.	Page 93
	• An amp PC board malfunction.	• Replace the amp PC board.	Page 93
• The monitor screen does not operate.	• A connector is disconnected.	• Insert the connector securely.	Page 79
	• A monitor malfunction.	• Replace the monitor.	Page 79
• The title panel LEDs do not turn on.	• A connector is disconnected.	• Insert the connector securely.	Page 87
	• A LED bar (L) malfunction.	• Replace the LED bar (L).	Page 87
• The Mario button or Item button does not function.	• A connector is disconnected.	• Insert the connector securely.	Page 78
	• A switch malfunction.	• Replace the switch.	Page 78
	• A disconnection in the harness.	• Connect the location of the disconnection.	
• The lamp of the Mario button or Item button does not turn on.	• A connector is disconnected.	• Insert the connector securely.	Page 78
	• The lamp has burned out.	• Replace the lamp.	Page 78
	• A disconnection in the harness.	• Connect the location of the disconnection.	
• The top cover LEDs do not turn on.	• A connector is disconnected.	• Insert the connector securely.	Page 76
	• A Rainbow PC Board malfunction.	• Replace the Rainbow PC Board.	Page 76
• The monitor side LEDs do not light up.	• A connector is disconnected.	• Insert the connector securely.	Page 85
	• A Rainbow PC Board malfunction.	• Replace the Rainbow PC Board.	Page 85

8B-2-3 Steering Assembly

Symptom	Cause	Action	Reference
• The steering does not function.	• The volume has not been initialized.	• Perform initialization.	Page 53
	• A connector is disconnected.	• Insert the connector securely.	Page 83
	• A steering assembly malfunction.	• Replace the steering. Contact your distributor.	Page 83
	• The fuse (5A) has burned out. * The fuse blows when an abnormal current occurs.	• Replace the fuse. If the fuse blows frequently, there is a mechanical abnormality. Contact your distributor.	Page 95

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Service • Technician's Manual

Test Mode

Troubleshooting

— Must be performed by a technician —

8B-2-4 Pedal Assembly

Symptom	Cause	Action	Reference
• The accelerator or brake does not function.	• The volume has not been initialized.	• Perform initialization.	Page 53
	• A connector is disconnected.	• Insert the connector securely.	Page 96
	• A pedal assembly malfunction.	• Replace the pedal assembly. Contact your distributor.	Page 96

8B-2-5 Seat Assembly

Symptom	Cause	Action	Reference
• The LEDs on the back of the seat do not turn on.	• A connector is disconnected.	• Replace the connector.	Page 98
	• A LED bar (s) malfunction.	• Replace the LED bar (s).	Page 98
• The LEDs on the back of the seat base do not turn on.	• A connector is disconnected.	• Insert the connector securely.	Page 101
	• A Rainbow PC Board malfunction.	• Replace the Rainbow PC Board.	Page 101

— Must be performed by a technician —

8B-3 Error Displays

When an error is detected at startup or during game play, an error screen appears and machine operation stops.

Refer to the error code tables below to identify and resolve the cause of the error.

When a screen not described in the error code tables appears or the error occurs again despite taking the appropriate action, something else may be causing the error. In these cases contact your distributor.

(1) Network Errors

Error code	Error message	Cause	Action	Reference page
05-01	CONTENT ROUTER DISCONNECTED	• An abnormality in the connections or settings of the contents router.	• Check the connection between the contents router and the machine.	Pages 44, 46, 61 and 62
05-02	CONTENT ROUTER MISMATCH			
05-03	NOT GET IP ADDRESS			
05-04	IP ADDRESS ERROR			
05-05	LOCAL NETWORK ERROR			
05-20	ERROR DEVICE	• An abnormality in the connection or certification to the game server	• Contact your distributor.	
05-21	ERROR AUTH NG			
05-22	ERROR DNS TIMEOUT			
05-23	ERROR DNS HOST NOT FOUND			
05-24	ERROR SERVER NG			
05-30	ERROR TIP TIMEOUT	• An abnormality in the connection or certification to the Game PC Board certification server		
05-31	ERROR TIP HOST NOT FOUND			
05-32	ERROR DNS TIMEOUT			
05-33	ERROR DNS HOST NOT FOUND			
05-34	ERROR AUTH NG			
05-35	ERROR AUTH TIMEOUT			
05-38	NBLINE POINT BALANCE ERROR	• No remaining NBLINE POINTS.	• Reload the NBLINE POINTS.	Page 52
05-50	REVISION ERROR	• The software revision differs from that of the game server.	• Execute the software update.	Page 28
05-51	GAME SERVER CONNECTION ERROR	• The game server is shut down for servicing or some trouble.	• Wait a bit and check the communication status again.	
05-52	GAME SERVER UNDER MAINTENANCE			
05-53	INCONSISTENT SERVER ERROR	• An abnormality in communication with the game server.	• Check the network connection.	Pages 44, 59 and 61
05-54	NETWORK AUTHENTICATION ERROR	• The specified time passed (timeout) with no network connection, so machine operation stopped.		

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11

Service • Technician's Manual

Test Mode

Troubleshooting

— Must be performed by a technician —

Error code	Error message	Cause	Action	Reference page
05-55	NETWORK CONNECTION UNSTABLE	• An update required for operation has not been performed.	• Perform the update required for operation.	
05-56	INITIAL NETWORK AUTHENTICATION ERROR	• An abnormality in communication with the game server the first time the machine was started up after installation.	• Check the network connection.	Pages 44, 61

(2) Steering Assembly Errors

Error code	Error message	Cause	Action	Reference page
22-01	STR PCB OVERRUN ERROR	• An abnormality in the STR4 (M) PC board communication data.	• Replace the STR4 (M) PC board.	Page 91
22-02	STR PCB FRAMING ERROR			
22-03	STR PCB PARITY ERROR			
22-04	STR PCB RAM ERROR	• An abnormality in the STR4 (M) PC board memory.		
22-05	STEERING VOLUME DAMAGE ERROR	• The steering assembly analog potentiometer is damaged.	• Replace the analog potentiometer. Contact your distributor.	
22-06	STR PCB OVER CURRENT ERROR	• An overcurrent flowed to the STR4 (M) PC board.	• Replace the STR4 (M) PC board.	Page 91
22-07	STEERING VOLUME CONNECTION ERROR	• The steering assembly analog potentiometer is not connected.	• Check the analog potentiometer connection.	Page 83
22-08	STEERING VOLUME OVER SPEED ERROR	• The steering assembly analog potentiometer is not damaged.	• Replace the analog potentiometer. Contact your distributor.	
22-09	MOTOR CURRENT ERROR	• An abnormality in the motor current.	• Replace the motor. Contact your distributor.	
22-10	MOTOR CURRENT SENSOR ERROR			
22-11	MOTOR POWER ON ERROR	• An abnormality in the motor or the power supply.		
22-12	STR PCB LINK ERROR	• Communication with the STR4 (M) PC board is not possible.	• Check the STR4 (M) PC board connection.	Page 91



- When an error related to the steering assembly occurs, first turn the power off and then on again.
If the error persists, check the connections and operation of each part.
- When turning the power switch off and then on again, wait 30 seconds or more between operations to protect the electronic circuits.

— Must be performed by a technician —

(3) Other Hardware Errors

Error code	Error message	Cause	Action	Reference page
01-11	COIN ERROR1 (COIN UNIT1)	• A coin micro switch malfunction.	• Replace the coin micro switch. Contact your distributor.	Page 92
		• A NA-JV (M) PC board malfunction.	• Replace the NA-JV (M) PC board.	
01-12	COIN ERROR2	• An abnormality in the Service switch.	• Contact your distributor.	Page 92
		• A NA-JV (M) PC board malfunction.	• Replace the NA-JV (M) PC board.	
01-21	COIN ERROR1 (COIN UNIT2)	• A bill validator malfunction.	• Contact your distributor.	Page 92
		• A NA-JV (M) PC board malfunction.	• Replace the NA-JV (M) PC board.	
02-06	CLOCK ERROR1	• The time setting is incorrect.	• Contact your distributor.	
02-07	CLOCK ERROR2	• A Game PC Board malfunction.		
03-01	I/O ERROR1	• A connector is disconnected. • A NA-JV (M) PC board malfunction.	• Check the NA-JV (M) PC board connection. • Replace the NA-JV (M) PC board.	Page 92
03-02	I/O ERROR2			
03-03	I/O ERROR3			
08-01	NAMCAM (CAMERA) ERROR	• A connector is disconnected.	• Check the NamCam (camera) connection.	Page 86
		• A NamCam (camera) malfunction.	• Replace the NamCam (camera).	Page 86
19-10	USB DONGLE ERROR 1	• The USB dongle is not inserted.	• Insert the USB dongle for the machine. Then, turn the power off and then on again. If the same error repeats, contact your distributor.	Page 59
19-11	USB DONGLE ERROR 2	• The USB dongle for a different machine type is inserted.		
19-13	USB DONGLE ERROR4	• A different USB dongle than the USB dongle inserted at startup is inserted.		
20-01	VERSION UP ERROR 1	• Version update failed.	• Turn the power off and execute the version update again.	Page 28
24-03	DUPLICATE PCB ID ERROR	• The set PCB ID is already in use by another driver cabinet.	• Set the PCB ID so that there is no duplication.	Page 68

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Service • Technician's Manual

Test Mode

Troubleshooting

— Must be performed by a technician —

8B-4 Removing and Installing Assemblies and Parts

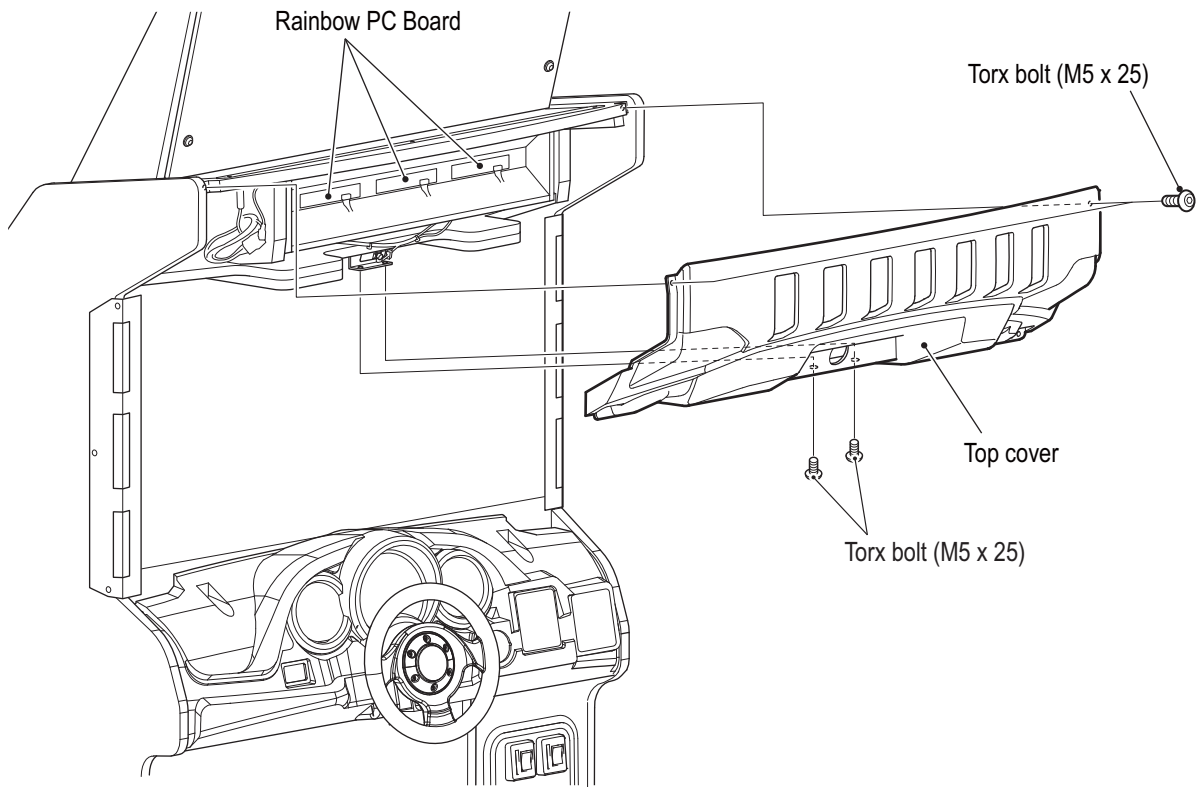
8B-4-1 Front Assembly

(1) Replacing the Rainbow PC Board (top cover)

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** Remove the four torx bolts (M5 x 25) from the front of the front assembly, and then remove the top cover.
- 2** Replace the Rainbow PC Board.



- 3** To install, perform the procedure in reverse.

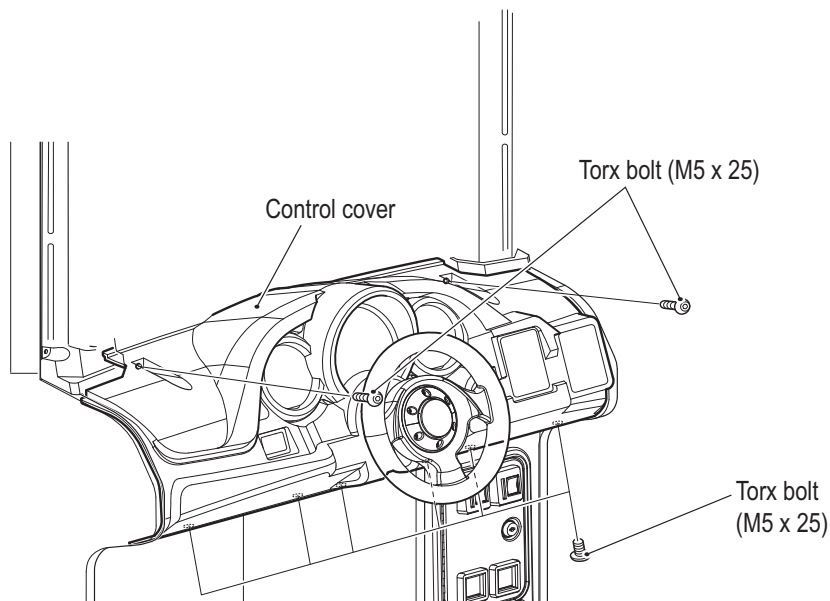
— Must be performed by a technician —

(2) Removing and Installing the Control Cover

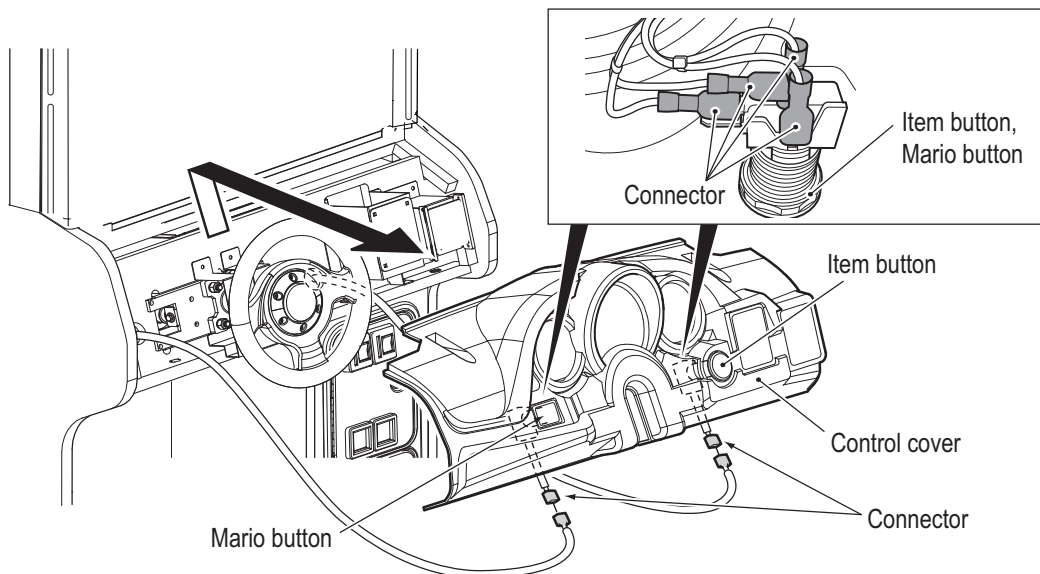
! WARNING

- 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 Remove the two torx bolts (M5 x 25) from the front of the front assembly, and the six torx bolts (M5 x 25) from under the control cover.



- 2 While lifting up the control cover, remove it towards you. On the rear, disconnect and remove the two connectors of the Item button and Mario button.



- 3 To install, perform the procedure in reverse.



- When installing the control cover, be careful not to trap the harness.

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Service • Technician's Manual

Test Mode

Troubleshooting

— Must be performed by a technician —

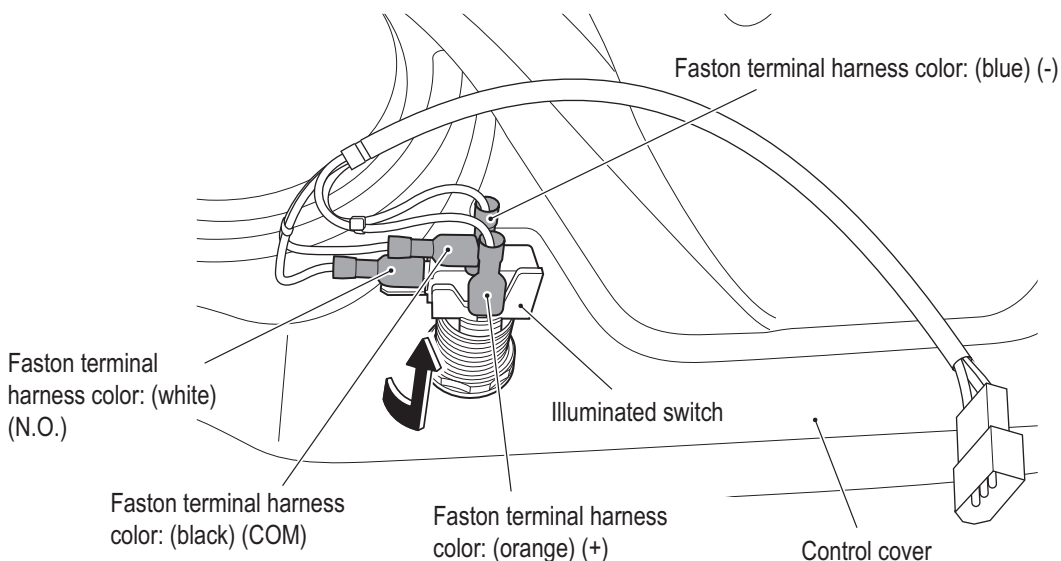
(3) Replacing the Item Button, Mario Button and Lamps

The Item button is used as an example in the following procedure. Use the same procedure to replace the Mario button.

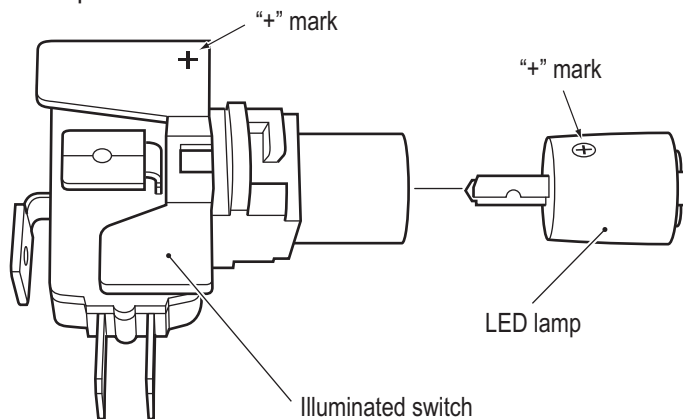
! WARNING

- 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** Remove the control cover. (See “8B-4-1 (2) Removing and Installing the Control Cover” on page 77.)
- 2** Turn the illuminated switch to the left to unlock it, and then remove it.



- 3** Pull out the lamp.



- 4** Replace the Item button and the lamp.
- 5** To install, perform the procedure in reverse. Use the same procedure to replace the Mario button.

* The LED lamp has positive and negative polarity. Take care to position the lamp correctly during replacement.

NOTICE

- After completing the replacement, be sure to check the operation. (See “7-6-4 (a) SWITCH TEST” on page 37.)

— Must be performed by a technician —

(4) Replacing the LCD Monitor

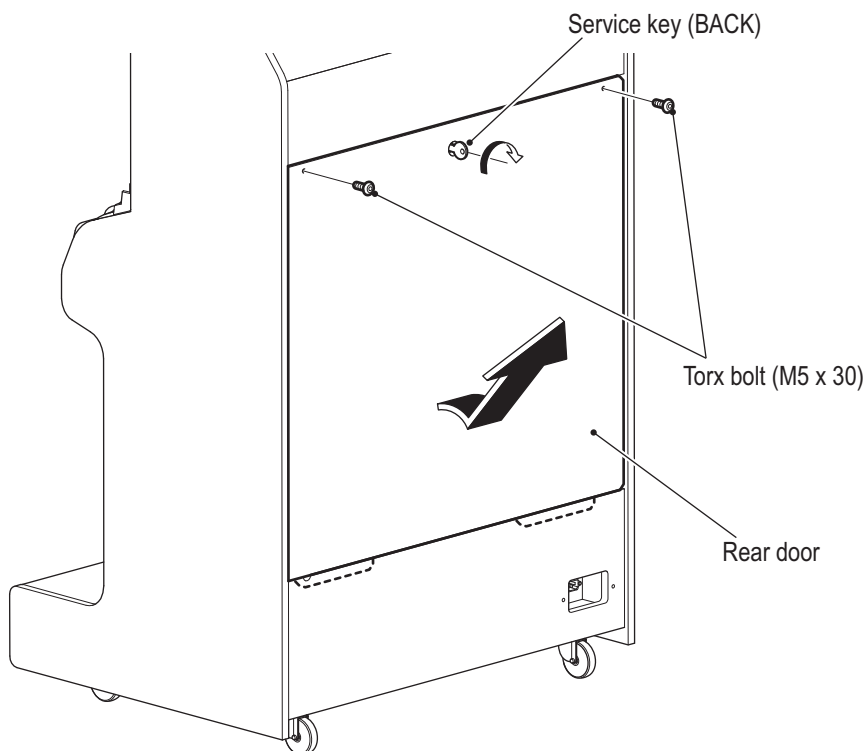
! WARNING

- 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.

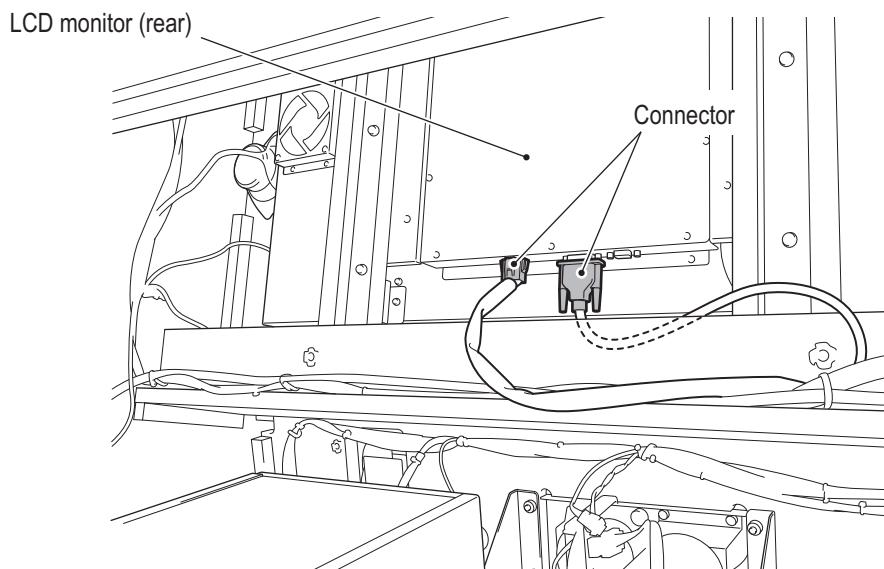
! CAUTION

- The LCD monitor weighs approx. 22 lb (10 kg). Be very careful while working, because dropping it may cause injury.

- 1** Remove the two torx bolts (M5 x 30) from the rear of the front assembly, and then unlock the rear door with the service key (BACK) and remove it.



- 2** Remove the two connectors of the LCD monitor.



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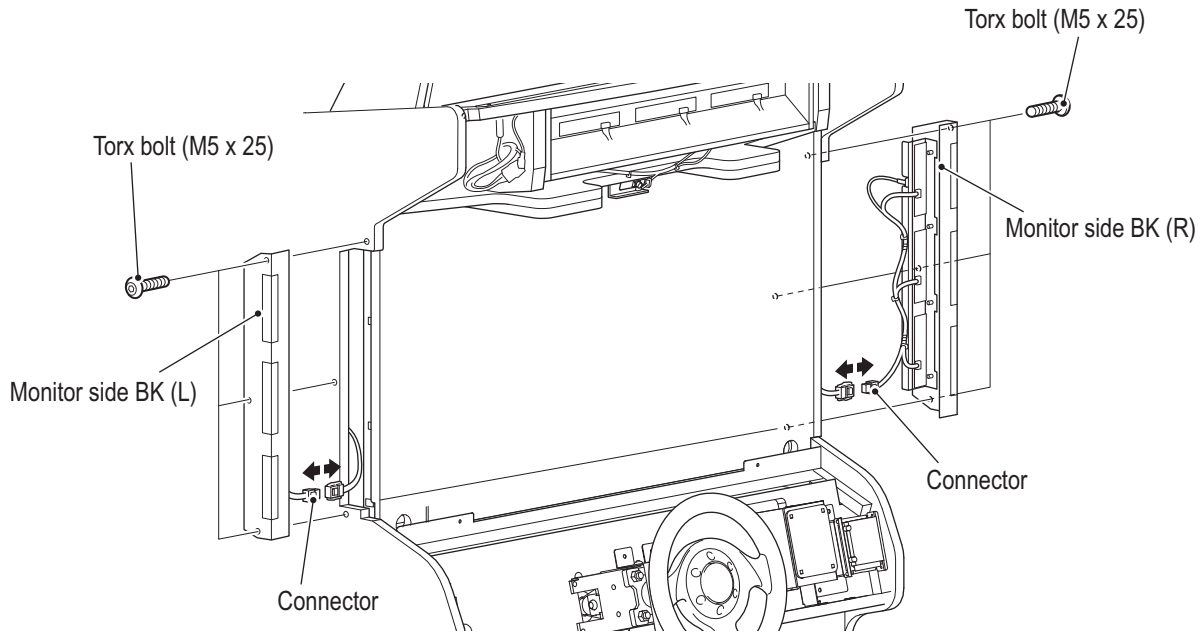
Service • Technician's Manual

Test Mode

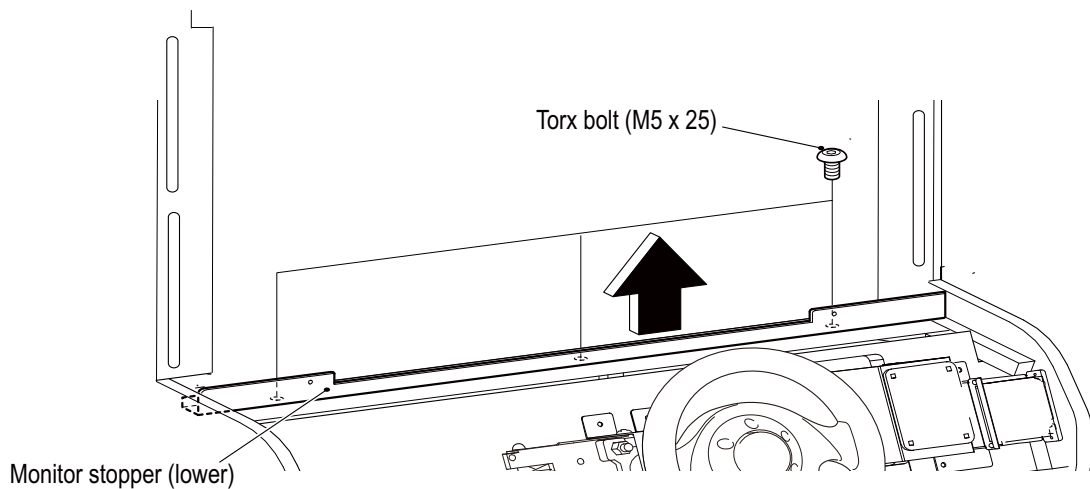
Troubleshooting

— Must be performed by a technician —

- 3** Remove the control cover. (See “8B-4-1 (2) Removing and Installing the Control Cover” on page 77.)
- 4** Remove the top cover. (See “8B-4-1 (1) Replacing the Rainbow PC Board (Top cover)” on page 76.)
- 5** Remove the three torx bolts (M5 x 25), disconnect the connector and then remove the monitor side BK (L). Remove the monitor side BK (R) in the same way.

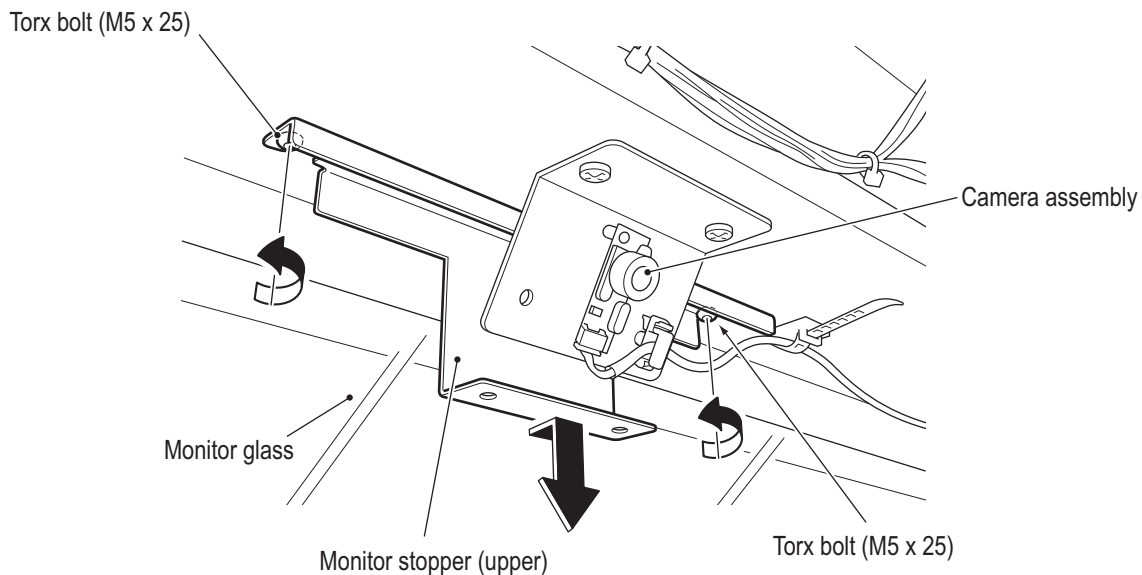


- 6** Remove the three torx bolts (M5 x 25), and then remove the monitor stopper (lower).

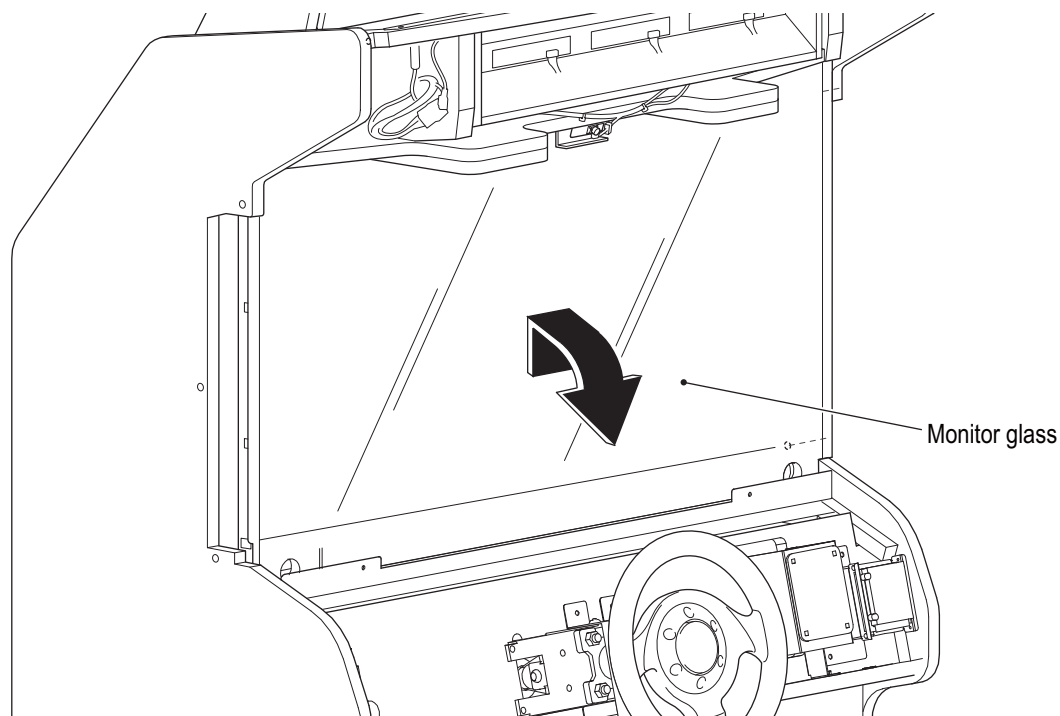


— Must be performed by a technician —

- 7 Loosen the two torx bolts (M5 x 25) on the rear of the camera assembly, and then remove the monitor stopper (upper).



- 8 Lift up the monitor glass slightly, pull out the bottom side towards you and remove it.



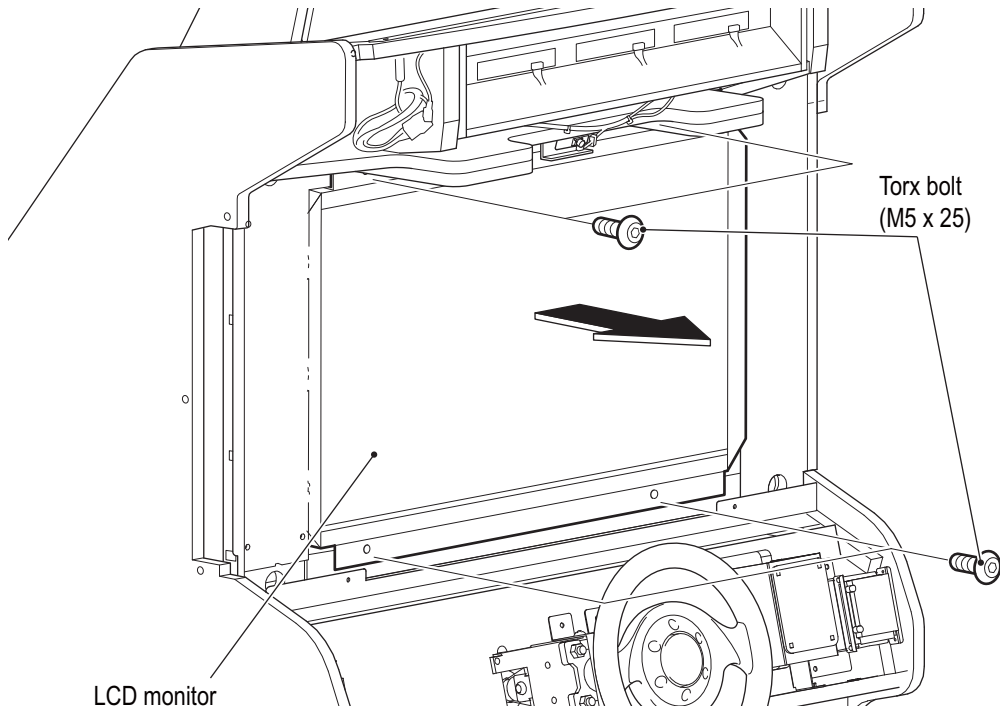
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Service • Technician's Manual

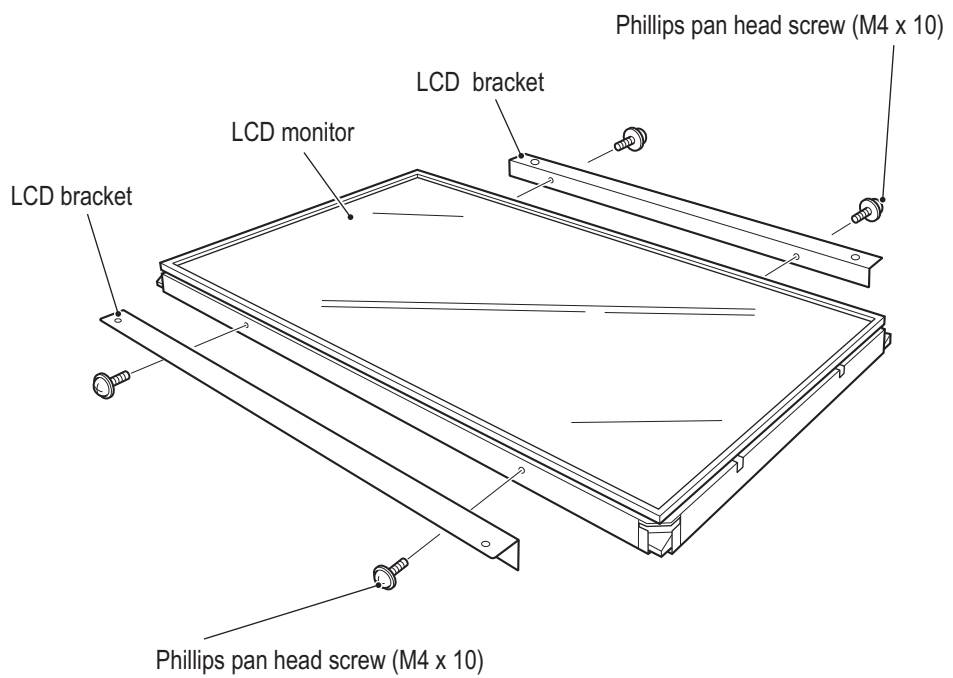
- Test Mode
- Troubleshooting

— Must be performed by a technician —

- 9** Remove the four torx bolts (M5 x 25), and then remove the LCD monitor.



- 10** Remove the four Phillips pan head screws (M4 x 10), remove the LCD brackets and replace the LCD monitor.



- 11** To install, perform the procedure in reverse.

— Must be performed by a technician —

(5) Replacing the Steering Assembly

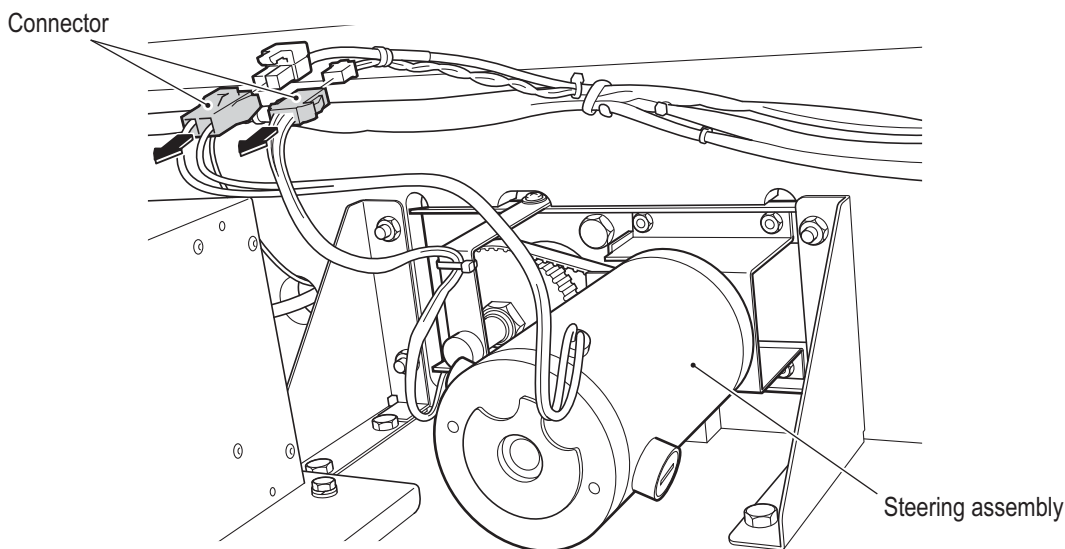
! WARNING

- 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.

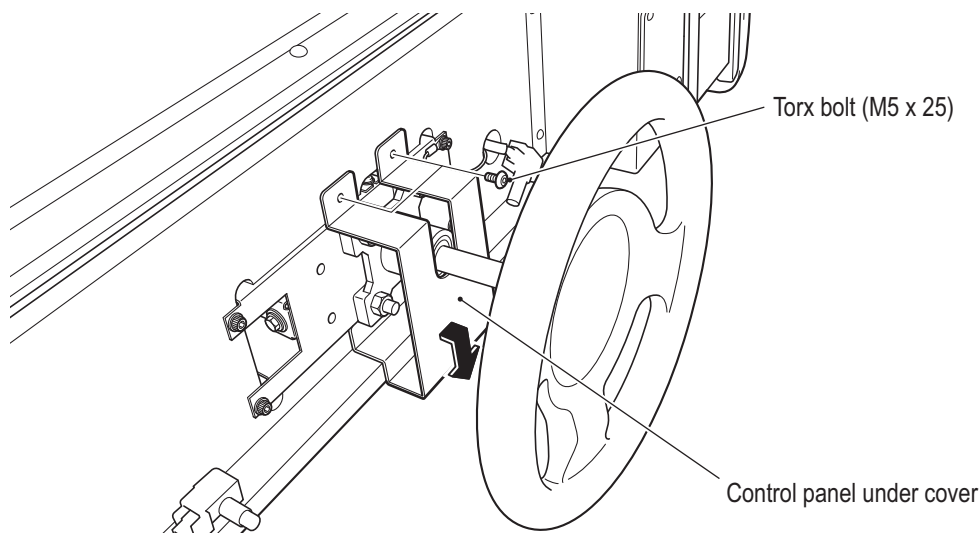
! CAUTION

- The steering assembly weighs approx. 26.5 lb (12 kg). Be very careful while working, because dropping it may cause injury.

- 1** Remove the rear door. (See **1** in “8B-4-1 (4) Replacing the LCD Monitor” on page 79.)
- 2** Remove the two connectors of the steering assembly.



- 3** Remove the control cover. (See “8B-4-1 (2) Removing and Installing the Control Cover” on page 77.)
- 4** Remove the two torx bolts (M5 x 25), and then remove the control panel under cover.



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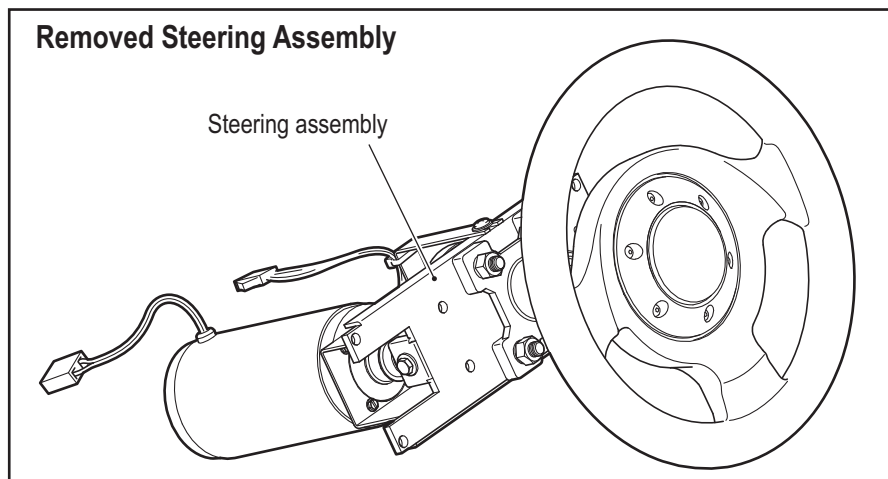
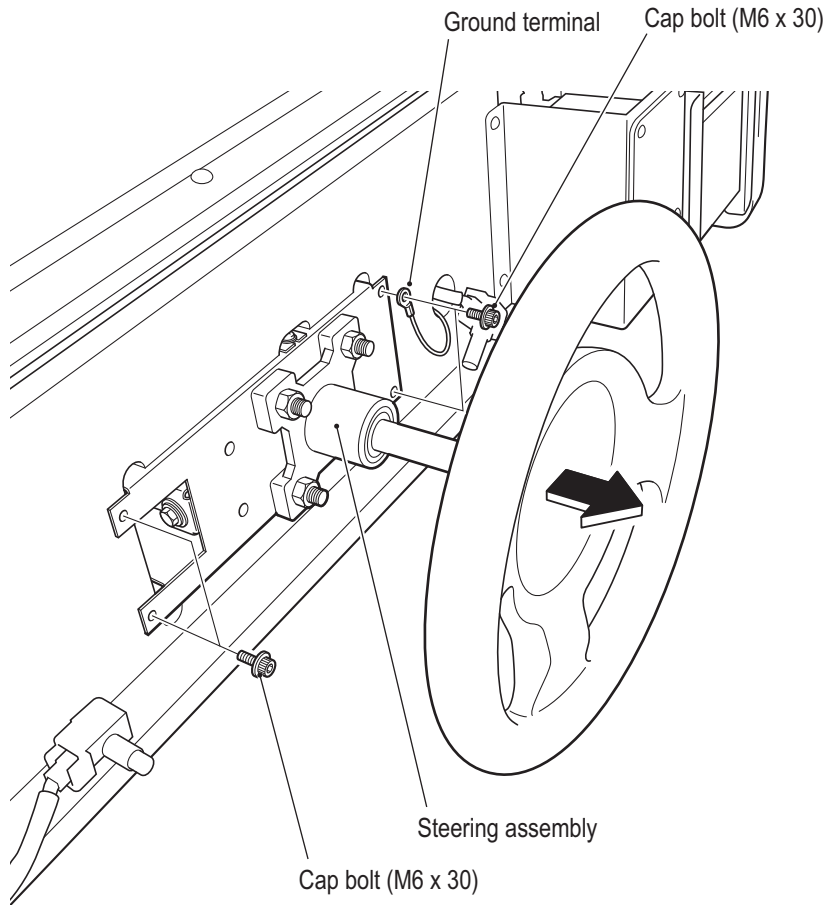
Service • Technician's Manual

Test Mode

Troubleshooting

— Must be performed by a technician —

- 5** Remove the four cap bolts (M6 x 30) and the ground terminal, then slowly pull out the steering assembly and replace it.



- 6** To install, perform the procedure in reverse.



- After completing the replacement, be sure to initialize and check the operation. (See "7-6-11 Adjustments after Parts Replacement (GO TO I/F INITIALIZE)" on page 53 and "7-6-4 (a) SWITCH TEST" on page 37.)

— Must be performed by a technician —

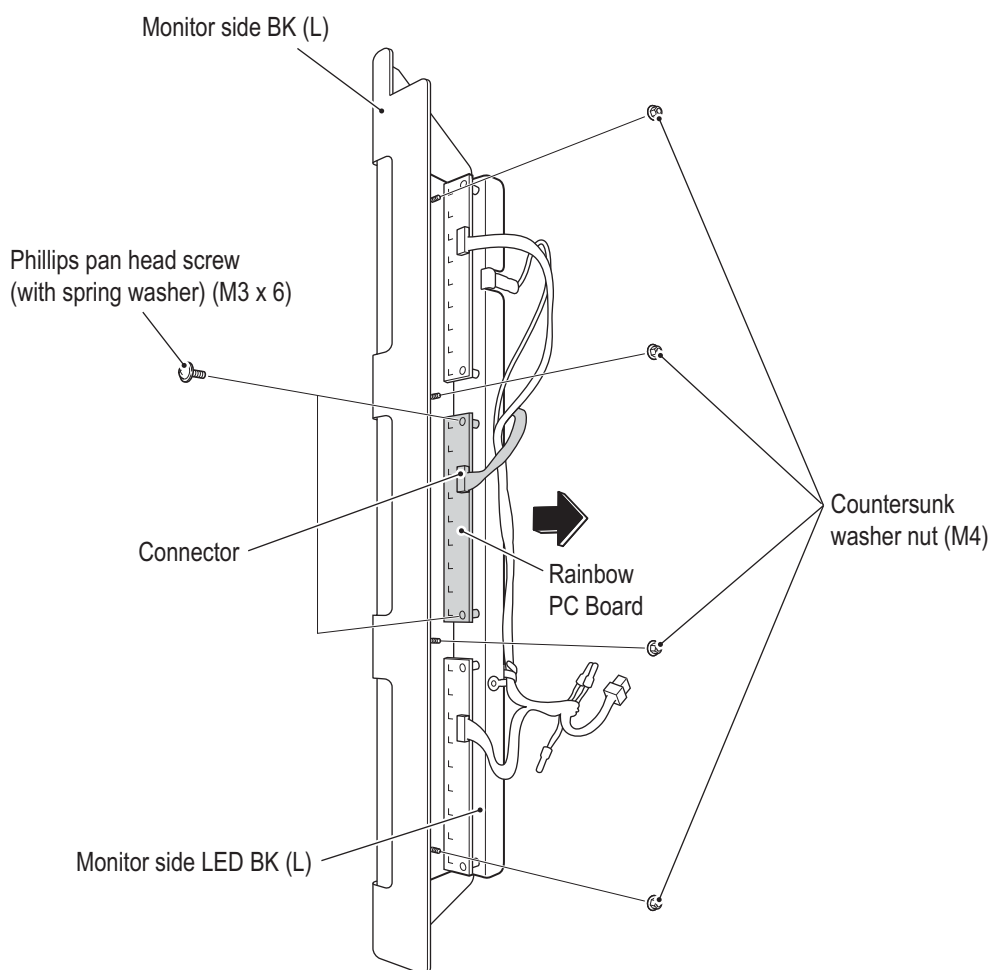
(6) Replacing the Rainbow PC Board (monitor side)

There are six LEDs. The replacement of the top left LED is described below.

⚠ 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** Remove the monitor side BK (L). (See **5** in “8B-4-1 (4) Replacing the LCD Monitor” on page 79.)
- 2** Remove the four countersunk washer nuts (M4), and remove the monitor side LED BK (L).
- 3** Disconnect the connector, remove the two Phillips pan head screws (with spring washer) (M3 x 6), and remove the Rainbow PC Board.



- 4** To install, perform the procedure in reverse.



- After completing the replacement, be sure to check the operation. (See “7-6-4 (b) LAMP TEST” on page 39.)

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Service • Technician's Manual

Test Mode

Troubleshooting

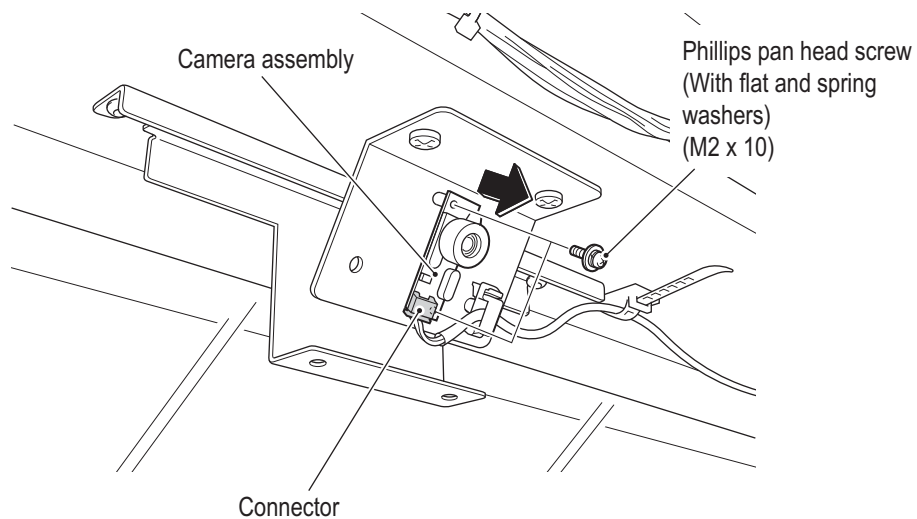
— Must be performed by a technician —

(7) Replacing the Camera

! 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** Remove the top cover, monitor side cover (L) and monitor side cover (R).
(See **1** in “8B-4-1 (1) Replacing the Rainbow PC Board (top cover)” on page 76.)
- 2** Disconnect the connector, remove the two Phillips pan head screws (with flat and spring washers) (M2 x 10), and remove the camera assembly.



- 3** To install, perform the procedure in reverse.



- After completing the replacement, be sure to check the operation.
(See “7-4-6 (c) NAMCAM (CAMERA) TEST” on page 40.)

— Must be performed by a technician —

(8) Replacing the LED Bar (L)

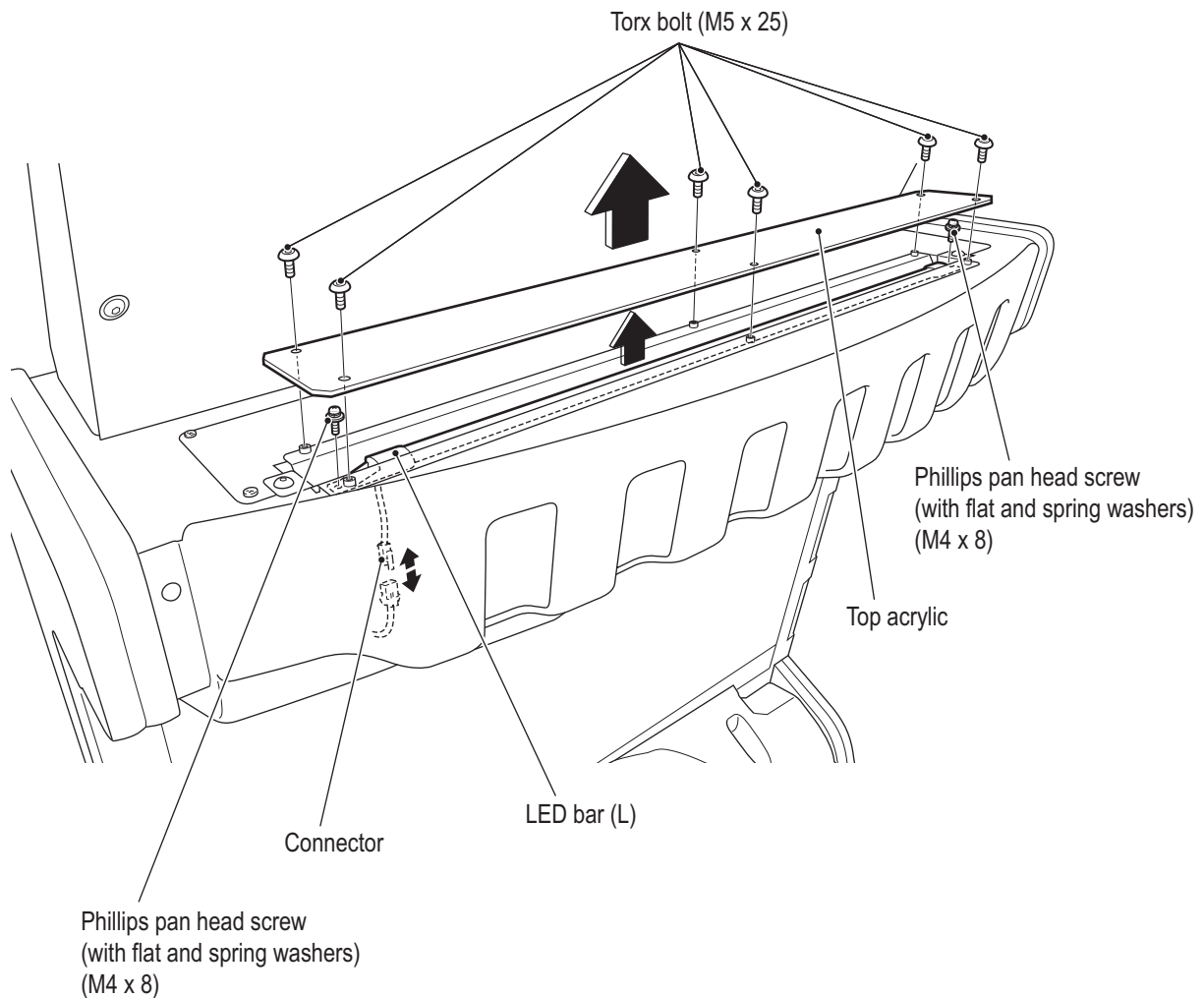
⚠ WARNING

- 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

- The PC board is 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 the 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 “8A-2-4 Power Switch Position and Turning the Power Switch On” on page 67.)
- 2** Remove the six torx bolts (M5 x 25), and remove the top acrylic.



- 3** Remove the two Phillips pan head screws (with flat and spring washers) (M4 x 8), disconnect the connector and replace the LED bar (L).
- 4** To install, perform the procedure in reverse.

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Service • Technician's Manual

Test Mode

Troubleshooting

— Must be performed by a technician —

8B-4-2 Front Assembly Rear Side

(1) Replacing the Game PC Board

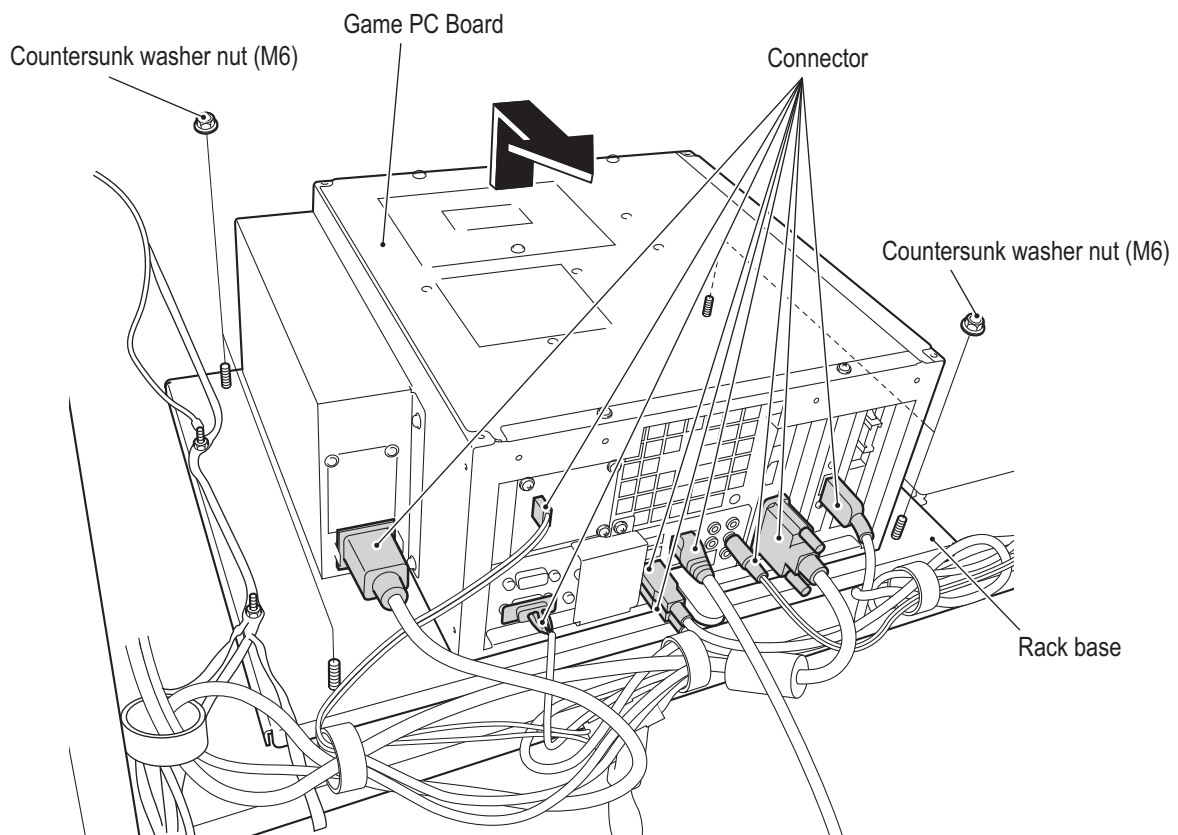
⚠ WARNING

- 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.

⚠ CAUTION

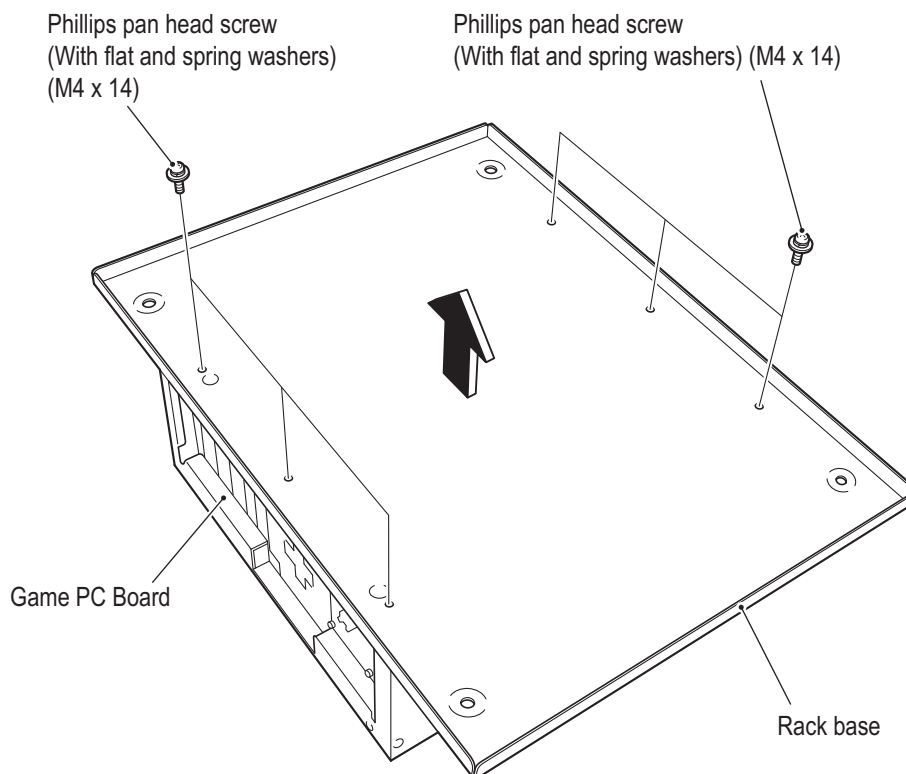
- The Game PC Board weighs approx. 17.6 lb (8 kg). Be very careful while working, because dropping it may cause injury.

- 1** Remove the rear door. (See **1** in “8B-4-1 (4) Replacing the LCD Monitor” on page 79.)
- 2** Disconnect the nine connectors, remove the four countersunk washer nuts (M6), and remove the Game PC Board together with the rack base.



— Must be performed by a technician —

- 3** Turn over the Game PC Board. Remove the six Phillips pan head screws (with flat and spring washers) (M4 x 14), remove the rack base and replace the Game PC Board.



- 4** To install, perform the procedure in reverse.

NOTICE

- When sending a part for repair (Game PC Board), wrap it in sponge or bubble wrap before packing it in a cardboard box. Make sure that the box is not exposed to outside pressure.
- After completing the replacement, be sure to check the operation and initialize. (See “7-6 Test Mode” on page 31.)

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Service • Technician's Manual

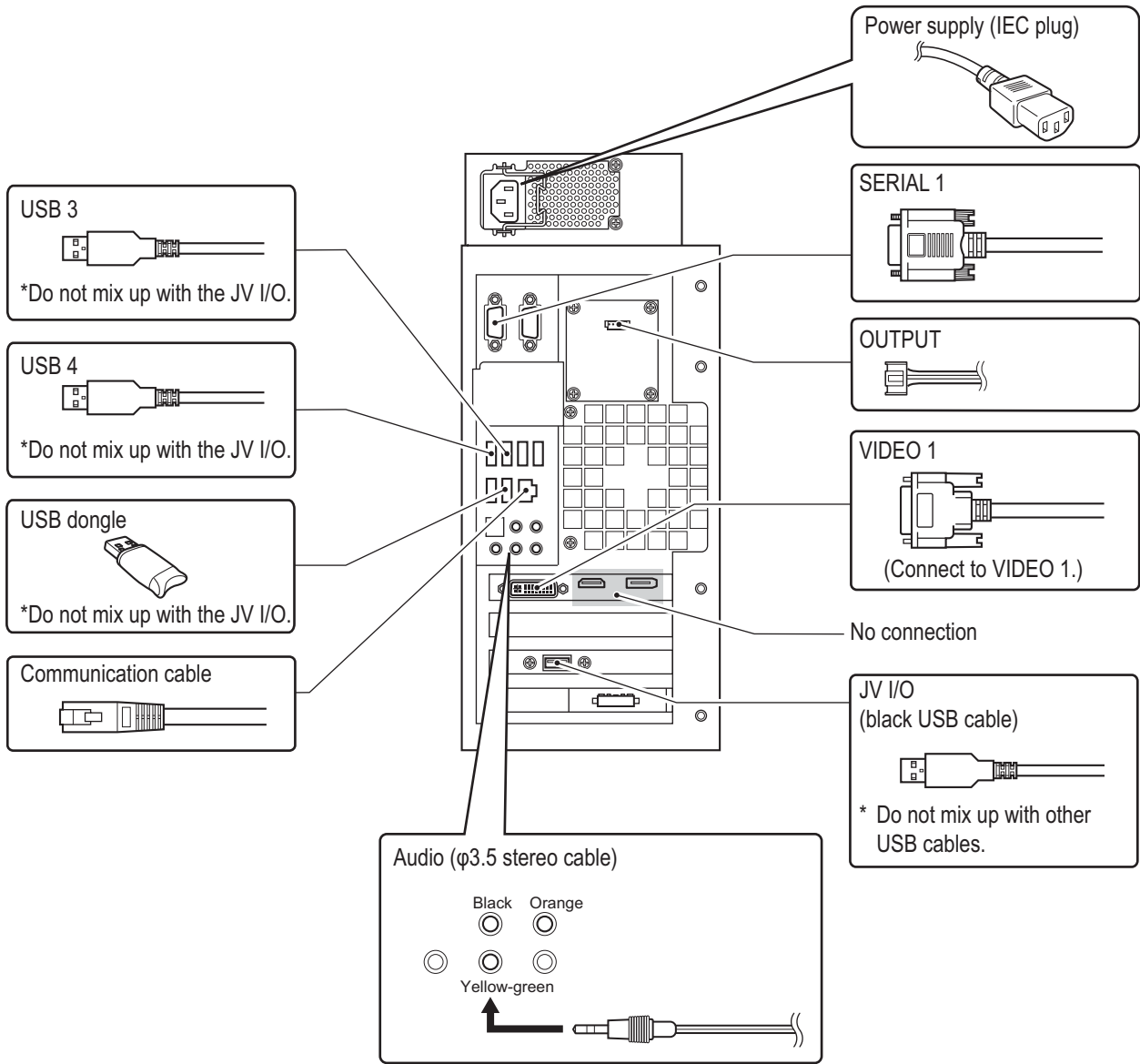
Test Mode

Troubleshooting

— Must be performed by a technician —



- When installing, follow the indications on the game PC board, and connect the connectors correctly.



— Must be performed by a technician —

(2) Replacing the STR4 (M) PC Board

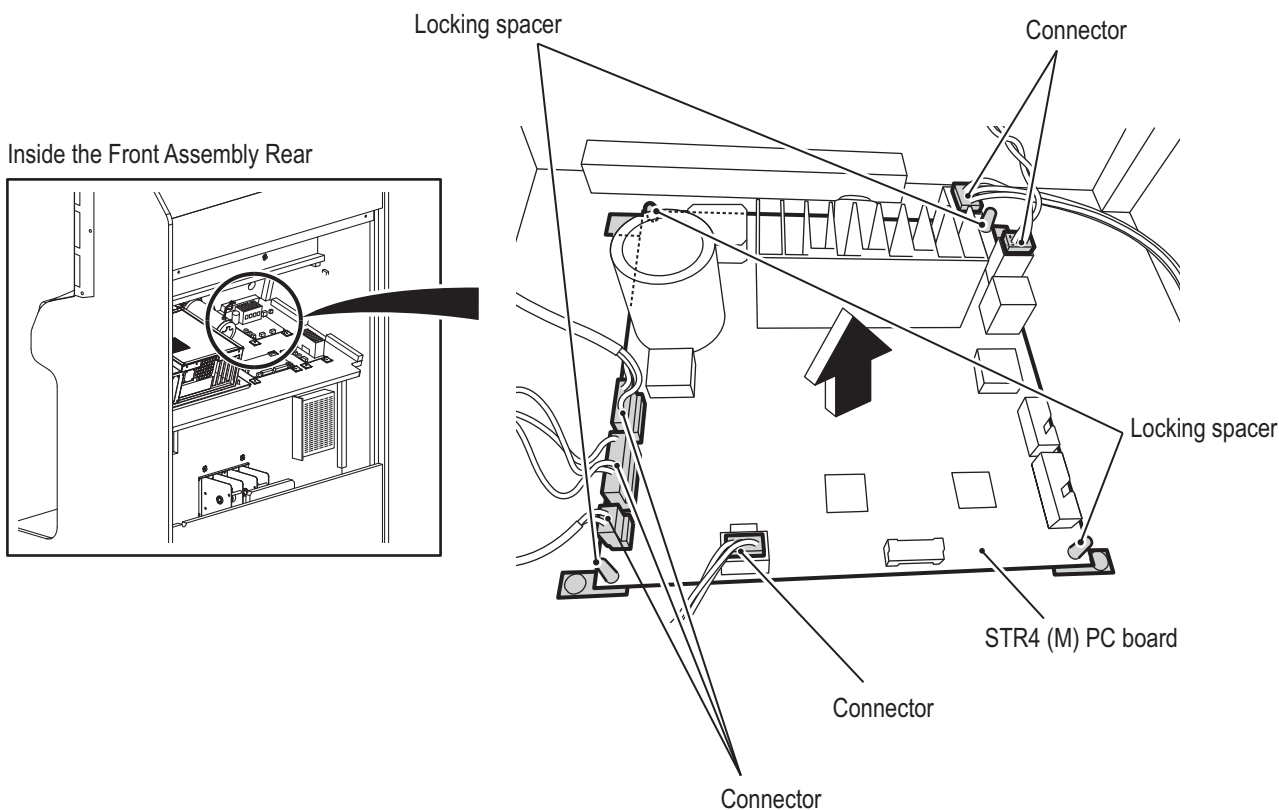
! WARNING

- 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

- To avoid damaging the electronic circuits, make sure that the connector direction is correct when connecting the connectors.
- The PC board is 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 the PC board, discharge the static electricity from your body; for example, by touching the surface of grounded metal.

- 1** Remove the rear door. (See **1** in “8B-4-1 (4) Replacing the LCD Monitor” on page 79.)
- 2** Disconnect the six connectors, remove the STR4 (M) PC board from the locking spacers, and replace it.



- 3** To install, perform the procedure in reverse.

NOTICE

- After completing the replacement, be sure to check the operation and initialize. (See “7-6-11 Adjustments after Parts Replacement (GO TO I/F INITIALIZE)” on page 53 and “7-6-4 (a) SWITCH TEST” on page 37.)

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Service • Technician's Manual

Test Mode

Troubleshooting

— Must be performed by a technician —

(3) Replacing the NA-JV (M) PC Board

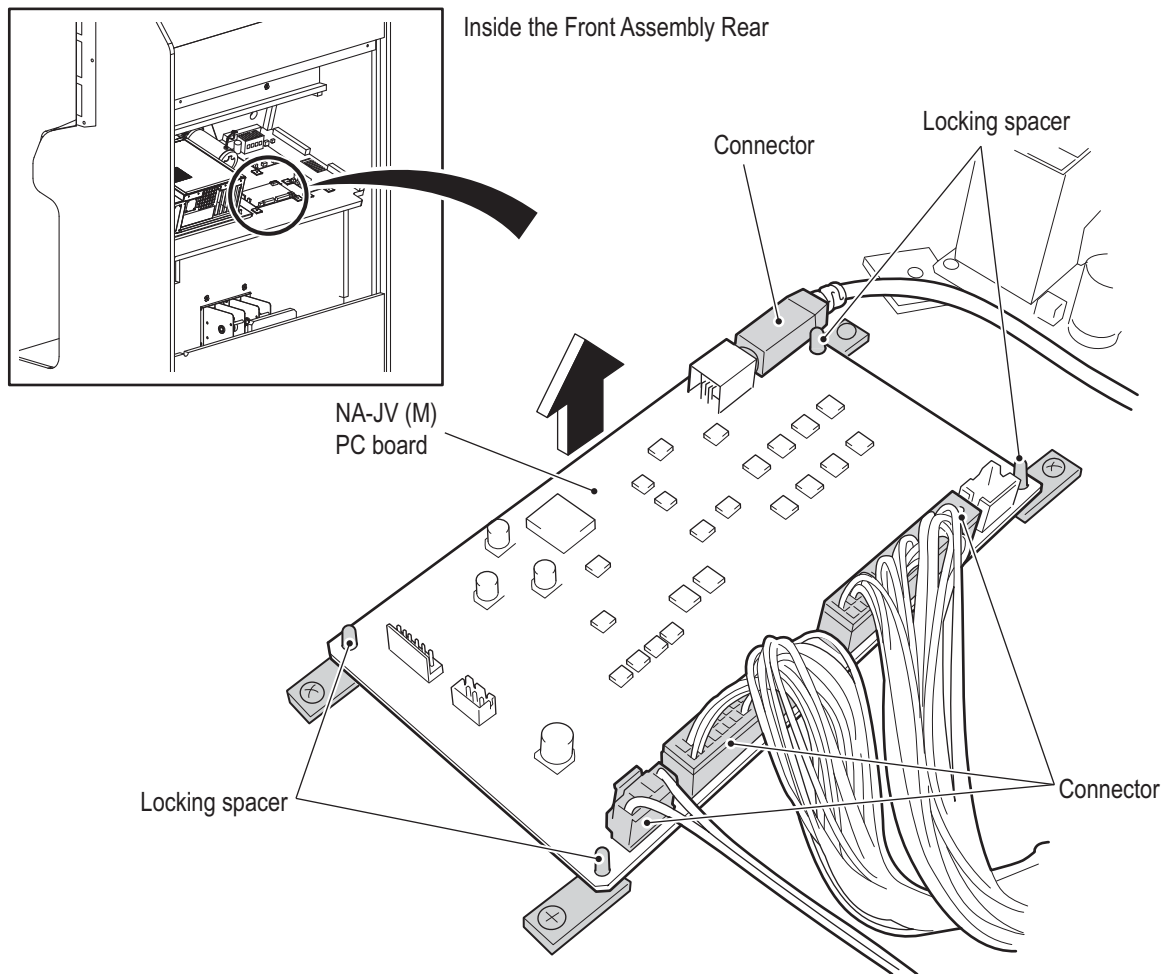
⚠ WARNING

- 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

- To avoid damaging the electronic circuits, make sure that the connector direction is correct when connecting the connectors.
- The PC board is 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 the PC board, discharge the static electricity from your body; for example, by touching the surface of grounded metal.

- 1** Remove the rear door. (See **1** in “8B-4-1 (4) Replacing the LCD Monitor” on page 79.)
- 2** Disconnect the four connectors, remove the NA-JV (M) PC board from the locking spacers, and replace it.



- 3** To install, perform the procedure in reverse.

— Must be performed by a technician —

(4) Replacing the Amp PC Board

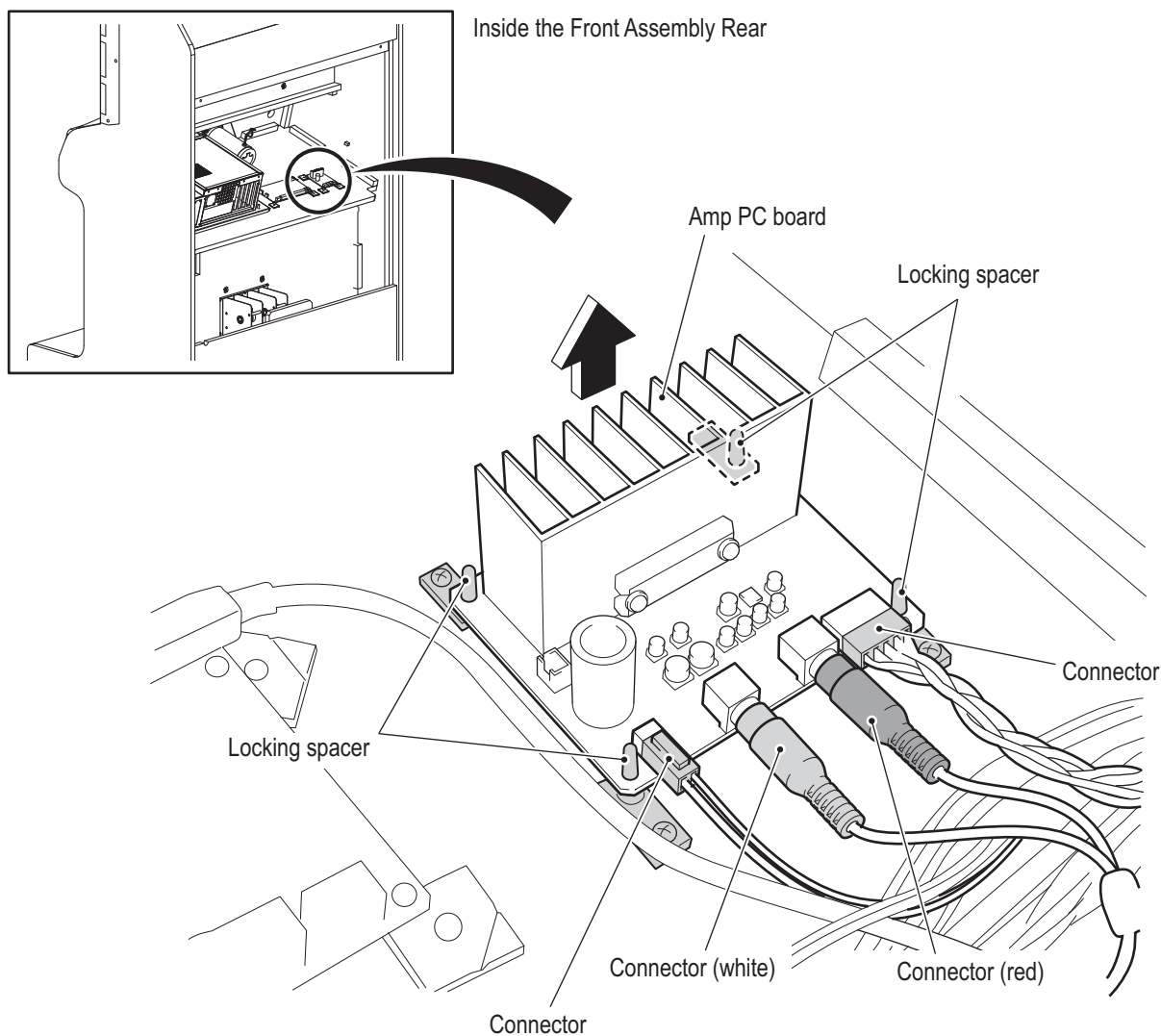
⚠ WARNING

- 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

- To avoid damaging the electronic circuits, make sure that the connector direction is correct when connecting the connectors.
- The PC board is 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 the PC board, discharge the static electricity from your body; for example, by touching the surface of grounded metal.

- 1** Remove the rear door. (See **1** in “8B-4-1 (4) Replacing the LCD Monitor” on page 79.)
- 2** Disconnect the four connectors, remove the amp PC board from the locking spacers, and replace it.



- 3** To install, perform the procedure in reverse.

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Service • Technician's Manual

Test Mode

Troubleshooting

— Must be performed by a technician —

(5) Replacing the Switching Regulator (12 V)

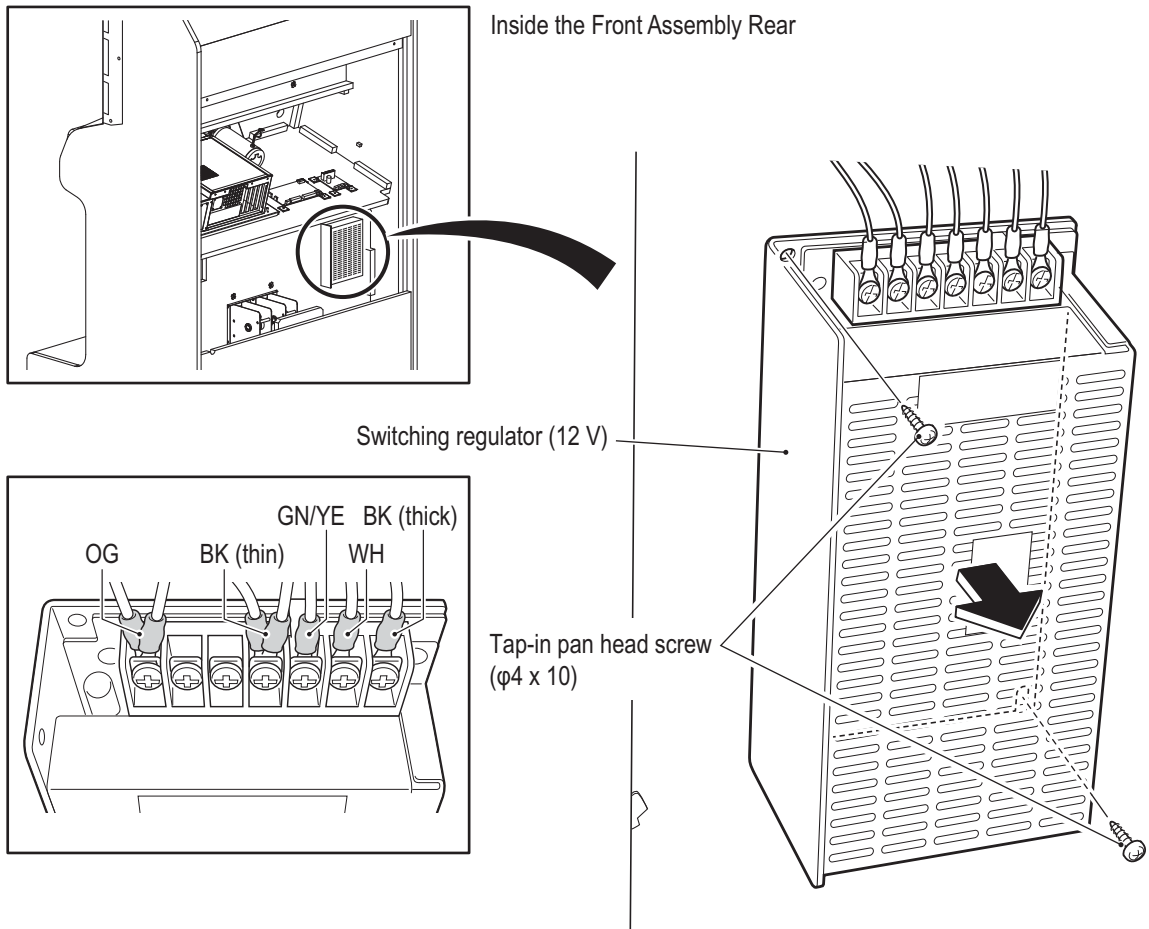
⚠ WARNING

- 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

- To avoid damaging the electronic circuits, make sure that the connector direction is correct when connecting the connectors.
- The PC board is vulnerable 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 the 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 “8A-2-4 Power Switch Position and Turning the Power Switch On” on page 67)
- 2** Remove the rear door. (See **1** in “8B-4-1 (4) Replacing the LCD Monitor” on page 79.)
- 3** Remove the eight screws, disconnect the ring terminals from the regulator, remove the two Phillips pan head screws (with flat and spring washers M4 x 12), and replace the switching regulator (12 V).



- 4** To install, perform the procedure in reverse. Refer to the figure above for the ring terminal connection locations.

NOTICE

- When connecting the ring terminals, check the harness colors and contact conditions carefully to avoid damaging the electronic circuits.

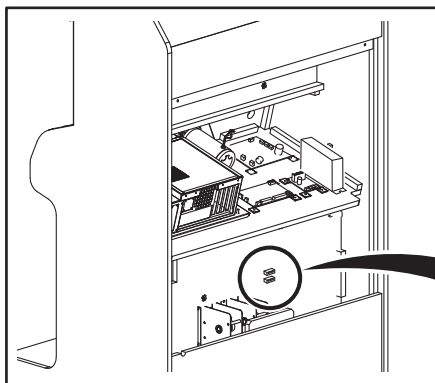
— Must be performed by a technician —

(6) Replacing the Fuse

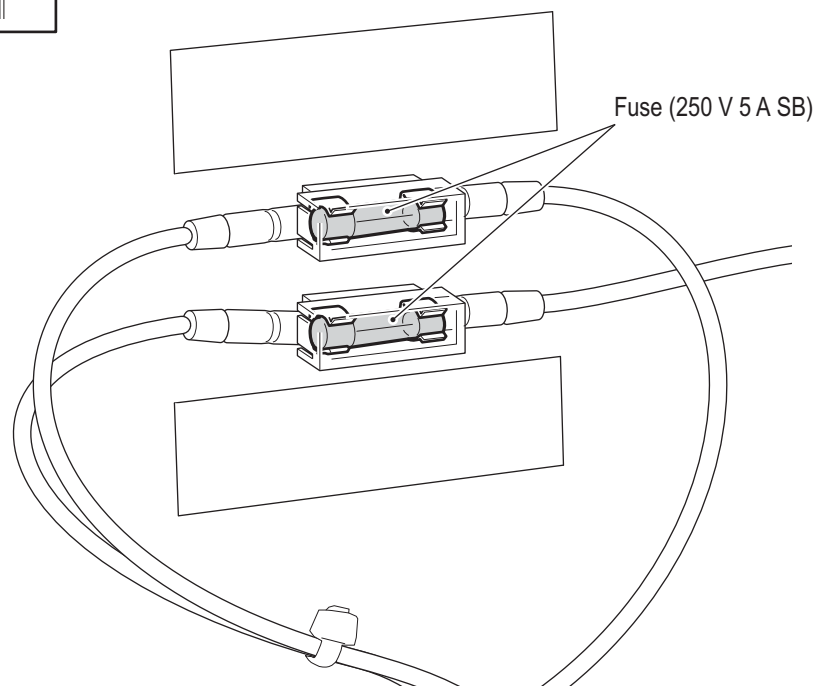
⚠ WARNING

- 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.
- Never use a fuse other than the specified fuse (250 V 5 A), because it may cause a fire. A fuse is required to prevent a fire or accident. To order a fuse, contact your distributor.

- 1** Remove the rear door. (See **1** in “8B-4-1 (4) Replacing the LCD Monitor” on page 79.)
- 2** Replace the fuse (5 A SB).



Inside the Front Assembly Rear



- 3** To install, perform the procedure in reverse.

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Service • Technician's Manual

Test Mode

Troubleshooting

— Must be performed by a technician —

8B-4-3 Pedal Assembly

(1) Removing and Installing the Pedal Assembly

⚠ WARNING

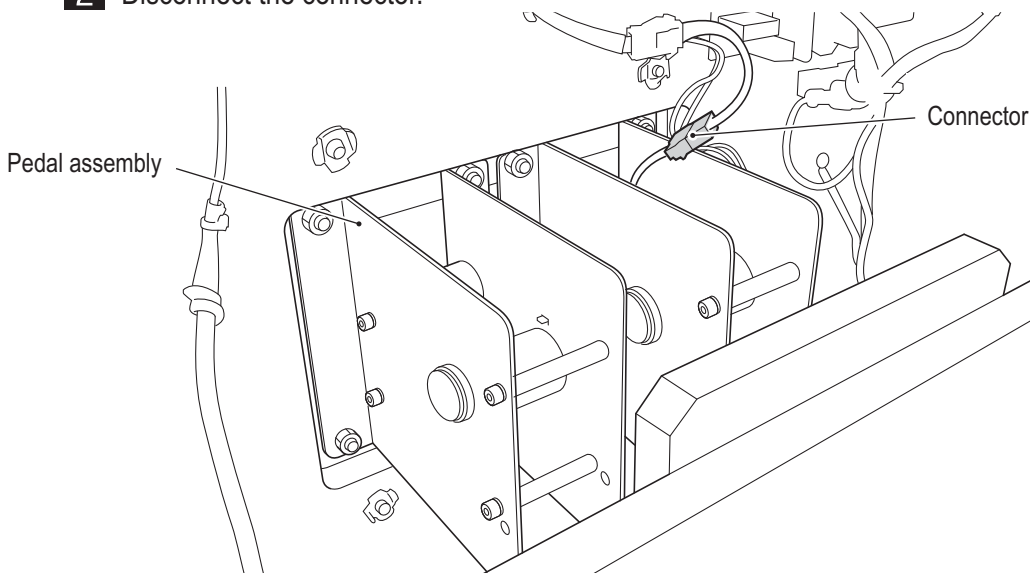
- To avoid electric shock, accidents or injuries to yourself or other people, or damage to the electronic circuits, be sure to turn off the power switch before starting work.

⚠ CAUTION

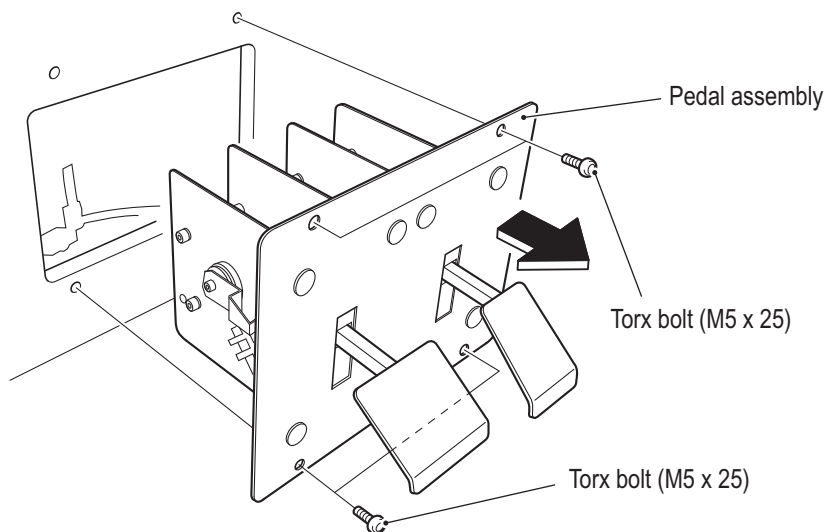
- The pedal assembly weighs approx. 8.8 lb. Be very careful while working, because dropping it may cause an injury.

1 Remove the rear door. (See **1** in “8B-4-1 (4) Replacing the LCD Monitor” on page 79.)

2 Disconnect the connector.



3 Remove the four torx bolts (M5 x 25), and then slowly remove the pedal assembly.



4 To install, perform the procedure in reverse.



- After completing the replacement, be sure to check the operation and initialize. (See “7-6-11 Adjustments after Parts Replacement (GO TO I/F INITIALIZE)” on page 53 and “7-6-4 (a) SWITCH TEST” on page 37.)

— Must be performed by a technician —

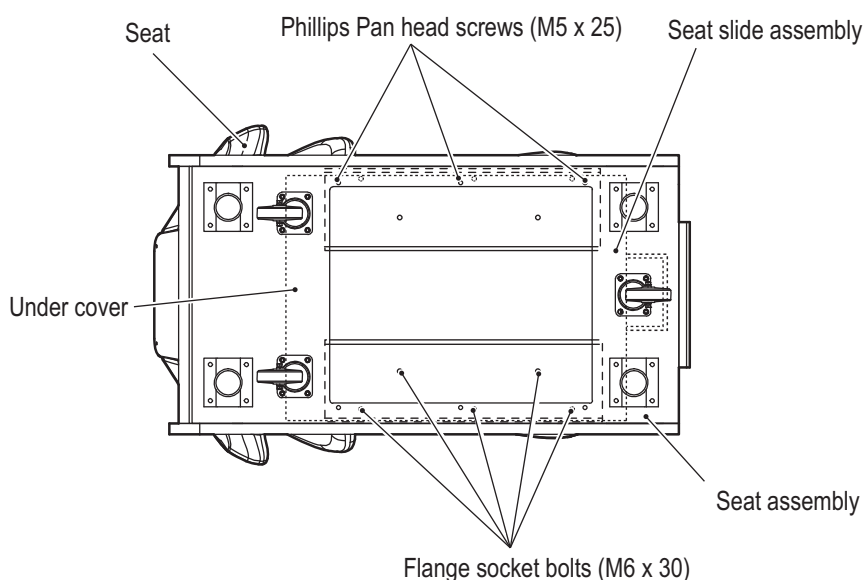
8B-4-4 Seat Assembly

(1) Replacing the Slide Unit

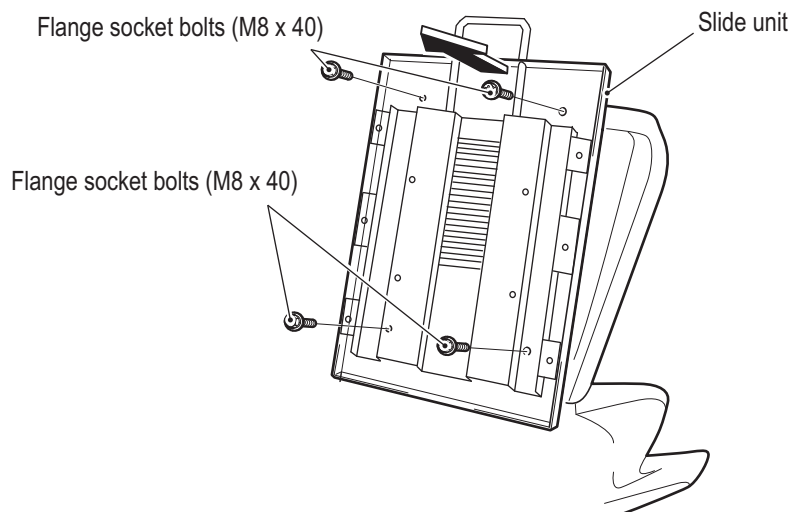
⚠ WARNING

- 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.
- The slide unit and seat weigh approx. 33.1 lb. When laying down and removing the slide unit and seat, there is a danger of trapping your hands or an object. Make sure there is no one in the surrounding area.

- 1 Remove the six Phillips pan head screws (M5 x 25), remove the under cover. Then remove the 10 flange socket bolts (M6 x 30) to remove the seat slide assembly.



- 2 Remove the four flange socket bolts (M8 x 40), and replace the slide unit.



- 3 To install, perform the procedure in reverse.

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Service • Technician's Manual

Test Mode

Troubleshooting

— Must be performed by a technician —

(2) Replacing the LED Bar (S)

This machine uses two LED bars (S).

Refer to the procedure below, and replace the LED bar (S) that corresponds to the malfunction location.

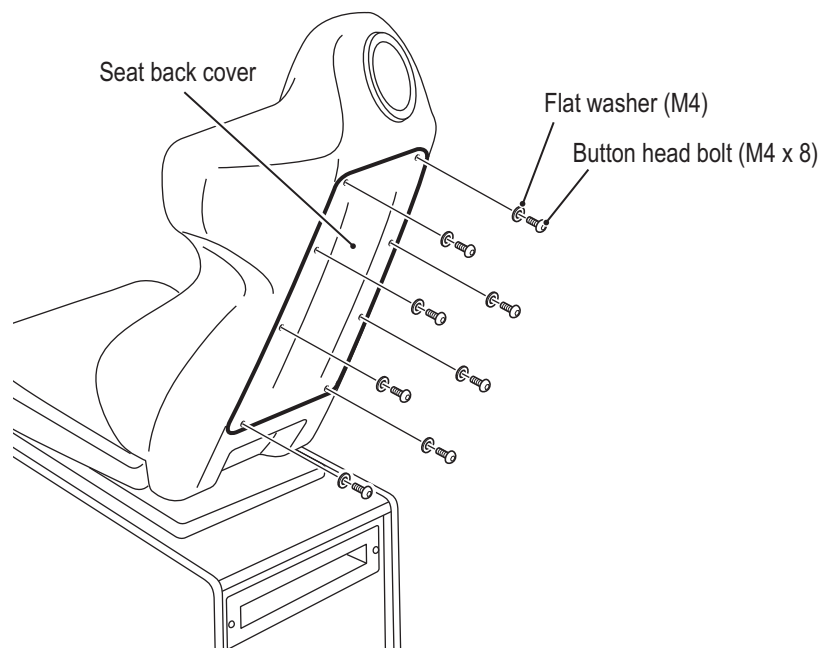
⚠ WARNING

- 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.



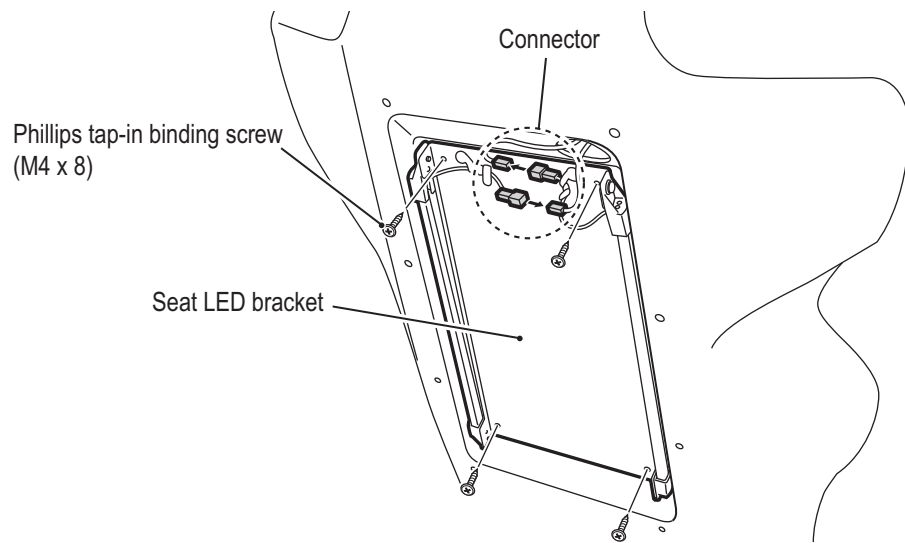
- The PC board is sensitive to static electricity. If a person handles a PC board while charged with static electricity, the parts on the PC board may be damaged. Before handling the PC board, discharge the static electricity from your body; for example, by touching the surface of grounded metal.

- 1** Turn off the power switch. (See “8A-2-4 Power Switch Position and Turning the Power Switch On” on page 67.)
- 2** Remove the eight button head bolts (M4 x 8) and eight flat washers (M4), and remove the seat back cover.

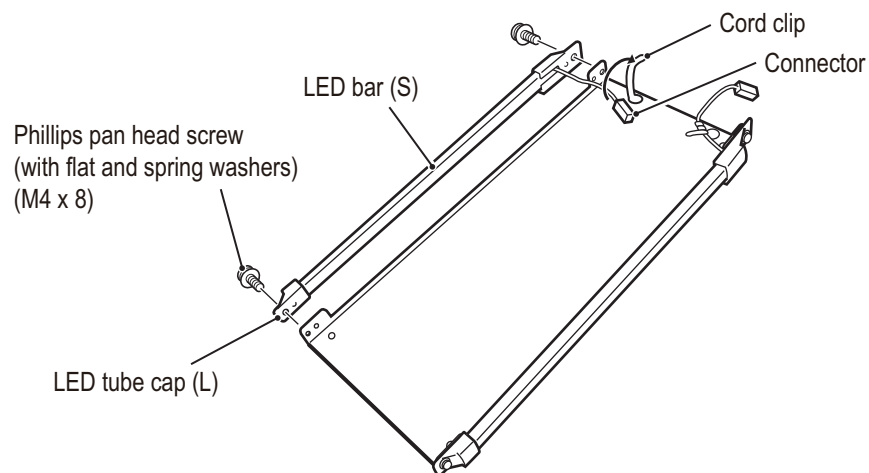


— Must be performed by a technician —

- 3** Disconnect the two connectors, remove the four Phillips tap-in binding screws (M4 x 8), and remove the seat LED bracket.



- 4** Remove the cord clip and the two Phillips pan head screws (with flat and spring washers) (M4 x 8), and remove the LED bar (S).



- 5** To install, perform the procedure in reverse.

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Service • Technician's Manual

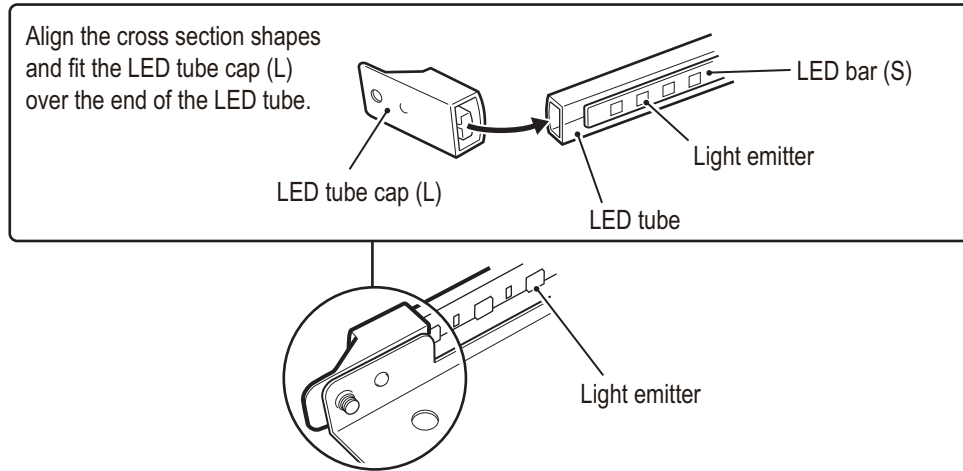
Test Mode

Troubleshooting

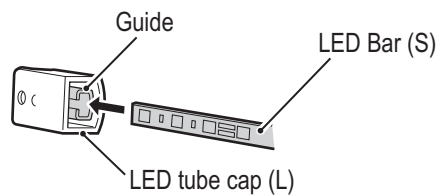
— Must be performed by a technician —



- Install the LED bar (S) so that the light emitters face the direction shown in the figure below. (When installing, the light emitters face toward the inside.)



- When installing, take care to press the LED Bar (S) all the way into the guide in the center of the LED tube cap (L) so that it will not come loose.



— Must be performed by a technician —

(3) Replacing the Rainbow PC Board (seat)

This machine uses two Rainbow PC Board (seat).
Refer to the procedure below, and replace the Rainbow PC Board (seat) that corresponds to the malfunction location.

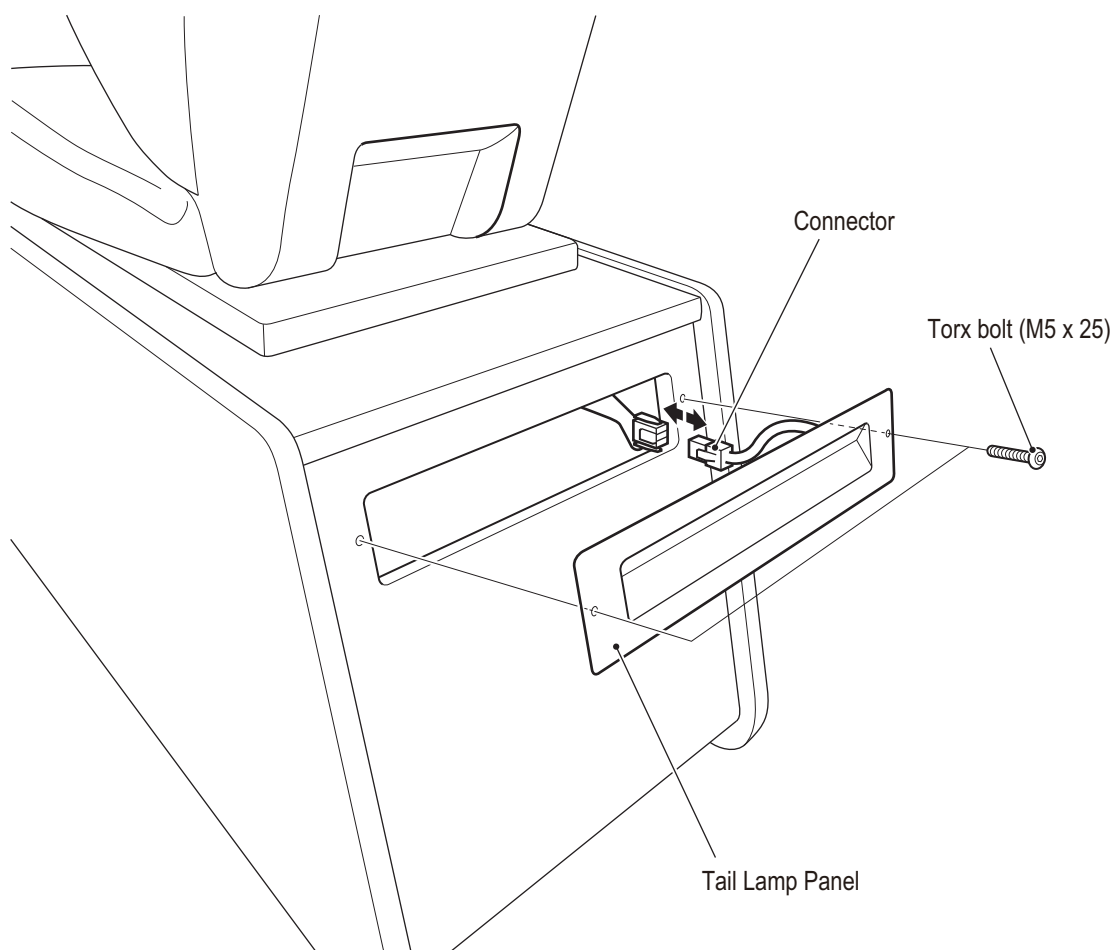
! WARNING

- 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.



- The PC board is 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 the 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 "8A-2-4 Power Switch Position and Turning the Power Switch On" on page 67.)
- 2** Remove the two torx bolts (M5 x 25), and remove the Tail Lamp Panel.
- 3** Remove the connector.



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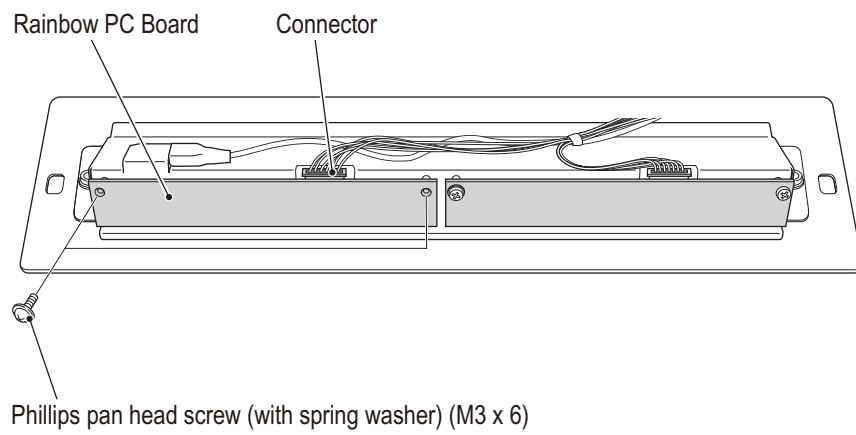
Service • Technician's Manual

Test Mode

Troubleshooting

— Must be performed by a technician —

- 4 Disconnect the connector, remove the two Phillips pan head screws (with spring washer) (M3 x 6), and remove the Rainbow PC Board.



- 5 To install, perform the procedure in reverse.

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.

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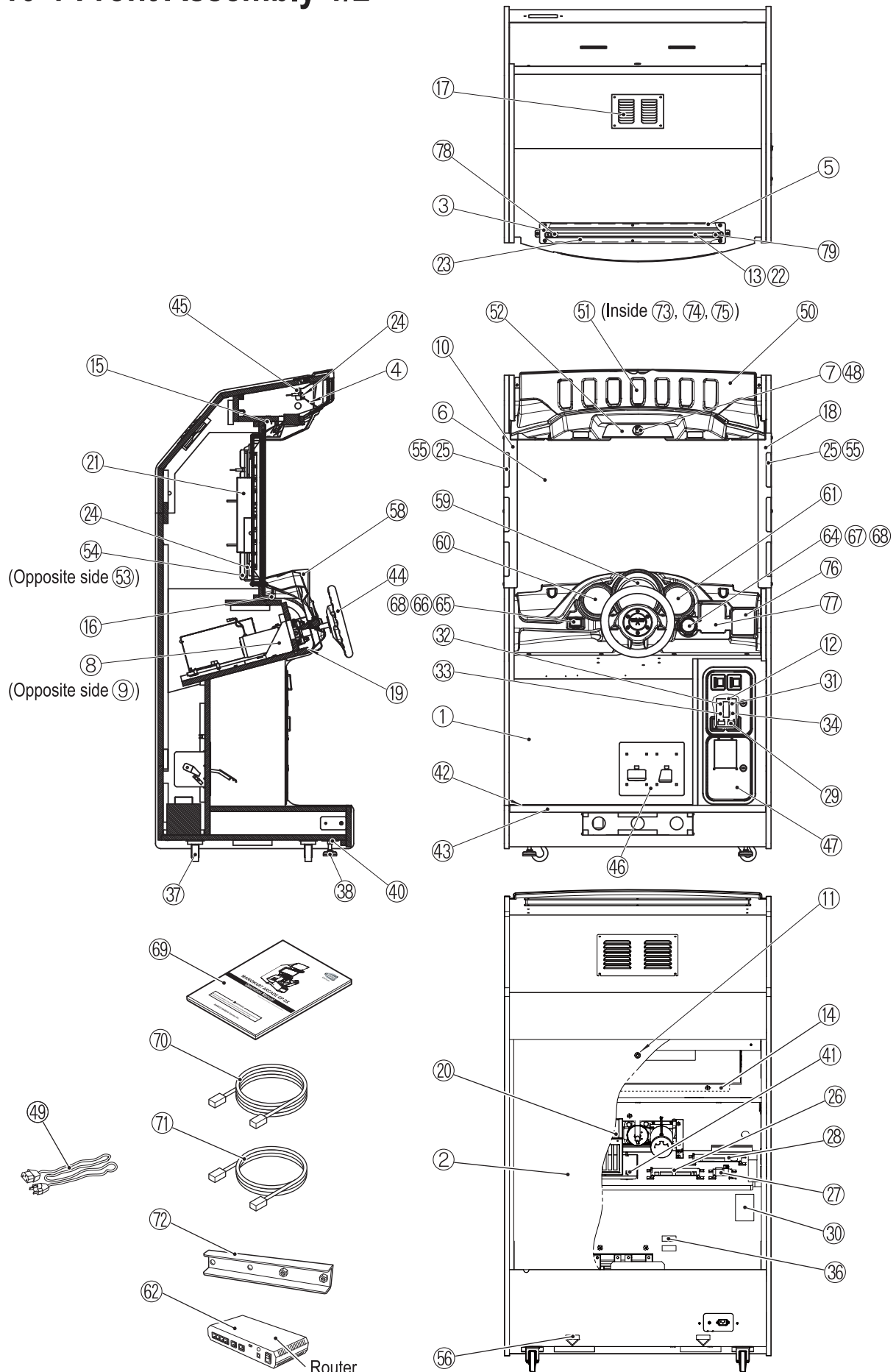
Disposal

Test Mode

Troubleshooting

10. Parts List

10-1 Front Assembly 1/2



No.	Name	Qty.	Type or Rating	Part No.
1	Main cabinet	1		
2	Rear door	1		
3	Top acrylic	1		XMK3-735-018
4	Signboard reflector	1		XMK3-735-027
5	Cushion	2		XMK3-735-030
6	Monitor glass	1		XMK3-734-950
7	Camera bracket	1		XMK3-735-035
8	Steering stay (L)	1		XMK3-734-951
9	Steering stay (R)	1		XMK3-734-952
10	Monitor side bracket (L)	1		XMK3-735-022
11	Door key	1		XMK3-735-015
12	Service plate	1		XMK3-734-982
13	Led tube 600	1		XMK3-733-330
14	LCD bracket	1		XMK3-734-964
15	Monitor stopper (upper)	1		XMK3-734-957
16	Monitor stopper (lower)	1		XMK3-734-958
17	Ventilation panel	1		XMK3-735-003
18	Monitor side bracket (R)	1		XMK3-735-023
19	Control panel under cover	1		XMK3-734-969
20	Game PC Board	1	SYS ES3 (A) ASSY	-----
21	LCD monitor	1		-----
22	Led bar 600	1		XMK3-735-045
23	POP LED bracket	1		XMK3-735-029
24	Rainbow PC Board	9	SCU02-A	XMK3-307-781
25	Corner cover (M)	2		XMK3-735-020
26	NA-JV (M) PC board	1	NA-JV (M) PCB (ROM) Assy	-----
27	Amp PC board	1	V389 C2-IS AMP PCB Assy	-----
28	Steering PC board	1	STR4 (M) PCB (ROM) Assy	-----
29	Coin counter	2		XMK3-734-985
30	Switching regulator (12 V)	1	RS-150-12	
31	Switch (toggle)	1		XMK3-734-983
32	Switch (push)	1	PBS-10B	XMK3-735-016
33	Switch (push)	1	PBS-10B	XMK3-735-016
34	Switch (toggle)	1		XMK3-734-984
36	Current fuse (5A SB)	2		XMK3-734-977
37	Caster (adjustable)	4		XMK3-734-995
38	Adjustment bolt	4		XMK3-734-994

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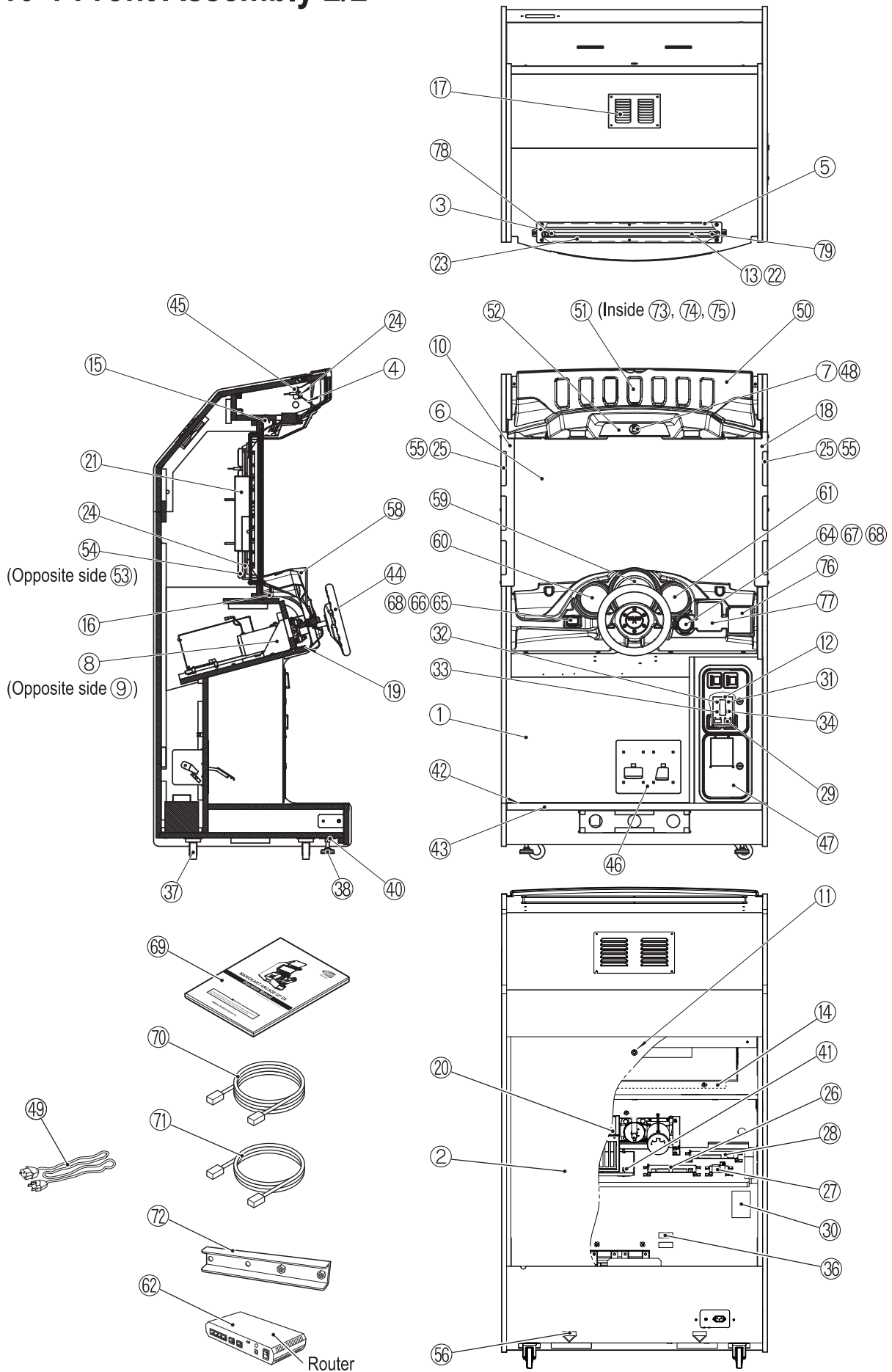
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Parts List

Test Mode

Troubleshooting

10-1 Front Assembly 2/2



No.	Name	Qty.	Type or Rating	Part No.
40	Adjuster bracket	4		XMK3-734-996
41	Anti-vibration rubber	4	BG0MA25270	XMK3-734-993
42	Floor mat	1		XMK3-734-968
43	Floor mat retainer	1		XMK3-735-010
44	270 active steering wheel assembly	1	50-0102-50EX	
45	Support bracket	2		XMK3-735-028
46	Dual pedal assembly paintloc std w/ms & 5k pot on gas	1		
47	Over/under door with cashbox	1	BNWCD-L2SB (US - 2 Slots) BNWCD-L10H (UK - 1 Slot)	
48	USB camera	1	KBCR-M05VU-HPB2010-C0	XMK3-307-523
49	Power cord	1		
50	Top cover (M)	1		XMK3-734-970
51	Top filter (M)	6		XMK3-734-973
52	Camera cover (M)	1		XMK3-734-975
53	LED bracket (L)	1		XMK3-735-024
54	LED bracket (R)	1		XMK3-735-025
55	Side sheet	2		XMK3-733-393
56	Fork sticker	2		
58	Control cover (M)	1		XMK3-734-986
59	Meter sticker (A) (M)	1		XMK3-734-987
60	Meter sticker (B) (M)	1		XMK3-734-988
61	Meter sticker (C) (M)	1		XMK3-734-989
62	Router	1*1	AR260S V2	-----
64	Item sticker	1		XMK3-734-990
65	Mario button sticker	1		XMK3-734-991
66	Illuminated switch (SQUARE)	1	BLC-DP-BK-G-CW	XMK3-735-043
67	Illuminated switch (ROUND)	1	BLC-DP-BK-D-CB	XMK3-735-044
68	LED LAMP	2	14 V	
69	Operation manual (this manual)	1		XMK3-735-005
70	Communication cable (5 m)	1	5 m	
71	Communication cable (1 m)	1*1	1 m	
72	Connection bracket	2		XMK3-735-000
73	Filter sheet (A)	1		XMK3-733-390
74	Filter sheet (B)	1		XMK3-733-391
75	Filter sheet (C)	1		XMK3-733-392
76	Manual sticker (A)	1		XMK3-733-388
77	Manual sticker (B)	1		XMK3-733-389
78	LED tube cap U	1		XMK3-727-161
79	LED tube cap L	1		XMK3-727-162

*1 The quantity noted in the table above is the quantity per 2 ~ 4 machines.

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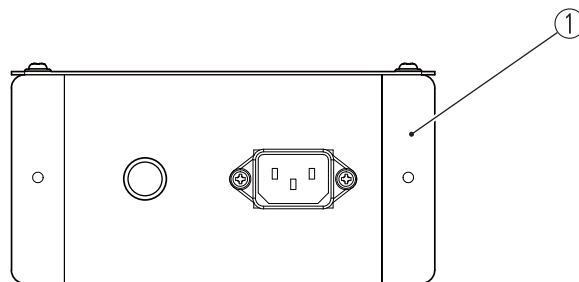
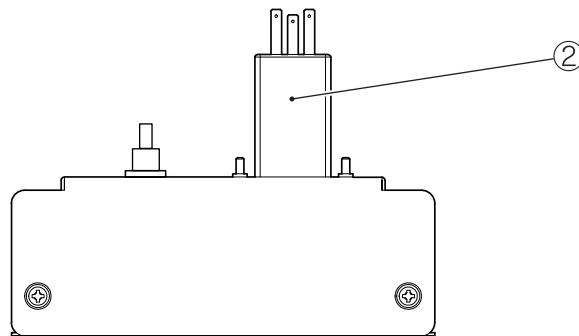
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Parts List

Test Mode

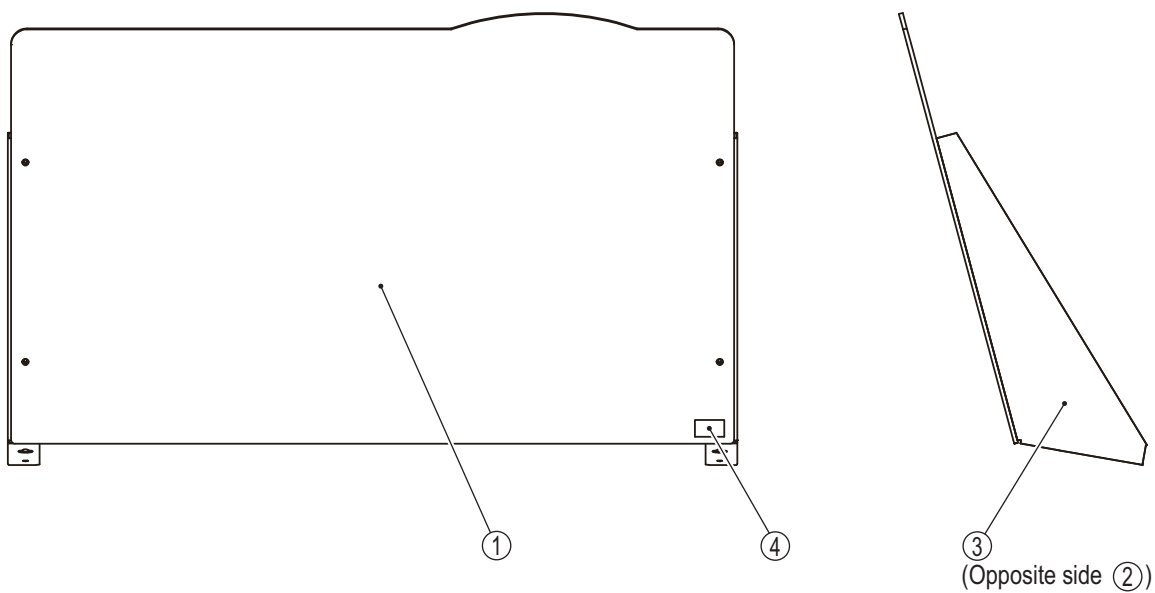
Troubleshooting

10-2 Cord Box Assembly



No.	Name	Qty.	Type or Rating	Part No.
1	Cord box	1		XMK3-735-014
2	Noise filter	1		XMK3-734-979

10-3 Signboard Assembly



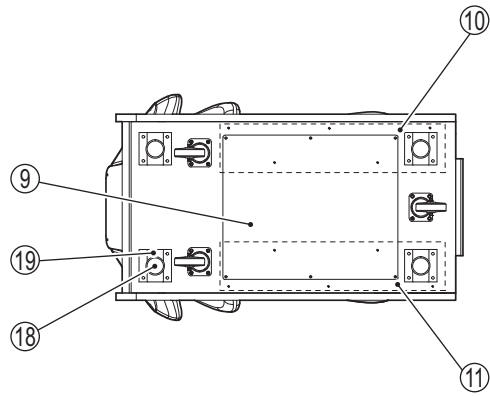
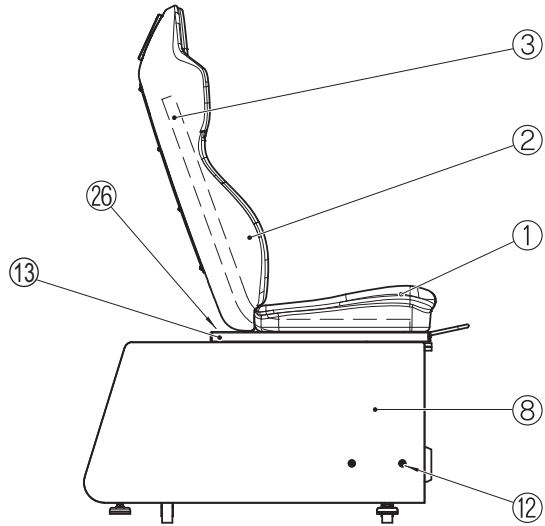
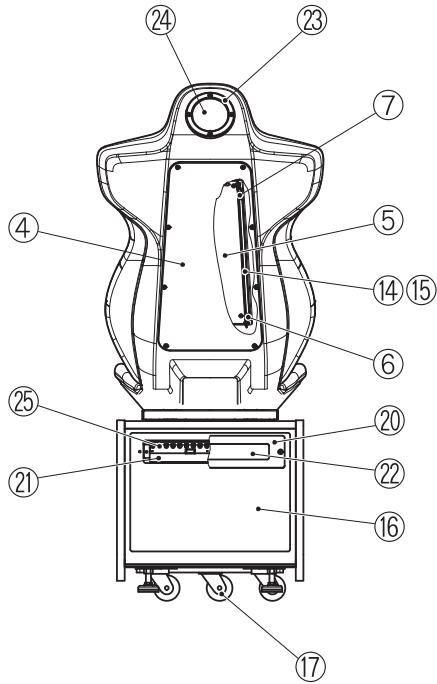
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Parts List

No.	Name	Qty.	Type or Rating	Part No.
1	Title panel	1		XMK3-733-386
2	POP bracket (L)	1		XMK3-735-031
3	POP bracket (R)	1		XMK3-735-032
4	Security seal	1		-----

- Test Mode
- Troubleshooting

10-4 Seat Assembly



No.	Name	Qty.	Type or Rating	Part No.
1	Seat cushion	1		XMK3-735-047
2	Seat back	1		XMK3-735-048
3	Seat pipe	2		XMK3-735-014
4	Seat back cover	1		XMK3-733-366
5	Seat LED bracket	1		XMK3-733-365
6	LED tube cap (L)	2		XMK3-727-161
7	LED tube cap (R)	2		XMK3-727-162
8	Seat base	1		
9	Under cover	1		
10	Seat rail stay	1		XMK3-734-999
11	Seat rail stay	1		XMK3-734-999
12	Washer B	4	$\phi 11 \times 32 \times t 1.6$	
13	Seat slide assembly	1		
14	LED bar 300	2		XMK3-735-046
15	LED tube 300	2		XMK3-733-371
16	Base end sticker (M)	1		XMK3-733-387
17	Caster (adjustable)	3		XMK3-734-995
18	Adjustment bolt	4		XMK3-734-994
19	Adjuster bracket	4		XMK3-734-996
20	Tail lamp panel	1		XMK3-735-033
21	Tail lamp reflector	1		XMK3-735-034
22	Tail lamp cover	1		XMK3-735-019
23	Emblem	1		XMK3-733-369
24	Emblem sticker	1		XMK3-733-370
25	Rainbow PC Board	2	SCU02-A	XMK3-307-781
26	Caution sticker Seat Slide (C)	1		XMK3-735-006

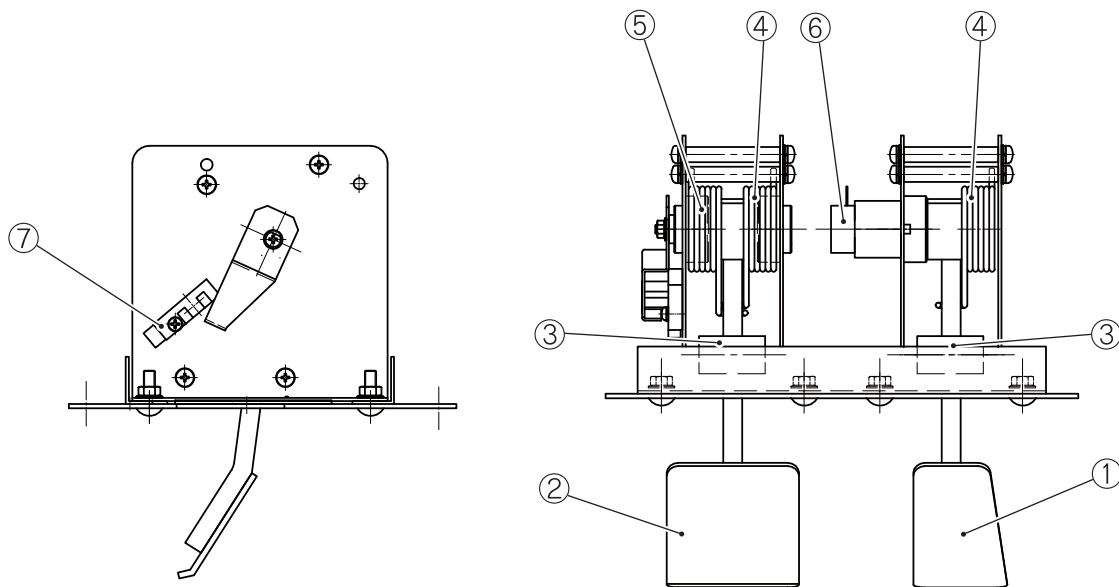
- 1**
- 2**
- 3**
- 4**
- 5**
- 6**
- 7**
- 8A**
- 8B**
- 9**
- 10**
- 11**

Parts List

Test Mode

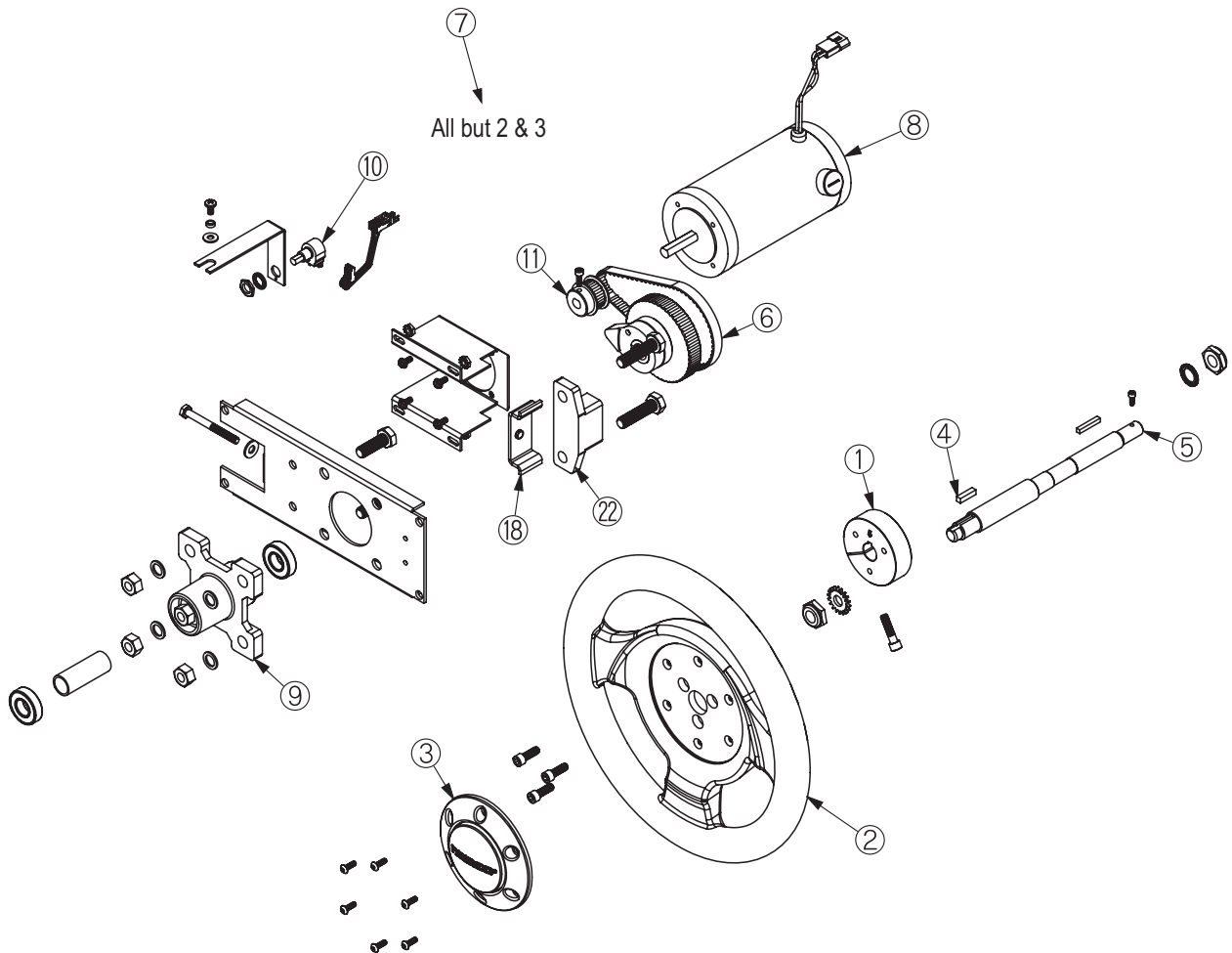
Troubleshooting

10-5 Pedal Assembly



No.	Name	Qty.	Type or Rating	Part No.
1	Pedal A	1		XMK3-727-987
2	Pedal B	1		XMK3-727-986
3	Cushion	4		XMK3-727-994
4	Spring A	2		XMK3-727-998
5	Spring B	1		XMK3-727-999
6	POTENTIOMETOR	1	F24KN5-20 B1Kb7-B0 L20FC*8.5 (0)	XMK3-008-076
7	SENSOR	1	KI1300	XMK3-000-677

10-6 Steering Assembly

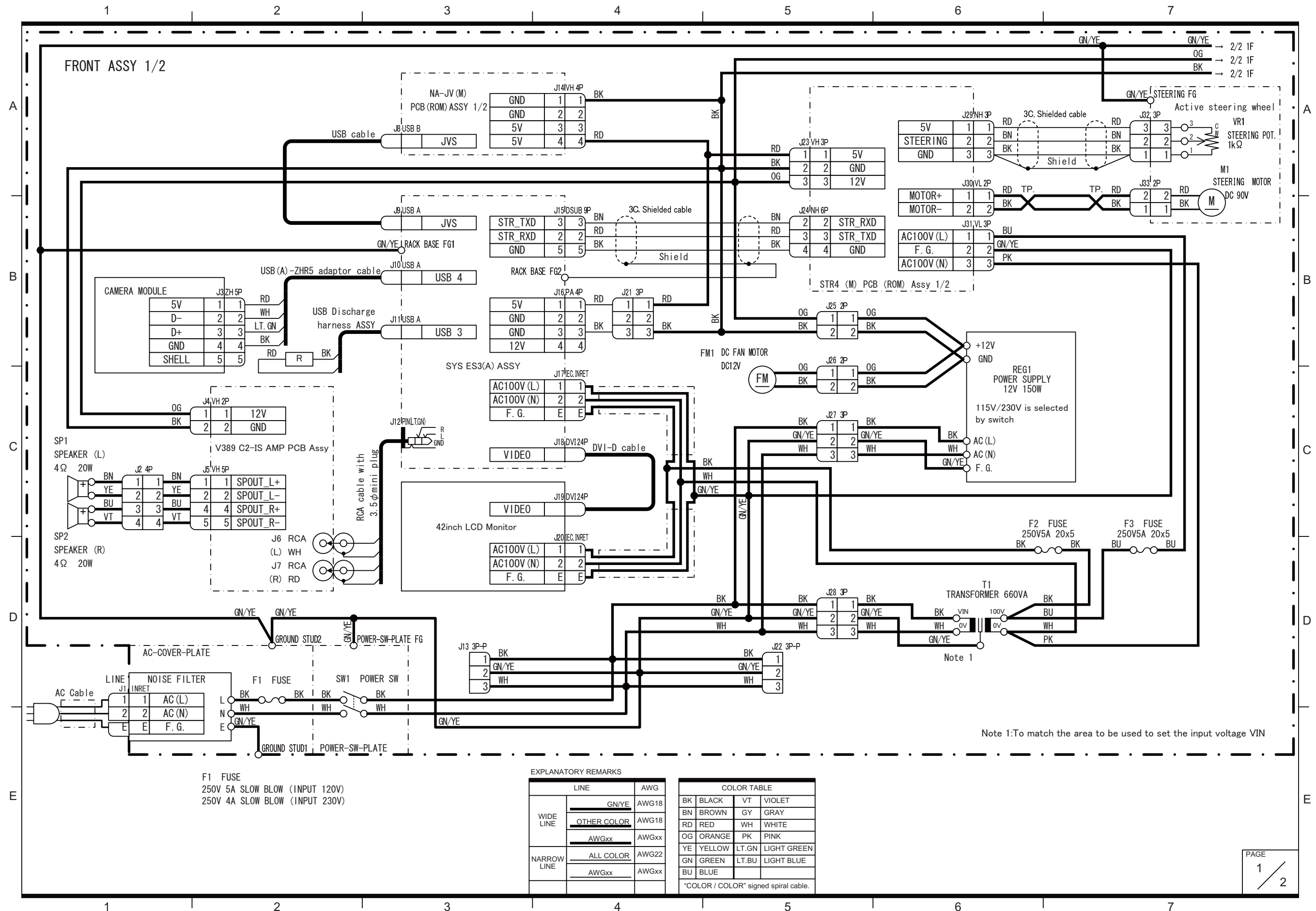


No.	Name	Qty.	Type or Rating	Part No.
1	Hub, Steering	1		XMK3-727-813
2	Steering Wheel	1		XMK3-727-814
3	Cap	1		XMK3-727-815
4	Key	1		XMK3-727-782
5	Shaft	1		XMK3-727-784
6	Timing Belt	1		XMK3-727-804
7	Feedback Steering Assembly, all but 2 & 3	1		
8	Feedback Motor	1		XMK3-727-787
9	Bearing Holder	1		XMK3-727-789
10	5K Potentiometer	1		XMK3-727-805
11	Motor Gear Shaft	1		XMK3-727-793

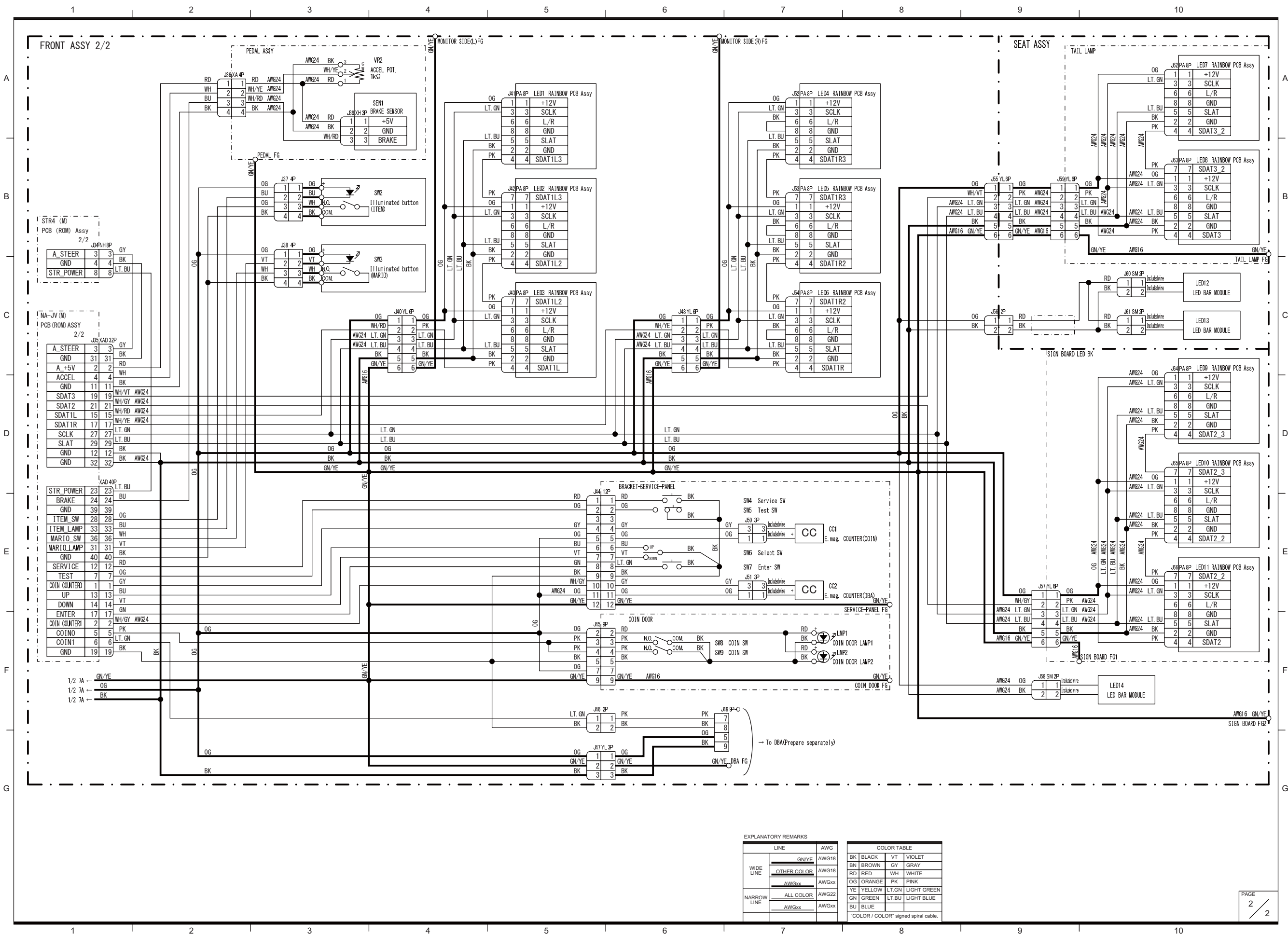
- 1
 - 2
 - 3
 - 4
 - 5
 - 6
 - 7
 - 8A
 - 8B
 - 9
 - 10
 - 11
- Parts List

- Test Mode
- Troubleshooting

11. Wiring Diagram



- 1
 - 2
 - 3
 - 4
 - 5
 - 6
 - 7
 - 8A
 - 8B
 - 9
 - 10
 - 11
- Wiring Diagram
- Test Mode
- Troubleshooting



- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8A
- 8B
- 9
- 10
- 11

Wiring Diagram

Test Mode

Troubleshooting

EXPLANATORY REMARKS

LINE	AWG	COLOR TABLE
WIDE LINE	GN/YE	AWG18
OTHER COLOR	AWG18	
AWGxx	AWGxx	
NARROW LINE	ALL COLOR	AWG22
AWGxx	AWGxx	

COLOR TABLE

BK	BLACK	VT	VIOLET
BN	BROWN	GY	GRAY
RD	RED	WH	WHITE
OG	ORANGE	PK	PINK
YE	YELLOW	LT.GN	LIGHT GREEN
GN	GREEN	LT.BU	LIGHT BLUE
BU	BLUE		

COLOR / COLOR signed spiral cable.

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