INTRODUCTION

Thank you for purchasing "Ninja Assault SD" (hereafter referred to as "the machine").

This Operation Manual describes:

* How to operate, install, move, transport, maintain, and discard the machine safely.
* How to operate the machine correctly and make full use of its features
* How to ensure the safety of players and observers

This Operation Manual comes with the following manuals provided separately.

* NAOMI Service Manual

For details of the NAOMI (game PC board) not described in this Operation Manual, please refer to the NAOMI Service Manual.

For further information about the machine and repairs, please contact your distributor.

1. SAFETY PRECAUTIONS

▪ Be sure to read these instructions to ensure safe use. ▪

Instructions to the owner:

* If you entrust another party to operate, install, transport, move, maintain, or discard the machine, instruct the party concerned to read and observe all instructions and precautions for the particular action to be conducted.

1-1 Magnitudes of risk

Safety precautions and property damage on labels and in this Operation Manual are classified as listed below according to the magnitude of the particular risk.

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

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

Functional notes not related to safety are marked with the following label:

NOTICE : Notes related to a function or protection of the product.

1-2 Definition of the term "technician"

This Operation Manual is written for arcade personnel. However, those sections marked "To be conducted by a technician" in the table of contents are written for technicians. These tasks must be carried out by technicians only.

Technician: A person engaged in machine design, manufacture, inspection, or maintenance for a manufacturer of amusement equipment, or a person who has technical knowledge related to electrical, electronic or mechanical engineering at a level equal or superior to that of technical high school graduates, and who is engaged routinely in maintaining (repairing) amusement equipment.

I-3 Top-priority safe precautions

⚠ ARNING

. Should any problem occur, turn off the power immediately and stop operating the machine. Then unplug the power cord from the service outlet. Operating the machine with a problem unresolved may cause a fire or accident.

- Some parts of the monitor remain hot or at high voltage even after the power is turned off. To prevent an electric shock or burns, take grate care not to touch parts other than those specified.
- Dust accumulated on the power plug may cause a tire. Check regularly and remove any dust.
- Insert the power cord plug into the service outlet securely. Poor contact may cause overheating, resulting in a fire or burns.
- Damage to the power cord may cause a tire, electric shock, or leakage. Observe the following instructions.
  - Keep the cord away from heating devices.
  - Do not twist the cord.
  - Do not bend the cord excessively.
  - Do not alter the cord.
  - Do not bundle the cord.
- Do not pull the cord. (Always unplug by pulling the plug and not the power cord.)
- Do not place anything on the cord.

. Do not allow the cord caught by the machine, other products, or the wall.

. Do not do anything else that might damage the power cord.

- Do not wet the power cord or plug. This may result in an electric shock or leakage.
- Do not touch the power cord plug with wet hands. This may result in an electric shock.

. The power rating for the machine is I IOV AC, 3.1A (or 220V AC, 1.6A). To prevent a fire or electric shock, use indoor wiring that conforms to the machine's power specifications.

- Operate the machine with a supply voltage in the range I 10-120V AC (or 220-240V AC). Using the machine with supply voltages outside this range may result in a fire or electric shock. To ensure that the machine operates at optimum conditions, use the rated voltage whenever possible.

. Use only specified parts to replace consumables and service parts (including screws). To order parts, contact your distributor.

. Do not convert the machine without permission. Do not carry out any work that is not described in this Operation Manual. Unauthorized conversion of the machine may create unforeseen hazards.

. When transferring ownership of the machine, be sure to attach this Operation Manual and the NAOMI Service Manual with the machine.

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2. SPECIFICATIONS

(1) Rated power supply: 110-120V AC (50/60Hz)

(2) Maximum power consumption: 270w (for 110V)

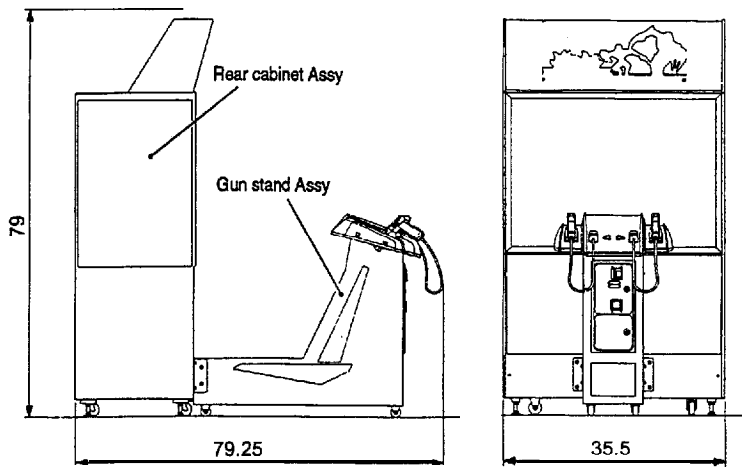
(3) Maximum current consumption: 5.0A (for 110V AC power supply)

(4) Cash box capacity: Approx. $1,350 US quarters

(5) Display unit: 39-inch monitor

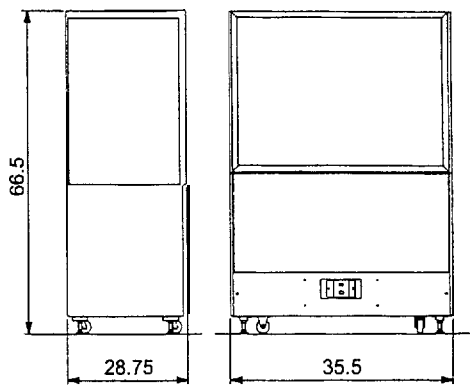
(6) Dimensions:

1 As installed: 35.5 (W) x 79.25 (D) x 79 (H) in

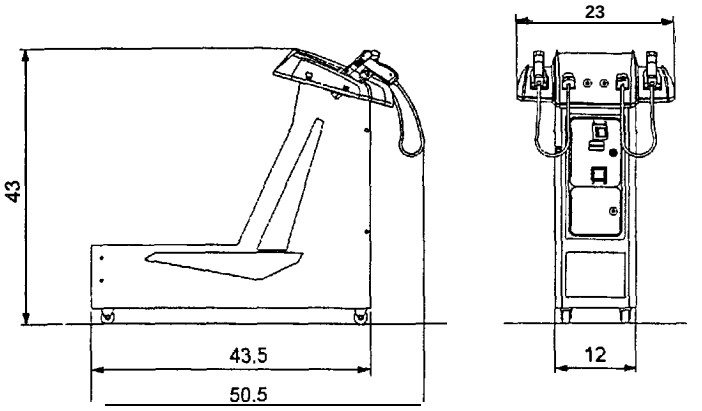


2 When divided:

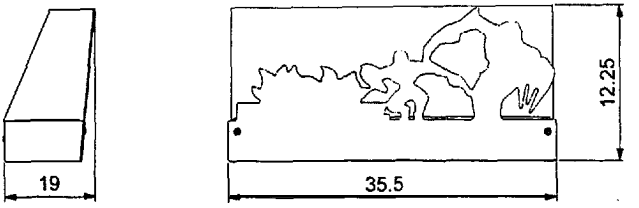
Projector unit: 35.5 (W) x 28.75 (D) x 66.5 (H) in



Stand Assy: 23 (W) x 50.5 (D) x 43 (H) in



Signboard Assy: 35.5 (W) x 19 (D) x 12.25 (H) in



(7) Weight:

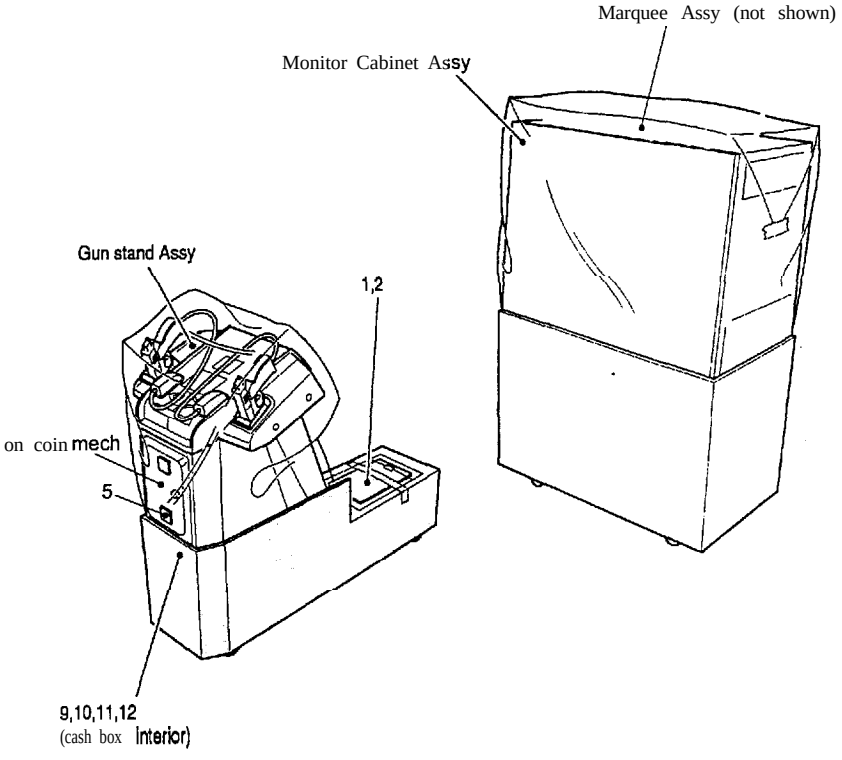
I As installed:	180kg
2 When divided	
Rear cabinet Assy:	140kg
• Marquee Assy:	6kg
• Monitor Cab Assy:	125kg
Gun stand Assy:	40kg

3. CHECKING THE PACKAGE CONTENTS

The product package contains the following parts when shipped.

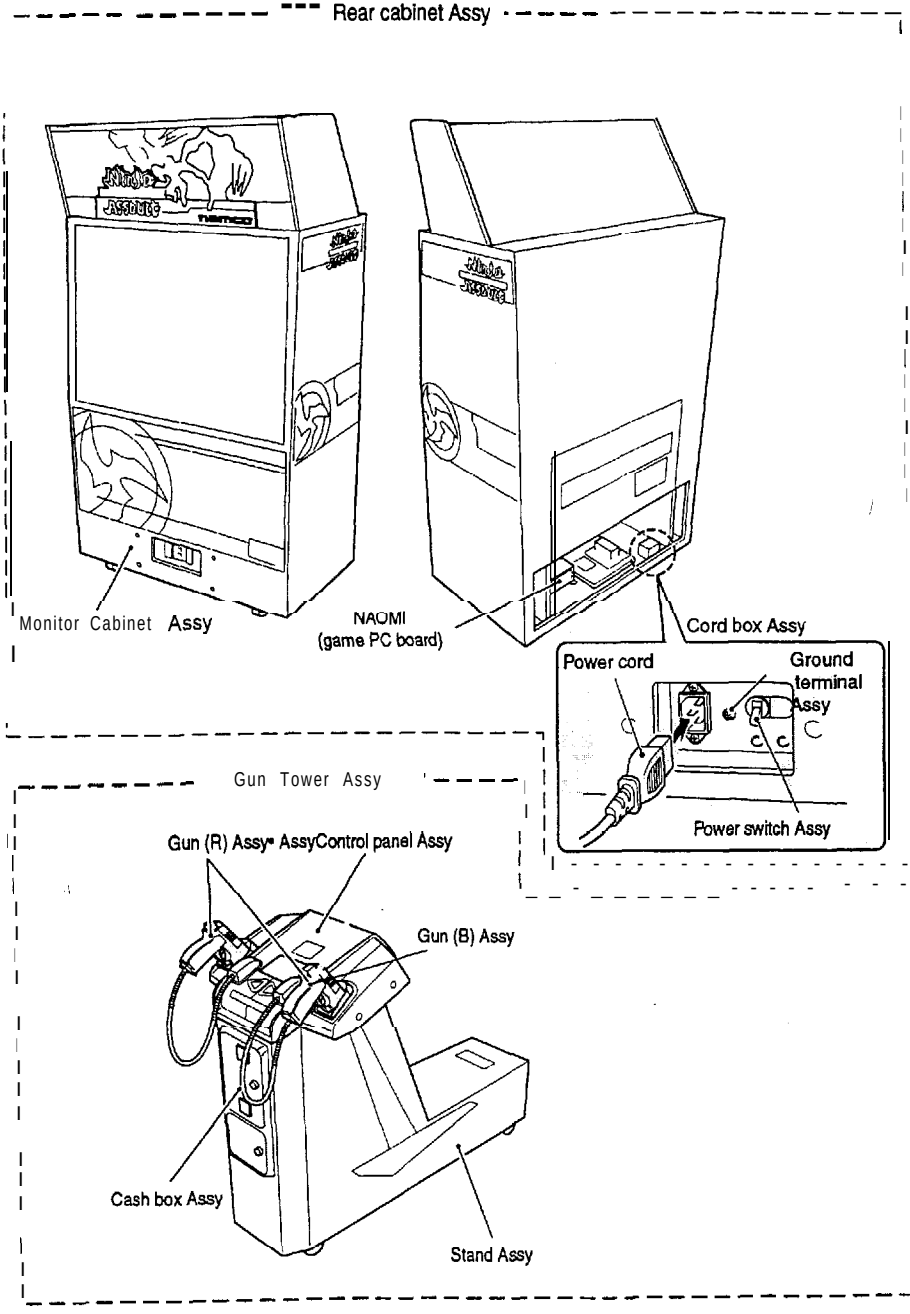
NOTICE

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



No.	Name:	Specification	Qty
1	Operation Manual (this manual)		1
2	NAOMI Service Manual		1
4	Keys (for cash box and rear panel)		2
5	Keys (for service door)		2 each
9	Joint		2
10	Screws	5/15 - 18 x 2" Socket HD, Hex, Blk 	4
11	Washers	Split Lock, 5/16, Blk Flat, Fender, 5/16, 1" OD, Blk 	8 8
12	Screws	5/16 - 18 x 1-1/2", Socket Hd, Hex, Blk 	4

4. OVERALL CONSTRUCTION (components and their names)



5. INSTALLATION

WARNING

- Install the machine according to the instructions in this Operation Manual. Failure to follow these procedures (see P. 11 "5. INSTALLATION") may result in a fire, electric shock, injury, or equipment malfunction.
- Insert the power plug securely into the service outlet. Poor contact may cause overheating, resulting in a fire or bums.
- Always connect the grounding lead. Using the machine without proper grounding may result in an electric shock when leakage occurs. (See P. 18 "5-4 Connecting the power cord and the ground".)
- Install the machine securely on the floor using the level adjusters. Failure to secure the machine may result in accidents or injury. (See P. 17 "5-3-2 Adjusting the level adjusters".)

5-1 Installation conditions

5-1-1 1 Locations to avoid installing

WARNING

- This machine is designed for indoor use only. Never install the machine outdoors or in any of the following locations:
  - Locations exposed to direct sunlight
  - Locations subject to rain or water leakage
  - Damp locations
  - Dusty locations
  - Close to heating devices
  - Hot locations
  - Extremely cold locations
  - Locations susceptible to condensation due to temperature differences
  - Locations where the machine may become an obstacle in emergencies (such as emergency exits), or locations where fire-extinguishing equipment is installed
  - Unstable locations or locations subject to vibration

NOTICE

- To secure the gun sensor detection, install the machine in the location where no incandescent lamps are reflected on the monitor.

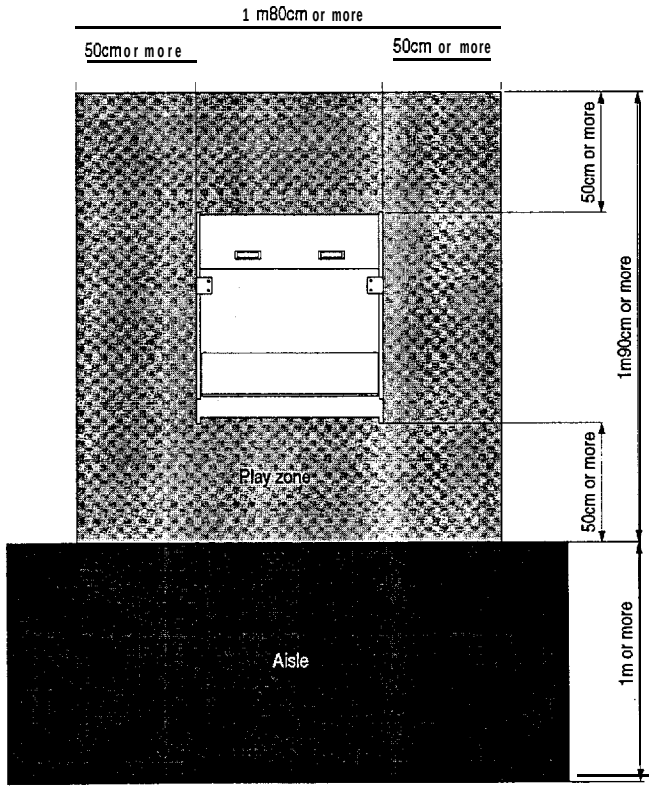
5-I-2 Play zone of the installed machine

WARNING

- Ensure a play zone as show in the diagram below to prevent contact between players and observers or pessersby.

NOTICE

- A ceiling height of at least 2m **20cm** is required.
- To facilitate removal of the Control base Assy for maintenance, lave space of at least 50cm between the rear of the machine and the wall or other game machines.



5-2 Required dimensions of carry-in passage (e.g. doors and corridors)

- Machine (excluding the POP panel)
  780 (W) x 890 (D) x 1,870 (H) mm Weight: 150kg

The carry-in passage must be large enough to allow access.

Depending on the size of the access door, the machine can be further disassembled into two Assy's as shown below.

. Signboard Assy (excluding the POP panels)
  740 (W) x 180 (D) x 100 (H) mm Weight: 5kg

. Cabinet Assy
  780 (W) x 890 (D) x 1,780 (H) mm Weight: 145kg

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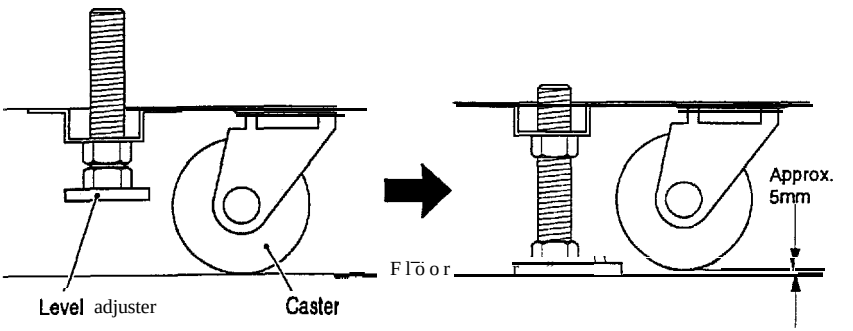
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5-3 Assembly

5-3-I Adjusting the level adjusters

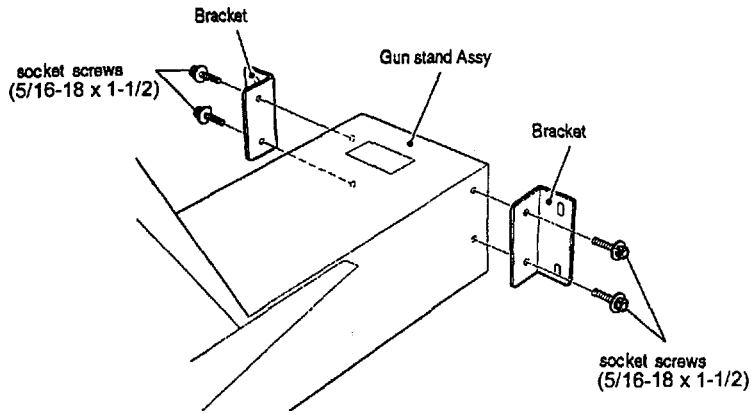
Lower the level adjusters (2 locations) on the Cabinet Assy, and adjust the height so that the casters are approximately 5mm above the floor.



5-3-2 Installing and connecting the Gun stand Assy and Rear cabinet Assy

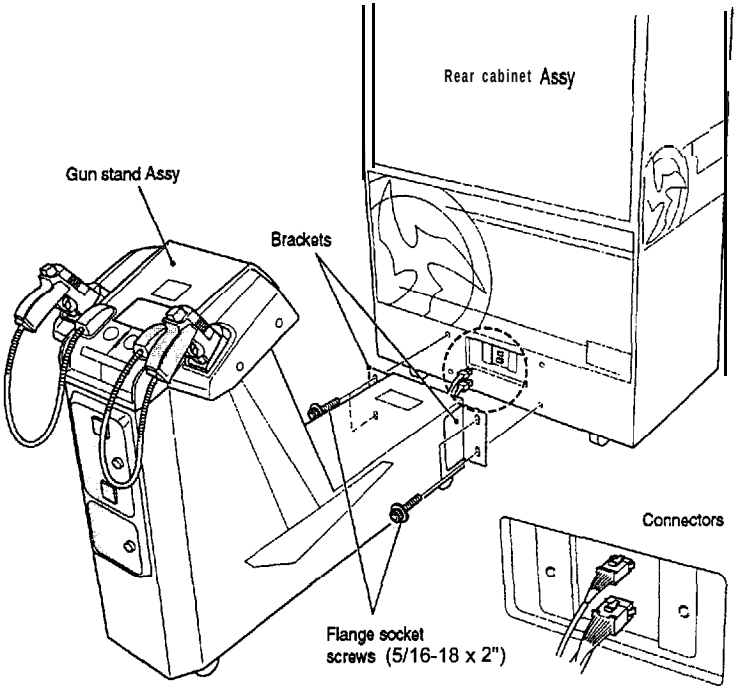
- To be conducted by a technician -

Attach the brackets to the left- and right-band sides of the Gun stand Assy using the four socket screws (5/16-18 x 1-1/2)



Move the Gun **stand** Assy close to the Rear cabinet Assy, and connect the two connectors.

Attach the brackets on the Gun stand **Assy** to the Rear cabinet Assy using the four socket screws (5116-l 6 x 2")



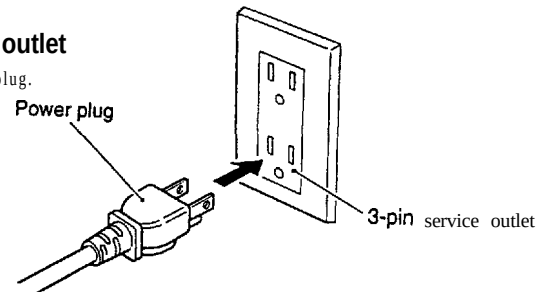
5-4 Connecting the power cord and the ground

⚠ WARNING

- The ground lead must be connected using one of the methods below. Failure to connect the ground lead may result in an electric shock if leakage occurs.
  (1) Ground using a 3-pin plug.
  (2) If a 3-pin plug cannot be used, ground by connecting the ground lead of the 3-pin-to-2-pin plug to the ground terminal.
  (3) If neither 3-pin nor 3-pin-to-2-pin plug can be used. ground by connecting the ground lead to the ground terminal on the machine.

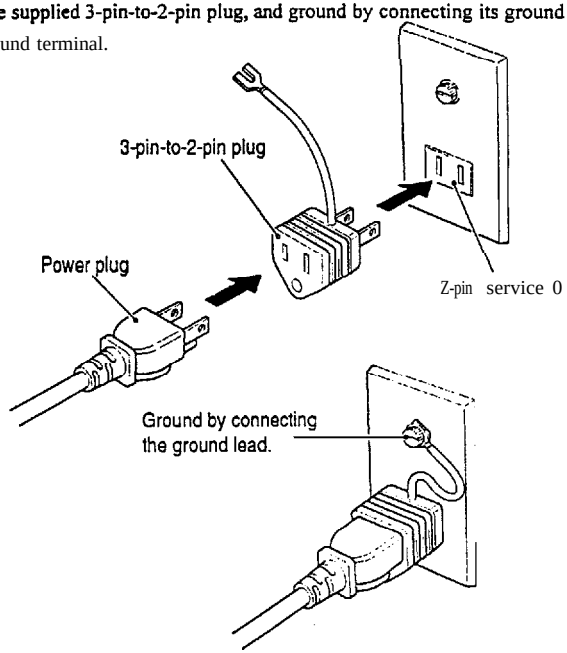
(l)With a 3-pin service outlet

Simply insert the power plug.



(2) With a 2-pin service outlet

Use the supplied 3-pin-to-2-pin plug, and ground by connecting its ground lead to the ground terminal.



6. MOVING AND TRANSPORTING

WARNING

. Do not leave the machine on a slope, otherwise the machine may topple or cause unforeseen accidents.

6-1 Moving (on the floor)

NOTICE

. Even when moving short distances, always raise the level adjusters fully. (See P. 17 “5-3-2 Adjusting the level adjusters”.)

- The machine height is approximately 2200mm (with the POP panels (F) and (R) attached). Check the heights of access doors before moving. Remove the POP panels (F) and (R) if necessary. (See P. 14 "5-2-1 Dividing the Signboard Assy and the Cabinet Assy”.)

. Handle with care to prevent damage to the machine.

- Be careful not to drop the Gun Assy.

6-2 Transporting

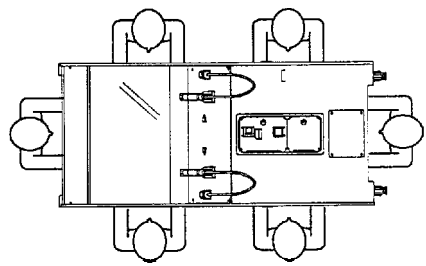
6-2-l Manual transport (carrying up or down stairs, etc.)

WARNING

. Always divide into the Signboard Assy and the Cabinet Assy before conducting manual carrying. (See. P 14 “5-2-l Dividing the Signboard Assy and the Cabinet Assy”.) Attempting to carry the machine without dismantling it may cause unforeseen accidents.

• Manual carrying must always be conducted by the appropriate number of people specified below. Attempting to carry components with insufficient number of people may result in accidents or injury.

. Cabinet Assy (145kg): 6 people or more



Cabinet Assy

NOTICE

. Do not subject components to shock when lowering to the ground.

. Always raise the level adjusters fully. (See P. 17 “5-3-2 Adjusting the level adjusters”.)

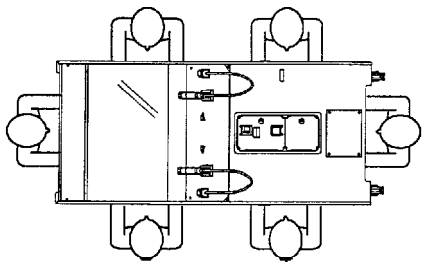
• Be careful not to drop the Gun Assy

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

WARNING

. When using a forklift to move or transport the machine, always lift it at the positions marked with forklift stickers. Failure to do so may result in toppling or unforeseen accidents.

- Always divide into the Signboard Assy and the Cabinet Assy before conducting manual carrying. (See. P 14 “5-Z-l Dividing the Signboard Assy and the Cabinet Assy”.) Attempting to carry the machine without dismantling it may cause unforeseen accidents.
- Manual carrying must always be conducted by the appropriate number of people specified below. Attempting to carry components with insufficient number of people may result in accidents or injury.
- Cabinet Assy (145kg): 6 people or more



Cabinet Assy

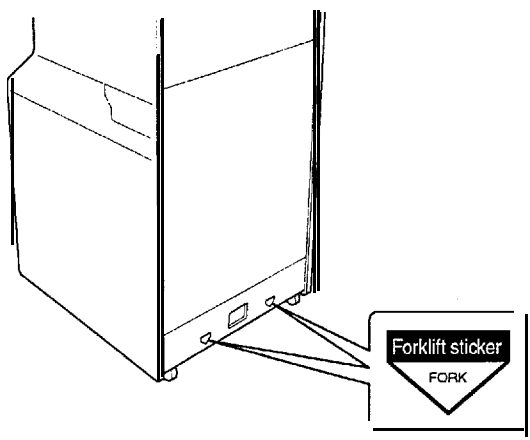
NOTICE

. Handle with care to prevent damage to the machine.

- Always raise the level adjusters fully. (See P. 17 “5-3-2 Adjusting the level adjusters”.)

. Do not subject components to shock when lowering to the ground.

- Be careful not to drop the Gun Assy.



6-2-3 Trucking

WARNING

- When transporting the machine on a vehicle, secure the machine to prevent it from moving due to acceleration or deceleration of the vehicle in transit. Failure to secure the machine may result in accidents.

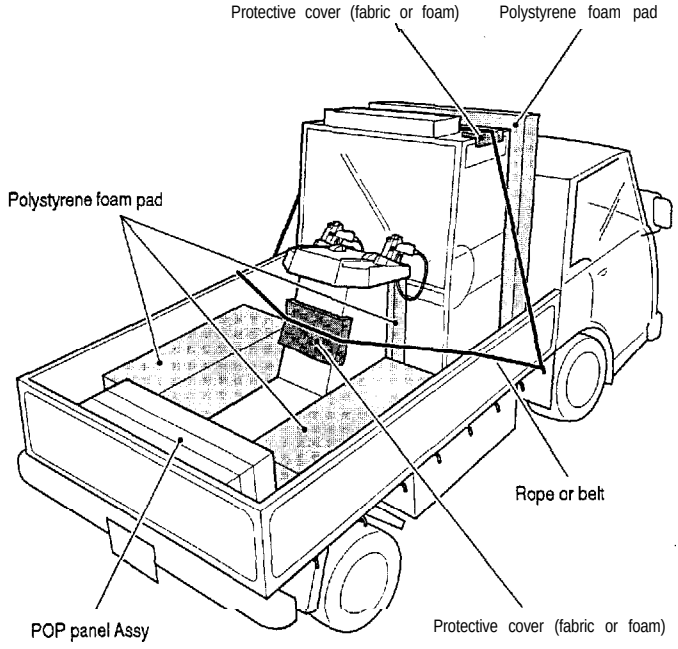
NOTICE

. Handle with care to prevent damage to the machine.

- Remove the POP panels to prevent damage due to wind pressure. (See. P 14 “5-2-l Dividing the Signboard Assy and the Cabinet Assy”.)

. When roping the machine, observe the following:

- Always attach mpes in the positions indicated in the figure below.
- Insert pads of polystyrene foam or similar material between the machine and the side panels of the truck to protect the machine surfaces.
- Secure the Gun Assy using cords, etc.
- Secure the Gun Assy using cords, etc.



WARNING

- Should a problem occur, switch OFF the power immediately and stop operating the machine. Then, unplug the power cord from the service outlet. Operating the machine without correcting the problem may cause a fire or accident.
- Dust accumulated on the power plug may cause a tire. Check the plug regularly **and** remove any dust.
- Insert the power plug securely into the service outlet. Poor contact may cause overheating, resulting in fire or bums.
- Before operating the machine, always check that the machine has been installed according to the instructions and procedures in this Operation Manual (see P. 11 "5. INSTALLATION"). Failure to install correctly may result in a fire, electric shock, injury, or equipment malfunction.
- The warning labels describe important safety precautions. Observe the points below.
  - To make sure that the warning labels attached to the machine are easily legible, install the machine in a well-lit location, and keep the labels clean at all times. Also make sure that the labels are not behind other game machines.
  - Do not remove or alter the warning labels.
  - If the warning labels become dirty or damaged, replace with new labels. To order replacement warning labels, contact your distributor.

7-1 Pre-service checks

Check the items described below before commencing operation.

If there are any problems, take appropriate action by referring to P. 43 “8-2 Troubleshooting”.

7-1 -1 Safety checks

WARNING

. Check the points listed before operating the machine. These checks are necessary for safe machine operation.

- Are the warning labels legible? (See P. 3 "1-4 Explanation of warning labels attached to the machine”.)
- Are all the level adjusters adjusted? (See P.17 “5-3-2 Adjusting the level adjusters”.)
- Is there sufficient play zone around the machine? (See P. I 1 “5-l Installation conditions”.)
- Are both ends of the gun tube secured? Is there any damage to the gun tube?
- Are the gun screws tightened?

7-1-2 Operation checks

. Turn ON the power switch, and check the following items. (See P. 27 “7-3-l Turning ON the power switch”.)

(1) Check the sound. (Is there sound from the speakers?)

(2) Check the fluorescent lamps. (Do the Signboard Assy lamps light?)

(3) Check the picture. (Does the monitor display pictures normally?)

- To check the following items, press the service switch and play the game. (See P. 27 “7-3-2 Adjustment switches”.)

(4) Check the gun operation, and set the gun sight. (See P. 33 "7-4-4 (b) GUN INITIALIZE”.)

(5) Check the start switch operation.

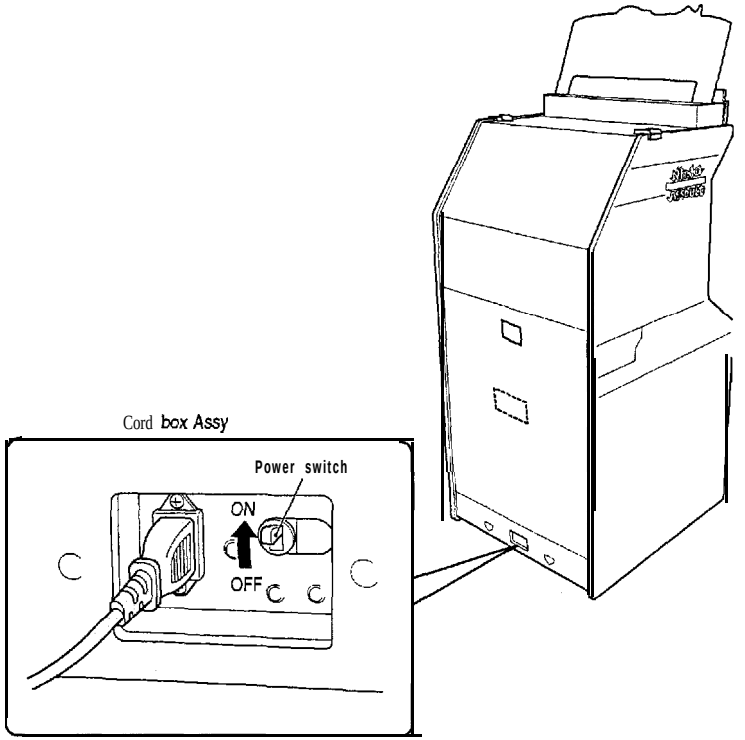
7-2 Play instructions

- The machine is a gun shooting game machine, which can be played by single player or by two players.
- Insert the necessary number of coins to fill the credits. After the credits are tilled, press the start button to start the game play.
- When the game play is started, try to shoot enemies on the screen.
- Up to eight bullets can be shot consecutively out of the player's gun.
- When bullets are run out, pull the trigger with the gun pointed outside the screen to replenish the gun with bullets.
- First-aid kits and bonus items ("maneki-neko": the beckoning figure of a cat displayed in shops to bring luck) sometimes appear during the game. Shoot a first-aid kit to restore the player's life. Shoot a bonus item to add the bonus score.
- Boss characters appear on some stages. These stages can be cleared by shooting the boss characters.
- When playing alone, one more player can join in the game midway on the vacant side by tilling the credits.
- The player's life is reduced when attacked by enemies. When it is gone, the machine is ready to accept a continue play.
- The game is over if the player takes no actions before the entry time for a continue play runs out.
- The player can enter his/her name if the final score is one of the ten best scores of the day. The ten best scores of the day are the ten best scores from when the power is turned ON to when it is turned OFF. Turning OFF the power clears the ten best players and their scores, and returns to the default settings.
- The ten best players are displayed as "THE BEST PLAYERS OF THE DAY" on the ranking screen in attract mode.
- The top 3 players and their scores so far are not cleared even after the power is turned OFF. For the procedures to clear the top 3 players and their scores so far, read P. 31 "7-4-3 Setting the game options (GAME OPTIONS)".
- The top 3 players so far are displayed as "TOP 3 PLAYERS".

7-3 Adjustment

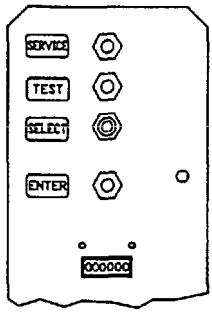
7-3-l Turning ON the power switch

After installing the machine as described on P. I I "5. INSTALLATION", turn ON the power switch of the machine.



7-3-2 Adjustment switches

Open the service door of the Coin Assy to find the adjustment switches,



(a)Service switch

Press this switch to increase the credit count without activating the coin counter.

(b) Test switch

Use this switch to switch test/attract mode. The machine enters attract mode when the power is turned on, and press this switch to enter test mode.

Test mode allows the game pricing and other parameters to be changed, and various parts to be tested.

(c)Select switch

Flick this switch up or down to select an option in test mode

(d) Enter switch

After selecting options with the select switch, press this switch to finalize and execute the selected option.

NOTICE ● The service switches may not always operate unless pressed slowly and positively.

7-4 Test mode

7-4-l Description of the MENU screen

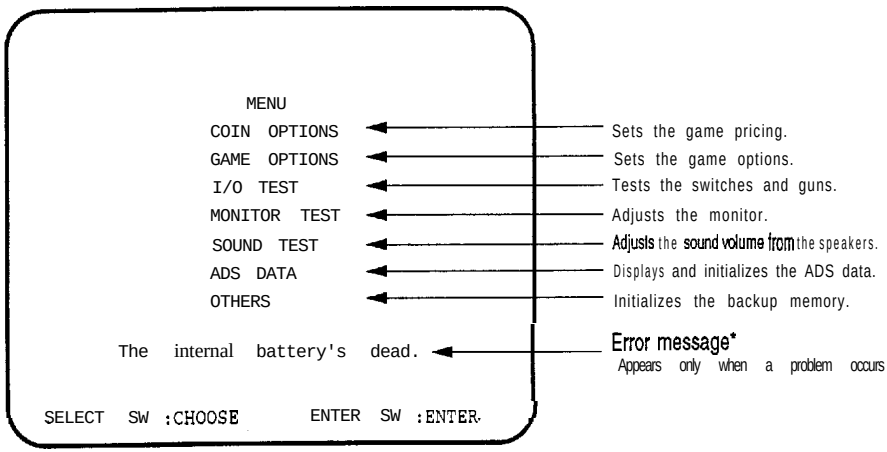
Unlock the service door with the key provided, and press the test switch to set the test mode to ON. The MENU screen appears.

Flick the select switch up or down to select the required option. The selected option blinks.

Press the enter switch to finalize the selected option.

After making an adjustment, select EXIT and press the enter switch to return to the MENU screen.

After all adjustments have been made, press the test switch to return to the GAME screen.



MENU screen

* Error message (the internal battery is beginning to run down or has trouble)

When the error message ("The internal battery's dead.") appears, turn OFF the power, and wait for approximately ten minutes. Then, turn ON the power again, and check if the error message reappears on the MENU screen in test mode. If the error message still appears even after you repeat these actions several times, it is assumed that the internal battery is beginning to run down or has trouble. For the procedures to replace the NAOMI internal battery. read the NAOMI Service Manual (P. 10 "8. Replacing the batteries (main board)").

7-4-2 Setting the game pricing and free play (COIN OPTIONS)

This screen is used to set the game pricing and free play.

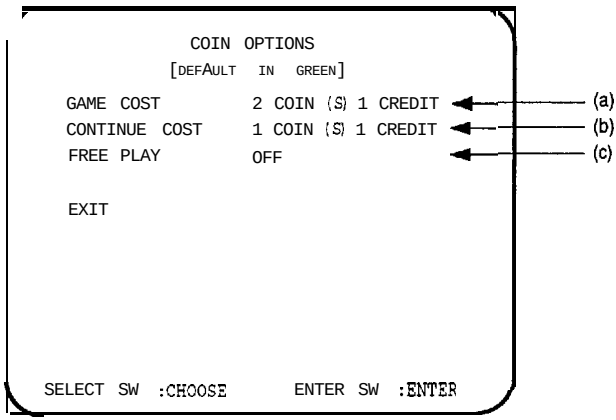
Select COIN OPTIONS on the MENU screen, and press the enter switch. The COIN OPTIONS screen appears.

Use the select switch to select the option to be changed. The selected option blinks. Press the enter switch to finalize the option to be changed.

After finalizing the option to be changed, change the option details using the select switch.

After changing the option details, press the enter switch to return to the option selection screen.

Select EXIT and press the enter switch to return to the MENU screen.



COIN OPTIONS screen

Option	Description	Default
(a) Game pricing setting	Number of coins required for one game play 1 to 9 coins	4
(b) Game pricing setting for the continued play * 1	Number of coins required for the continued play 1 to 9 coins	4
(c) Free play setting *2	OFF (No) ON (Yes)	OFF

COIN OPTIONS setting table

*1 The game continue pricing cannot be set higher than the regular game pricing.
To raise the game pricing and the game continue pricing, set the game pricing first.

*2 When the free play setting is set to ON, the game starts just by pressing the start button without having to insert any coins.

7-4-3 Setting the game options (GAME OPTIONS)

This screen is used to set the game options.

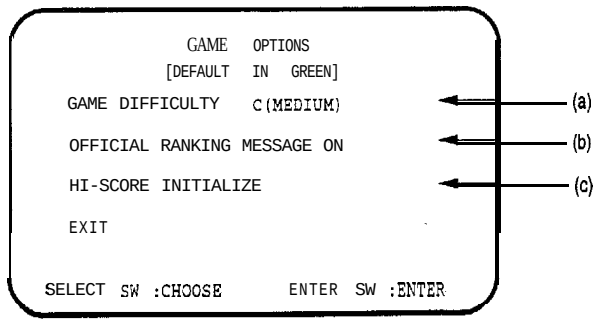
Select GAME OPTIONS on the MENU screen, and press the enter switch. The GAME OPTIONS screen appears.

Use the select switch to select the option to be changed. The selected option blinks. Press the enter switch to finalize the option to be changed.

After finalizing the option to be changed, change the option details using the select switch.

After changing the option details, press the enter switch to return to the option selection screen.

Select EXIT and press the enter switch to return to the MENU screen.



GAME OPTIONS screen

Option	Description	Default
(a) Game difficulty setting *1	A (VERY EASY) B (EASY) C (MEDIUM) D (HARD) E (VERY HARD)	C(MEDIUM)
(c)Internet ranking display when it is active *2	ON (displayed) OFF (not displayed)]	ON
(b)High score initialization *3	NO (not initialized) YES (Initialized)	NO

GAME OPTIONS setting table

* 1 The game difficulty is adjusted according to the degree of the player's life (power) reduction.

*2 Setting (b) to OFF disables the notice and password display when the Internet ranking is active. If the game difficulty (a) is changed from the default setting to any of the other settings, (b) is automatically set to OFF and cannot be changed. Changing the (b) setting is allowed only if the game difficulty is set to default. The password is displayed only when playing alone. It is disabled and erased from the screen when another player joins in the game midway.

*3 To initialize the high score, select the (c) option and press the enter switch. When YES and NO are displayed on the screen, select YES and press the enter switch to start initialization.

7-4-4 I/O tests for switches (I/O TEST)

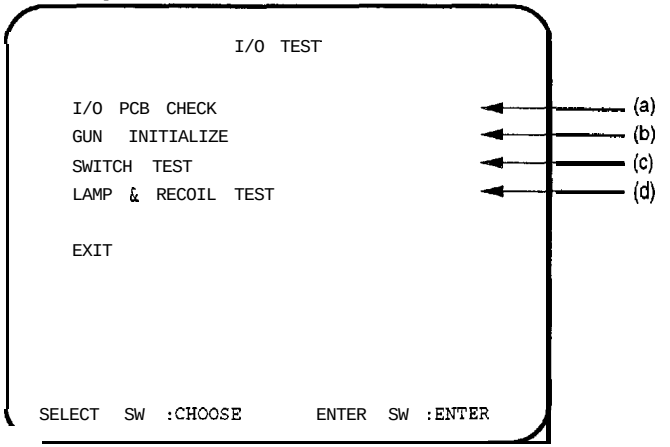
This screen is used to test the input and output of each switch and to check and set the gun sight.

Select I/O test on the MENU screen, and press the enter switch. The I/O TEST screen appears

Use the select switch to select the desired option. The selected option blinks.

Press the enter switch to display the I/O TEST screen for the option selected.

Select EXIT and press the enter switch to return to the MENU screen.

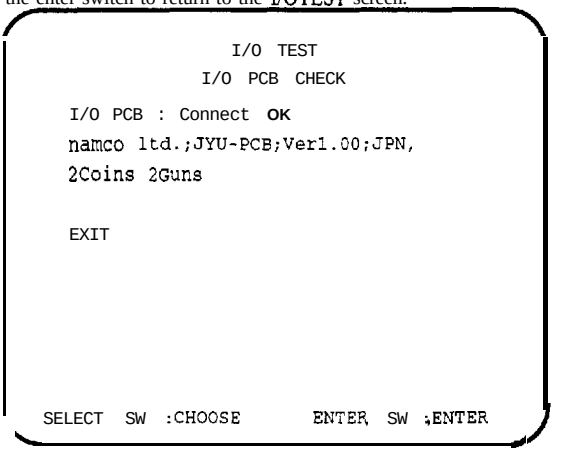


I/O TEST screen

(a) I/O PCB CHECK

This displays the I/O PCB CHECK screen.

Press the enter switch to return to the I/OTEST screen.



I/O PCB CHECK screen

(b) GUN INITIALIZE

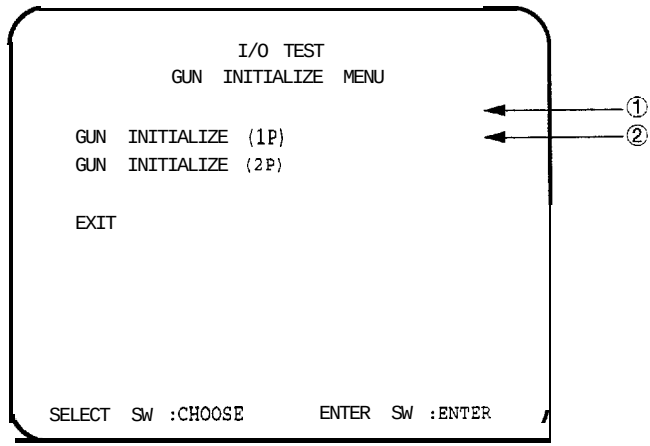
This sets the gun sight. Check the gun sight regularly on this screen.

Select GUN INITIALIZE on the I/O TEST screen, and press the enter switch. The GUN INITIALIZE MENU screen appears.

Use the select switch to select the desired option. The selected option blinks.

Press the enter switch to display the TEST screen for the option selected.

Select EXIT and press the enter switch to return to the MENU screen.

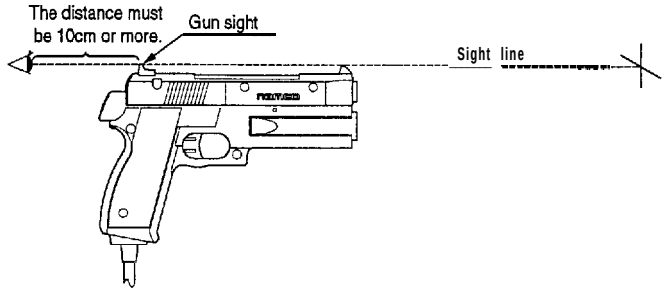


GUN INITIALIZE MENU screen

1 GUN INITIALIZE (1P)

NOTICE

- To adjust the gun sight, position the gun so that the center of the cross on the screen is on the sight line as shown below, and shoot the gun.



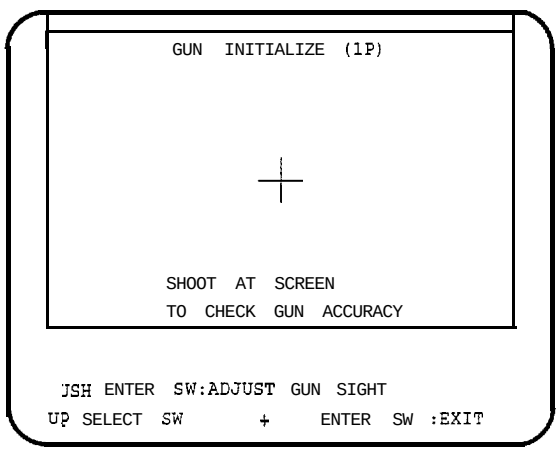
This sets the gun sight for 1P (theplayer 1).

Select GUN INITIALIZE (1 P) on the GUN INITIALIZE MENU screen, and press the enter switch. The GUN INITIALIZE MENU screen appears, on which the gun sight can be checked.

Shoot the gun at the GUN INITIALIZE screen 1, and pull the gun trigger. Check that the gunshot is displayed on the point which you tried to aim at.

To initialize the gun sight, press the enter switch (or the start button) on the GUN INITIALIZE SCREEN 1to go to the GUN INITIALIZE SCREEN 2.

To return to the GUN INITIALIZE MENU screen, press the enter switch with the select switch flicked up on the GUN INITIALIZE SCREEN 1.

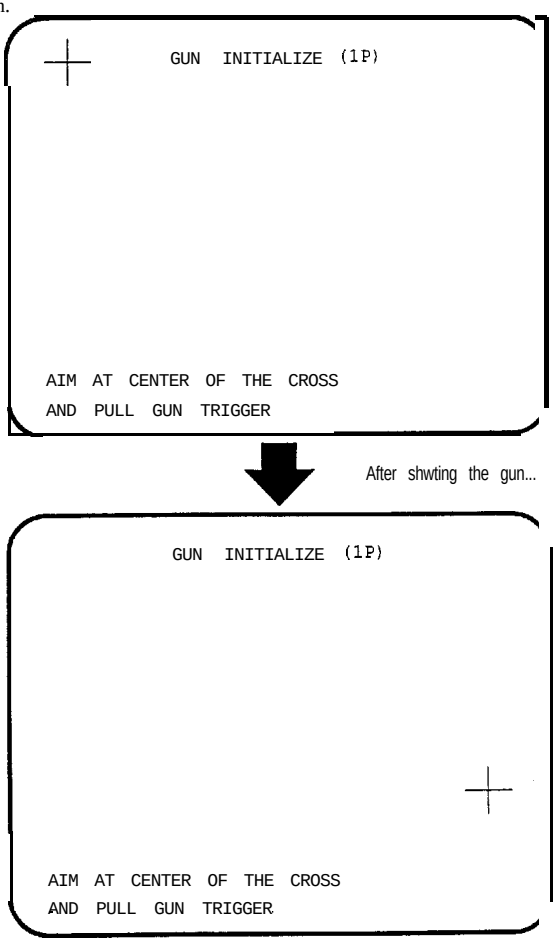


GUN INITIALIZE SCREEN 1 (for gun sight check)

On the GUN INITIALIZE SCREEN 2, aim at the center of the cross on the upper left comer of the screen, and pull the gun trigger. Then, aim at the center of the cross on the lower right comer of the screen, and pull the gun trigger. The gun sight is set (initialized).

After shooting the center of the cross on the lower right comer of the screen, the GUN INITIALIZE SCREEN I reappears. Check that the gun can be shot at any point within the frame.

If the gun sight is not set properly, press the enter switch (or the start button) to return to the GUN INITIALIZE SCREEN 2, and try to set (initialize) the gun sight again.



GUN INITIALIZE SCREEN 2 (for gun sight initialization)

* Press the test switch to return to the GAME screen.

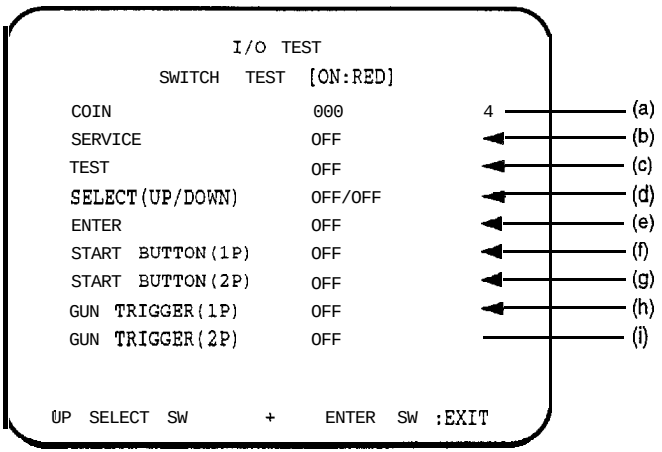
2 GUN INITIALIZE (2P)

- This sets the gun sight for 2P (the player 2). The procedures are the same as described in 1

(c) SWITCH TEST

This tests the input and output of all the switches.

Press the enter switch with the select switch flicked up. The I/O TEST screen reappears.



SWITCH TEST screen

(a) The coin counter increments each time the coin switch is activated.

(b) ON appears when the service switch is pressed.

(c) The GAME screen reappears when the test switch is pressed.

(d) ON appears on the left (display: ON/OFF) when the select switch is in the up position and on the right (display: OFF/ON) when the select switch is in the down position.

(e) ON appears when the enter switch is pressed.

(f) ON appears when the start button (1P) is pressed.

(g) ON appears when the start button (2P) is pressed.

(h) ON appears when the gun trigger (1P) is pulled.

(i) ON appears when the gun trigger (2P) is pulled.

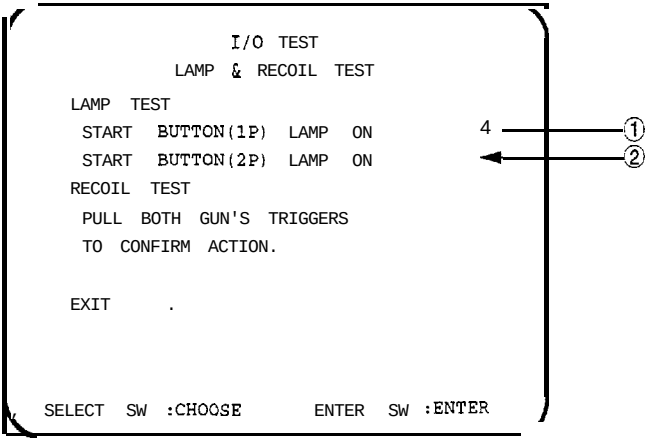
(d) LAMP & RECOIL TEST

This tests the start button lamps and the gun blowback mechanism (recoil).

The start button lamps are turned on as soon as the following screen is displayed. Setting the parameters ‡@ and ‡A to OFF turns off the respective lamps. The lamps are also turned off by exiting from the LAMP & RECOIL TEST screen.

Pull either 1P or 2P gun trigger on the screen to activate the blowback mechanism for the respective gun.

Select EXIT and press the enter switch to return to the MENU screen.



LAMP & RECOIL TEST screen

7-4-5 Monitor test (MONITOR TEST)

This screen is used to adjust the monitor parameters.

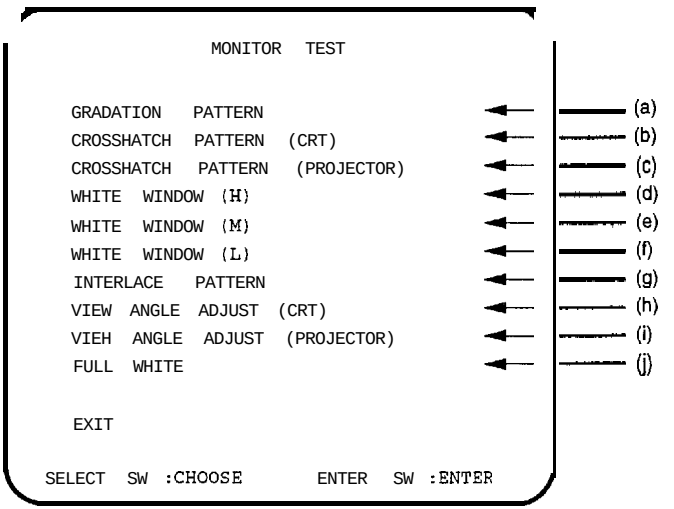
Select MONITOR TEST on the MENU screen, and press the enter switch. The MONITOR TEST screen appears.

Use the select switch to select the required option. The selected option blinks,

Press the enter switch to display the corresponding pattern.

To exit from the pattern screen, press the enter switch again.

Select EXIT and press the enter switch to return to the MENU screen.



MONITOR TEST screen

(a) Displays a gradation pattern.

(b) Displays a crosshatch pattern for CRT monitors. (Not used for projectors.)

(c) Displays a crosshatch pattern for projectors. (Not used for CRT monitors.)

(d) Displays a white window (H or light)

(e) Displays a white window (M or medium).

(f) Displays a white window (L or dark).

(g) Displays an interlace pattern.

(h) Displays an adjustment screen for CRT monitors. (Not used for projectors.)

(i) Displays an adjustment screen for projectors. (Not used for CRT monitors.),

(j) Displays white over the entire screen.

7-4-6 Sound test (SOUND TEST)

This screen is used to adjust the sound volume and check the stereo offset.

Select SOUND TEST on the MENU screen, and press the enter switch. The SOUND TEST screen appears.

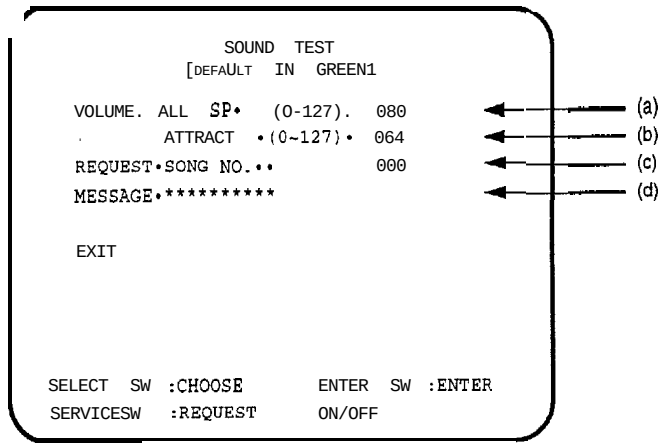
Use the select switch to select the option to be changed. The selected option blinks.

Select options (a), (b) or (c), and press the enter switch. The value for the selected item blinks. Flick the select switch up or down to adjust the values.

When (c) is selected, the digit to be adjusted changes each time the enter switch is pressed. Flick the select switch up or down to adjust each digit and set the desired number. Press the service switch to play the selected music or sound effect.

- "000" is for no sound, and "001" is for stereo testing. Select "001" and press the service switch to play the sound from the left-hand speaker, right-hand speaker, and both speakers in sequence.

Select EXIT and press the enter switch to return to the MENU screen.



SOUND TEST screen

Option	Description	Default
(a)Game sound volume setting	000 (minimum) ▪ 127 (maximum)	080 064
(b) Attract sound volume setting	000 (minimum) ▪ 127 (maximum)	000
(c) Request	Music/sound effects selection	
(d)Message	Displays the song code selected by REQUEST.	

SOUND TEST setting table

7-4-7 Displaying and initializing game data (ADS DATA)

This screen displays the game data.

Select ADS DATA on the MENU screen, and press the enter switch. The ADS DATA screen appears.

The game data is retained even when the power is switched off, unless ADS INITIALIZE or BACKUP MEMORY INITIALIZE on the OTHERS screen is executed.

Once the data has been confirmed, select EXIT and press the enter switch to return to the MENU screen.

7-4-8 Miscellaneous (OTHERS)

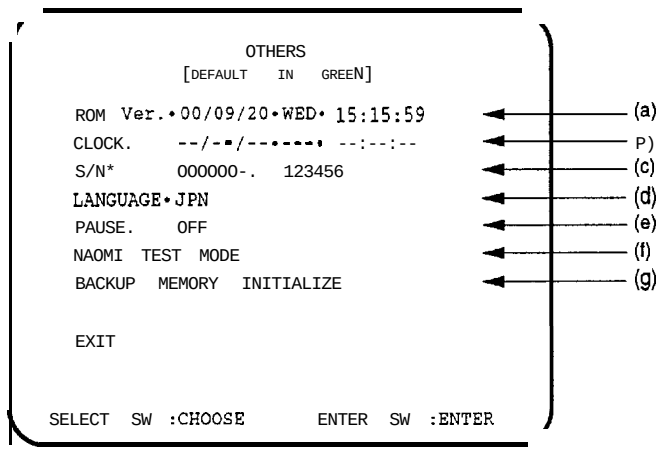
This screen is used to initialize the backup memory.

Select OTHERS on the MENU screen, and press the enter switch. The OTHERS screen appears.

Use the select switch to select the required option. The selected option blinks.

Press the enter switch to execute the selected (blinking) option.

Select EXIT and press the enter switch to return to the MENU screen.



OTHERS screen

(a) Displays the software version.

(b) Not used for this machine.

(c) Displays the PC board serial number.

(d) Selects the language used in the game attract sequence. Select from: English (ENG), French (FRA), German (GER), and Spanish (SPA).

(e) Sets the screen freeze function.
With this set to ON, press the enter switch to freeze/release the screen, and flick the select switch upward to advance frames.
* The sound is cut while this setting is at ON.

(f) Enters PC board test mode. (Not used during machine operation.)

(g) Initializes the backup memory.
Select the desired item and press the enter switch to display "YES" and NO".
Select "YES" and press the enter switch to clear all the settings such as the gun sight, the high score and other settings altered and to reset to the default settings.
* After BACKUP MEMORY INITIALIZE (g) is executed, check the gun sight on the I/O TEST screen (see P. 32 "7-4-4 I/O tests for switches (I/O TEST)"), and reset it if necessary.

8. MAINTENANCE

WARNING

- Before carrying out maintenance work (such as troubleshooting or repairs), always turn off the power switch to protect service staff and other personnel from electric shock, accidents, and injury.
- Some internal parts of the monitor remain hot or at high voltage even after the power is turned off. To prevent electric shock or burns, take great care not to touch parts other than those specified.

8-1 Maintenance and inspection

NOTICE

- Pre-service checks must be carried out every day. (See P. 25 "7-1 Pre-service checks".)

8-l-l Cleaning the lenses

NOTICE

- Clean the gun lenses every day. Remove any dirt from the lenses using clean, soft cloth.
- Do not use any detergents and chemicals.

8-2 Troubleshooting

WARNING

- Always mm off the power first to protect service staff and other personnel from electric shock, accidents and injury, and to prevent damage to electrical circuits.

NOTICE

- If a fault occurs, first check that all the connectors are firmly connected.
- Contact your distributor if none of the cases below applies to the problem, or if the action listed does not appear to resolve the problem.
- Never attempt to check the NAOMI or game PC board for continuity using a multi-meter or other tester as Namco Ltd. is responsible for repair. The internal voltage of the tester may damage the IC chips.
- Do not perform circuitry inspection using the logic tester mentioned on the NAOMI Service Manual. Do not solder buttons to wire harnesses.
- Be sure to pack components properly when sending for repair. When sending the NAOMI or game PC board, especially, wrap them in sponge or bubble-wrap, and pack in a corrugated cardboard box to protect against shock.

  No corrugated cardboard box is included in the product package.

8-2-1 General - To be conducted by a technician -

- If a fault occurs, first check that all the connectors are firmly connected.

Symptom	Main cause	Action	See page
The machine operation is unstable, or the machine malfunctions.	The supply voltage is outside the range from 110-120V AC (or 220-240V A	Disconnect any other large capacity electrical devices (such as air-conditionsers and large ride machines) on the same power line to secure the specified supply voltage.	•
The machine turns off during operation,	The circuit protector has tripped and turned off the power.	Turn on the power again. If the circuit protector trips again, there is a fault with the machine. Contact your distributor.	Page 27

8-2-2 Signboard Assy -To be conducted by a technician -

Symptom	Main cause	Action	See page
The fluorescent lamp does not light.	The connector is disconnected.	Reconnect the connector securely.	Page 15
	The fluorescent lamp is burnt out.	Replace the fluorescent lamp.	Page 45
	The glow lamp is burnt out.	Replace the glow lamp.	Page 45

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

Symptom	Main cause	Action	See page
There is no sound from the speakers.	The sound volume is too low.	Adjust the sound volume.	Page 39
The monitor does not display a picture.	The monitor connector is disconnected.	Reconnect the connector.	Page 62
	The Rack Assy connector is disconnected.	Reconnect the connector.	Page 5 1
	The NAOMI is defective.	Replace the NAOMI.	Page 52

8-2-4 Control panel Assy -To be conducted by a technician -

Symptom	Main cause	Action	See page
The start switch does not work.	The connector is disconnected.	Reconnect the connector.	Page 48
	The start switch is defective.	Replace the start switch.	Page 54
	The connector is disconnected.	Reconnect the connector securely.	Page 48
	The lamp is burnt out.	Replace the lamp.	Page 54

8-2-5 Gun Assy -To be conducted by a technician -

Symptom	Main cause	Action	See page
The blowback does not operate.	The connector is disconnected.	Reconnect the connectors securely.	Pages 55 and 58
	The microswitch is defective.	Replace the microswitch.	Page 59
	The solenoid is worn.	Replace the solenoid.	Page 58
There is a problem in gunshot display.	The lens is dirty.	Clean the lens.	Page 57
	The gun sight is not set properly.	Reset the gun sight.	Page 33

Ninja Assault

132900

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8-3 Disassembling, reassembling and replacing Assemblies and parts

8-3-l Control panel Assy - To be conducted by a technlcian -

(1) Removing and reassembling the control panel cover

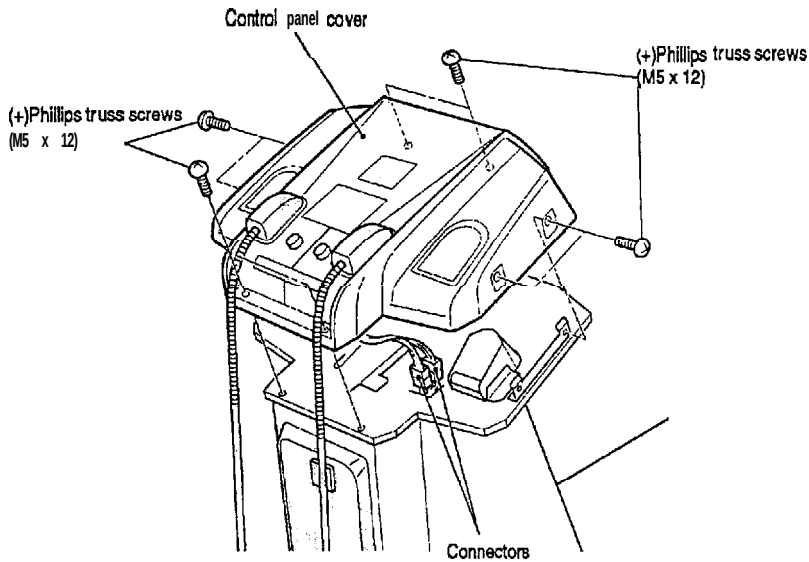
WARNING

. Always switch off the power before carrying out **work, to** prevent electric shock, accidents or injuries to maintenance staff or other personnel, and to prevent damage to electrical circuits.

Remove the guns from the gun holders.

Remove the eight Phillips truss screws (MS x 12), and then remove the control panel cover.

Remove the two connectors.



To reinstall, follow the removal procedure in reverse.

(2) Replacing the start switch and lamp

WARNING

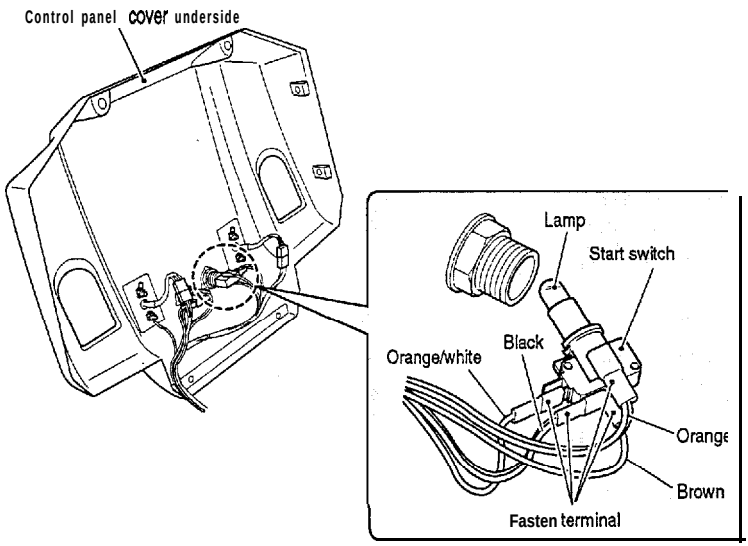
. Always switch off the power before carrying out work, to prevent electric shock, accidents or injuries to maintenance staff or other personnel, and to prevent damage to electrical circuits.

Remove the control panel cover. (See P. 53 “S-3-3 (I) Removing and reassembling the control panel cover”.)

Turn the control panel cover over, and pull out the start switch.

If the lamp is burnt out, remove the lamp and replace with a new one.

To replace the entire start switch, disconnect the fasten terminals, remove the start switch, and replace with a new start switch.



To reinstall, follow the removal procedure in reverse.

(1) Replacing the Gun Assy

⚠ WARNING

- Always switch off the power before carrying out work, to prevent electric shock, accidents or injuries to maintenance staff or other personnel, and to prevent damage to electrical circuits.

Remove the control panel cover. (See P. 53 "X-3-3 (I) Removing and reassembling the control panel

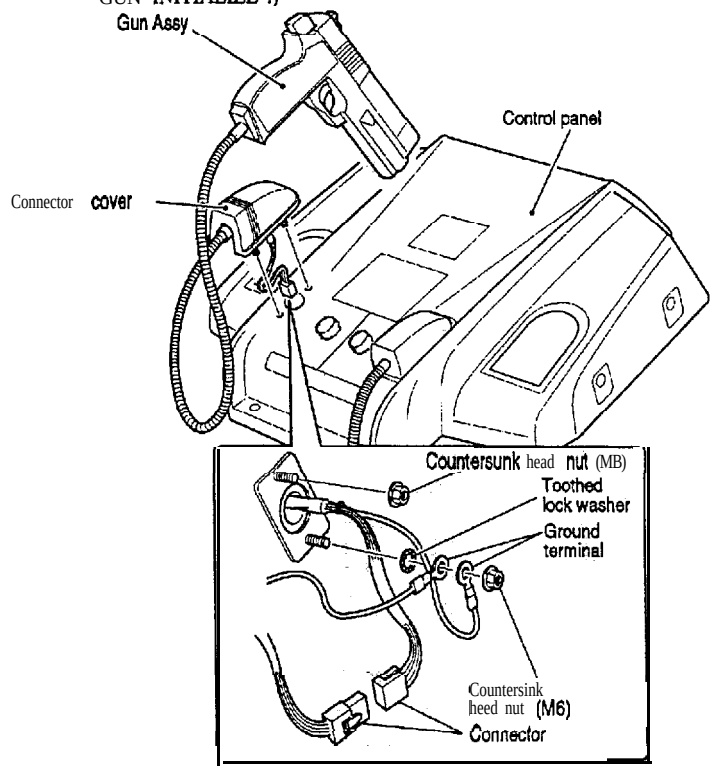
Disconnect the connector (xl).

Remove the two countersunk head nuts (M6) securing the Gun Assy from the underside of the control panel cover.

Pull the connector cover upward to remove the Gun Assy.

NOTICE

- Always readjust the Gun Assy after replacing. (See P. 36 "7-4-4 (b) GUN INITIALIZE".)

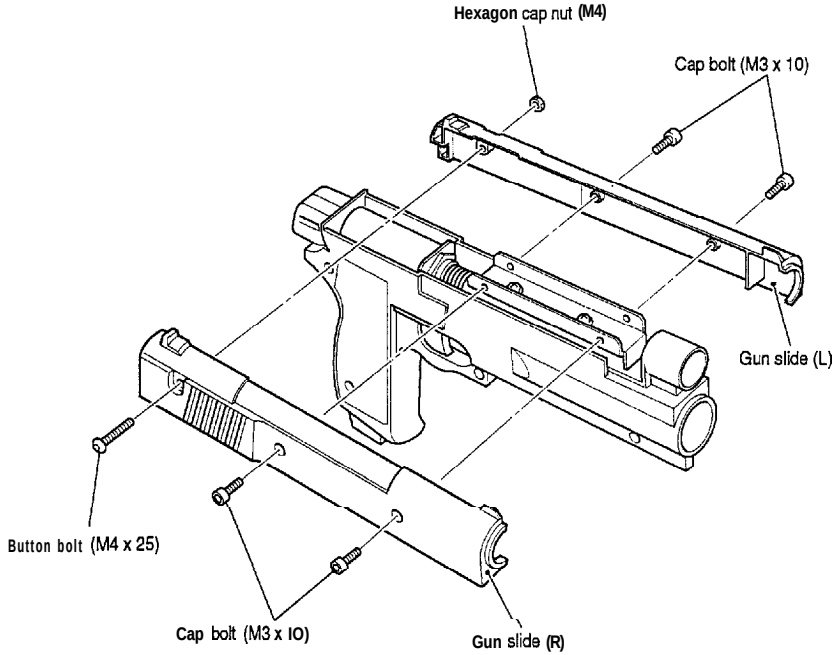


Control panel underside

(2) Opening the gun slides

NOTICE . Always turn off the power switch first to prevent damage to electrical circuits.

Remove the four cap bolts (M3 x 10), the button bolt (M4 x 25), and the hexagon cap nut (M4) to remove the gun slides (L) and (R).



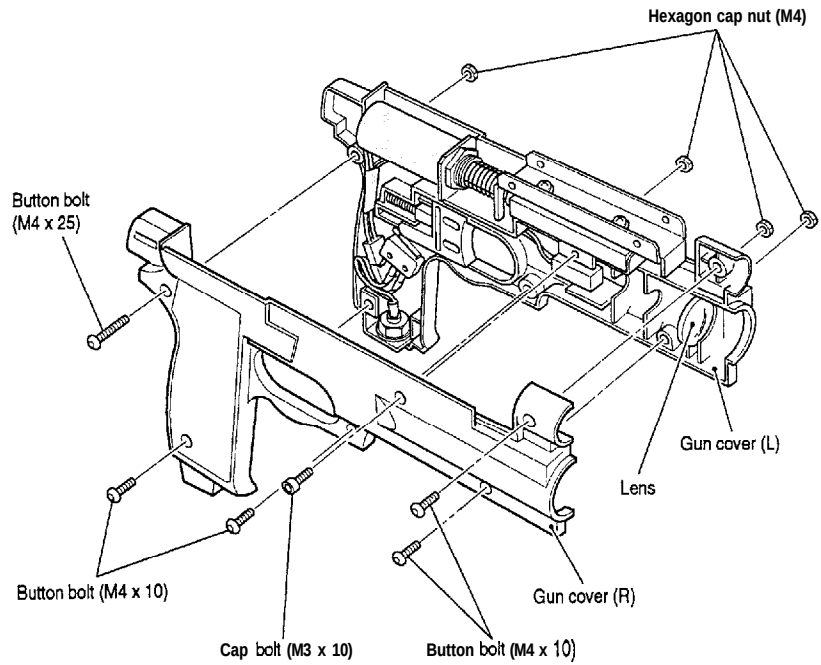
To reinstall, follow the removal procedure in reverse.

(3) Opening the gun covers

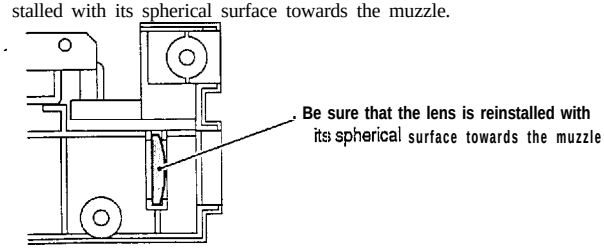
NOTICE • Always turn off the power switch **first** to prevent damage to electrical circuits.

Remove the gun slides (L) and (R). (See P. 56 "S-3-4 (2) Opening the gun slides".)

With the gun cover (L) downwards, remove the four button bolts (M4 x 10), the button bolt (M4 x 25), the four hexagon cap nuts (M4), and the cap bolt (M3 x 10) to remove the gun cover (R). Be careful not to drop the lens.



To reinstall, follow the removal procedure in reverse. Be sure that the lens is reinstalled with its spherical surface towards the muzzle.



(4) Replacing the solenoid

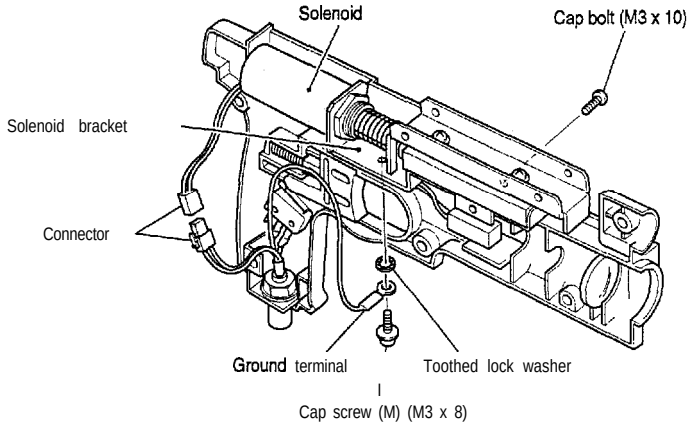
NOTICE • Always turn off the power switch first to prevent damage to electrical circuits.

Remove the gun slides and the gun covers. (See P. 56 "8-3-4 (2) Opening the gun slides" and P. 57 "8-3-4 (3) Opening the gun covers".)

Disconnect the connector on the solenoid.

Remove the cap bolt (M3 x 10) on the gun cover (L), and remove the solenoid bracket.

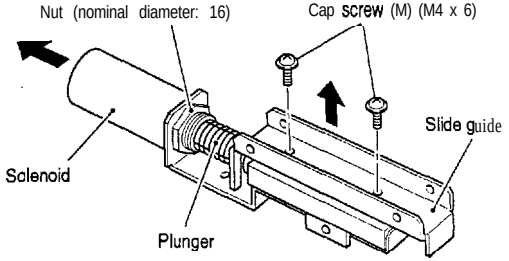
Remove the cap screw (M) (M3 x 8), and detach the ground terminal.



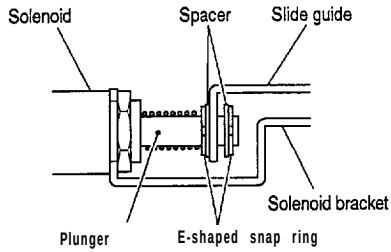
Loose the nut (nominal diameter: 16) holding the solenoid in place, and pull out the solenoid.

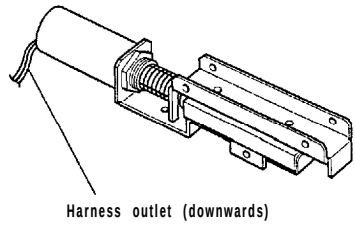
Remove the two cap screws (M) (M4 x 6), and remove the slide guide.

Pull out the solenoid plunger. Be careful not to lose the spring.



To reinstall, follow the removal procedure in reverse. Fit the D-shaped part of the solenoid in the D-shaped hole of the solenoid bracket. Arrange the E-shaped snap rings and the spacer in the correct order.





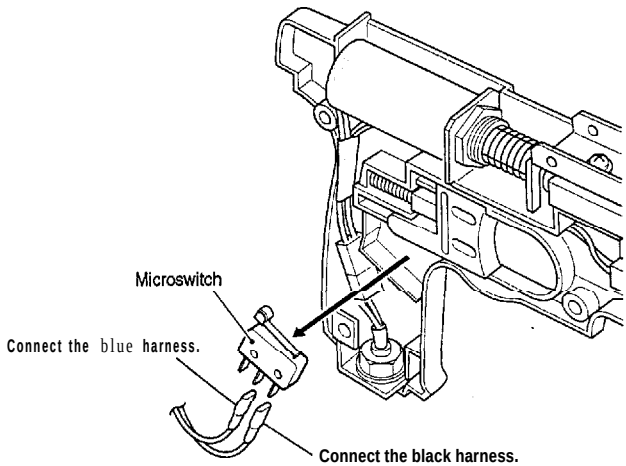
(5) Replacing the microswitch

NOTICE

- Always turn off the power switch first to prevent damage to electrical circuits.

Remove the gun slide (R) and the gun cover (R). (See P. 56 “X-3-4 (2) Opening the gun slides” and P. 57 "8-3-4 (3) Opening the gun covers”.)

Replace the microswitch.



To reinstall, follow the removal procedure in reverse.

(6) Replacing the tube

WARNING

- Always turn off the power switch first to protect service staff and other personnel from an electric shock, accidents and injury, and to prevent damage to electrical circuits.

Remove the Gun Assy. (See P. 55 “8-3-4 (I) Replacing the Gun Assy".)

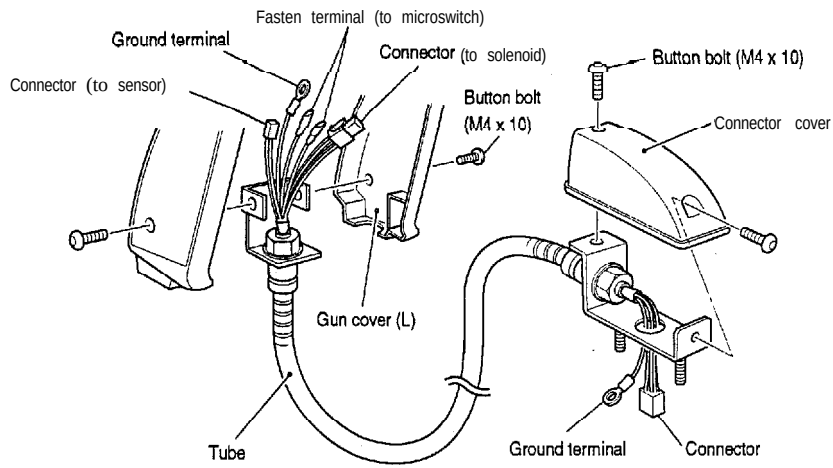
Remove the two button bolts (M4 x IO), and remove the connector cover.

Remove the gun slides (L) and (R), and the gun cover (R). (See P. 56 "8-3-4 (2) Opening the gun slides” and P. 57 “8-3-4 (3) Opening the gun covers”.)

Remove the solenoid bracket, and detach the connector and ground terminal on the solenoid. (See P. 58 "8-3-4 (4) Replacing the solenoid”.)

Remove the connector from the sensor and the fastern terminal from the microswitch.

Remove the button bolt (M4 x 10) holding the tube and the gun cover (L) in place to remove the tube.



To reinstall, follow the removal procedure in reverse.

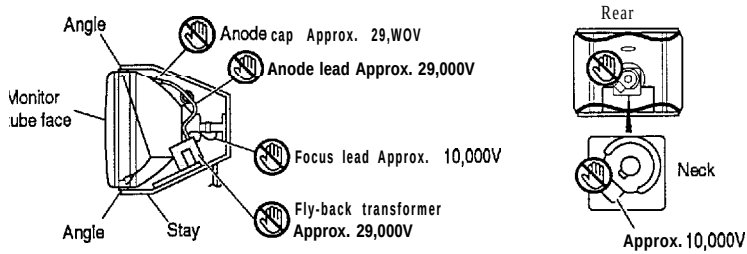
8-4 Replacing and adjusting the monitor

8-4-1 Replacing the monitor -To be conducted by a technician ▪

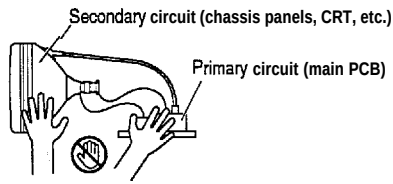
indicates "Do not touch".

WARNING

- Always turn off the power switch first to protect service staff and other personnel from an electric shock, accidents and injury, and to prevent damage to electrical circuits.
- The monitor interior contains components that generate high voltages of more than 20,000V. Do not touch the interior of the monitor, to prevent an electric shock.
- Residual high voltage remains at the anode cap, anode lead, and fly-back transformer, even when the power has been switched off. Never touch, then to prevent an electric shock.
- When replacing the monitor, never touch any parts other than the stay, angle, and monitor surface.



- The monitor circuits are divided into primary and secondary circuits, which are electrically insulated. Do not touch the primary circuit or both circuits simultaneously (short circuiting). This is extremely dangerous, and will result in an electric shock or accidents.



- If foreign material such as solder waste or paper fails inside the monitor, switch off the power to prevent fire or breakdown, and contact your distributor.
- If a fault occurs with the monitor, switch off the power immediately, and contact your distributor.
- The monitor weighs approximately 40kg. Work must be carried out by at least two people.

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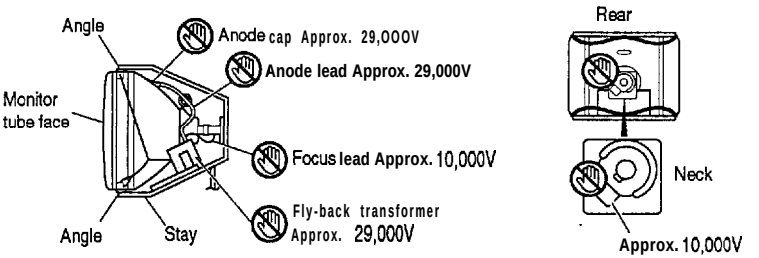
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8-4-2 Adjusting the monitor -To be conducted by a technician ▪

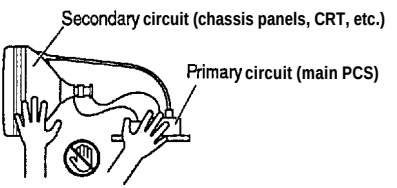
indicates "Do not touch".

WARNING

- Monitor adjustment is carried out with the power switched on. There is therefore a risk of an electric shock, accidents or injuries. Do not touch points other than those specified in the adjustment procedures.
- The monitor interior contains components that generate high voltages of more than 20,000V. Do not touch the interior of the monitor, to prevent an electric shock.



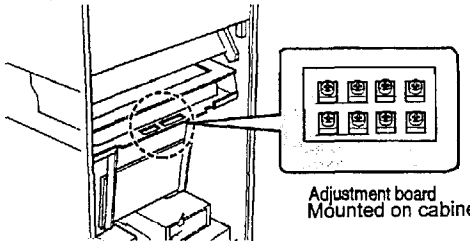
- The monitor circuits are divided into primary and secondary circuits, which are electrically insulated. Do not touch the primary circuit or both circuits simultaneously (short circuiting). This is extremely dangerous, and will result in an electric shock or accidents.



- If foreign material such as solder waste or paper falls inside the monitor, switch off the power to prevent fire or breakdown, and contact your distributor.
- If a fault occurs with the monitor, switch off the power immediately, and contact your distributor.

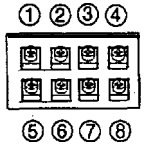
NOTICE . The monitor is adjusted to the optimum conditions at the factory. Adjustment is not normally necessary.

Remove the rear panel (See P. 47 "S-3-2 (I) Removing and reinstalling the rear panel".)



(a) Adjustment functions

The monitor adjustment board is configured as below:



1	H PHASE	Adjusts the picture to the center of the raster.
2	V CENTER	Adjusts the vertical center.
3	H.SIZE (Horizontal size adjustment)	Adjusts the horizontal picture size.
4	CONTRAST	Adjusts the picture contrast.
5	V HOLD	Adjusts the vertical hold.
6	DP	
7	SIZE	Adjusts the picture size.
8	BRIGHT	Adjusts the picture brightness.

NOTICE • (a) ▸ (c) cannot be adjusted without technical experience and measuring instruments. Do not touch. Note that if accidentally touched, it may not be possible to return it to its original setting.

(b) Adjustment preparations

NOTICE . The display position and size of the picture on the monitor will vary depending on the direction of the machine when adjusted. Adjust the machine in the installed position whenever possible. If the machine has to be moved for adjustment, adjust the machine in the same direction as when installed.

- If the machine installation position is changed frequently, or when not adjusting in the installed position, adjust with the monitor facing east.

Wait at least 30 minutes after switching the power ON before adjusting.

(c) Monitor display adjustment

Display the MONITOR TEST screen in test mode. (See P. 29 "7-4 Test mode".)

< Adjusting display size >

Adjustment includes both "Display size adjustment" and "Contrast adjustment".

Adjust the display size using the following procedure.

1. Display VIEW ANGLE ADJUST (CRT) (Figure 3: Picture size/display position adjustment instruction diagram) on the MONITOR TEST screen. (See P. 38 "7-4-5 Monitor test (MONITOR TEST)".)
2. Align the center of the display position.
   - Adjust both " 4 H.POSI (Horizontal position)" and " 6 V.POSI (Vertical position)" alternately to bring the crosshair roughly in the center of the screen.
3. Adjust the horizontal size and position.
   - Adjust " 3 H.SIZE (Horizontal size)" so that the green and white boundary of the pattern roughly aligns with the edge of the screen at the center of the left and right-hand edges of the screen.
   - Fine adjust 3 and 4 to bring the difference on either side to within 5mm.
4. Adjust the vertical size and position.
   - Adjust " 5 V.SIZE {Vertical size)" so that the green and white boundary of the pattern roughly aligns with the edge of the screen at the center of the top and bottom edges of the screen.
   - Fine adjust 5 and 6 to bring the difference at the top and bottom to within 5mm.

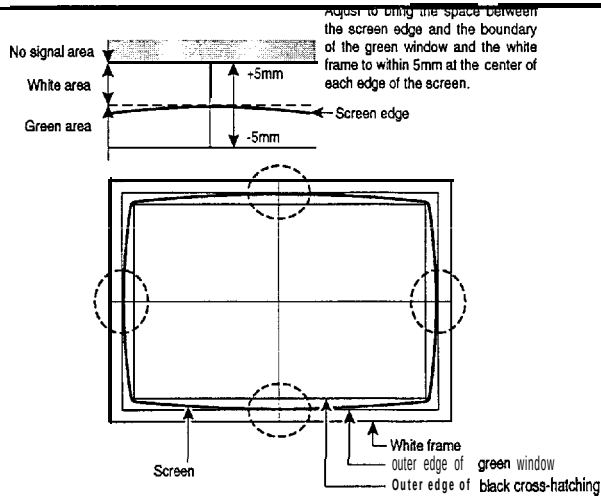


Figure 3 Picture size/display position adjustment instruction diagram

Figure 3 Picture size/display position adjustment instruction diagram

< Contrast adjustment >

Adjust the contrast using the following procedure.

1. Display GRADATION PATTERN (Figure 4: 16-shade pattern) on the MONITOR TEST screen.
2. Adjust "‡@ CONTRAST" and "‡A BRIGHT" to display 16 shades with black as the darkest section.

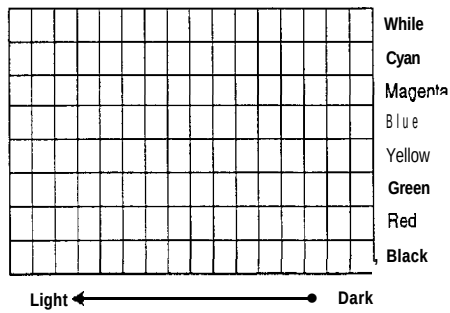


Figure 4 16-shade pattern

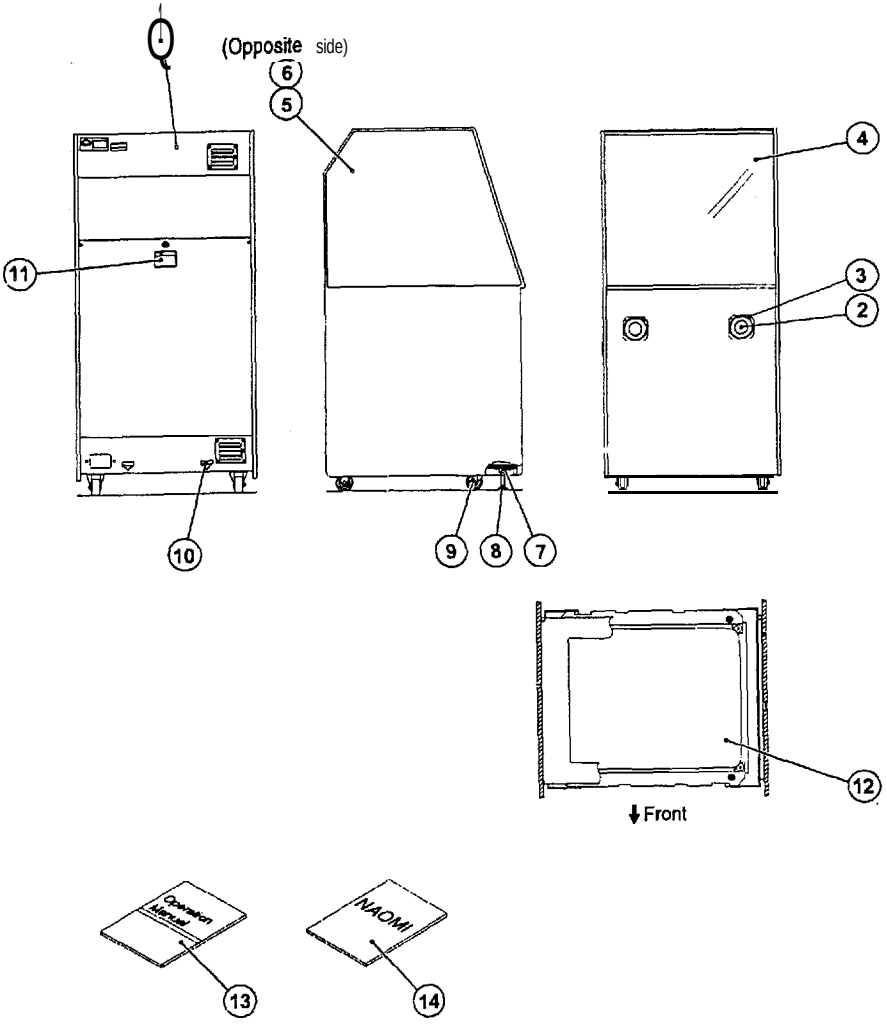
After adjusting, reinstall the rear panel in the reverse order.

Be sure to reset the gun sight. (See P. 33 "7-4-4 (b) GUN INITIALIZE".)

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10-1 Cabinet Assy

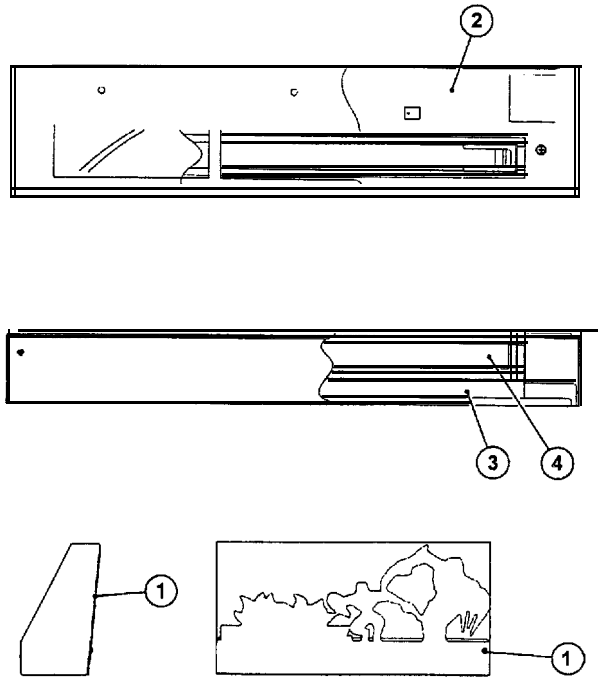


No.	Part	Q'ty	NAI Part # / Mfg Name	Mfg Ref #
1	Cabinet	1	NI63-09568-00	
2	Speaker, 4", 4 ohm, 25W	2	VG54-09405-01 / MG-Foster	D44F4C1
3	Speaker grill	1	VG10-09613-00 / Happ	49-5181-00
4	Monitor Shield, clear, 3/16"	1	NI95-09527-00	
5	Decal, Cabinet Side, Left	1	NI40-09509-00	
6	Decal, Cabinet Side, Right	1	NI40-09509-01	
7	Plate, Leveler, 5/8-11	4	VG20-06894-00	
8	Leg Leveler, 5/8-11x3-3/4"	4	CY20-04076-00	
9	Caster, Swivel, 2-1/2"x1-1/8"	4	VG24-03799-00	
10	Decal, Fork	2	VG40-06882-00	
11	Label, Service Personnel Only	1	VG44-02642-00	
12	Monitor, 39" CRT, 15.75KHz	1	VG85-09399-02 / Neotech	NT3500
13	Manual, Ninja Assault	1	NI45-09611-00	
14	NAOMI Service Manual	1		697-752

* 1: Contact your distributor when placing an order if a non-random item of No.33 is required.

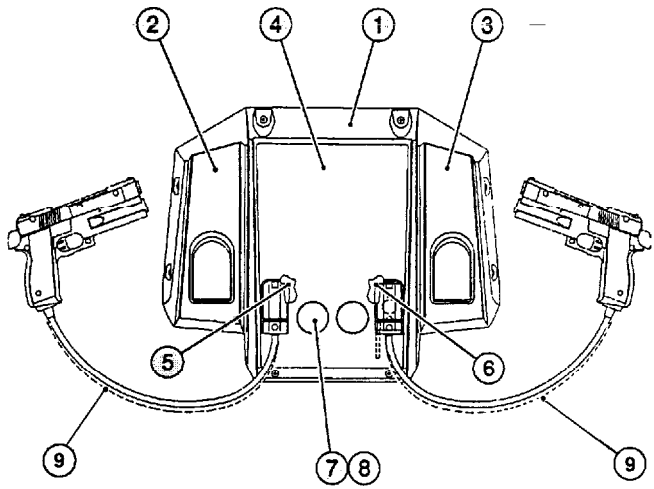
*2: Repair service is available for the item No.38. Contact your distributor.

1 O-2 Marquee Assy



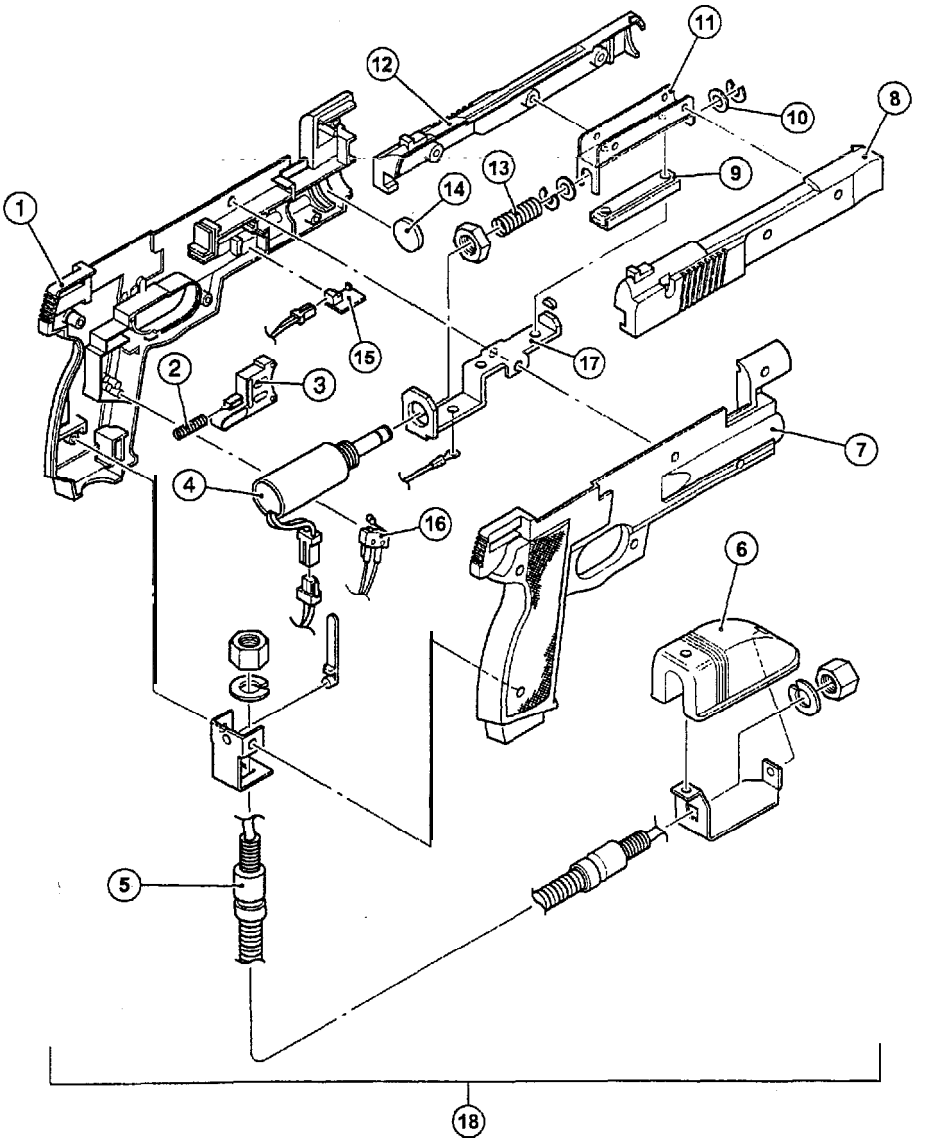
No.	Part	Q'ty	NAI Part #	
1	Marquee, Acrylic, Silkscreen	1	NI40-0951 1-00	
2	Marquee Box, Wood	1	NI63-9526-00	
3	Fluorescent lamp fixture	1	VG57-02025-00	
4	Fluorescent lamp	1	VG57-02028-00	

10-3 Control panel Assy



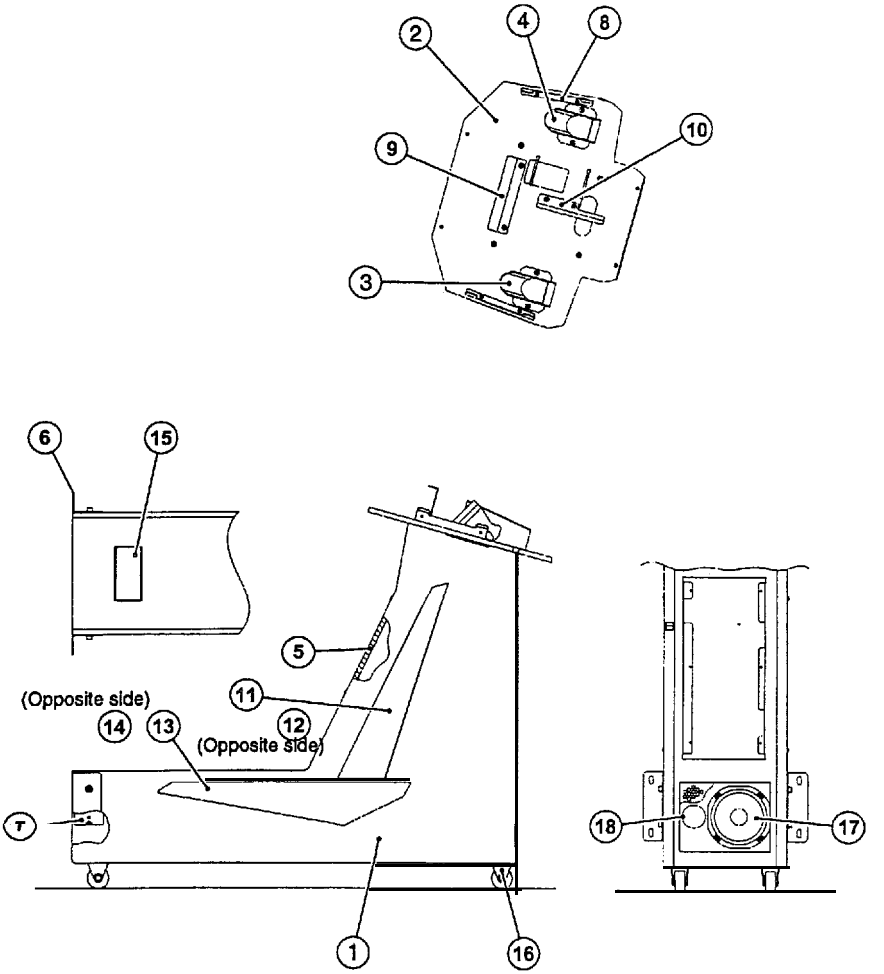
No.	Part	Q'ty	NAI Part #I Mfg	Ref #
1	Control Panel Cover	1	NI90-09566-00	700-290
2	Decal, Control Panel, Left	1	N1402547221200	
3	Decal, Control Panel, Right	1	NI402547221201	
4	Decal, Control Panel, Center	1	NI40-09567-00	
5	Gun Tether Mounting Plate, Left	1	TS10-07669-01	
6	Gun Tether Mounting Plate, Right	1	TS1 O-07669-00	
7	Pushbutton, w/microswitch, 12V, Red, round	1	VG80-09614-20 / Happ	54-0004-201
8	Pushbutton, w/microswitch, 12V, Blue, round	1	VG80-09614-22 / Happ	540004222SP
9	Chain, 38 Link, #4, .12 Dia. Wire	2	PB20-03154-00	

IO-4 Gun Assy



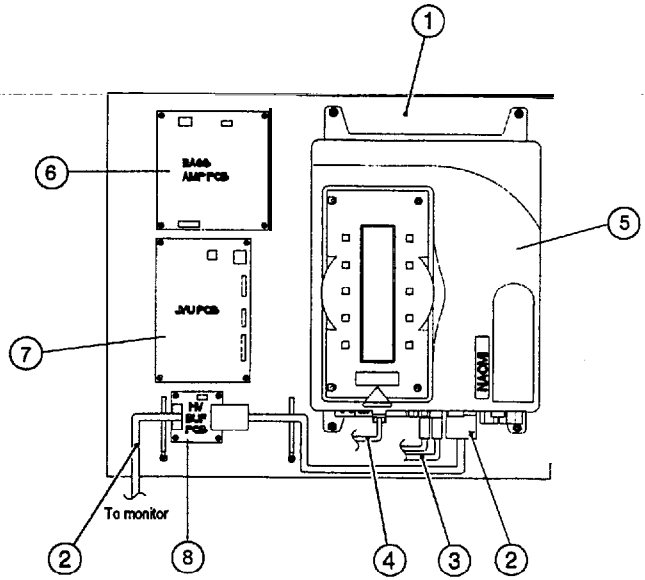
No.	Part	Q'ty	NAI Part #I Mfg #	Ref #
1	Gun cover (L, red)	1	PB09-03430-00	296-411
2	Trigger spring	1	PB09-296-421	296-421
3	Trigger (red)	1	PB09-04836-00	296-415
4	Solenoid	1	PB09-004-056	004-056
5	Gun cord harness Assy	1	PB09-296-401	296-401
6	Connector cover	1	PB90-05447-00	296-424
7	Gun cover (R, red)	1	PB09-03431-00	296-412
8	Gun slide (R, red)	1	PB09-03427-00	296-414
9	Slide rail	1	PB10-04835-00	296-425
10	Spacer	2	VG95-04942-00	296-422
11	Slide guide	1	PB10-04670-00	296-417
12	Gun slide (L, red)	1	PB09-03426-00	296-413
13	Back spring	1	PB09-296-420	296-420
14	Lens	1	PB090296-466	296-466
15	Sensor PCB	1	PB09-0296-467	296-467
16	Microswitch	1	PB09-000-228	000-228
17	Solenoid bracket	1	PB10-04669-00	296-416
18	Gun (R) Assy	1	PB03-03141-00	296-400

IO-5 Stand Assy

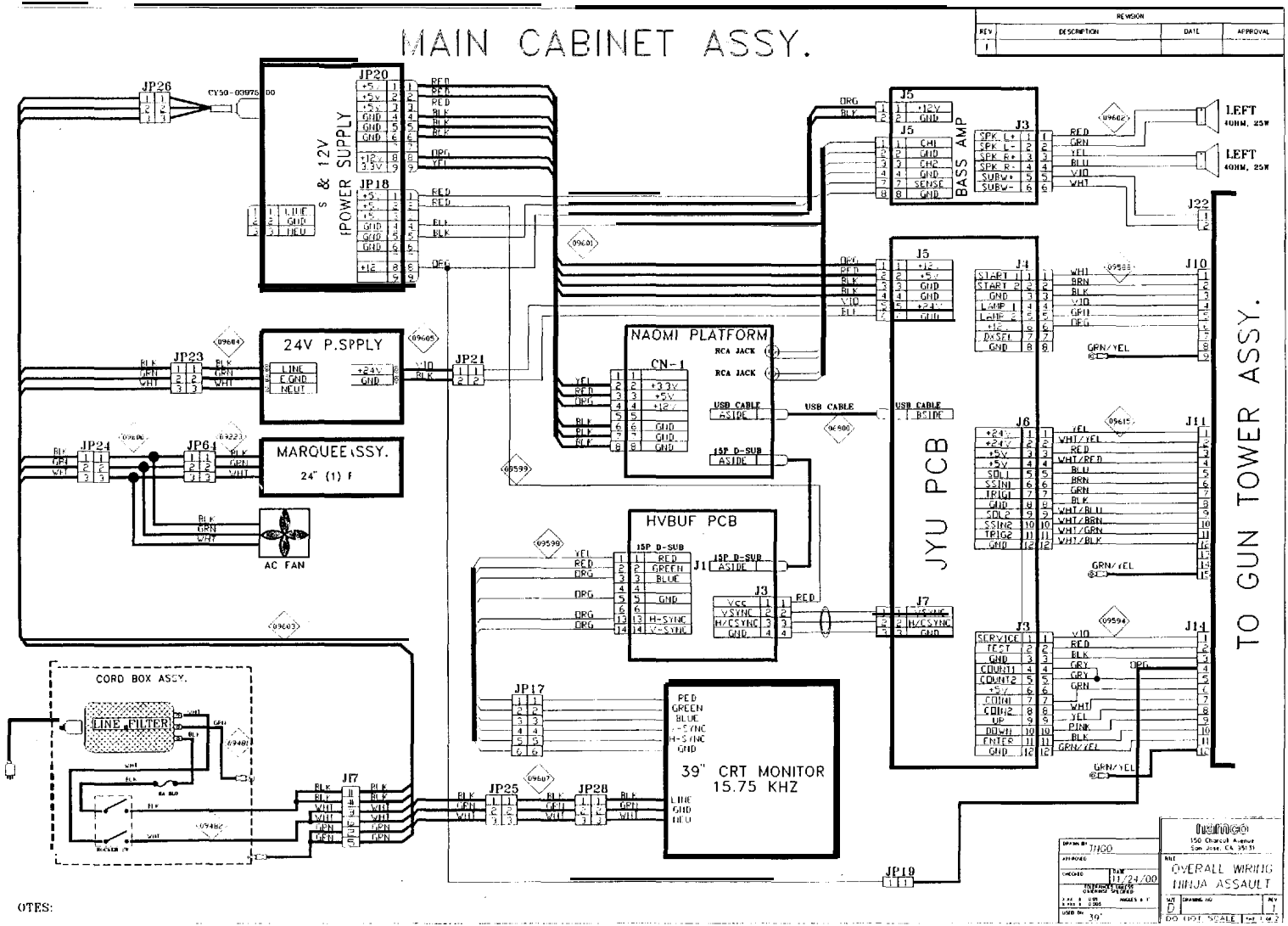


No.	Part	Qty	Type and ratings	Part No.
1	Stand	1	NM-09531 -00	700-330
2	Control panel base	1	NI63-09532-00	700-331
3	Gun holder DX (Red)	1	NI02547211300	700-332
4	Gun holder DX (Blue)	1	NI02547211301	700-333
5	Maintenance cover	1	NI63-09560-00	700-336
6	Bracket	2	NI10-09561-00	700-337
7	Nut plate	2	NI10-09562-00	700-338
6	Control panel bracket	2	NI10-09563-00	700-339
9	Control panel stay A	1	NI10-09564-00	700-340
10	Control panel stay B	1	NI102547212100	700-341
11	Stand sticker (LA)	1	NI402547212200	700-342
12	Stand sticker (PA)	1	NM02547212201	700-343
13	Stand sticker (LB)	1	NM02647212300	700-344
14	Stand sticker (RB)	1	NM0254721 2301	700-345
15	Notice sticker (No standing) EXP	1	VG40-06765-00	461-175
16	Caster (fixed type)	4	VG24-03191-00	102-202
17	Woofer speaker	1	VG54-07796-00	006-138
18	Pipe duct	1	VG54-07830-00	006-I 16

1 0-6 Component Tray Assy



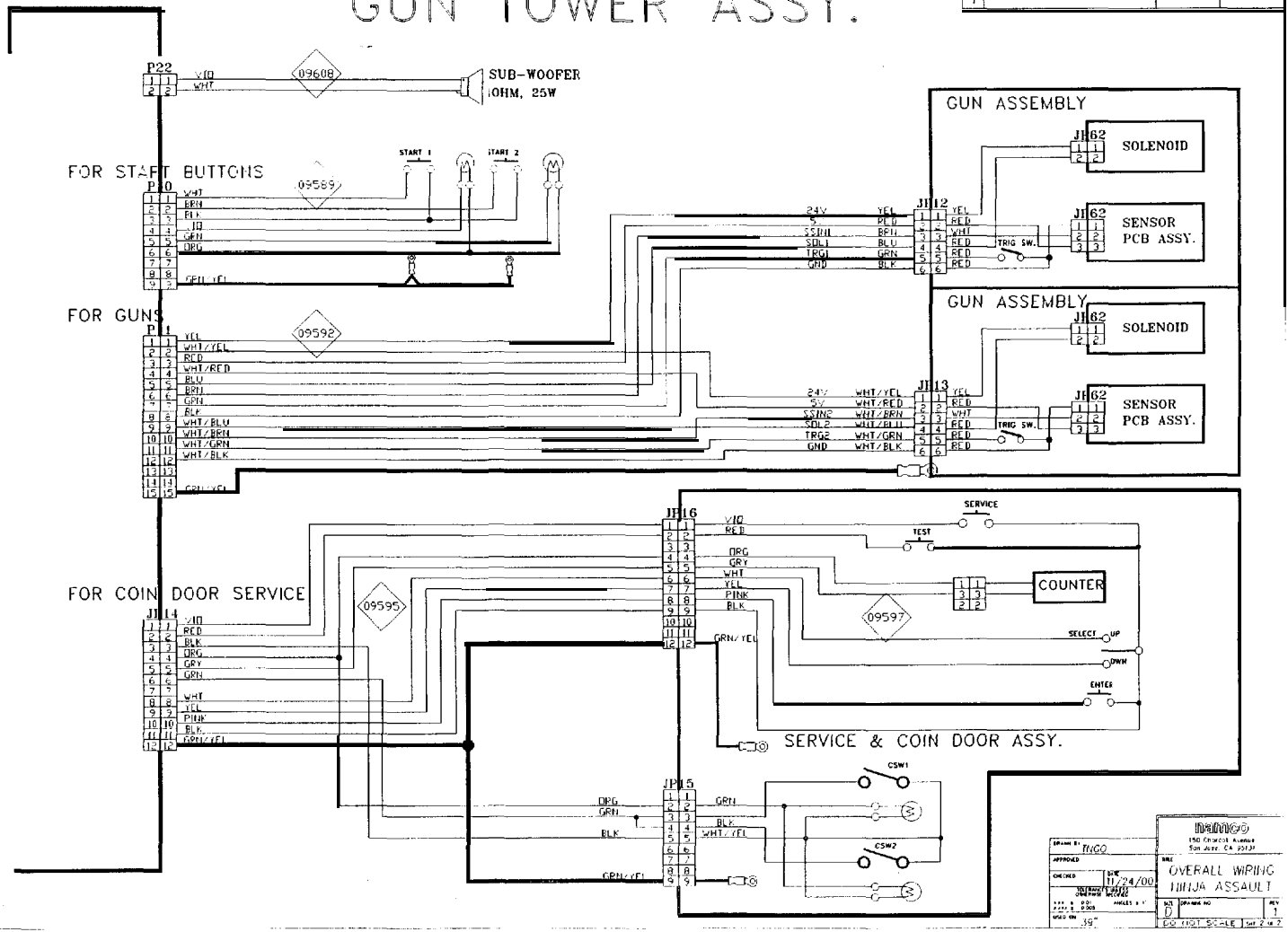
No.	Part	Q'ty	NAI Part #	
1	Component tray, wood	1	NI63-09517-00	
2	Video cable D-SUB, 15P	2	NI50-09600-00	
3	RCA jacks	1	VG50-06800-00	
4	USB cable	1	VG50-06800-00	
5	Game PCB Assy	1	NI0525469430	
6	Bass Amp PCB Assy	1	VG88-07671-00	
7	JYU PCB Assy	1	NI0525149601	
8	HVBUF PCB Assy	1	NI0525469621	


MAIN CABINET ASSY.
REVISION
REV
DESCRIPTION
DATE
APPROVAL
JP26
CY50-03975
DO
JP20
JP18
5 & 12V
POWER SUPPLY
LINE
GND
NEU
24V P.SPPLY
JP23
JP24
JP64
JP21
MARQUEE ASSY.
24" (1) F
AC FAN
CORD BOX ASSY.
LINE FILTER
JP7
JP17
JP25
JP28
39" CRT MONITOR
15.75 KHZ
LINE
GND
NEU
HVBUF PCB
15P D-SUB
J1
J3
NAOMI PLATFORM
CN-1
RCA JACK
USB CABLE
A-SIDE
B-SIDE
15P D-SUB
A-SIDE
JYU PCB
J5
J7
J4
J6
J3
J10
J11
J14
J22
BASS AMP
LEFT
40HM, 25W
LEFT
40HM, 25W
TO GUN TOWER ASSY.
GRN/YEL
GRN/YEL
GRN/YEL
ORG
DRG
BLK
RED
GRN
YEL
BLU
VIO
WHT
GRY
PNK
BRN
WHT/YEL
WHT/RED
WHT/BLU
WHT/BRN
WHT/GRN
WHT/BLK
09601
09602
09603
09604
09605
09606
09607
09615
09594
09599
09600
09486
09588
09590
09223
JP19
THGO
11/24/00
OVERALL WIRING
NINJA ASSAULT
150 Charcot Avenue
San Jose, CA 95131
DO NOT SCALE

OTES:

GUN TOWER ASSY.

REV	DESCRIPTION	DATE	APPROVAL
1			



NOTES:

DRAWN BY	INGO
APPROVED	
CHECKED	
DATE	11/24/00
TITLE	OVERALL WIRING NINJA ASSAULT
SIZE	D
DRAWING NO	
REV	1
	DO NOT SCALE
	SHT 2 OF 2

namco
150 Charcot Avenue
San Jose, CA 95131