

SEGA®



Deluxe Version
Operators's Manual



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SW UNIT/COIN METER
ASSY AMP BD
ASSY BUFFER BD
ASSY I/O BD
ASSY SW REGU
ASSY AC SUPPLY
ASSY CONTROL PANEL
CONTROL UNIT 1P/2P
SENSOR UNIT
ASSY PTV
ASSY MASK
PTV BASE
ASSY FRONT PANEL
ASSY BILLBOARD
16. WIRING DIAGRAM

SPECIFICATIONS

Installation space: 67 in.(L) x 47 in.(W)

Height: 89 in.

Weight: Approx. 663 lbs.

Power maximum current: 5 Amp AC 120V 60 Hz AREA

MONITOR: 50 INCH PROJECTION DISPLAY

SEGA ENTERPRISES, LTD., has for more than 30 years been supplying various innovative and popular amusement products to the world market. This Owners Manual is intended to provide detailed descriptions together with all the necessary installation, game settings and parts ordering information related to the HOUSE OF THE DEAD dlx, a new SEGA product.

This manual is intended for those who have knowledge of electricity and technical expertise, especially in ICs, CRTs, microprocessors, and circuit boards. Read this manual carefully to acquire sufficient knowledge before working on the machine. Should there be a malfunction, non-technical personnel should under no circumstances touch the interior system. Should the need arise, contact our main office, or the closest branch office listed below.

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INTRODUCTION OF THE OWNERS MANUAL

General Precautions

Follow Instructions: All operating and use instructions should be followed.

Attachments: Do not use attachments not recommended by the product manufacturer as they may cause hazards.

Accessories: Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use only mounting accessories recommended by the manufacturer.

Moving the Product: This product should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product to overturn.

Ventilation: Slots and openings in the cabinet are provided for ventilation, to ensure reliable operation of the product and to protect it from overheating; these openings must not be blocked or covered. The openings should never be blocked by placing the product in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

Power Sources: This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your location, consult your local power company. For products intended to operate from battery power or other sources, refer to the operating instructions.

Grounding or Polarization: This product is equipped with a three-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

Power Cord Protection: Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

Overloading: Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.

Object and Liquid Entry: Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

Servicing: Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

Damage Requiring Service: Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- a) If the power cord or plug is damaged;
- b) If liquid has been spilled, or objects have fallen into the product;
- c) If the product has been exposed to rain or water;
- d) If the product does not operate normally when following the operating instructions. Adjust only those controls that are explained in the operating instructions. An improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation;
- e) If the product has been dropped or damaged in any way;
- f) When the product exhibits a distinct change in performance; this indicates a need for service.

Replacement Parts: When replacement parts are required, be sure the service technician has used replacements parts specified by the manufacturer or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

Safety Check: Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

Heat: The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

Lithium Battery- Dispose of batteries only in accordance with the battery manufacturer's recommendations. Do not dispose in an open flame condition, since the battery may explode.

Cleaning: When cleaning the monitor glass, use water or glass cleaner and a soft cloth. Do not apply chemicals such as benzine, thinner, etc.

Location: This is an indoor game machine, DO NOT install it outside. To ensure proper usage, avoid installing indoors in the places mentioned below:

- Places subject to rain/water leakage, or condensation due to humidity;
- In close proximity to a potential wet area;
- Locations receiving direct sunlight;

- Places close to heating units or hot air;
 - In the vicinity of highly inflammable/volatile chemicals or hazardous matter;
 - On sloped surfaces;
 - In the vicinity of emergency response facilities such as fire exits and fire extinguishers;
 - Places subject to any type of violent impact;
 - Dusty places.
-

Installation Precautions

- Verify the amperage of the branch circuit outlet before plugging in the power plug. Do not overload the circuit.
 - Avoid using an extension cord. If one is required, use an extension cord of type SJT, 16/3 AWG rated min. 120 VAC, 7A.
 - Moving this unit requires a minimum clearance (of doors, etc.) of 32" (W) by 77" (H).
 - For the operation of this machine, secure a minimum area of 32" (W) by 42"(D).
-

Regulatory Approvals

This game has been tested and found to comply with the Federal Communications Commission Rules.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This game has been tested and listed by Underwriters Laboratories, Inc., to ANSI/UL22.



3. NAME OF PARTS

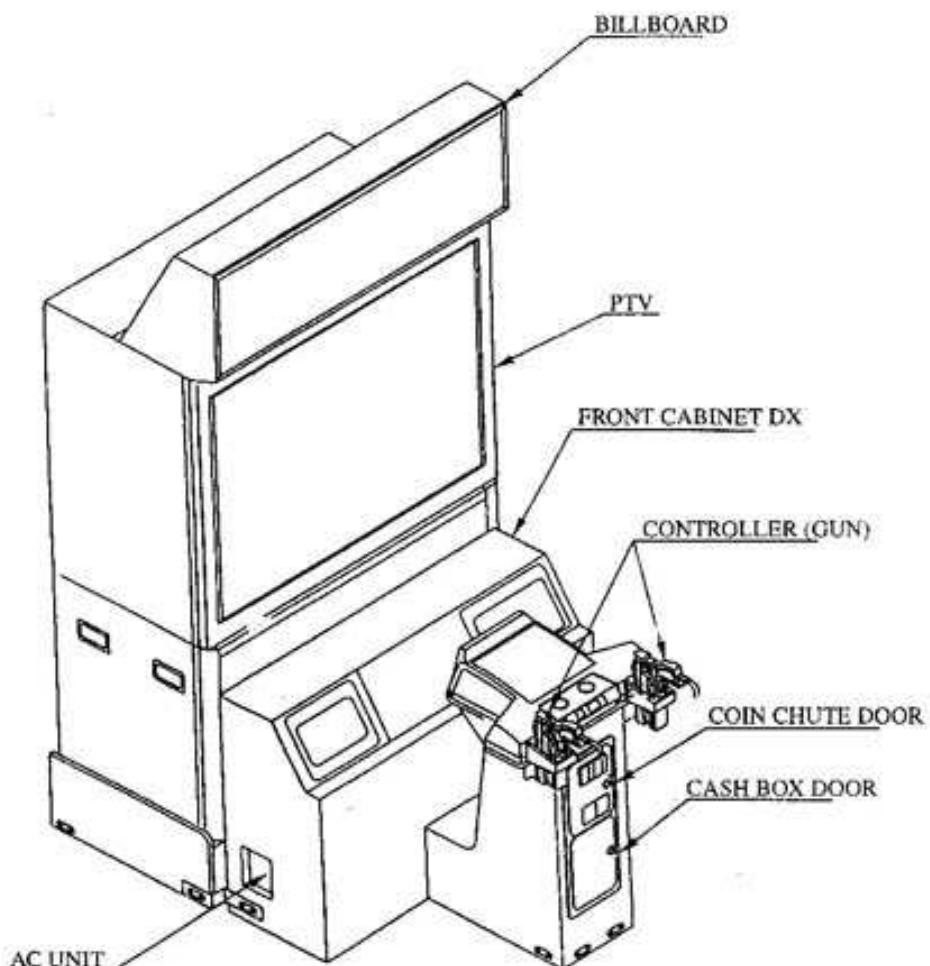
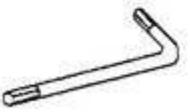
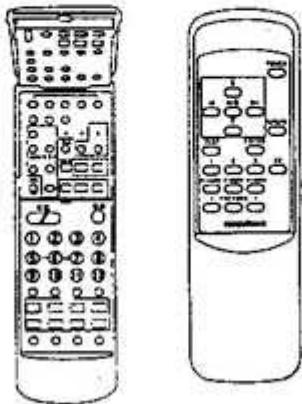


FIG.1 OVERVIEW

GAME SPECIFICATIONS	WIDTH	LENGTH	HEIGHT	WEIGHT		
DURING SHIPPING				728 LBS.		
FRONT CABINET	48	X	42	X	51	325 LBS.
PTV w/PTV BASE	50	X	28	X	75	403 LBS.
FRONT CABINET	43	X	38	X	39	300 LBS.
PTV w/PTV BASE	47	X	26	X	88	375 LBS.
WHEN ASSEMBLED	47	X	67	X	89	662 LBS.

2. ACCESSORIES

Below is a list of items that are packaged with the HOUSE OF THE DEAD DLX game. If you have purchased a game without receiving the following accessories please contact your distributor.

DESCRIPTION Part no. (Qty.)	OWNERS MANUAL 4201-6292-002 (1)
Note	
Figures	
	If Part no. has no description, the Number has not been registered. Such a Part no. may not be obtainable even if the customer desires to purchase it. Therefore, ensure that the part is in safe keeping with you.
(4) BNC male to BNC male connectors 6 ft long.	
Tamperproof Wrench T-25 torx (1) T-20 torx (1) T-15 torx (1) Allen 4-40 (1)	
	MITSUBISHI Remote Control for Projector Used for adjustment. (See Sec. 12). 200-5298 (1) 200-5532 (1)
	

3. ASSEMBLING PRECAUTIONS



CAUTION! Assembling should be performed as per this manual. Since this is a complex machine, erroneous assembling may cause damage to the machine, or malfunctioning to occur. When assembling, be sure to perform work by plural persons. Depending on the assembly work, there are some cases in which performing the work by a single person can cause personal injury or parts damage.

Note that the tools such as a Phillips screwdriver and wrench for M16 hexagon bolt w/24 mm width across flats are required for the assembly work.

When carrying out the assembly work, follow the procedure in the following 5-item sequence:

1. ASSY OF PTV AND CONNECTING THE FRONT CABINET DX AND PTV



WARNING!

When performing 8 and 9 below, it is difficult to carry out work by one person. Be sure to perform work by plural persons. To perform work safely and securely, be sure to prepare a step which is in a secure and stable condition. Not using a step or using an unstable step can cause a violent falling down accident.

- ① Remove the PTV's SERVICE DOOR and FRONT CABINET DX back lid.
- ② Remove the 4 BNC cables from the cash box. Fish the 4 BNC wires and the 3 pos conn. and 4 pos conn. cables from the front cabinet, through the access hole on the right side of the projection monitor.
- ③ Connect the wiring connectors to the connector panel inside PTV. At this time, make sure that the wire color (red, green, blue, and the remaining color) corresponds with the applicable symbol of the connector panel's display (R.G.B. and SYNC terminals). Connect the 3 and 4 pos connectors at this time. Also note that the connectors' insertion angle is predetermined. Therefore, ascertain the correct direction before insertion. After insertion, turn the connector ring clockwise to lock the connection.
- ④ Connect the BNC cable wire with VPM buffer BD inside the FRONT CABINET DX. Make sure that the connector color corresponds to the applicable one of on-Board R.G.B. Insert the remaining color wire into SYNC. As for the 4 connectors inserted on the board, turn the connector ring clockwise to lock the connection.
- ⑤ Install the PTV's SERVICE DOOR.
- ⑥ Install the BACK LID to the FRONT CABINET DX with the 2 screws.
- ⑦ Use the cable clamps provided to strain relief the wires on the PTV and FRONT CABINET.

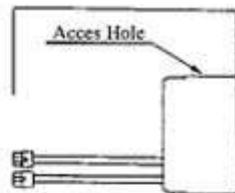


FIG. 3.1a

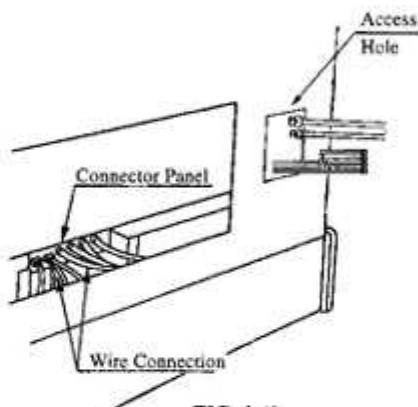


FIG. 3.1b

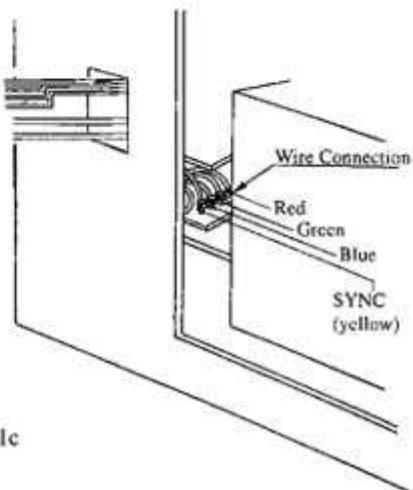


FIG. 3.1c

JOINING METHOD

- ⑧ Insert the BILLBOARD CONNECTOR into the TERMINAL BOARD of PROJECTION DISPLAY ceiling.
- ⑨ Insert the BILLBOARD from the front as shown and secure with 2 screws.
- ⑩ Loosen the 2 Hexagon Bolts, one each on both sides of FRONT CABINET DX.
- ⑪ Loosen the 2 Hexagon Bolts, one each on both sides of the PTV.
- ⑫ Install JOINT BRACKET L and JOINT BRACKET R by fastening with the previously loosened Hexagon Bolts.

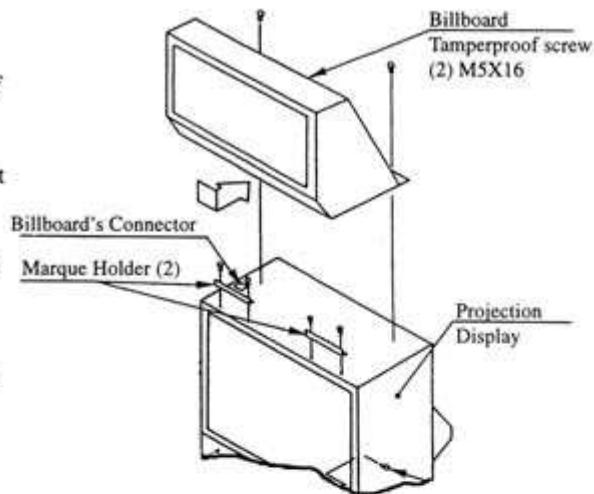
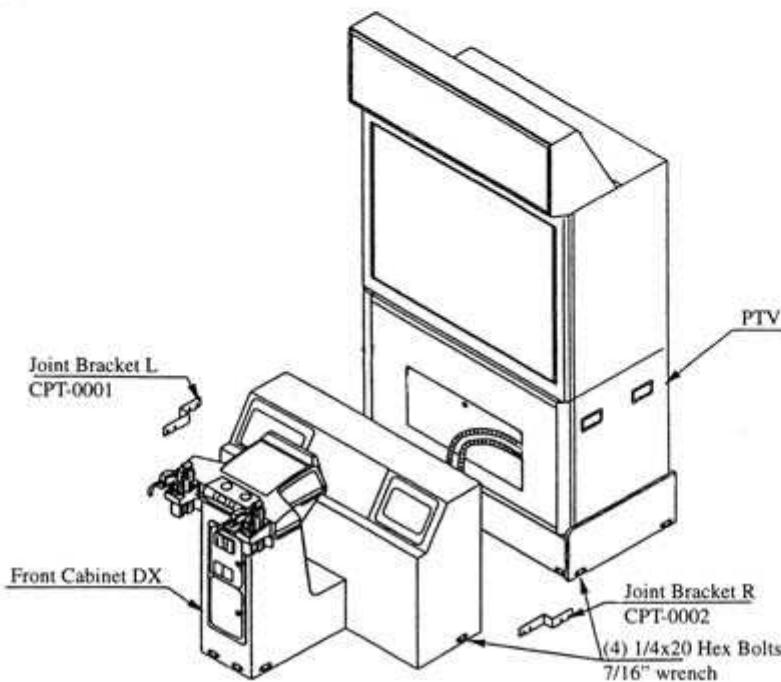


FIG. 3.1d



2. SECURING IN PLACE (ADJUSTER ADJUSTMENT)



CAUTION! Be sure to have all the Adjusters make contact with the surface. Unless the Adjusters come into contact with the surface, the Cabinet can move of itself, causing an accident.

This machine has 4 each of casters and adjusters (fig. 3.2a). When the installation position is determined, cause the adjusters to come into contact with the floor directly, make adjustments in a manner so that the casters will be raised approximately 5mm. from the floor and make sure that the machine position is level.

- ① Move the machine to the installation position.
- ② Cause all of the leg adjusters to make contact with the floor. By using a wrench, make adjustments in the height of the leg adjusters to ensure that the machine's position is level.
- ③ After making adjustments, fasten the leg adjuster nut upward and secure the height of the leg adjuster.

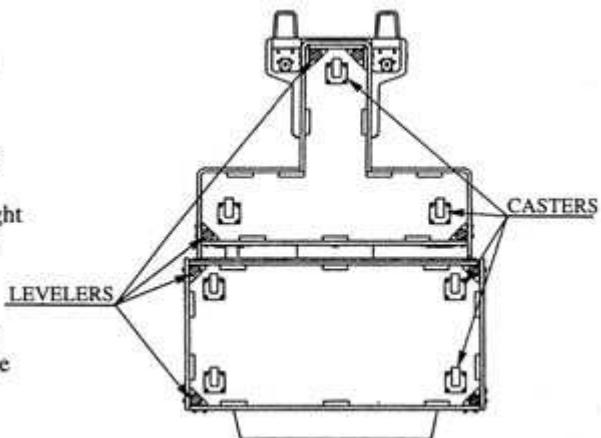


FIG. 3. 2a BOTTOM VIEW

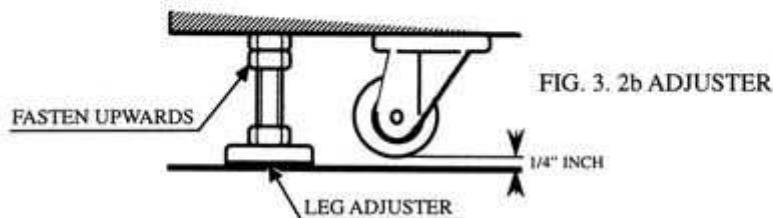


FIG. 3. 2b ADJUSTER

3. POWER SUPPLY

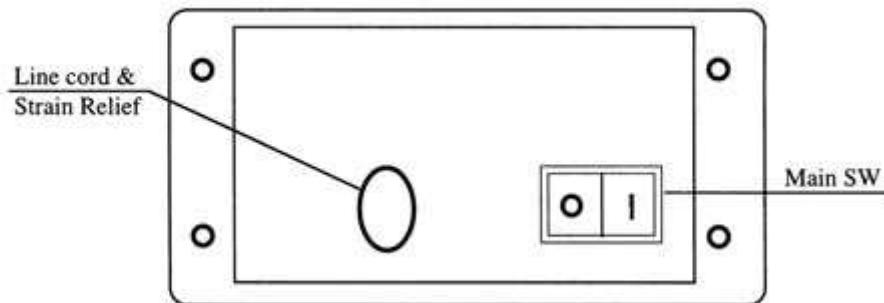


WARNING! Ensure that the power cord is not exposed on the surface (passage, etc.). If exposed, they can be caught and are susceptible to damage. If damaged, the cord can cause an electric shock or short circuit. Ensure that the wiring position is not in the customer's passage way or the wiring has protective covering.

The AC Unit is mounted on the left side of the FRONT CABINET DX. The AC Unit incorporates the Main SW, Earth Terminal and Inlet. Firmly insert the Power Plug into the Socket Outlet and the other side of the plug to the Inlet. Turn the Main SW ON to turn power ON.

- ① Ensure that the Main SW is OFF.

FIG. 3.1 AC Unit



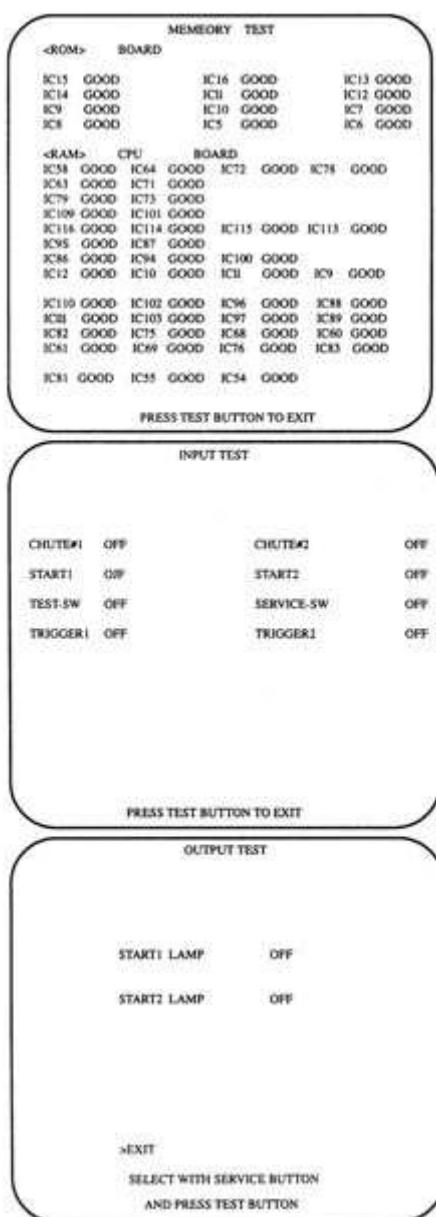
REPLACEMENT AND ADJUSTMENT OF FUSE



IMPORTANT! In order to prevent electrical shock, be sure to turn power off before performing work by touching the interior parts of the product. Be careful so as not to damage wirings. Damaged wirings can cause an electrical shock or short circuit accident. Be sure to use fuses meeting specified rating. Using fuses exceeding the specified rating can cause a fire or electrical shock. After eliminating the cause of the fuse blowing, continued use with the fuse as is blown can cause generation of heat resulting in fire.

- 1.> Unplug the unit.
- 2.> Remove the AC Switch Panel on the left side of the game which secures the PTV and Front Cabinet DX.
- 3.> The 3 fuses are now visible. Replace the blown fuse. Always replace the fuses with the same type and current rating for continued protection.
- 4.> By using the reverse procedure reinstall the AC Switch Panel.

4. ASSEMBLY CHECK



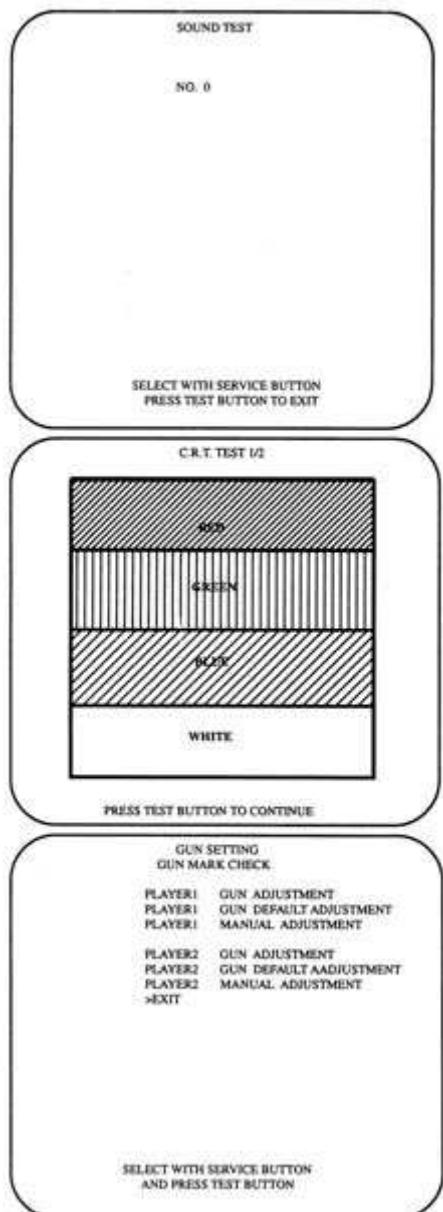
In the TEST MODE, ensure that the assembly has been made correctly and IC BD is satisfactory (refer to Section 6). In the test mode, perform the following test:

Selecting the MEMORY TEST on the test mode menu screen causes the on-board memory to be tested automatically. The game board is satisfactory if the display beside each IC No. shows GOOD.

Selecting the INPUT TEST on the test mode menu screen causes the screen (on which each switch is tested) to be displayed. Press each switch. For the coin switch test, insert a coin from the coin inlet with the coin chute door being open. If the display beside each switch indicates "ON," the switch and wiring connections are satisfactory.

Select "OUTPUT TEST" from the Test Menu in the Test Mode to have the Lamp Test Screen displayed. Check if each lamp lights up satisfactorily.

4. ASSEMBLY CHECK cont'd



In the Test Mode, selecting SOUND TEST causes the screen, on which the sound related BD and wiring connections are tested, to be displayed. Be sure to check if the sound is emitted from each speaker and the sound volume is appropriate.

In the TEST MODE menu, selecting C.R.T. TEST allows the screen (on which the monitor is tested) to be displayed. Although the monitor adjustments have been made at the time of shipment from the factory, color deviation, etc., may occur due to the effect caused by geomagnetism, the location building's steel frames and other game machines in the periphery. By watching the test mode screen, make adjustment as to whether an adjustment is needed. If it is necessary, adjust the monitor by referring to Section 9. In case of color deviation due to the monitor's magnetization, use DAMAGE SW (see Section 6).

On the menu screen in the test mode, selecting GUN SETTING displays the screen on which gun setting is set. Check to see if there is any problem for playing game.

Perform the above inspection also at the time of monthly inspection.

4. PRECAUTIONS TO BE HEEDED WHEN MOVING THE MACHINE

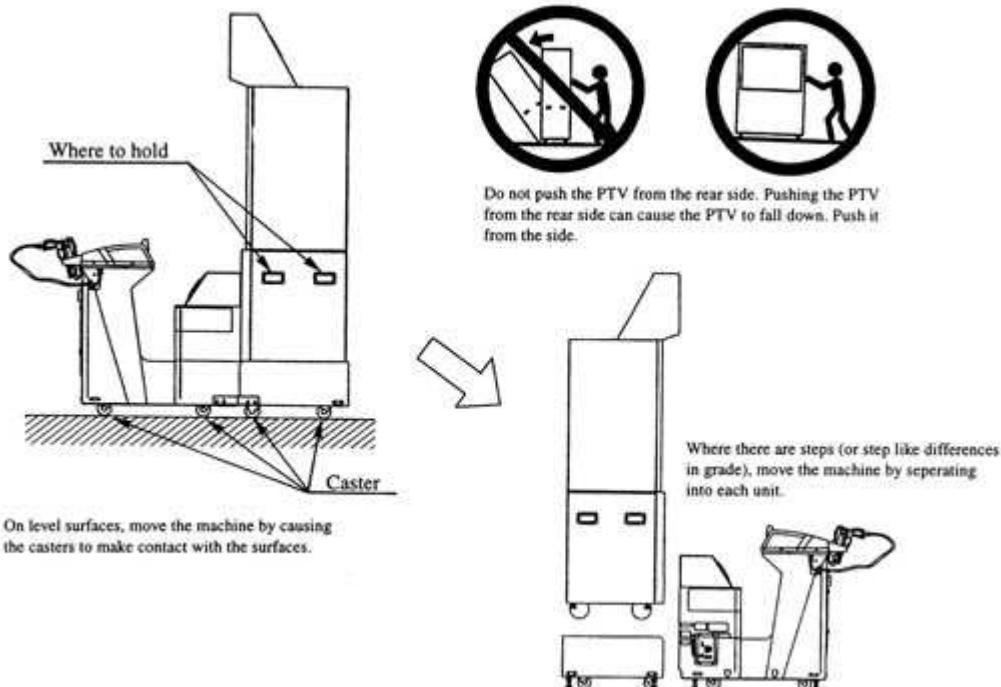


CAUTION! When moving the machine, be sure to pull out the plug from the power supply. Moving the machine with the plug as is inserted can damage the power cord and cause a fire or electric shock.

When moving the machine on the floor, retract the Adjusters and ensure that Casters make contact with the floor. During transportation, pay careful attention so that Casters do not tread power cords. Damaging the power cords can cause an electric shock and/or short circuit.

When lifting the cabinet, be sure to hold the catch portions or bottom part. Lifting the cabinet by holding other portions can damage parts and installation portions, due to the empty weight of the cabinet, and cause personal injury.

Use care when handling glass made parts. When the glass is damaged, fragments of glass may cause injury.

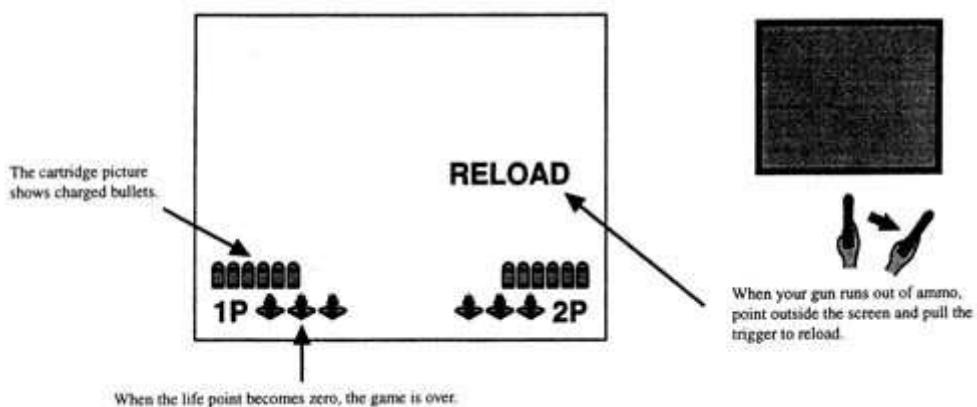


5. CONTENTS OF GAME

1.> Inserting a coin(s) causes the credit display on the bottom of the screen to count. Inserting one credit worth of coin(s) changes the message on the bottom of the screen from the "INSERT COIN(S)" to "PRESS START BUTTON" and both of the start buttons will flash.

2.> Pressing either of the start buttons determines which side (left or right) you are playing on. Press the START button to start the game.

3.> After starting the game, the Title of the Stage being started and the purpose of game are displayed.



- The life points and the number of bullets of the left-hand side player (1P) are displayed on the lower left-hand side of the screen, and those of the right-hand side player (2P), on the lower right-hand side of the screen.
- The player loses one life if he shoots a hostage by mistake.
- The gun holds bullets. When it runs out of ammo, "RELOAD" is displayed on the screen. At this time, point outside the screen and pull the trigger to reload.
- The enemy's axes, knives, drum cans, barrels, etc., can be shot down for your defense.
- Shooting the background scenery can cause Special Items to appear sometimes. The Special Items can be captured by shooting. Capturing an item allows you to earn points or recovers life points (explanations as regards to the Items are given later).
- When the life point becomes zero, the game is over.
- Downing the boss character awaiting you at the end of each stage results in clearing that particular stage. The player cannot defeat the boss until his life meter becomes zero (the boss character's life meter)



4.> If you would like to join in the game at anytime while the other person is playing, insert a coin(s) and press the start button. Also, when credits allowing the game to be played still remain, the start button on the other side will keep flashing. The player can participate in the game by pressing the flashing button.

5.> When the life point becomes zero, if you want continue, insert a coin(s) required to continue and press the start button. If credits allowing the player to continue still remain, you can continue by merely pressing the start button.

6.> At the time of game over, if the player's score ranks 10th or higher, hi/her name can be entered.

CONCERNING SPECIAL ITEMS



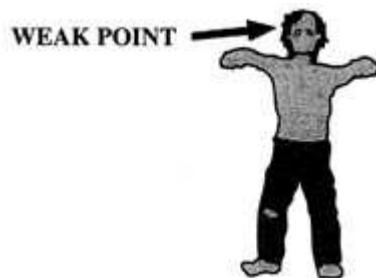
LIFE> The life point increases by one. The upper limit of Life Point can be set to 3, 4, and 5.



COIN or GOLDEN FROG> Capturing either of these items increases the Life Point.

KNACK OF PLAY

·Accurately shoot at the head: In each stage, the head is the weak point of enemy characters other than the Boss. Hitting the head greatly decreases the enemy's life points and can down the enemy quickly. In the latter half of the stages, the higher the stage level you proceed to, the more important the shooting accuracy becomes.



·Look for your favorite routes: The stage has various routes which are determined by the player's action. Some routes have less enemy appearance, frequent life recovery, etc. You can master a knack of play by looking for your favorite routes.

·Memorizing the enemy's appearance position: Since the enemy's appearance pattern is the same every time, you can also master a knack of play by memorizing such pattern through repeated game play.

6. EXPLANATION OF TEST AND DATA DISPLAY

By operating the switch unit, periodically perform the tests and data check. When installing the machine initially or collecting cash, or when the machine does not function correctly, perform checking in accordance with the explanations given in this section. The following show tests and modes that should be utilized as applicable.

ITEMS	DESCRIPTION	SECTIONS
INSTALLATION OF MACHINE	<p>When the machine is installed, perform the following:</p> <p>1.> Check to see that each setting is as per standard setting made at the time of shipment.</p> <p>2.> In the INPUT TEST mode, check each SW and VR.</p> <p>3.> In the OUTPUT TEST mode, check each of the lamps.</p> <p>4.> In the MEMORY TEST mode, check IC's on the IC Board.</p>	6-9, 6-10 6-5 6-6 6-3, 6-4
MEMORY	Choose MEMORY TEST in the MENU mode to allow the MEMORY test to be performed. In this test, PROGRAM RAMs, ROMs, and ICs on the IC Board are checked.	6-3, 6-4
PERIODIC SERVICING	<p>Periodically perform the following:</p> <p>1.> MEMORY TEST</p> <p>2.> Ascertain each setting.</p> <p>3.> In the INPUT TEST mode, test the CONTROL device.</p> <p>4.> In the OUTPUT TEST mode, check each of the lamps.</p>	6-3, 6-4 6-9, 6-10 6-5 6-6
CONTROL SYSTEM	<p>1.>In the INPUT TEST mode, check each SW and VR.</p> <p>2.> Adjust or replace each SW and VR.</p> <p>3.> If the problem can not be solved yet, check the CONTROL's moves.</p>	6-5 7 7
PROJECTOR	In the PROJECTOR ADJUSTMENT mode, check to see if the PROJECTOR adjustment is appropriately made.	6-8
IC BOARD	<p>1.> MEMORY TEST</p> <p>2.> In the SOUND TEST mode, check the sound related ROM's.</p>	6-3, 6-4 6-7
DATA CHECK	Check such data as game play time and histogram to adjust the difficulty level, etc.	6-12

6 - 1 SWITCH UNIT AND COIN METER



IMPORTANT! Never touch places other than those specified. Touching places not specified can cause electric shock and short circuit.



CAUTION! Adjust to the optimum sound volume by considering the environmental requirements of the installation location. If the COIN METER and the game board are electrically disconnected, game play is not possible.

Open COIN CHUTE DOOR, and the switch unit shown appears. The function of each switch is as follows:

1.> SOUND VOLUME

Controls the speaker volume.

2.> TEST BUTTON (TEST SW)

For the handling of the TEST BUTTON, refer to the section on the test mode.

3.> SERVICE BUTTON (SERVICE SW)

Give credits without registering on the coin meter.

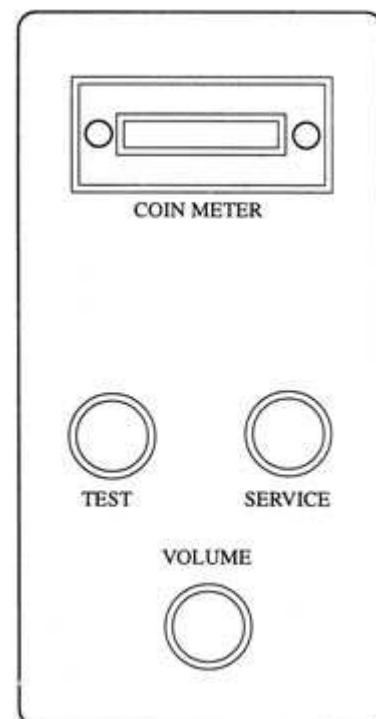


FIG. 6.1

6 - 2 TEST MODE

This mainly checks if the operation of Game BD is accurate, and allows for COIN ASSIGNMENTS/GAME ASSIGNMENTS setting Projector adjustments.

SELECTION OF TEST ITEMS



FIG. 6.2 TEST MENU

6 - 3 MEMORY TEST

MEMORY TEST		
<ROM>	CPU	BOARD
IC15 GOOD	IC16 GOOD	IC13 GOOD
IC14 GOOD	IC18 GOOD	IC12 GOOD
IC9 GOOD	IC19 GOOD	IC7 GOOD
IC8 GOOD	IC5 GOOD	IC9 GOOD
<RAM>		
IC58 GOOD	IC64 GOOD	IC72 GOOD
IC63 GOOD	IC71 GOOD	IC78 GOOD
IC79 GOOD	IC73 GOOD	
IC109 GOOD	IC101 GOOD	
IC116 GOOD	IC114 GOOD	IC115 GOOD
IC95 GOOD	IC87 GOOD	
IC88 GOOD	IC94 GOOD	IC100 GOOD
IC12 GOOD	IC10 GOOD	IC8 GOOD
IC110 GOOD	IC102 GOOD	IC96 GOOD
IC81 GOOD	IC103 GOOD	IC89 GOOD
IC82 GOOD	IC75 GOOD	IC68 GOOD
IC81 GOOD	IC69 GOOD	IC76 GOOD
IC81 GOOD	IC55 GOOD	IC54 GOOD

FIG. 6.3 MEMORY TEST

6 - 4 T.G.P. TEST

T.G.P. TEST	
IC25	GOOD
IC28	GOOD

FIG. 6.4 T.G.P. TEST

In this test, T.G.P. (on screen display related IC) is checked. As shown at the left, if "GOOD" is displayed for all, it is satisfactory. Press TEST BUTTON to return to the menu screen.

6 - 5 INPUT TEST

When INPUT TEST is selected, the MONITOR will show the following, allowing you to watch the status of each switch. On the screen, periodically check the status of each switch.

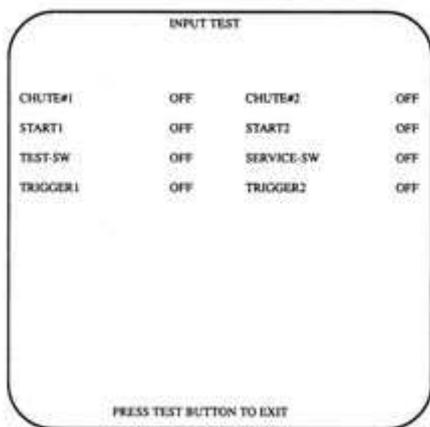


FIG. 6.5 INPUT TEST

1.> By pressing each switch, if the display on the right-hand side of the name of each switch changes to ON from OFF, the SW and the wiring connections are satisfactory.

2.> Open the COIN CHUTE DOOR and insert a coin from the COIN ENTRY to check the COIN CHUTE SW.

6 - 6 OUTPUT TEST

Choose OUTPUT TEST to cause the following lower screen to appear. In the test, periodically adjust the projector and check the status of each lamp.



FIG. 6.2 OUTPUT TEST

Choose OUTPUT TEST to have the MONITOR screen shown left to appear. This screen allows status to be checked. Periodically check the lamp status in this mode.

Press the SERVICE BUTTON to move the arrow to the desired lamp test item.

Press the TEST BUTTON. If the display to the right of the lamp changes to ON from OFF, the lamp and wiring connection are satisfactory.

Choose EXIT and press the TEST BUTTON to return to MENU MODE.

6 - 7 SOUND TEST

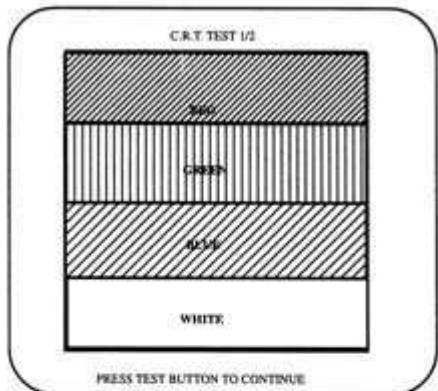
This enables sound used in the game to be checked. Sound related memory and each speaker are checked. Press the SERVICE BUTTON to bring the arrow to the desired sound item to be tested. Pressing the TEST BUTTON causes the desired sound test to appear.



FIG. 6.7 SOUND TEST

Each time the SERVICE BUTTON is pressed, numeral displayed on the screen counts up and sound is emitted.

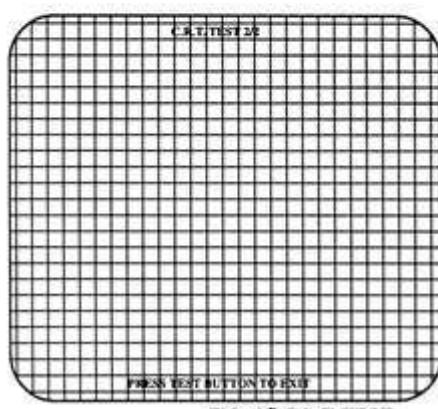
6 - 8 C.R.T. TEST



Select C.R.T. TEST to cause the MONITOR to display the screen shown left, allowing MONITOR adjustment status to be checked.

Periodically check the MONITOR adjustment status on this screen.

The screen (1/2) enables color adjustment check to be performed. The color bar of each of the 4 colors, i.e., red, green, blue, and white, is the darkest at the extreme left and becomes brighter towards the extreme right.



Press the TEST BUTTON to shift to the next page (2/2).

The screen (2/2) allows screen size and distortion to be tested.

Check if the CROSSHATCH FRAME LINE goes out of the screen and if the crosshatch lines are distorted.

Press the TEST BUTTON to return to the MENU mode.

FIG. 6.8 C.R.T. TEST

6 - 9 GAME ASSIGNMENTS

Selecting the GAME ASSIGNMENTS in the MENU mode causes the present game settings to be displayed and also the game settings changes (game difficulty, etc.) can be made. Each item displays the following content.

SETTING CHANGE PROCEDURE



IMPORTANT! Setting changes cannot be stored unless the TEST BUTTON is pressed while the arrow is on EXIT.

- 1.> Press the SERVICE BUTTON to move the arrow to the desired item.
- 2.> Choose the desired setting change item by using the TEST BUTTON.
- 3.> To return to the MENU MODE, move the arrow to EXIT and press the TEST BUTTON.



- GAME DIFFICULTY: Game difficulty can be set in 5 different levels from VERY EASY to VERY HARD.
- LIFE SETTING: The combination set of INTIAL LIFE (the number of life points allotted to the player at the time of game start) and MAX LIFE (the limited number of life points) can be selected from the following 12 variations.
 - INTIAL LIFE: 1 2 3 1 2 3 4 1 2 3 4 5
 - MAX LIFE: 3 3 3 4 4 4 4 5 5 5 5 5
- BLOOD COLOR: The blood color is chosen from among the 4 kinds, i.e., GREEN, RED, BLUE, and PURPLE.
- ADVERTISE SOUND: Determines whether ADVERTISE SOUND is to be emmited or not by setting to ON when emmitting it and to OFF when not emmitting it.
- COUNTRY: Message language.

THE FOLLOWING FIGURES/TABLES SHOW THE FACTORY RECOMMENDED SETTINGS.

6 - 10 COIN ASSIGNMENTS

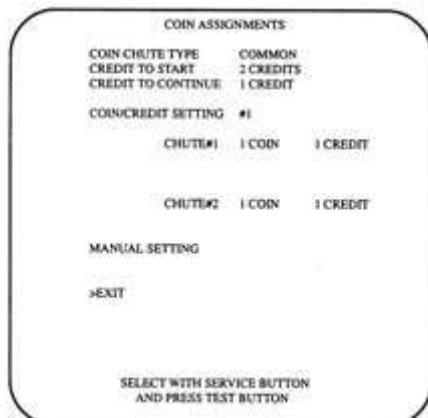
Selecting the COIN ASSIGNMENTS in the MENU mode permits you to set the start number of credits, as well as the basic numbers of coins and credits., This mode expresses "how many coins correspond to how many credits."

SETTING CHANGE PROCEDURE



IMPORTANT! Setting changes cannot be stored unless the TEST BUTTON is pressed while the arrow is open EXIT.

- 1.> Press the SERVICE BUTTON to move the arrow to the desired item.
- 2.> Choose the desired setting change item by using the TEST BUTTON.
- 3.> To return to the MENU MODE, move the arrow to EXIT and press the TEST BUTTON.



- COIN CHUTE TYPE: Sets the combination of the number of COIN CHUTES and the numbe of players as applicable. In the case that the COIN CHUTE is changed, be sure the setting is made in a manner meeting the replaced coin chute.
- COMMON: Coins are accepted in common for both players.
- INDIVIDUAL: Each player uses a coin chute which accepts coins independently.

- CREDIT TO START: Number of credits requirede for starting game. (1~5 credits are selected.)
- CREDIT TO CONTINUE: Number of credits required for continuing game (1~5 credits are selelcted)
- COIN/CREDIT SETTING: Sets the CREDITS increase increment per coin insertion. There are 27 settings from #1 to #27, expressed in XX CREDIT as against XX COINS inserted. (TABLE 6.10a, 6.10b) #27 refers to FREE PLAY. When the COIN CHUTE TYPE is set to INDIVIDUAL, there are some setting numbers not displayed as indicated in TABLE 6.10b.
- MANUAL SETTING: This allows credit increase setting as against coin insertion to be further set in the manner finer than COIN/CREDIT SETTING (refer to TABLE 6.10c).

TABLE 6.10a COIN/CREDIT SETTING (COIN CHUTE COMMON TYPE)

SETTING	FUNCTIONING OF CHUTE #1
SETTING #1	1 COIN ~ 1 CREDIT
SETTING #2	1 COIN ~ 2 CREDITS
SETTING #3	1 COIN ~ 3 CREDITS
SETTING #4	1 COIN ~ 4 CREDITS
SETTING #5	1 COIN ~ 5 CREDITS
SETTING #6	1 COIN ~ 2 CREDITS
SETTING #7	1 COIN ~ 5 CREDITS
SETTING #8	1 COIN ~ 3 CREDITS
SETTING #9	1 COIN ~ 4 CREDITS
SETTING #10	1 COIN ~ 5 CREDITS
SETTING #11	1 COIN ~ 6 CREDITS
SETTING #12	1 COIN ~ 1 CREDIT
SETTING #13	1 COIN ~ 1 CREDIT
SETTING #14	1 COIN ~ 2 CREDITS
SETTING #15	1 COIN ~ 1 CREDIT 2 COINS ~ 3 CREDITS
SETTING #16	1 COIN ~ 3 CREDITS
SETTING #17	1 COIN ~ 1 CREDIT
SETTING #18	1 COIN ~ 1 CREDIT
SETTING #19	1 COIN ~ 1 CREDIT 2 COINS ~ 2 CREDITS 3 COINS ~ 3 CREDITS 4 COINS ~ 4 CREDITS

SETTING #20	1 COIN ~ 5 CREDITS
SETTING #21	5 COINS ~ 1 CREDIT
SETTING #22	1 COIN ~ 2 CREDITS
SETTING #23	2 COINS ~ 1 CREDIT 4 COINS ~ 2 CREDITS 5 COINS ~ 3 CREDITS
SETTING #24	1 COIN ~ 3 CREDITS
SETTING #25	1 COIN ~ 1 CREDIT 2 COINS ~ 2 CREDITS 3 COINS ~ 3 CREDITS 4 COINS ~ 4 CREDITS 5 COINS ~ 6 CREDITS
SETTING #26	1 COIN ~ 6 CREDITS
SETTING #27	FREE PLAY

TABLE 6.10b COIN/CREDIT SETTING (COIN CHUTE INDIVIDUAL TYPE)

SETTING	FUNCTIONING OF COIN CHUTE
SETTING #1	1 COIN ~ 1 CREDIT
SETTING #6	1 COIN ~ 2 CREDITS
SETTING #8	1 COIN ~ 3 CREDITS
SETTING #9	1 COIN ~ 4 CREDITS
SETTING #10	1 COIN ~ 5 CREDITS
SETTING #11	1 COIN ~ 6 CREDITS
SETTING #12	1 COIN ~ 1 CREDIT
SETTING #15	1 COIN ~ 1 CREDIT 2 COINS ~ 3 CREDITS
SETTING #17	1 COIN ~ 1 CREDIT
SETTING #18	1 COIN ~ 1 CREDIT
SETTING #19	1 COIN ~ 1 CREDIT 2 COINS ~ 2 CREDITS 3 COINS ~ 3 CREDITS 4 COINS ~ 4 CREDITS
SETTING #21	5 COINS ~ 1 CREDIT
SETTING #22	1 COIN ~ 2 CREDITS
SETTING #23	2 COINS ~ 1 CREDIT 4 COINS ~ 2 CREDITS 5 COINS ~ 3 CREDITS
SETTING #25	1 COIN ~ 1 CREDIT 2 COINS ~ 2 CREDITS 3 COINS ~ 3 CREDITS 4 COINS ~ 4 CREDITS 5 COINS ~ 6 CREDITS
SETTING #27	FREE PLAY

6 - 11 GUN SETTING

Selecting GUN SETTING causes the following screen at the top to appear. This allows the controller sighting to be adjusted. Periodically check the sighting adjustment status on this screen.



FIG. 6.11a SIGHTING ADJUSTMENT MENU

The screen shown at the left is the sighting adjustment menu mode. Press the SERVICE BUTTON to bring the arrow to the desired adjustment item to select. Press the TEST BUTTON to cause the following sighting check to appear. There are 2 types of adjustments, i.e., one for 1P side and one for 2P side. Adjustments for both 1P and 2P can not be made on the same screen. To return to the Main Menu bring the arrow to EXIT and press TEST BUTTON. (Fig. 6.2)

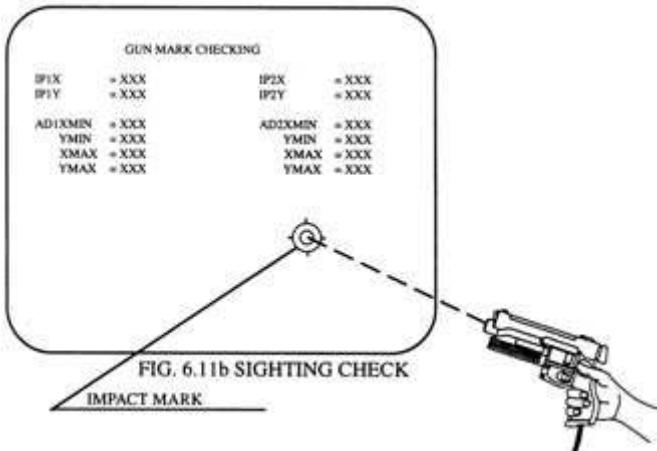
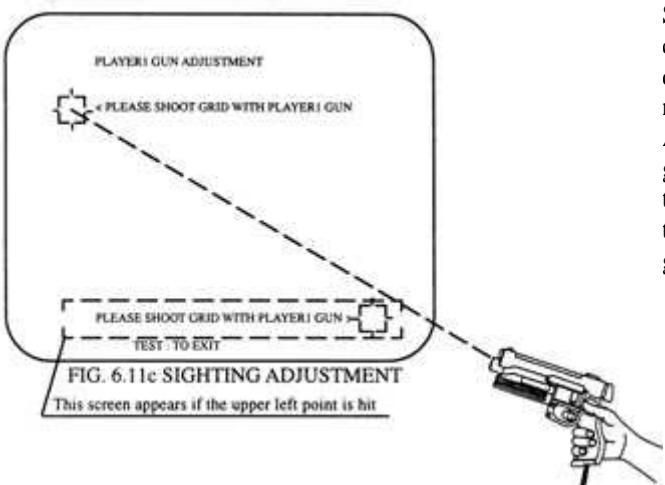


FIG. 6.11b SIGHTING CHECK
IMPACT MARK

Selecting GUN MARK causes the screen at the left to appear. Point the controller at this screen to have an impact mark appear on the screen. The position of the mark shows the impact point shot by the controller. A red impact mark applies to the left 1P side and a blue impact mark applies to the right 2P side. Perform the TEST BUTTON to return to the above sighting adjustment menu screen.



Selecting PLAYER 1 GUN ADJUSTMENT causes the screen shown at the left to be displayed. 1P side sighting adjustment menu returns to the screen without performing anything. Adjustment procedure: First shoot at the center of grid (the square mark at the upper left portion of the screen). This causes another grid to appear at the lower right portion of the screen. Shoot at this grid also.

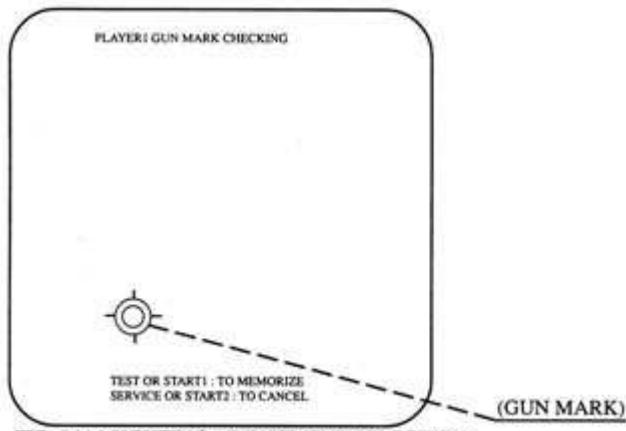


FIG. 6.11d SIGHTING ADJUSTMENT SELECTION



FIG. 6.11e SIGHTING ADJUSTMENT



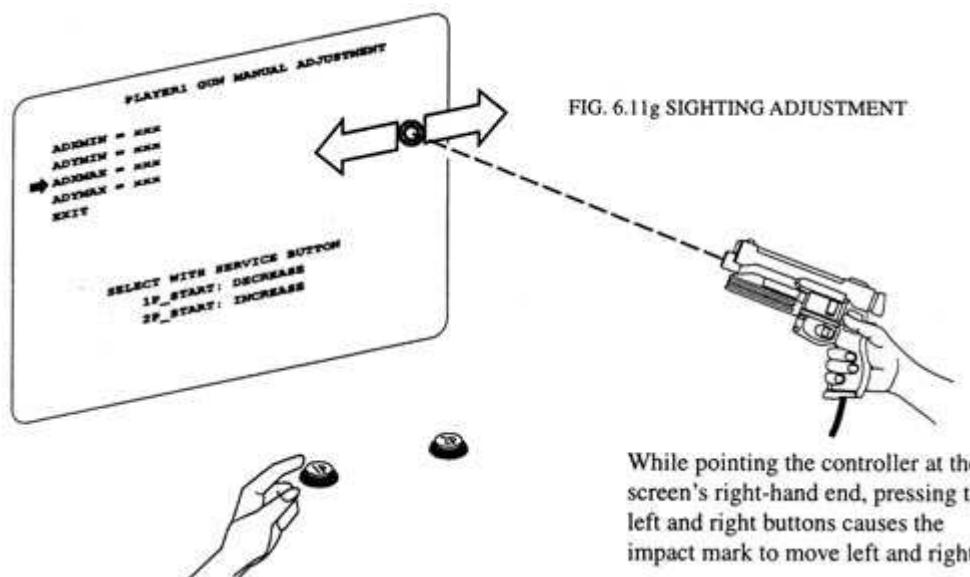
FIG. 6.11f SIGHTING ADJUSTMENT

Shooting the 2 grid displays "NOW CALCULATING" pon the center of the screen to allow sighting to be adjusted. Next, the gun mark checking screen shown left appears. When the controller is pointed to the screen, the gun mark is shown onthe screen. The mark position shows the gunshot. If this adjustment is satisfactory, press either the TEST BUTTON or 1P side START BUTTON. When readjusting, press either the SERVICE BUTTON or 2P side START BUTTON.

Choosing PLAYER 1 GUN DEFAULT ADJUSTMENT causes the screen shown at left to be displayed. The sighting is reset to the initial setting made at the time of shipment from the factory. However, due to some changes in the unit's enviroment and cabinet after shipment, sighting may not always be accurate. To reset to the initial setting, press the TEST BUTTON or 1P side START BUTTON. To return to the sighting adjustment menu without doing anything, press the SERVICE BUTTON or 2P START BUTTON.

Select PLAYER 1 GUN MANUAL ADJUSTMENT to cause the screen shown at the left to be displayed. In this screen, the 4 adjustment values can be set. Use this adjustment mode only when accurate sighting can not be achieved in the above 2 screens. When setting each of the 4 adjustment values, follow the procedure below: Be sure to shoot at the screen's end portion in the designated direction and determine the adjustment value by payng attention to the impact mark movement.

While pointing the controller at the screen's right-hand end, pressing the left and right buttons causes the impact mark to move left and right.



While pointing the controller at the screen's right-hand end, pressing the left and right buttons causes the impact mark to move left and right.

ADXMIN=xxx

Determines the adjustment value of the screen's left-hand end horizontal direction. Point the controller at the screen's left-hand end to bring the impact mark to the screen's left-hand end. While pointing at the screen's left-hand end, changing the adjustment value by pressing the left and right START BUTTON causes the impact mark to move left and right. Make adjustments in a manner so that the impact mark is at an appropriate position. At this time, disregard vertical directions.

ADXMAX=xxx

Determines the adjustment value of the screen's right-hand end horizontal direction. Point the controller at the screen's right-hand end to bring the impact mark to the screen's right-hand end. While pointing at the screen's right-hand end, changing the the adjustment value by pressing the left and right START BUTTON causes the impact mark to move left and right. Make adjustments in a manner so that the impact mark is at an appropriate position. At this time, disregard vertical directions.

ADYMIN=xxx

Determines the adjustment value of the screen's upper end in the vertical direction. Point the controller at the screen's upper end to bring the impact mark to the screen's upper end. While pointing at the upper end, changing the adjustment value by pressing the left and right START BUTTONS causes the impact amrk to move up and down. Make adjustments in a manner so that the impact mark is at an appropriate upper end position. At this time, disregard horizontal directions.

ADYMAX=xxx

Determines the adjustment value of the screen's lower end in the vertical direction. Point the controller at the screen's lower end to bring the impact mark to the screen's lower end. While pointing at the lower end, changing the adjustment value by pressing the left and right START BUTTONS causes the impact mark to move up and down. Make adjustments in a manner so that the impact mark is at an appropriate lower end position. At this time, disregard horizontal directions.

Choosing PLAYER 2 GUN ADJUSTMENT causes 2P side sighting screen to be displayed. How to operate is the same for 1P side.

Choosing PLAYER 2 GUN DEFAULT ADJUSTMENT causes 2P side sighting to be reset to the initial setting. How to operate is the same as for 1P side.

Choosing PLAYER 2 GUN MANUAL ADJUSTMENT causes the screen to adjust the 4 adjustment values for 2P side to appear. How to operate is the same as for 1P side.

6 - 12 BOOKKEEPING

Choosing BOOKKEEPING in the MENU mode displays the data of operating status up to the present are shown on 2 pages. Press the TEST BUTTON to proceed to PAGE 2/2.



FIG. 6.12a BOOKKEEPING (1/2)

- COIN CHUTE#: Number of coins put in each Coin Chute.
- TOTAL COINS: Total number of activations of Coin Chutes.
- COIN CREDITS: Number of credits registered by inserting coins.
- SERVICE CREDITS: Credits registered by the SERVICE BUTTON.
- TOTAL CREDITS: Total number of credits (COIN CREDITS+SERVICE CREDITS).
- TOTAL TIME: The total energized time.

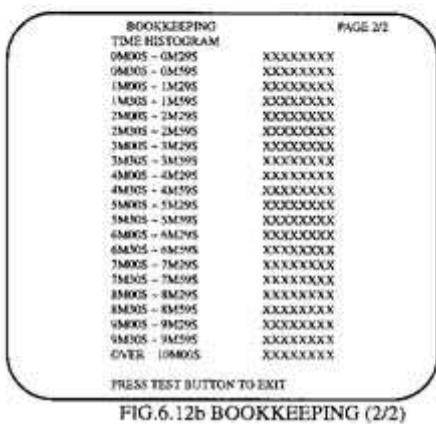


FIG. 6.12b BOOKKEEPING (2/2)

On page (2/2), each play frequency is displayed. When setting difficulty levels, the frequency can be referred to as a standard.

When in the PAGE 2/2 mode, press the TEST BUTTON to return to the MENU mode. (Fig.6.2).

6 - 13 BACKUP DATA CLEAR

Clears the contents of BOOKKEEPING and high score player ranking entry.



FIG. 6.13 BACKUP DATA CLEAR

When clearing, bring the arrow to "YES" and when not clearing, to "NO", by using the SERVICE BUTTON, and push the TEST BUTTON. When the data has been cleared, "COMPLETED" will be displayed. Bring the arrow to "NO" and press the TEST BUTTON to cause the MENU mode to return onto the screen.

Note that the contents of the game setting and sighting adjustment are not affected by BACKUP DATA CLEAR.

7. CONTROLLER (GUN)

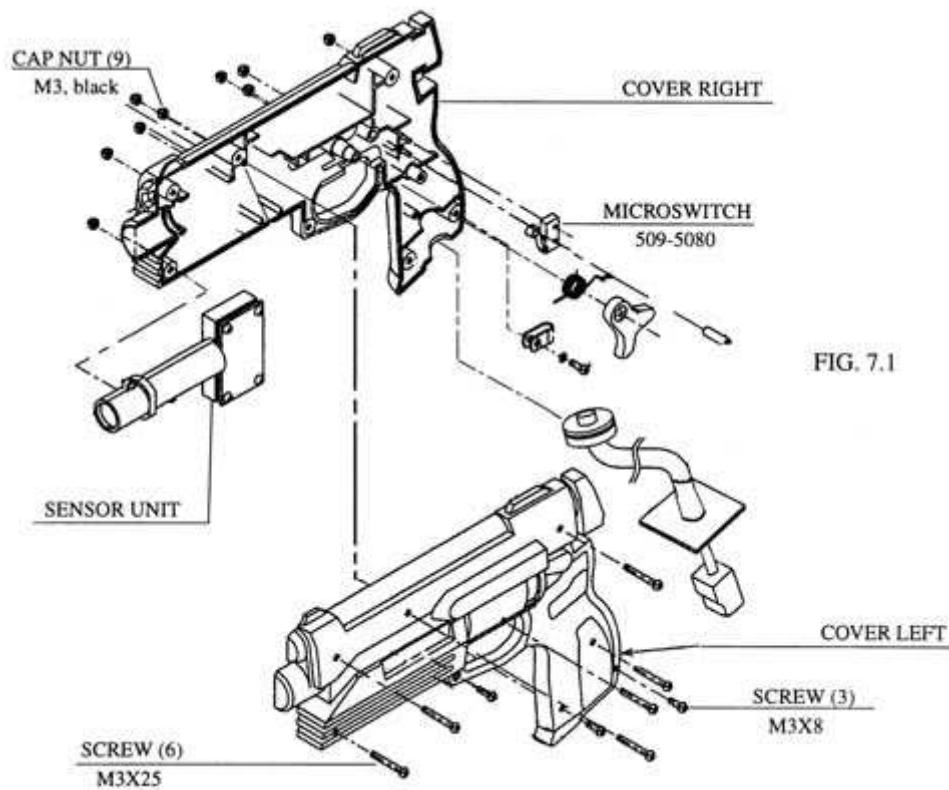


WARNING! In order to prevent electric shock and short circuit, be sure to turn power off before performing work by touching the interior parts of the product. Be careful so as not to damage wirings. Damaged wiring can cause an electric shock or short circuit accident.

In the cases where the controller's operation is not satisfactory of the controller sight deviates from the direction in which the controller is pointed, it is possible that some maintenance may be required (the controller's interior parts may have been damaged). Replace the parts by disassembling the controller in the following procedure: Also, be sure to perform sighting check in the TEST mode when the controller parts are replaced.

7 - 1 REPLACING THE MICROSWITCH

1. Disassemble the controller.
2. Pull out the microswitch from COVER RIGHT.
3. Take out the microswitch by removing the soldering from it.
4. Solder the new microswitch and assemble the controller.



7 - 2 REPLACING THE SENSOR BOARD

The sensor board fits between LENS HOLDER L and LENS HOLDER R. Replace the sensor board by disassembling sensor unit in the following procedure:

1. Disassemble the controller.
2. Remove the sensor unit from COVER R.
3. Take off the 2 tapping screws to remove the LENS HOLDER L.
4. Take off the tapping screws and remove the sensor board from LENS HOLDER R.

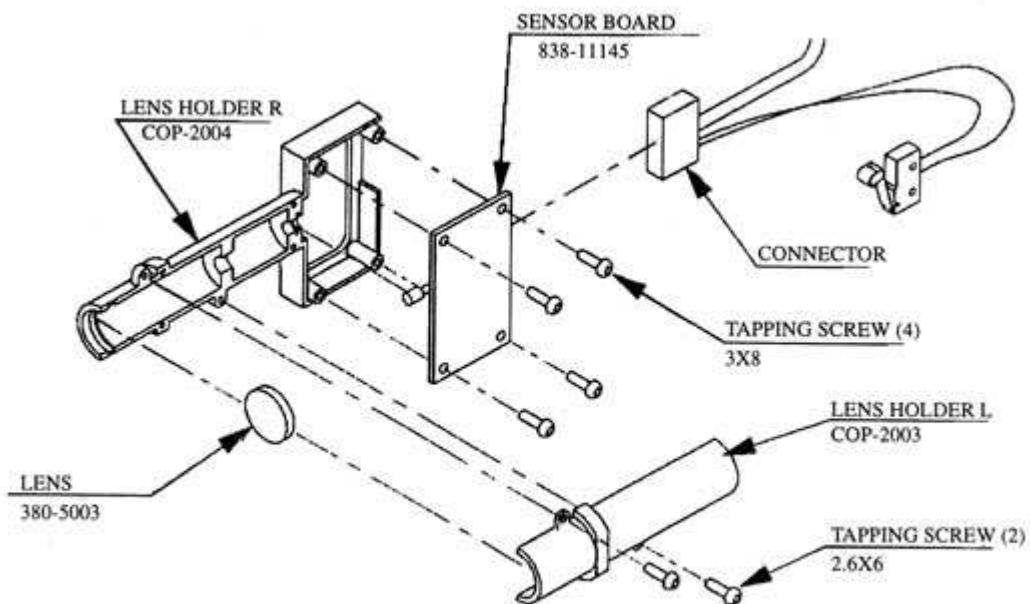


FIG. 7.2

8. COIN SELECTOR

HANDLING THE COIN JAM

If the coin is rejected when the REJECT BUTTON is pressed, open the coin chute door and open the selector gate. After removing the jammed coin, put a normal coin in and check to see that the selector functions correctly.

CLEANING THE COIN SELECTOR

The coin selector should be cleaned once every 3 months. When cleaning, follow the procedure below:

1. Turn the power for the machine off. Open the coin chute door.
2. Open the gate and dust off by using a soft brush (made of wool, etc.).
3. Remove and clean smears by using a soft cloth and dipped in water or diluted chemical detergent and then squeezed dry.
4. Remove the CRADLE. When removing the retaining ring (E-ring), be very careful not to bend the shaft.
5. Remove stains from the shaft and pillow portions by wiping off with a soft cloth, etc.
6. After wiping as per #5 above, further apply a dry cloth, etc. to cause the coin selector to dry completely.

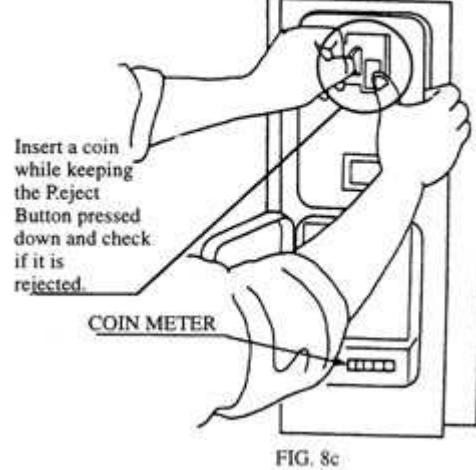
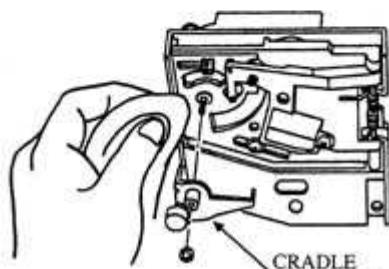
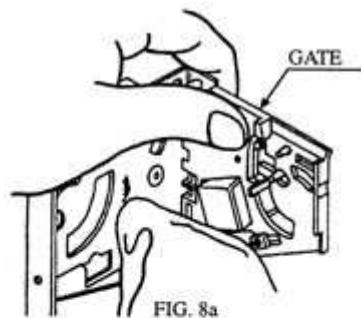


**Never apply machine oil, etc. to the coin selector.
After cleaning the Coin Selector, insert a regular
coin in the normal working status and ensure that
the Selector functions correctly.**

COIN INSERTION TEST

Once a month, when performing the COIN SW TEST, simultaneously check the following:

1. Does the Coin Meter count satisfactorily?
2. Does the coin drop into the Cash box correctly?
3. Is the coin rejected when inserted while keeping the REJECT BUTTON pressed down?



9. PROJECTOR



CAUTION! Since the projector has been adjusted at the time of shipment, avoid making further adjustments without a good reason.



IMPORTANT! The projector is subject to color deviation due to Convergence deviation caused by the geomagnetism at the time of installation, location, and peripheral magnetic field. After the installation of machine, and before commencing operation, check for Convergence deviation and if deviated, make adjustments.

Fine adjustments are stored in the Projector. Pressing the Fine Adjustment SW (Convergence Adjustment) results in entering the Fine Adjustment mode, and this may cause the stored fine adjustment to be changed. During work other than for adjustment, should you touch the Fine Adjustment SW by mistake, immediately turn power off by using the main SW and then turn it back on again. If any distortion of color deviation is found in the test mode and adjustments are needed, use the specified adjustment knob, or perform adjustment by remote control. To find the adjustment knob, move Cabinet DX and remove the PTV Front Service Door by using the procedure opposite the one for installing and assembling. In some cases a cover is installed to the adjustment knobs. Remove the cover.

9 - 1 CLEANING THE SCREEN



CAUTION! Since the projector screen is susceptible to damage, pay careful attention to its handling. When cleaning, refrain from using water or volatile chemical.

When the screen surface becomes dirty with dust, etc., clean it by using a soft cloth such as gauze. When water, and volatile chemicals such as benzene, thinner, etc., spill on the screen surface, it may be subject to damage, therefore, do not use them. Also, since the surfaces are susceptible to damage, refrain from rubbing them with a hard material or using a duster.

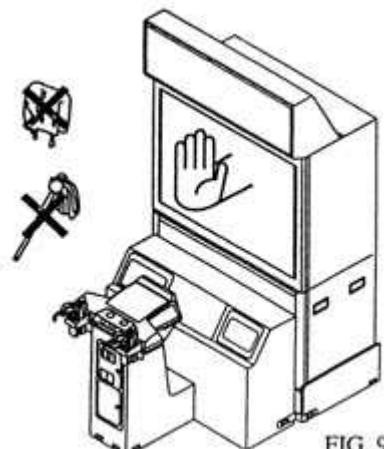
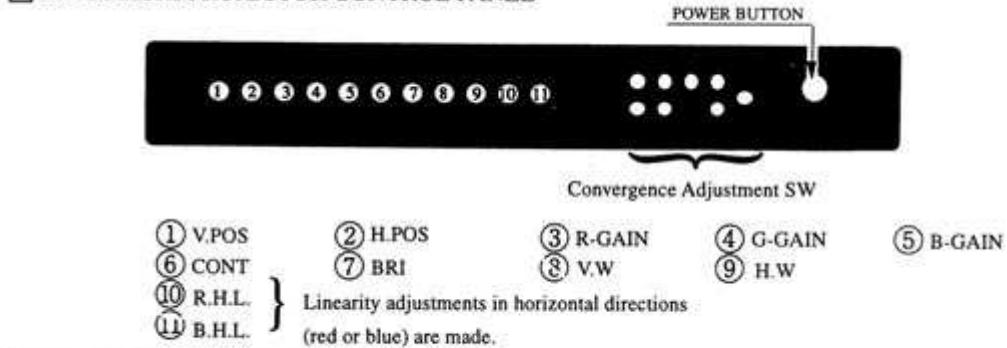


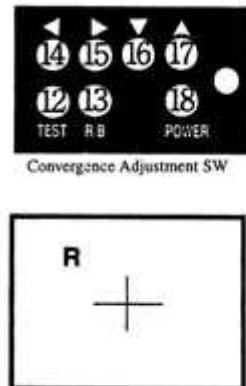
FIG. 9.1

9 - 2 MITSUBISHI PROJECTOR

□ MITSUBISHI PROJECTOR CONTROL PANEL



STATIC CONVERGENCE ADJUSTMENT



⑫ TEST	Test mode on/off key
⑬ R/B	R/B key
⑭ ▲	Left shift key
⑮ ▼	Right shift key
⑯ ▽	Lower shift key
⑰ △	Upper shift key
⑱ POWER	Power button

1. For Convergence adjustment mode, press the test mode on/off key. #12
2. Ensure that "R" is displayed on the screen.
3. Make adjustments so as to cause the red cross pattern to match with the green cross pattern by using the Left shift key #14, Right shift key #15, Lower shift key #16, and Upper shift key #17.
4. By using R/B shift key #13, cause the red adjustment "R" to shift to blue adjustment "B" and make sure that "B" is displayed on the screen.
5. In the same manner as in #3 above, cause the blue cross pattern to match with the green cross pattern.
6. After making adjustment, press the test mode on/off key #12 to cancel convergence adjustment mode.



IMPORTANT! Although Remote Control Buttons other than those specified below do not function even if pressed during Convergence Adjustment, do not press them during adjustment work so as to avoid causing malfunctioning. Operate the Remote Control towards the PTV screen. If directed other than to the PTV screen, the Remote Control does not function.

BEFORE USING REMOTE CONTROL:

First make sure that the main SW on the Projector's control panel is ON (the LED adjacent to the main SW is lit).

The remote control has 2 different types. Depending on the type, the adjustment procedure is different.

In Case of REMOTE CONTROL (PART No. 200-5298):

1. For the Convergence Adjustment mode, press the tst button. Ensure that "R" is displayed on the screen.
2. Make adjustment so as to cause the red cross pattern to match the green cross pattern. When the red cross pattern matches the green cross pattern, the green cross turns yellow or white.

Use Remote Control Buttons shown below to move the red cross as follows:

Button #5 - to the Left

Button #7 - to the Right

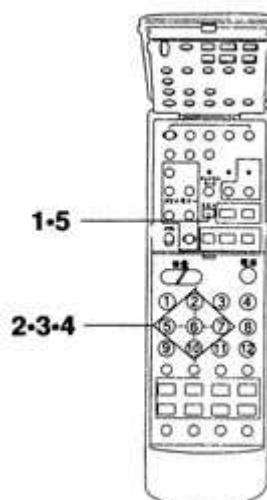
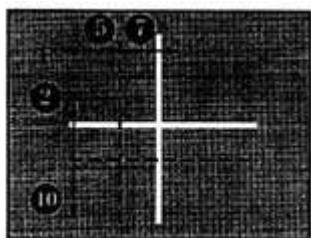
Button #2 - Upward

Button #10 - Downward

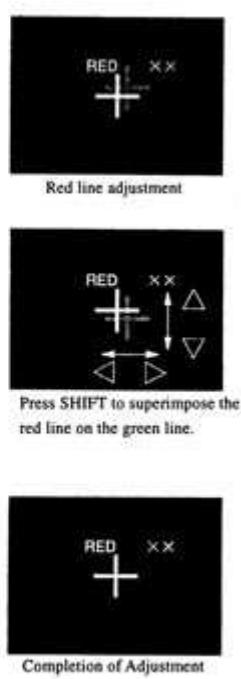
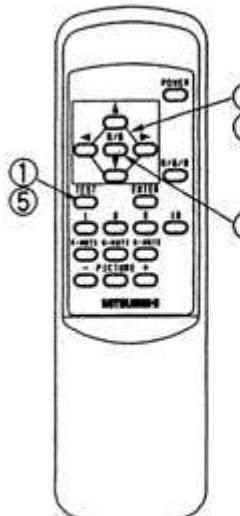
3. Use remote control button #6 to shift "R" to "B". make sure that "B" is displayed on the screen. Each time button #6 is pressed, red and blue adjustments are shifted.

4. In the same manner as in #2 above, cause the blue cross to match the green cross. When the blue cross matches the green cross the green cross turns white.

5. After adjustment is made, press the test button to cancel the Convergence Adjustment Mode. *When 2 minutes or more elapses in the Convergence Adjustment mode screen without taking any action, the on-screen adjustment mode will disappear.



In Case of REMOTE CONTROL (PART No. 200-5532):



1. Press the TEST KEY to have the red line adjustment screen appear.
2. Superimpose the red cross on the green cross at the center of the screen. Move the red cross to the left, right, up, and down respectively with the corresponding buttons of the remote control. When the red cross is superimposed on the green cross, the green cross turns into yellow or white.
3. Press the R/B Key to have the blue line adjustment screen to appear. Each time R/B Key is pressed, the red line and the blue line will be alternated.
4. In a manner similar to #2 above, press each key to superimpose the blue cross on the green cross. When it is superimposed, the cross in the center will become white.
5. Press the TEST KEY to exit from the adjustment mode. During STATIC CONVERGENCE Adjustment Mode, if no action is taken within 5 minutes, the adjustment mode will be exited automatically.

10. REPLACEMENT OF FLUORESCENT LAMP AND LAMPS



WARNING!

When performing the work, be sure to turn power off. Working with power on can cause an electric shock or short circuit accident. The Fluorescent Lamp, when it gets hot, can cause burns. Be very careful when replacing the Fluorescent Lamp.



CAUTION!

To perform work safely and securely, be sure to prepare a step which is in a secure and stable condition. Not using a step or using an unusable step can cause a violent falling down accident.

10 - 1 REPLACEMENT OF FLUORESCENT LAMP

Replace the fluorescent lamp by taking off related parts in the following procedure:

1.> Take off the 3 screws and remove either of BILLBOARD SASH (upper) or BILLBOARD SASH (lower).

2.> Take out the Billboard from the cabinet and replace the fluorescent lamp (20W)

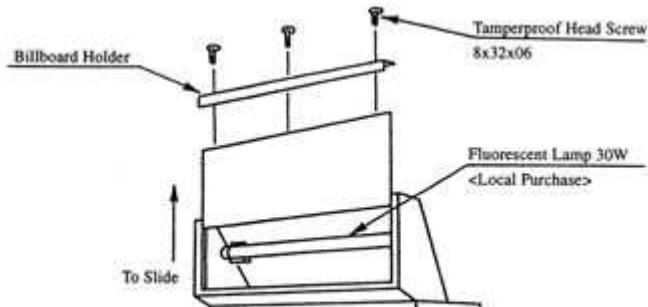


FIG. 10.1

10 - 2 REPLACEMENT OF LAMPS

1.> Take off the 8 tamper proof screws to remove the control panel upward.(FIG. 10.2a)

2.> Disconnect the connector which comes from the switch.

3.> Pull the lower part of the switch and remove the lamp portion of it. (FIG. 10.2b)

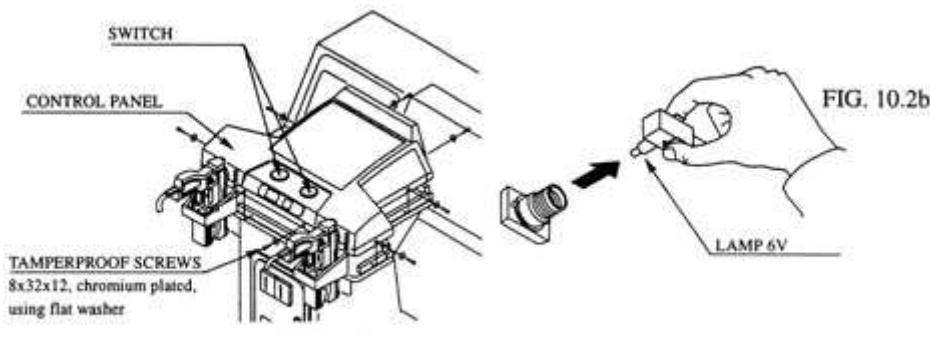


FIG. 10.2a

FIG. 10.2b

11. PERIODIC INSPECTION TABLE

The items listed below require periodic check and maintenance to retain the performance of this machine and ensure safe operation. When handling the controller, the player will be in direct contact with it. In order to always allow the player to enjoy the game, be sure to clean it regularly. Also, it is advisable to provide wet tissues, etc. available for player use.



WARNING!

Be sure to check once a year to see if power cords are damaged, the plug is securely inserted, dust is accumulated between the socket outlet and the power plug, etc. Using this product with dust as is accumulated can cause a fire or electrical shock. Periodically once a year, request the place of contact herein stated or the distributor, etc. where the product was purchased from, as regarding the interior cleaning. Using this product with dust as is accumulated in the interior without cleaning can cause a fire or accident. Note that cleaning the interior parts can be performed on a pay-basis.

ITEMS	DESCRIPTION	PERIOD	REFERENCE
CONTROLLER	Cleaning Sight Check Check SW	as required Weekly Monthly	6 6
COIN SELECTOR	Check COIN SW COIN SELECTOR cleaning	Monthly Trimonthly	6 8
PROJECTOR	C.R.T. cleaning Check adjustments	Weekly Monthly	9 3, 6, 9
GAME BD	Setting Check	Monthly	6
INTERIOR	Cleaning	Annually	see above
POWER PLUG	Inspection and cleaning	Annually	see above
CABINET SURFACE	Cleaning	As necessary	see below

CLEANING CABINET SURFACES

When the cabinet surfaces are badly soiled, remove stains with a soft cloth dipped in water or diluted (with water) chemical detergent and squeezed dry. To avoid damaging surface finish, do not use solvents as thinner, benzene, etc. other than ethyl alcohol, or abrasives, bleaching agent, and chemical dust cloth.

12.TROUBLESHOOTING

Should trouble occur, first check connector connections.

PROBLEMS	CAUSE	COUNTERMEASURES
With Main SW ON, no activation	Power is not supplied. Power Supply/Voltage is not correct. AC Main fuse causes the power to be cut off due to momentary overload.	Plug in correctly. Make sure that power supply/voltage is correct. Check fuse. Remove the cause of overload and replace fuse.
PTV screen is blackened and no sound is emitted.	POWER SW is OFF. Connections within the base are defective.	1.> Check to see if the POWER SW is ON. 2.> Check the BNC connector connections of the PTV TERMINAL BD and VPM BUFFER BD in CONTROL CABIN. 3.> Check the Main Fuse.
PTV screen is all blue.	Irregular communications between each board.	1.> Check the communication cable connection between the Game BD and I/O BD. 2.> Turn the POWER SW back on again.
The color of the image on PTV screen is incorrect.	Connector connections are defective.	Check the connection for the RGB and SYNC connectors of the PTV TERMINAL BD and VPM BUFFER BD.
The image on PTV screen has color deviation.	Affected by magnetic field of installation location.	Make CONVERGENCE adjustment. (see section 9)
No sound is emitted.	Sound volume adjustment is not appropriate. Sound BD and speaker are malfunctioning.	Adjust sound volume. (see section 6) Perform sound test to find and replace defective parts. (see section 6)
Controller operation is not satisfactory.	Due to environmental changes, etc., sighting became inappropriate. Micro switch malfunctioning. Sensor BD malfunctioning	Perform sighting adjustment in the TEST MODE. (see section 6) Replace the micro switch. (see section 7) Replace the Sensor BD. (see section 7)
The Fluorescent lamp does not light up.	The Fluorescent tube is burnt out.	Replace the Fluorescent tube. (see section 10)

13. GAME BOARD



WARNING!

In order to prevent an electrical shock, be sure to turn power off before performing work by touching the interior of the product. Be careful so as not to damage wirings. Damaged wiring can cause an electric shock or short circuit accident.



CAUTION!

Do not expose the Game BD, etc. without a good reason. In this product, setting changes are made during the test mode. The Game BD need not be operated. Use the Game BD, etc. as is with the same setting made at time of shipment.

13 - 1 EXPOSING THE GAME BOARD

To remove the back lid from the Front Cabinet DX, disconnect the Connector which is connected to the Shield Case, and take out the Shield Case together with the Shield Case Base. Then, remove the Shield Case Lid to take out the Game BD. When taking out the Game BD from the Shield Case, ensure that the Shield Case is kept in a level status.

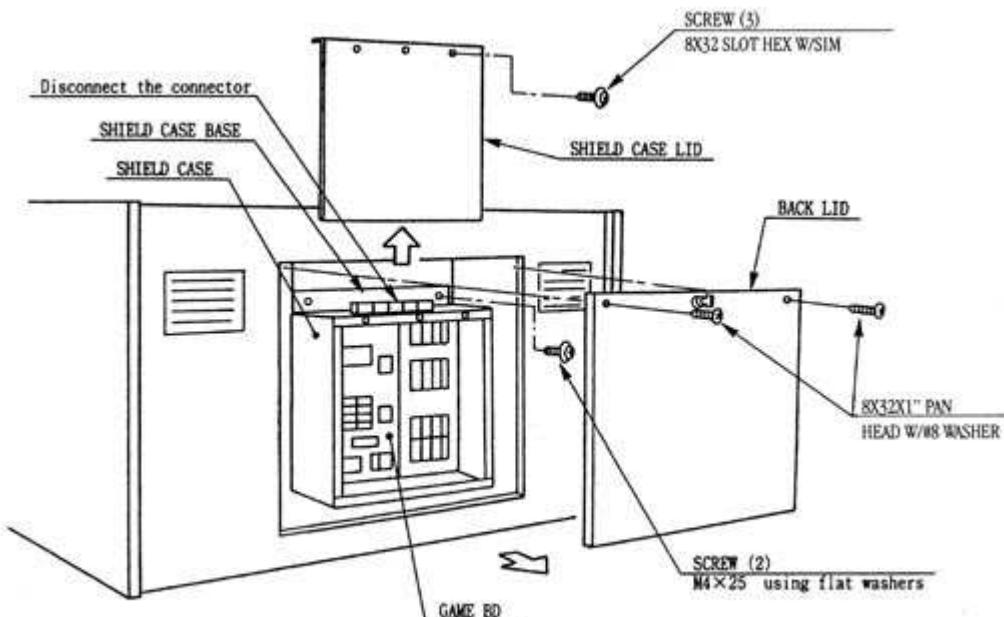


FIG. 13.1

13 - 2 COMPOSITION OF GAME BOARD

GAME BD THE HOUSE OF THE DEAD (610-0396-13054)

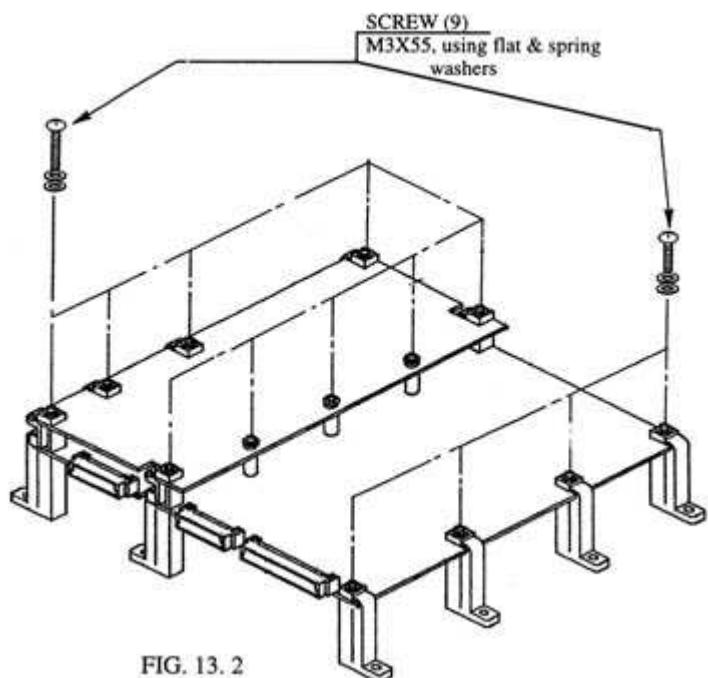
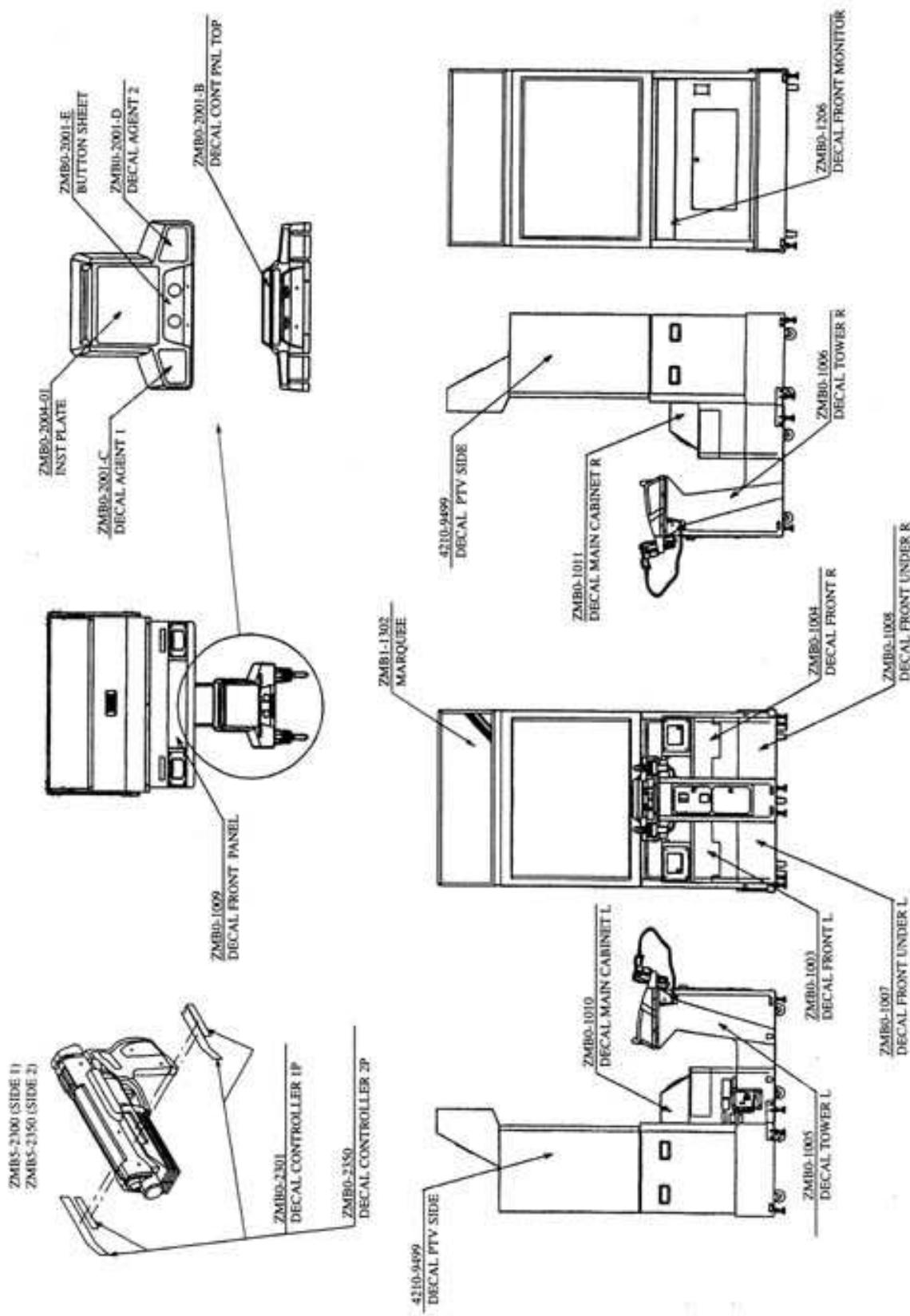


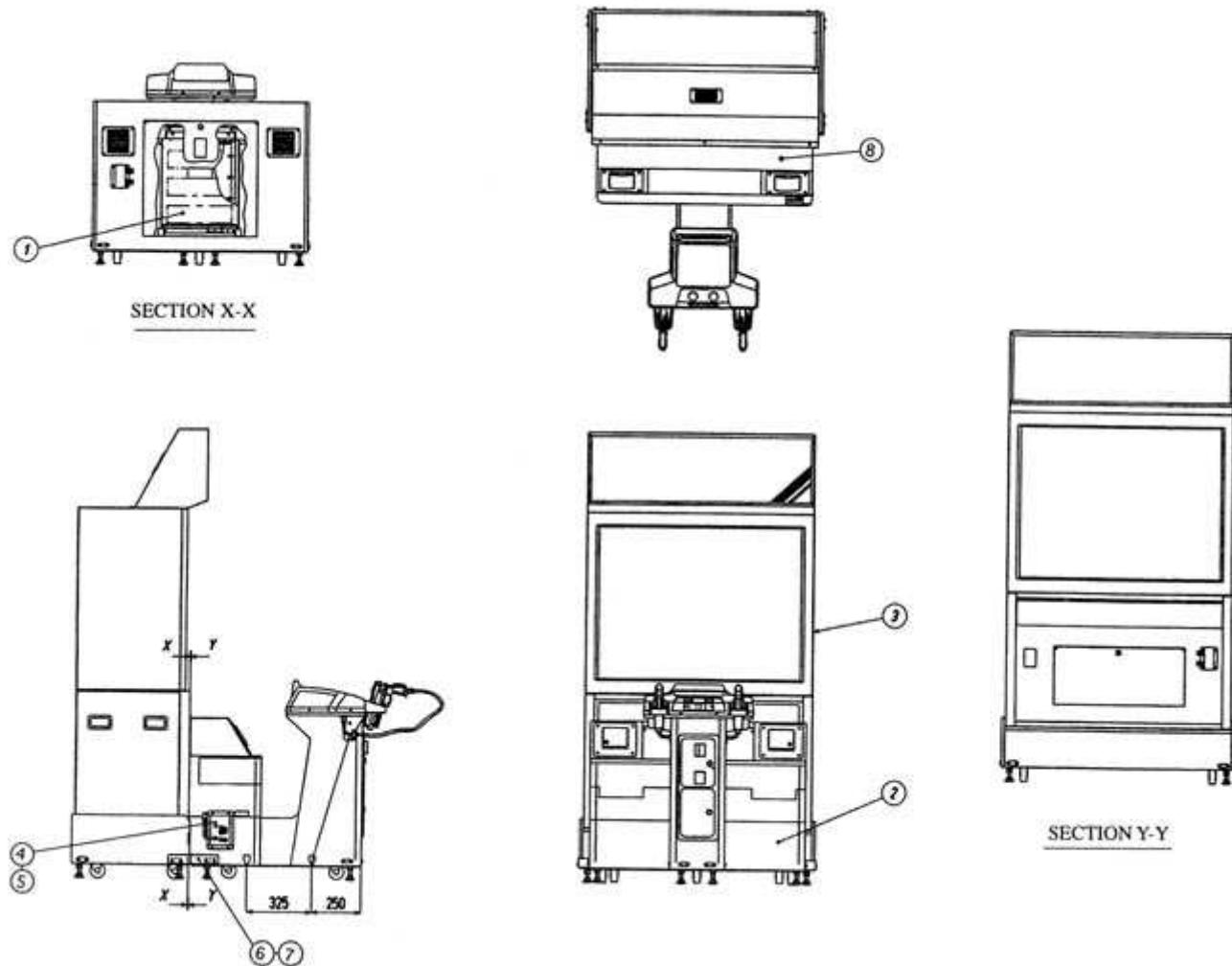
FIG. 13. 2

14. DESIGN RELATED PARTS



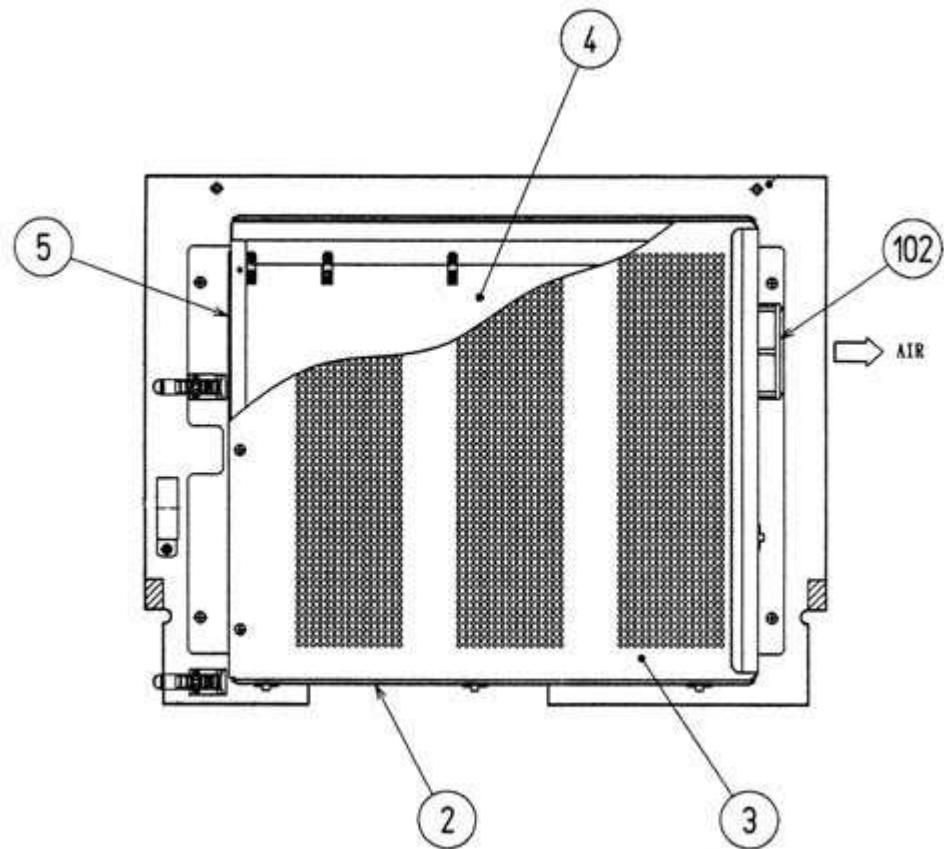
15. PARTS LIST

<1> TOP ASSY ZMB DX



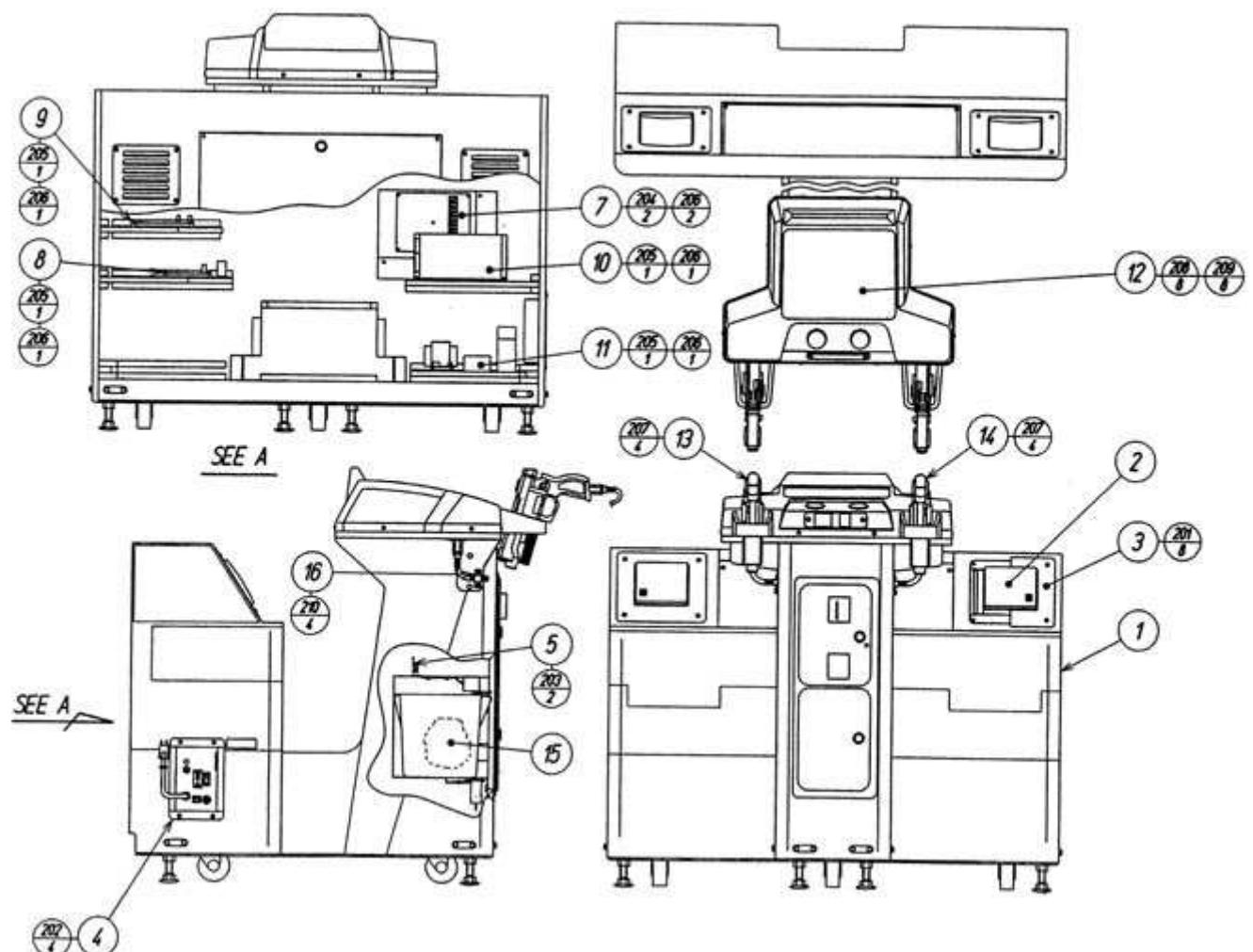
ITEM NO.	PART NO.	DESCRIPTION
1	ZMB-0100	ASSY SHIELD CASE
2	ZMB-1000	ASSY CABINET DX
3	ZMB-1100	ASSY PTV
4	N/A	ON/OFF SW PLATE
5	LOCAL PURCHASE	FUSES; 5A SLO (MAIN), 5A SLO (AUDIO AMP), 3A SLO (PROJECTION TV)
6	CPT-0001	JOINT BRACKET
7	CPT-0002	JOINT BRACKET
8	N/A	AAMA VIOLENCE STICKER

<2> ASSY SHIELD CASE DX (ZMB-0100)



ITEM NO.	PART NO.	DESCRIPTION
2	105-5218	SHIELD CASE
3	105-5219-91	SHIELD CASE LID
4	610-0396-13054	GAME BD
5	839-0778	FLT BD B-CRX RCT
102	209-0055	FAN MOTO DC 12V

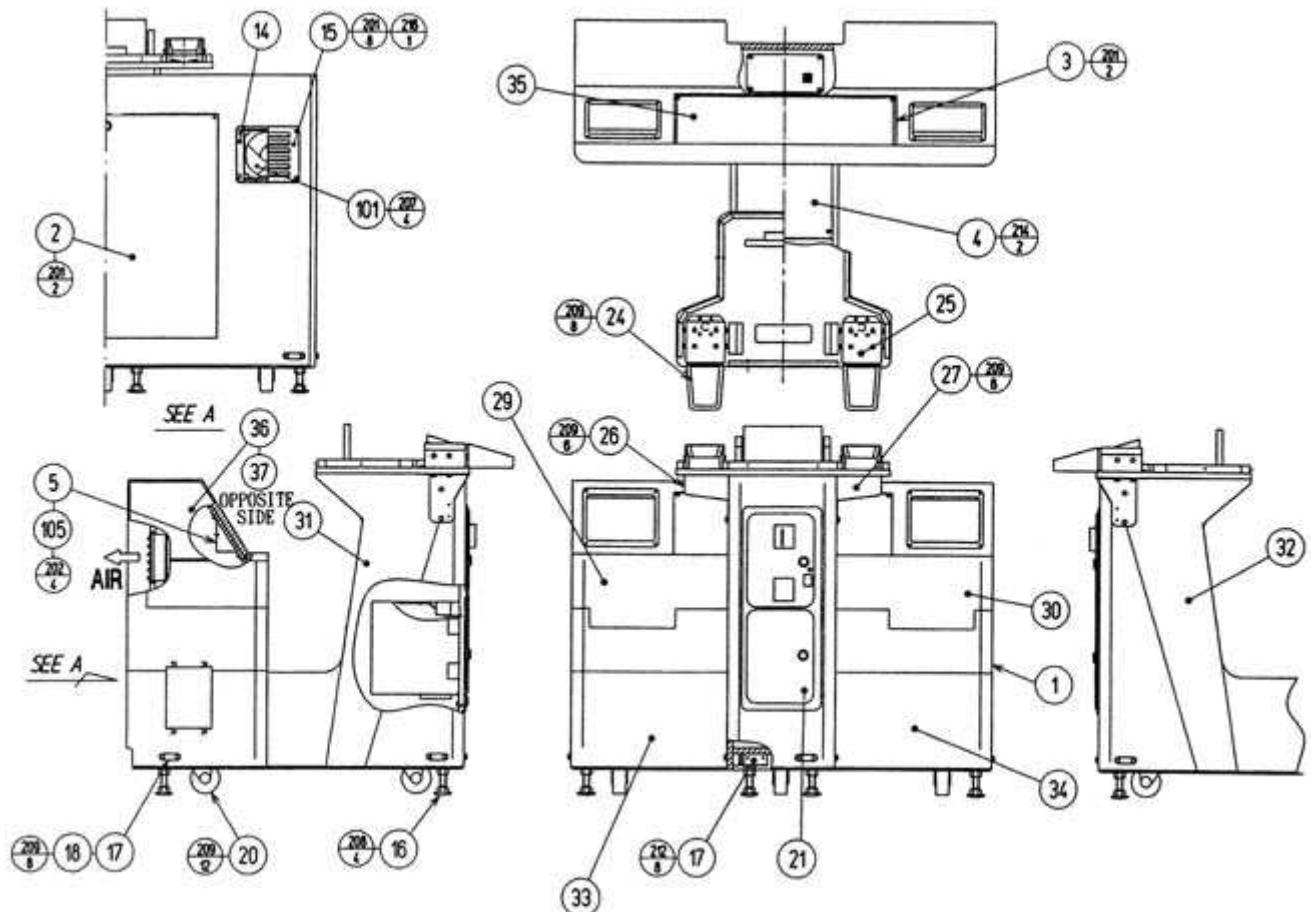
<3> ASSY CABINET DX (ZMB-1000)



ITEM NO.	PART NO.	DESCRIPTION
1	ZMB-1001	ASSY SUB-CABI DX
2	CPT-1060	ASSY SPEAKER
3	CPT-1011	SPEAKER COVER
4	SEE <6>	AC UNIT
5	SEE <7>	SW UNIT AND COIN METER
7	CPT-1400	ASSY AMP BD
8	CPT-1410	ASSY BUFFER BD
9	CPT-1420	ASSY I/O BD
10	999-0102	ASSY SW REG
11	ZMB1-1440	ASSY AC SUPPLY
12	ZMB1-2000	ASSY CONTROL PANEL DX
13	ZMB5-2300	CONTROLLER UNIT 1P
14	ZMB5-2350	CONTROLLER UNIT 2P
15	BOX-CASH	CASH BOX

16	CPT-1017	CABLE CLAMP
201	008-T00420-0B	TMP PRF SCR TH BLK M4x20
202	000-T00420-0C	M SCR TH CRM M4x20
203	000-P00410-W	M SCR PH W/FS M4x20
204	032-000430	WING BLT M4x30
205	000-P00430	M SCR PH M4x30
206	068-441616	FLT WSHR 4.4-16x1.6
207	008-T00430-OC	TMP PRF SCR TH CRM M4x30
208	008-T00416-OC	TMP PRF SCR TH CRM M4x16
209	068-441616-OC	FLT WSHR CRM 4.4-16x1.6
210	000-T00410-OC	M SCR TH CRM M4x10

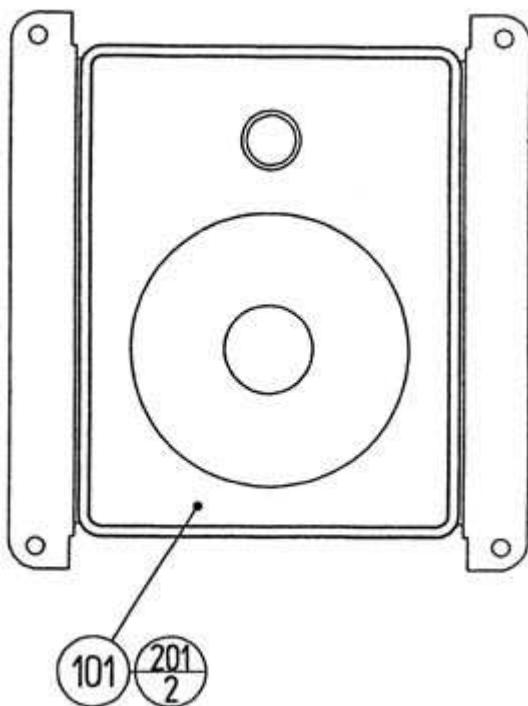
<4> ASSY SUB-CABI DX (ZMB-1001)



ITEM NO.	PART NO.	DESCRIPTION
1	CPT-1002	WOODEN FRONT BRACKET
2	CPT-1050	ASSY BACK LID
3	CPT-1003	MAINTENANCE LID UPPER

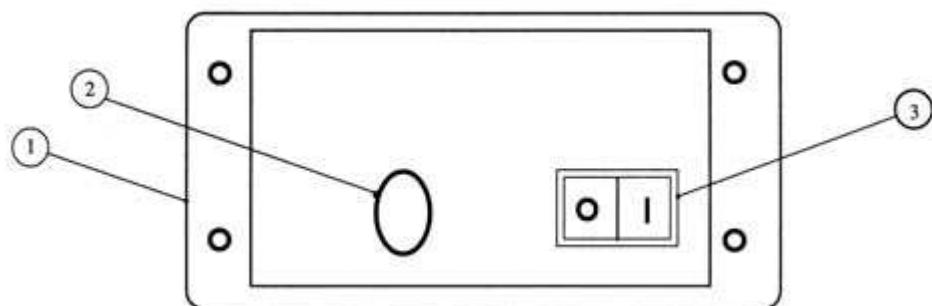
4	CPT-1004	MAINTENANCE LID LOWER
5	CPT-1012	SHIELD CASE BASE MOUNT BRKT
14	HN-1024X	FAN BRKT
15	UP-1018	AIR VENT
16	999-0167	LEG ADJUSTER BOLT 1/2x13x3
17	ARC-1006	LEG BRKT
20	999-1069	CASTER 2 1/2"
21	SEE DESCRIPTION	ASSY COIN DOOR (COIN CONTROLS)
24	CPT-1019	HOLDER
25	CPT-1020	HOLDER BRKT
26	CPT-1021	SIDE BRKT L
27	CPT-1022	SIDE BRKT R
29	ZMB0-1003	DECAL F L ZMB DX
30	ZMB0-1004	DECAL F R ZMB DX
31	ZMB0-1005	DECAL TOWER L ZMB DX
32	ZMB0-1006	DECAL TOWER R ZMB DX
33	ZMB0-1007	DECAL F UNDER L ZMB DX
34	ZMB0-1008	DECAL F UNDER R ZMB DX
35	ZMB0-1009	DECAL MAINTENANCE DOOR ZMB DX
36	ZMB0-1010	DECAL F SIDE UP L ZMB DX
37	ZMB0-1011	DECAL F SIDE UP R ZMB DX
<hr/>		
101	260-0011-02	AXIAL FLOW FAN AC100V 50-60 Hz
<hr/>		
201	000-T00430-0B	M SCR TH BLK M4x30
202	000-P00412-W	M SCR PH W/FS M4x12
207	000-P00312	M SCR PH M3x12
208	050-H01600	HEX NUT M16
209	0303-000630-SC	HEX NUT W/S CRM M6x30
210	000-T00420-0B	M SCR TH BLK M4x20
212	030-000650-SC	HEX BLT W/S CRM M6x50
213	008-T00408-0B	TMP PRF SCR TH BLK M4x8
214	000-T00440-0C	M SCR TH CRM M4x40
215	010-P00310-F	S-TITE SCR PH W/F M3x10
216	050-F00400	FLG NUT M4
217	011-F00312	TAP SCR #1 FH 3x12

<5> ASSY SPEAKER (CPT-1060)



ITEM NO.	PART NO.	DESCRIPTION
101	130-5096	ASSY SERVO SPEAKER BOX
201	000-P00512-W	M SCR PH W/FS M5x12

<6> AC UNIT



ITEM NO.	PART NO.	DESCRIPTION
1	N/A	AC BRACKET
2	N/A	LINE STRAIN RELIEF
3	5091-5234	MAIN ROCKER SW 25A

<7> SW UNIT/COIN METER

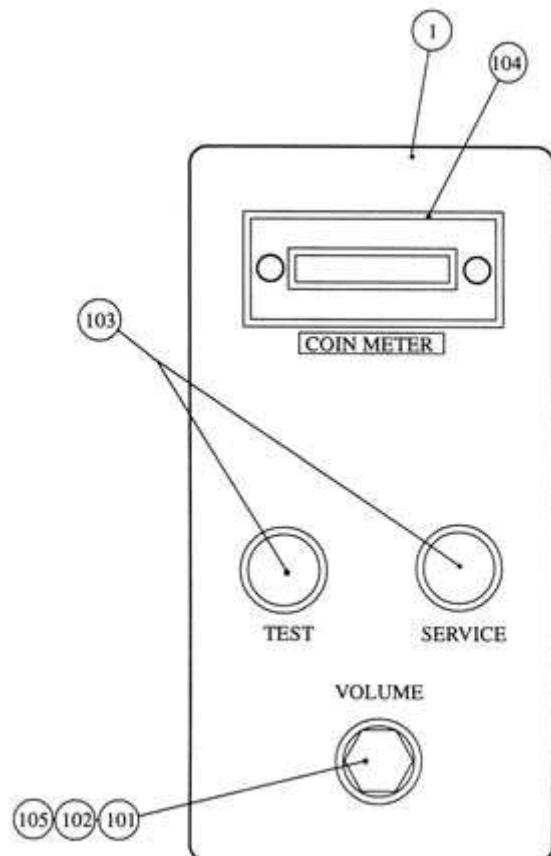
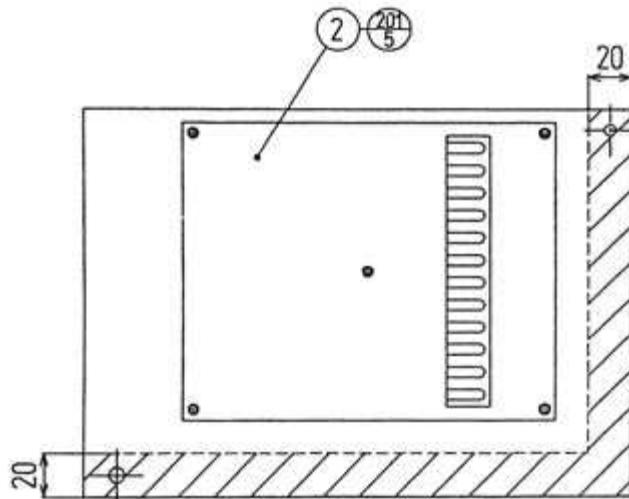


FIG. 6.1

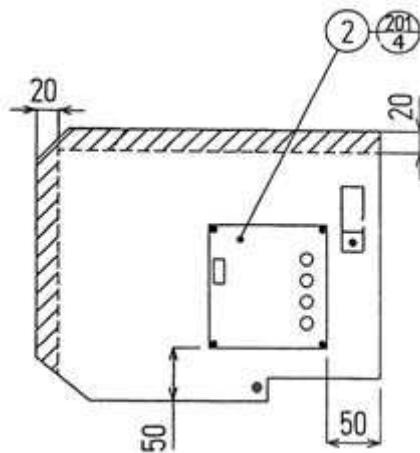
ITEM NO.	PART NO.	DESCRIPTION
1	N/A	SW BRACKET
101	220-5179	VOL CONT B-5K OHM
102	601-0042	KNOB 22MM
103	509-5028	SW PB 1M
104	220-5412	MAG CNTR W/CONN
105	310-5029-015	SUMITUBE F D15MM

<8> ASSY AMP BD (CPT-1400)



ITEM NO.	PART NO.	DESCRIPTION
2	838-11650-07	AMP BD SERVO
201	011-P00325	TAP SCR PH 3x25

<9> ASSY BUFFER BD (CPT-1410)

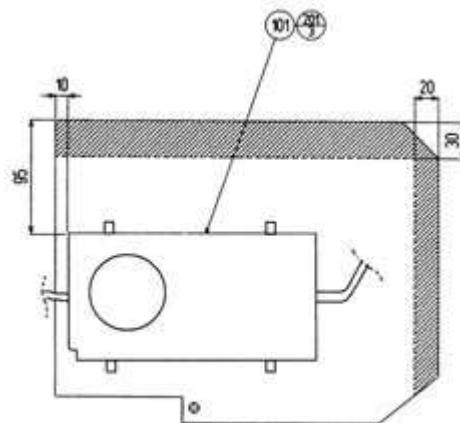


ITEM NO.	PART NO.	DESCRIPTION
2	839-0582	VPM BUFFER BD
201	011-T03512	TAP SCR TH 3.5x12

<10> ASSY IO/BD (CPT-1420)

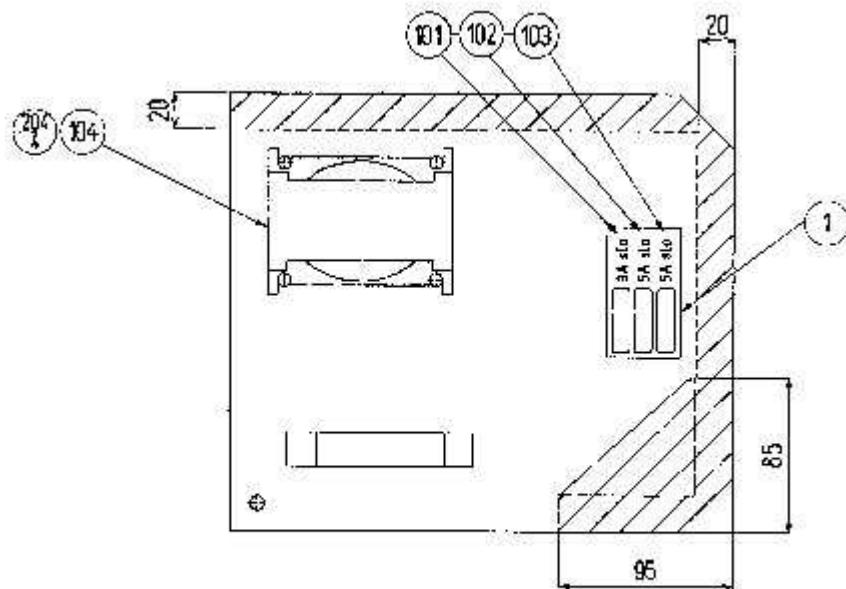
ITEM NO.	PART NO.	DESCRIPTION
2	837-12079	IC BD GUN SENS A-CRX/B-CRX
201	011-P00325	TAP SCR FH 3x25

<11> ASSY SW REG (999-0102)



ITEM NO.	PART NO.	DESCRIPTION
101	999-0102	SW REG 5V12A 12V1.5A-5V1A
201	011-P03516	TAP SCR PH 3.5x16

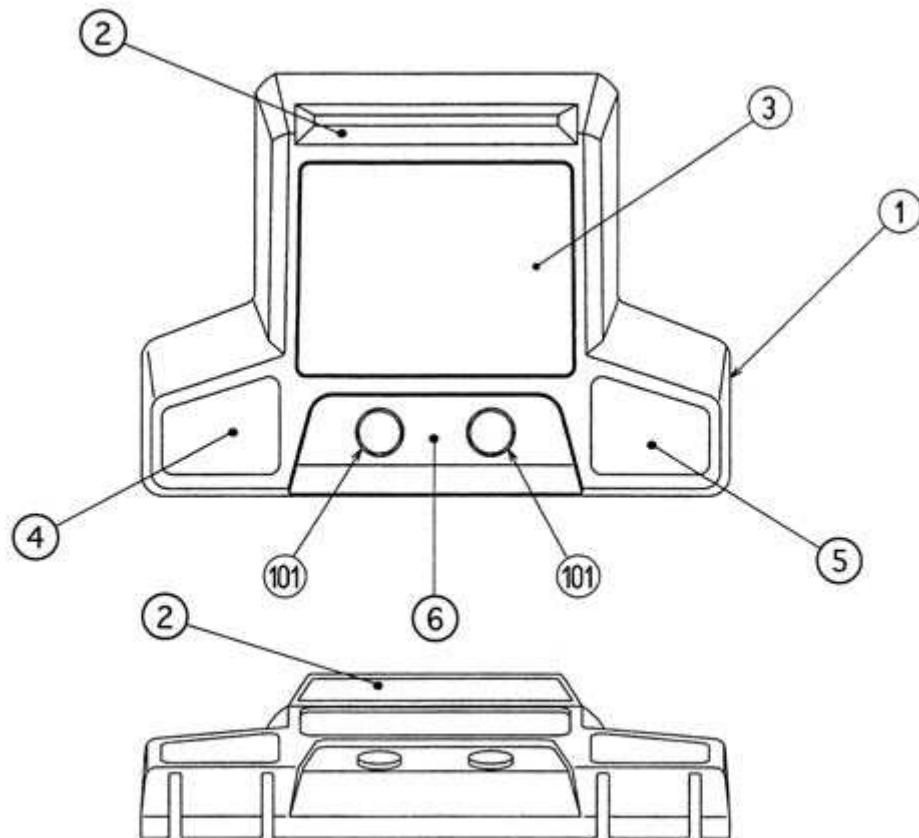
<12> ASSY AC SUPPLY (ZMB1-1440)



Note: make sure that there is no wiring etc. in the slash mark portions.

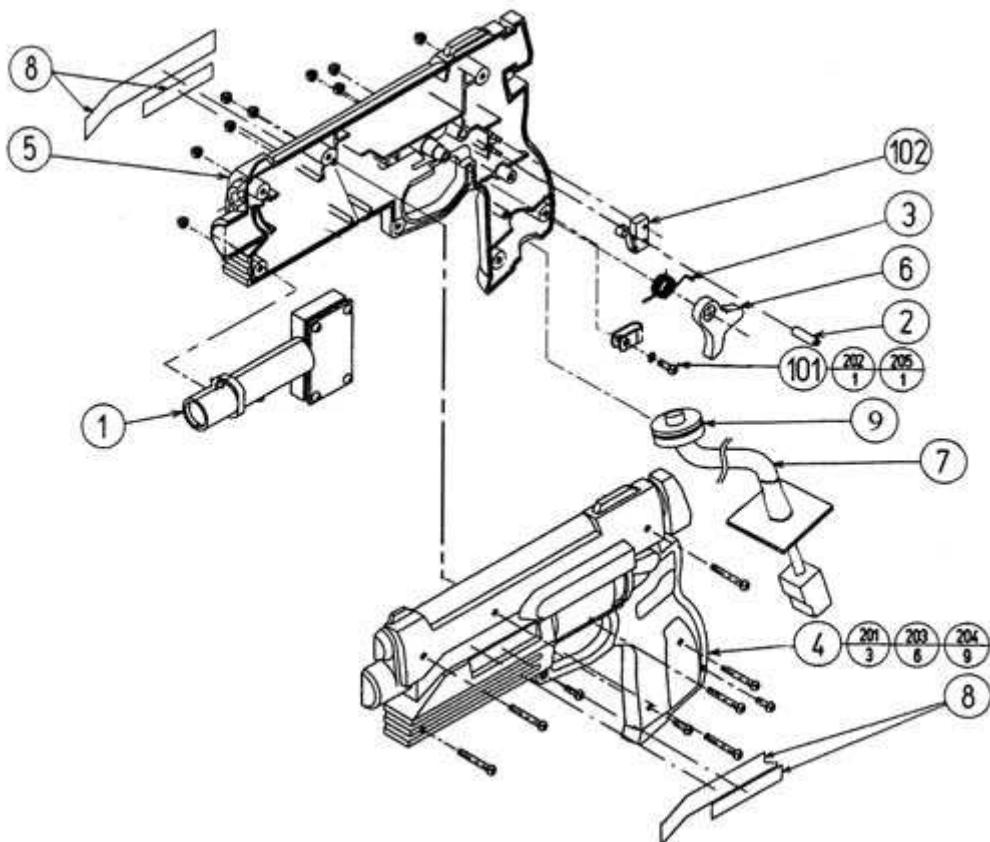
ITEM NO.	PART NO.	DESCRIPTION
1	LOCAL PURCHASE	FUSE HOLDER
101	LOCAL PURCHASE	3 AG slow blow
102	LOCAL PURCHASE	5 AG slow blow
103	LOCAL PURCHASE	5 AG slow blow
104	560-5250	XFMR AC 100V 12.8 6A
203	011-T00312	TAP SCR TH 3x12
204	000-P00412-W	M SCR PH W/FS M4x12

<13> ASSY CONTROL PANEL (ZMB1-2000)



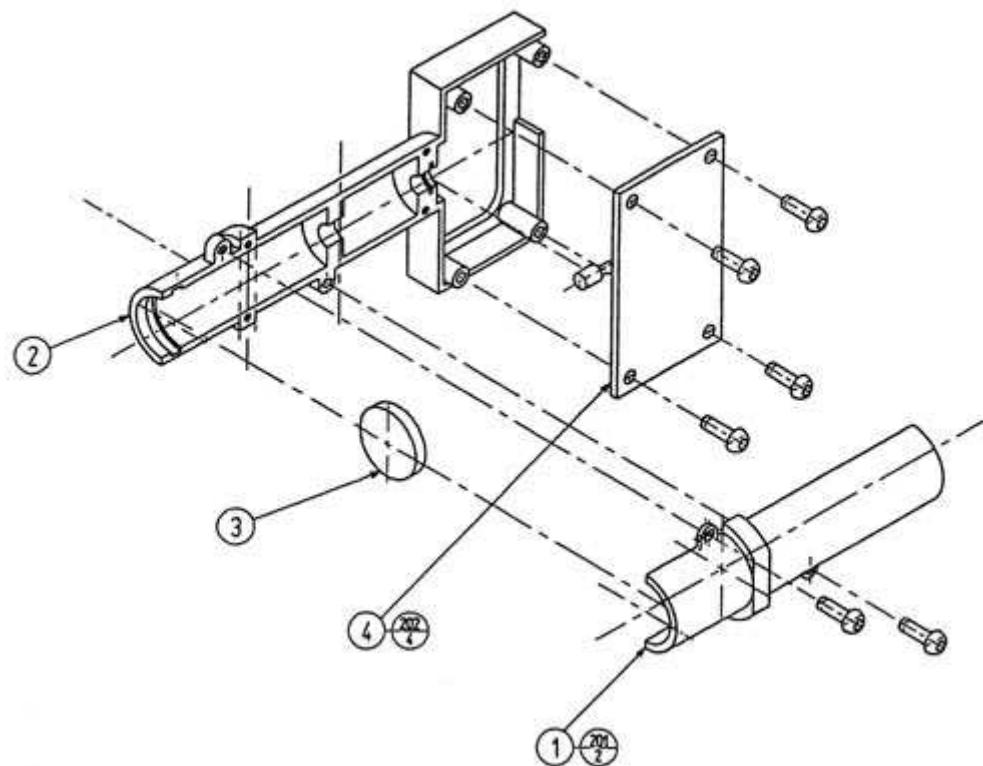
ITEM NO.	PART NO.	DESCRIPTION
1	ZMB1-2001	CONTROL PANEL BLANK
2	ZMB0-2001-B	STICKER CONTROL PANEL TOP
3	ZMB0-2004-01	INSTR. PLATE ZMB ENG
4	ZMB0-2001-C	STICKER AGENT 1
5	ZMB0-2001-D	STICKER AGENT 2
6	ZMB0-2001-E	BUTTON SHEET
101	5091-5712-01	SW PB W/L 6V (Y)-IMPERIAL 1 1/2"

<14> CONTROL UNIT 1P (ZMB5-2300)a CONTROL UNIT 2P (ZMB5-2350)b



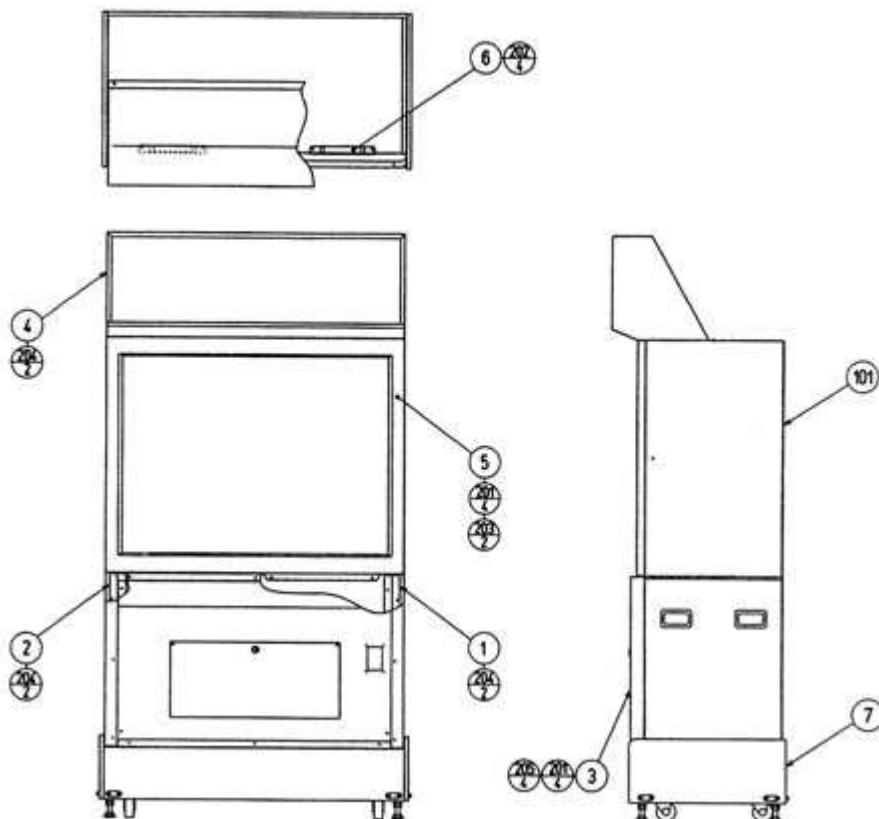
ITEM NO.	PART NO.	DESCRIPTION
1	COP-2020	SENSOR UNIT
2	COP-2005	STOPPER PIN
3	125-5124	TORSION SPRING
4	253-5404-01	COVER LEFT BLUE
5	253-5405-01	COVER RIGHT BLUE
6	253-5406-01	TRIGGER BLUE
7	999-0648	PROTECT TUBE W/WIRE
8a	ZMB1-2301	STICKER CONTROLLER 1P
8b	ZMB1-2351	STICKER CONTROLLER 2P
9	999-0649	HYDRAULIC WASHER-VIRTUA COP
101	280-5124-03	NYLON CLAMP NK03
102	509-5080	SW MICRO TYPE
201	000-P00308-0B	M SCR PH BLK M3x8
202	012-P00308	TAP SCR #2 PH 3x8
203	FAS-000015	M SCR PH BLK M3x25
204	FAS-500006	CAP NUT TYPE 3 BLK M3
205	060-F00300	FLT WSHR M3

15> SENSOR UNIT (COP-2020)



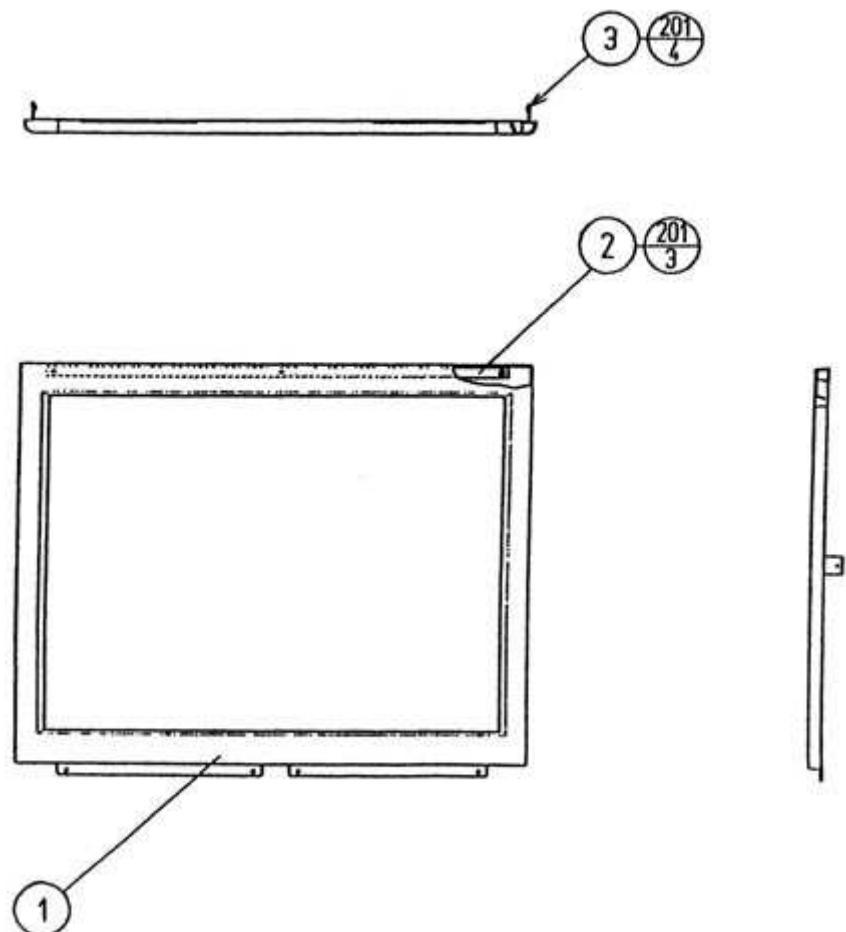
ITEM NO.	PART NO.	DESCRIPTION
1	COP-2003	LENS HOLDER L
2	COP-2004	LENS HOLDER R
3	380-5003	LENS LP
4	838-11145	SENSOR BD
201	012-P02606	TAP SCR PH 2.6x6
202	012-P00306	TAP SCR PH 3x6

<16> ASSY PTV (ZMB-1100)



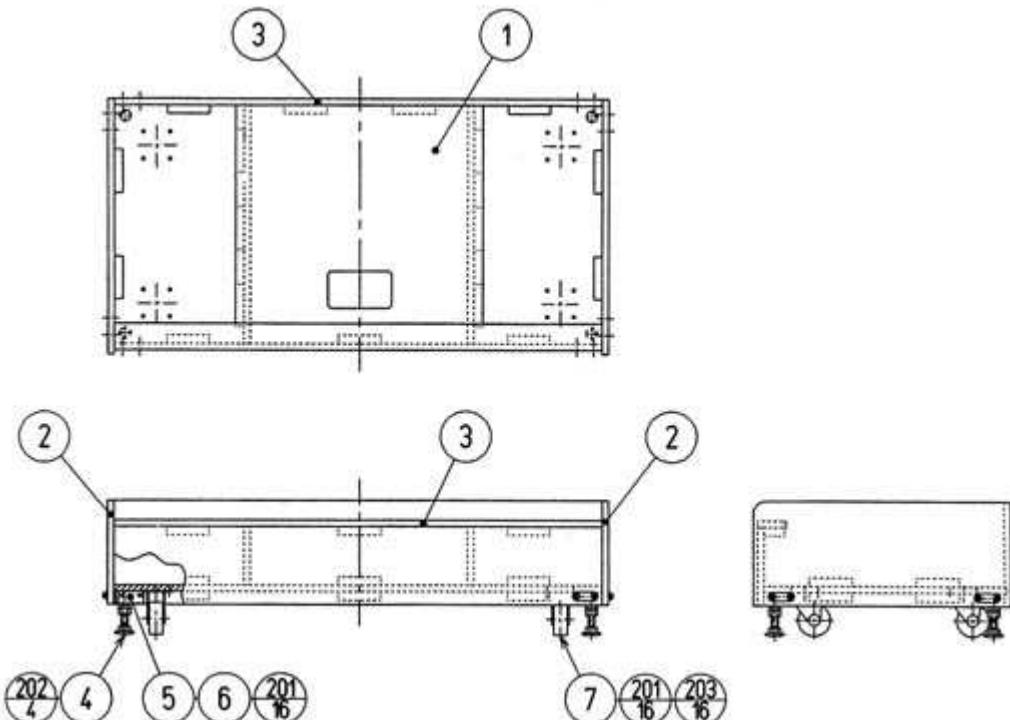
ITEM NO.	PART NO.	DESCRIPTION
1	DYN0-0501	PANEL MOUNT BRKT L
2	DYN0-0502	PANEL MOUNT BRKT R
3	ZMB1-1200	ASSY FRONT PANEL
4	ZMB1-1300	ASSY BILLBOARD
5	MGL1-1150	ASSY MASK
6	RAL0-0501	MASK HOLDER
7	ZMB1-1101	PTV BASE
101	200-5315-01-ZMB	ASSY PROJECTION DISPLAY
201	000-T00520-0B	M SCR TH BLK M5x20
202	000-F00414	M SCR FH M4x14
203	000-T00525-0B	M SCR TH BLK M5x25
204	000-P00516-W	M SCR PH BLK M5x16
205	068-552016-0B	FLT WSHR BLK 5.5-20x1.6

<17> ASSY MASK (MGL1-1150)



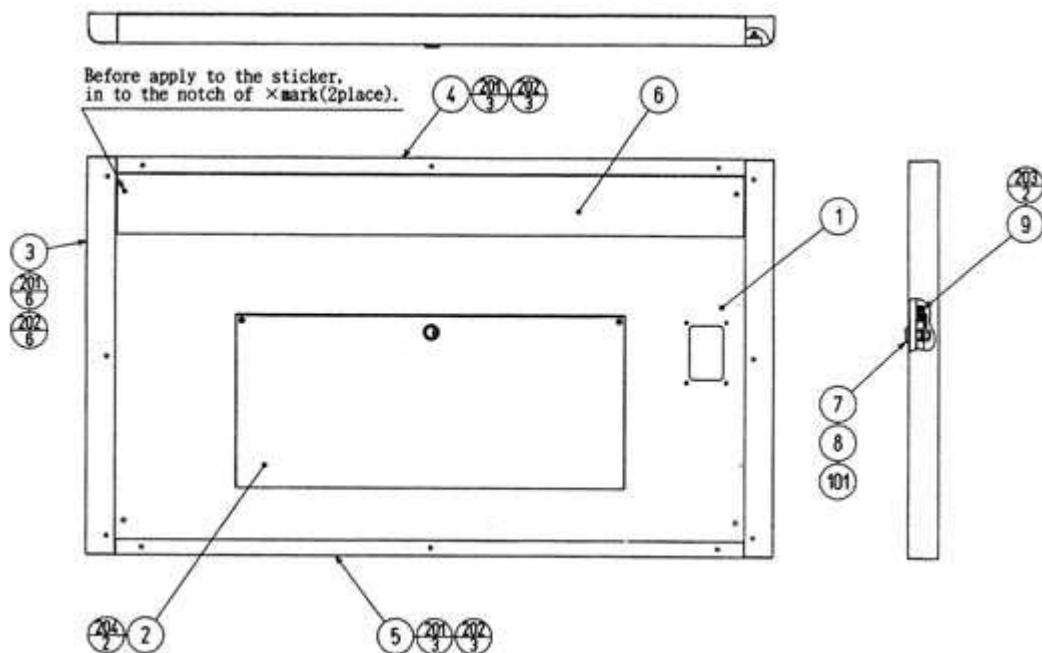
ITEM NO.	PART NO.	DESCRIPTION
1	MGL1-1102	TV MASK
2	N/A	SLIT PLATE
3	MGL-1152	MASK SIDE HOLDER
201	012-F00408-0B	TAP SCR FH BLK M4x8
202	000-F00410	M SCR FH M4x10

<18> PTV BASE (ZMB-1101)



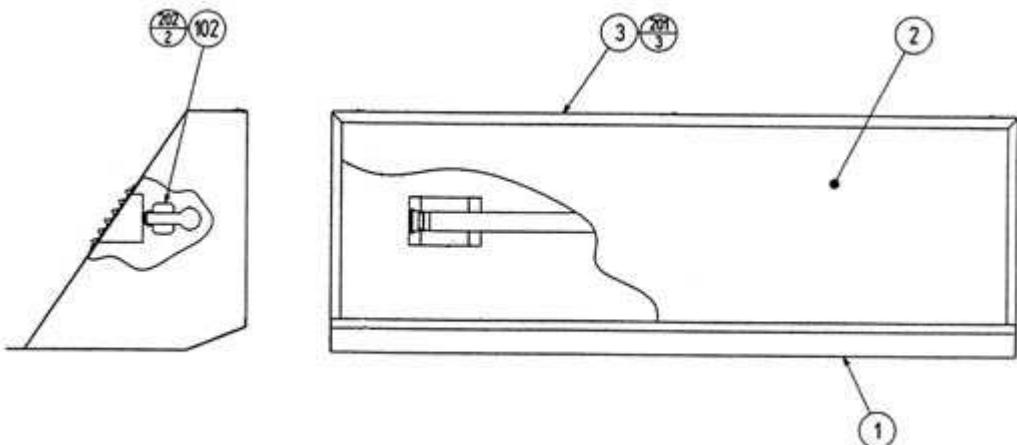
ITEM NO.	PART NO.	DESCRIPTION
1	ZMB-1101-A	PTV BASE BLANK
2	CPT-1101-B	ORNAMENT EDGE A
3	CPT-1101-C	ORNAMENT EDGE B
4	999-0167	LEG ADJUSTER BOLT 1/2x13x3
5	ARC-1006	LEG BRACKET
6	117-5233	PLATE LEG BRACKET BLACK
7	999-0169	CASTER 2 1/2"
201	030-000630-SB	HEX BLT W/S BLK M6x30
202	050-H01600	HEX NUT M16
203	060-F00600	FLT WSHR M6

<19> ASSY FRONT PANEL (ZMB-1200)



ITEM NO.	PART NO.	DESCRIPTION
1	ZMB-1201	FRONT PANEL
2	ZMB-1202	SERVICE DOOR
3	EZT-0603	SIDE BRKT
4	EZT-0604	BRKT UPPER
5	EZT-0605	BRKT LOWER
6	ZMB-1206	STICKER PTV FRONT DX
7	DP-1148X	LKG TNG
8	117-0062	PLATE LOCK RETAINER
9	117-5098	TNG RETAINER PLATE
101	220-5380	MAGNETIC LOCK MASTER W/O KEY
201	068-552016	FLT WSHR 5.5-20x1.6
202	050-F00500	FLG NUT M5
203	011-T00312	TAP SCR TH 3x12
204	000-T00430-0B	M SCR TH BLK M4x30

<20> ASSY BILLBOARD (ZMB1-1300)



ITEM NO.	PART NO.	DESCRIPTION
1	ZMB1-1301	BILLBOARD BOX
2	ZMB0-1302	BILLBOARD ZMB DX
3	ZMB1-1303	MARQUE HOLD ON BRKT
102	LOCAL PURCHASE	ASSY FL 30W 36" (F30T12Z0)
201	000-T00408-0B	M SCR TH BLK M4x8
202	000-P00416-W	M SCR PH W/FS M4x16

