

2nd PRINTING AUG

SEGA

F355 challenge™

Deluxe Version

OWNER'S MANUAL



SEGA ENTERPRISES, INC. USA

MANUAL NO. 4201-6507-01

VISIT OUR WEBSITE!

The screenshot shows a Netscape browser window displaying the SegaService.com website. The browser's address bar shows the URL <http://www.seuservice.com/>. The website's navigation menu on the left includes links for 'what's new', 'manuals', 'bulletins', 'assemblies', 'Search', 'bulletin Sign-up', 'register name', 'staff', 'Darl's Office', 'tech. service', 'warranty policy', 'corporate info', 'home page', 'future technologies', 'plugins', and 'non-framed page'. Contact information for Sega Enterprises Inc., USA is provided: Service Department, phone 415.701.8580, fax 415.701.6594. The main content area features a 'Ask Dave!' section with a portrait of a man and a list of services: Bulletins, Darl's Office, Game Manuals, Search, and What's New. A visitor count indicates that 5564 people have visited the page since 3/16/01. A message encourages visitors to email Darl.Davidson@seu.sega.com for questions or comments. A banner at the bottom states 'THIS WEB SITE POWERED BY WebSTAR 4.3 Mac OS'. A list of links is provided: [\[what's new\]](#), [\[manuals\]](#), [\[bulletins\]](#), [\[assemblies\]](#), [\[Search\]](#), [\[staff\]](#), [\[Darl's office\]](#), [\[technical service\]](#), [\[customer service\]](#), [\[corporate info\]](#), [\[plugins\]](#), [\[Non-framed page\]](#). A note states 'You will need the following items to view this page in its entirety.' Below this are three buttons: 'Get Acrobat Reader' (All Platforms), 'GET Microsoft Internet Explorer' (Windows), and 'GET Microsoft Internet Explorer' (Macintosh). The browser's status bar at the bottom shows 'Internet Zone'.

BEFORE USING THE PRODUCT, BE SURE TO READ THE FOLLOWING:

To maintain the safety:

To ensure the safe usage of the product, be sure to read the following before using the product. The following instructions are intended for the users, operators and the personnel in charge of the operation of the product. After carefully reading and sufficiently understanding the warning displays and cautions, handle the product appropriately. Be sure to keep this manual nearby the product or elsewhere convenient for referring to it when necessary.

Herein, explanations which require special attention are enclosed with dual lines. Depending on the potentially hazardous degrees, the terms of WARNING, CAUTION, etc. are used. Be sure to understand the contents of the displays before reading the text.



WARNING!

Indicates that mishandling the product by disregarding this warning will cause a potentially hazardous situation which can result in death or serious injury.



CAUTION!

Indicates that mishandling the product by disregarding this caution will cause a slight hazardous situation which can result in personal injury and or material damage.

For the safe usage of the product, the following pictographs are used:



Indicates "HANDLE WITH CARE." In order to protect the human body and equipment, this display is attached to places where the Owner's Manual and or Service Manual should be referred to.

○ Perform work in accordance with the instructions herein stated.

Instructions for work are explained by paying attention to the aspect of accident prevention. Failing to perform work as per the instructions can cause accidents. In the case where only those who have technical expertise should perform the work to avoid hazardous situation, the instructions herein state that the serviceman should perform such work.

○ Be sure to turn off power before working on the machine.

To prevent electric shock, be sure to turn off power before starting the work in which the worker touches the interior of the product. If the work is to be performed in the power-on status, the Instruction Manual herein always states to that effect.

○ Be sure to ground the Earth Terminal (this, however, is not required in the case where a power cord with earth is used).

This product is equipped with the Earth Terminal. When installing the product, Connect the Earth Terminal to the "accurately grounded indoor earth terminal" by using an earth wire. Unless the product is grounded appropriately, the user can be subject to electric shock. After performing repair, etc. for the Control equipment, ensure that the Earth Wire is firmly connected to the Control equipment.

○ Ensure that the Power Supply used is equipped with an Earth Leakage Breaker.

This product does not incorporate the Earth Leakage Breaker. Using a power supply which is not equipped with the Earth Leakage Breaker can cause a fire when earth leakage occurs.

○ Be sure to use fuses which meet the specified rating. (only for the machines which use fuses).

Using fuses exceeding the specified rating can cause a fire and electric shock.

○ **Specification changes (removal of equipment, conversion and addition) not designated by SEGA are not allowed.**

The parts of the product include warning labels for safety, covers for personal protection, etc. It is very hazardous to operate the product by removing parts and or modifying the circuits. Should doors, lids and protective parts be damaged or lost, refrain from operating the product, and contact where the product was purchased from or the office herein stated. SEGA shall not be held responsible for any accidents, compensation for damage to a third party, resulting from the specifications not designated by SEGA.

○ **Ensure that the product meets the requirements of appropriate Electrical Specifications.**

Before installing the product, check for Electrical Specifications. SEGA products have a nameplate on which Electrical Specifications are described. Ensure that the product is compatible with the power supply voltage and frequency requirements of the location. Using any Electrical Specifications different from the designated Specifications can cause a fire and electric shock.

○ **Install and operate the product in places where appropriate lighting is available, allowing warning labels to be clearly read.**

To ensure safety for the customers, labels and printed instructions describing potentially hazardous situation are applied to places where accidents can be caused. Ensure that where the product is operated has sufficient lighting allowing the warnings to be read. If any label is peeled off, apply it again immediately. Please place an order with where the product was purchased from or the office herein stated.

○ **When handling the Monitor, be very careful. (Applies only to the product w/monitor.)**

Some of the monitor (TV) parts are subject to high tension voltage. Even after running off power, some portions are still subject to high tension voltage sometimes. Monitor repair and replacement should be performed only by those technical personnel who have knowledge of electricity and technical expertise.

○ **Be sure to adjust the monitor (projector) properly. (Applies only to the product w/monitor.)**

Do not operate the product leaving on-screen flickering or blurring as it is. Using the product with the monitor not properly adjusted may cause dizziness or a headache to an operator, a player, or the customers.

○ **When transporting or reselling this product, be sure to attach this manual to the product.**

In the case where commercially available monitors and printers are used in this product, only the contents relating to this product are explained herein. Some commercially available equipment has functions and reactions not stated in this manual. Read this manual together with the specific Instruction Manual of such equipment.

- Descriptions herein contained may be subject to improvement changes without notice.
- The contents described herein are fully prepared with due care. However, should any question arise or errors be found, please contact SEGA.

INSPECTIONS IMMEDIATELY AFTER TRANSPORTING THE PRODUCT TO THE LOCATION.

Normally, at the time of shipment, SEGA products are in a status allowing for usage immediately after transporting to the location. Nevertheless, an irregular situation may occur during transportation. Before turning on power, check the following points to ensure that the product has been transported in a satisfactory status.

- Are there any dented portions or defects (cuts, etc.) on the external surfaces of the cabinet?
- Are Casters and Adjusters, damaged?
- Do the power supply voltage and frequency requirements meet with those of the location?
- Are all wiring connectors correctly and securely connected? Unless connected in the correct direction, connector connections can not be made accurately. Do not insert connectors forcibly.
- Do power cords have cuts and dents?
- Do the fuses used meet specified rating? Is the Circuit Protector in an energized status?
- Are all accessories available?
- Can all Doors and Lids be opened with the Accessory keys? Can Doors and Lids be firmly closed?

TABLE OF CONTENTS

BEFORE USING THE PRODUCT, BE SURE TO READ THE FOLLOWING:

TABLE OF CONTENTS

INTRODUCTION OF THE OWNER'S MANUAL

| | |
|---|----------|
| 1. HANDLING PRECAUTIONS | 1 |
| 2. PRECAUTIONS CONCERNING INSTALLATION LOCATION | 2 - 3 |
| 3. OPERATION | 4 - 5 |
| 4. NAME OF PARTS | 6 |
| 5. ACCESSORIES | 7 - 9 |
| 6. ASSEMBLING AND INSTALLATION | 10 - 19 |
| 7. PRINTER (OPTIONAL)..... | 20 |
| 7 - 1 OPERATION WITH THE PRINTER ATTACHED..... | 20 - 21 |
| 7 - 2 SETTING THE ROLL PAPER..... | 21 - 24 |
| 7 - 3 CLEANING OF THE PRINTER HEAD..... | 25 |
| 7 - 4 COUNTERMEASURES AGAINST PAPER JAM..... | 26 |
| 8. PRECAUTIONS TO BE HEDED WHEN MOVING THE MACHINE | 27 - 29 |
| 9. HANDLE MECHA..... | 30 |
| 9 - 1 ADJUSTING OR REPLACING THE V.R. | 30 - 33 |
| 9 - 2 GREASING..... | 33 |
| 9 - 3 REPLACING PADDLE (WING) SHIFT SWITCH..... | 34 - 35 |
| 10. 6-SPEED SHIFT..... | 36 |
| 10- 1 REMOVING THE SHIFT LEVER..... | 36 - 37 |
| 10- 2 REPLACING THE SWITCH..... | 38 |
| 11. ACCELERATOR & BRAKE..... | 39 |
| 11- 1 ADJUSTING AND REPLACING THE V.R. | 39 - 40 |
| 11- 2 GREASING..... | 40 |
| 12. CLUTCH PEDAL..... | 41 |
| 12- 1 REMOVING THE CLUTCH PEDAL..... | 41 - 42 |
| 12- 2 VOLUME ADJUSTMENT/REPLACEMENT..... | 43 |
| 12- 3 GREASING..... | 44 |
| 13. COIN SELECTOR..... | 45 - 48 |
| 14. MONITOR..... | 49 |
| 14- 1 CAUTIONS AND WARNINGS CONCERNING THE SAFETY FOR HANDLING THE MONITORS..... | 49 - 51 |
| 14- 2 CAUTIONS TO BE HEDED WHEN CLEANING THE CRT SURFACES..... | 51 |
| 14- 3 ADJUSTMENT METHOD..... | 52 - 53 |
| 14- 4 CLEANING THE MONITOR GLASS..... | 54 - 56 |
| 15. REPLACING THE FLOURESCENT LAMP, AND LAMPS..... | 57 - 65 |
| 16. PERIODIC INSPECTION TABLE..... | 66 - 67 |
| 17. TROUBLESHOOTING..... | 68 - 70 |
| 18. GAME BOARD..... | 71 |
| 18 - 1 TAKING OUT THE BOARD..... | 71 - 72 |
| 18 - 2 COMPOSITION OF GAME BOARD..... | 72 |
| 19. DESIGN RELATED PARTS..... | 73 |
| 20. PARTS LIST..... | 74 - 143 |
| 21. WIRE COLOR CODE TABE..... | 144 |
| 22. WIRING DIAGRAM..... | 145-149 |

SPECIFICATIONS

| | |
|------------------------|--|
| Installation Space | : 1,310 mm (W) X 2,830 mm (D) (51.6 in. X 111.4 in.) |
| Height | : 2,660 mm (104.7 in.) |
| Weight | : 370 kg. (815.7 lbs.) |
| Power, maximum current | : 600 W 6.7 A (AC 110V 50 Hz AREA) 600 W 6.7 A (AC 110V 60 Hz AREA) 580 W 6.0 A (AC 120V 60 Hz AREA) 590 W 3.5 A (AC 220V 50 Hz AREA) 580 W 3.4 A (AC 220V 60 Hz AREA) 600 W 3.4 A (AC 230V 50 Hz AREA) 580 W 3.2 A (AC 230V 60 Hz AREA) 600 W 3.2 A (AC 240V 50 Hz AREA) 590 W 3.2 A (AC 240V 60 Hz AREA) |
| For TAIWAN | |
| Power, current | : 600 W 6.7 A (MAX.) 340 W 4.0 A (MIN.) |
| MONITOR | : 50 TYPE COLOR MONITOR |

INTRODUCTION OF THE OWNERS MANUAL

This Owner's Manual is intended to provide detailed descriptions together with all the necessary information covering the general operation of electronic assemblies, electromechanicals, servicing control, spare parts, etc. as regards the product, **F355 CHALLENGE DX TYPE.**

This manual is intended for the owners, personnel and managers in charge of operation of the product. Operate the product after carefully reading and sufficiently understanding the instructions. If the product fails to function satisfactorily, non-technical personnel should under no circumstances touch the internal system. Please contact where the product was purchased from.

Use of this product is unlikely to cause physical injuries or damages to property. However, where special attention is required this is indicated by a thick line, the word "IMPORTANT" and its sign in this manual.



IMPORTANT

Indicates that mishandling the product by disregarding this display can cause the product's intrinsic performance not to be obtained, resulting in malfunctioning.

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DEFINITION OF LOCATION MAINTENANCE MAN AND SERVICEMAN



Non-technical personnel who do not have technical knowledge and expertise should refrain from performing such work that this manual requires the location's maintenance man or a serviceman to carry out, or work which is not explained in this manual. Failing to comply with this instruction can cause a severe accident such as electric shock.

Ensure that parts replacement, servicing & inspections, and troubleshooting are performed by the location's maintenance man or the serviceman. It is instructed herein that particularly hazardous work should be performed by the serviceman who has technical expertise and knowledge.

The location's maintenance man and serviceman are herein defined as follows:

"Location's Maintenance Man" :

Those who have experience in the maintenance of amusement equipment and vending machines, etc., and also participate in the servicing and control of the equipment through such routine work as equipment assembly and installation, servicing and inspections, replacement of units and consumables, etc. within the Amusement Facilities and or locations under the management of the Owner and Owner's Operators of the product.

Activities of Location's Maintenance Man :

Assembly & installation, servicing & inspections, and replacement of units & consumables as regards amusement equipment, vending machines, etc.

Serviceman :

Those who participate in the designing, manufacturing, inspections and maintenance service of the equipment at an amusement equipment manufacturer.

Those who have technical expertise equivalent to that of technical high school graduates as regards electricity, electronics and or mechanical engineering, and daily take part in the servicing & control and repair of amusement equipment.

Serviceman's Activities :

Assembly & installation and repair & adjustments of electrical, electronic and mechanical parts of amusement equipment and vending machines.

LISTED



5K92

AMUSEMENT MACHINE

1. HANDLING PRECAUTIONS

When installing or inspecting the machine, be very careful of the following points and pay attention to ensure that the player can enjoy the game safely.

Non-compliance with the following points or inappropriate handling running counter to the cautionary matters herein stated can cause personal injury or damage to the machine.



WARNING!

- Before performing work, be sure to turn power off. Performing the work without turning power off can cause an electric shock or short circuit. In the case work should be performed in the status of power on, this manual always states to that effect.
- To avoid electric shock or short circuit, do not plug in or unplug quickly.
- To avoid electric shock, do not plug in or unplug with a wet hand.
- Do not expose Power Cords and Earth Wires on the surface, (floor, passage, etc.). If exposed, the Power Cords and Earth Wires are susceptible to damage. Damaged cords and wires can cause electric shock or short circuit.
- To avoid causing a fire or electric shock, do not put things on or damage Power Cords.
- When or after installing the product, do not unnecessarily pull the power cord. If damaged, the power cord can cause a fire or electric shock.
- In case the power cord is damaged, ask for replacement through where the product was purchased from or the office herein stated. Using the cord as is damaged can cause fire, electric shock or leakage.
- Be sure to perform grounding appropriately. Inappropriate grounding can cause an electric shock.
- Be sure to use fuses meeting specified rating. Using fuses exceeding the specified rating can cause a fire or electric shock.
- Completely make connector connections for IC BD and others. Insufficient insertion can cause an electric shock.
- To avoid causing a fire or electric shock, do not make Specification changes by removing, converting and making additions unless otherwise designated by SEGA.
- Be sure to perform periodic maintenance inspections herein stated.



IMPORTANT!

- For the IC board circuit inspections, only the logic tester is allowed. The use of a multiple-purpose tester is not permitted, so be careful in this regard.
- When cleaning the CRT surfaces, use a soft, dry cloth. Do not apply chemicals such as thinner, benzine, etc.
- The electronic parts on the IC Board could be damaged due to human body's static electricity. Before performing IC Board related work, be sure to discharge physically accumulated statics by touching grounded metallic surfaces, etc.

2. PRECAUTIONS CONCERNING INSTALLATION

LOCATION



WARNING!

This product is an indoor game machine. Do not install it outside. Even indoors, avoid installing in places mentioned below so as not to cause a fire, electric shock, injury and or malfunctioning.

- Places subject to rain or water leakage, or places subject to high humidity in the proximity of an indoor swimming pool and or shower, etc.
- Places subject to direct sunlight, or places subject to high temperatures in the proximity of heating units, etc.
- Places filled with inflammable gas or vicinity of highly inflammable/volatile chemicals or hazardous matter.
- Dusty places.
- Sloped surfaces.
- Places subject to any type of violent impact.
- Vicinity of anti-disaster facilities such as fire exits and fire extinguishers.
- The operating (ambient) temperature range is from 5°C to 40°C.
Only in the case a projector is employed, the temperature range is from 5°C to 30°C.

LIMITATIONS OF USAGE REQUIREMENTS



WARNING!

- Be sure to check the Electrical Specifications.
Ensure that this product is compatible with the location's power supply, voltage and frequency requirements.
A plate describing Electrical Specifications is attached to the product.
Non-compliance with the Electric Specifications can cause a fire and electric shock.
- This product requires the Breaker and Earth Mechanisms as part of the location facilities. Using them in a manner not independent can cause a fire and electric shock.
- Ensure that the indoor wiring for the power supply is rated at 15A or higher (AC single phase 100 ~ 120V area), and 7A or higher (AC 220 ~ 240V area).
Non-compliance with the Electrical Specifications can cause a fire and electric shock.
- Be sure to independently use the power supply equipped with the Earth Leakage Breaker. Using a power supply without the Earth Leakage Breaker can cause an outbreak of fire when earth leakage occurs.
- Putting many loads on one electrical outlet can cause generation of heat and a fire resulting from overload.
- When using an extension cord, ensure that the cord is rated at 15A or higher (AC 100 ~ 120V area) and 7A or higher (AC 220 ~ 240V area). Using a cord rated lower than the specified rating can cause a fire and electric shock.

Electric current consumption

MAX. 8.70 A (AC 110V 50 Hz)
MAX. 8.30 A (AC 110V 60 Hz)
MAX. 7.70 A (AC 120V 60 Hz)
MAX. 4.50 A (AC 220V 50 Hz)
MAX. 4.30 A (AC 220V 60 Hz)
MAX. 4.20 A (AC 230V 50 Hz)
MAX. 4.00 A (AC 230V 60 Hz)
MAX. 4.10 A (AC 240V 50 Hz)
MAX. 3.90 A (AC 240V 60 Hz)
MAX. 8.30 A (For TAIWAN)



- For transporting the machine into the location's building, the minimum necessary dimensions of the opening (of doors, etc.) are 1.2m(W) and 1.7m(H).
- For the operation of this machine, secure a minimum area of 2.49m (W) x 3.16m (D). For ventilation, provide an approximately 20cm. space between the rear part of the cabinet and the wall.

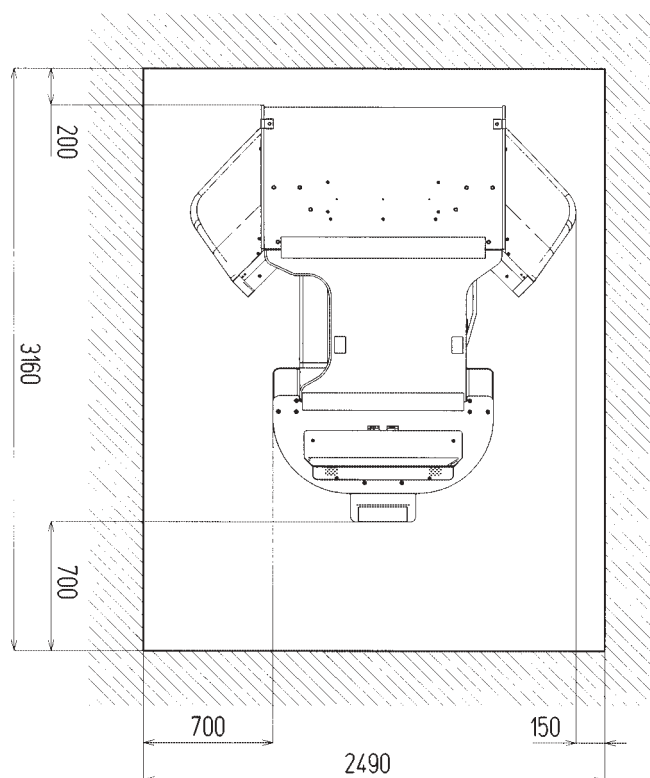


FIG. 2

3. OPERATION

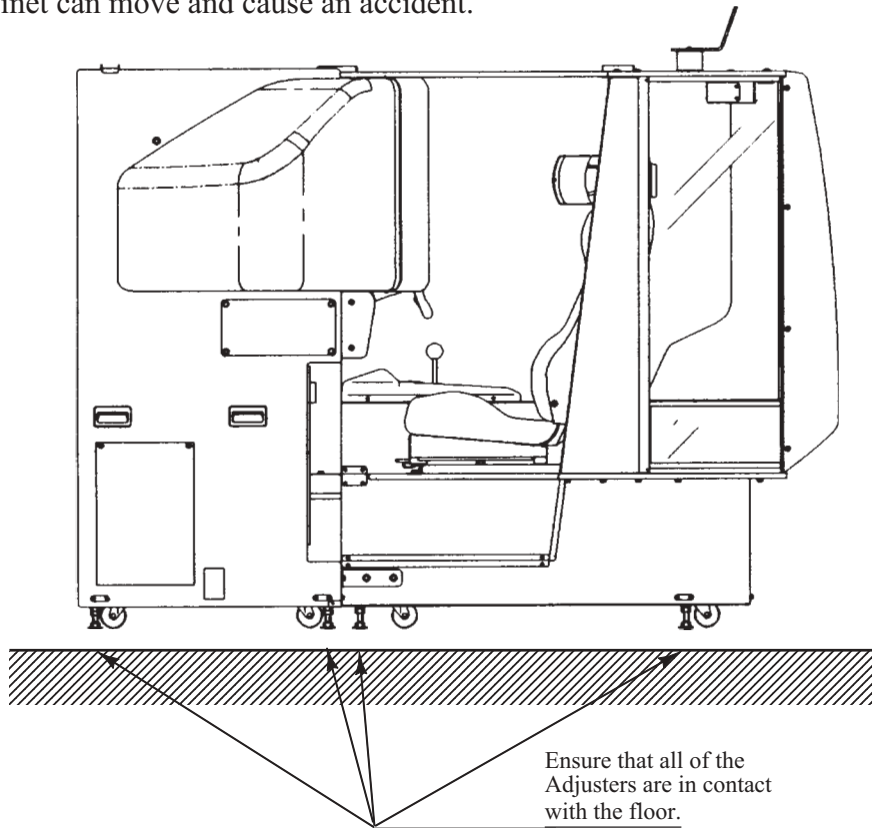
PRECAUTIONS TO BE HEEDED BEFORE STARTING THE OPERATION

To avoid injury and trouble, be sure to constantly give careful attention to the behavior and manner of the visitors and players.



In order to avoid accidents, check the following before starting the operation:

- Check if all of the adjusters are in contact with the surface. If they are not, the Cabinet can move and cause an accident.



- Do not put any heavy item on this product. Placing any heavy item on the product can cause a falling down accident or parts damage.
- Do not climb on the product. Climbing on the product can cause falling down accidents. To check the top portion of the product, use a step.
- To avoid electric shock, check to see if door & cover parts are damaged or omitted.
- To avoid electric shock, short circuit and or parts damage, do not put the following items on or in the periphery of the product.
Flower vases, flowerpots, cups, water tanks, cosmetics, and receptacles/containers/vessels containing chemicals and water.



To avoid injury, be sure to provide sufficient space by considering the potentially crowded situation at the installation location. Insufficient installation space can cause the customers to come into contact with or hit the others and result in injury or trouble.

PRECAUTIONS TO BE HEHEDED DURING OPERATION (PAYING ATTENTION TO CUSTOMERS)

To avoid injury and trouble, be sure to constantly give careful attention to the behavior and manner of the visitors and players.



WARNING!

- To avoid injury and accidents, those who fall under the following categories are not allowed to play the game.
 - Those who need assistance such as the use of an apparatus when walking.
 - Those who have high blood pressure or a heart problem.
 - Those who have experienced muscle convulsion or loss of consciousness when playing video game, etc.
 - Those who have a trouble in the neck and or spinal cord.
 - Intoxicated persons.
 - Pregnant women or those who are in the likelihood of pregnancy.
 - Persons susceptible to motion sickness.
 - Persons whose act runs counter to the product's warning displays.
- To avoid injury resulting from falling down, and electric shock due to spilled drinks, instruct the player not to place heavy items or drinks on the product.
- To avoid electric shock and short circuit, do not allow customers to put hands and fingers or extraneous matter in the openings of the product or small openings in or around the doors.
- To avoid falling down and injury resulting from falling down, immediately stop the customer's leaning against or climbing on the product, etc.
- To avoid electric shock and short circuit, do not allow the customers to unplug the power plug without a justifiable reason.
- To avoid a fire due to a cigarette stub, caution the customers so as not to put dust on the Seat rear.
- Caution the customers so as not to put dust on the outlet for driving records. Failure to observe this may cause a fire due to cigarette stubs.
- This product is intended for 1 Player only. Playing the game by 2 or more Players riding on the seat together can cause falling down and collision accidents by striking head, hand, or elbow.



CAUTION!

- Immediately stop such violent acts as hitting and kicking the product. Such violent acts can cause parts damage or falling down, resulting in injury due to fragments and falling down.
- To avoid collision or falling down accident, caution the customers so as not to come in to the Seat rear.
- Instruct the Player to take firm hold of the Steering Wheel when in play. The Steering Wheel is equipped with reaction mechanism. Holding the Steering Wheel lightly while playing the game can cause a contingent accident.
- Instruct the customer, other than the Player, not to touch the operation device when in play. Touching the operation device during play can cause accidents and trouble between customers.
- Instruct the Player to adjust the seat before playing the game. Playing the game in a forcible posture can cause a contingent accident.
- This product is designed for players taller than 130cm and shorter than 210cm. To avoid accidents, instruct the customers who do not meet the height requirements to refrain from playing the game.

4. NAME OF PARTS

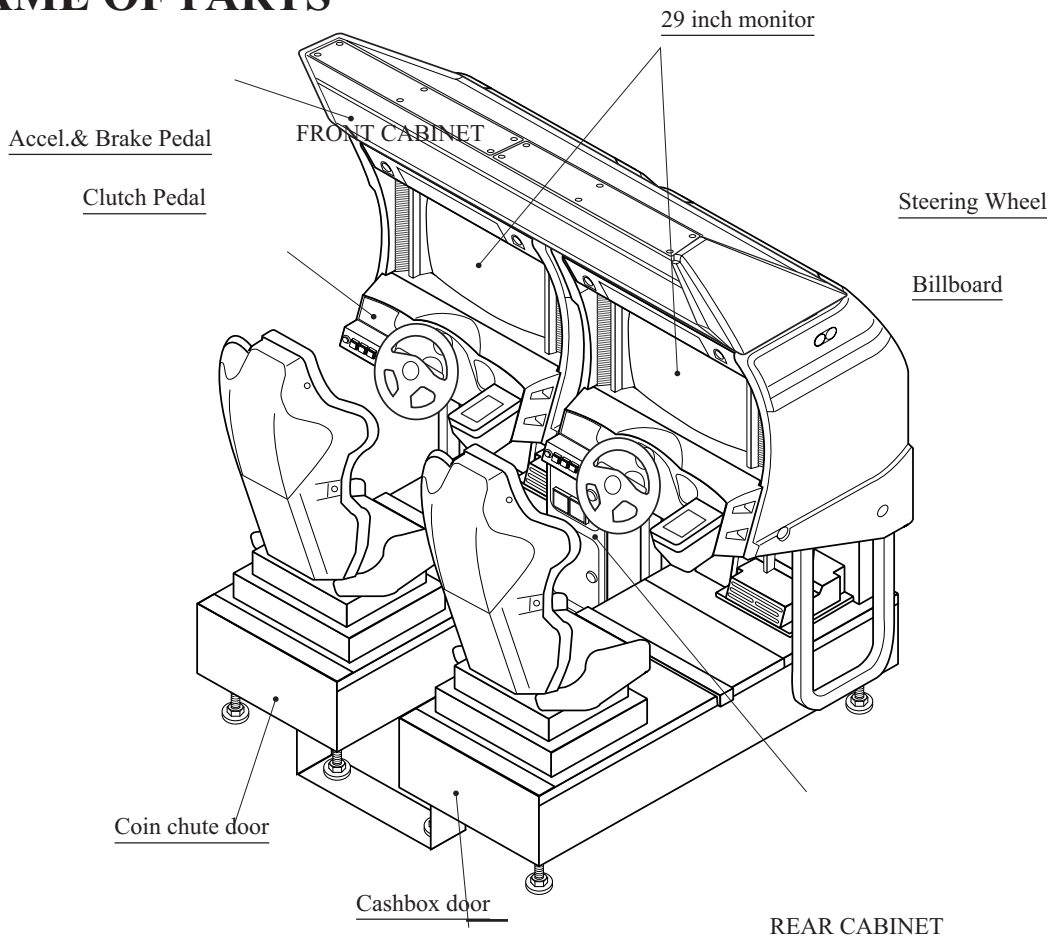


FIG. 4 a OVERVIEW

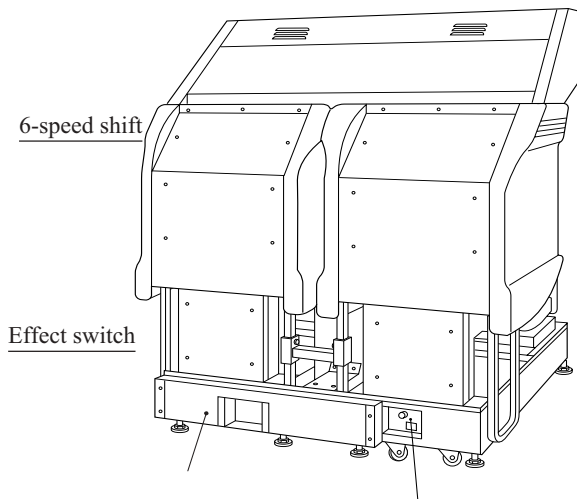


FIG. 4 b

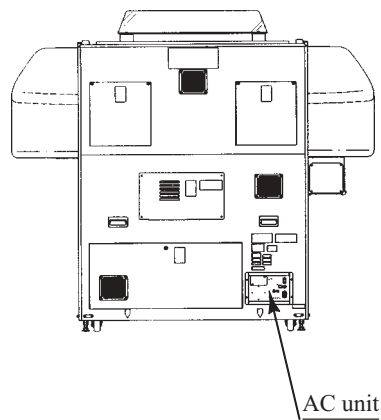


FIG. 4 c REAR VIEW

TABLE 4

| | Width | X | Length | X | Height | Weight |
|----------------|----------|---|----------|---|----------|--------|
| FRONT CABINET | 2,080 mm | X | 780 mm | X | 1,649 mm | 401 kg |
| REAR CABINET | 1,190 mm | X | 1,480 mm | X | 1,649 mm | 187 kg |
| When assembled | 2,080 mm | X | 2,260 mm | X | 1,833 mm | 598 kg |

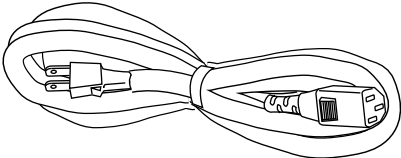
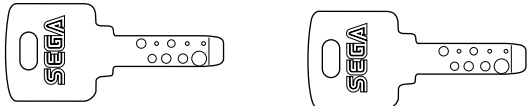
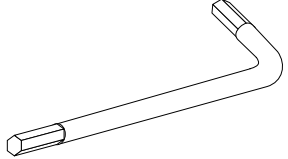
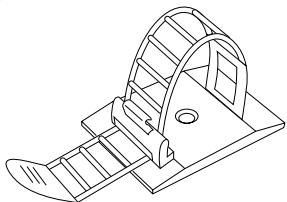
5. ACCESSORIES

When transporting the machine, make sure that the following parts are supplied.

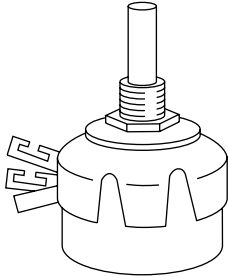
The printer is available in this product as an optional. The printer prints Player's game results on the paper exclusively used for this product. Contact where you purchased the product from and mention the following Kit No. for an order. Detailed installation method is explained in the Kit Manual contained in the Kit.

KIT NO. : XKT-0440-EX1 DESCRIPTION: PRINTER KIT FOR FRI DX EXP

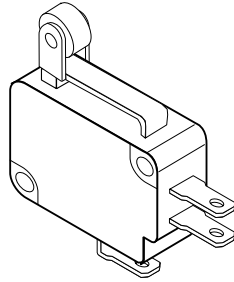
TABLE 5 ACCESSORIES

| DESCRIPTION | OWNERS MANUAL | SERVICE MANUAL |
|---|------------------|---|
| Part No.(Qty.) | 420-6507-01(1) | 420-6508-01(1) |
| Note | | |
| Figures | | |
| If Part No. has no description, the Number has not been registered or can not be registered. Such a part may not be obtainable even if the customer desires to purchase it. Therefore, ensure that the part is in safekeeping with you. | | |
| AC Cable (Power Cord) 600-6729 (1) AC 110V AREA 600-6695 (1) AC 120V AREA 600-6618 (1) AC 220 ~ 240V AREA Used for installation, see 4 of Section 6. | | KEY MASTER 220-5576 (2) For opening/closing the doors |
|  | | KEY (2) For the CASHBOX DOOR |
| | |  |
| | | TAMPERPROOF†WRENCH M8 540-0009-01 (1) TOOL |
| | |  |
| CORD CLAMP 280-5009-01 (1) Used for securing the power cord. see 4 of Section 6. | | |
| | |  |

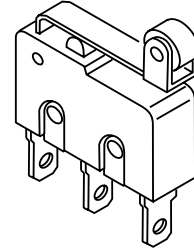
VOL CONT B-5K OHM
220-5484
220-5373 (1)
Spare,
see Section 9, 11, 12.



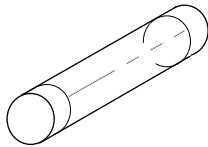
SW MICRO TYPE
509-5387 (2)
Spare, see Section 9.



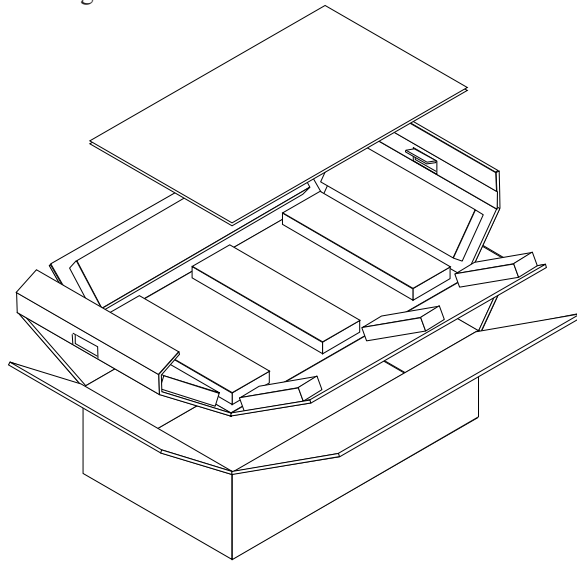
SW MICRO TYPE
509-5636 (2)
Spare, see Section 10.



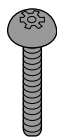
FUSE 6.3A 250W
514-5086-6300 (1)
Spare, see Section 17.



CARTON BOX
601-10577 (1)
Used for transporting the
Game Board.
Refer to Next Page.



TAMPERPROOF†SCREW
008-B00830-0B (2)
Used for installing
BILLBOARD.
see 2 of Section 6.

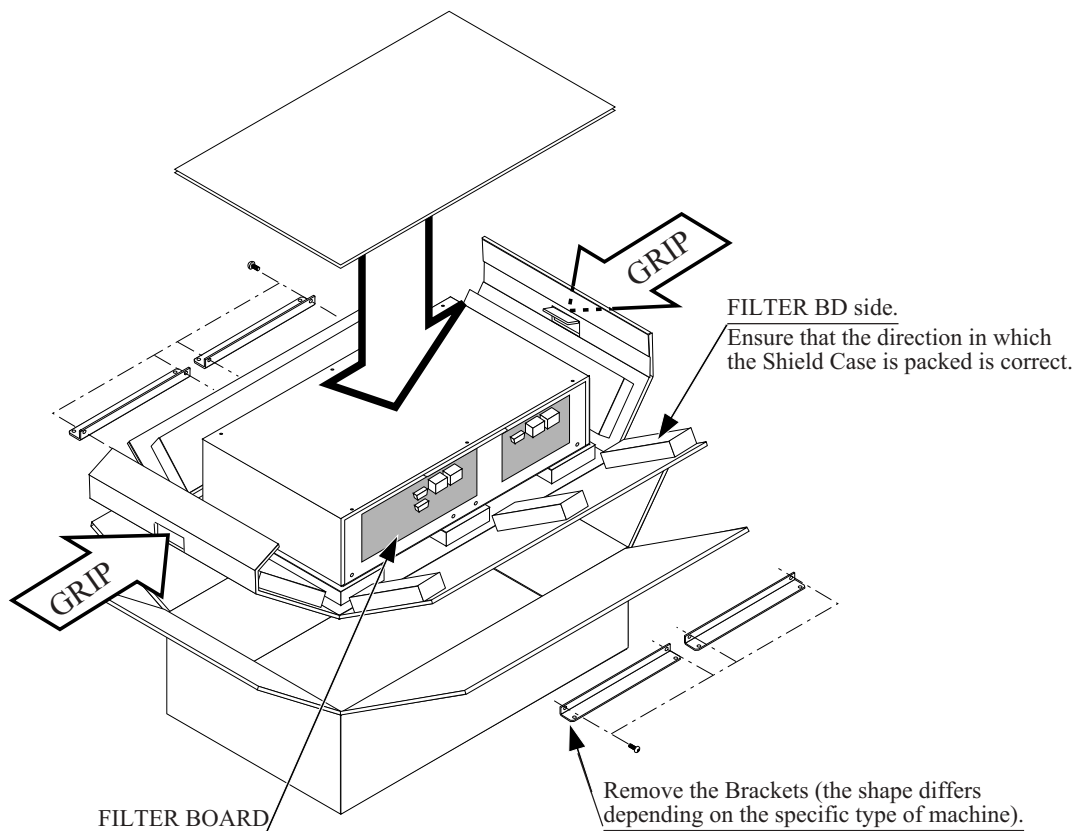


HOW TO USE THE CARTON BOX



When requesting for the replacement/repair of this product's Game Board (NAOMI BOARD), follow the instructions below. Transporting the Game Board in an undesignated status is unacceptable. An erroneous handling can cause parts damage.

- Put the Game Board in the Carton Box together with the Shield Case. Do not unnecessarily disassemble nor remove parts.
- By paying careful attention to the direction shown by the following Figure, put the Shield Case in the Carton Box.



Enfold the Shield Case with the packing material shown, and put it in the carton box. Positioning the Shield Case upside down or packing in the manner different from what is shown in this Figure can cause the Game Board and other parts to be damaged.

6. ASSEMBLING AND INSTALLATION



WARNING!

- Perform assembly work by following the procedure herein stated. Failing to comply with the instructions can cause electric shock hazard.
- Perform assembling as per this manual. Since this is a complex machine, erroneous assembling can cause an electric shock, machine damage and or not functioning as per specified performance.
- When assembling, be sure to use plural persons. Depending on the assembly work, there are some cases in which working by one person alone can cause personal injury or parts damage.
- Ensure that connectors are accurately connected. Incomplete connections can cause electric shock hazard.
- Be careful so as not to damage wirings. Damaged wiring can cause electric shock and short circuit hazards.
- In the case the cabinet is separated into the front and rear portions, do not push the upper rear part of the front cabinet. Failure to observe this causes the front cabinet to fall down towards the monitor side and result in accidents and injury to persons. When moving the front cabinet in the above case, be sure to push it from side directions and move it by 2 or more persons for safety.
- This work should be performed by the Location's Maintenance Man or Serviceman. Performing work by non-technical personnel can cause a severe accident such as electric shock. Failing to comply with this instruction can cause a severe accident such as electric shock to the player during operation.
- Provide sufficient space so that assembling can be performed. Performing work in places with narrow space or low ceiling may cause an accident and assembly work to be difficult.



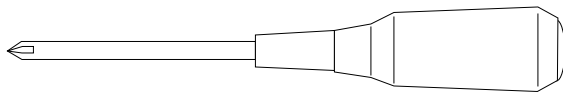
CAUTION!

When handling plastic parts, use care. Do not give a shock or apply excessive load to the fluorescent lamps and plastic parts. Failure to observe this can cause parts damage, resulting in injury due to fragments, cracks and broken pieces.

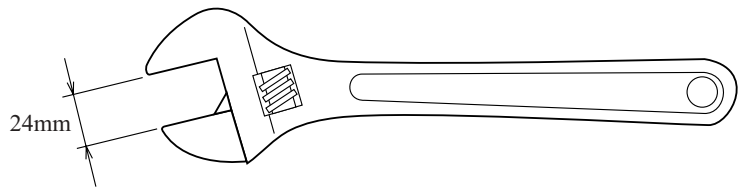
When carrying out the assembling and installation, follow the following 6-item sequence.

- 1 ASSEMBLING THE CABINET
- 2 INSTALLING THE CENTER ROOF AND THE BILLBOARD
- 3 SECURING IN PLACE (ADJUSTER ADJUSTMENT)
- 4 POWER SUPPLY CONNECTION
- 5 TURNING POWER ON
- 6 ASSEMBLING CHECK

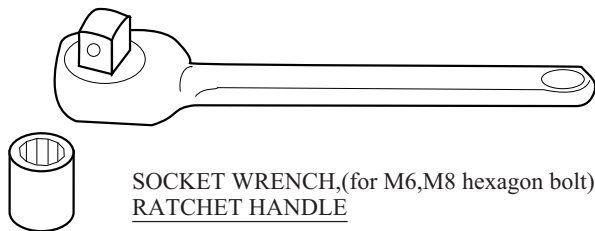
The master key (accessories) in addition to the tools such as a Phillips type screwdriver, wrench for M16 hexagon bolt, socket wrench, Ratchet Handle for M6, M8 hexagon bolt, Tamperproof†wrench (accessories) are required for the assembly work.



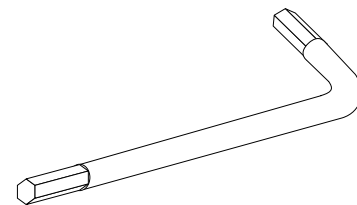
Phillips type screwdriver



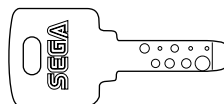
WRENCH (for M16 hexagon bolt)



SOCKET WRENCH,(for M6,M8 hexagon bolt)
RATCHET HANDLE



TAMPERPROOF†WRENCH

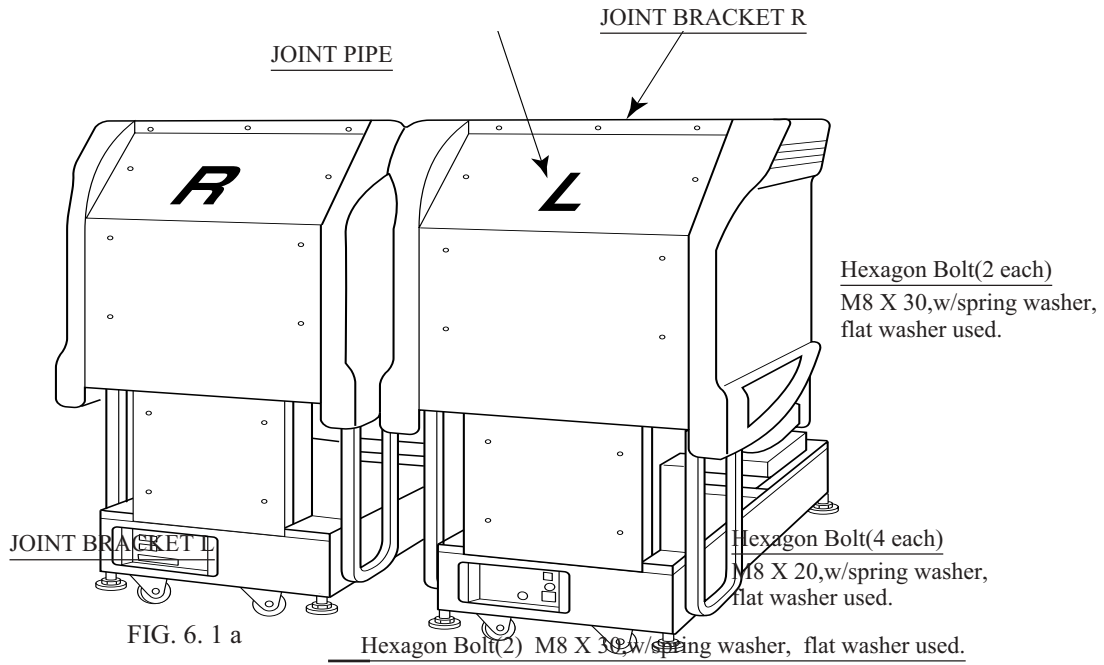


KEY MASTER

1

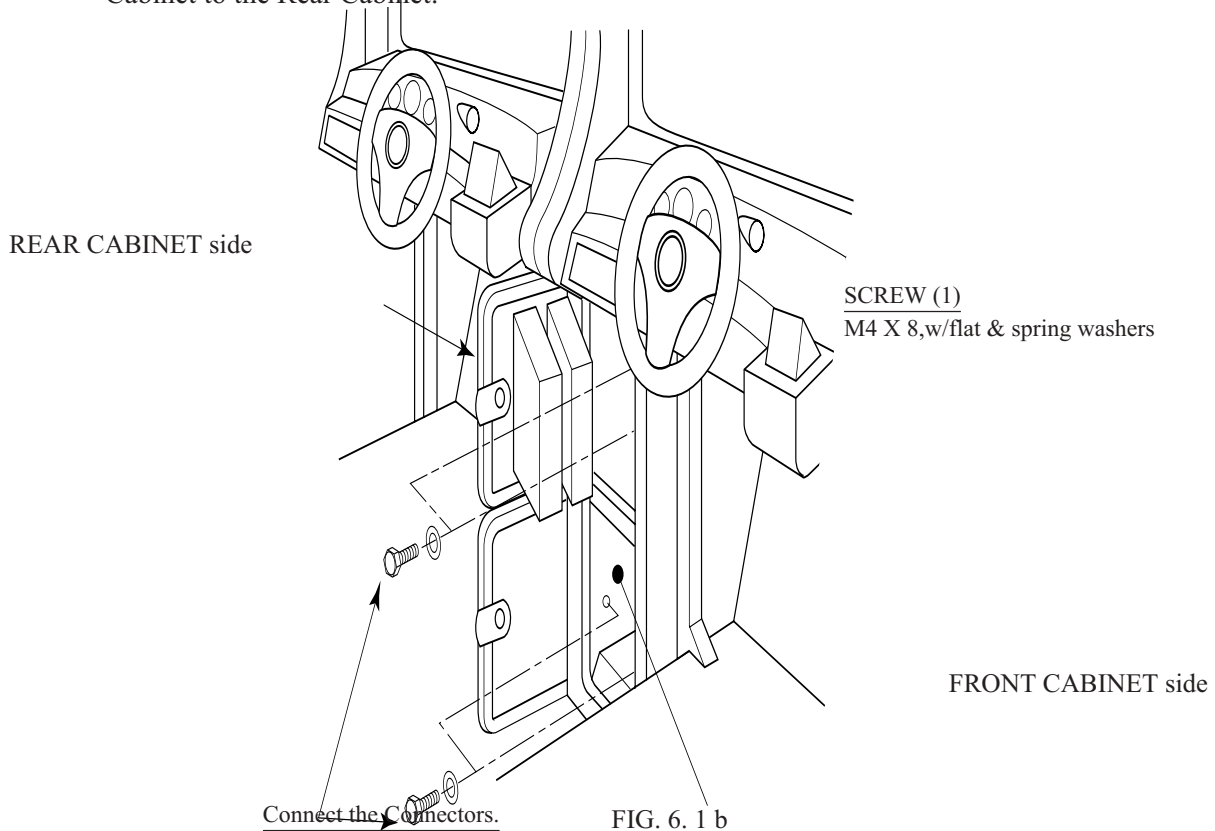
ASSEMBLING THE CABINET

- ① Install the Joint Bracket L and 2 Joint Bracket R to the both sides of Front Cabinet, and 2 Joint Pipes to the inside. At this time, temporarily install the Joint Brackets L and R.



- ② Connect the wiring from the Front Cabinet to the Rear Cabinet.

Connect the Earth.



- ③ Insert the Front Cabinet's Joint pipes into the Rear Cabinet's square holes to fit both cabinets tight. Be sure to perform this work by 2 or more workers. Also, be careful so as not to pinch the wiring.
- ④ Secure the joint portion of the Cabinets with 6 Hexagon Bolts. Firmly secure the Joint Brackets L&R, respectively.
- ⑤ By using Joint Plate Center, secure the joint portion of the Cabinets with 4 Truss screws and Hexagon Bolts.

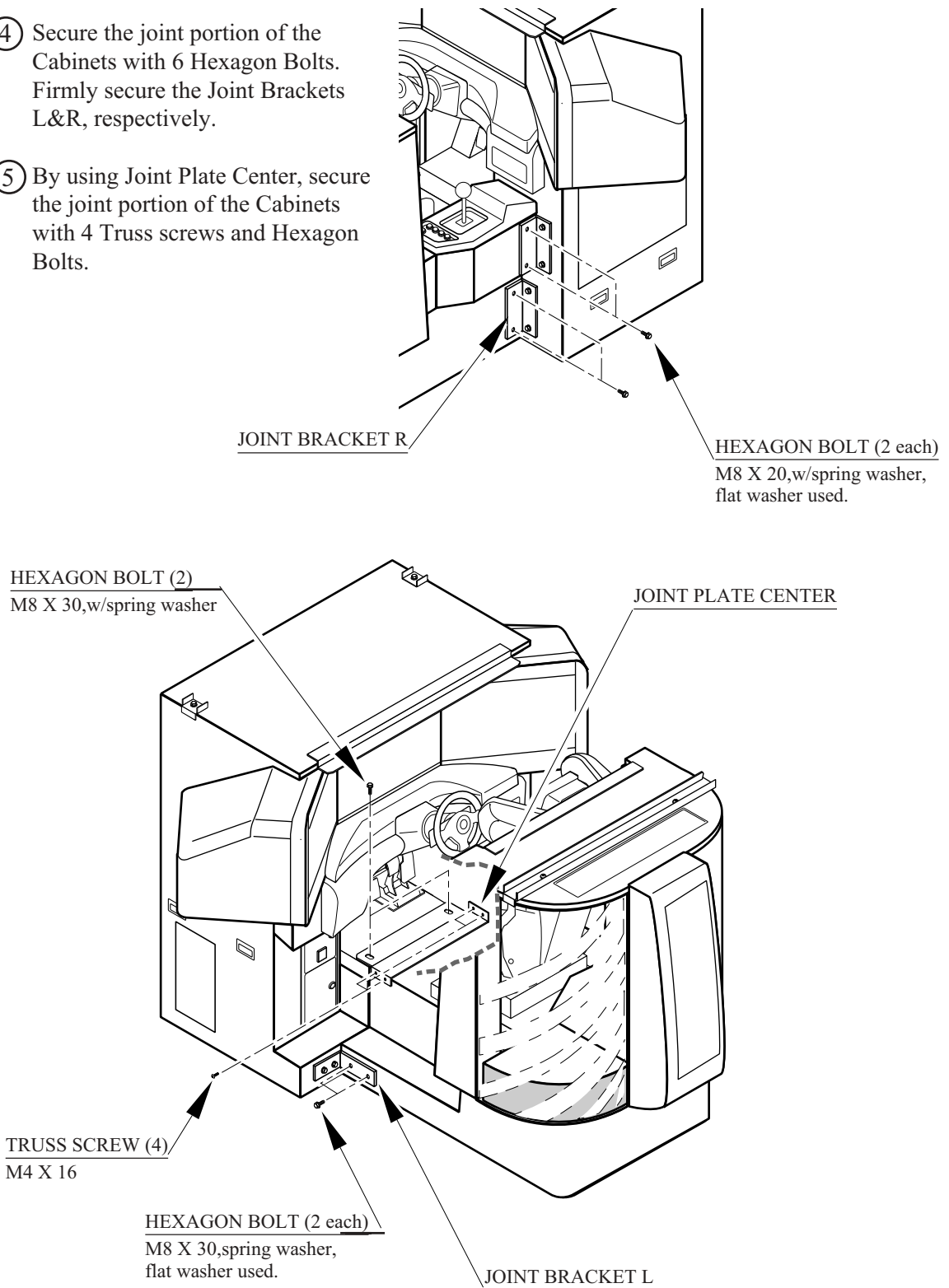


FIG. 6. 1 c

2

INSTALLING THE CENTER ROOF AND THE BILLBOARD

- ① Put the Center Roof on its installation position.
- ② Put each of Roof Nut Plates F & R on to the fixed portion of the Center Roof front and rear and secure with 3 Truss screws for each.
- ③ Remove the Shipping Bracket Rear from the Rear Cabinet's ceiling. Remove the 2 pairs of Tamperproof screws and Hexagon Bolts.
- ④ Secure the Billboard with the 2 Tamperproof screws (separately packed) and the 2 flat washers which previously secured the Shipping Bracket Rear.

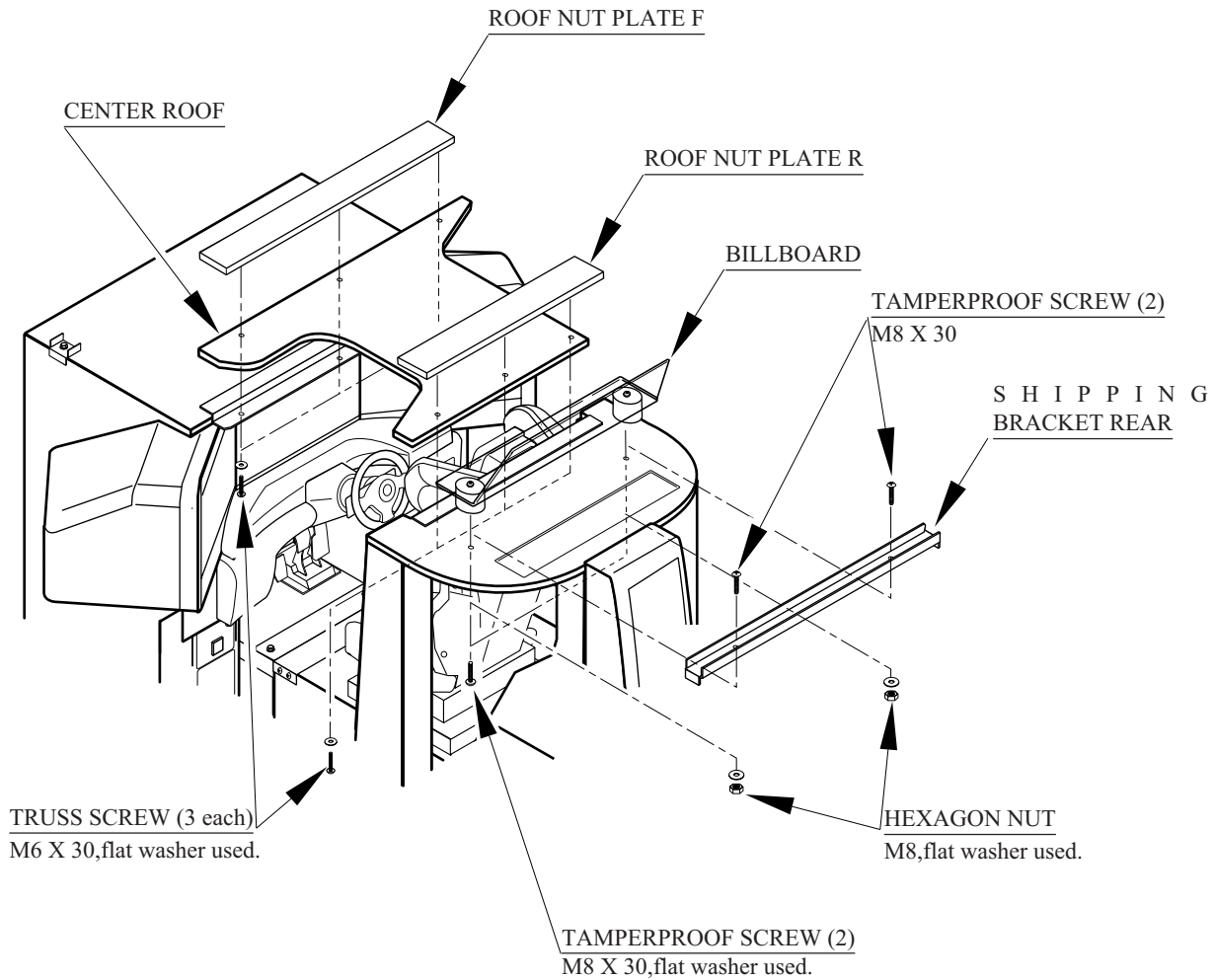


FIG. 6. 2

3

SECURING IN PLACE (ADJUSTER ADJUSTMENT)



Make sure that all of the adjusters are in contact with the floor. If they are not, the cabinet can move and cause an accident.

This product has 8 casters (4 for Front Cabinet, 4 for Rear Cabinet) and 8 Adjusters (4 for Front Cabinet, 4 for Rear Cabinet). (FIG. 6. 3a) 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 Transport the product to the installation position. Be sure to provide adequate space allowing the player to get on and off.
- ② Have all of the Adjusters make contact with the floor. Adjust the Adjuster's height by using a wrench so that the machine position is kept level.
- ③ After making adjustment, fasten the Adjuster Nut upward and secure the height of Adjuster (FIG. 6. 3 b).

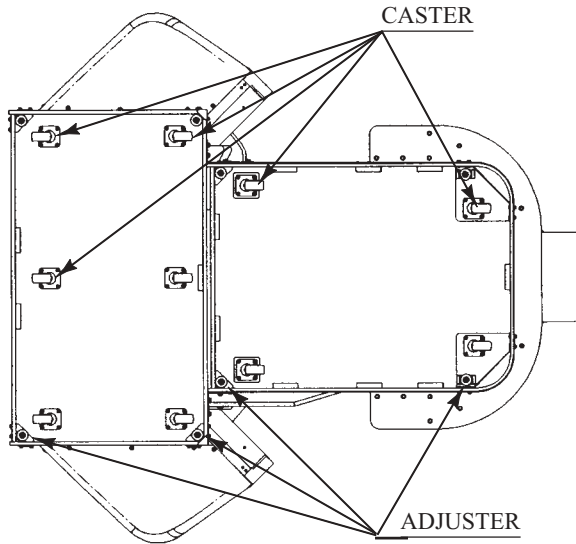


FIG. 6. 3 a BOTTOM VIEW

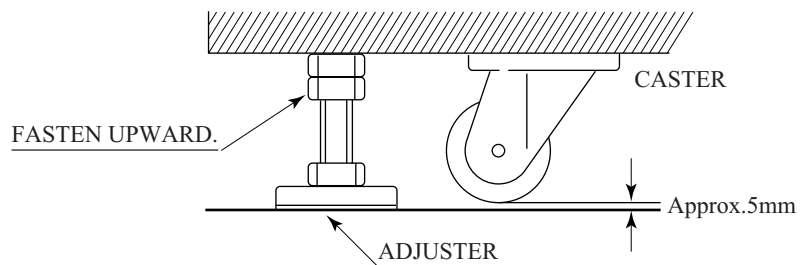
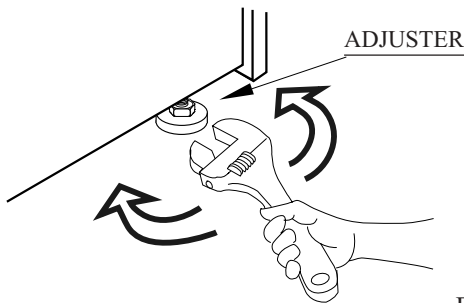


FIG. 6. 3 b ADJUSTER

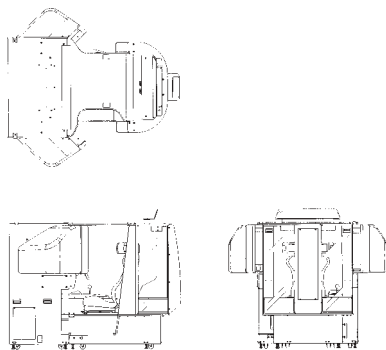


FIG. 6. 3 c
Refer to this Fig. (Scale:1/100) for the layout of the place of installation.

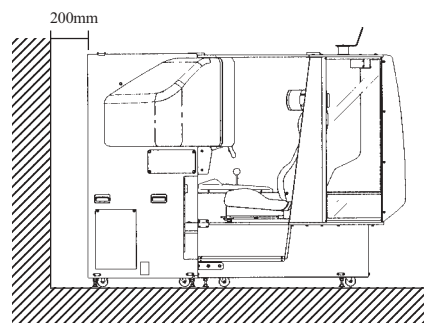


FIG. 6. 3 d
Be sure to provide space as shown between the Air Vent and the wall surface.



POWER SUPPLY, AND EARTH CONNECTION



- Be sure to independently use the power supply socket outlet equipped with an Earth Leakage Breaker. Using a power supply without an Earth Leakage Breaker can cause a fire when electric leakage occurs.
- Ensure that the "accurately grounded indoor earth terminal" and the earth wire cable are available (except in the case where a power cord plug with earth is used). This product is equipped with the earth terminal. Connect the earth terminal and the indoor earth terminal with the prepared cable. If the grounding work is not performed appropriately, customers can be subjected to an electric shock, and the product's functioning may not be stable.
- Ensure that the power cord and earth wire are not exposed on the surface (passage, etc.). If exposed, they can be caught and are susceptible to damage. If damaged, the cord and wire can cause electric shock and short circuit accidents. Ensure that the wiring position is not in the customer's passage way or the wiring has protective covering.
- After wiring power cord on the floor, be sure to protect the power cord. Exposed power cord is susceptible to damage and causes an electric shock accident.

The AC Unit is mounted on the rear of the machine. The AC Unit has Main SW, Circuit Protector and the Inlet which connects the Power Cord.

- ① Ensure that the Main SW is OFF.

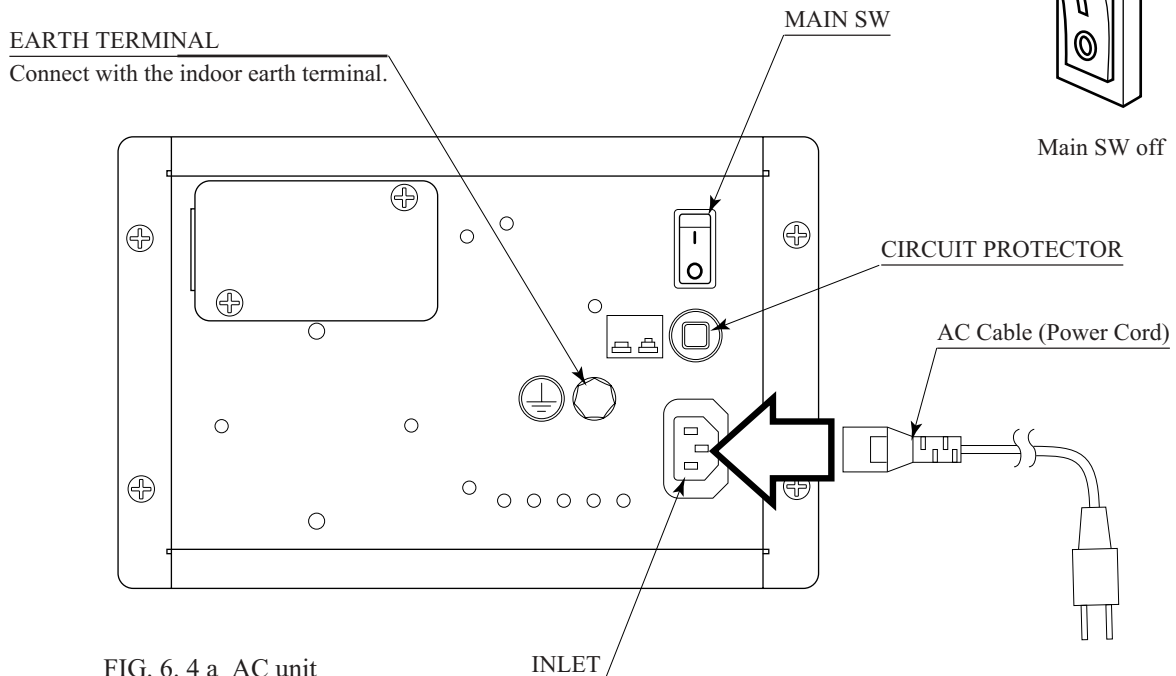
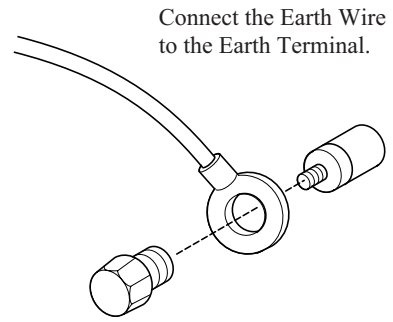


FIG. 6. 4 a AC unit

INLET

- ② Connect one end of the earth wire to the AC Unit earth terminal, and the other end to the indoor earth terminal. The AC Unit earth terminal has a Bolt and Nut combination. Take off the Nut, pass the end of earth wire through the Bolt, and fasten the Nut.

Note that the Earth Wire is incorporated in the Power Cord for the Areas of AC 120V (USA) and AC 220Å'240V, and therefore, this procedure is not necessary.



Connect the Earth Wire to the Earth Terminal.

FIG. 6. 4 b Earth Wire Connection

- ③ Firmly insert the power plug into the socket outlet. Insert the opposite side of Power Cord plug to the AC Unit's connector ("INLET").

- ④ Perform wiring for the Power Cord and Earth Wire. Install protective covering for the Power Cord and Earth Wire.

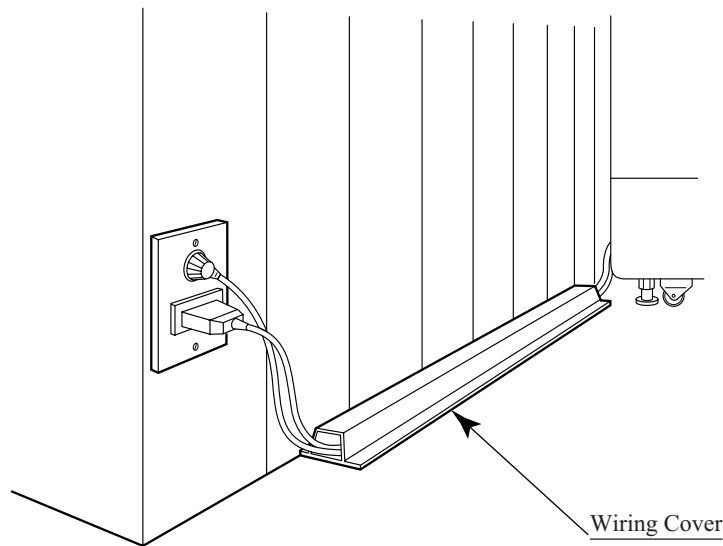
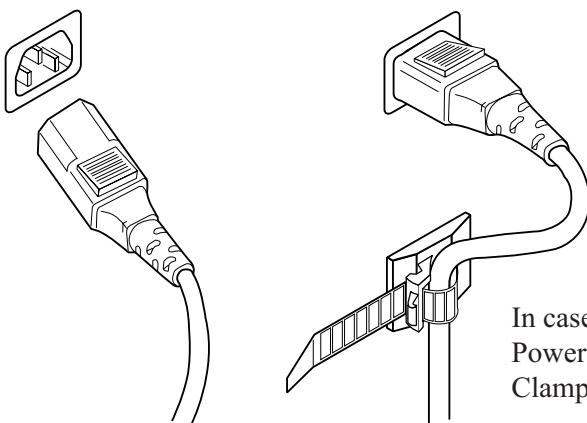


FIG. 6. 4 c Connecting Power Cord and Earth Wire



In case the Power Plug is apt to come out of place, secure the Power Cord to the periphery of the AC Unit with the Cord Clamp (an accessory).

HOW TO USE THE CORD CLAMP

5

TURNING POWER ON

Turn the Main SW of AC Unit ON to turn power on. When the power is turned on, the fluorescent lamps of the left & right of Seat in the Rear cabinet, the back, and the inside the Billboard light up. The screen displays the starting of Naomi System and then proceeds to ADVERTISE mode. During this time, the machine automatically performs Power On check. Do not touch the machine until Power On check is finished and ADVERTISE mode is displayed on the screen. In the Power On check, the steering wheel turns left and right, then returns to the centering position and stops. In this check, the values of V.R. inside the control panel are corrected. Until the check is finished (the steering wheel stops automatically), do not touch the steering wheel or play the game. If you do, the steering wheel reaction during the game (reaction at the time of a course-out or crashing) can not be obtained correctly. In case of an abnormal reaction during the game, turn the power on again from the beginning and complete the power-on check. In this product, once the power is turned off, the data of inserted coins less than one credit and BONUS ADDER is cleared. As the exclusively used paper is not supplied to the Printer at the time of shipment, the message "Printer unavailable" is displayed on the Advertise screen and the 2 red Lamps of the Rear Cabinet back side light up.

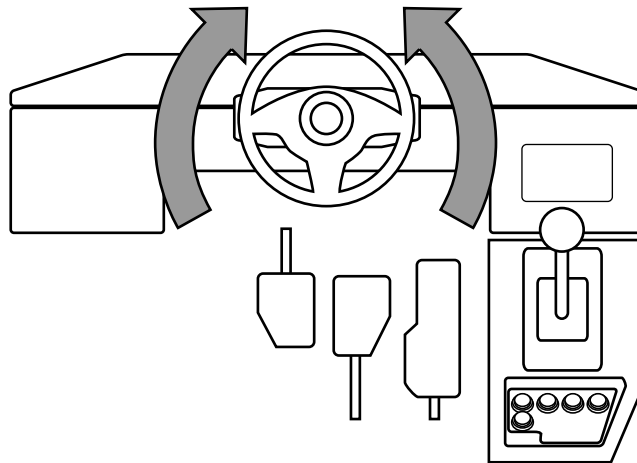


FIG. 6. 5



ASSEMBLING CHECK

In the TEST mode, ascertain that the assembly has been made correctly, IC BD. is satisfactory, and the screen adjustment is appropriate. For details, refer to the SERVICE MANUAL. In the test mode, perform the following test:

- MEMORY TEST
The on-board memory is tested automatically.
- CRT TEST
The screen on which the monitor is adjusted is displayed.
- INPUT TEST
Each switch and V.R. are tested.
- OUTPUT TEST
The lamp, motor, etc. are tested.
- SOUND TEST
The sound related BD and wiring connections are tested. Be sure to check if the sound is satisfactorily emitted from each speaker and the sound volume is appropriate.

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

7. PRINTER (OPTIONAL)

Refer to this section only when the Printer (optional) is attached.



- Be sure to turn off power unless otherwise specified before performing work. Performing work on the energized machine can cause hands or fingers to be pinched in or injured due to the machine's sudden move.
- Do not touch undesignated places. Failure to observe this may cause a burn due to the Head's high temperature when printing.
- When performing work that uses the cutter, be very careful so as not to cut hands or fingers.



- Be sure to use the exclusively used paper and a Cleaning Pen. Using unspecified parts can cause malfunctioning and/or a damage to parts.
- Be sure to use the new roll paper unwrapped immediately before the use. Using the roll paper previously unwrapped and left for a while can cause malfunctioning due to deterioration resulted from humidity.
- When setting the paper with the power on, if the paper volume is small, the Printer might not accept the set roll paper. In that case, follow the "SETTING THE PAPER WITH THE POWER OFF" procedures to set the paper.

When the Printer is malfunctioning, the 2 Error Lamps attached to the Rear Cabinet back side flash or light up. The Lamps flash when the paper is exhausted and light up when the trouble is other than the running out of paper.

When placing an order, contact where you purchased the product or the Printer Kit from in stating the following part number and the description.

The following set (Part Number: 601-10735-01) consists of 4 rolls of exclusively used paper and a Cleaning Pen.

PART NUMBER: 601-10735-01 DESCRIPTION: PAPER FOR F355 ENG

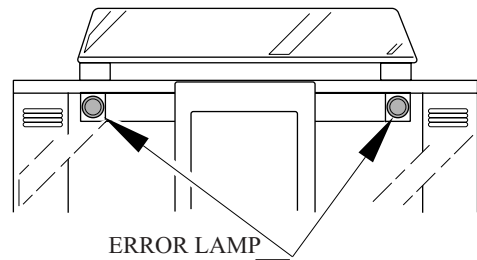


FIG. 7

7 - 1 OPERATION WITH THE PRINTER ATTACHED

The Printer which prints Player's Driving Data and the GAME BOARD do not keep the data to be printed. When "PRINTING CAN NOT BE DONE" is displayed or the PRINTER is set to OFF in the Test mode, printing can not be done as the product does not have such system as printing out the data at a later operation. Therefore, as for the printing, instruct the Player to pay attention to the following.

- Although YES is selected to the "PRINT OUT?" question displayed on the monitor, printing can not be done if a credit worth coin is not inserted within the time limit. Such credit (coin) as inserted after the time limit is regarded as a game play credit.
- If the Printer malfunctions such as a paper jam occurred during printing, the printing for the Driving Data can not be done as neither the Printer nor the ROMs on the GAME BOARD keeps the data.
- When "PRINTING CAN NOT BE DONE" is displayed or the PRINTER is set to OFF in the Test mode, printing can not be done as the product does not have such system as printing out the data at a later execution.

DIP SW SETTING

The Printer has 2 DIP Switches. To avoid malfunctioning, use the Switches as adjusted at the time of shipment.

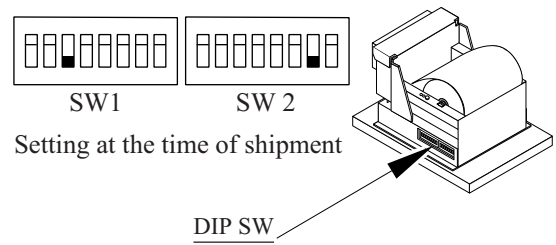


FIG. 7. 1

7-2 SETTING THE ROLL PAPER

The 2 red Lamps at the Rear Cabinet back side flash indicating the PAPER END Error under normal operation. Prepare the new Roll Paper exclusively used for the product and the Master Key. To set the Roll Paper, perform Printer's initialization to remove the cause of the error. Turn off power or enter into the Test Mode to perform the initialization. Explanations for setting the Roll Paper in cases of power on and off are given as follows. Further, when the Roll Paper is set after the Printer Kit is installed, performing work with the power off is necessary as the power is turned off when installing the Kit. The Roll Paper has Marks indicating position in order to print and cut properly. The Mark indicating the end of paper appears at the end of Roll Paper. The Printer's Sensor detects the Mark and interprets it as the end of Roll Paper. At the beginning of Cabinet's installation, the red Lamps light up as the Mark indicating the end of Paper is not detected.

SETTING THE PAPER WITH THE POWER ON

- ① Enter into the TEST Mode and have PRINTER TEST screen displayed on the monitor. "ERROR!!" next to the MESSAGE and "PAPER END" next to the WARNING are displayed on the monitor.

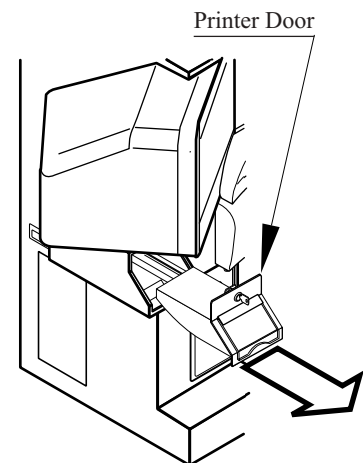
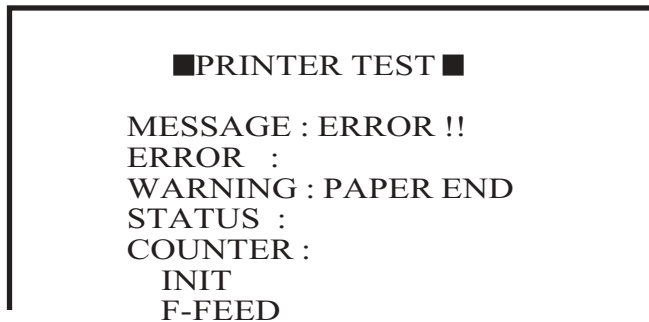


FIG. 7. 2 a

- ② Unlock with the Master Key and remove the Printer Door.
- ③ Draw the ASSY Printer toward you.

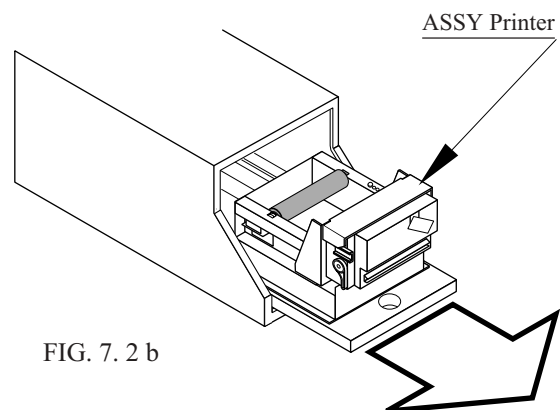


FIG. 7. 2 b

- ④ Pull up the Head Up Lever.
- ⑤ Take out the roll shaft from the Printer.
- ⑥ Pass the shaft through the core of the new Roll Paper.
- ⑦ Install the roll shaft in which the paper is inserted into the unit. Make sure to put the Roll Paper on to the correct position.

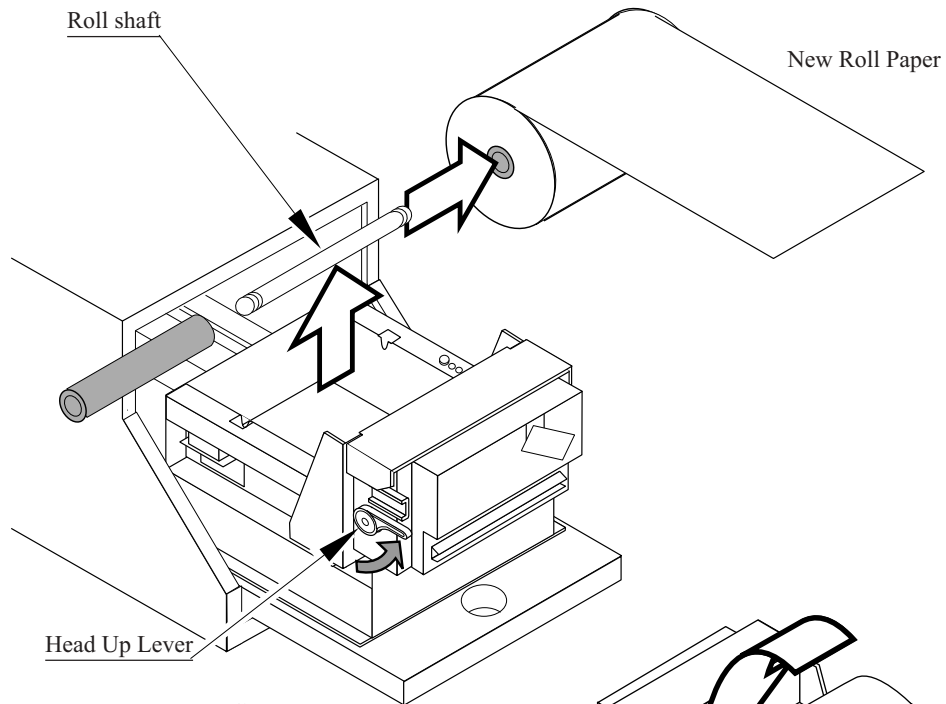


FIG. 7.2 c

- ⑧ Insert the paper tip in to the roll paper insertion slot. Feed the Roll Paper tip through the exit slot straight by hand. At this time, if the Paper tip comes out in excess of the exit slot, Printer performs automatic feeding and cuts the Paper after feeding about one page long.

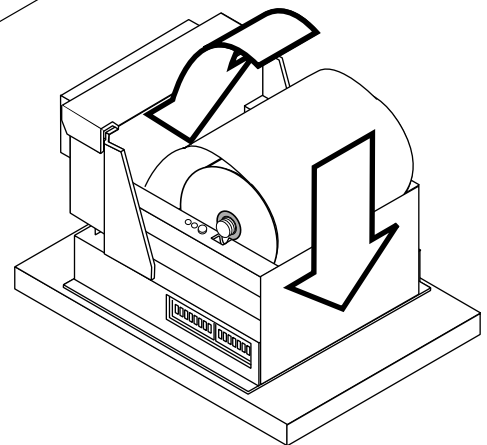


FIG. 7.2 d

- ⑨ Push down the Head Up Lever.

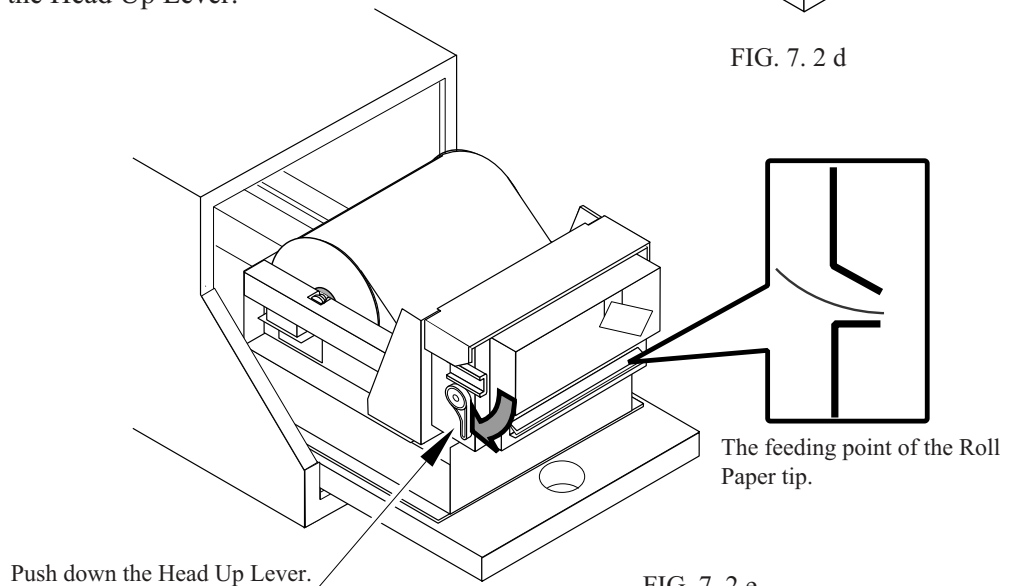


FIG. 7.2 e

- ⑩ Select and execute the INIT in the PRINTER TEST. The "PRINTER INIT!!" message flashes next to "MESSAGE" on the monitor and then goes off. The Printer's initialization is finished.
- ⑪ Select and execute the "POSITION SET." "NOW PRINTING" message is displayed next to the "MESSAGE" on the monitor and then goes off. The Printer starts automatic feeding of the paper (AUTO LOADING) and then cuts the paper automatically. If the Paper tip position is appropriate, the automatic feeding's movement is slight and the paper cutting may not be done. Before executing the POSITION SET, the paper position can be adjusted by executing F-FEED or B-FEED in the PRINTER TEST mode.

■PRINTER TEST ■

MESSAGE : PRINTER INIT!
 ERROR :
 WARNING :
 STATUS :
 COUNTER :
 -> INIT
 F-FEED
 B-FEED
 POSITION SET

■PRINTER TEST ■

MESSAGE : NOW PRINT-
 ING
 ERROR :
 WARNING :
 STATUS :
 COUNTER :
 INIT
 F-FEED
 B-FEED
 -> POSITION SET

- ⑫ Exit from the TEST Mode.
- ⑬ Push the ASSY PRINTER up to the point the PRINTER reaches the Securing Part in the innermost of the unit.
- ⑭ Lock the Printer Door to secure.

In case that the paper tip comes out in excess of the exit slot, Paper is cut after Printer feeds Paper one page long.

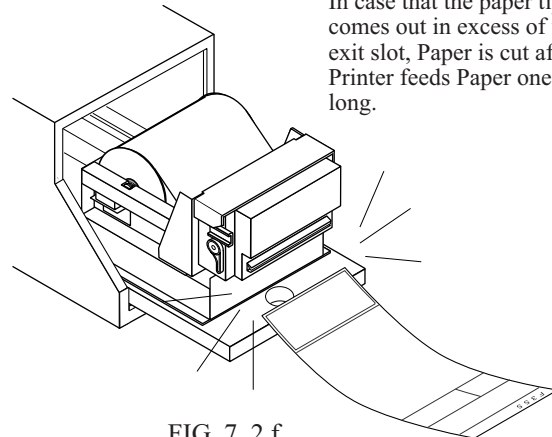


FIG. 7.2 f

SETTING THE PAPER WITH THE POWER OFF

- ① Turn off power.
- ② Unlock with the Master Key and remove the Printer Door.
- ③ Draw the ASSY Printer toward you.
- ④ Pull up the Head Up Lever.
- ⑤ Take out the roll shaft from the Printer.
- ⑥ Pass the shaft through the core of the new Roll Paper.
- ⑦ Install the roll shaft in which the paper is inserted into the unit. Make sure to put the Roll Paper on to the correct position.

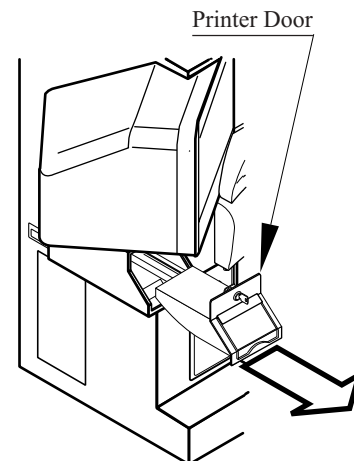
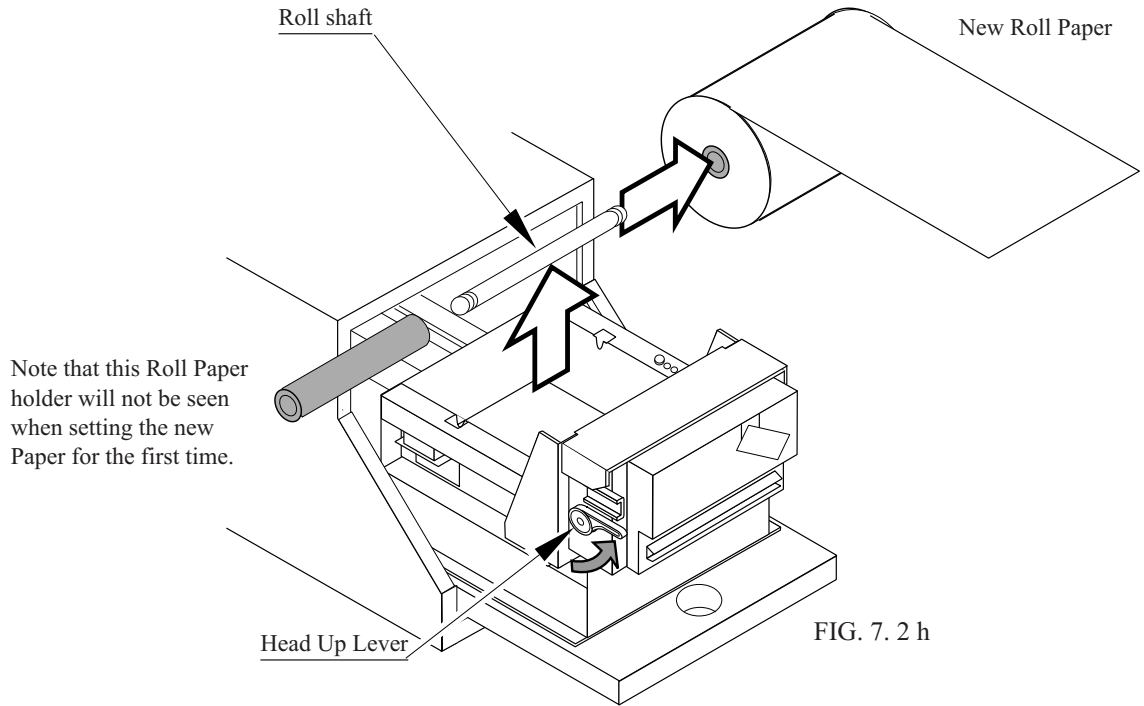
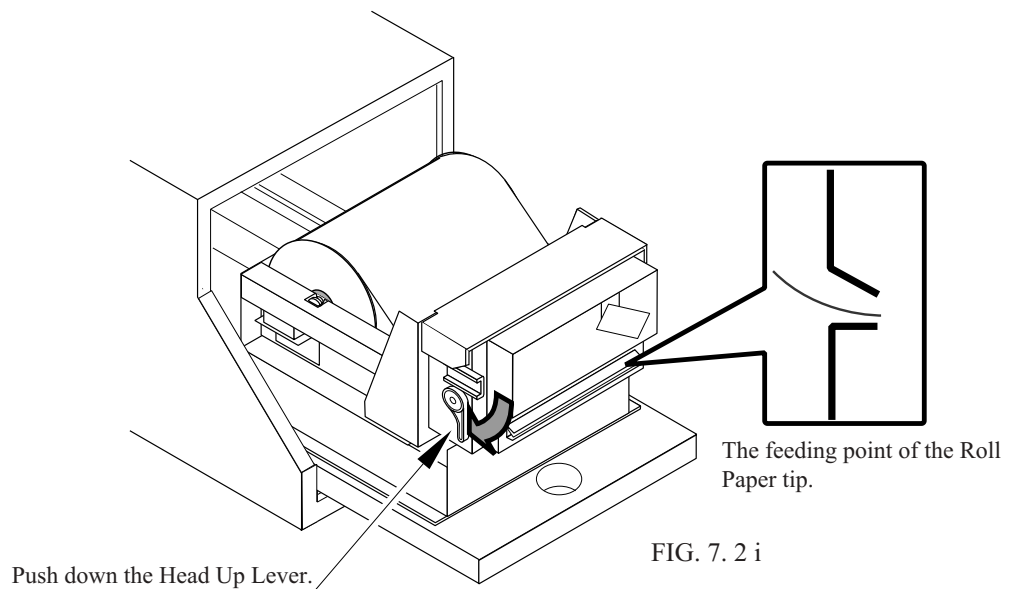


FIG. 7.2 g



- ⑧ Insert the paper tip in to the Roll Paper insertion slot. Feed the Roll Paper tip through the exit slot straight by hand. At this time, if the Paper tip is in excess of the feeding point, the automatic feeding of Paper is performed and the Paper is cut after feeding about one page long.
- ⑨ Push down the Head Up Lever.



- ⑩ Turn on power. The Printer starts automatic feeding of the paper (AUTO LOADING) and then cuts the paper automatically. If the Paper tip position is appropriate as per previous procedure, the automatic feeding's movement is slight and the paper cutting may not be done.
- ⑪ Push the ASSY PRINTER into the point the PRINTER reaches the securing part in the innermost of the unit.
- ⑫ Lock the Printer Door to secure.

7 - 3 CLEANING OF THE PRINTER HEAD

Each time the Roll Paper is supplied, clean the Printer Head. Prepare the cleaning pen which is included in the Print Paper Set exclusively used for this product and a Master Key.

- ① Turn off power.
- ② Unlock with the Master Key and remove the Printer Door.
- ③ Draw the ASSY Printer toward you.
- ④ Push up the Head Up Lever.
- ⑤ Remove the Roll Paper.
- ⑥ Push down the Cutter Lever and open the Auto Cutter.

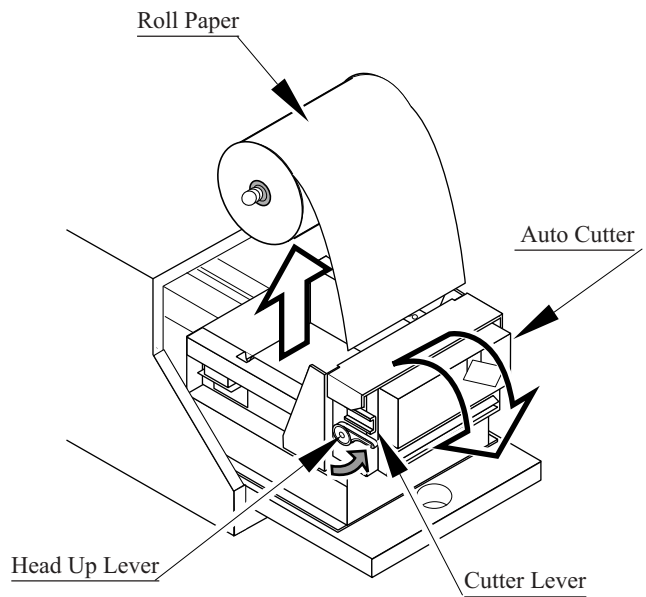


FIG. 7. 3 a

- ⑦ By using the cleaning pen, clean the printer head.

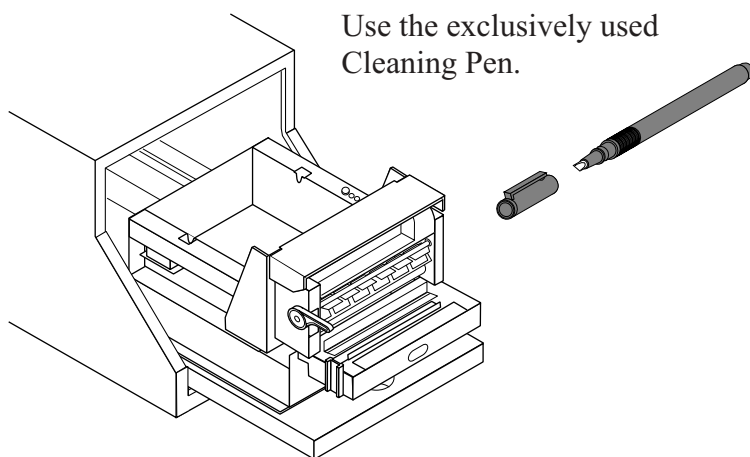


FIG.7. 3 b

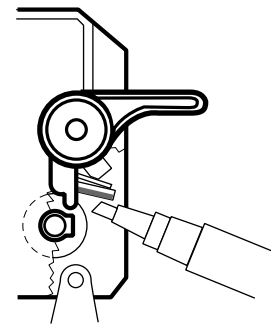


FIG. 7. 3 c

- ⑧ Lift the Auto Cutter and lock.
- ⑨ Set the Roll Paper.
- ⑩ Push down the Head Up Lever and turn on power. The Printer performs automatic feeding and cutting of the paper.
- ⑪ Put the ASSY Printer and lock the printer door to secure.

7 - 4 COUNTERMEASURES AGAINST PAPER JAM

Prepare a Master Key and scissors or a knife for eliminating the warped, wrinkled paper due to paper jam. To perform the following work, turning off power is necessary for 2 reasons. One is that performing work on the energized Cabinet may cause hands and fingers to be injured due to unexpected move of the cutter or the motor. To avoid such an unforeseen accident, be sure to turn off power before performing work. The other reason is that in order to remove the cause of error from the Printer, turning power off is necessary. Be sure to remove the cause of error to make the Printer function properly.

- ① Turn off power.
- ② Unlock with the Master Key and remove the Printer Door.
- ③ Draw the ASSY Printer toward you.
- ④ Pull up the Head Up Lever.
- ⑤ Push down the Cutter Lever and open the Auto Cutter.
- ⑥ Remove the jammed paper.

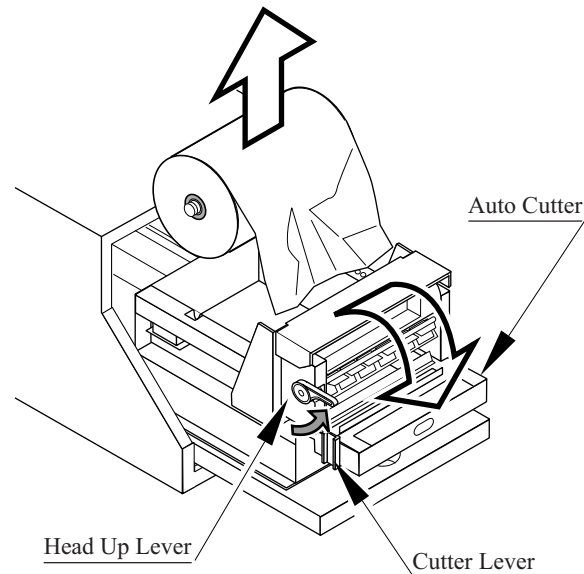


FIG. 7. 4 a

- ⑦ Eliminate the warped, wrinkled paper due to the paper jam. At this time, after eliminating the paper, any portion can come to the tip as the Printer automatically adjusts the Paper position by feeding and cutting the Paper.

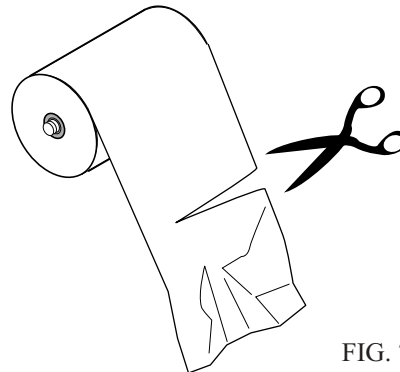


FIG. 7. 4 b

- ⑧ Lift the Auto Cutter and lock.
- ⑨ Insert the paper tip in to the roll paper insertion slot. Feed the Roll Paper tip through the exit slot straight by hand until the paper tip can be seen from the exit slot.
- ⑩ Pull up the Head Up Lever.
- ⑪ Turn on power. The Printer performs automatic feeding (AUTO LOADING) and cutting of the paper.
- ⑫ Put the ASSY Printer and lock the printer door to secure.

8. PRECAUTIONS TO BE HEEDED WHEN MOVING THE MACHINE



WARNING!

- When moving the machine, be sure to unplug the power plug. Moving the machine with the plug as is inserted can damage the power cord and cause fire and electric shock hazards.
- 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 and earth wires. Damaging the power cords can cause electric shock and short circuit hazards.
- When lifting the cabinet, be sure to hold the grip 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.
- In the case the cabinet is separated into the front and rear portions, do not push the upper rear part of the front cabinet. Failure to observe this causes the front cabinet to fall down towards the monitor side and result in accidents and injury to persons. When moving the front cabinet in the above case, be sure to push it from side directions and move it by 2 or more persons for safety.
- Do not insert the fork to places other than designated when using a Forklift to transport the machine.
Failure to observe this could cause falling down and injury resulting from falling down.



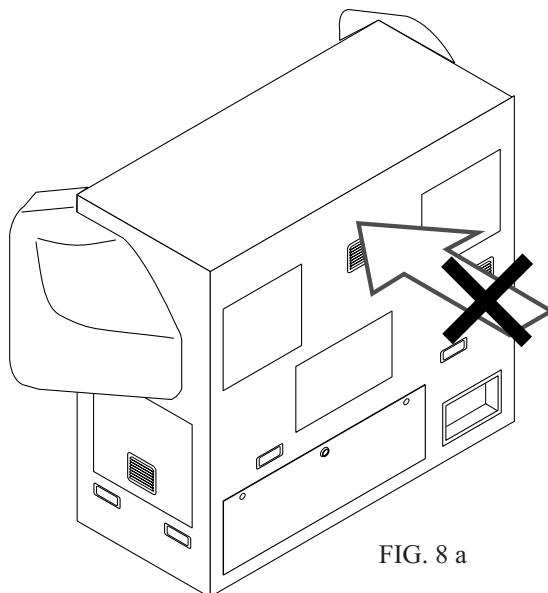
CAUTION!

Do not push glass-made or plastic parts. Failure to observe this may damage parts and cause injury due to fragments resulting from damage.



IMPORTANT!

- When transporting the product in places with steps, disassemble into each unit before transporting. Inclining the product in an as is assembled condition or placing the cabinet in places with steps can damage the unit's joining portions.
- To protect surface, do not directly apply a rope to the surfaces of product. Use protective materials to the places the rope is applied to.



In the case the cabinet is separated into the front and rear portions, do not push the upper rear part of the front cabinet.

FIG. 8 a

When transporting the product in places with steps or step-like differences in grade, disassemble into each unit before transporting.

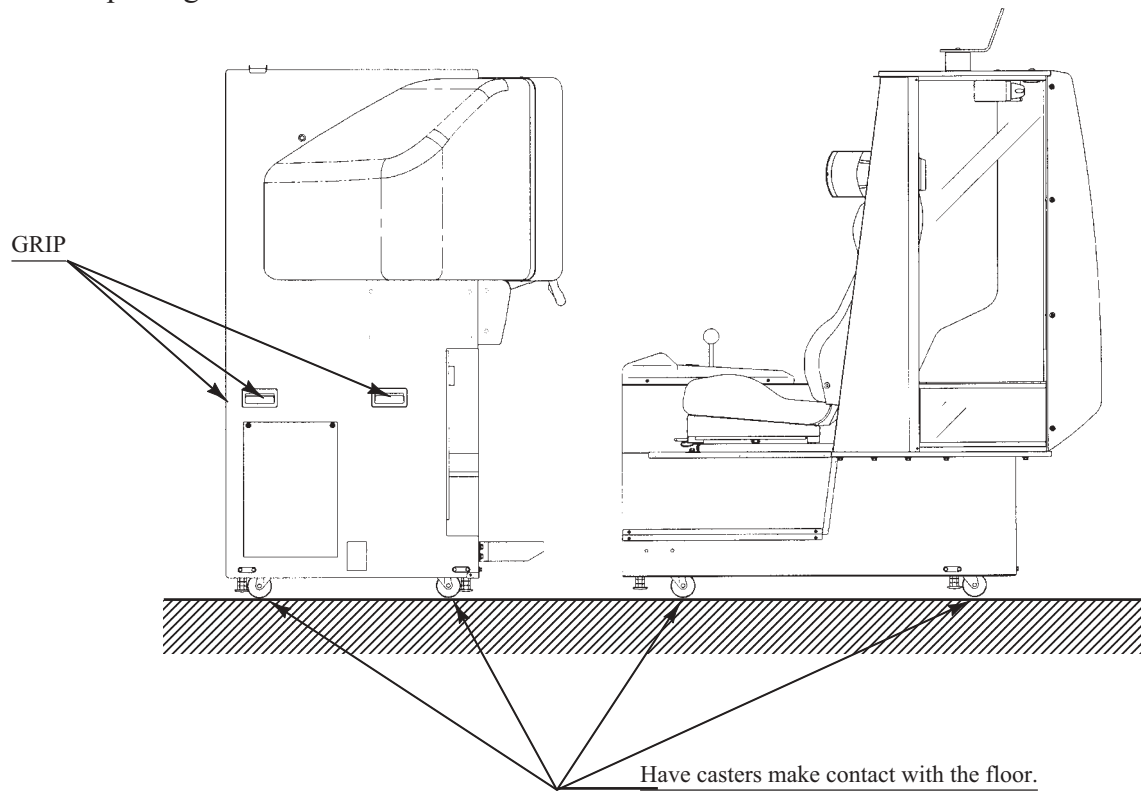
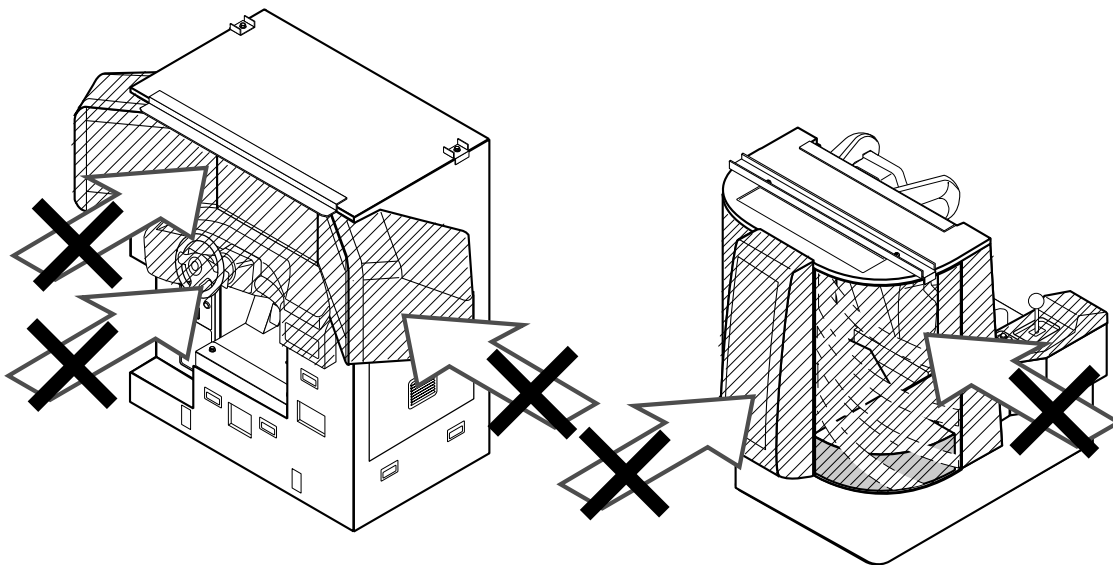


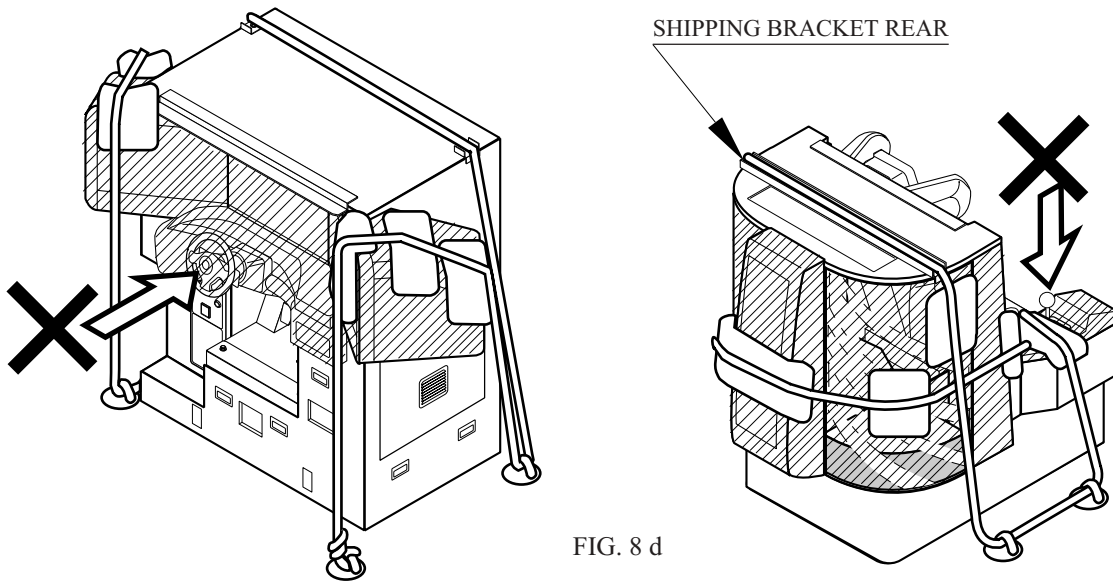
FIG. 8 b



Do not push glass-made or plastic parts.

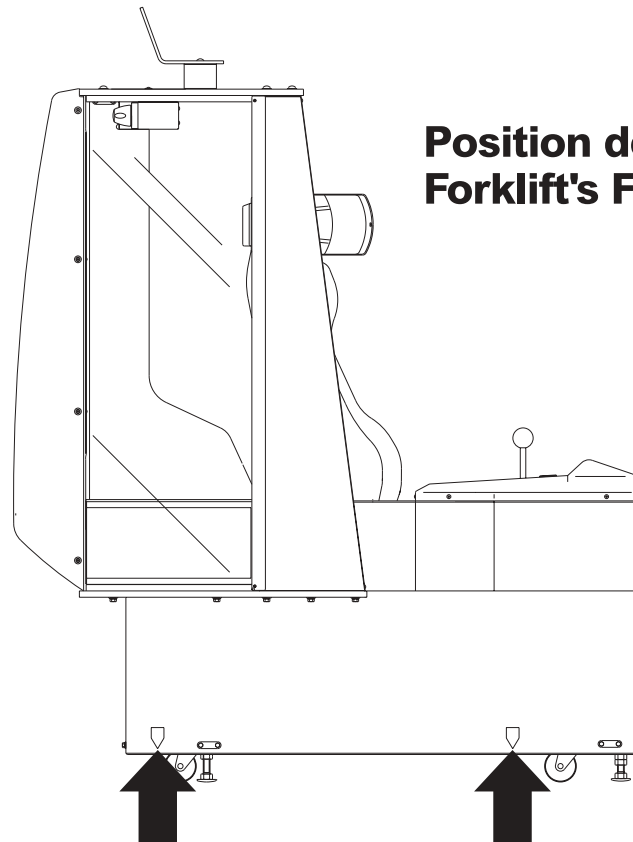
FIG. 8 c

Precautions concerning applying a rope.



- Do not apply a rope to Handle or Lever.
- Use protective materials to the places the rope is applied to.

Caution when transporting the machine



**Position designation of
Forklift's Fork to be inserted.**

フォーク
位置
FORK

FORK INSERTION POSITION STICKER

9. HANDLE MECHA



- Before starting to work, ensure that the Power SW is OFF. Failure to observe this can cause electric shock or short circuit.
- Use care so as not to damage wirings. Damaged wiring can cause electric shock or short circuit.
- Do not touch undesignated places. Touching places not designated can cause electric shock or short circuit.
- This work should be performed by the Location's Maintenance Man or Serviceman. Performing work by non-technical personnel can cause electric shock hazard.
- Do not insert hand into the mechanism so as not to cause hand and fingers pinched in. Failure to observe this can cause a serious injury such as a fracture.
- When performing work such as parts replacement other than those specified in this manual, be sure to contact where you purchased the product from and confirm the work procedures and obtain precautions prior to performing work. Inappropriate parts replacement and/or installing with erroneous adjustment can cause an overload or the parts to come into contact, resulting in an electric shock, a short circuit, and a fire.



IMPORTANT!

When adjusting the Volume, be sure to use 2 workers.

9 - 1 ADJUSTING OR REPLACING THE V.R.

In cases the Steering operability is poor and the adjustment of VOLUME SETTING in the TEST mode is ineffective, the causes may be the Volume Gear's mesh failure and or Volume malfunctioning. By using the following procedure, adjust Volume gear mesh, or replace the Volume. In this product, when the Steering Wheel is moved fully left/right, if the Volume shaft is rotating within the movable range, the Volume is not feared to be damaged. Secure the Volume in the manner the Volume shaft is oriented as shown and the gears are appropriately engaged when the steering wheel is in the centering position allowing the car to go straight forward.

ADJUSTING THE VOLUME

Be sure to use 2 workers in adjusting the Volume, one is for operating the Steering Wheel and the other one for performing the adjustment.

- ① Turn off power.
- ② Take out 4 Truss screws to remove the Rear Lid from the back of Front Cabinet. At this time, carefully support the Rear Lid as taking out the 4 Truss screws can cause the Rear Lid to drop.

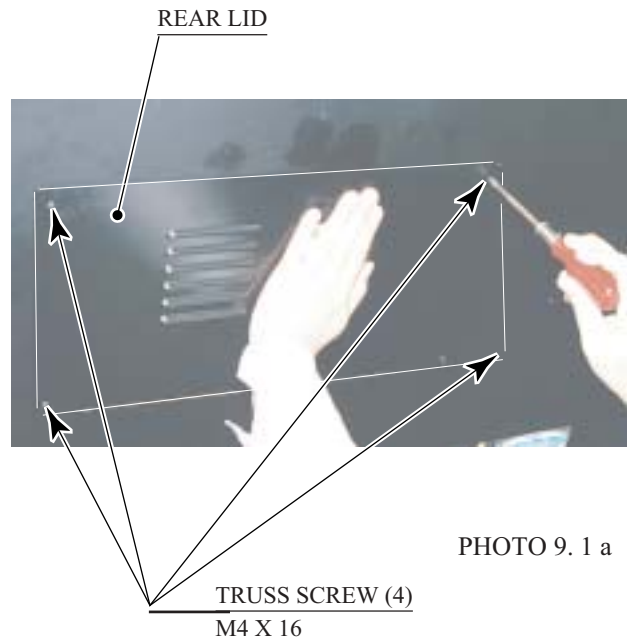


PHOTO 9.1 a

- ③ Perform the adjustment while another person is securing the Steering Wheel in the centering position.
- ④ The V.R. is on the VR BASE (a white, plastic made part). Loosen the 2 screws which secure the VR BASE and adjust the angle and appropriateness of gear mesh by moving the VR BASE.
- ⑤ Adjust to an appropriate mesh by securing the Steering Wheel in the direction allowing the car to advance straight forward and ensuring the "D" CUT FACE of the Volume shaft is oriented as shown.
- ⑥ Tighten the 2 screws to secure the VR BASE.

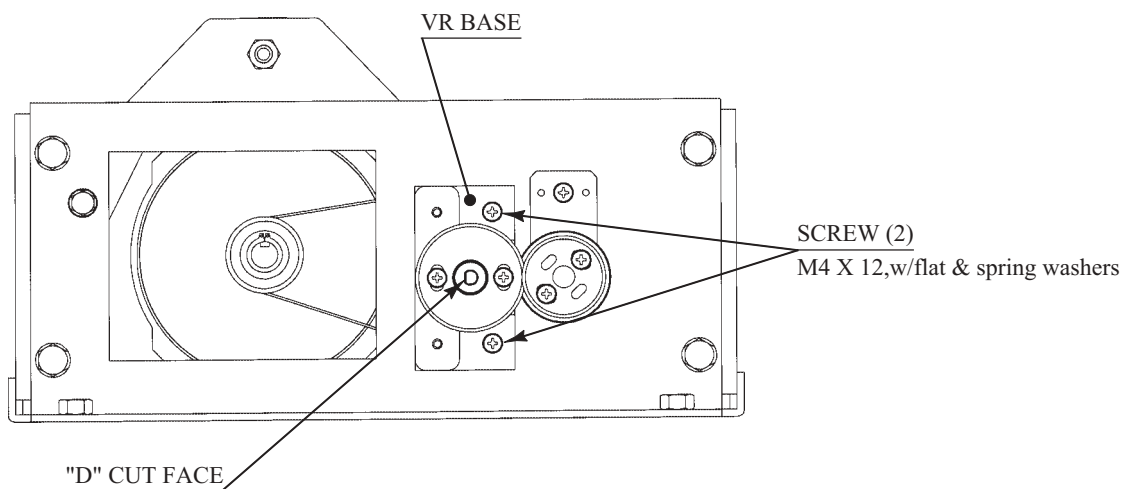


FIG. 9. 1 a

- ⑦ Turn on power.
- ⑧ Set the Center Value of the Volume in the TEST mode.
- ⑨ In the TEST mode, check to see if the Volume Value varies smoothly in accordance with the steering wheel operation.

REPLACING THE VOLUME

- ① Disconnect the connector from the Volume.
- ② Take out 2 screws to remove the Volume together with VR BASE from the HANDLE MECHA.

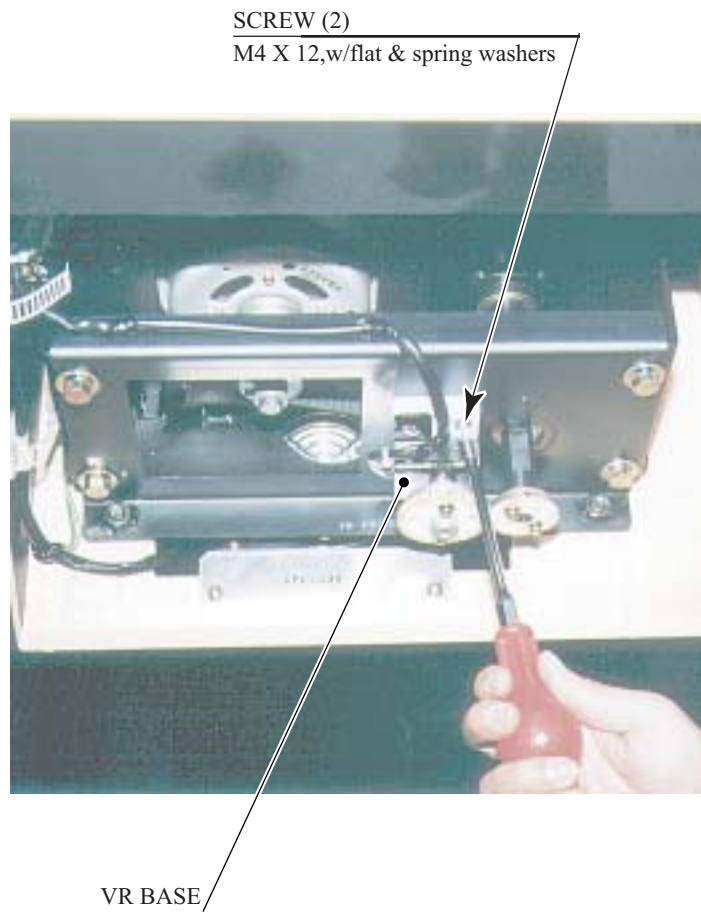


PHOTO 9. 1 b

- ③ Take out 2 screws from the VR BASE reverse side to remove the Volume together with VR Bracket from the VR BASE.
- ④ Remove the Volume from VR Bracket and replace.

TRUSS SCREW (2)
M4 X 12

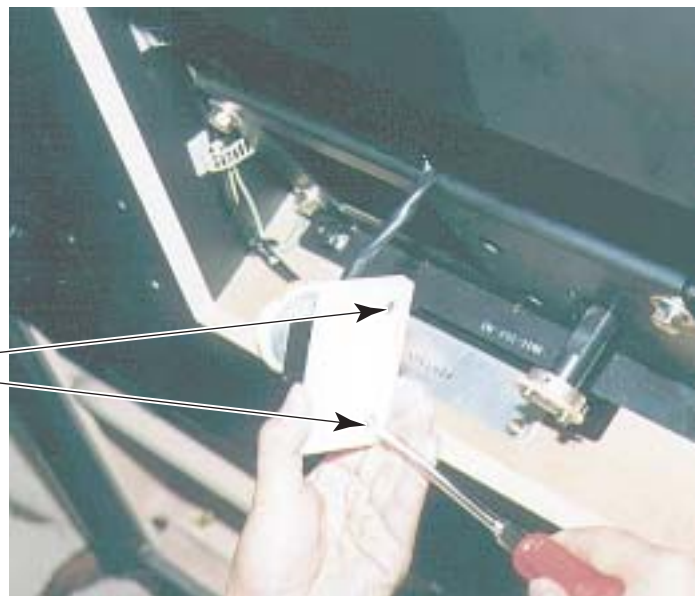


PHOTO 9. 1 c

- ⑤ After replacing the Volume, engage the gears at the angular position shown and fix the VR Bracket.

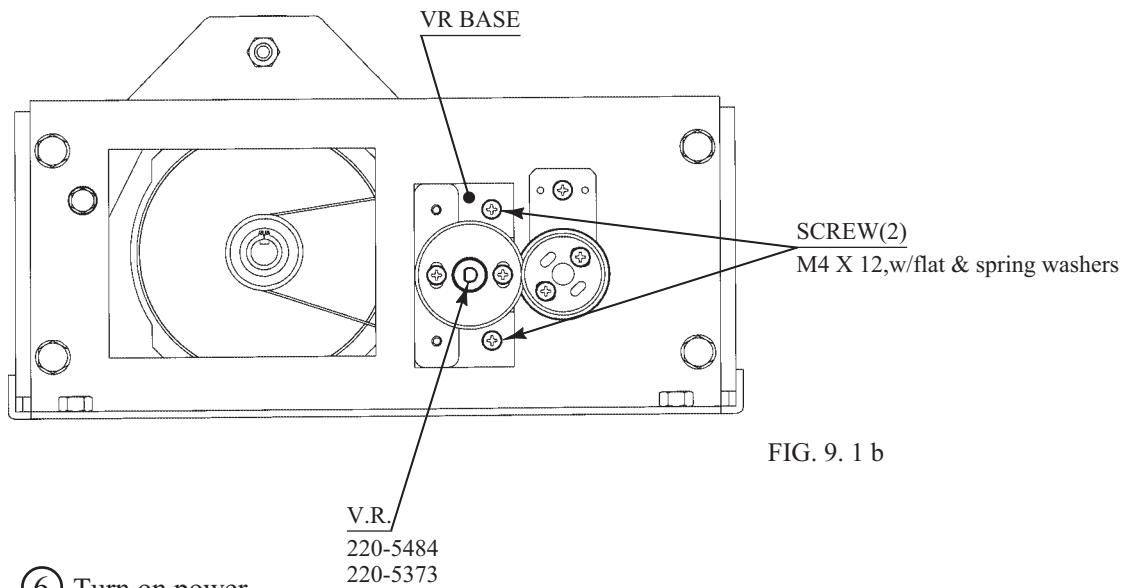


FIG. 9. 1 b

- ⑥ Turn on power.
- ⑦ Set the Center Value of the Volume in the TEST mode.
- ⑧ In the TEST mode, check to see if the Volume Value varies smoothly in accordance with the steering wheel operation.

9 - 2 GREASING



- Be sure to use the designated grease. Using undesignated grease can cause parts damage.
- Do not apply greasing to undesignated places. Failure to observe this can cause malfunctioning or quality deterioration of parts.

Apply greasing to gear mesh portions once every 3 months.
Use GREASE MATE (SEGA PART NO. 090-0066).

VOLUME GEAR MESH PORTION

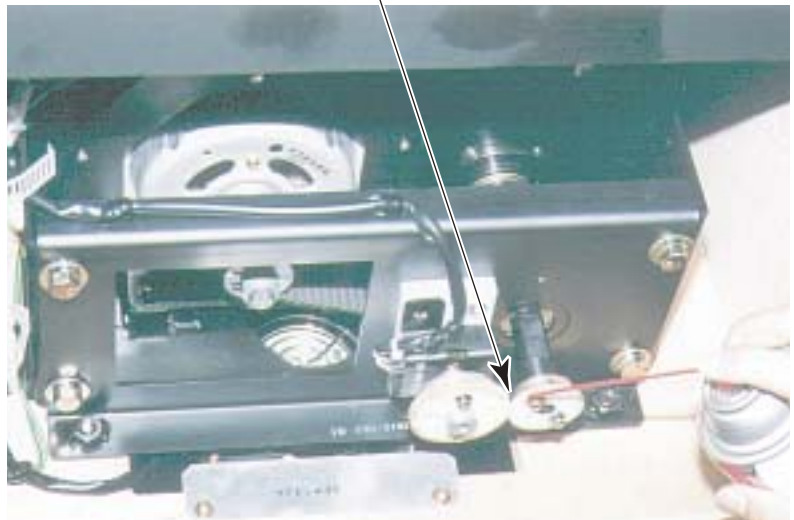


PHOTO 9. 2

9 - 3 REPLACING PADDLE (WING) SHIFT SWITCH

In case the Paddle Shift operability is poor, malfunctioning of or a damage to the Microswitch inside the Paddle Shift can be considered.

- ① Turn off power.
- ② Take out 2 Truss screws for each to remove Boss Cover Upper and Lower.
- ③ Disconnect the wiring connected to the Microswitch.

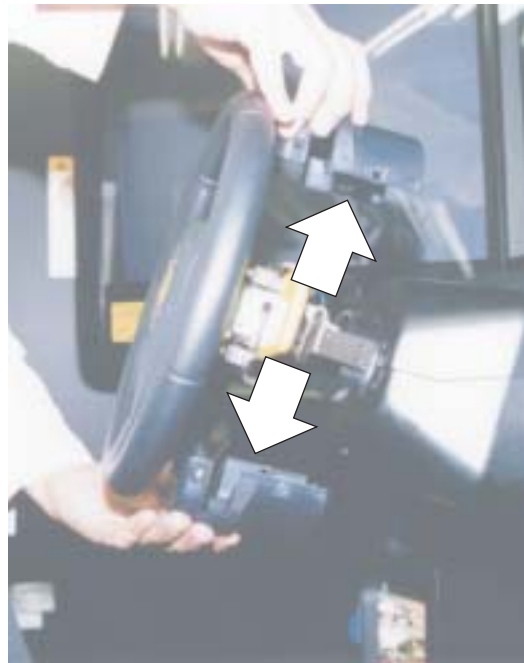
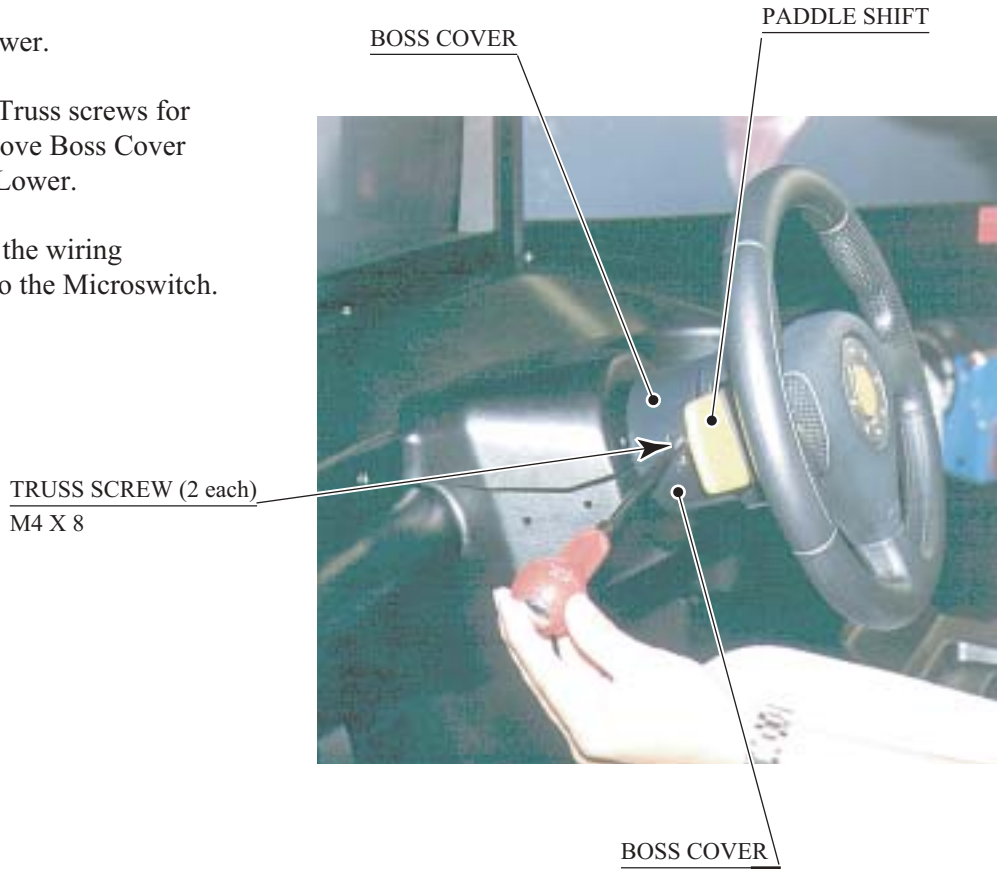


PHOTO 9. 3 a

SCREW (2)
M3 X 16

- ④ Take out 2 screws to replace the Microswitch.
- ⑤ Adjust Microswitch's actuator to an angular position so as not to touch the Switch when operating the Shift Lever.
- ⑥ Fasten 2 screws to secure the Microswitch.
- ⑦ Check to ensure that the Switch goes ON and OFF in consistency with the operation.



MICROSWITCH
509-5387

PHOTO 9. 3 b

10. 6-SPEED SHIFT

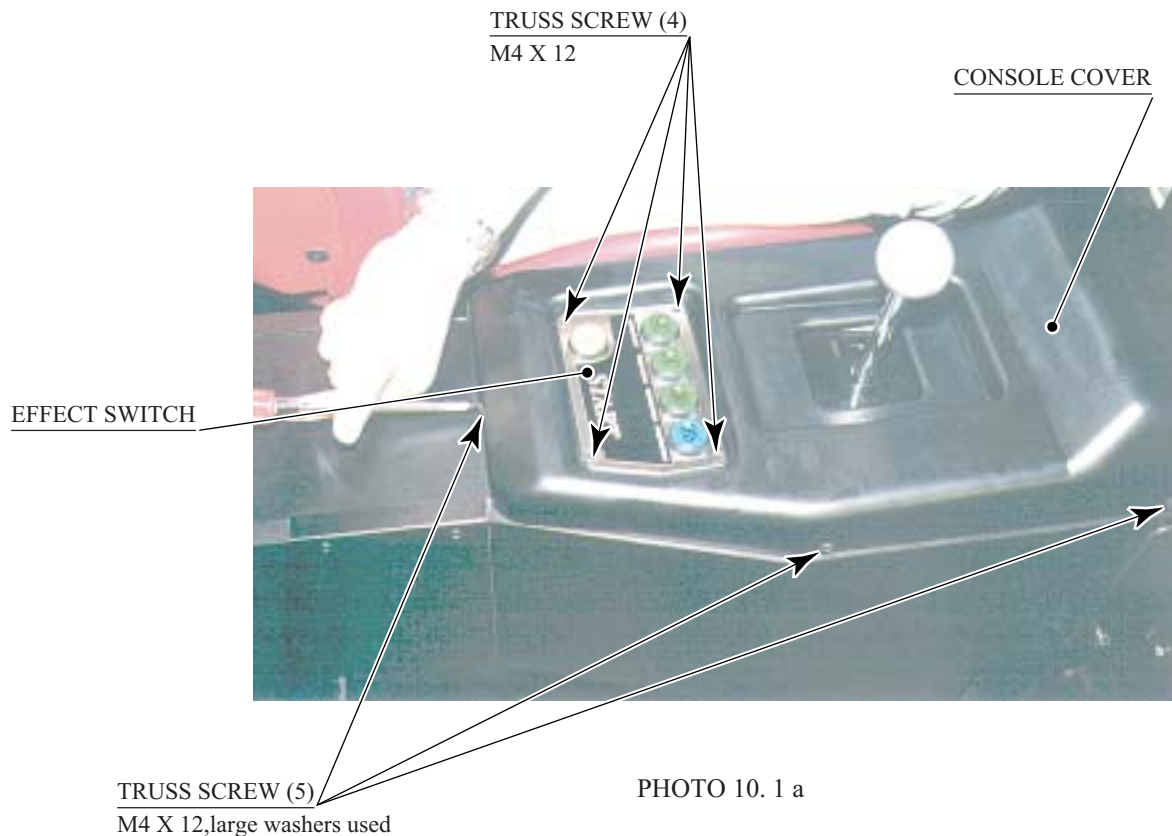


WARNING!

- Before starting to work, ensure that the Power SW is OFF. Failure to observe this can cause electric shock or short circuit.
- Use care so as not to damage wirings. Damaged wiring can cause electric shock or short circuit.
- Do not touch undesignated places. Touching places not designated can cause electric shock or short circuit.
- This work should be performed by the Location's Maintenance Man or Serviceman. Performing work by non-technical personnel can cause electric shock hazard.
- When performing work such as parts replacement other than those specified in this manual, be sure to contact where you purchased the product from. Confirm the work procedures and obtain precautions from where you purchased the product from prior to performing work. Inappropriate parts replacement and/or installation with erroneous adjustment can cause an overload or the parts to come into contact, resulting in an electric shock, a short circuit, and a fire.

10 - 1 REMOVING THE SHIFT LEVER

- ① Turn off power.
- ② Take out 4 screws securing the EFFECT Switch.
- ③ Take out 5 Truss screws which secure the Console Cover.



- ④ Disconnect a connector.
- ⑤ Take out 4 Hexagon Bolts.

HEXAGON BOLT (4)
M8 X 40,w/flat & spring washers

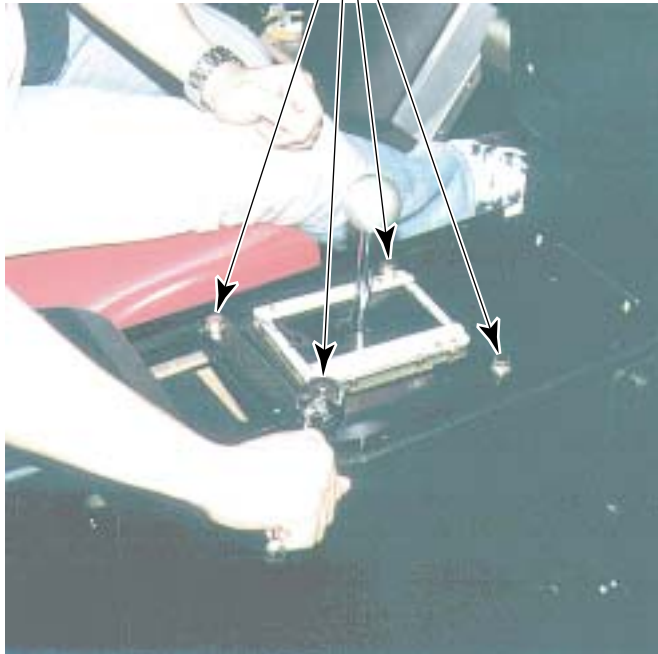


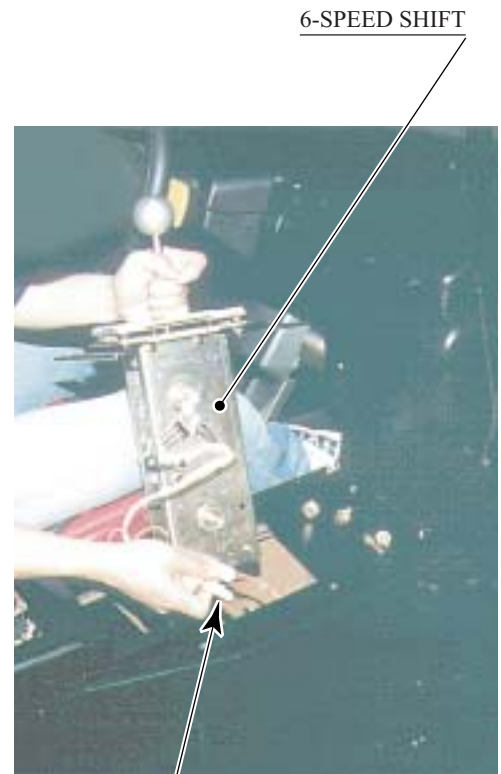
PHOTO 10. 1 c

- ⑥ Lift the 6-speed Shift vertically. At this time, use care so as not to hang the wiring or hit the other parts.
- ⑦ Disconnect 2 connectors to remove the 6-speed Shift.



Disconnect the connector

PHOTO 10. 1 b



Disconnect the connector

PHOTO 10. 1 d

10 - 2 REPLACING THE SWITCH

In case 6-speed Shift operability is poor, malfunction of or damage to the Microswitch of Mechanism can be considered. The 6-speed Shift has 4 Microswitches. Be sure to check which Switch malfunctions prior to performing work.

- ① Remove 6-speed Shift as per procedure 10-1.
- ② Disconnect the wiring connected to the Microswitch.
- ③ Take out 2 screws to replace the Microswitch.
- ④ Adjust Microswitch's actuator to an angular position so as not to touch the Switch when operating the Shift Lever.
- ⑤ Fasten 2 screws to secure the Microswitch.

MICROSWITCH
509-5636



PHOTO 10. 2 a

- ⑥ Check to ensure that the Switch goes ON and OFF in consistency with the operation.

MICROSWITCH
509-5636

SCREW (2)
M2.3 X 10,w/flat & spring washers

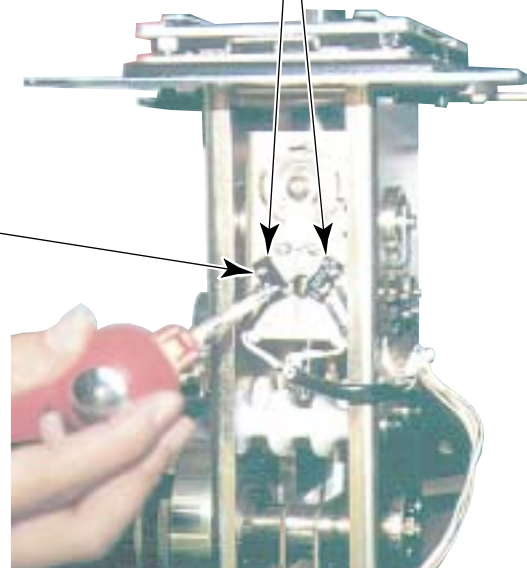


PHOTO 10. 2 b

11. ACCELERATOR & BRAKE



- Before starting to work, ensure that the Power SW is OFF. Failure to observe this can cause electric shock or short circuit.
- Use care so as not to damage wirings. Damaged wiring can cause electric shock or short circuit.
- Do not touch undesignated places. Touching places not designated can cause electric shock or short circuit.
- This work should be performed by the Location's Maintenance Man or Serviceman. Performing work by non-technical personnel can cause electric shock hazard.
- When performing work such as parts replacement other than those specified in this manual, be sure to contact where you purchased the product from. Confirm the work procedures and obtain precautions from where you purchased the product from prior to performing work. Inappropriate parts replacement and/or installation with erroneous adjustment can cause an overload or the parts to come into contact, resulting in an electric shock, a short circuit, and a fire.

If Accel. and Brake operation is not satisfactory, adjustment of Volume installation position or Volume replacement is needed. Also, be sure to apply greasing to the gear mesh portion once every 3 months.

11 - 1 ADJUSTING AND REPLACING THE V.R.

The appropriate value for both ACCEL. Volume and Brake Volume is under 30H when released and over C0H when stepped on. Check Volume values in the TEST mode. Since work is performed inside the energized cabinet, be very careful so as not to touch undesignated places. Touching places not specified can cause electric shock or short circuit.

- ① Take out the 2 truss screws and remove the Front Cover from the Accel. & Brake Unit (FIG. 11. 1 a).
- ② Loosen the screw which secure the Potentiobase, and adjust the Volume value by moving the Base. (FIG. 11. 1 b)
- ③ Secure the Potentiobase.
- ④ Perform Volume setting in the Volume setting mode.

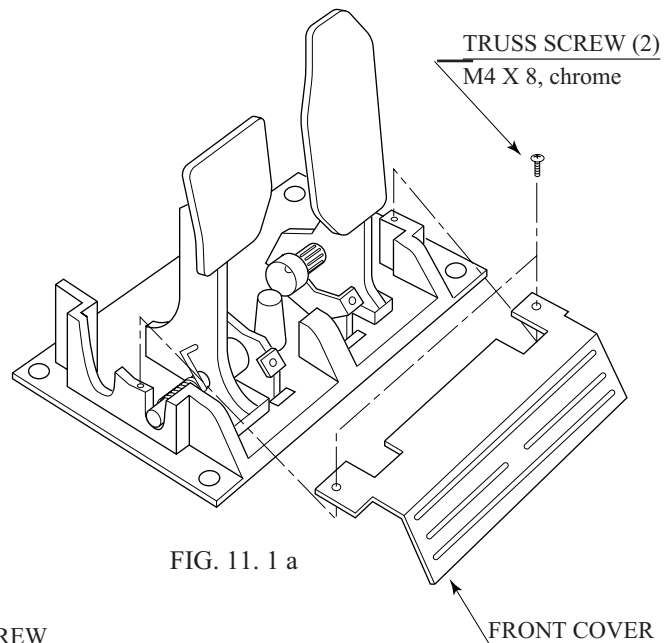
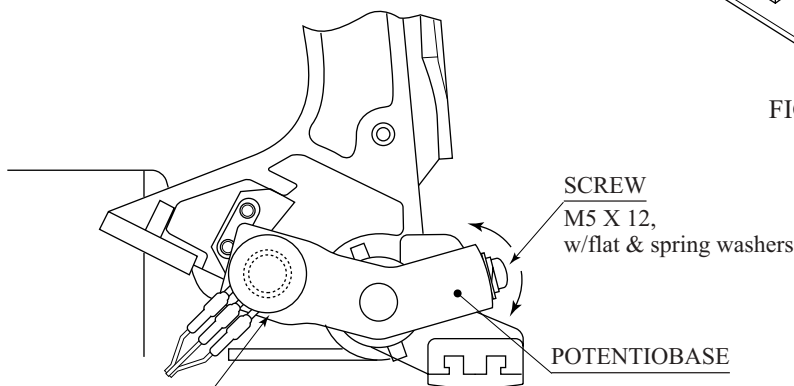


FIG. 11. 1 a

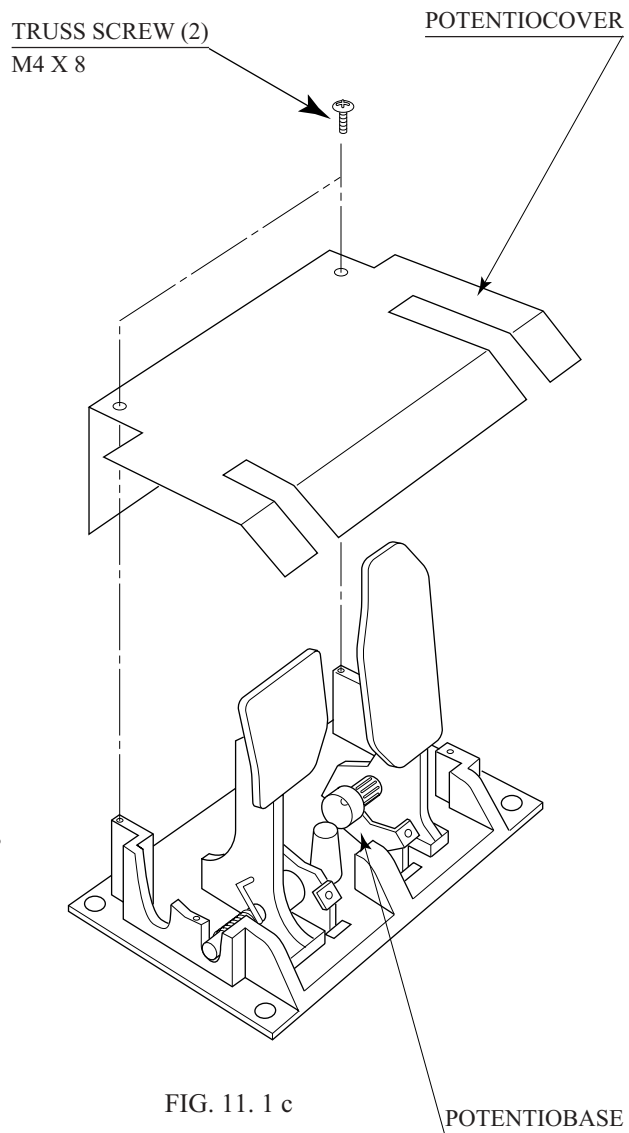


V.R.
220-5484
220-5373

FIG. 11. 1 b

REPLACING THE VOLUME

- ① Turn the power off.
- ② Take out the 2 screws and remove the Potentiocover (FIG. 11. 1 c).
- ③ Disconnect the connector of the Volume to be replaced.
- ④ Remove the screw which secures the Potentiobase (FIG. 11. 1 b).
- ⑤ Remove the Potentiobase together with the Volume as is attached. (FIG. 11. 1 c)
- ⑥ Remove the Base and Gear to replace the Volume.
- ⑦ Adjust the Volume as per the previous page after replacing.



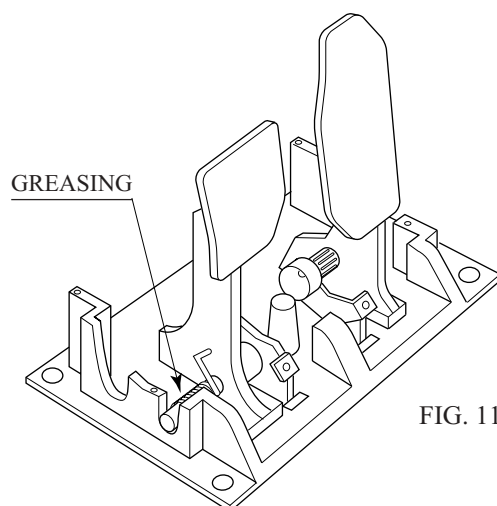
11 - 2 GREASING



IMPORTANT!

Be sure to use the designated grease. Using undesignated grease can cause parts damage.

Once every 3 months, apply greasing to the Spring and Gear mesh portion. For spray greasing, use GREASE MATE (PART No. 090-0066).



12. CLUTCH PEDAL



WARNING!

- Before starting to work, ensure that the Power SW is OFF. Failure to observe this can cause electric shock or short circuit.
- Use care so as not to damage wirings. Damaged wiring can cause electric shock or short circuit.
- Do not touch undesignated places. Touching places not designated can cause electric shock or short circuit.
- This work should be performed by the Location's Maintenance Man or Serviceman. Performing work by non-technical personnel can cause electric shock hazard.
- When performing work such as parts replacement other than those specified in this manual, be sure to contact where you purchased the product from. Confirm the work procedures and obtain precautions from where you purchased the product from prior to performing work. Inappropriate parts replacement and/or installation with erroneous adjustment can cause an overload or the parts to come into contact, resulting in an electric shock, a short circuit, and a fire.

If the Clutch Pedal's operation is not satisfactory, the V.R. installation position adjustments or V.R. replacement is needed. Also, be sure to apply greasing to the V.R. Gear mesh portion and the 2 Springs once every 3 months.

12 - 1 REMOVING THE CRUTCH PEDAL

- ① Turn off power.
- ② Take out 4 Hexagon Bolts. At this time, support the Clutch Pedal as taking out the bolts can cause the Clutch Pedal to fall.

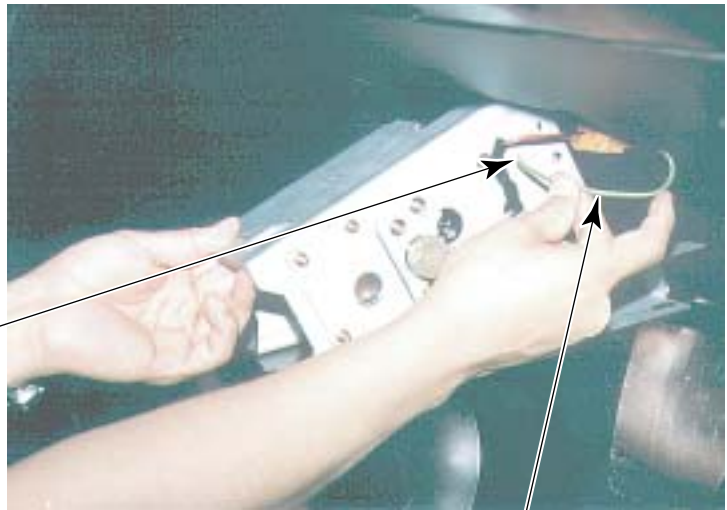
PHOTO 12. 1 a

HEXAGON BOLT (4)
M8 X 30,w/spring washer



- ③ Take out a screw to remove the earth wire which is connected to the Clutch Pedal Mechanism side.

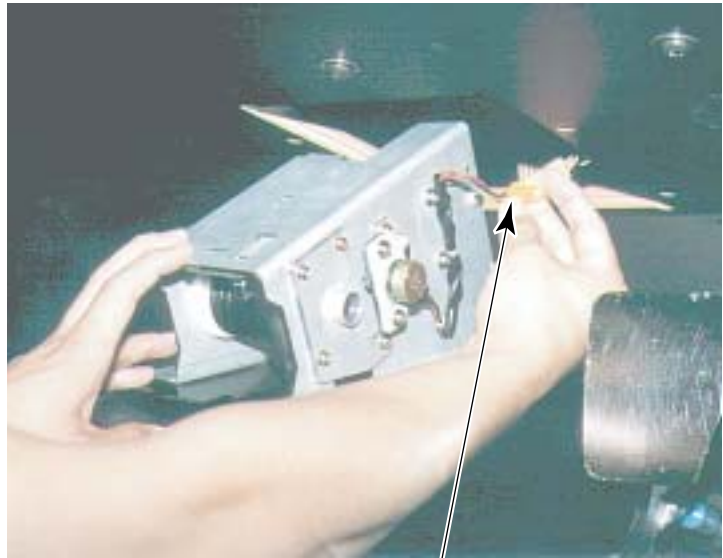
SCREW (1)
M4 X 8,w/flat & spring washers



EARTH

PHOTO 12. 1 b

- ④ Disconnect the connector to remove the Clutch Pedal.



Disconnect the connector

PHOTO 12. 1 c

12 - 2 VOLUME ADJUSTMENT/REPLACEMENT

The appropriate value of Crutch Volume is under 30H when released and over C0H when stepped on. Check Volume values in the TEST mode. Since work is performed inside the energized cabinet, be very careful so as not to touch undesigned places. Touching places not specified can cause electric shock or short circuit.

ADJUSTING THE VOLUME

- ① Loosen 2 screws which secure the Volume Bracket to adjust the gear mesh.
- ② Tighten the 2 screws.
- ③ In the TEST mode, check to ensure that the Volume Values are within the appropriate range and vary smoothly in consistency with the Pedal operation.

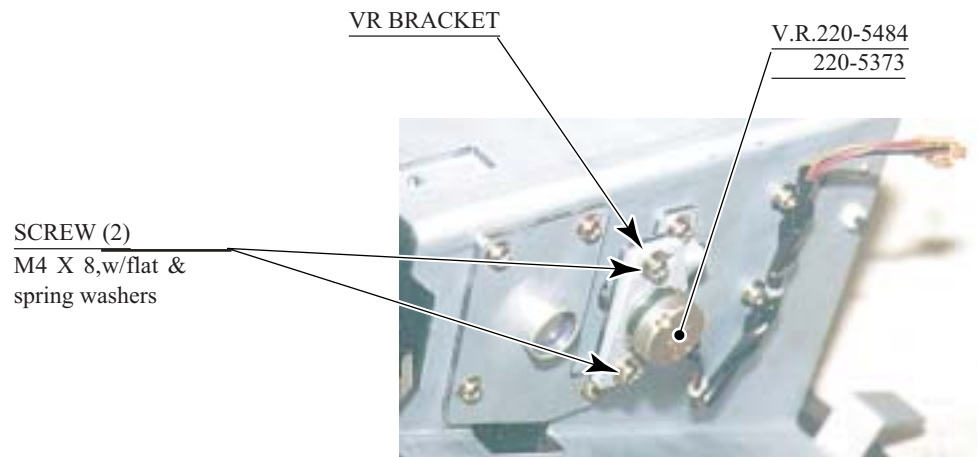


PHOTO 12. 2

REPLACING THE VOLUME

- ① Disconnect the connector from the Volume.
- ② Take out 2 screws to remove the Volume together with the VR Bracket from the Crutch Pedal Mechanism.
- ③ Remove the Volume from the VR Bracket to replace.
- ④ After replacing the Volume, engage the gears and fix the VR Bracket.
- ⑤ In the TEST mode, check to ensure that the Volume Values are within the appropriate range and vary smoothly in consistency with the Pedal operation.

12 - 3 GREASING



IMPORTANT!

Be sure to use the designated grease. Using undesignated grease can cause parts damage.

Once every 3 months, apply greasing to the Spring and Gear mesh portion. For spray greasing, use GREASE MATE (PART No. 090-0066).

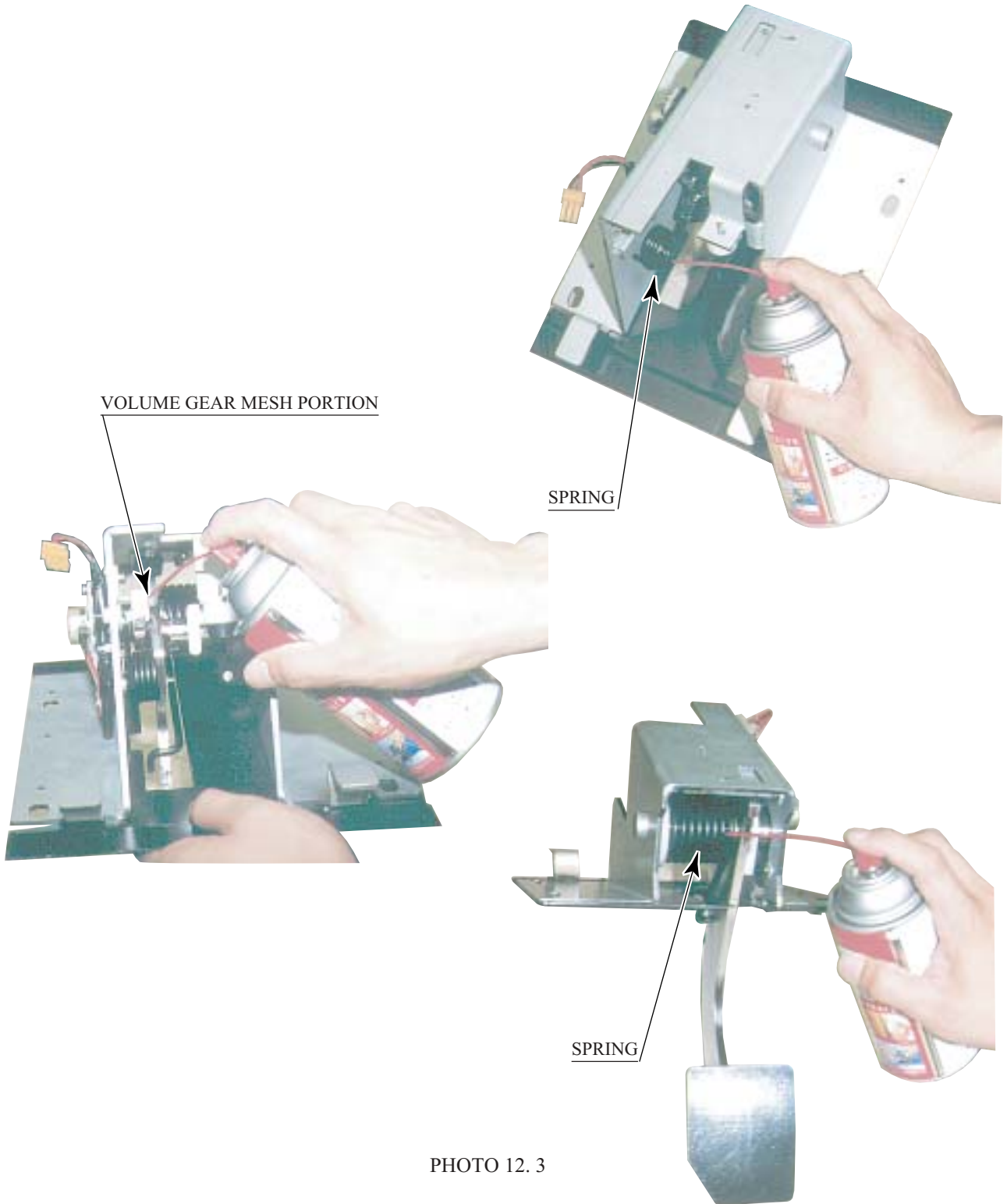


PHOTO 12.3

13. COIN SELECTOR

HANDLING THE COIN JAM

If the coin is not 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 correctly functions.

CLEANING THE COIN SELECTOR



- Remove and clean smears by using a soft cloth dipped in water or diluted chemical detergent and then squeezed dry.
- 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 correctly functions.

- ① The coin selector should be cleaned once every 3 months. When cleaning, follow the procedure below:
- ② Turn the power for the machine OFF. Open the coin chute door. 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 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 so as not to bend the rotary shaft.
- ⑤ Remove stain from the rotary shaft and shaft receiving portions by wiping off with a soft cloth, etc.
- ⑥ After wiping off as per ⑤ above, further apply a dry cloth, etc. to cause the coin selector to dry completely.

COIN INSERTION TEST

Once every month, when performing the Coin SW Test, simultaneously check the following:

- Does the Coin Meter count satisfactorily?
- Does the coin drop into the Cashbox correctly?
- Is the coin rejected when inserted while keeping the Reject Button pressed down?

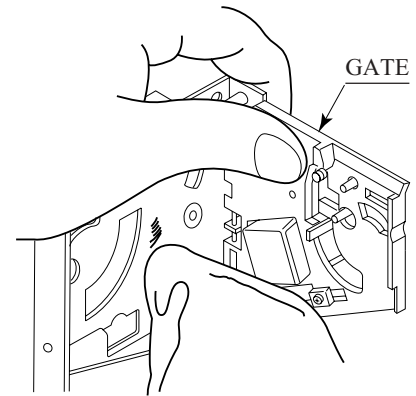


FIG. 13 a

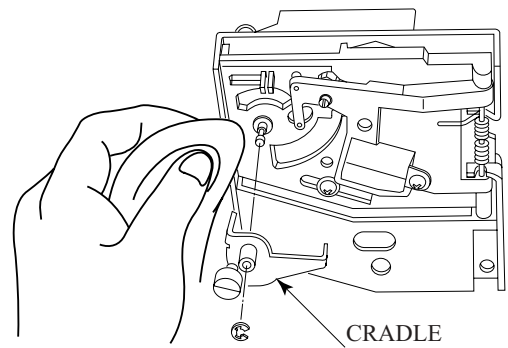


FIG. 13 b

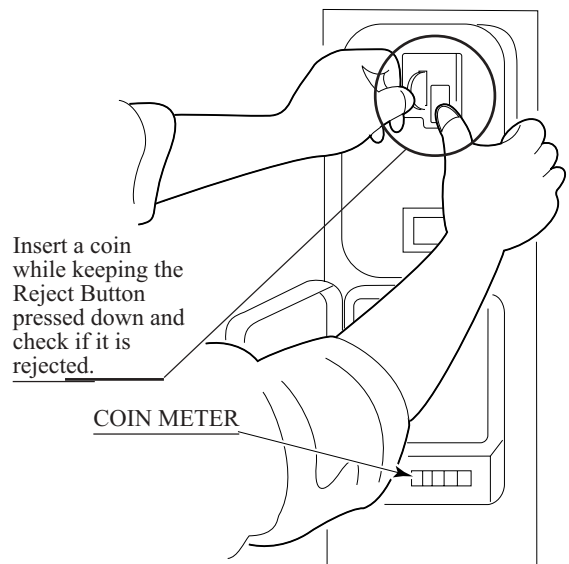


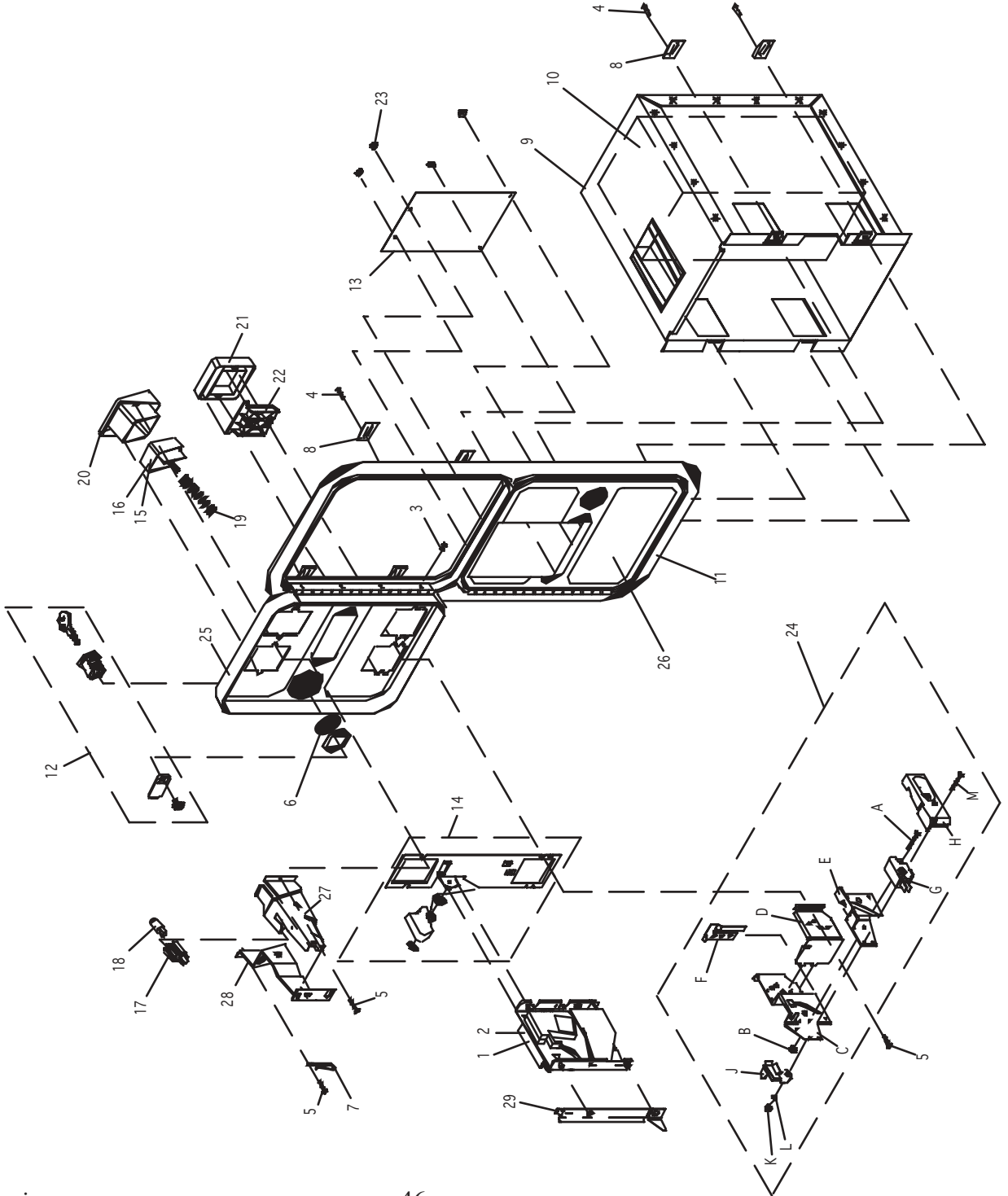
FIG. 13 c

WELLS-GARDNER
ELECTRONICS CORPORATION
2701 N. KILDARE CHICAGO, IL 60639
1-800-336-6630

WWW.WGEC.COM

WGD15-2110-01

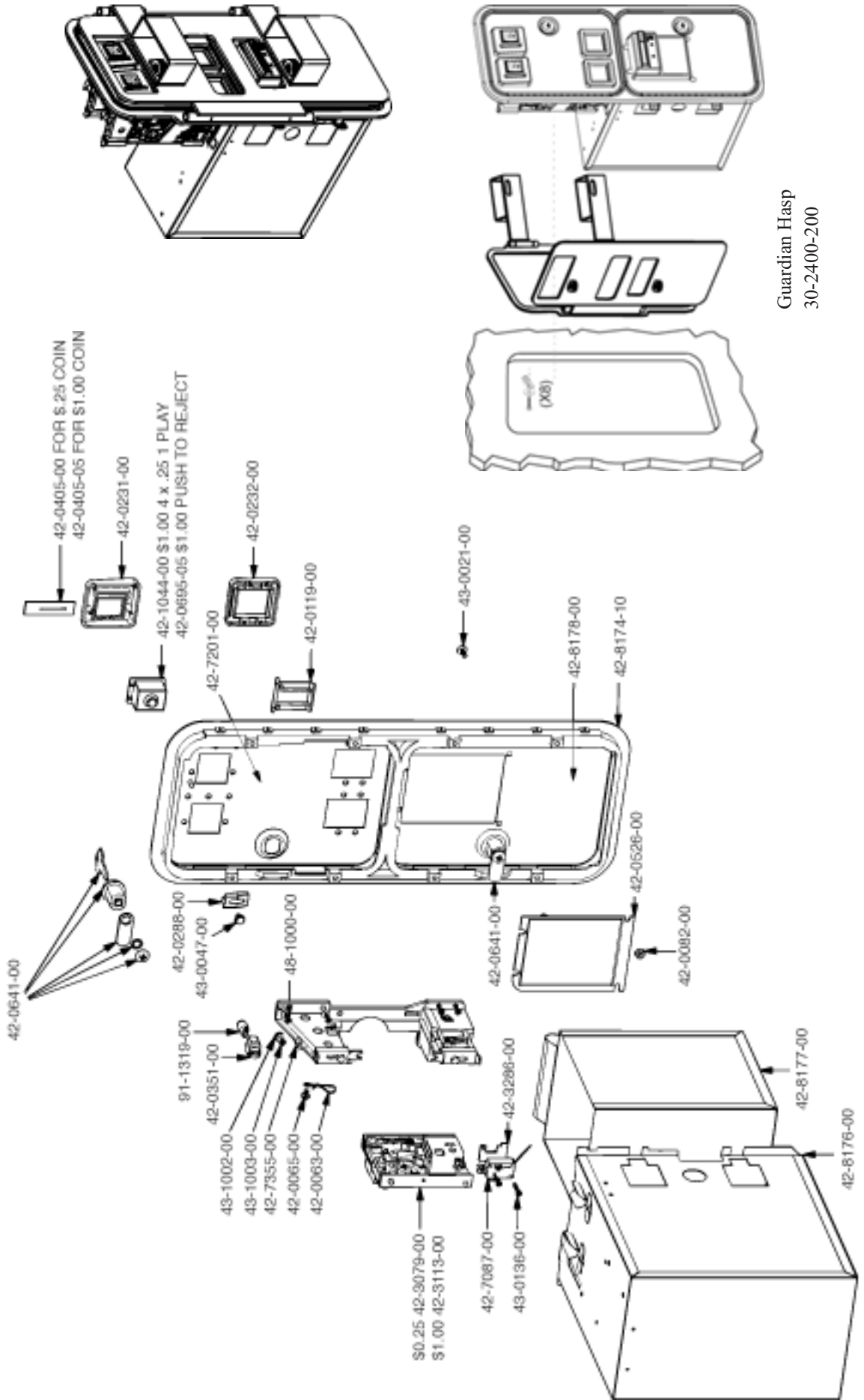
OVER/UNDER MINI DOOR
2 ENTRIES WITH BILL
VALIDATOR BOTTOM DOOR
& SPECIAL ENCLOSURE



| # | W.G. PART # | DESCRIPTION |
|-----|---------------|------------------------------|
| 1 | 812-4150-011 | S-7 US 25c COIN MECH LEFT |
| 2 | 812-4050-011 | S-10 US \$1 COIN MECH RIGHT |
| 3 | 890-1002-00 | HINGE SCREW |
| 4 | 890-1003-00 | CLAMP SCREW |
| 5 | 890-1017-00 | SCREW TRILOBULAR |
| 6 | 890-1019-00 | WASHER INTERNAL TOOTH 3/4" |
| 7 | 890-1300-00 | KEYHOOK |
| 8 | 891-0514-00 | CLAMP UK 5/8" CABINET |
| 9 | 025X3711-001 | ENCLOSURE W/CHUTE |
| 10 | 025X3712-001 | METAL CASHBOX |
| 11 | 891-0509-162 | DOUBLE FRAME |
| 12 | 891-0547-00 | LOCK SINGLE BIT |
| 13 | 891-0100-4016 | COVER PLATE |
| 14 | 891-1008-107 | BASE PLATE ASSEMBLY |
| 15 | 891-1113-03 | E/R BUTTON US 4x25c/\$1 LEFT |
| 16 | 891-1113-011 | E/R BUTTON US \$1 COIN RIGHT |
| 17 | 891-1117-00 | LAMPHOLDER |
| 18 | 891-1118-00 | LAMP WEDGE BASE 6 VOLT |
| 19 | 891-1121-00 | SPRING, E/R BUTTON |
| 20 | 891-1311-16 | BUTTON BEZEL, NYLON |
| 21 | 891-1312-16 | REJECT BEZEL, NYLON |
| 22 | 891-1109-16 | REJECT FLAP |
| 23 | 020X1877-005 | NUTKERS #8-32 X 5/16 HEX |
| 24 | 891-2216-16 | MICROSWITCH ASSEMBLY |
| 24A | 890-1007-00 | SCREW, FLAT HEAD M/S |
| 24B | 890-1206-02 | KEP NUT |
| 24C | 891-1105-01 | REJECT CUP SIDE PLATE |
| 24D | 891-1106-00 | REJECT CUP BASE PLATE |
| 24E | 891-1107-00 | BRACKET, MICROSWITCH |
| 24F | 891-1110-00 | ADJUSTER, COIN |
| 24G | 891-1116-16 | MICROSWITCH, BLACK - MED. |
| 24H | 891-1125-00 | COVER, PLASTIC |
| 24J | 892-1002-07 | CLIP, SNAP-ON |
| 24K | 892-1002-08 | ELASTIC SNAP NUT |
| 24L | 892-1002-09 | SLEEVE, SNAP-ON |
| 24M | 892-1002-11 | SCREW, PAN HEAD |
| 25 | 891-0604-16 | MINI DOOR 2 ENTRIES |
| 26 | 891-0614-16 | MINI DOOR W/OBV C/O |
| 27 | 892-1002-01 | BRACKET, LAMP SIDE |
| 28 | 892-1002-021 | BRACKET, COVERSIDE |
| 29 | 892-1002-10 | BRACKET, HOLD DOWN |

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 Fx: 847-956-2091



Guardian Hasp
 30-2400-200

OPTIONAL DOLLAR BILL ACCEPTOR

- THE COIN DOOR ASSEMBLY USED ON **F355 challenge DX TYPE** COMES EQUIPPED TO ACCEPT A DOLLAR BILL ACCEPTOR. ALL NEEDED WIRING CONNECTIONS ARE CONVENIENTLY LOCATED INSIDE THE GAME FOR THIS APPLICATION.
- THE COIN DOOR CAN ACCCOMMODATE THE FOLLOWING VALIDATOR(S):

FORWARD-MOST
HOLE POSITION

Mars 2000 series

**42-1155-00 MARS VALIDATOR \$1, 2, 5 300 CAP

The frame and cashbox enclosure on this coindoor has been modified to accomodate a Mars 2000 series upstacker. A 2000 series stacker can be added by simply removing the cut-out plate. This one entry door can be ordered through Happ Controls or one of Happ Controls authorized distributors. The part number is 40-6000-10EX. The Mars stacker can be obtained through an authorized Mars distributor.

Note: Your game may have either Happ Controls Coin Door Assembly or the Wells Gardner Coin Door Assembly (not shown).

**Happ part number

Security Locking Bar/Bracket Set Part No.# 999-0966

Modified Cash Box (For use when DBA installed)
Part No. # 999-1106

Plastic Cash Box - Full Size Part No. # 999-1177

14. MONITOR

14 - 1 CAUTIONS AND WARNINGS CONCERNING THE SAFETY FOR HANDLING THE MONITORS

Before handling the monitors, be sure to read the following explanations and comply with the caution/warning instructions given below. Note that the caution/warning symbol marks and letters are used in the instructions.



WARNING!

Indicates that handling the monitors erroneously by disregarding this warning may cause a potentially hazardous situation, which could result in death or serious injury.



CAUTION!

Indicates that handling the monitors by disregarding this caution may cause a potentially hazardous situation, which could result in personal injury and or material damage.



Indicates that access to a specific part of the equipment is forbidden.



Indicates the instruction to disconnect a power connector or to unplug.



WARNING!

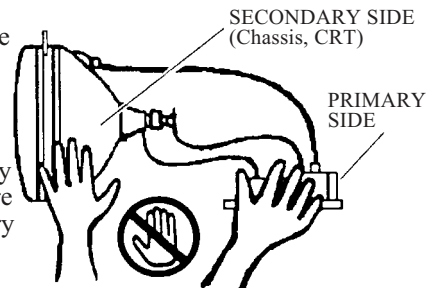
- When performing such work as installing and removing the monitor, inserting and disconnecting the external connectors to and from monitor interior and the monitor, be sure to disconnect the power connector (plug) before starting the work. Proceeding the work without following this instruction can cause electric shock or malfunctioning.
- Using the monitor by converting it without obtaining a prior permission is not allowed. SEGA shall not be liable for any malfunctioning and accident caused by said conversion.



WARNING!

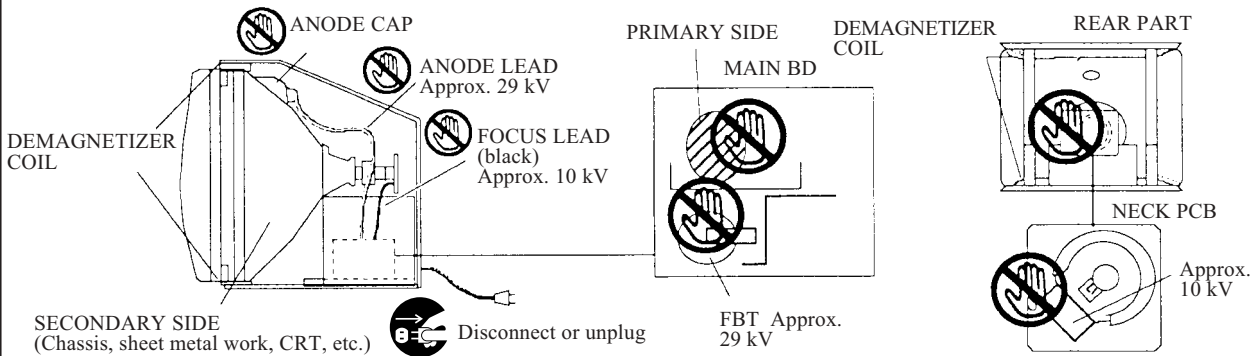
Primary side and Secondary side

The monitor's circuit which is divided into the Primary side and Secondary side, is electrically isolated. Do not touch the primary side, or do not touch both the primary side and the secondary side simultaneously. Failing to observe the instruction can cause electric shock and this is very dangerous. When making monitor adjustments, use a non-conductive driver and make adjustment without touching any part other than the Adjustment V. R. and knob. Also, be sure not to cause a short-circuit to the Primary side and Secondary side. If short-circuited, it can cause electric shock or malfunctioning, which is very dangerous.



High-tension Voltage

Some of the parts inside monitor are subject to high-tension voltage in excess of 20,000 volts and very dangerous. Therefore, do not touch the monitor interior. Should soldering & paper wastes, etc. be mixed in the monitor interior, turn the power off so as not to cause malfunctioning or fire hazard.



Connecting the CRT and PCB

For combining the CRT and PCB, use the specified part No. to maintain the status of adjustments made at the factory. The anode of the CRT itself will be accumulatively charged as time elapses, generating high-tension voltage which is very dangerous. The monitor should be used with the Chassis, CRT and PCB assembled. When repair, etc. is required at the time of malfunctioning, be sure to send it in an "as is assembled" condition. If these are disassembled, what's charged to said high tension voltage can be discharged, causing a very hazardous situation. Therefore, under no circumstances should it be disassembled.



CAUTION!

- **Static Electricity**

Touching the CRT surface sometimes causes you to slightly feel electricity. This is because the CRT surfaces are subject to static and will not adversely affect the human body.

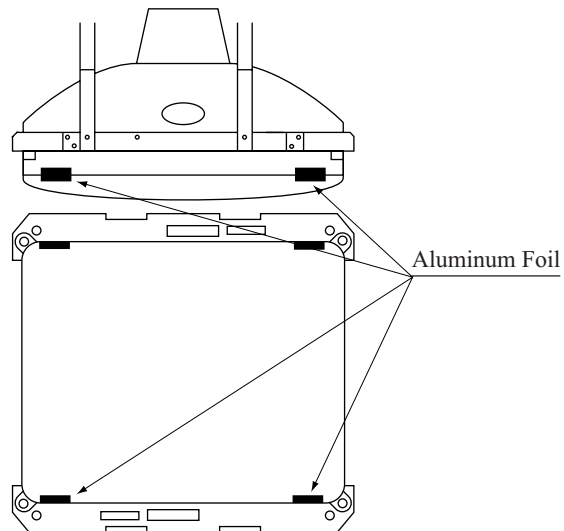
- **Installation and removal**

Ensure that the Magnetizer Coil, FBT (Fly-Back Transformer), Anode Lead and Focus Lead are not positioned close to the sheet metal work's sharp edges, etc. and avoid damaging the insulated portions so as not to cause electric shock and malfunctioning. (For the name of parts, refer to the above Figures).



For the purpose of static prevention, special coating is applied to the CRT face of this product. To protect the coating, pay attention to the following points. Damaging the coating film can cause electric shock to the customers.

- Do not apply or rub with a hard item (a rod with pointed edge, pen, etc.) to or on the CRT surfaces.
- Avoid applying stickers, seals, etc. on the CRT face.
- Do not remove aluminum foils from the CRT corners. Removing the aluminum foils can cause static prevention effects to be lowered.



14 - 2 CAUTIONS TO BE HEDED WHEN CLEANING THE CRT SURFACES



Static preventive coating is applied to the CRT surfaces. When cleaning, pay attention to the following points. Peeling off of static preventive coat can cause electric shock.

- Remove smears by using a dry, soft cloth (flannels, etc.). Do not use a coarse gauze, etc.
- For smear removing solvent, alcohol (ethanol) is recommended. When using chemical detergent, be sure to follow instructions below:
 - Dilute chemical detergent with water and dip a soft cloth in and then thoroughly wring it to wipe smears off.
 - Do not use a chemical detergent containing an abradant, powder or bleaching agent.
 - Do not use alkaline chemical detergents such as "glass cleaner" available on the market or solvents such as thinner, etc.
- Do not rub or scratch the CRT face with hard items such as brushes, scrub brush, etc.

Clean the CRT surfaces once a week. When cleaning, pay attention to the above caution so that the antistatic coating will not come off.

14 - 3 ADJUSTMENT METHOD



- Monitor adjustments have been made at the time of shipment. Therefore, do not make further adjustment without a justifiable reason. Adjusting the monitor which contains high tension parts is a dangerous work. Also, an erroneous adjustment can cause deviated synchronization and image fault, resulting in malfunctioning.
- When making adjustment, utilize a resinous Alignment Rod. Servicing with bare hand or using conductive tools can cause electric shock.

Remove the 2 screws from the Monitor Board Lid on top of the monitor, and the Adjustment Board appears.

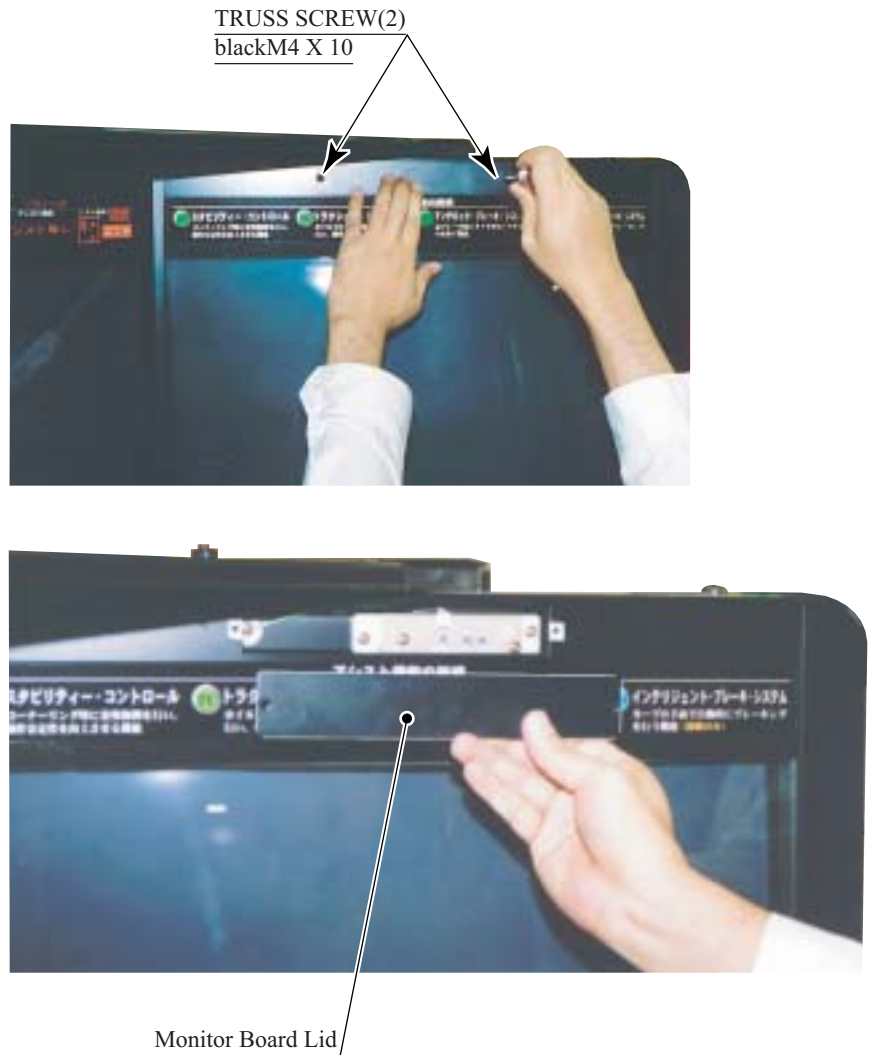
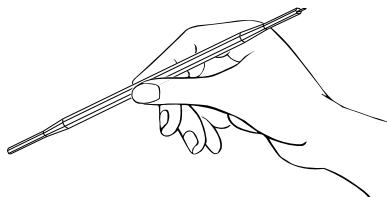


PHOTO 14. 3



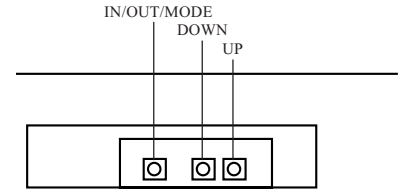
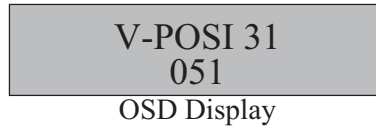
For adjustment, use the Resinous Adjustment Rod.

FIG. 14. 3

OPERATION

- ① Press the MODE button to display OSD. The right-hand end numeral indicates INPUT FREQUENCY.

Example: 31 kHz Input



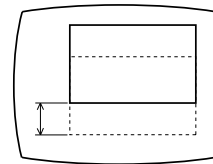
- ② Press the MODE button to select the adjustment item.
(Each time the MODE button is pressed, the OSD display shifts sequentially in order of V-POSI → H-POSI → V-SIZE → H-SIZE → CONTRAST → BRIGHT → DEGAUSS → RESET → OSD display disappears.)
Press the DOWN button while pressing the MODE button to return the adjustment item to the preceding one.

- ③ Adjust with UP button and DOWN button.

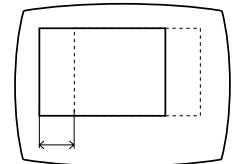
- ④ To exit from OSD, keep pressing the MODE button until the OSD display disappears.

- V-POSI
The image's vertical position is adjustable.

V-POSI



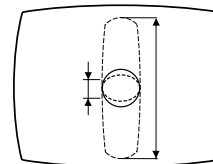
H-POSI



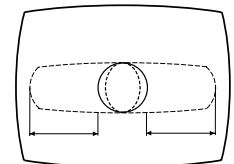
- H-POSI
The horizontal image's position is adjustable.

- V-SIZE
The vertical image size is adjustable.

V-SIZE



H-SIZE



- H-SIZE
The horizontal image size is adjustable.

- CONTRAST
Adjusts image contrast.

- BRIGHT
This adjusts the on-screen image brightness.

- DEGAUSS
Degaussing is performed. Once degaussed, it takes approximately 4 minutes and 30 seconds to have degaussing function again. Wait until the lower OSD display indicates PLEASE.

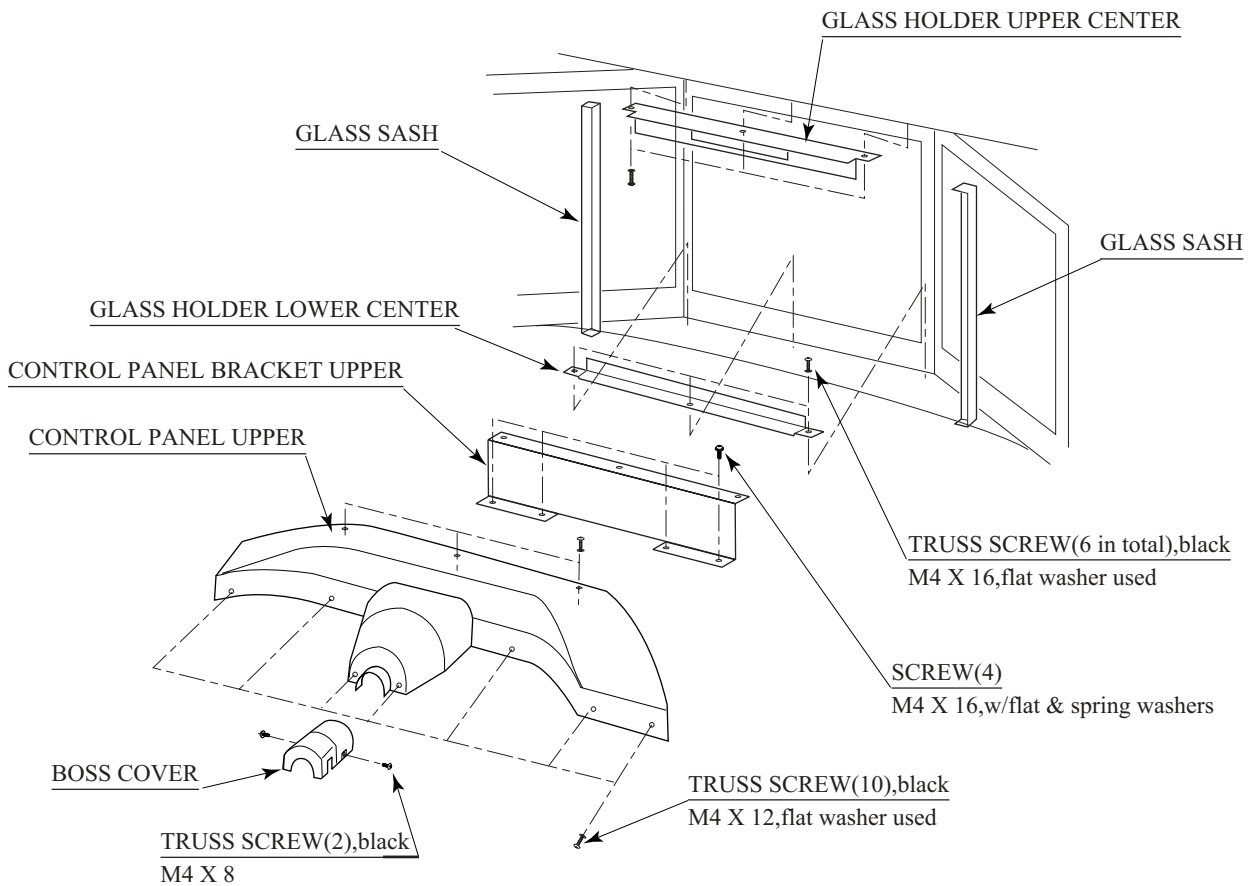
- RESET
Reset the on-screen setting status to the factory setting. (Press the UP button or DOWN button for one second or longer.) Note that the factory setting status is predetermined and not changeable.

14 - 4 CLEANING THE MONITOR GLASS

Removing the Monitor Glass requires complicated work. Clean the Front Glass only in the weekly cleaning. To clean the Reverse Glass of the Monitor and the CRT Surface, removing the Monitor Glass is required.

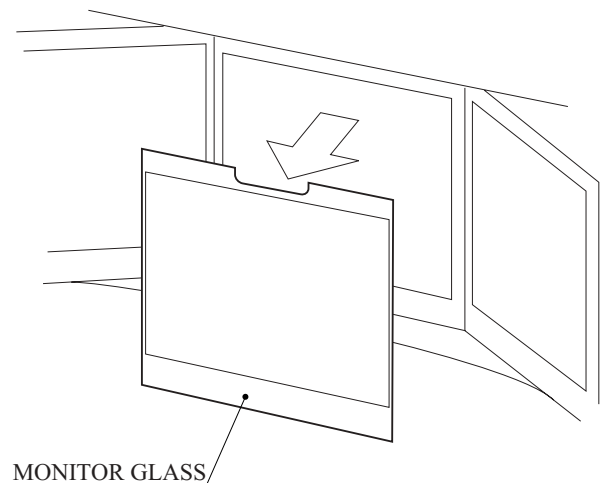
FRONT MONITOR GLASS

- ① Take out 2 screws to remove the Boss Cover.
- ② Take out 10 screws to remove the Control Panel Upper. If it is hard to take out the screws due to the existence of the Steering Wheel, remove the emblem and the Steering Wheel ahead of time.
- ③ Take out 4 screws to remove the Control Panel Bracket Upper.
- ④ Take out a total of 6 screws, and remove each of Glass Holder Upper Center, Glass Holder Upper Lower, and Glass Sash.



- ⑤ Take out the Monitor Glass.

FIG 14. 4 b



BOTH SIDE MONITOR GLASS

① Take out 9 screws and remove Monitor Cover.



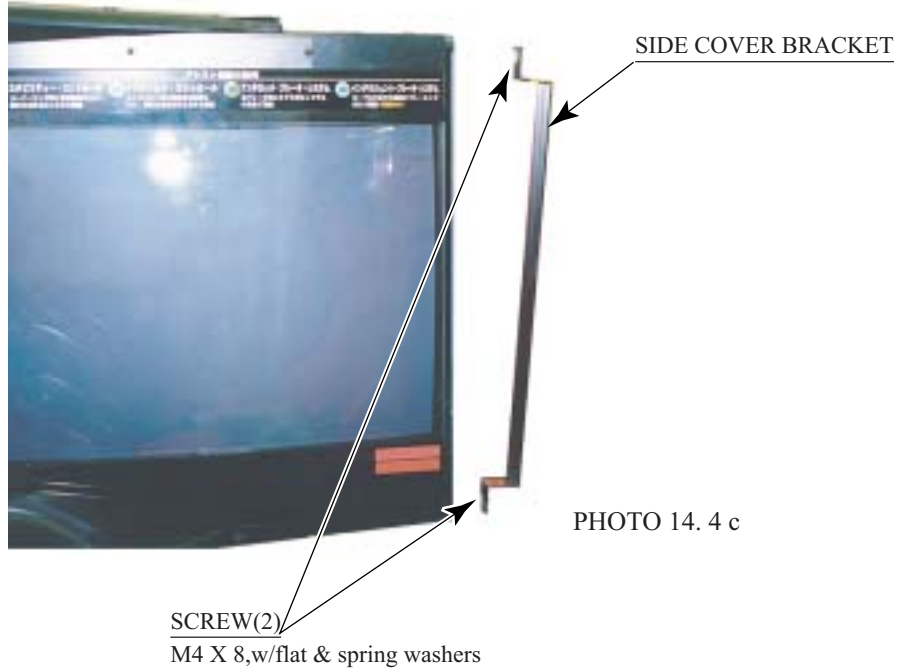
PHOTO 14. 4 a

② Take out 3 screws and remove Monitor Side Cover.



PHOTO 14. 4 b

- ③ Take out 2 screws to remove the Side Cover Bracket.



- ④ Take out 2 screw to remove the Monitor Board Lid.

- ⑤ Pull out the Monitor Glass.

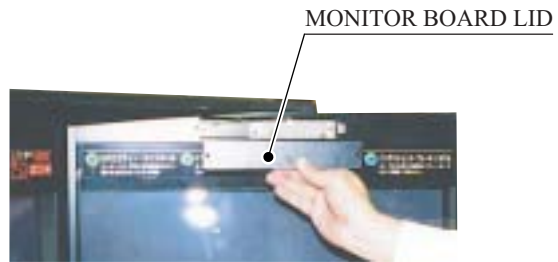
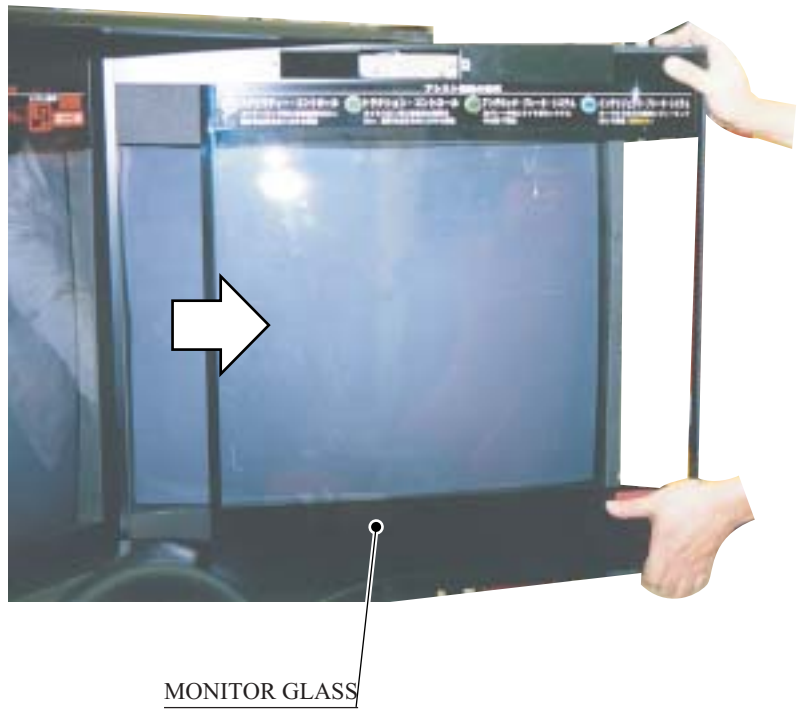


PHOTO 14. 4 d



15. REPLACING THE FLUORESCENT LAMP, AND LAMPS

The Error Lamp is used when the Printer (optional) is incorporated. If the Printer (optional) is not incorporated, disregard the following explanation of replacing the ERROR LAMP.

Regarding the U.S. Specifications:

The parts employed for the U.S. Specifications machines are procured in the U.S.A. Therefore, the parts in the U.S. Specifications are different from those of described in this section or listed in the PARTS LIST. When replacing the Fluorescent Lamp, be sure to contact where you purchased the product from.



WARNING!

- When performing work, be sure to turn power off. Working with power on can cause electric shock and short circuit hazards.
- The Fluorescent Lamp, when it gets hot, can cause burn. Be very careful when replacing the Fluorescent Lamp.
- Be sure to use lamps of the designated rating. Using lamps of undesignated rating can cause a fire or malfunctioning.



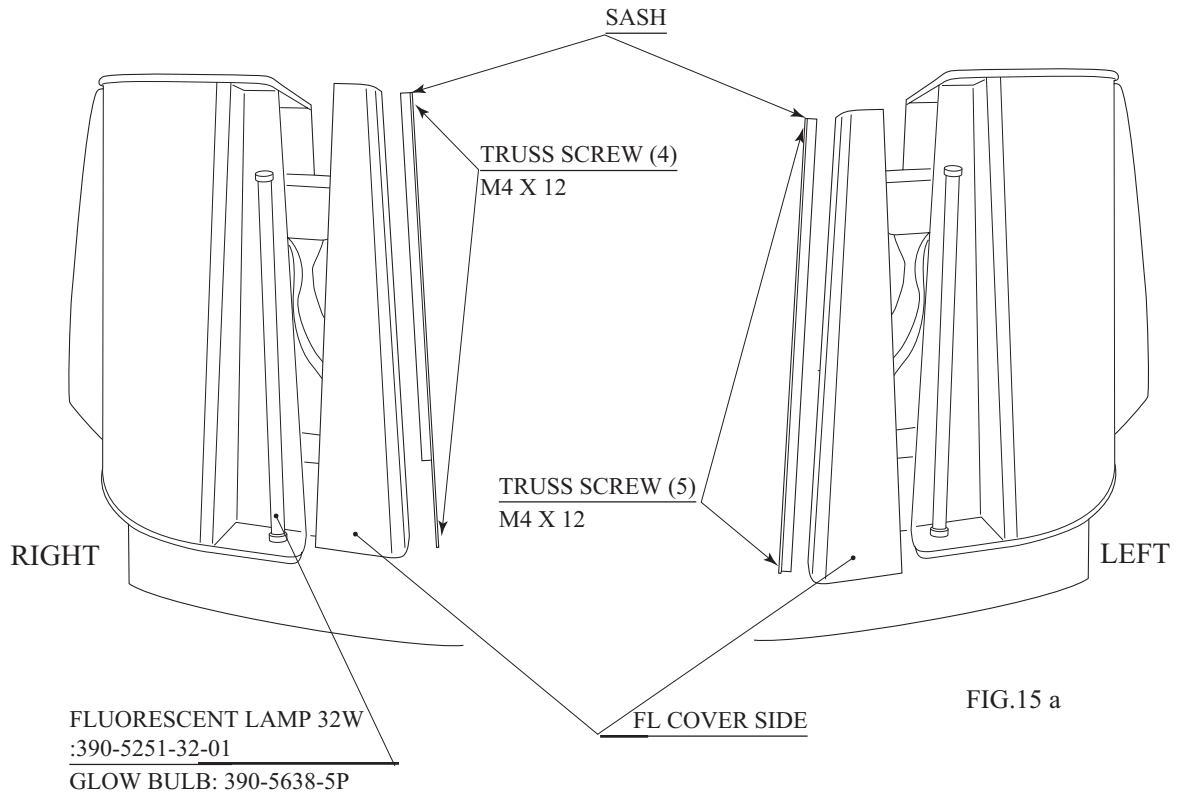
CAUTION!

- To perform work safely and securely, be sure to prepare a step which is in a secure and stable condition. Performing work without using the step can cause violent falling down accidents.
- When handling glass-made or plastic parts, use care. Failure to observe this may damage parts and cause injury due to fragments resulting from damage.

This product employs the total of 4 fluorescent lamps and the total of 2 slim lamps (no-electrode lamps).

SEAT LEFT & RIGHT

- ① Turn off power.
- ② Take out 5 Truss screws from the left-hand side and 4 Truss screws from the right-hand side of the seat facing the monitor.
- ③ Remove the Sash.
- ④ Remove the FL Cover Side.
- ⑤ Replace the Fluorescent Lamp.



BILLBOARD

- ① Turn off power.
- ② Take out 4 Truss screws in total.
- ③ Remove 2 Bushes and the Plate Holder.
- ④ Remove the FL Plate. At this time, be sure to keep the washers used underneath the Bushes.
- ⑤ Replace the Fluorescent Lamp.

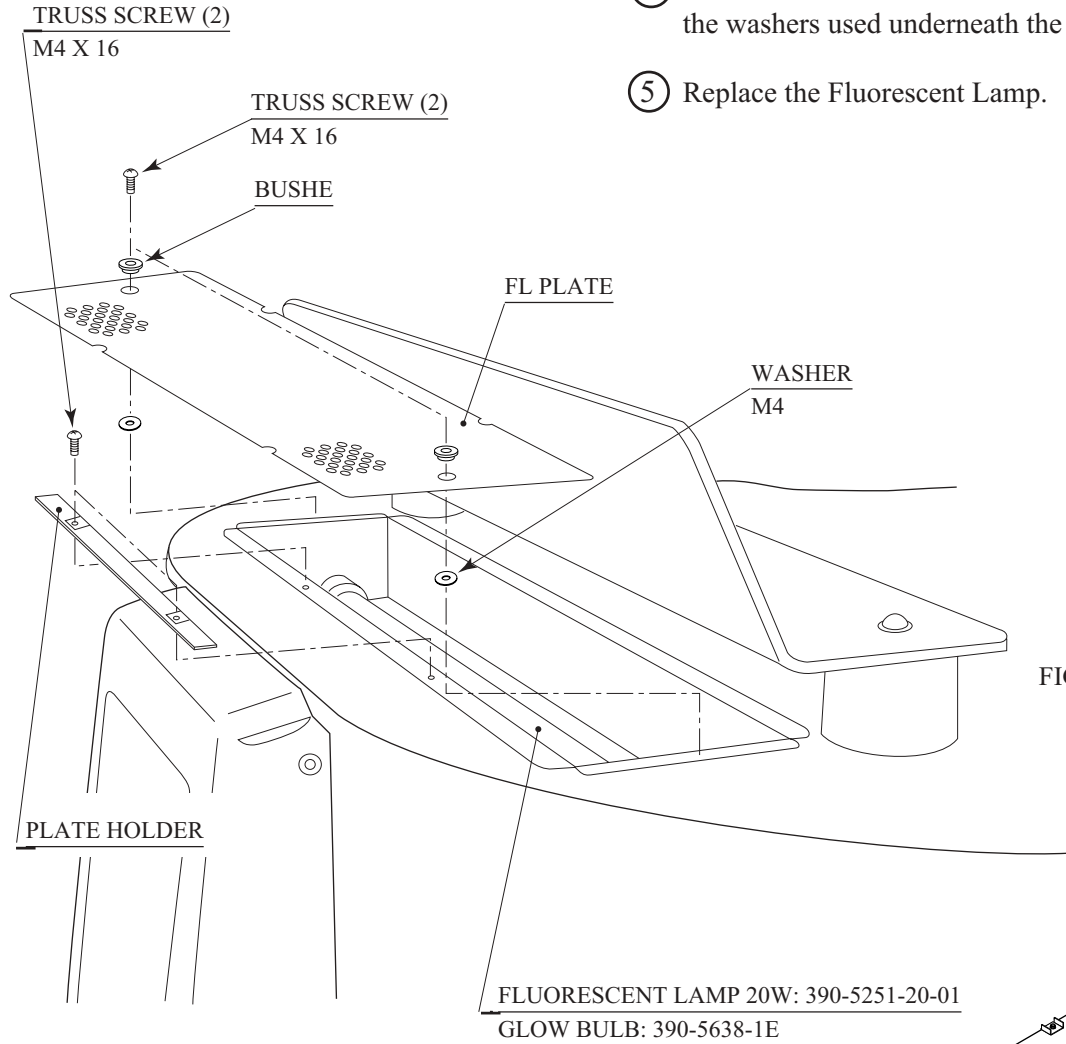
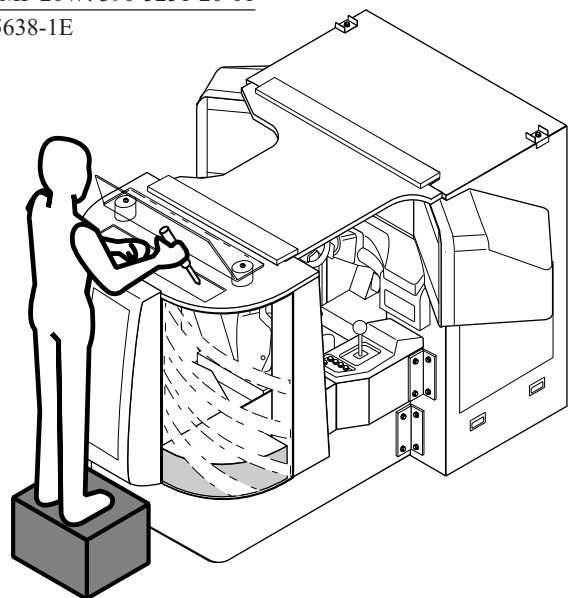


FIG. 15 b

When performing work, be sure to use a step.



THE REAR SIDE

- ① Turn off power.
- ② Take out 8 Truss screws.

TRUSS (8)M4 X 12,flat washer used.

- ③ Remove the FL Cover Rear.
- ④ Replace the Fluorescent Lamp.



PHOTO 15 a

FL COVER REAR

FLUORESCENT LAMP 30W: 390-5251-30-01
GLOW BULB: 390-5638-1E



PHOTO 15 b

SLIM LAMP

- ① Remove the FL Cover Rear as per procedures in THE REAR.
- ② Take out 4 screws of the FL Cover Rear installing portion where the Slim lamp to be replaced is attached.

SASH REAR

SCREW (4)M4 X 16,w/flat & spring washers

- ③ Remove the Sash Rear.

- ④ Take out 2 screws.

- ⑤ Remove the Rear Window.



PHOTO 15 c

TRUSS SCREW (2)
M4 X 12

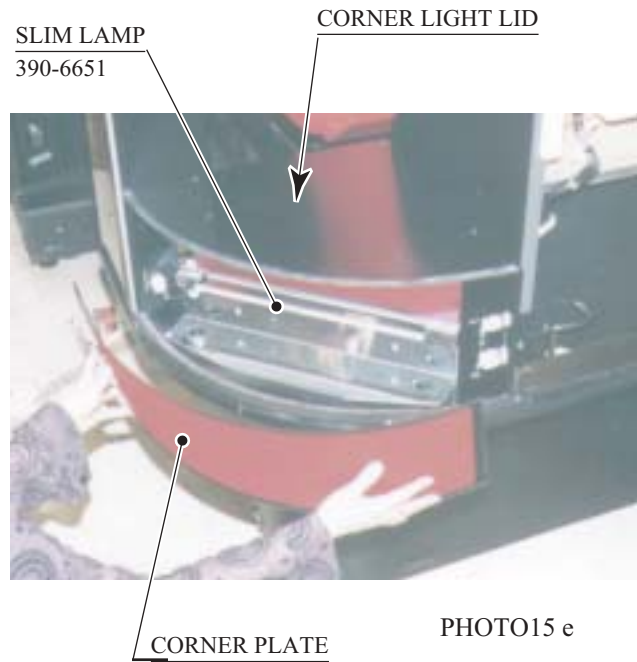


PHOTO 15 d

REAR WINDOW



- ⑥ Remove the Corner Plate. When it is hard to remove the Corner Plate, loosen the 5 screws which secure the Corner Light Lid.



- ⑦ Take out 2 screws which secure the Bracket of connector side of the Slim lamp.

- ⑧ Disconnect the connector and replace the Slim lamp.

- ⑨ Insert the edge of the replacing Slim lamp in to the holder.

- ⑩ Pass the plastic made bush and spacer through the 2 screws which secure the Bracket of the connector side. Install in a manner to put the installation portion between the bush and the spacer.

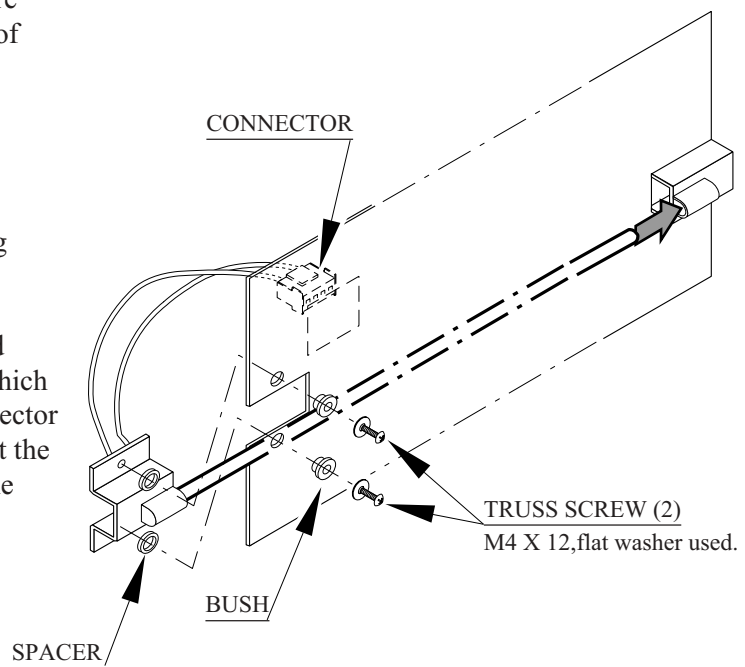
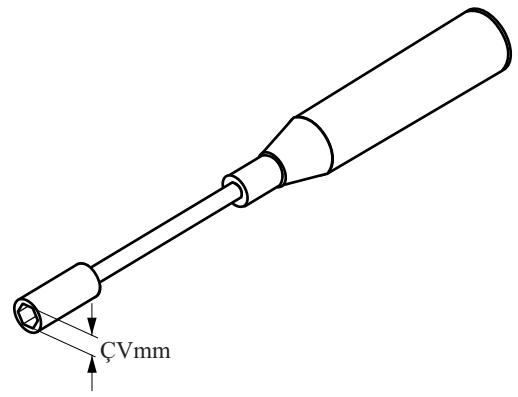


FIG. 15 c

ERROR LAMP

To perform the following work, a Phillips type Screwdriver and a driver for M4 Hexagon Nut are required.



- ① Turn off power.
- ② Take out 2 screws.
- ③ Remove the Socket Cover.

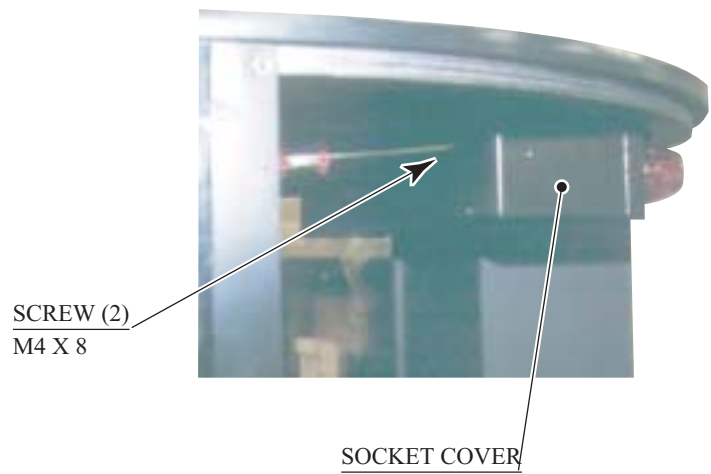


PHOTO 15 f

- ④ Disconnect a connector.

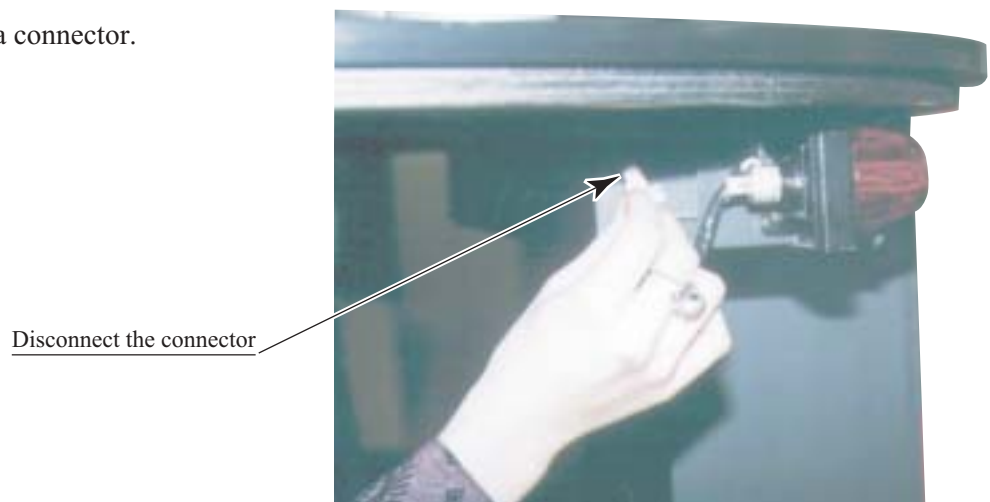
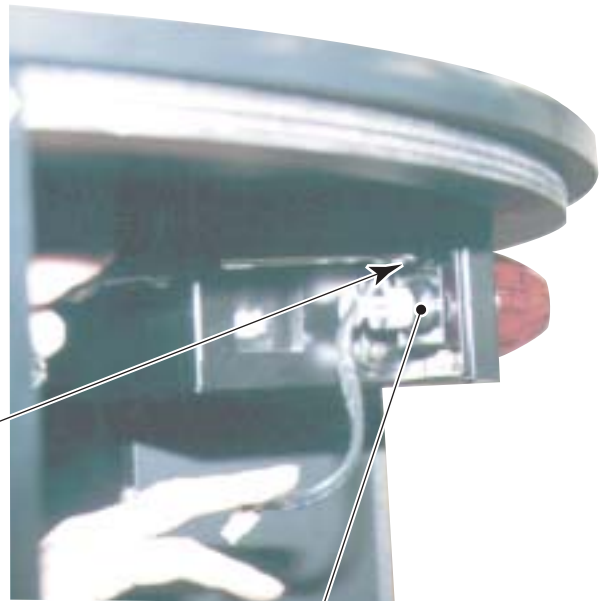


PHOTO 15 g

- ⑤ Take out 2 Flange Nuts.
- ⑥ Remove the Lamp together with the Lamp Base.

FLANGE NUT (2)
M4



LAMP BASE

PHOTO 15 h

- ⑦ Replace the Lamp.

LAMP 110V 10W
390-5174

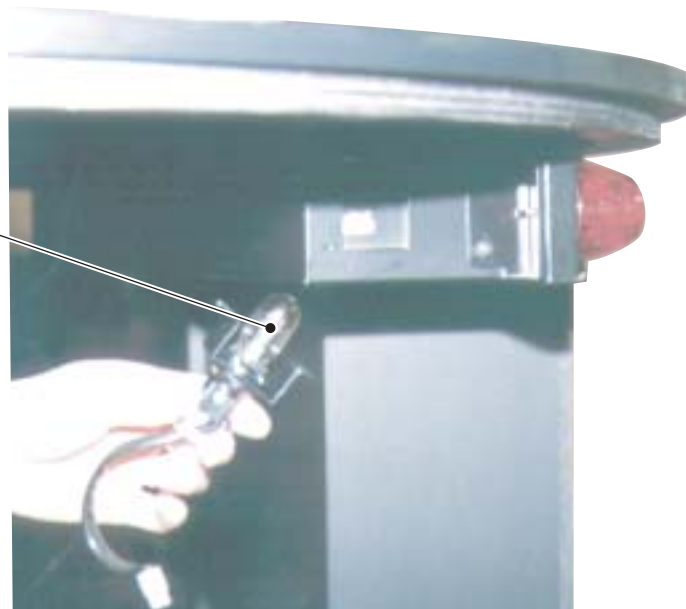


PHOTO 15 i

REPLACING THE EFFECT SWITCH LAMP

- ① Remove the Shift Cover as per procedures 10-1.

Unlock the lock

- ② A metallic part is ejected from the switch base of the EFFECT SWITCH reverse side. Turning the metallic part can unlock the lock. Take off the wiring connecting portion from the switch.

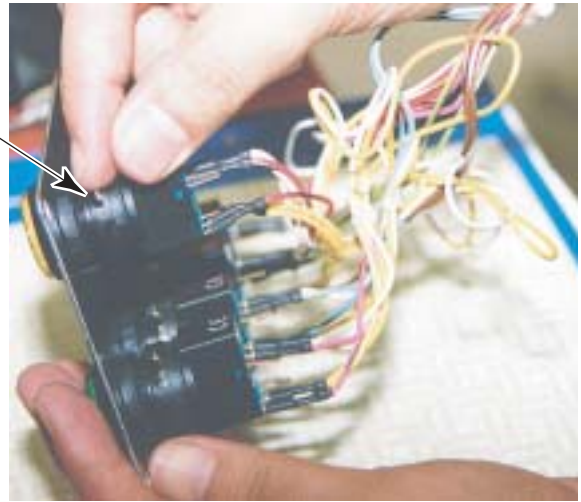


PHOTO 15 j

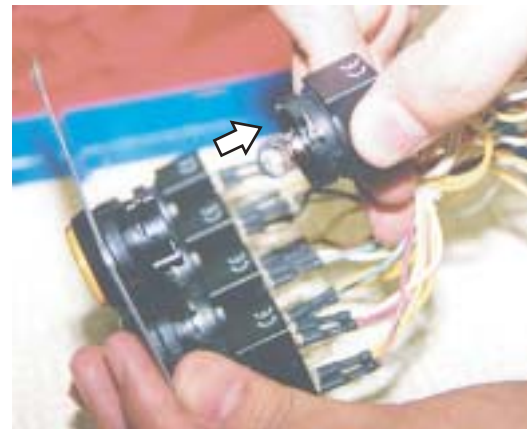


PHOTO 15 k

- ③ The lamp is inside the wiring connecting portion. Push and then turn the Lamp counterclockwise to remove.

LAMP 6.3V 1W
390-5445-01



PHOTO 15 l

16. PERIODIC INSPECTION TABLE

The items listed below require periodic check and maintenance to retain the performance of this machine and to ensure safe business operation.



- 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 the product with dust as is accumulated can cause fire and electric shock hazards.
- Periodically once a year, request the place of contact herein stated or the Distributor, etc. where the product was purchased from, as regards the internal cleaning. Using the 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.

TABLE 16

| ITEMS | DESCRIPTION | PERIOD | REFERENCE |
|--------------------|--|-------------------------------------|--------------------------|
| CABINET | Check Adjusters' contact with surface. | Daily | 3 |
| HANDLE MECHA | Check VOLUME VALUE. | Monthly | SERVICE MANUAL |
| | Gear part greasing | Tri-monthly | 9-2 |
| PADDLE SHIFT | Check SW. | Monthly | SERVICE MANUAL |
| ACCEL. & BRAKE | Check VOLUME VALUE. | Monthly | SERVICE MANUAL |
| | Gear and Spring portion greasing | Tri-monthly | 11-2 |
| CLUTCH PEDAL | Check VOLUME VALUE. | Monthly | SERVICE MANUAL |
| 6-SPEED SHIFT | Check SW. | Monthly | SERVICE MANUAL |
| | Greasing | Tri-monthly | 12 |
| PRINTER (OPTIONAL) | Cleaning of the printer head | After a roll of paper is exhausted. | 7 |
| COIN SELECTOR | Check COIN SWes. | Monthly | SERVICE MANUAL |
| | Coin insertion test. | Monthly | 13 |
| | COIN SELECTOR cleaning. | Tri-monthly | 13 |
| MONITOR | Check adjustments. | Monthly | SERVICE MANUAL |
| | MONITOR GLASS cleaning. | Weekly | 14-4 |
| GAME BD | MEMORY TEST. | Monthly | SERVICE MANUAL |
| | Check settings. | Monthly | SERVICE MANUAL |
| REAR CABINET | Grease the Seat Rail portion. | Trimonthly | See next page (FIG. 16). |
| Cabinet surfaces | Cleaning | As necessary. | See next page. |
| INTERIOR | Cleaning | Annually | See above. |
| POWER SUPPLY PLUG | Inspection and cleaning | | |

REAR CABINET (Greasing to Seat Rail Portion)

Move the Seat to the rearmost portion and apply spray greasing to the portion shown at the right once every 3 months by using NOK KLUBER L60 or GREASE MATE SEGA PART No. 090-0066.

After greasing, move the Seat a few times forward and backward so as to allow the grease to be applied all over uniformly. Be sure to wipe grease which attaches to the surfaces of the PROTECT RUBBER on the Seat Rail, or any excess grease.

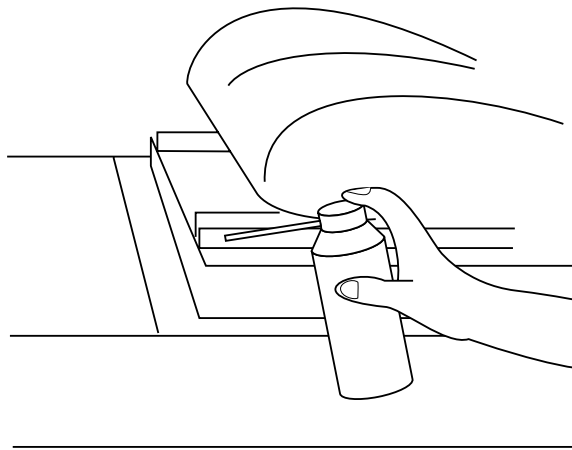


FIG. 16

CLEANING THE CABINET SURFACES

If the Cabinet is badly stained, use a cloth which is dipped in the chemical detergent liquid diluted with water and then squeezed dry. Do not use such solvents as alcohol, thinner, benzine, etc., or abrasives, bleaching agents and or chemical dustcloth as these can damage cabinet surface finish.

17. TROUBLESHOOTING

In case a problem occurs, first check wiring connector connections.



- In order to prevent electric shock and short circuit, be sure to turn power off before performing work.
- Be careful so as not to damage wirings. Damaged wiring can cause electric shock or short circuit.
- After removing the cause of the functioning of the Circuit Protector, reinstate the Circuit Protector. Depending on the cause of the functioning, using the Circuit Protector as is without removing the cause can cause generation of heat and fire hazard.

TABLE 17 a

| PROBLEMS | CAUSE | COUNTERMEASURES |
|--|---|---|
| When the main SW is turned ON, the machine is not activated. | The power is not ON. | Firmly insert the plug into the outlet. |
| | Incorrect power source/voltage. | Make sure that the power supply/voltage are correct. |
| | AC UNIT CIRCUIT PROTECTOR functioned due to instantaneous overcurrent. | First, remove the cause of overcurrent and reinstate the circuit protector to its original status. (see Sec. 6) |
| | CIRCUIT PROTECTOR inside the Cabinet functioned due to instantaneous overcurrent. | Reinstate the circuit protector to its original status. (see FIG. 17 b) |
| The color of image on MONITOR screen is incorrect. | Incorrect monitor adjustment. | Make appropriate adjustments. (see Sec. 14) |
| The on-screen image of the monitor sways and or shrinks. | The power source and voltage are not correct. | Make sure that the power supply and voltage are correct. |
| Sound is not emitted. | Sound volume adjustment is not correct. | Adjust the SWITCH UNIT's sound adjustment volume. (see Service Manual) |
| | Malfunctioning BD. and Amp. | Perform Sound Test to check it. (see Service Manual) |
| | Connector connection is incorrect. | Check connectors between the Front and the Rear Cabinets. (see Sec. 6) |

CIRCUIT PROTECTOR

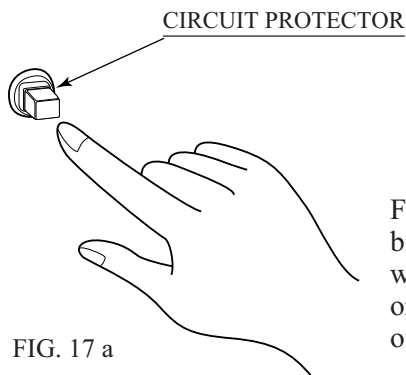


FIG. 17 a

Functions due to the activation of bimetal. To restore the function, wait for approximately one minute or longer until the bimetal cools off. (Press the Button.)

TABLE 17 b

| PROBLEMS | CAUSE | COUNTERMEASURES |
|--|--|---|
| No sound is emitted from WOOFER. | The Fuse is blown due to momentary overload. | Replace fuse. (see FIG. 17 c) 514-5086-6300 FUSE 6.4A~30 6300mA 125W |
| Steering Wheel reaction strength is incorrect. Deviation of Center. | Power ON check not performed correctly. | Turn off power and then turn it back on again. Complete the power on check. |
| | V.R. position deviated. | Adjust V. R. value in the test mode. (see Service Manual) |
| | V.R. malfunctioning. | Replace V.R. (see Sec. 9) |
| Steering Wheel reaction strength is insufficient. | Reaction Mecha's secular change. | Adjust V. R. value in the Test mode. (see Service Manual) |
| Paddle Shift's operation is not satisfactory. | Switch malfunctioning. | Replace the Switch. (see 9-3) |
| 6-speed Shift's operation is not satisfactory. | Switch malfunctioning. | Replace the Switch. (see Sec. 9) |
| Operation of Accel. and Brake Pedals are not satisfactory. | V.R. malfunctioning. | Replace the V.R. (see Sec. 11) |
| | ADJUST GEAR's engagement is not correct. | Adjust the engagement of ADJUST GEAR (see Sec. 11). |
| Crutch Pedal's operation is not satisfactory. | V.R. malfunctioning. | Replace the V.R. (see Sec. 12) |
| | ADJUST GEAR's engagement is not correct. | Adjust the engagement of ADJUST GEAR. (see Sec. 12) |
| Fluorescent lamp doesn't light up. | Fluorescent lamp needs replacement. | Replace the fluorescent lamp. (see Sec. 15) |

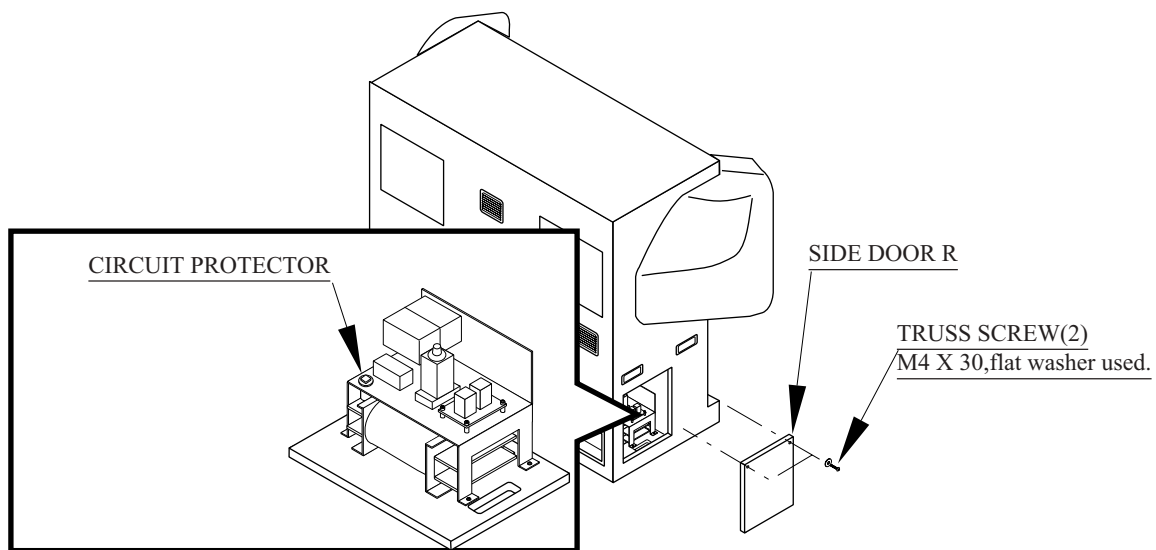


FIG. 17 b

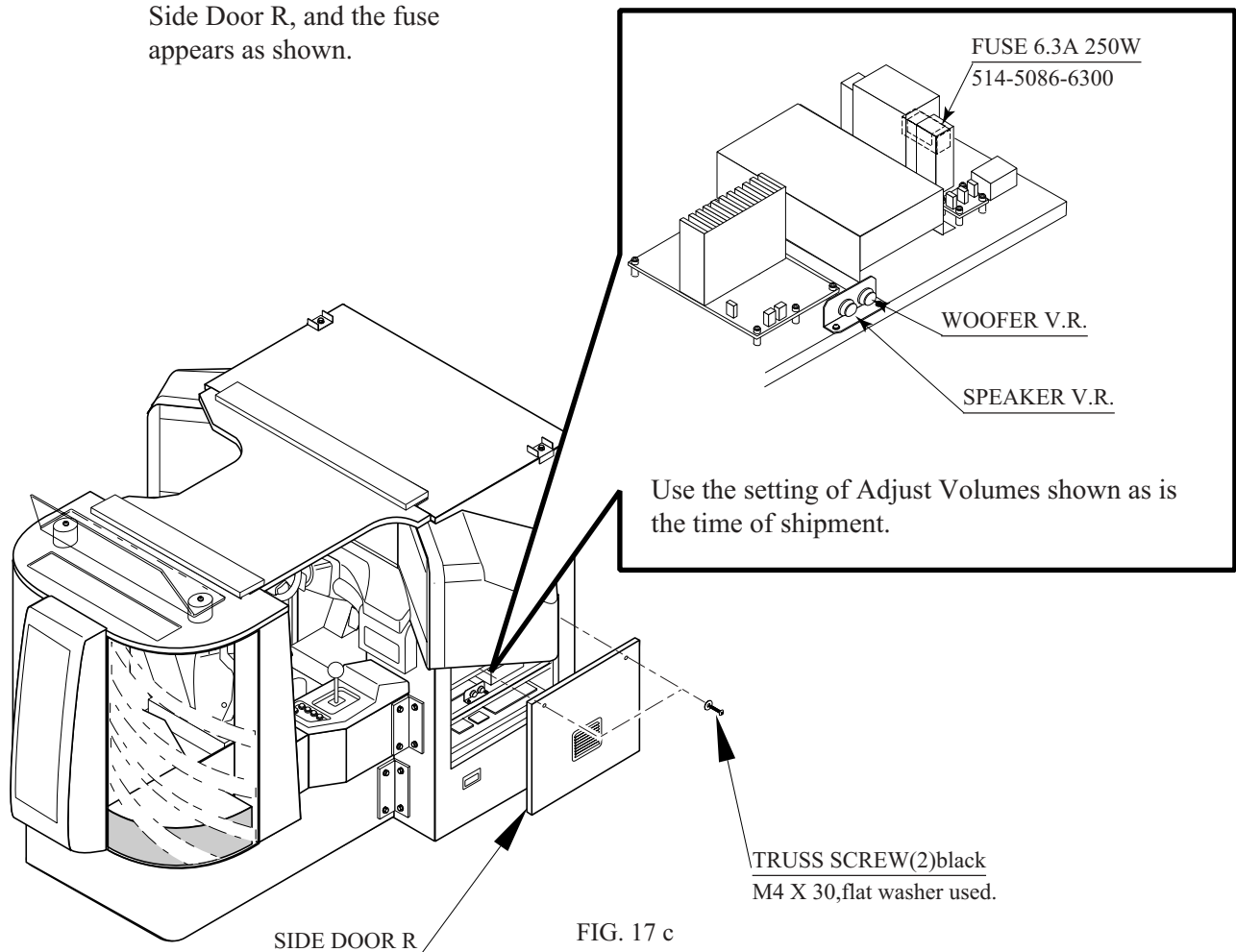
REPLACEMENT OF FUSE



WARNING!

- Fuse replacements other than those specified can cause accidents and are strictly forbidden. In case fuse replacements other than those stated in this manual are necessary, contact where you purchased the product from for inquiries regarding this matter.
- In order to prevent an electric shock, be sure to turn power off and unplug from the socket outlet before performing work by touching the internal parts of the product.
- Be careful so as not to damage wirings. Damaged wiring can cause electric shock and short circuit accidents.
- Be sure to use fuses meeting specified rating. Using fuses exceeding the specified rating can cause fire and electric shock accidents.
- After eliminating the cause of the blowing of fuse, replace the fuse. Depending on the cause of fuse blowing, continued use with the fuse as is blown can cause generation of heat and fire hazard.

Take out 2 screws to remove Side Door R, and the fuse appears as shown.



18. GAME BOARD



WARNING!

- In order to prevent electric shock and short circuit hazards, be sure to turn power off before performing work.
- Be careful so as not to damage wirings. Damaged wiring can cause fire, electric shock and short circuit hazards.
- Do not expose the Game BD, etc. without a good reason. Failure to observe this can cause electric shock or malfunctioning.



CAUTION!

The electronic parts on the IC Board could be damaged due to human body's static electricity. Before performing IC Board related work, be sure to discharge physically accumulated statics by touching grounded metallic surfaces, etc.



IMPORTANT!

Put the Game Board in the Carton Box (an accessory) together with the Shield Case when requesting for the replacement or repair. Transporting the Game Board in an undesignated status for replacement/repair is unacceptable.

18 - 1 TAKING OUT THE BOARD

- ① Turn power off.
- ② Take out the 2 truss screws, unlock and remove the Back Door Lower.
- ③ Disconnect all of the Connectors connected to ASSY MAIN BOARD DX.
- ④ Remove the 2 Wing Bolts and take out ASSY MAIN BD DX with the Shield Case as is mounted.

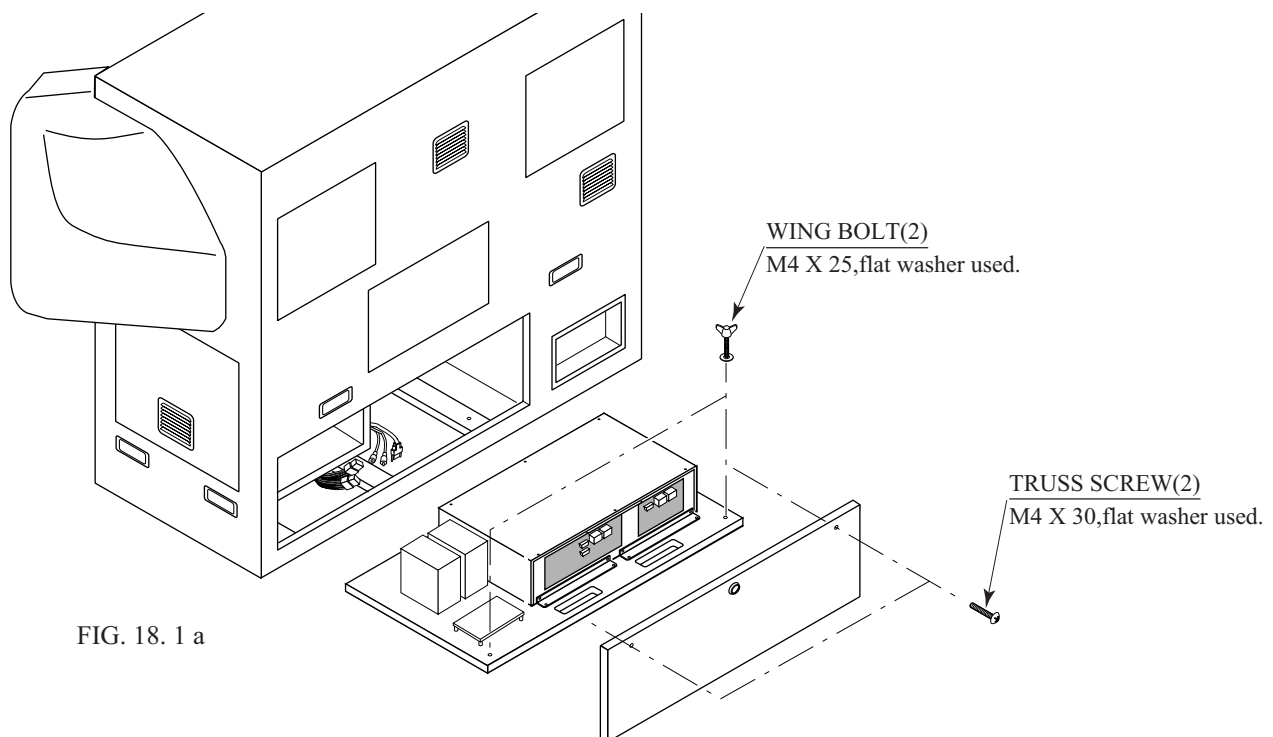


FIG. 18. 1 a

CONNECTING THE VIDEO SIGNAL LINE AND AUDIO SIGNAL LINE

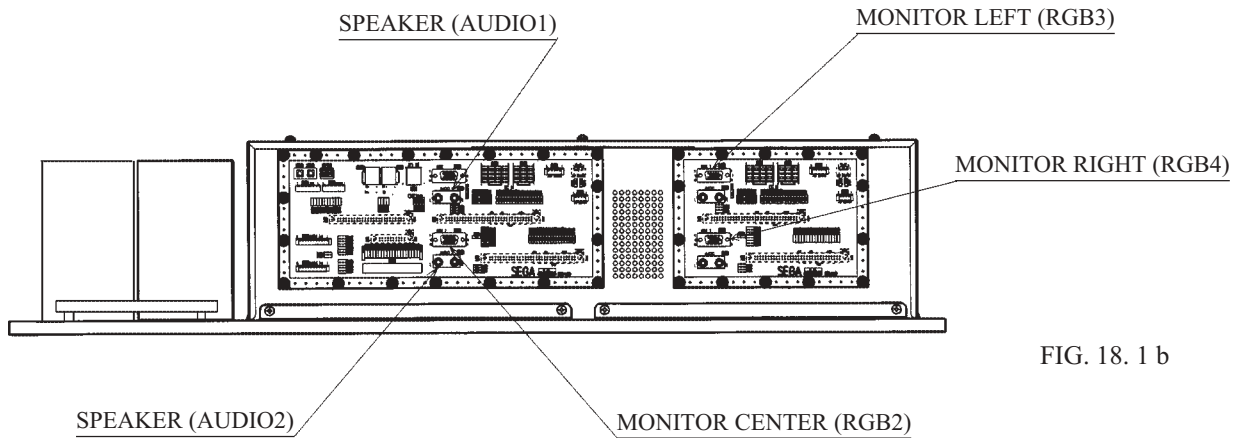


FIG. 18. 1 b

18 - 2 COMPOSITION OF GAME BOARD

- GAME BD FRI DX USA (833-13841-01) : USA
- GAME BD FRI DX EXP (833-13841-02) : OTHERS
- GAME BD FRI DX KOR (833-13841-03) : KOREA
- GAME BD FRI DX AUS (833-13841-04) : AUSTRALIA



PHOTO 18. 2

DIP SW SETTING

In the product, set all of the DIP SWes to OFF.

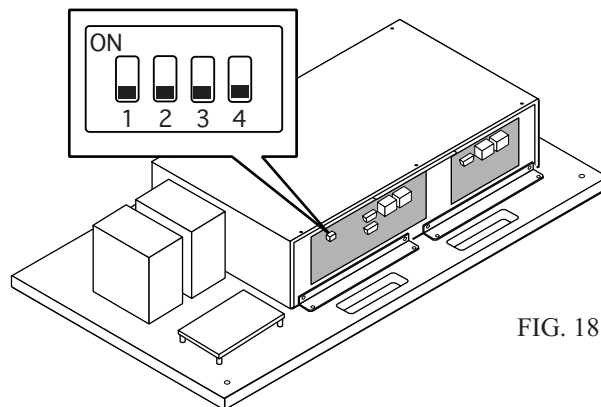
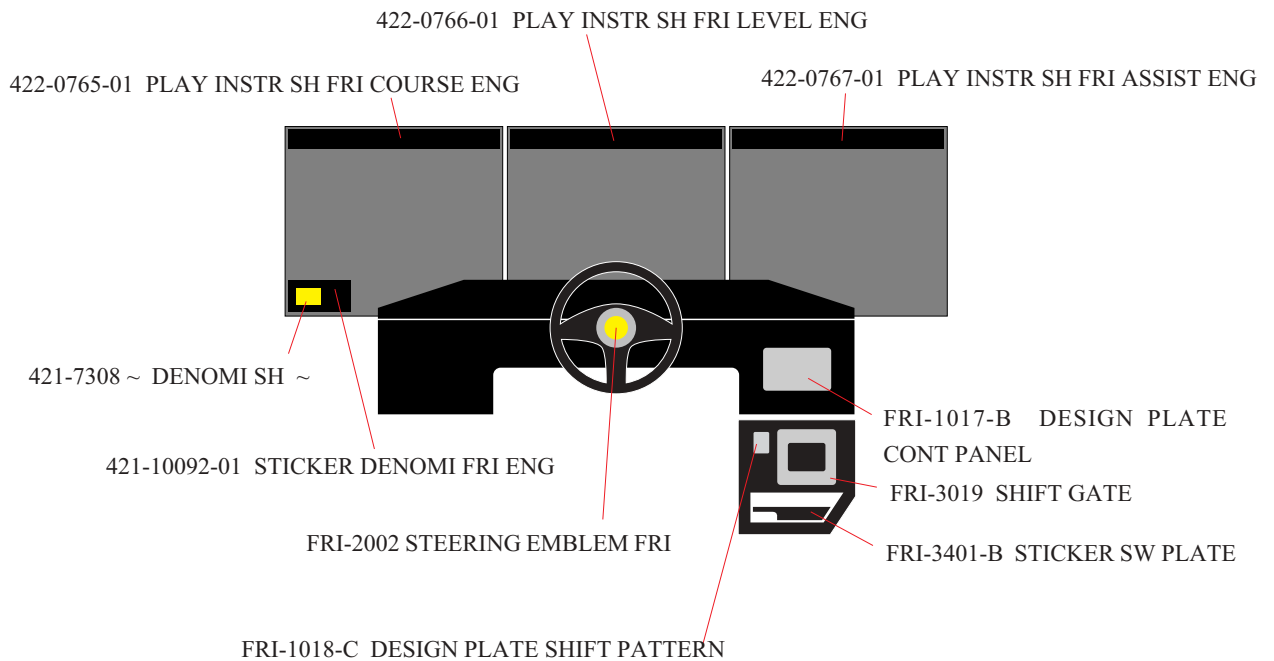
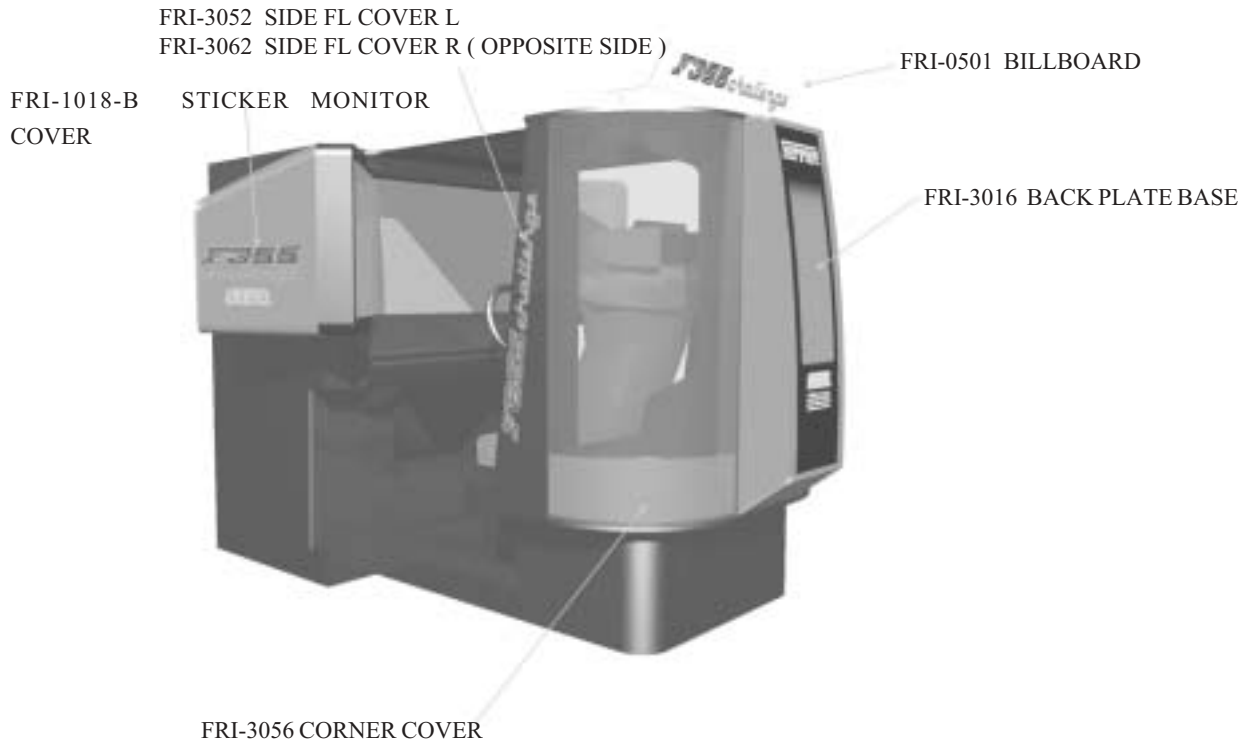


FIG. 18. 2

19. DESIGN RELATED PARTS

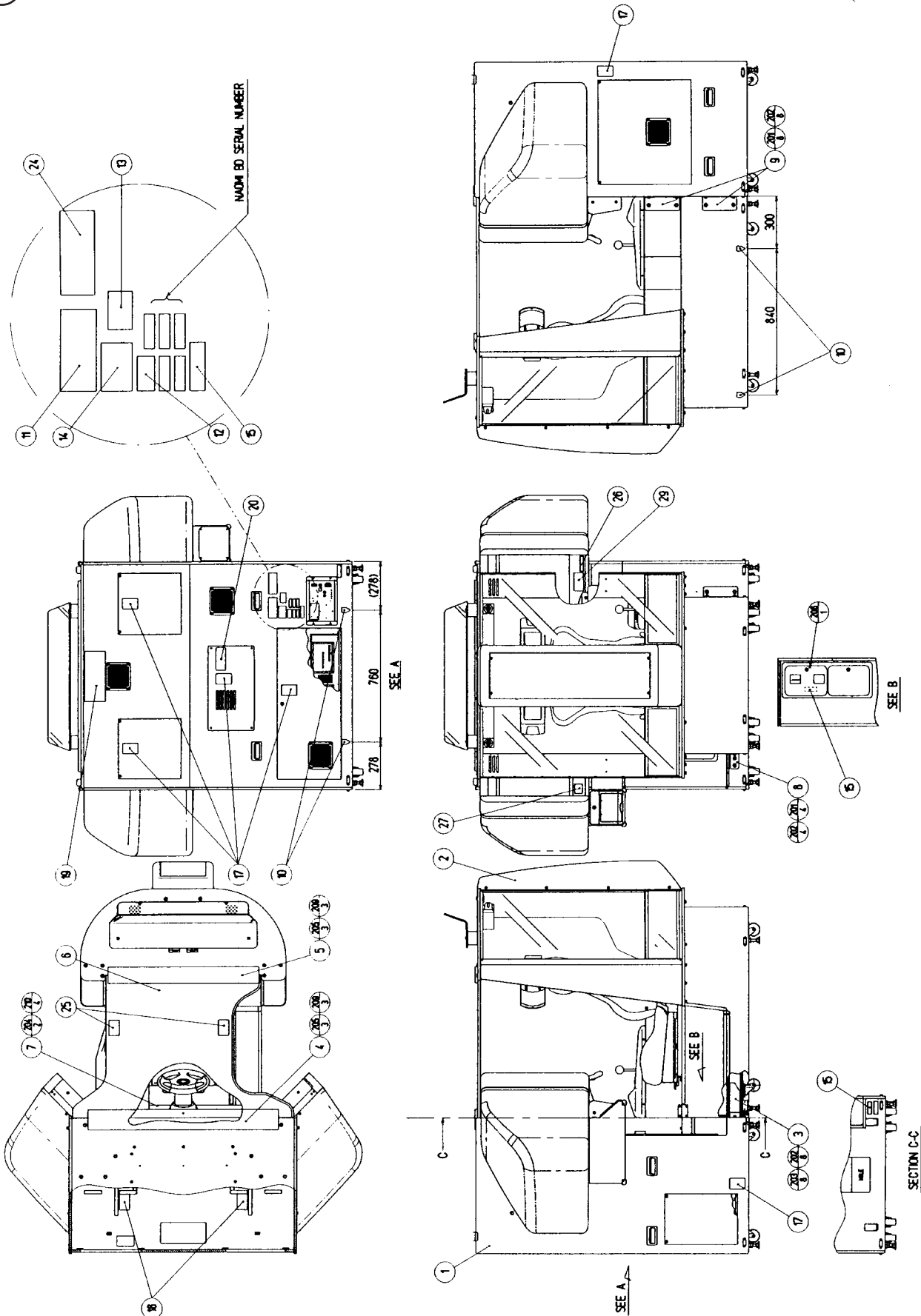
For the Warning Display stickers, refer to Section 1.



20. PARTS LIST

① TOP ASSY FRI DX

(D-1/3)



| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|---------------|-------------------------------|--------------------|
| 1 | FRI-1000 | ASSY FRONT CABINET | |
| 2 | FRI-3000 | ASSY REAR CABINET | |
| 3 | APC-0001 | JOINT PIPE | |
| 4 | FRI-0001 | ROOF NUT PLATE F | |
| 5 | FRI-0002 | ROOF NUT PLATE R | |
| 6 | FRI-0003 | CENTER ROOF | |
| 7 | FRI-0004 | JOINT PLATE CENTER | |
| 8 | FRI-0005 | JOINT BRKT L | |
| 9 | FRI-0006 | JOINT BRKT R | |
| 10 | 421-7020 | STICKER CAUTION FORK | |
| 16 | 421-8479-01 | STICKER INSTR SUNLIGHT ENG | |
| 17 | 440-WS0002XEG | STICKER W POWER OFF ENG | |
| 18 | 440-DS0013XEG | STICKER D MONITOR ENG | |
| 19 | 440-WS0170-JP | STICKER W FALL DOWN | |
| 20 | 440-CS0181-EG | STICKER C DOOR HINGE ENG | |
| 22 | SGM-4048 | POLY COVER 1250 X 1800 X 2100 | |
| 23 | FRI-0007 | SHIPPING BRKT REAR | |
| 25 | 440-CS0179-EG | STICKER C DO NOT GET ON ENG | |
| 28 | SGM-4507 | POLY COVER 1700 X 1700 X 1950 | |
| 29 | 440-CS0175-EG | STICKER C CEPILEPSY ENG | |
| 30 | 421-10097 | STICKER FORK POSITION FRI DX | |
| 201 | 030-000830-SB | HEX BLT W/S BLK M8 X 30 | |
| 202 | 068-852216-0B | FLT WSHR BLK 8.5-22 X 1.6 | |
| 203 | 030-000820-SB | HEX BLT W/S BLK M8 X 20 | |
| 204 | FAS-300005 | HEX BLT CRM W/FS M8 X 30 | |
| 205 | 000-T00630-0B | M SCR TH BLK M6 X 30 | |
| 206 | 000-T00412-0B | M SCR TH BLK M4 X 12 | |
| 207 | 000-P00408-S | M SCR PH W/S M4 X 8 | |
| 208 | 060-F00400 | FLT WSHR M4 | |
| 209 | 068-652016-0B | FLT WSHR BLK 6.5-20 X 1.6 | |
| 210 | 000-T00416-0C | M SCR TH CRM M4 X 16 | |
| 211 | 050-000800 | HEX NUT M8 | |
| 212 | 008-B00830-0B | TMP PRF SCR BH BLK M8 X 30 | |
| 401 | 220-5576 | KEY MASTER FOR 220-5575 | |
| 402 | SGM-4111 | KEY BAG (SGB-1035X) | |
| 403 | 280-5009-01 | CORD CLAMP 21 | |
| 404 | 540-0009-01 | WRENCH FOR TAMP SCR M8 | |
| 406 | 600-6729 | AC CABLE CONNECT TYPE 15A | AC 110V AREA |
| | 600-6695 | AC CABLE CONNECT TYPE USA 15A | AC 120V AREA |
| | 600-6618 | AC CABLE CONNECT TYPE FOR EXP | AC 220 ~ 240V AREA |
| 408 | 220-5484 | VOL CONT B-5K OHM | |
| | 220-5373 | VOL CONT B-5K OHM | |
| 409 | 514-5086-6300 | FUSE S.B 6300MA 250V HBC CE | |
| 410 | 509-5636 | SW MICRO TYPE SS-5GL2T | |
| 411 | 509-5387 | SW MICRO TYPE | |
| 413 | 420-6507-01 | OWNERS MNL FRI DX ENG | |
| 414 | 420-6508-01 | SERVICE MANUAL FRI DX ENG | |

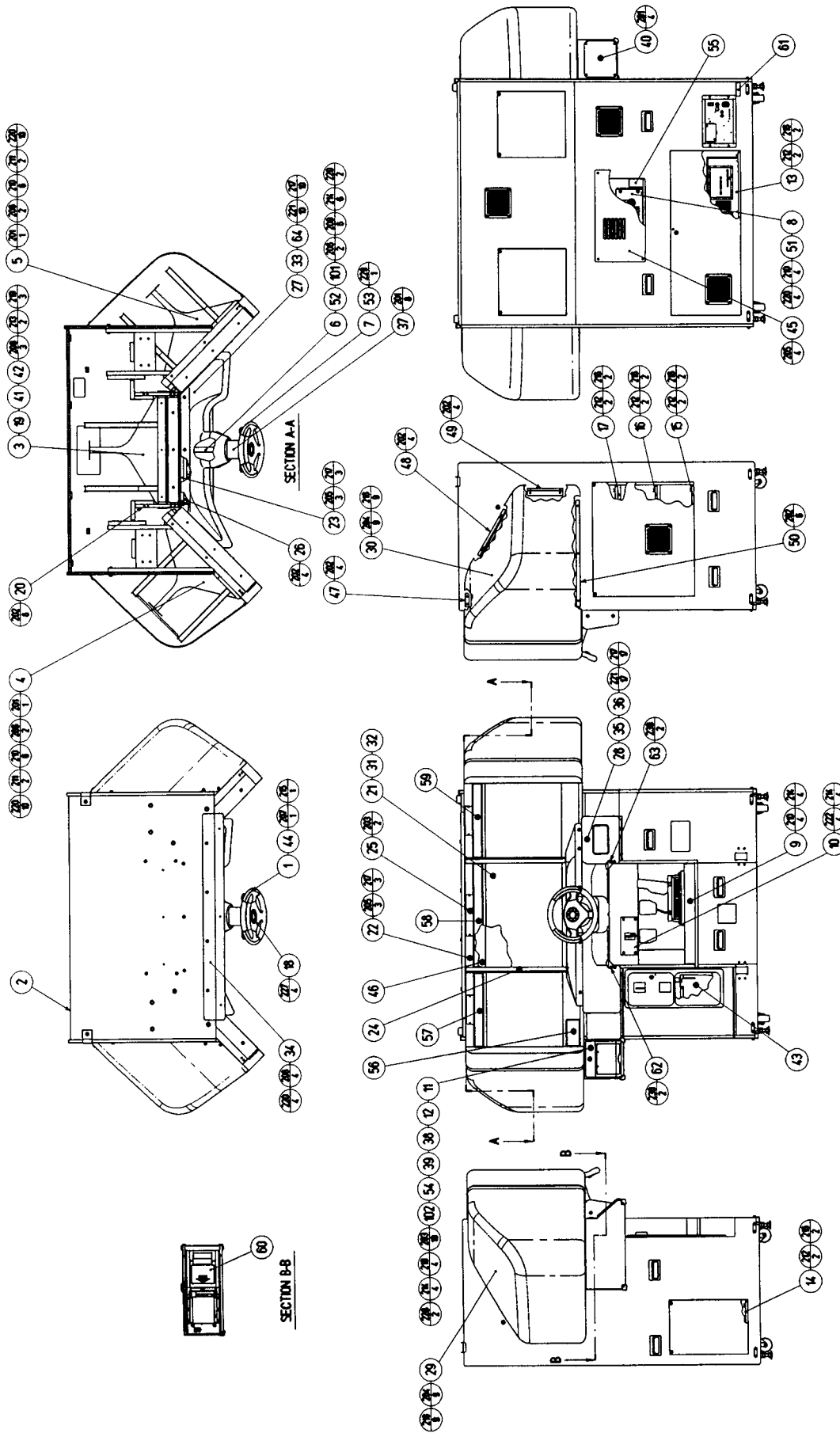
① TOP ASSY FRI DX

(D-2/3)

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|-------------|-----------------------|--------------|
| / | 105-5356 | SHIPPING BRKT | |
| / | 421-8740 | CAUTION INSTR COP U/R | |
| / | 280-6609 | REPEAT TIE RF140 | |
| / | 421-6690-06 | STICKER 110V | AC 110V AREA |
| / | 421-6690-03 | STICKER 220V | AC 220V AREA |
| / | 421-6690-05 | STICKER 240V | AC 240V AREA |
| / | 421-6690-01 | STICKER 120V | AC 120V AREA |
| / | 421-7308 ~ | DENOMI SH 1GAME ~ | |
| | 421-6119-91 | STICKER FCC | 3 |
| | 421-6120-91 | STICKER SEGA USA | 1 2 USA |

② ASSY FRONT CABINET (FRI-1000)

(D-1/3)



NOTE) M8 BOLT FASTENING TORQUE TO BE: 178kgf*cm

② ASSY FRONT CABINET (FRI-1000)

(D-2/3)

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|----------------|------------------------------|------|
| 1 | SPG-2001 | STEERING WHEEL | |
| 2 | FRI-1001 | ASSY FRONT SUB-CABI | |
| 3 | APC-1100 | ASSY MONITOR CENTER | |
| 4 | APC-1150 | ASSY MONITOR LEFT | |
| 5 | APC-1200 | ASSY MONITOR RIGHT | |
| 6 | FRI-2000 | ASSY STEERING MECHA | |
| 7 | FRI-2050 | ASSY PADDLE SHIFT | |
| 8 | FRI-2100 | STEERING MOTOR UNIT | |
| 9 | FRI-2200 | PEDAL UNIT | |
| 10 | FRI-2400 | CLUTCH UNIT | |
| 13 | FRI-4000 | ASSY MAIN BD DX | |
| 14 | FRI-4100 | ASSY PWR SPLY DX | |
| 15 | FRI-4200 | ASSY I/O BASE DX | |
| 16 | FRI-4300 | ASSY AUDIO BASE DX | |
| 17 | FRI-4400 | ASSY SERVO DRV BASE DX | |
| 18 | FRI-2002 | STEERING EMBLEM FRI | |
| 19 | APC-1153X | MONITOR HOLD LOWER | |
| 20 | APC-1053X | GLASS HOLDER REAR | |
| 21 | APC-1054 | GLASS | |
| 22 | APC-1055 | GLASS HOLDER UPPER CENTER | |
| 23 | APC-1056 | GLASS HOLDER LOWER CENTER | |
| 24 | APC-1057 | GLASS SUSH | |
| 25 | APC-1058X | MONITOR BD LID | |
| 26 | FRI-1015 | CONT PNL BRKT UPPER | |
| 27 | FRI-1016 | CONT PNL UPPER | |
| 28 | FRI-1017 | CONT PNL LOWER | |
| 29 | FRI-1018 | MONITOR COVER L | |
| 30 | FRI-1019 | MONITOR COVER R | |
| 31 | 601-10562-0170 | RUBBER PACKING NO.96 L=170MM | |
| 32 | 601-10562-0580 | RUBBER PACKING NO.96 L=580MM | |
| 33 | FRI-1054X | CUSHION SPONGE 550 | |
| 34 | FRI-1051 | ROOF BRKT FRONT | |
| 35 | FRI-1052 | BOSS PLATE SIDE | |
| 36 | FRI-1053 | BOSS PLATE CENTER | |
| 37 | FRI-2055 | BOSS COVER | |
| 38 | FRI-2504 | PRINTER BLIND LID | |
| 41 | 280-5112 | BUSH FOR TV | |
| 42 | 280-5113 | COLLAR FOR TV | |
| 43 | 253-5366 | CASH BOX | |
| 44 | SPG-2039 | SPACER RING | |
| 45 | APC-1077 | AIR VENT PLATE | |
| 46 | APC-1083 | MONITOR MASK | |
| 47 | APC-1014 | COVER BRKT A | |
| 48 | APC-1015 | COVER BRKT B | |
| 49 | APC-1016 | COVER BRKT C | |
| 50 | APC-1017 | COVER BRKT D | |
| 51 | SRT-3206 | KEY 5 X 5 X 17 | |
| 52 | FRI-2006 | KEY 6 X 6 X 16 | |
| 53 | FRI-2007 | KEY 5 X 5 X 10 | |
| 55 | 440-CS0140-JP | STICKER C GEAR | |
| 56 | 421-10092-01 | STISKER DENOMI FRI ENG | |
| 57 | 422-0765-01 | PLAY INSTR SH FRI COURSE ENG | |
| 58 | 422-0766-01 | PLAY INSTR SH FRI LEVEL ENG | |
| 59 | 422-0767-01 | PLAY INSTR SH FRI ASSIST ENG | |

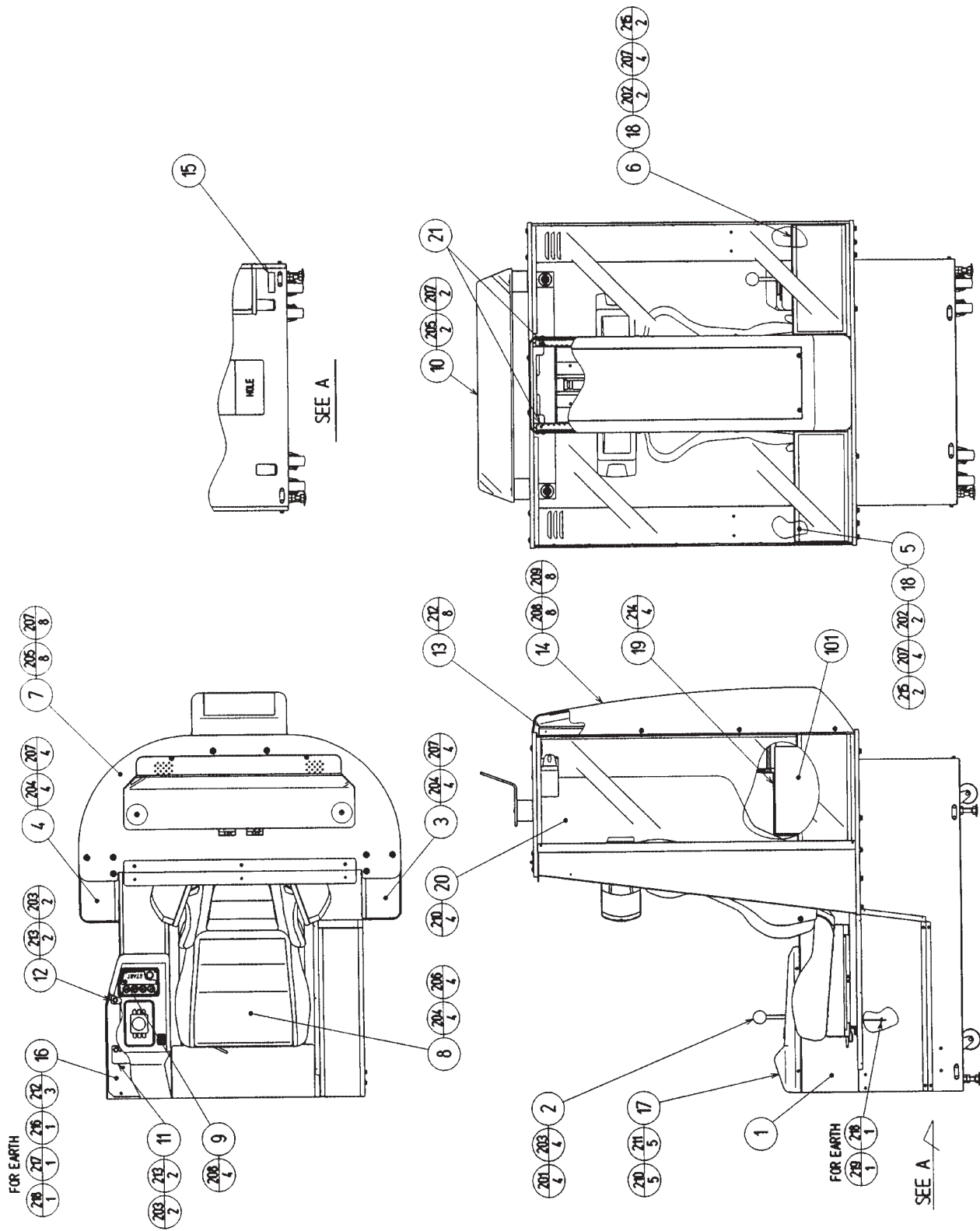
② ASSY FRONT CABINET (FRI-1000)

(D-3/3)

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|---------------|----------------------------------|------|
| 62 | FRI-1055 | BLIND PLATE L | |
| 63 | FRI-1056 | BLIND PLATE R | |
| 64 | FRI-1057 | CUSHION SPONGE 30 | |
| 101 | 111-1131 | COUPLING MJT-40K-BL 16-20 | |
| 201 | 000-T00408-0B | M SCR TH BLK M4 X 8 | |
| 202 | 000-P00416-W | M SCR PH W/FS M4 X 16 | |
| 203 | 000-T00410-0B | M SCR TH M4 X 10 BLK | |
| 204 | 000-T00410-0C | M SCR TH CRM M4 X 10 | |
| 205 | 000-T00416-0B | M SCR TH BLK M4 X 16 | |
| 206 | 008-B00830-0B | TMP PRF SCR BH BLK M8 X 30 | |
| 207 | 020-000820-0Z | HEX SKT H CAP SCR BLK 0Z M8 X 20 | |
| 208 | 030-000630-SB | HEX BLT BLK W/S M6 X 30 | |
| 209 | 030-000820-SB | HEX BLT W/S BLK M8 X 20 | |
| 210 | 030-000830-SB | HEX BLT W/S BLK M8 X 30 | |
| 211 | 030-000850-SB | HEX BLT W/S BLK M8 X 50 | |
| 212 | 032-000425 | WING BLT M4 X 25 | |
| 213 | 050-F00600 | FLG NUT M6 | |
| 214 | 060-F00800-0B | FLT WSHR BLK M8 | |
| 215 | 060-S00800-0B | SPR WSHR BLK M8 | |
| 216 | 068-441616 | FLT WSHR 4.4-16 X 1.6 | |
| 217 | 068-441616-0B | FLT WSHR BLK 4.4-16 X 1.6 | |
| 218 | 068-441616-0C | FLT WSHR CRM 4.4-16 X 1.6 | |
| 219 | 068-652016-0B | FLT WSHR BLK 6.5-20 X 1.6 | |
| 220 | 068-852216-0B | FLT WSHR BLK 8.5-22 X 1.6 | |
| 221 | 000-T00412-0B | M SCR TH BLK M4 X 12 | |
| 222 | 030-000840-SB | HEX BLT W/S BLK M8 X 40 | |
| 225 | 060-F00400 | FLT WSHR M4 | |
| 226 | 000-P00408-W | M SCR PH W/FS M4 X 8 | |
| 227 | FAS-200013 | HEX SKT H CAP SCR CRM M4 X 16 | |
| 230 | 011-T03512 | TAP SCR TH 3.5 X 12 | |
| 301 | 600-6972-0600 | WIRE HARN EARTH ID5 0600MM | |

3 ASSY REAR CABINET (FRI-3000)

(D-1/2)

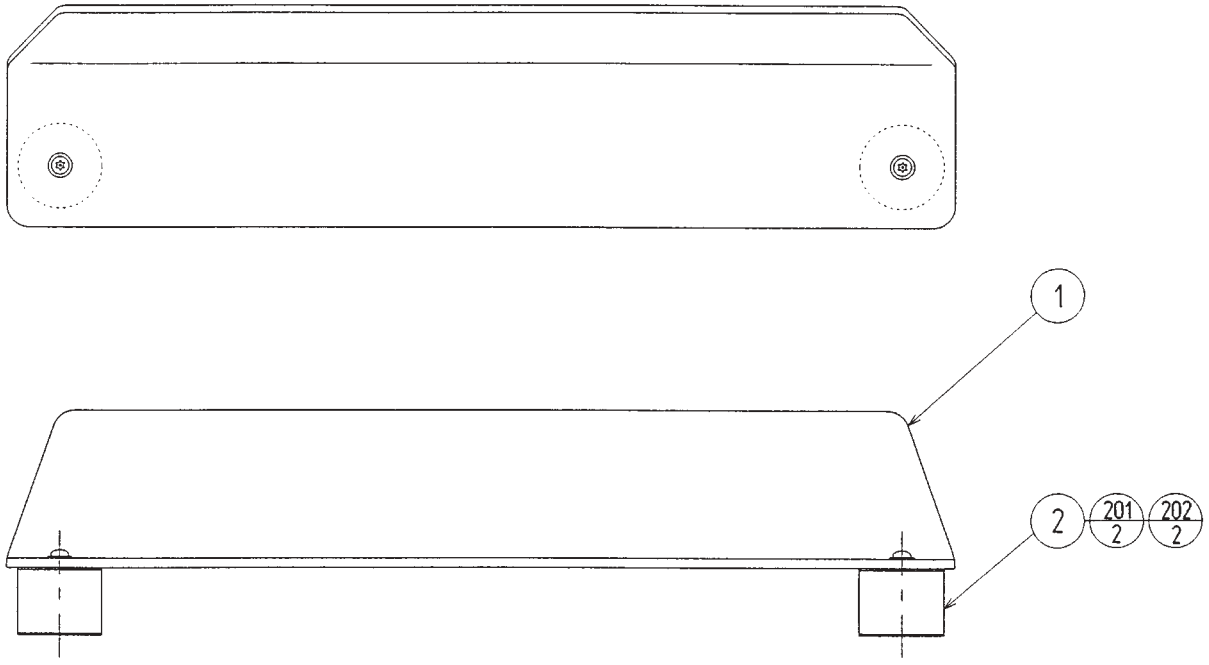


③ ASSY REAR CABINET (FRI-3000)

(D-2/2)

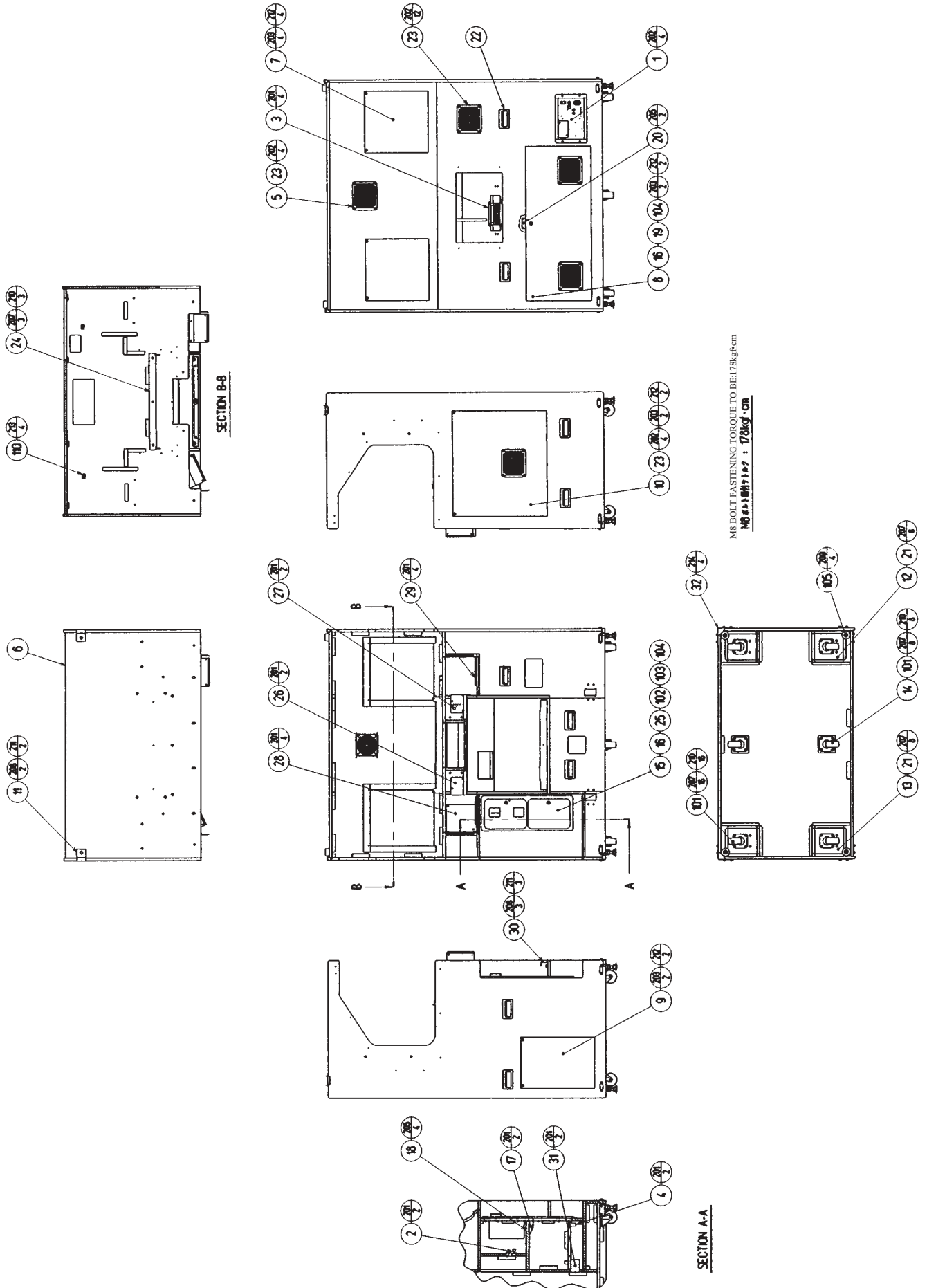
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|---------------|----------------------------|------|
| 1 | FRI-3001 | ASSY REAR SUB-CABI | |
| 2 | FRI-2150 | ASSY 6SPEED SHIFTER | |
| 3 | FRI-3050 | ASSY SIDE TOWER L | |
| 4 | FRI-3060 | ASSY SIDE TOWER R | |
| 5 | FRI-3100 | ASSY CORNER LIGHT L | |
| 6 | FRI-3150 | ASSY CORNER LIGHT R | |
| 7 | FRI-3200 | ASSY REAR ROOF | |
| 8 | FRI-3300 | ASSY SEAT | |
| 9 | FRI-3400 | ASSY EFFECT SW | |
| 10 | FRI-0500 | ASSY BILLBOARD | |
| 11 | FRI-3030 | SHIFT BRKT L | |
| 12 | FRI-3031 | SHIFT BRKT R | |
| 13 | FRI-3014 | SASH REAR | |
| 14 | FRI-3015 | REAR FL COVER | |
| 16 | FRI-3017 | CONSOLE BASE | |
| 17 | FRI-3018 | CONSOLE COVER | |
| 18 | FRI-3156X | CORNER PLATE | |
| 19 | FRI-3020 | WOOFER HOLDER | |
| 20 | FRI-3034 | REAR WINDOW | |
| 21 | FRI-3055 | REAR SASH PACKING | |
| 101 | 130-5196 | WOOFER 4OHM 80W | |
| 201 | 030-000816-S | HEX BLT W/S M8 X 16 | |
| 202 | 030-000830-S | HEX BLT W/S M8 X 30 | |
| 203 | 060-F00800 | FLT WSHR M8 | |
| 204 | 030-000830-SB | HEX BLT W/S BLK M8 X 30 | |
| 205 | 008-B00830-0B | TMP PRF SCR BH BLK M8 X 30 | |
| 206 | 060-F00800-0B | FLT WSHR BLK M8 | |
| 207 | 068-852216-0B | FLT WSHR BLK 8.5-22 X 1.6 | |
| 208 | 000-T00412-0C | M SCR TH CRM M4 X 12 | |
| 209 | 068-441616-0C | FLT WSHR CRM 4.4-16 X 1.6 | |
| 210 | 000-T00412-0B | M SCR TH BLK M4 X 12 | |
| 211 | 068-441616-0B | FLT WSHR BLK 4.4-16 X 1.6 | |
| 212 | 000-P00416-W | M SCR PH W/FS M4 X 16 | |
| 213 | 030-000840-S | HEX BLT W/S M8 X 40 | |
| 214 | 000-T00416-0B | M SCR TH BLK M4 X 16 | |
| 215 | 030-000850-SB | HEX BLT W/S BLK M8 X 50 | |
| 216 | 050-H00400 | HEX NUT M4 | |
| 217 | 060-S00400 | SPR WSHR M4 | |
| 218 | 060-F00400 | FLT WSHR M4 | |
| 219 | 000-P00408-S | M SCR PH W/S M4 X 8 | |
| 301 | FRI-60071 | WIRE HARN SUB WOOFER IN | |

④ ASSY BILLBOARD (FRI-0500)



NOTE) M8 TAMPER FASTENING TORQUE TO BE: 30kgf•cm

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|---------------|----------------------------|------|
| 1 | FRI-0501 | BILLBOARD | |
| 2 | FRI-0502 | BILLBOARD LEG | |
| 201 | 008-B00830-0B | TMP PRF SCR BH BLK M8 X 30 | |
| 202 | 068-852216-0B | FLT WSHR BLK 8.5-22 X 1.6 | |



⑤ ASSY FRONT SUB-CABI (FRI-1001)

(D-2/3)

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|---------------|----------------------------|--------|
| 1 | FRI-1020 | AC UNIT | |
| 2 | FRI-1030 | SW UNIT | |
| 3 | APC-1035 | FAN MOTOR UNIT | |
| 4 | APC-1040 | METER UNIT S | OTHERS |
| | APC-1040-01 | METER UNIT | USA |
| 5 | STR-1070 | FAN UNIT | |
| 6 | FRI-1002 | WOODEN FRONT CABINET | |
| 7 | APC-1003 | BACK DOOR UPPER | |
| 8 | APC-1004 | BACK DOOR LOWER | |
| 9 | APC-1005 | SIDE DOOR L | |
| 10 | APC-1006 | SIDE DOOR R | |
| 11 | 105-5373 | SHIPPING BRKT RED | |
| 12 | FRI-1007 | LEG CASTER BRKT A | |
| 13 | FRI-1008 | LEG CASTER BRKT B | |
| 14 | FRI-1009 | CASTER SPACER PLATE | |
| 15 | DP-1148X | LKG TNG | |
| 16 | DP-1167 | TNG LKG | |
| 17 | 105-5169 | LOCK BRACKET W | |
| 18 | 105-5171 | CHUTE PLATE SINGLE | OTHERS |
| | 105-5172 | CHUTE PLATE DOUBLE | USA |
| 19 | 117-0062 | PLATE LOCK RETAINER | |
| 20 | 117-5098 | TNG RETAINER PLATE | |
| 21 | 117-5233 | PLATE LEG BRACKET BLACK | |
| 22 | 253-5396-91 | CABINET HANDLE | |
| 23 | 253-5460-01 | AIR VENT BLACK | |
| 24 | APC-1009 | MONITOR BRKT LOWER | |
| 25 | 421-7501-02 | STICKER 6.3V 0.15A | |
| 26 | FRI-1010 | CONT PNL BRKT C L | |
| 27 | FRI-1011 | CONT PNL BRKT C R | |
| 28 | FRI-1012 | CONT PNL BRKT L | |
| 29 | FRI-1013 | CONT PNL BRKT R | |
| 30 | FRI-1014 | FLOOR BRKT | |
| 31 | APC-1079 | CONN PANEL METER | |
| 32 | APC-1090 | CORNER GUARD | |
| 101 | 601-9377 | CASTER FAI=75 | |
| 102 | 220-5237-92 ~ | ASSY C.C 2DR ~ | |
| | 220-5482-91 ~ | ASSY C.C 2DR ~ | |
| 103 | 220-5574 | CAM LOCK W/KEYS | |
| 104 | 220-5575 | CAM LOCK MASTER W/O KEY | |
| 105 | 601-5699X | LEG ADJUSTER BOLT M16 X 75 | |
| 106 | 280-5009-01 | CORD CLAMP 21 | |
| 107 | 280-0419 | HARNESS LUG | |
| 108 | 310-5029-D20 | SUMITUBE F D 20 MM | |
| 109 | 601-0460 | PLASTIC TIE BELT 100 MM | |
| 110 | 117-5402-06 | EARTH TERMINAL PLATE 6P | |
| 111 | 270-5052-04 | L.FILTER D | |

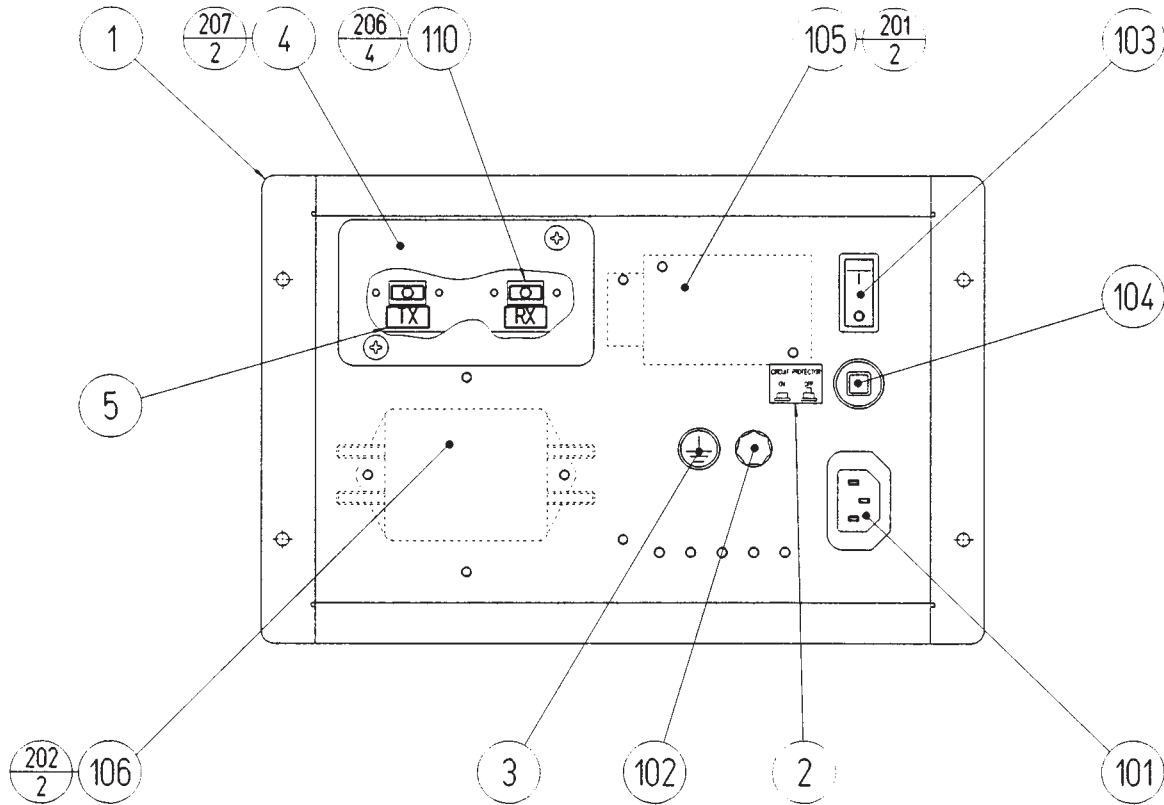
⑤ ASSY FRONT SUB-CABI (FRI-1001)

(D-3/3)

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|---------------|----------------------------|--------|
| 201 | 000-P00416-W | M SCR PH W/FS M4 X 16 | |
| 202 | 000-T00420-0B | M SCR TH BLK M4 X 20 | |
| 203 | 000-T00430-0B | M SCR TH BLK M4 X 30 | |
| 204 | 011-F00310 | TAP SCR FH 3 X 10 | |
| 205 | 011-T00312 | TAP SCR TH 3 X 12 | |
| 206 | 011-T03512 | TAP SCR TH 3.5 X 12 | |
| 207 | 030-000630-SB | HEX BLT BLK W/S M6 X 30 | |
| 208 | 030-000830-SB | HEX BLT W/S BLK M8 X 30 | |
| 209 | 050-H01600 | HEX NUT M16 | |
| 210 | 060-F00600-0B | FLT WSHR BLK M6 | |
| 211 | 060-F00800-0B | FLT WSHR BLK M8 | |
| 212 | 068-441616-0B | FLT WSHR BLK 4.4-16 X 1.6 | |
| 213 | 011-F03516 | TAP SCR FH 3.5 X 16 | |
| 214 | FAS-110010 | TAP SCR FH #1 BLK 3 X 10 | |
| 215 | 000-P00408-S | M SCR PH W/S M4 X 8 | |
| 216 | 050-H00400 | HEX NUT M4 | |
| 217 | 060-S00400 | SPR WSHR M4 | |
| 218 | 060-F00400 | FLT WSHR M4 | |
| 301 | 600-6455-02 | WIRE HARN C.C DOOR SINGLE | OTHERS |
| | 600-7134 | WIRE HARN COIN CHUTE 2 | USA |
| 302 | 600-6275-0150 | ASSY FIBER CABLE 5 0150CM | |
| 303 | 600-6972-0150 | WIRE HARN EARTH ID5 0150MM | |
| 304 | 600-6972-0400 | WIRE HARN EARTH ID5 0400MM | |
| 305 | 600-6972-1200 | WIRE HARN EARTH ID5 1200MM | |
| 306 | FRI-6001 | ASSY WIRE FRONT CABI AC | |
| 307 | FRI-6002 | ASSY WIRE FRONT CABI DC | |
| 308 | FRI-6004 | ASSY WIRE EARTH | |
| 309 | 600-7195-3000 | ASSY PRINTER CABLE 3000 MM | |
| 310 | APC-60091 | WIRE HARN RGB L | |
| 311 | APC-60092 | WIRE HARN RGB C | |
| 312 | APC-60093 | WIRE HARN RGB R | |
| 313 | 600-7141-100 | CABLE JVS TYPE A-B 100CM | |
| 314 | FRI-60092 | WIRE HARN PRINTER DC | |

⑥ AC UNIT (FRI-1020)

(D-1/2)

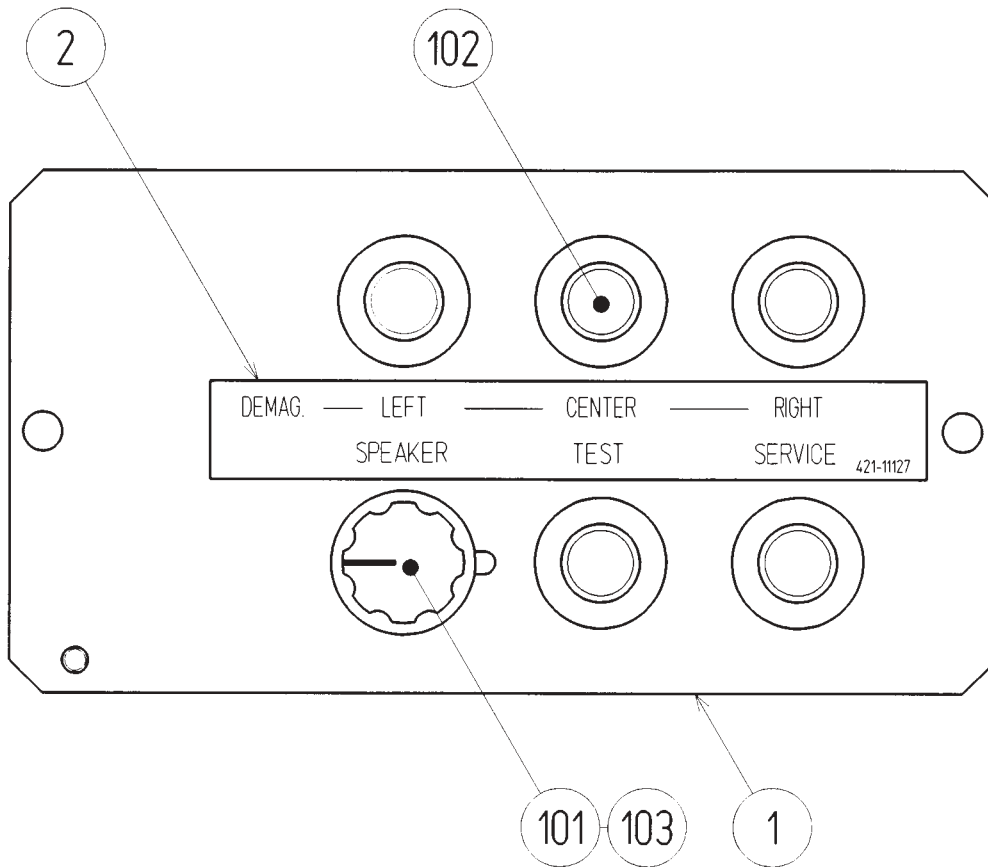


⑥ AC UNIT (FRI-1020)

(D-2/2)

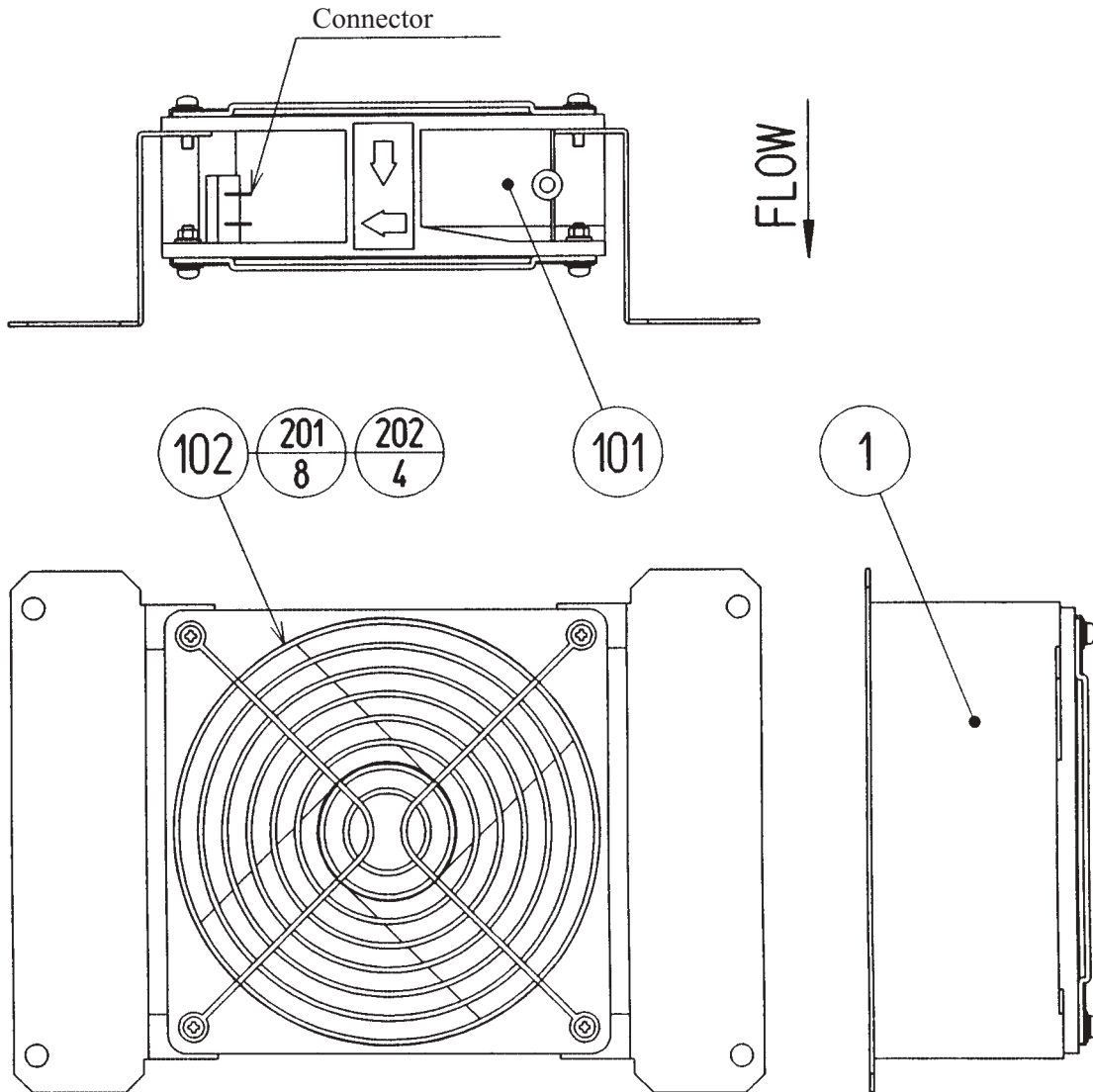
| | | | |
|-----|-----------------|--------------------------------|--------------------|
| 1 | FRI-1021 | AC BRACKET | |
| 2 | 421-7468-01 | STICKER C.P W/PIC | |
| 3 | 421-8202 | STICKER EARTH MARK | |
| 4 | FRI-1022 | CONNECTOR LID | |
| 5 | 421-7515 | STICKER FIBER CABLE TX/RX | |
| 101 | 214-0202 | AC INLET PANEL TYPE | |
| 102 | 280-0417 | TERMINAL BINDING POST BLACK | |
| 103 | 509-5453-91-V-B | SW ROCKER J8 V-B | |
| 104 | 512-5046-15000 | C.P 15000MA CE UL | AC 110 ~ 120VAREA |
| | 512-5046-8000 | C.P 8000MA CE UL | AC 220 ~ 240V AREA |
| 105 | 450-5126 | MAGNET CONTACT S-N10CX | AC 110V AREA |
| | 450-5134 | MAGNET CONTACT S-N10CX AC 230V | AC 220 ~ 240VAREA |
| | 450-5135 | MAGNET CONTACT S-N10CX AC 120V | AC 120V AREA |
| 106 | 270-5081 | NOISE FILTER 20A | |
| 107 | 280-5009-01 | CORD CLAMP 21 | |
| 108 | 310-5029-G20 | SUMITUBE F G 20MM | |
| 109 | 601-0460 | PLASTIC TIE BELT 100 MM | |
| 110 | 211-5479-01 | CONN OPT JOINT | |
| 201 | 000-P00416-W | M SCR PH W/FS M4 X 16 | |
| 202 | 000-P00408-W | M SCR PH W/FS M4 X 8 | |
| 203 | 050-H00400 | HEX NUT M4 | |
| 204 | 060-S00400 | SPR WSHR M4 | |
| 205 | 060-F00400 | FLT WSHR M4 | |
| 206 | 000-P00312-W | M SCR PH W/FS M3 X 12 | |
| 207 | 000-T00408-0B | M SCR TH BLK M4 X 8 | |
| 301 | FRI-60001 | WIRE HARN AC INLET A | |
| 302 | FRI-60002 | WIRE HARN AC INLET B | |
| 303 | FRI-60003 | WIRE HARN EARTH AC INLET | |
| 304 | FRI-60004 | WIRE HARN CP | |
| 305 | FRI-60005 | WIRE HARN MAIN SW | |
| 306 | FRI-60006 | WIRE HARN FILTER IN | |
| 307 | FRI-60008 | WIRE HARN FILTER OUT | |
| 308 | 600-6972-0100 | WIRE HARN EARTH ID5 0100MM | |
| 309 | 600-6972-0120 | WIRE HARN EARTH ID5 0120MM | |
| 310 | 600-6972-0700 | WIRE HARN EARTH ID5 0700MM | |

⑦ SW UNIT (FRI-1030)



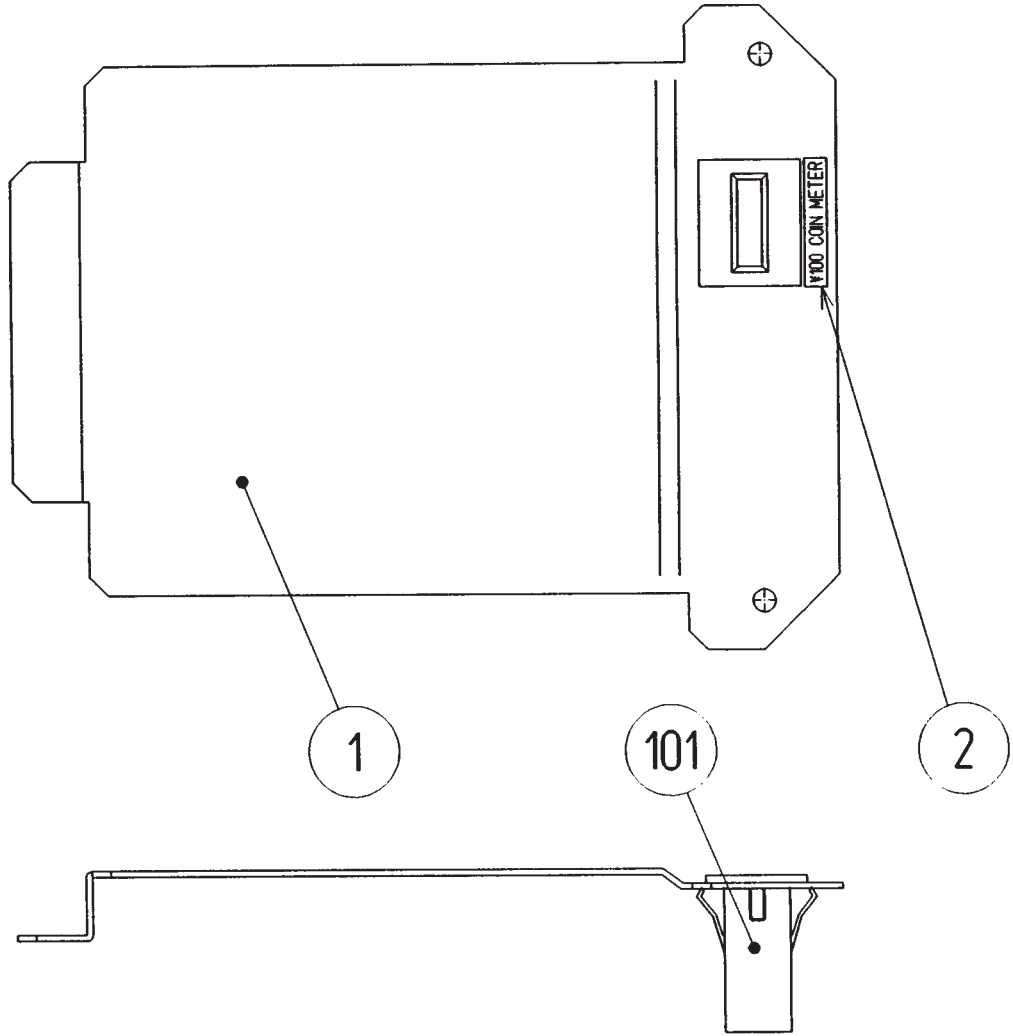
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|--------------|--------------------------|------|
| 1 | FRI-1031 | SW BRACKET | |
| 2 | 421-11127 | STICKER SW UNIT | |
| 101 | 220-5179 | VOL CONT B-5K OHM | |
| 102 | 509-5028 | SW PB 1M | |
| 103 | 601-0042 | KNOB 22 MM | |
| 104 | 310-5029-D20 | SUMITUBE F D 20 MM | |
| 105 | 601-0460 | PLASTIC TIE BELT 100 MM | |
| 301 | APC-60087 | WIRE HARN DEMAG | |
| 302 | 600-6609-32 | WIRE HARN TEST & SERVICE | |
| 303 | FRI-60089 | WIRE HARN SOUND VOL | |

⑧ FAN MOTOR UNIT (APC-1035)



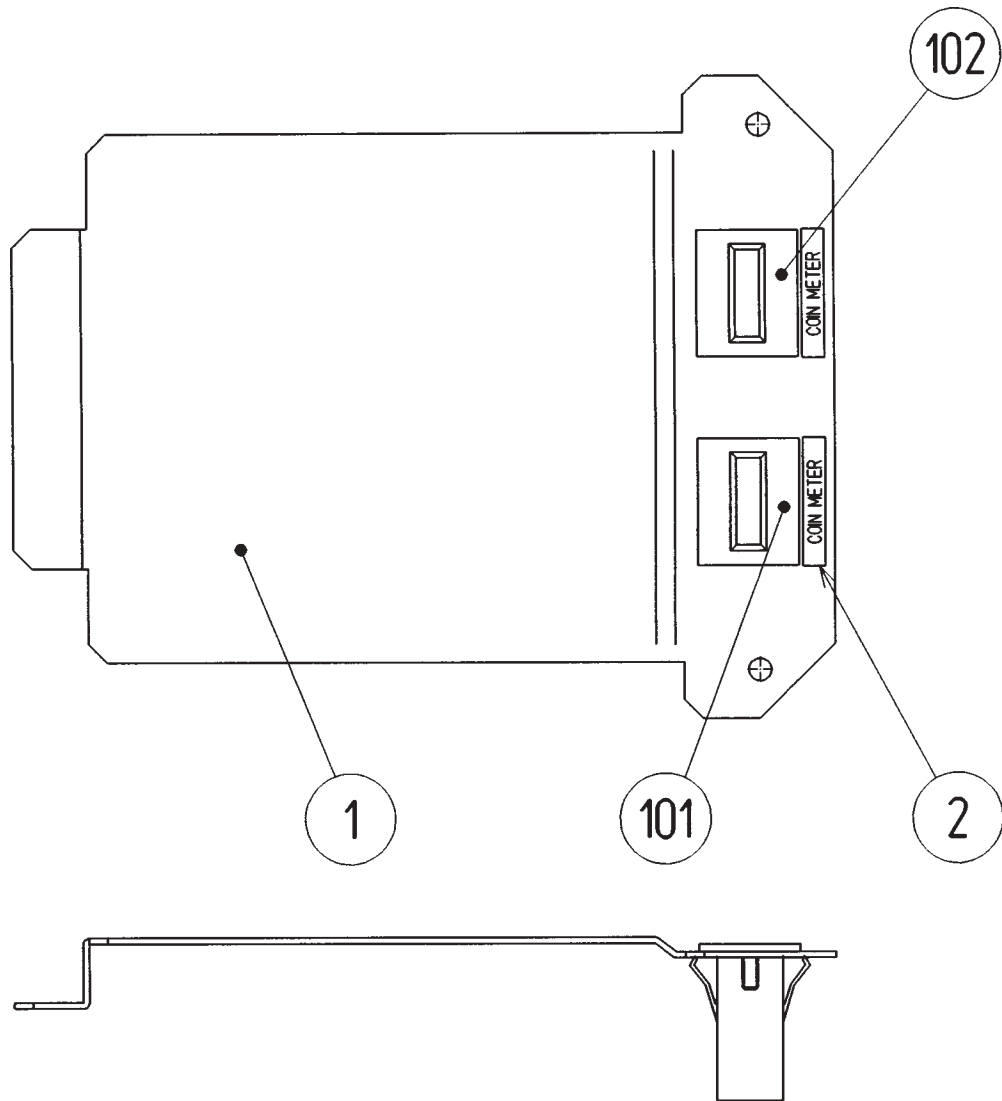
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|--------------|-------------------------------|------|
| 1 | APC-1036 | FAN MOTOR BRKT | |
| 101 | 260-0011-02 | AXIAL FLOW FAN AC100V 50-60HZ | |
| 102 | 601-8543 | FAN GUARD | |
| 201 | 000-P00312-W | M SCR PH W/FS M3 X 12 | |
| 202 | 050-F00300 | FLG NUT M3 | |

⑨ METER UNIT S (APC-1040)



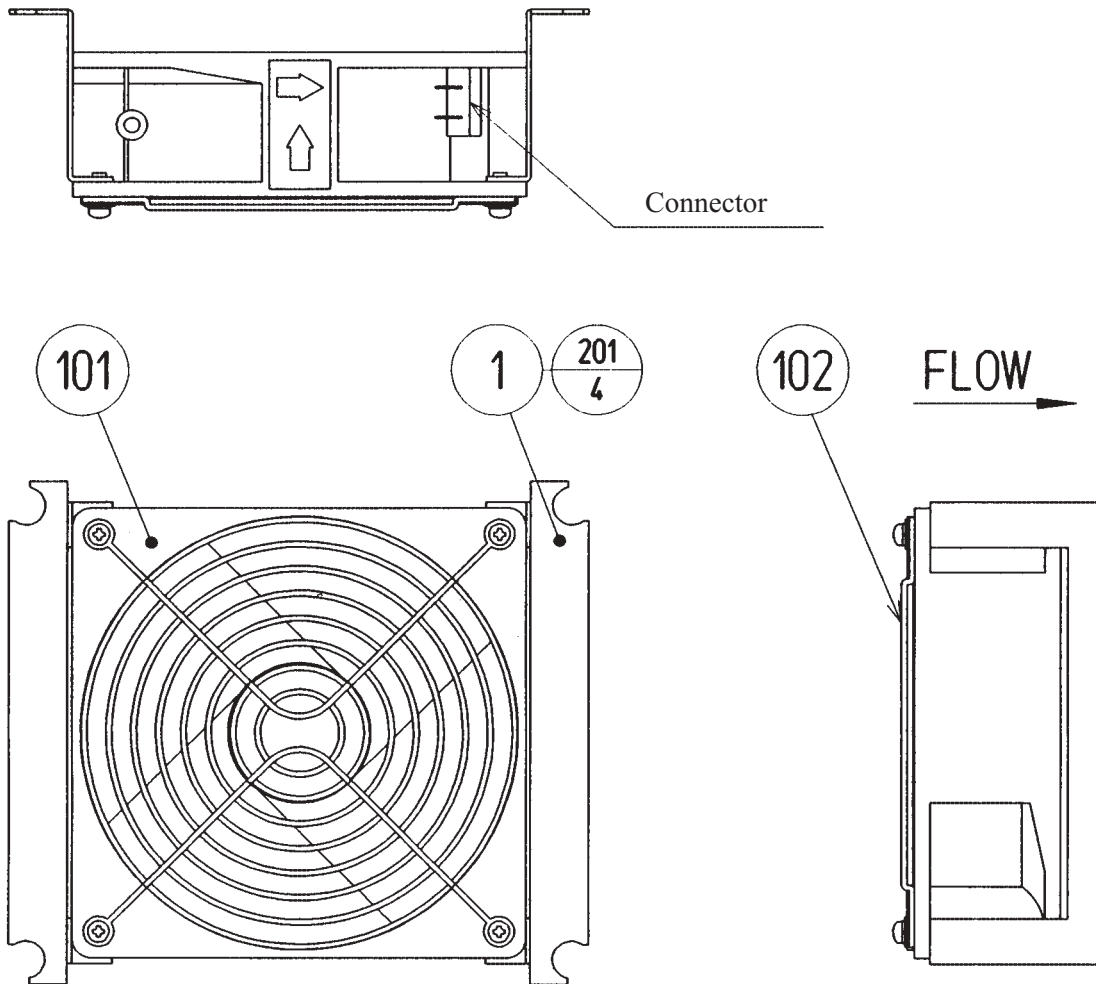
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|-------------|--------------------------------|------|
| 1 | APC-1041 | METER BRKT S | |
| 2 | 421-6591-16 | STICKER COIN METER \100 | |
| 101 | 220-5643-01 | MAG CNTR DC5V 6P WH MZ-674-D04 | |

⑨ METER UNIT T (APC-1040-01)



| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|-------------|--------------------------------|------|
| 1 | APC-1042 | METER BRKT T | |
| 2 | 421-6591-01 | STICKER COIN METER | |
| 101 | 220-5643-01 | MAG CNTR DC5V 6P WH MZ-674-D04 | |
| 102 | 220-5643-02 | MAG CNTR DC5V 6P YE MZ-674-D05 | |

⑩ FAN UNIT (STR-1070)



| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|--------------|-------------------------------|------|
| 1 | 105-5340-01 | FAN BRKT LONG | |
| 101 | 260-0011-02 | AXIAL FLOW FAN AC100V 50-60HZ | |
| 102 | 601-8543 | FAN GUARD | |
| 201 | 000-P00312-W | M SCR PH W/FS M3 X 12 | |

⑪ ASSY WIRE FRONT CABI AC (FRI-6001)

ASSY WIRE FRONT CABI AC is comprised of the following wire harnesses.
An ASSY DRG. is unavailable.

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|-----------|--------------------------|------|
| 101 | 601-0460 | PLASTIC TIE BELT 100 MM | |
| 301 | FRI-60045 | WIRE HARN EXT AC MONITOR | |
| 302 | FRI-60046 | WIRE HARN EXT AC REAR | |
| 303 | FRI-60047 | WIRE HARN EXT AC FRONT | |
| 304 | FRI-60061 | WIRE HARN EXT SERVO PWR | |

⑫ ASSY WIRE FRONT CABI DC (FRI-6002)

ASSY WIRE FRONT CABI DC is comprised of the following wire harnesses.
An ASSY DRG. is unavailable.

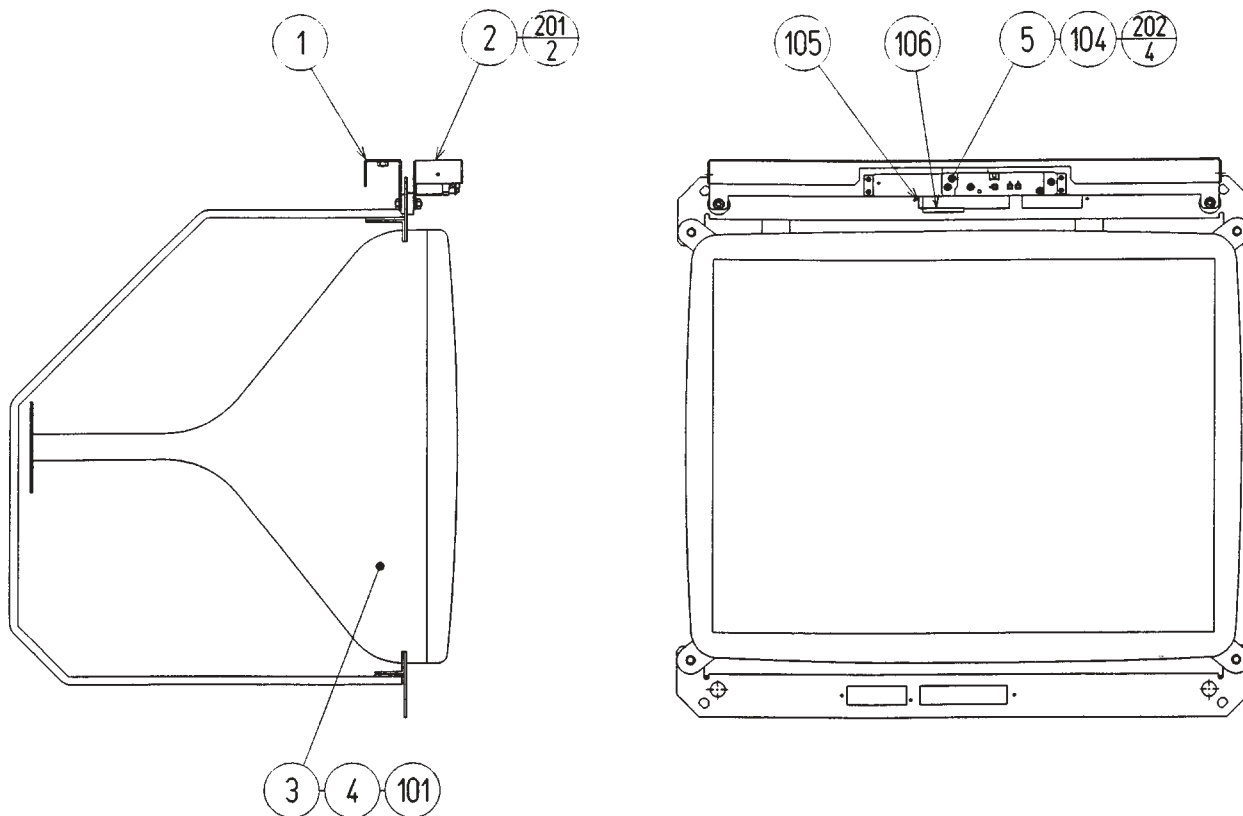
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|------------|----------------------------|------|
| 101 | 601-0460 | PLASTIC TIE BELT 100 MM | |
| 301 | FRI-60048 | WIRE HARN EXT DC | |
| 302 | FRI-60049 | WIRE HARN EXT SOUND | |
| 303 | FRI-60050 | WIRE HARN EXT COIN | |
| 304 | FRI-60051 | WIRE HARN EXT ANALOG | |
| 305 | FRI-60052 | WIRE HARN EXT SHIFT LOCK A | |
| 306 | FRI-60053 | WIRE HARN EXT BRAKE LAMP A | |
| 307 | FRI-60054 | WIRE HARN EXT REAR CTRL A | |
| 308 | FRI-60055 | WIRE HARN EXT BASS SP | |
| 309 | FRI-60056 | WIRE HARN EXT SEAT SP A | |
| 311 | FRI-60058 | WIRE HARN EXT DRV CTRL TX | |
| 312 | FRI-60059 | WIRE HARN EXT DRV CTRL RX | |
| 313 | FRI-60060 | WIRE HARN EXT SERVO ENC | |
| 314 | FRI-60062X | WIRE HARN EXT PADDLE | |

⑬ ASSY WIRE EARTH (FRI-6004)

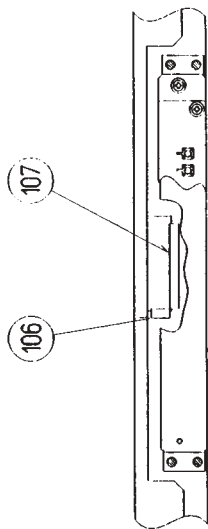
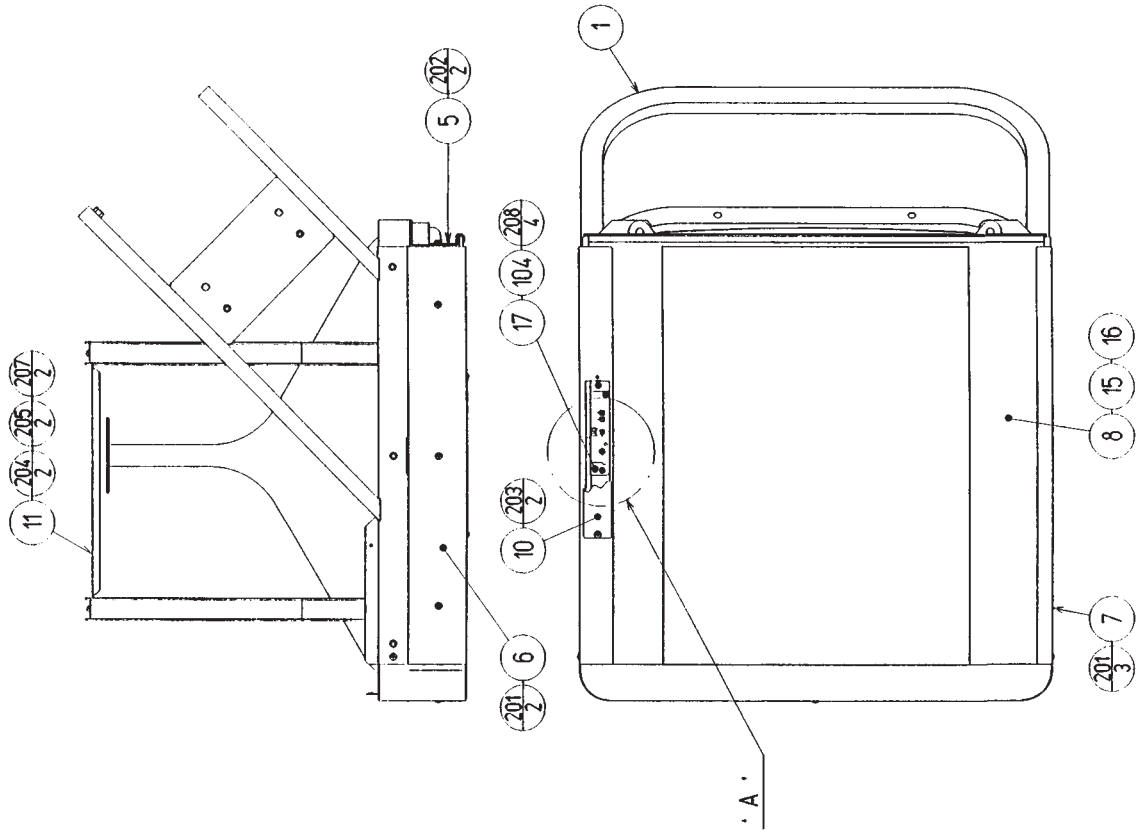
ASSY WIRE EARTH is comprised of the following wire harnesses.
An ASSY DRG. is unavailable.

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|---------------|----------------------------|------|
| 101 | 601-0460 | PLASTIC TIE BELT 100 MM | |
| 301 | 600-6972-0700 | WIRE HARN EARTH ID5 0700MM | |
| 302 | 600-6972-1800 | WIRE HARN EARTH ID5 1800MM | |
| 303 | 600-6972-2200 | WIRE HARN EARTH ID5 2200MM | |
| 304 | 600-6972-2250 | WIRE HARN EARTH ID5 2250MM | |
| 305 | 600-6972-3000 | WIRE HARN EARTH ID5 3000MM | |

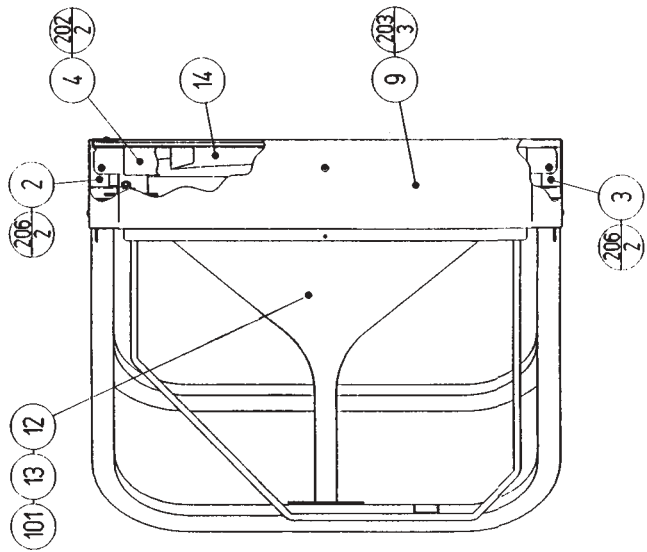
14 ASSY MONITOR CENTER (APC-1100)



| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|---------------|--------------------------------|------|
| 1 | APC-1101 | MONITOR BRKT UPPER | |
| 2 | APC-1152X | MONITOR HOLD UPPER | |
| 3 | 280-5112 | BUSH FOR TV | |
| 4 | 280-5113 | COLLAR FOR TV | |
| 5 | APC-1086 | MONITOR BD BASE | |
| 101 | 200-5710 | ASSY CLR DSPL 29AUTO MS-2931-S | |
| 102 | 280-5275-SR10 | CORD CLAMP SR10 | |
| 103 | 280-5009-01 | CORD CLAMP 21 | |
| 104 | 280-5185-6 | SPACER TUBE L=6 | |
| 105 | 601-6231-D020 | EDGING NEW TYPE | |
| 106 | 601-6231-D045 | EDGING NEW TYPE | |
| 201 | 050-F00600 | FLG NUT M6 | |
| 202 | 000-P00312-W | M SCR PH W/FS M3 X 12 | |
| 301 | 600-6972-1600 | WIRE HARN EARTH ID5 1600MM | |



Details of PART A



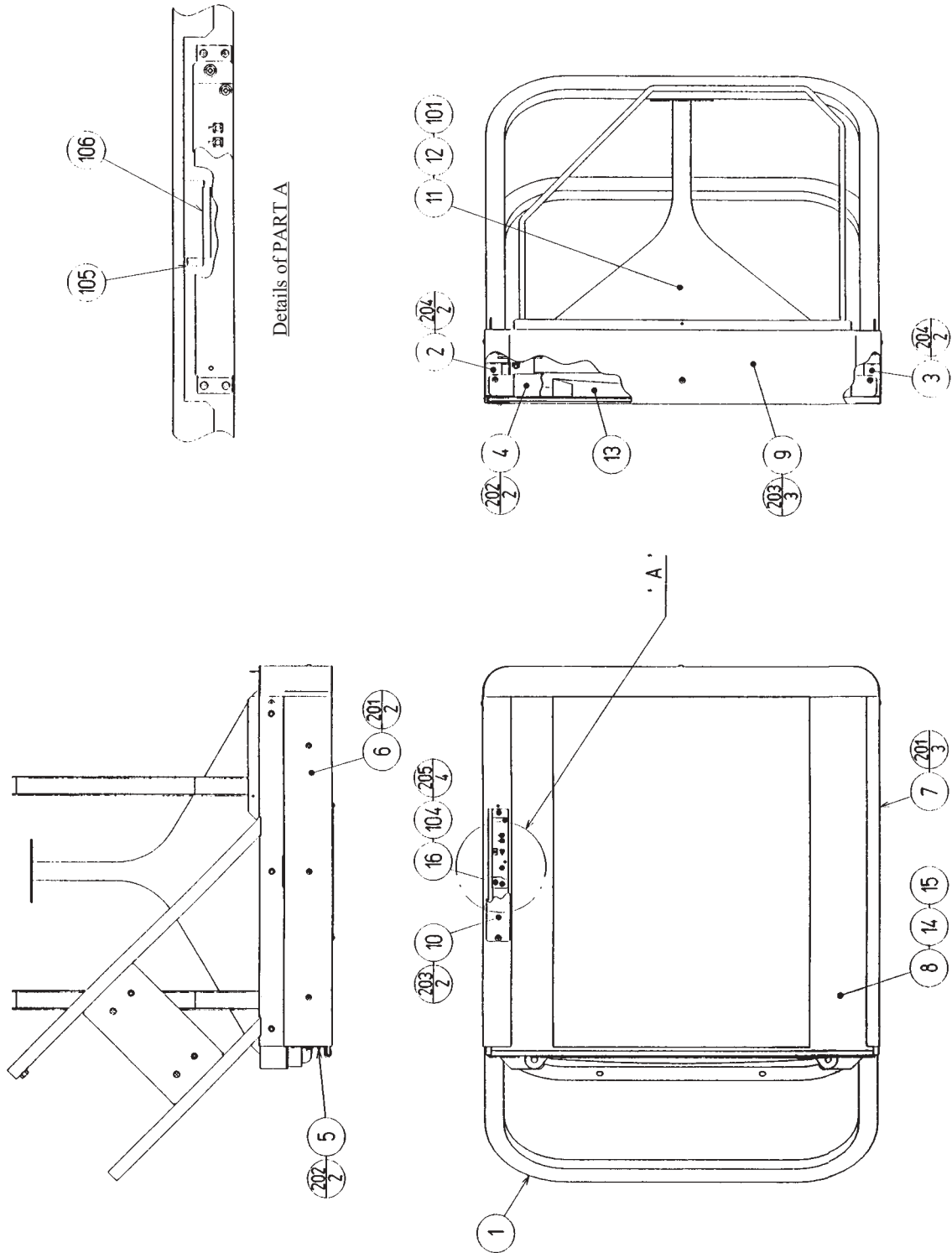
15) ASSY MONITOR LEFT (APC-1150)

(D-2/2)

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|----------------|--------------------------------|------|
| 1 | APC-1151 | MONITOR FRAME | |
| 2 | APC-1152X | MONITOR HOLD UPPER | |
| 3 | APC-1153X | MONITOR HOLD LOWER | |
| 4 | APC-1154X | SIDE COVER BRKT | |
| 5 | APC-1155X | SIDE BRKT | |
| 6 | APC-1156X | GLASS HOLDER UPPER SIDE | |
| 7 | APC-1157X | GLASS HOLDER LOWER SIDE | |
| 8 | APC-1054 | GLASS | |
| 9 | APC-1159X | MONITOR SIDE COVER | |
| 10 | APC-1058X | MONITOR BD LID | |
| 11 | APC-1160 | WIRE BRKT | |
| 12 | 280-5112 | BUSH FOR TV | |
| 13 | 280-5113 | COLLAR FOR TV | |
| 14 | APC-1083 | MONITOR MASK | |
| 15 | 601-10562-0170 | RUBBER PACKING NO.96 L=170MM | |
| 16 | 601-10562-0580 | RUBBER PACKING NO.96 L=580MM | |
| 17 | APC-1086 | MONITOR BD BASE | |
| 101 | 200-5710 | ASSY CLR DSPL 29AUTO MS-2931-S | |
| 102 | 280-5275-SR10 | CORD CLAMP SR10 | |
| 103 | 280-5009-01 | CORD CLAMP 21 | |
| 104 | 280-5185-6 | SPACER TUBE L=6 | |
| 105 | 280-5292 | CORD CLAMP 18 PUSH TYPE | |
| 106 | 601-6231-D010 | EDGING NEW TYPE L=10 | |
| 107 | 601-6231-D045 | EDGING NEW TYPE | |
| 201 | 000-F00410-0B | M SCR FH BLK M4 X 10 | |
| 202 | 000-P00408-W | M SCR PH W/FS M4 X 8 | |
| 203 | 000-T00408-0B | M SCR TH BLK M4 X 8 | |
| 204 | 000-P00412-W | M SCR PH W/FS M4 X 12 | |
| 205 | 050-F00400 | FLG NUT M4 | |
| 206 | 050-F00600 | FLG NUT M6 | |
| 207 | 068-441616 | FLT WSHR 4.4-16 X 1.6 | |
| 208 | 000-P00312-W | M SCR PH W/FS M3 X 12 | |
| 301 | 600-6972-1600 | WIRE HARN EARTH ID5 1600MM | |

16 ASSY MONITOR RIGHT (APC-1200)

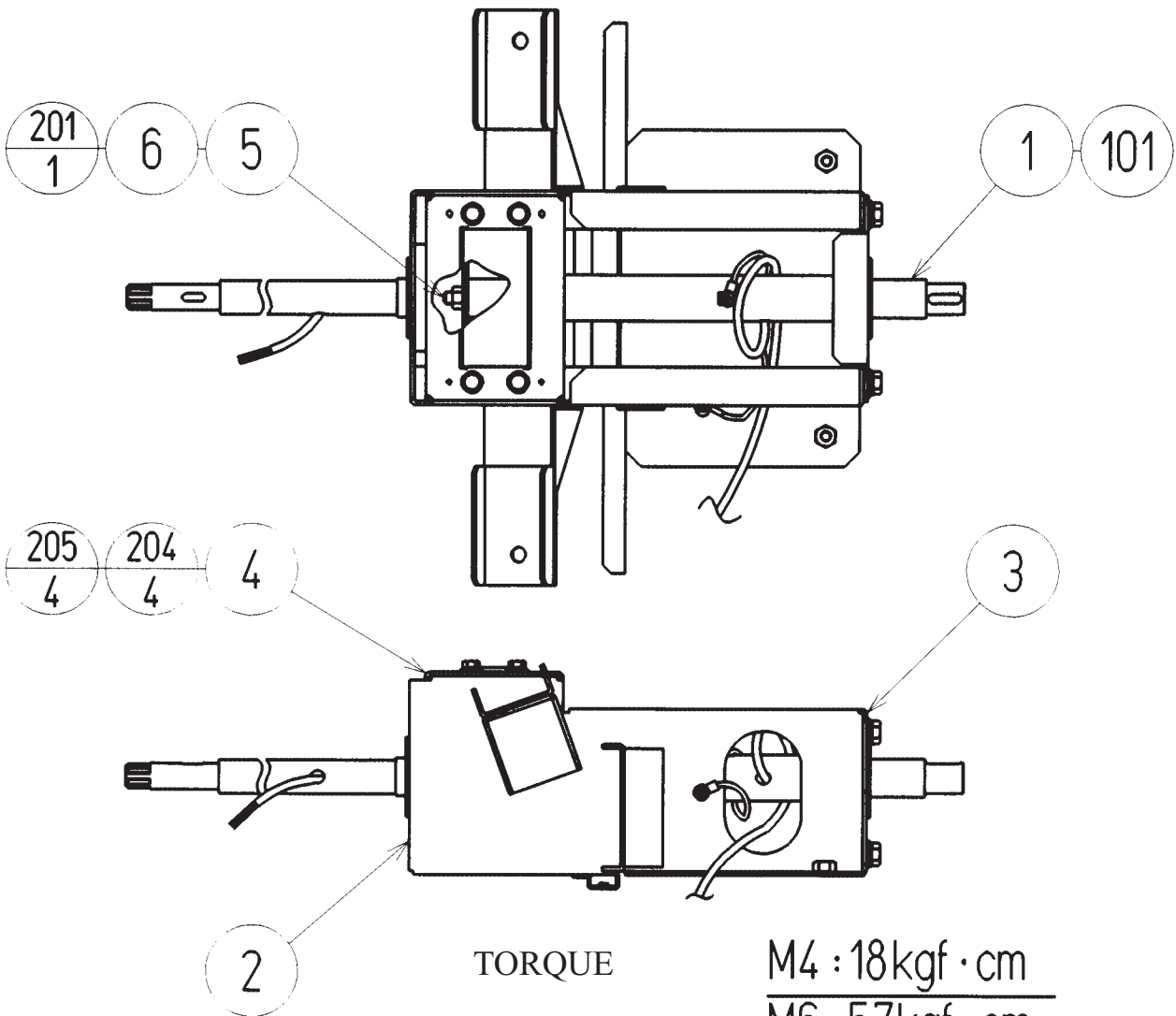
(D-1/2)



16 ASSY MONITOR RIGHT (APC-1200)

(D-2/2)

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|----------------|--------------------------------|------|
| 1 | APC-1151 | MONITOR FRAME | |
| 2 | APC-1152X | MONITOR HOLD UPPER | |
| 3 | APC-1153X | MONITOR HOLD LOWER | |
| 4 | APC-1154X | SIDE COVER BRKT | |
| 5 | APC-1155X | SIDE BRKT | |
| 6 | APC-1156X | GLASS HOLDER UPPER SIDE | |
| 7 | APC-1157X | GLASS HOLDER LOWER SIDE | |
| 8 | APC-1054 | GLASS | |
| 9 | APC-1159X | MONITOR SIDE COVER | |
| 10 | APC-1058X | MONITOR BD LID | |
| 11 | 280-5112 | BUSH FOR TV | |
| 12 | 280-5113 | COLLAR FOR TV | |
| 13 | APC-1083 | MONITOR MASK | |
| 14 | 601-10562-0170 | RUBBER PACKING NO.96 L=170MM | |
| 15 | 601-10562-0580 | RUBBER PACKING NO.96 L=580MM | |
| 16 | APC-1086 | MONITOR BD BASE | |
| 101 | 200-5710 | ASSY CLR DSPL 29AUTO MS-2931-S | |
| 102 | 280-5275-SR10 | CORD CLAMP SR10 | |
| 103 | 280-5009-01 | CORD CLAMP 21 | |
| 104 | 280-5185-6 | SPACER TUBE L=6 | |
| 105 | 601-6231-D010 | EDGING NEW TYPE L=10 | |
| 106 | 601-6231-D045 | EDGING NEW TYPE | |
| 201 | 000-F00410-0B | M SCR FH BLK M4 X 10 | |
| 202 | 000-P00408-W | M SCR PH W/FS M4 X 8 | |
| 203 | 000-T00408-0B | M SCR TH BLK M4 X 8 | |
| 204 | 050-F00600 | FLG NUT M6 | |
| 205 | 000-P00312-W | M SCR PH W/FS M3 X 12 | |
| 301 | 600-6972-1600 | WIRE HARN EARTH ID5 1600MM | |



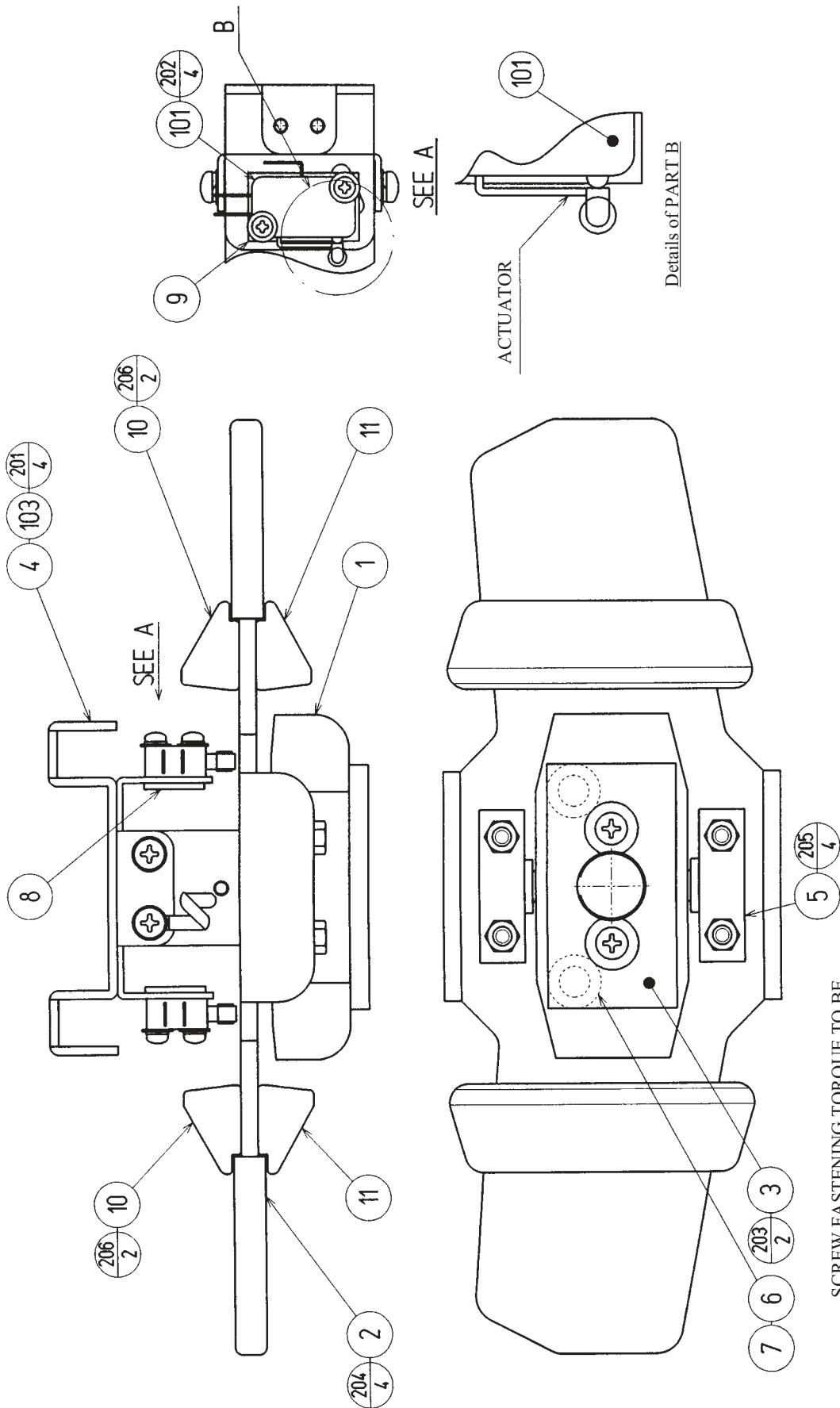
TORQUE

M4 : 18kgf · cm
M6 : 57kgf · cm
M8 : 178kgf · cm

17 ASSY STEERING MECHA (FRI-2000)

(D-2/2)

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|---------------|-------------------------------|------|
| 1 | FRI-2001 | STEERING SHAFT | |
| 2 | FRI-2003 | SHAFT BASE F | |
| 3 | FRI-2004 | SHAFT BASE R | |
| 4 | FRI-2005 | STOPPER BASE | |
| 5 | SPG-2108 | STOPPER BOLT | |
| 6 | SPG-2109 | STOPPER RUBBER | |
| 101 | 100-5351 | BEARING 25 | |
| 102 | 601-0459 | TIE-BELT 150MM | |
| 103 | 280-5008 | CORD CLAMP 15 | |
| 104 | 280-5275-SR10 | CORD CLAMP SR10 | |
| 105 | 601-0460 | PLASTIC TIE BELT 100MM | |
| 201 | 050-U00800 | U NUT M8 | |
| 202 | 030-000816-S | HEX BLT W/S M8 X 16 | |
| 203 | 060-F00800 | FLT WSHR M8 | |
| 204 | 030-000616-S | HEX BLT W/S M6 X 16 | |
| 205 | 060-F00600 | FLT WSHR M6 | |
| 206 | 000-P00406-S | M SCR PH W/S M4 X 6 | |
| 207 | 060-F00400 | FLT WSHR M4 | |
| 208 | 000-P00408-S | M SCR PH W/S M4 X 8 | |
| 301 | FRI-60063 | WIRE HARN EXT PADDLE TUBE | |
| 302 | 600-6972-0500 | WIRE HARN EARTH ID5 0500MM | |
| 303 | 600-7204-0500 | WIRE HARN BRAID T5.5-5 0500MM | |



SCREW FASTENING TORQUE TO BE

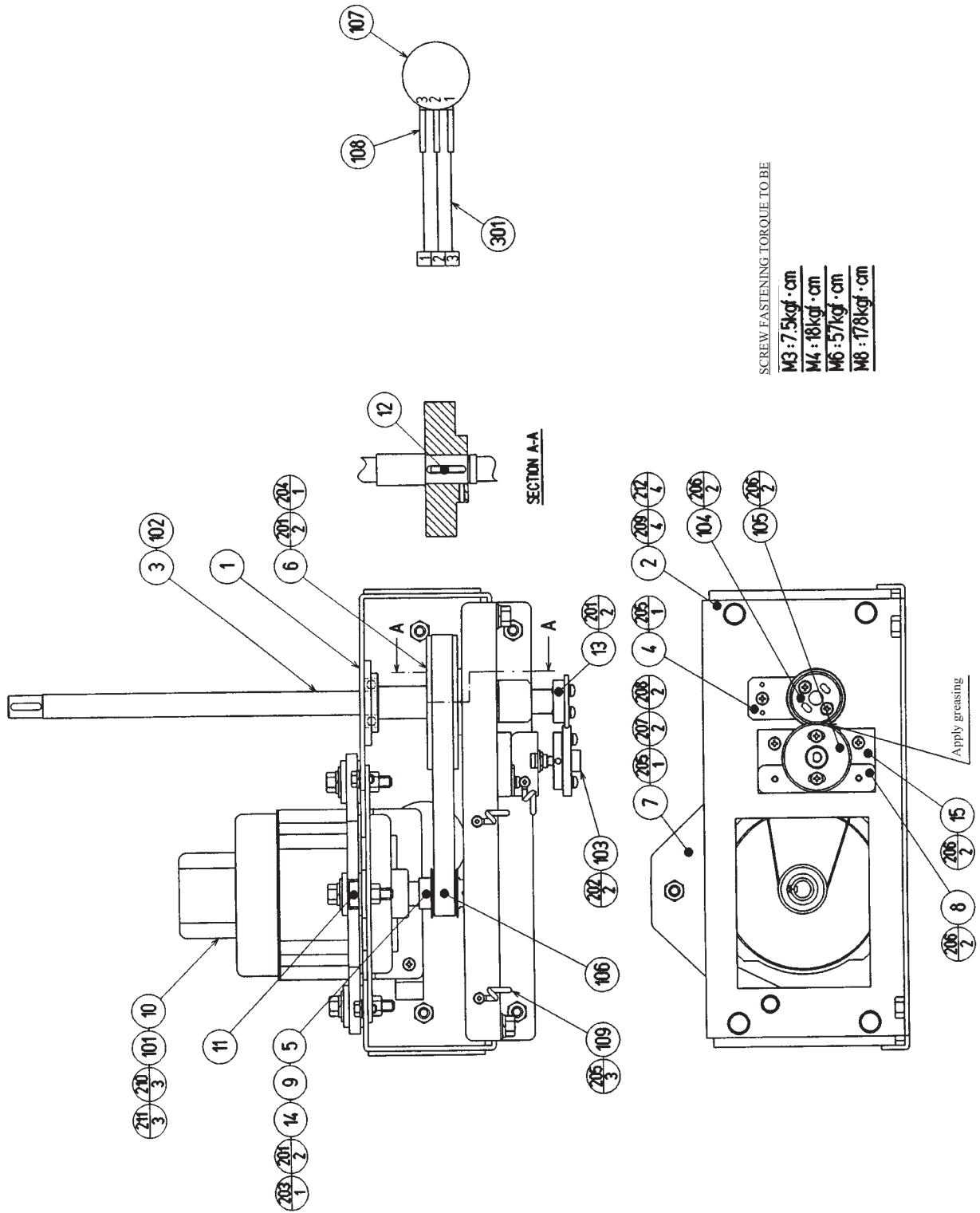
M3 : 10 5kgf · cm

M4 : 18kgf · cm

⑱ ASSY PADDLE SHIFT (FRI-2050)

(D-2/2)

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|--------------|------------------------|------|
| 1 | FRI-2051 | BOSS | |
| 2 | FRI-2052 | SHIFT PLATE | |
| 3 | FRI-2053 | SPRING LID | |
| 4 | FRI-2054 | SW BRKT | |
| 5 | SLC-1314 | PIVOT | |
| 6 | SLC-1315X | PLUNGER | |
| 7 | SLC-1316 | COMP SPRING | |
| 8 | 117-0141 | PLATE LOCK | |
| 9 | 310-0012 | PAPER INSL | |
| 10 | FRI-2056X | GUARD BLOCK A | |
| 11 | FRI-2057X | GUARD BLOCK B | |
| 101 | 509-5387 | SW MICRO TYPE | |
| 103 | 280-0419 | HARNESS LUG | |
| 104 | 601-0460 | PLASTIC TIE BELT 100MM | |
| 201 | 000-P00408-S | M SCR PH W/S M4 X 8 | |
| 202 | 000-P00316-W | M SCR PH W/FS M3 X 16 | |
| 203 | 000-F00512 | M SCR FH M5 X 12 | |
| 204 | 000-F00525 | M SCR FH M5 X 25 | |
| 205 | 050-U00500 | U NUT M5 | |
| 206 | 012-P00416 | TAP SCR #2 PH 4 X 16 | |
| 301 | FRI-60086 | WIRE HARN PADDLE SHIFT | |

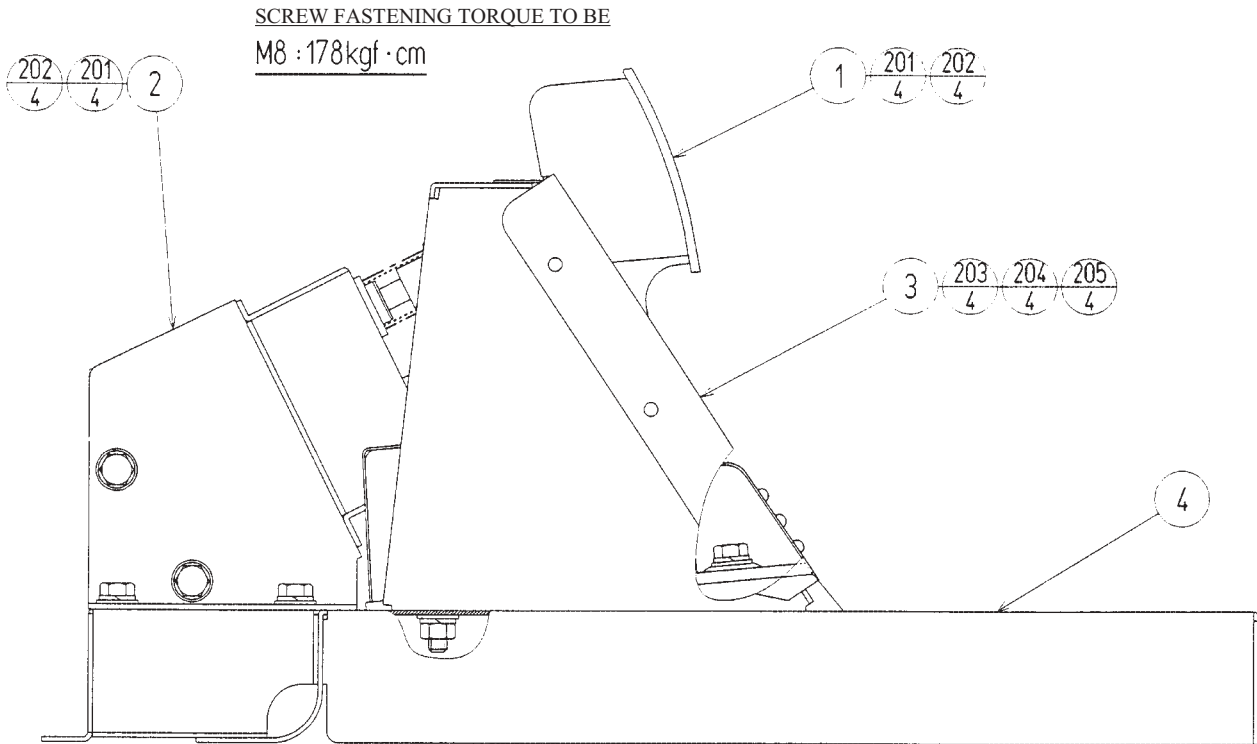


19 STEERING MOTOR UNIT (FRI-2100)

(D-2/2)

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|--------------|------------------------------|------|
| 1 | FRI-2101 | MECHA BASE | |
| 2 | FRI-2102 | BASE LID | |
| 3 | FRI-2103 | MOTOR SHAFT | |
| 4 | FRI-2104 | SHAFT LOCK PLATE | |
| 5 | SPG-2504 | PULLEY 20 S5M | |
| 6 | SPG-2505 | PULLEY 60 S5M | |
| 7 | SPG-2506 | MOTOR BRKT | |
| 8 | FRI-2105 | VR BRKT | |
| 9 | SPG-2453 | KEY 4 X 4 X 40 | |
| 10 | ASK-3502 | MOTOR SPACER | |
| 11 | ASK-3503 | MOTOR COLLAR | |
| 12 | DYN-1270 | STOPPER KEY | |
| 13 | SLC-1130 | ADJUST RING | |
| 14 | SPG-2454 | MOTOR COLLAR | |
| 15 | FRI-2106 | VR BASE | |
| 101 | 350-5448-01 | SERVO MOTOR 500W NEW | |
| 102 | 100-5112 | BEARING 17 | |
| 103 | 601-8966 | GEAR HOLDER | |
| 104 | 601-6172 | GEAR 48 | |
| 105 | 601-6959 | GEAR 64 | |
| 106 | 601-9173 | TIMING BELT | |
| 107 | 220-5484 | VOL CONT B-5K OHM | |
| | 220-5373 | VOL CONT B-5K OHM | |
| 108 | 310-5029-F20 | SUMITUBE F F 20MM | |
| 109 | 280-0419 | HARNESS LUG | |
| 110 | 280-5009-01 | CORD CLAMP 21 | |
| 201 | 028-A00408-P | SET SCR HEX SKT CUP P M4 X 8 | |
| 202 | 028-A00308-P | SET SCR HEX SKT CUP P M3 X 8 | |
| 203 | 065-S012S0-Z | STP RING BLK OZ S12 | |
| 204 | 065-S020S0-Z | STP RING BLK OZ S20 | |
| 205 | 000-P00408-W | M SCR PH W/FS M4 X 8 | |
| 206 | 000-P00412-W | M SCR PH W/FS M4 X 12 | |
| 207 | 030-000612-S | HEX BLT W/S M6 X 12 | |
| 208 | 060-F00600 | FLT WSHR M6 | |
| 209 | 030-000820-S | HEX BLT W/S M8 X 20 | |
| 210 | 030-000840-S | HEX BLT W/S M8 X 40 | |
| 211 | 068-852216 | FLT WSHR 8.5-22 X 1.6 | |
| 212 | 060-F00800 | FLT WSHR M8 | |
| 301 | FRI-60064 | WIRE HARN STEERING VOL | |

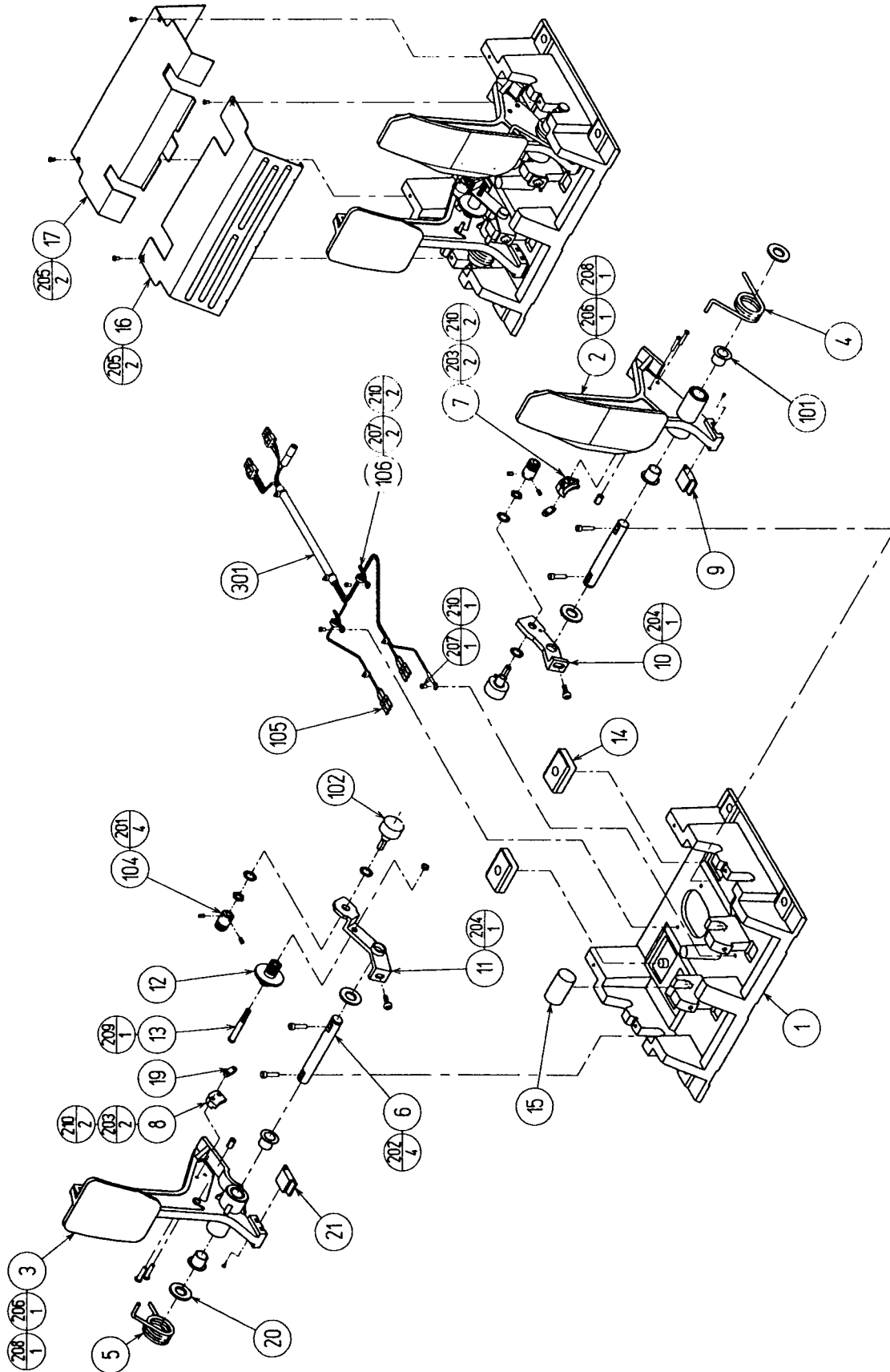
②① PEDAL UNIT (FRI-2200)



| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|---------------|-------------------------|------|
| 1 | FRI-2250 | ASSY ACCEL&BRAKE | |
| 2 | FRI-2300 | ABSORBER UNIT | |
| 3 | FRI-2201 | FOOT REST FRI | |
| 4 | FRI-2204 | PEDAL BASE | |
| 201 | 030-000825-SB | HEX BLT W/S BLK M8 X 25 | |
| 202 | 060-F00800-0B | FLT WSHR BLK M8 | |
| 203 | 050-H00800 | HEX NUT M8 | |
| 204 | 060-S00800 | SPR WSHR M8 | |
| 205 | 060-F00800 | FLT WSHR M8 | |

21 ASSY ACCEL&BRAKE (FRI-2250)

(D-1/2)

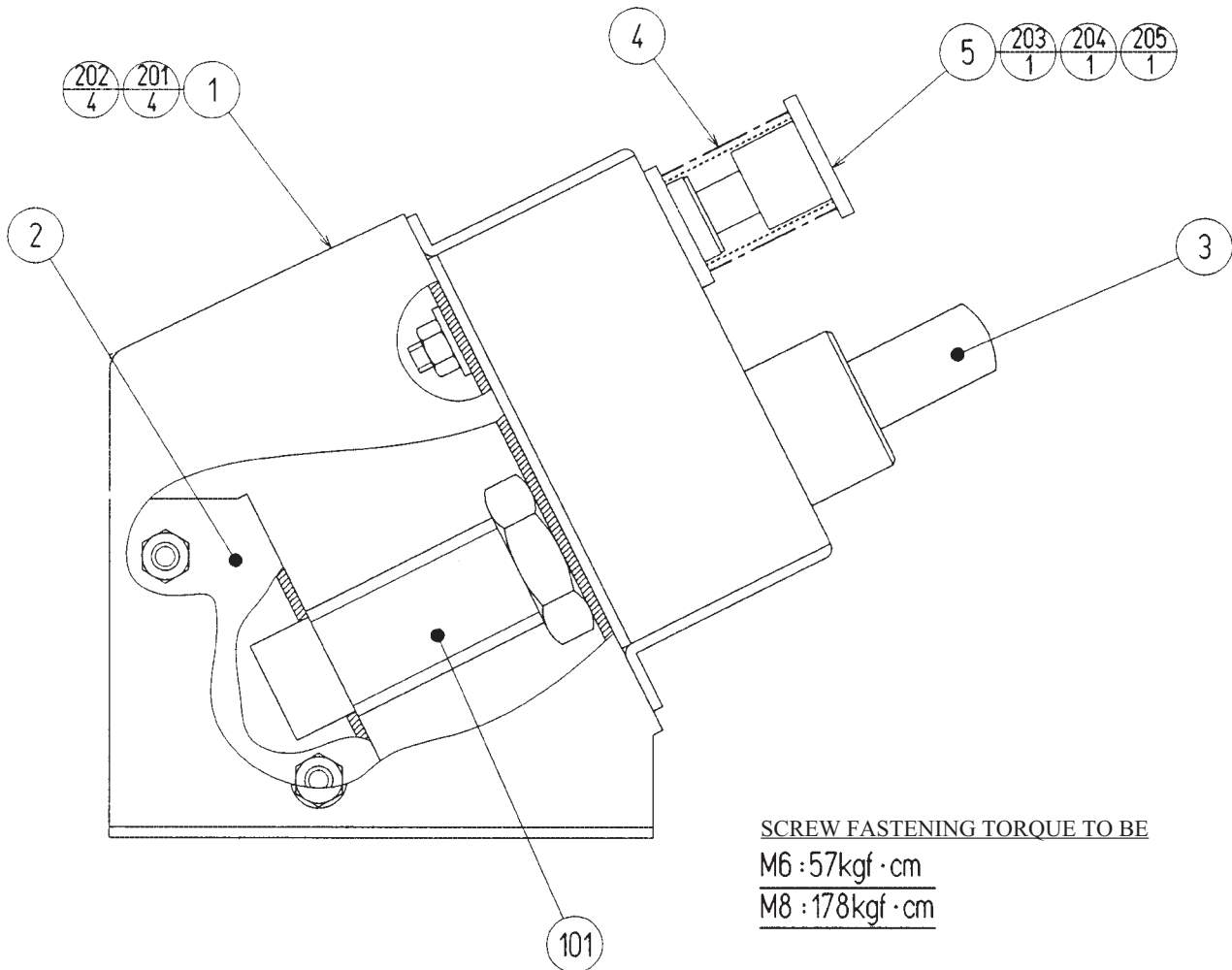


②1 ASSY ACCEL&BRAKE (FRI-2250)

(D-2/2)

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|---------------|-------------------------------|------|
| 1 | SPG-2201 | BASE | |
| 2 | FRI-2251 | ACCEL PEDAL FRI | |
| 3 | FRI-2252 | BRAKE PEDAL FRI | |
| 4 | FRI-2257 | ACCEL SPRING FRI | |
| 5 | FRI-2253 | BRAKE SPRING FRI | |
| 6 | SPG-2206 | SHAFT | |
| 7 | SPG-2207 | ACCEL GEAR | |
| 8 | FRI-2254 | NEUTRAL STOPPER FRI | |
| 9 | SPG-2210 | VR PLATE ACCEL | |
| 10 | FRI-2255 | VR PLATE BRAKE FRI | |
| 11 | SPG-2214 | STOPPER | |
| 12 | SPG-2216 | COVER | |
| 13 | FRI-2256 | VR COVER FRI | |
| 14 | SPG-2219 | GEAR STAY | |
| 15 | SPG-2220 | WSHR | |
| 16 | FRI-2258 | STOPPER PLATE | |
| 17 | FRI-2259 | GEAR SPACER | |
| 101 | 100-5263 | BEARING 12 | |
| 102 | 220-5484 | VOL CONT B-5K OHM | |
| | 220-5373 | VOL CONT B-5K OHM | |
| 103 | 601-7944 | GEAR 15 | |
| 104 | 310-5029-F15 | SUMITUBE F F 15MM | |
| 105 | 280-0419 | HARNESS LUG | |
| 201 | 028-A00304-P | SET SCR HEX SKT CUP P M3 X 4 | |
| 202 | 020-000520-0Z | HEX SKT H CAP SCR BLK M5 X 20 | |
| 203 | 000-P00420 | M SCR PH M4 X 20 | |
| 204 | 000-P00508-W | M SCR PH W/FS M5 X 8 | |
| 205 | 000-T00408-0C | M SCR TH CRM M4 X 8 | |
| 206 | FAS-450005 | SPR PIN BLK OZ 6 X 10 | |
| 207 | 000-P00405 | M SCR PH M4 X 5 | |
| 208 | FAS-000001 | M SCR TH CRM M3 X 6 | |
| 209 | 060-F00400 | FLT WSHR M4 | |
| 210 | 000-P00412-W | M SCR PH W/FS M4 X 12 | |
| 301 | FRI-60088 | WIRE HARN ACCEL&BRAKE | |

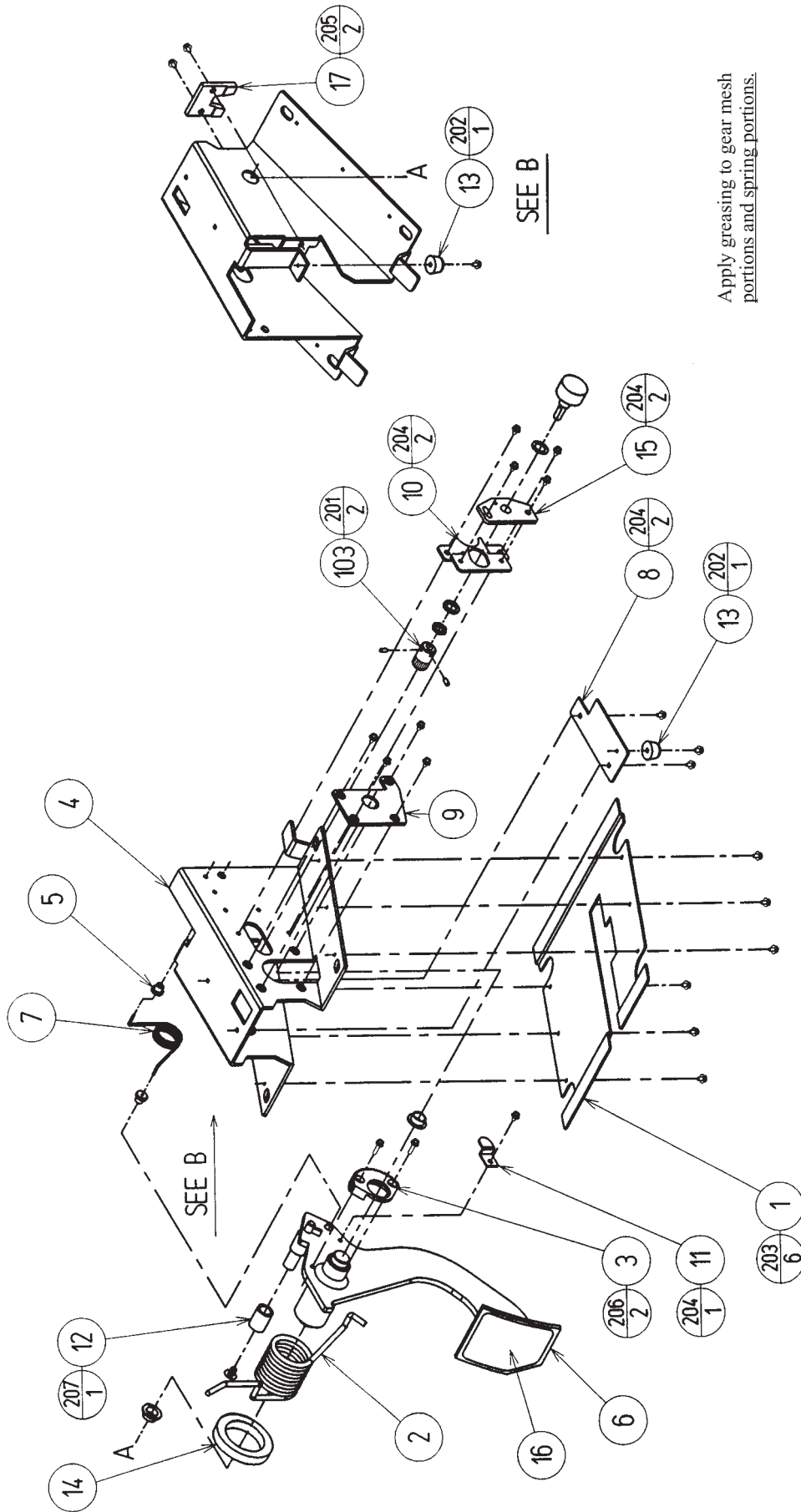
22 ABSORBER UNIT (FRI-2300)



| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|---------------|-------------------------|------|
| 1 | FRI-2301 | ABSORBER BRKT | |
| 2 | FRI-2302 | ABSORBER SUB BRKT | |
| 3 | FRI-2303 | PLUNGER | |
| 4 | FRI-2305 | COMP SPRING FRI | |
| 5 | FRI-2306 | STOPPER SHAFT | |
| 101 | 601-10662 | SHOCK ABSORBER W/O CAP | |
| 201 | 030-000825-SB | HEX BLT W/S BLK M8 X 25 | |
| 202 | 060-F00800-0B | FLT WSHR BLK M8 | |
| 203 | 060-S00600 | SPR WSHR M6 | |
| 204 | 050-U00600 | U NUT M6 | |
| 205 | 068-652016 | FLT WSHR 6.5-20 X 1.6 | |

23 CLUTCH UNIT (FRI-2400)

(D-1/2)



Apply greasing to gear mesh portions and spring portions.

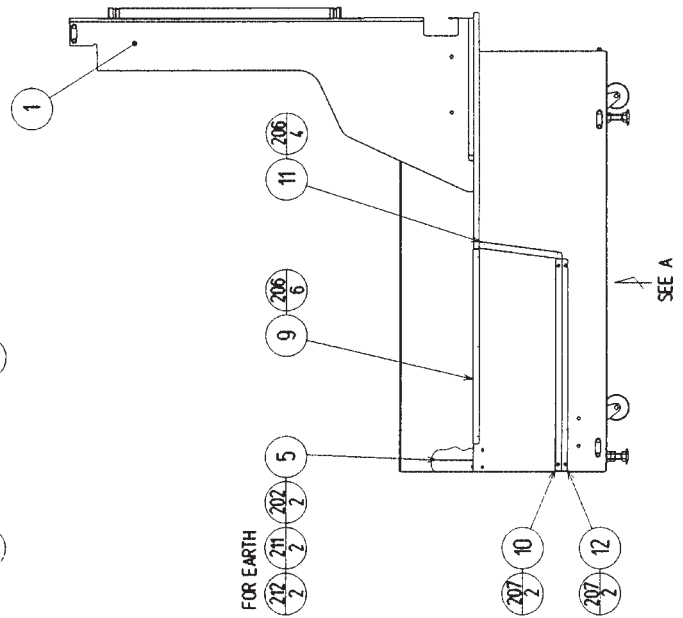
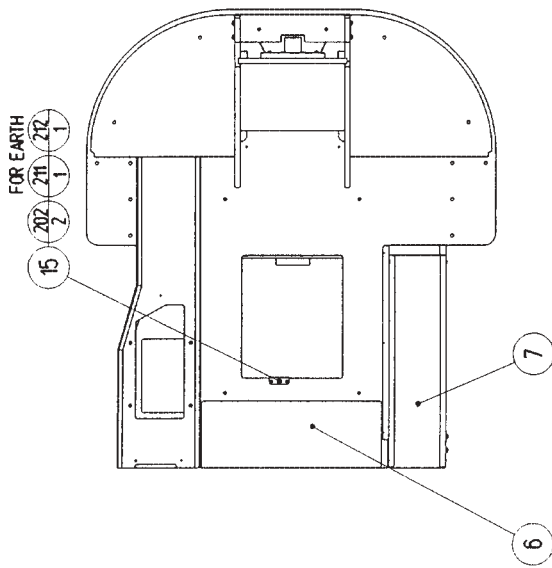
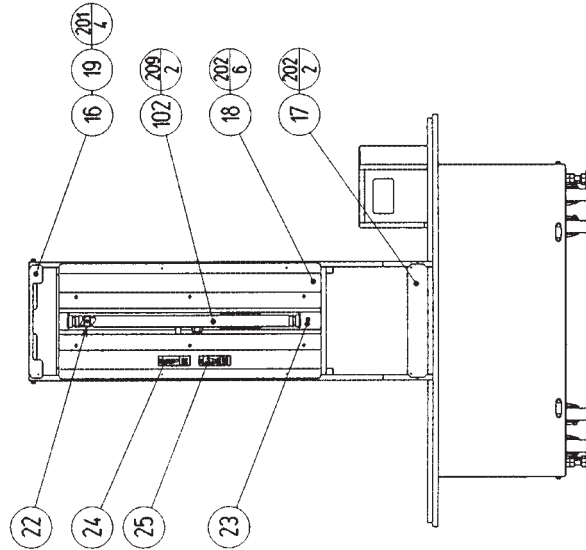
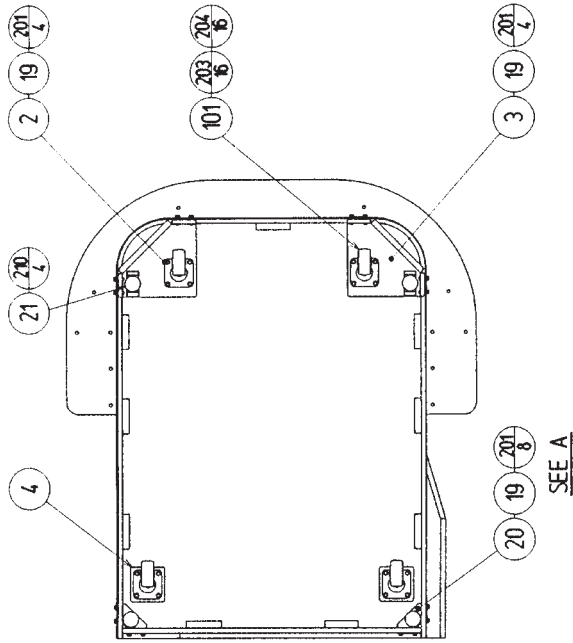
23 CLUTCH UNIT (FRI-2400)

(D-2/2)

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|---------------|------------------------------|------|
| 1 | FRI-2401 | BOTTOM COVER | |
| 2 | FRI-2402 | CLUTCH SPRING A | |
| 3 | FRI-2403 | CLUTCH GEAR | |
| 4 | FRI-2404 | CLUTCH BASE | |
| 5 | FRI-2405 | SPRING STOPPER | |
| 6 | FRI-2406 | CLUTCH PEDAL | |
| 7 | FRI-2407 | CLUTCH SPRING B | |
| 8 | FRI-2408 | STOPPER BASE | |
| 9 | FRI-2409 | BEARING PLATE | |
| 10 | FRI-2410 | VR BRKT | |
| 11 | FRI-2411 | SPRING HOLD | |
| 12 | FRI-2412 | CLUTCH RUBBER B | |
| 13 | FRI-2413 | CLUTCH RUBBER A | |
| 14 | FRI-2414 | CLUTCH COLLAR | |
| 15 | FRI-2415 | INSULATOR | |
| 16 | FRI-2416 | NON SLIP SHEET | |
| 17 | FRI-2417 | STOPPER COLLAR | |
| 101 | 100-5359 | BEARING 16 | |
| 102 | 220-5484 | VOL CONT B-5K OHM | |
| | 220-5373 | VOL CONT B-5K OHM | |
| 103 | 601-7944 | GEAR 15 | |
| 104 | 310-5029-F15 | SUMITUBE F F 15MM | |
| 105 | 280-0419 | HARNESS LUG | |
| 106 | 280-5275-SR10 | CORD CLAMP SR10 | |
| 201 | 028-A00304-P | SET SCR HEX SKT CUP P M3 X 4 | |
| 202 | 000-P00308-W | M SCR PH W/FS M3 X 8 | |
| 203 | 000-T00406-0B | M SCR TH BLK M4 X 6 | |
| 204 | 000-P00408-W | M SCR PH W/FS M4 X 8 | |
| 205 | 000-P00410-W | M SCR PH W/FS M4 X 10 | |
| 206 | 000-P00416-W | M SCR PH W/FS M4 X 16 | |
| 207 | FAS 000062 | M SCR TH CRM M6 X 8 | |
| 301 | FRI-60093 | WIRE HARN CLUTCH | |

24 ASSY REAR SUB-CABI (FRI-3001)

(D-1/2)



24 ASSY REAR SUB-CABI (FRI-3001)

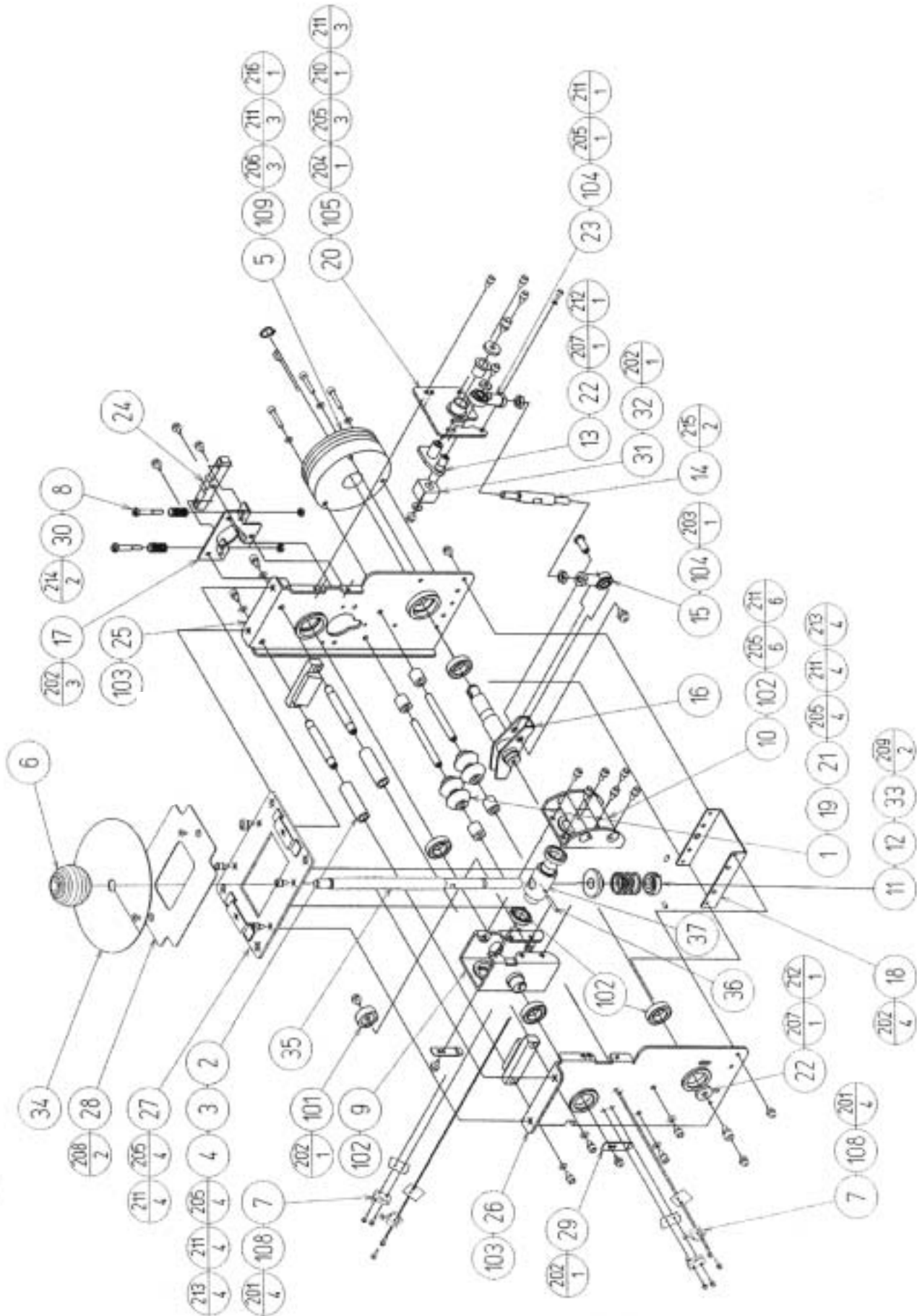
(D-2/2)

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|---------------|--------------------------------|------|
| 1 | FRI-3002 | REAR CABINET | |
| 2 | FRI-3003 | CORNER BRKT L | |
| 3 | FRI-3004 | CORNER BRKT R | |
| 4 | FRI-1009 | CASTER SPACER PLATE | |
| 5 | FRI-3010 | FR CONN PNL | |
| 6 | FRI-3013 | FOOT PLATE | |
| 7 | FRI-3022 | MAT A | |
| 9 | FRI-3024 | SASH A | |
| 10 | FRI-3025 | SASH B | |
| 11 | FRI-3026 | SASH C | |
| 12 | FRI-3027 | SASH D | |
| 15 | FRI-3033 | SP PNL BRKT | |
| 16 | FRI-3011 | HOLDER Z UPPER | |
| 17 | FRI-3012 | HOLDER Z LOWER | |
| 18 | FRI-3102 | REFRECTOR | |
| 19 | 117-5233 | PLATE LEG BRACKET BLACK | |
| 20 | ARC-1006 | LEG BRACKET | |
| 21 | 601-5699X | LEG ADJUSTER BOLT M16 X 75 | |
| 22 | 253-5457 | FL HOLDER | |
| 23 | 421-7501-09 | STICKER FL30W | |
| 24 | 440-WS0002XEG | STICKER W POWER OFF ENG | |
| 25 | 440-WS0012XEG | STICKER W HIGH TEMP ENG | |
| 101 | 601-9377 | CASTER FAI=75 | |
| 102 | 390-6603-30EX | ASSY FL30W EX W/CONN HIGH T CE | |
| 103 | 280-5009-01 | CORD CLAMP 21 | |
| 201 | 030-000630-SB | HEX BLT BLK W/S M6 X 30 | |
| 202 | 000-P00416-W | M SCR PH W/FS M4 X 16 | |
| 203 | 030-000630-S | HEX BLT W/S M6 X 30 | |
| 204 | 060-F00600 | FLT WSHR M6 | |
| 206 | 079-000008 | SCR NAIL THH STNLS 1.5 X 16 | |
| 207 | 000-T00416-0C | M SCR TH CRM M4 X 16 | |
| 209 | 000-P00430-W | M SCR PH W/FS M4 X 30 | |
| 210 | 050-H01600 | HEX NUT M16 | |
| 211 | 000-P00408-S | M SCR PH W/S M4 X 8 | |
| 212 | 060-F00400 | FLT WSHR M4 | |
| 301 | FRI-6003 | ASSY WIRE REAR | |
| 303 | FRI-60072X | WIRE HARN EXT AC REAR A | |
| 304 | FRI-60079X | WIRE HARN CENTER TOWER AC | |
| 305 | FRI-60080 | WIRE HARN CENTER TOWER DC | |
| 306 | 600-6972-0600 | WIRE HARN EARTH ID5 0600MM | |
| 307 | 600-6972-1000 | WIRE HARN EARTH ID5 1000MM | |

②5 ASSY WIRE REAR (FRI-6003)

ASSY WIRE REAR is comprised of the following wire harnesses.
An ASSY DRG. is unavailable.

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|-----------|----------------------------|------|
| 101 | 601-0460 | PLASTIC TIE BELT 100 MM | |
| 301 | FRI-60065 | WIRE HARN EXT REAR CTRL B | |
| 302 | FRI-60066 | WIRE HARN EXT SHIFT LOCK B | |
| 303 | FRI-60067 | WIRE HARN EXT SEAT SP B | |
| 304 | FRI-60070 | WIRE HARN EXT BASS SP | |
| 305 | FRI-60073 | WIRE HARN EXT BRAKE LAMP B | |



26 ASSY 6SPEED SHIFTER (FRI-2150)

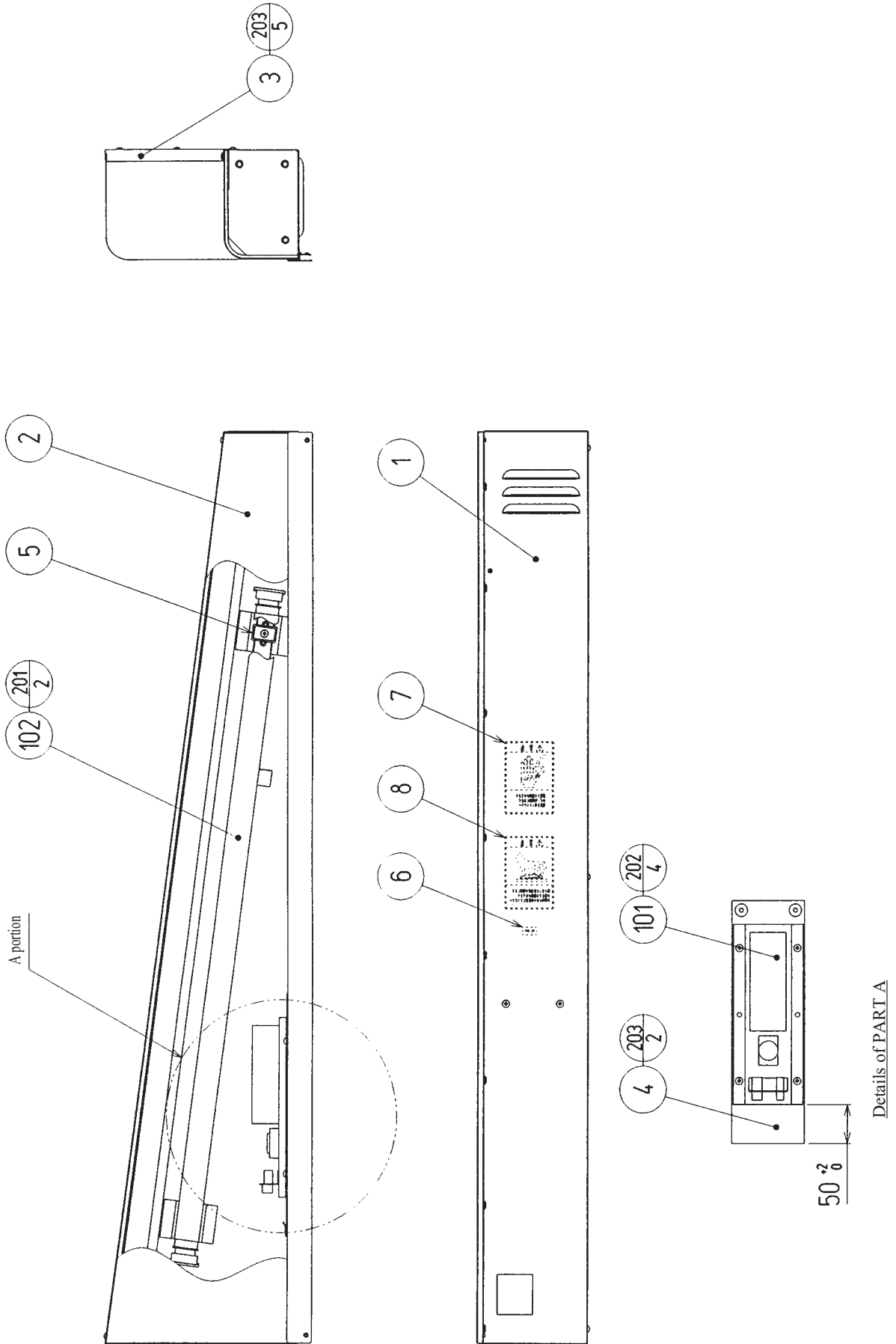
(D-2/3)

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|---------------|--------------------------|------|
| 1 | FRI-2151 | ROLLER PIN | |
| 2 | FRI-2152 | STP RUBBER PIN | |
| 3 | FRI-2153 | STOPPER RUBBER | |
| 4 | FRI-2154 | SIDE GUARD | |
| 5 | FRI-2155 | KEY | |
| 6 | FRI-2156 | KNOB | |
| 7 | SPG-2159 | INSULATOR SHEET | |
| 8 | FRI-2158 | CENTERING SPRING | |
| 9 | FRI-2159 | SHAFT CASE F | |
| 10 | FRI-2160 | SHAFT CASE R | |
| 11 | FRI-2161 | CENTERING HEAD | |
| 12 | FRI-2162 | SPRING BRKT | |
| 13 | FRI-2163 | HOLDER | |
| 14 | FRI-2164 | CLUTCH BAR | |
| 15 | FRI-2165 | CLUTCH PIN | |
| 16 | FRI-2166 | CLUTCH SHAFT | |
| 17 | FRI-2167 | CENTERING BRKT | |
| 18 | FRI-2168 | CR SPRING BRKT | |
| 19 | FRI-2169 | GUIDE ROLLER | |
| 20 | FRI-2170 | CENTER PLATE | |
| 21 | FRI-2171 | COLLAR | |
| 22 | FRI-2172 | COLLAR 18 | |
| 23 | FRI-2173 | COLLAR 14 | |
| 24 | FRI-2174 | CENTERING POSITION | |
| 25 | FRI-2175 | SIDE PLATE B | |
| 26 | FRI-2176 | SIDE PLATE A | |
| 27 | FRI-2177 | PLATE BRKT | |
| 28 | FRI-2178 | SLIDE PLATE BASE | |
| 29 | FRI-2179 | SW DOG | |
| 30 | FRI-2180 | SP GUIDE SHAFT | |
| 31 | FRI-2181 | RUBBER BEAM | |
| 32 | FRI-2182 | RUBBER | |
| 33 | FRI-2183 | COMPRESSION SPRING | |
| 34 | FRI-2184 | SLIDE PLATE | |
| 35 | FRI-2157 | SHIFT SHAFT | |
| 36 | 045-SU0424-Z | M4 X 24 SPRING PIN | |
| 37 | 123-5107 | SHAFT PIN G5042-8020 FRI | |
| 101 | 100-5252 | BEARING ROLLER 25 | |
| 102 | 100-5360 | BEARING 17 | |
| 103 | 100-5229 | BEARING 17 | |
| 104 | 100-5361 | RODEND 8 | |
| 105 | 100-5362 | BEARING 12 | |
| 106 | 601-10805 | TIE BELT | |
| 107 | 280-5275-SR10 | CORD CLAMP SR10 | |
| 108 | 509-5636 | SW MICRO TYPE SS-5GL2T | |
| 109 | 601-10806 | BRAKE BXH-08 | |

26 ASSY 6SPEED SHIFTER (FRI-2150)

(D-3/3)

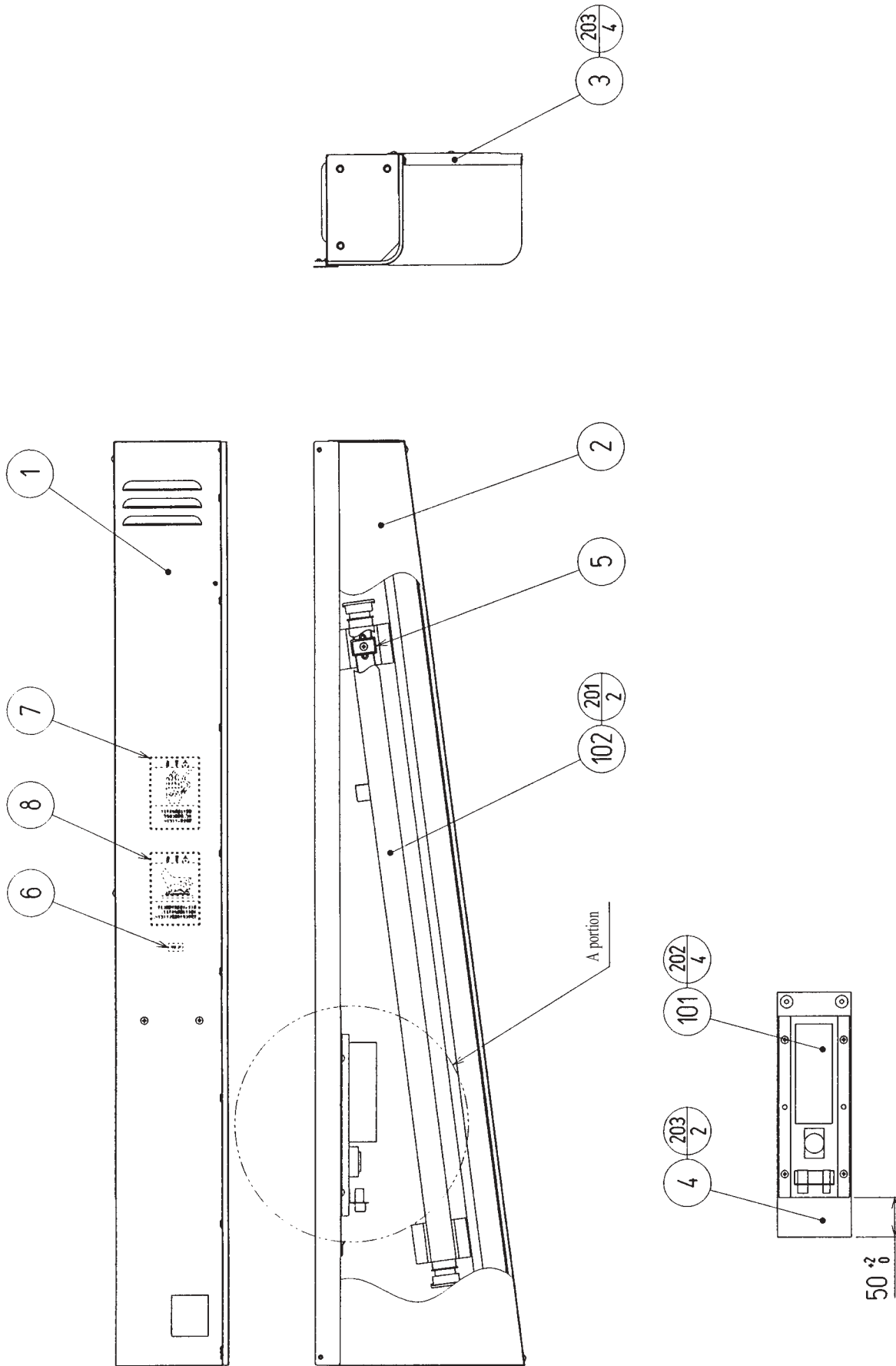
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|---------------|----------------------------------|------|
| 201 | FAS-000033 | M SCR PH W/FS M2.3 X 12 | |
| 202 | 000-P00408-W | M SCR PH W/FS M4 X 8 | |
| 203 | 000-P00510-W | M SCR PH W/FS M5 X 10 | |
| 204 | 020-000410-0Z | HEX SKT H CAP SCR BLK OZ M4 X 10 | |
| 205 | 020-000510-0Z | HEX SKT H CAP SCR BLK OZ M5 X 10 | |
| 206 | 020-000525-0Z | HEX SKT H CAP SCR BLK OZ M5 X 25 | |
| 207 | FAS-200037 | HEX SKT H CAP SCR BLK OZ M6 X 15 | |
| 208 | 000-F00406 | M SCR FH M4 X 6 | |
| 209 | 028-A00406-P | SET SCR HEX SKT CUP P M4 X 6 | |
| 210 | 060-S00400 | SPR WSHR M4 | |
| 211 | 060-S00500 | SPR WSHR M5 | |
| 212 | 060-S00600 | SPR WSHR M6 | |
| 213 | 060-F00500 | FLT WSHR M5 | |
| 214 | 050-U00500 | U NUT M5 | |
| 215 | 050-H00800 | HEX NUT M8 | |
| 216 | 065-S014S0-Z | STP RING BLK OZ S14 | |
| 301 | FRI-60094 | WIRE HARN SHIFT SW | |



27 ASSY SIDE TOWER L (FRI-3050)

(D-2/2)

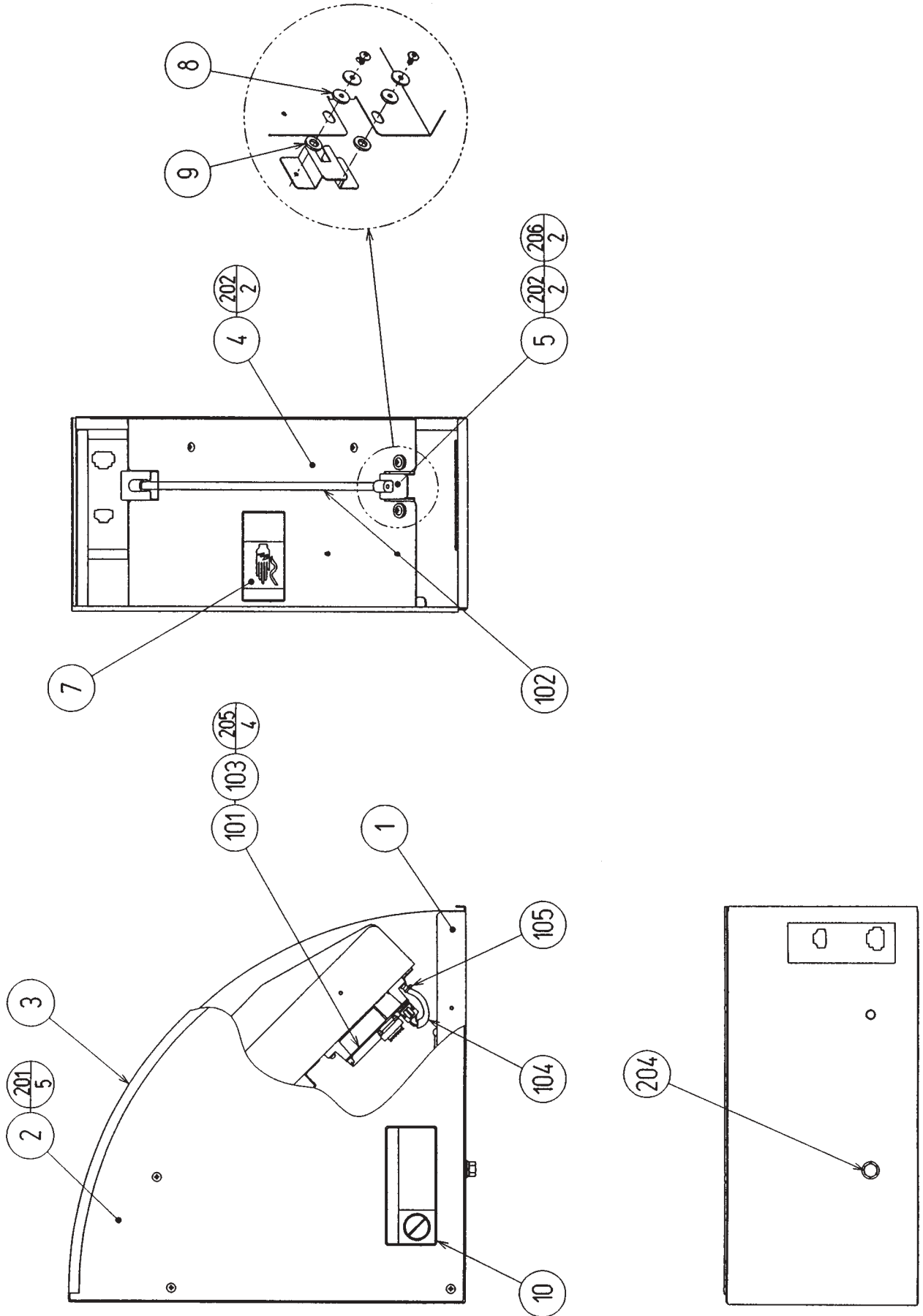
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|---------------|-------------------------------|------|
| 1 | FRI-3051 | SIDE TOWER L | |
| 2 | FRI-3052 | SIDE FL COVER L | |
| 3 | FRI-3053 | SASH FRONT L | |
| 4 | FRI-3054 | WOODEN BASE FOR BRST | |
| 5 | 253-5457 | FL HOLDER | |
| 6 | 421-7501-18 | STICKER FL32W | |
| 7 | 440-WS0002XEG | STICKER W POWER OFF ENG | |
| 8 | 440-WS0012XEG | STICKER W HIGH TEMP ENG | |
| 101 | 390-6649-32 | GLOW&BALLAST UNIT 1P 32W | |
| 102 | 390-6650-32EX | FL 32WEX W/CONN LOW W/O G&B | |
| 201 | 000-T00425-0B | M SCR TH BLK M4 X 25 | |
| 202 | 011-T00312 | TAP SCR TH 3 X 12 | |
| 203 | 000-T00412-0B | M SCR TH BLK M4 X 12 | |
| 301 | FRI-60084 | WIRE HARN SIDE TOWER L INV IN | |
| 302 | FRI-60085 | WIRE HARN SIDE TOWER L FL | |



28 ASSY SIDE TOWER R (FRI-3060)

(D-2/2)

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|---------------|-------------------------------|------|
| 1 | FRI-3061 | SIDE TOWER R | |
| 2 | FRI-3062 | SIDE FL COVER R | |
| 3 | FRI-3063 | SASH FRONT R | |
| 4 | FRI-3054 | WOODEN BASE FOR BRST | |
| 5 | 253-5457 | FL HOLDER | |
| 6 | 421-7501-18 | STICKER FL32W | |
| 7 | 440-WS0002XEG | STICKER W POWER OFF ENG | |
| 8 | 440-WS0012XEG | STICKER W HIGH TEMP ENG | |
| 101 | 390-6649-32 | GLOW&BALLAST UNIT 1P 32W | |
| 102 | 390-6650-32EX | FL 32WEX W/CONN LOW W/O G&B | |
| 201 | 000-T00425-0B | M SCR TH BLK M4 X 25 | |
| 202 | 011-T00312 | TAP SCR TH 3 X 12 | |
| 203 | 000-T00412-0B | M SCR TH BLK M4 X 12 | |
| 301 | FRI-60076 | WIRE HARN SIDE TOWER R INV IN | |
| 302 | FRI-60077 | WIRE HARN SIDE TOWER R FL | |



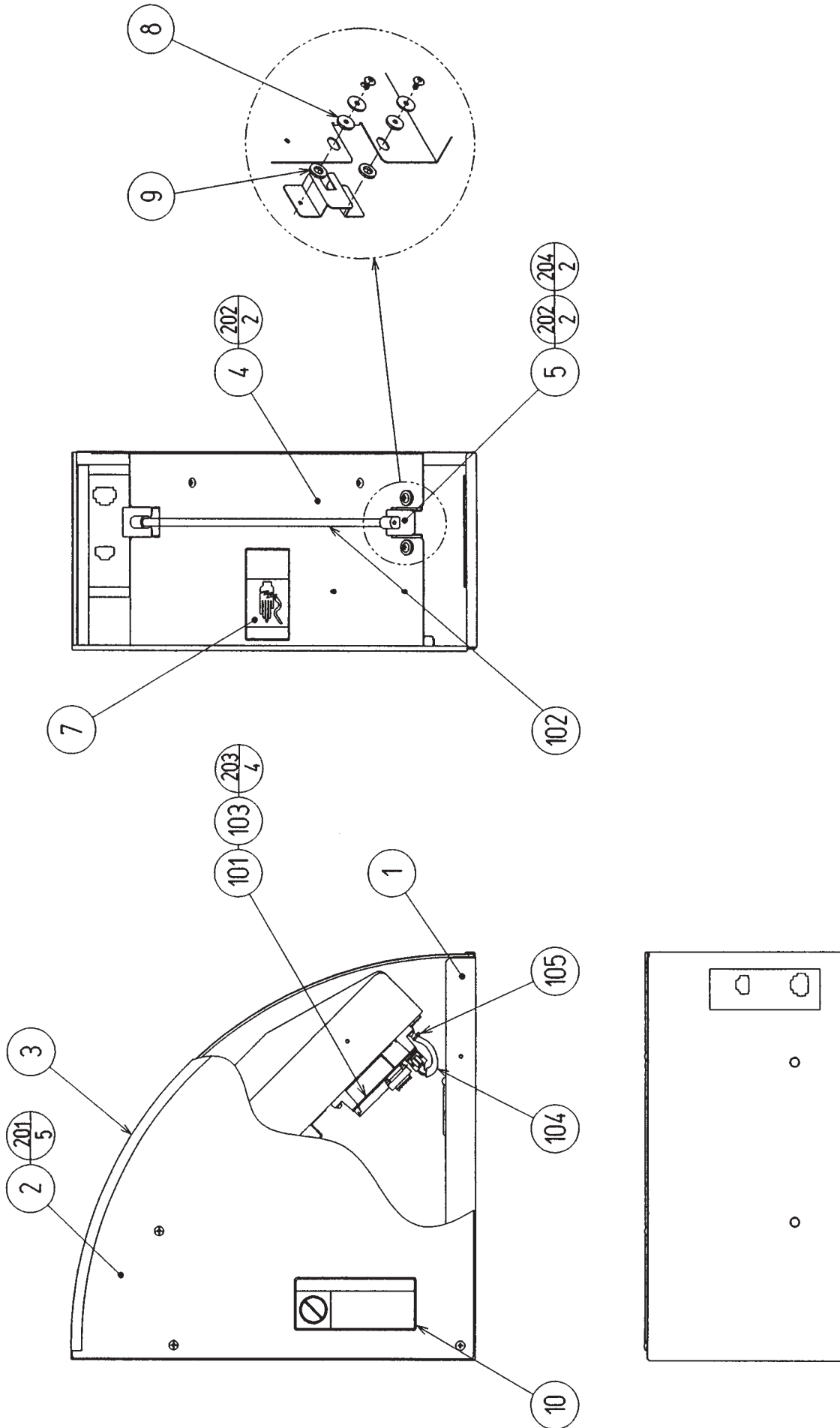
29 ASSY CORNER LIGHT L (FRI-3100)

(D-2/2)

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|-----------------|----------------------------|------|
| 1 | FRI-3151 | CORNER LIGHT BOX | |
| 2 | FRI-3152 | CORNER LIGHT LID | |
| 3 | FRI-3153X | LID EDGE PACKING | |
| 4 | FRI-3154 | CORNER REFLECTOR | |
| 5 | FRI-3155 | LIGHT HOLDER | |
| 7 | 440-WS0002XEG | STICKER W POWER OFF ENG | |
| 8 | FRI-3158 | LIGHT HOLDER BUSH | |
| 9 | FRI-3159 | LIGHT HOLDER SPACER | |
| 10 | 440-CS0180-EG | STICKER C KEEP OUT ENG | |
| 101 | 400-5414 | INVERTER FIP24-12N-UX | |
| 102 | 390-6651 | EXT ELECTRODE CFX12AYG/36H | |
| 103 | 601-7467 | L-LOCK BK | |
| 104 | 310-5047-6H0014 | VINYL TUBE 6H-0014CM | |
| 105 | 601-0460 | PLASTIC TIE BELT 100 MM | |
| 201 | 000-T00408-0B | M SCR TH BLK M4 X 8 | |
| 202 | 000-T00412-0C | M SCR TH CRM M4 X 12 | |
| 204 | 030-000816-SB | HEX BLT W/S BLK M8 X 16 | |
| 205 | 000-P00312-W | M SCR PH W/FS M3 X 12 | |
| 206 | 068-441616-0C | FLT WSHR CRM 4.4-16 X 1.6 | |
| 301 | FRI-60082X | WIRE HARN CORNER L AC | |
| 302 | FRI-60083 | WIRE HARN BRAKE LAMP L | |

30 ASSY CORNER LIGHT R (FRI-3150)

(D-1/2)



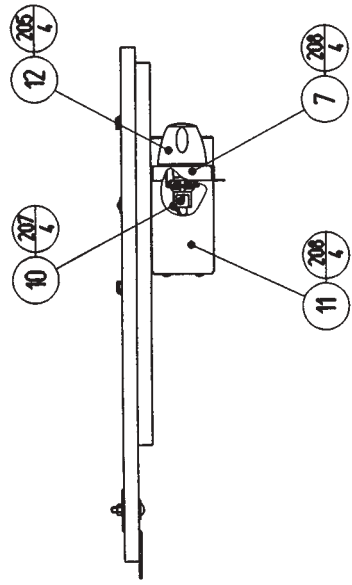
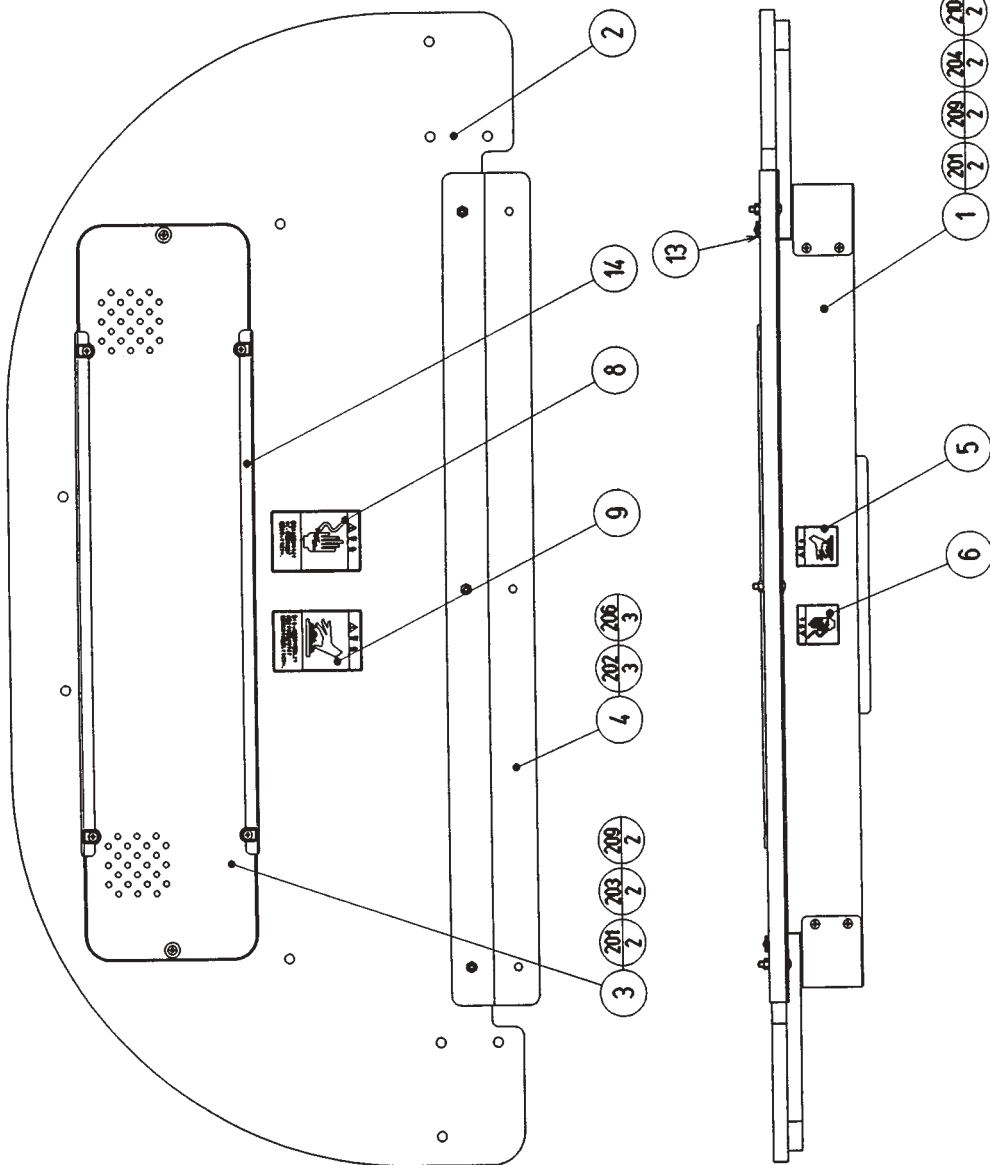
30 ASSY CORNER LIGHT R (FRI-3150)

(D-2/2)

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|-----------------|----------------------------|------|
| 1 | FRI-3151 | CORNER LIGHT BOX | |
| 2 | FRI-3152 | CORNER LIGHT LID | |
| 3 | FRI-3153X | LID EDGE PACKING | |
| 4 | FRI-3154 | CORNER REFLECTOR | |
| 5 | FRI-3155 | LIGHT HOLDER | |
| 7 | 440-WS0002XEG | STICKER W POWER OFF ENG | |
| 8 | FRI-3158 | LIGHT HOLDER BUSH | |
| 9 | FRI-3159 | LIGHT HOLDER SPACER | |
| 10 | 440-CS0180-EG | STICKER C KEEP OUT ENG | |
| 101 | 400-5414 | INVERTER FIP24-12N-UX | |
| 102 | 390-6651 | EXT ELECTRODE CFX12AYG/36H | |
| 103 | 601-7467 | L-LOCK BK | |
| 104 | 310-5047-6H0014 | VINYL TUBE 6H-0014CM | |
| 105 | 601-0460 | PLASTIC TIE BELT 100 MM | |
| 201 | 000-T00408-0B | M SCR TH BLK M4 X 8 | |
| 202 | 000-T00412-0C | M SCR TH CRM M4 X 12 | |
| 203 | 000-P00312-W | M SCR PH W/FS M3 X 12 | |
| 204 | 068-441616-0C | FLT WSHR CRM 4.4-16 X 1.6 | |
| 301 | FRI-60075X | WIRE HARN CORNER R AC | |
| 302 | FRI-60078 | WIRE HARN BRAKE LAMP R | |

31 ASSY REAR ROOF (FRI-3200)

(D-1/2)

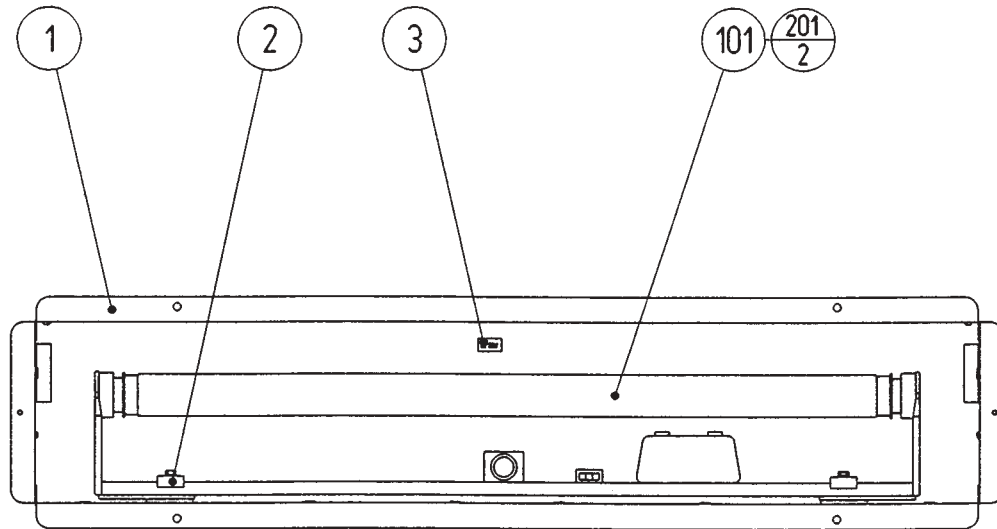


31 ASSY REAR ROOF (FRI-3200)

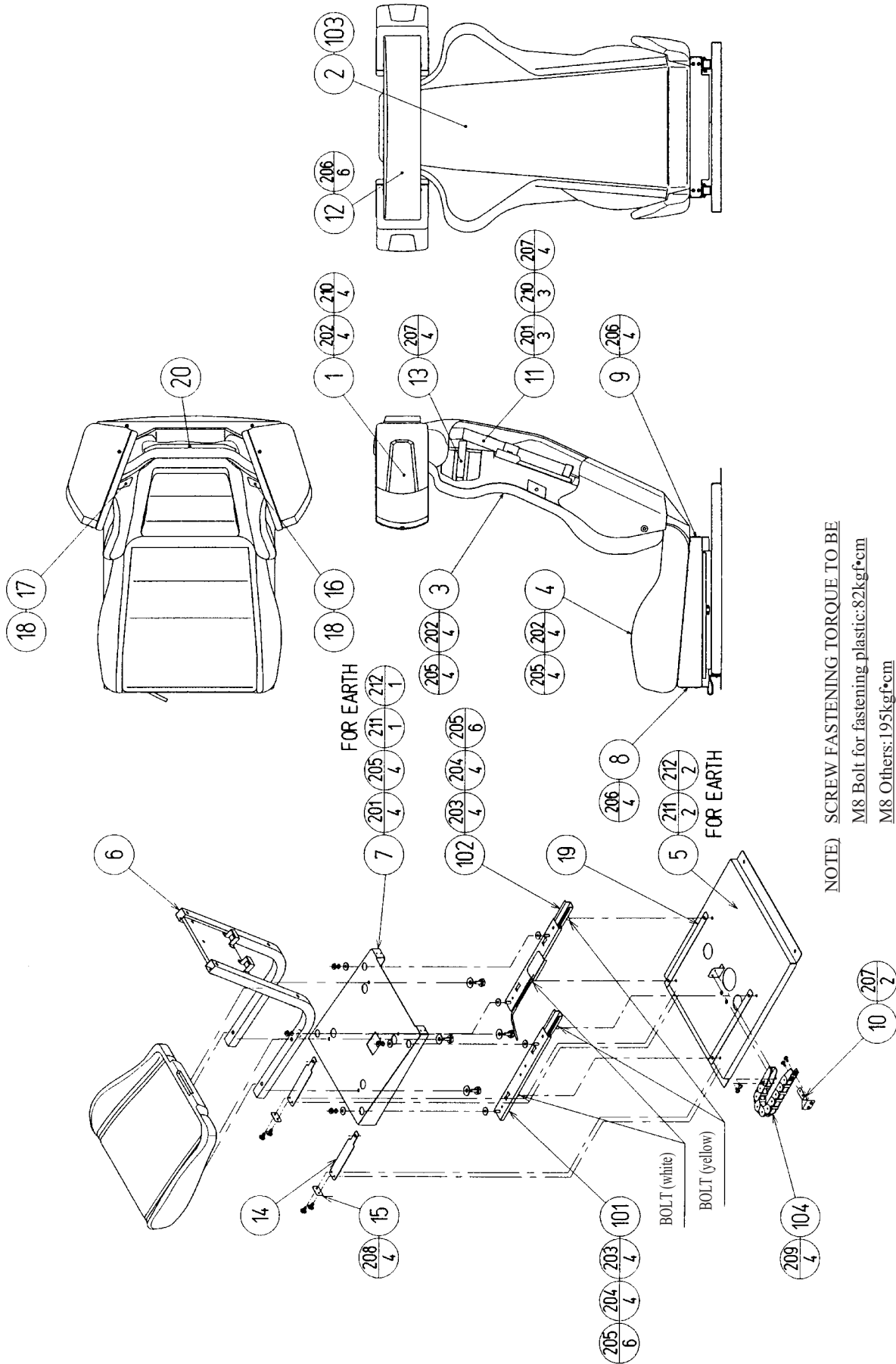
(D-2/2)

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|---------------|---------------------------|------|
| 1 | FRI-3250 | ASSY TOP LIGHT | |
| 2 | FRI-3201 | REAR ROOF | |
| 3 | FRI-3202X | FL PLATE | |
| 4 | FRI-3203 | ROOF BRKT REAR | |
| 8 | 440-WS0002XEG | STICKER W POWER OFF ENG | |
| 9 | 440-WS0012XEG | STICKER W HIGH TEMP ENG | |
| 10 | FRI-3207 | LAMP BLIND LID | |
| 13 | FRI-3158 | LIGHT HOLDER BUSH | |
| 14 | FRI-3208 | PLATE HOLDER | |
| 201 | 000-T00416-0B | M SCR TH BLK M4 X 16 | |
| 202 | 000-T00630-0B | M SCR TH BLK M6 X 30 | |
| 203 | 060-F00400-0B | FLT WSHR BLK M4 | |
| 204 | 050-C00400-3B | CAP NUT TYPE3 BLK M4 | |
| 206 | 068-652016-0B | FLT WSHR BLK 6.5-20 X 1.6 | |
| 208 | 000-T00408-0B | M SCR TH BLK M4 X 8 | |
| 209 | 068-441616-0B | FLT WSHR BLK 4.4-16 X 1.6 | |
| 210 | 000-T00420-0B | M SCR TH BLK M4 X 20 | |

③② ASSY TOP LIGHT (FRI-3250)



| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|---------------|--------------------------------|------|
| 1 | FRI-3251 | TOP FL BOX | |
| 2 | 253-5457 | FL HOLDER | |
| 3 | 421-7501-17 | STICKER FL 20W | |
| 101 | 390-6603-20EX | ASSY FL20W EX W/CONN HIGH T CE | |
| 201 | 050-F00400 | FLG NUT M4 | |
| 301 | FRI-60081X | WIRE HARN BILLBOARD FL | |

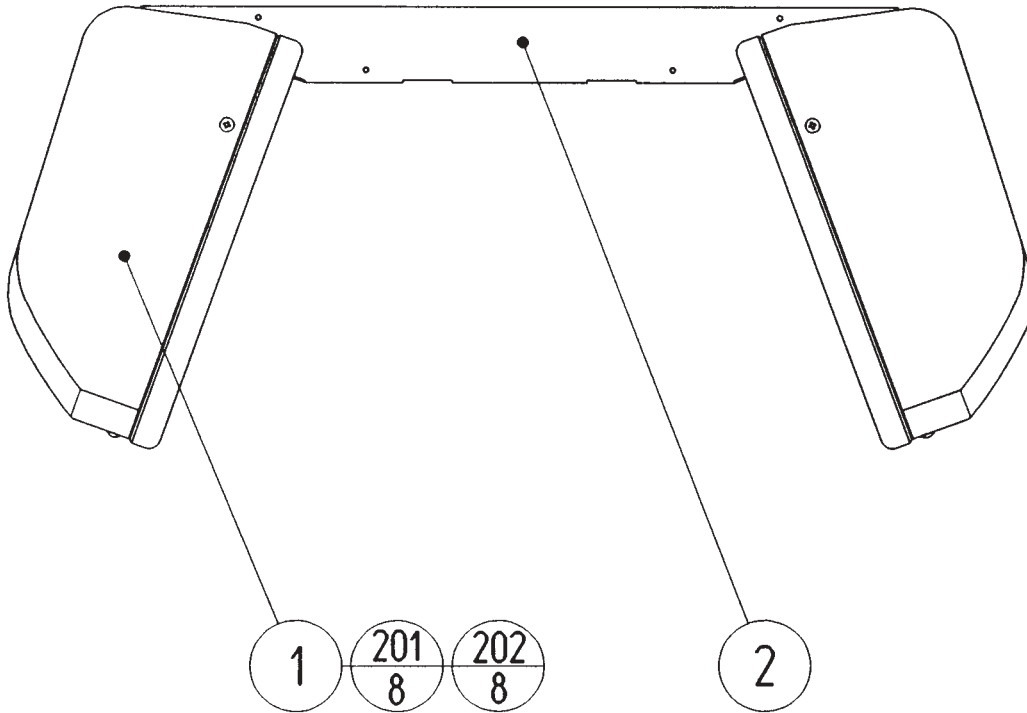


33 ASSY SEAT (FRI-3300)

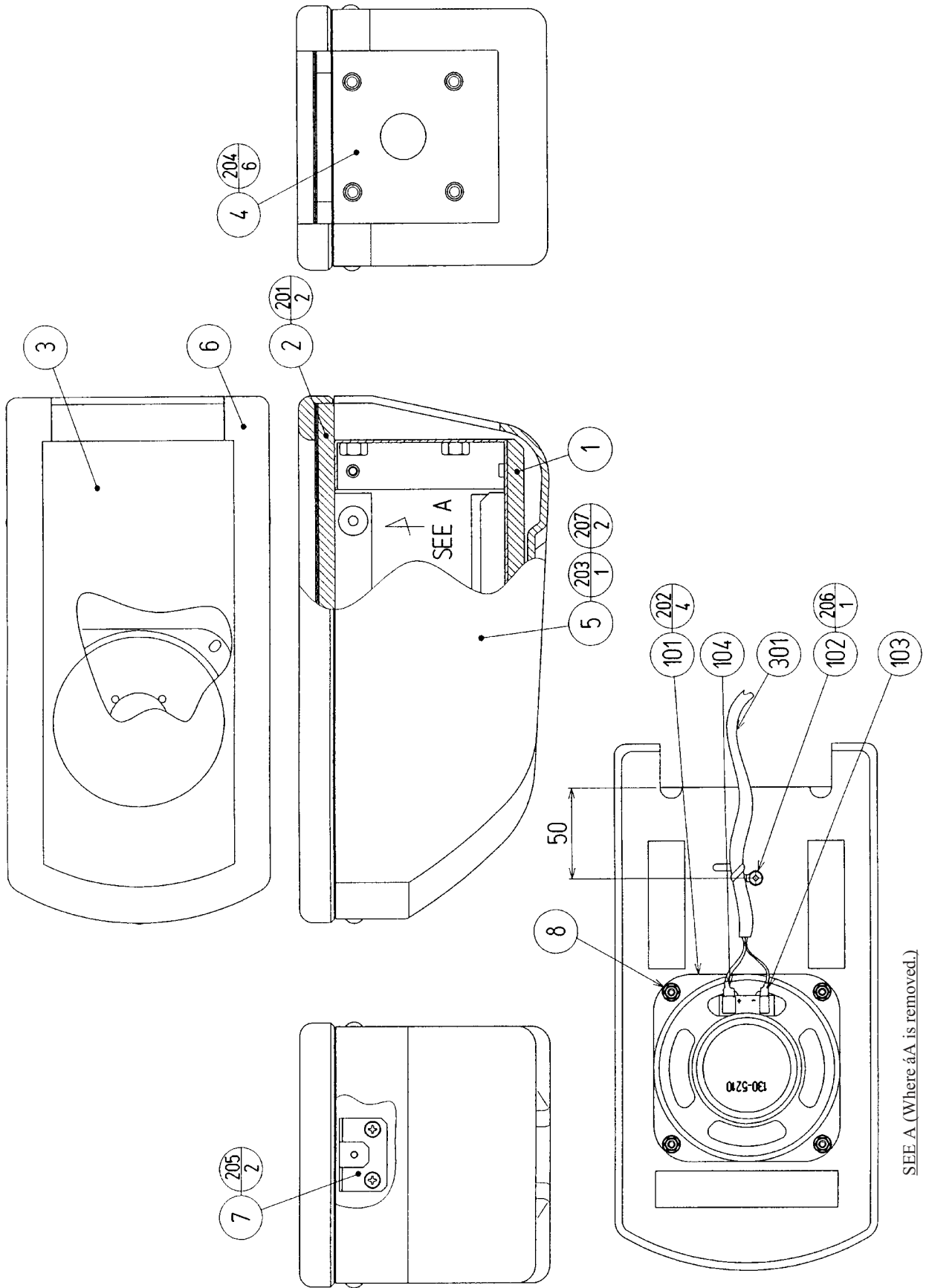
(D-2/2)

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|---------------|----------------------------|------|
| 1 | FRI-3350 | SOUND UNIT | |
| 2 | FRI-3301 | SEAT BACK COVER | |
| 3 | FRI-3302 | UPPER SEAT | |
| 4 | FRI-3303 | LOWER SEAT | |
| 5 | FRI-3304 | SEAT BASE | |
| 6 | FRI-3305 | SEAT FRAME | |
| 7 | FRI-3306 | SEAT SLANT TRAY | |
| 8 | FRI-3307 | FRONT TRAY COVER | |
| 9 | FRI-3308 | REAR TRAY COVER | |
| 10 | FRI-3309 | CABLE BEAR BRKT | |
| 11 | FRI-3310 | SPEAKER SUPPORT | |
| 12 | FRI-3312 | ARM REAR COVER | |
| 13 | FRI-3313 | GULL PLATE | |
| 14 | SRT-2408 | PROTECT RUBBER | |
| 15 | SPG-2411 | RUBBER PLATE | |
| 16 | STC-1608 | SPEAKER NET L | |
| 17 | STC-1609 | SPEAKER NET R | |
| 18 | SRT-2409 | SHOULDER PAD | |
| 19 | 117-5414 | PLATE S RAIL LOWER | |
| 20 | FRI-3314 | HEAD CUSION | |
| 101 | 601-9059-91 | SEAT RAIL L | |
| 102 | 601-9060-91 | SEAT RAIL R | |
| 103 | 280-5297 | SCRIVET 8 1K31 | |
| 104 | 601-6981-009 | CABLE BEAR L=009 | |
| 105 | 280-5009-01 | CORD CLAMP 21 | |
| 106 | 280-5275-SR10 | CORD CLAMP SR10 | |
| 201 | 030-000816-S | HEX BLT W/S M8 X 16 | |
| 202 | 030-000850-S | HEX BLT W/S M8 X 50 | |
| 203 | 050-H00800 | HEX NUT M8 | |
| 204 | 060-S00800 | SPR WSHR M8 | |
| 205 | 068-852216 | FLT WSHR 8.5-22 X 1.6 | |
| 206 | 000-T00408-0B | M SCR TH BLK M4 X 8 | |
| 207 | 000-P00410-W | M SCR PH W/FS M4 X 10 | |
| 208 | 000-T00516-0B | M SCR TH BLK M5 X 16 | |
| 209 | 000-T00616-0B | M SCR TH BLK M6 X 16 | |
| 210 | 060-F00800 | FLT WSHR M8 | |
| 211 | 000-P00408-S | M SCR PH W/S M4 X 8 | |
| 212 | 060-F00400 | FLT WSHR M4 | |
| 301 | FRI-60068 | WIRE HARN EXT SEAT SP C | |
| 302 | 600-6972-0600 | WIRE HARN EARTH ID5 0600MM | |

34 SOUND UNIT (FRI-3350)



| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|---------------|---------------------|------|
| 1 | FRI-3360 | ASSY SPEAKER | |
| 2 | FRI-3351 | MOUNT ARM | |
| 101 | 280-5275-SR10 | CORD CLAMP SR10 | |
| 201 | 030-000816-S | HEX BLT W/S M8 X 16 | |
| 202 | 060-F00800 | FLT WSHR M8 | |

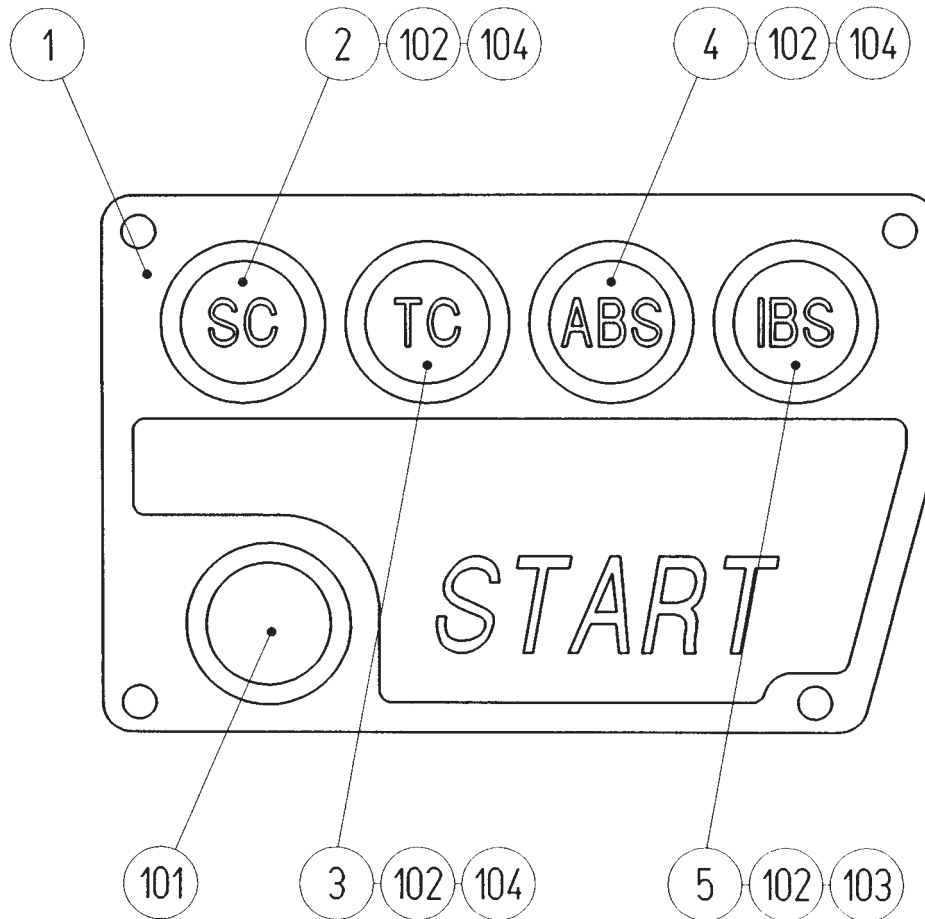


35 ASSY SPEAKER (FRI-3360)

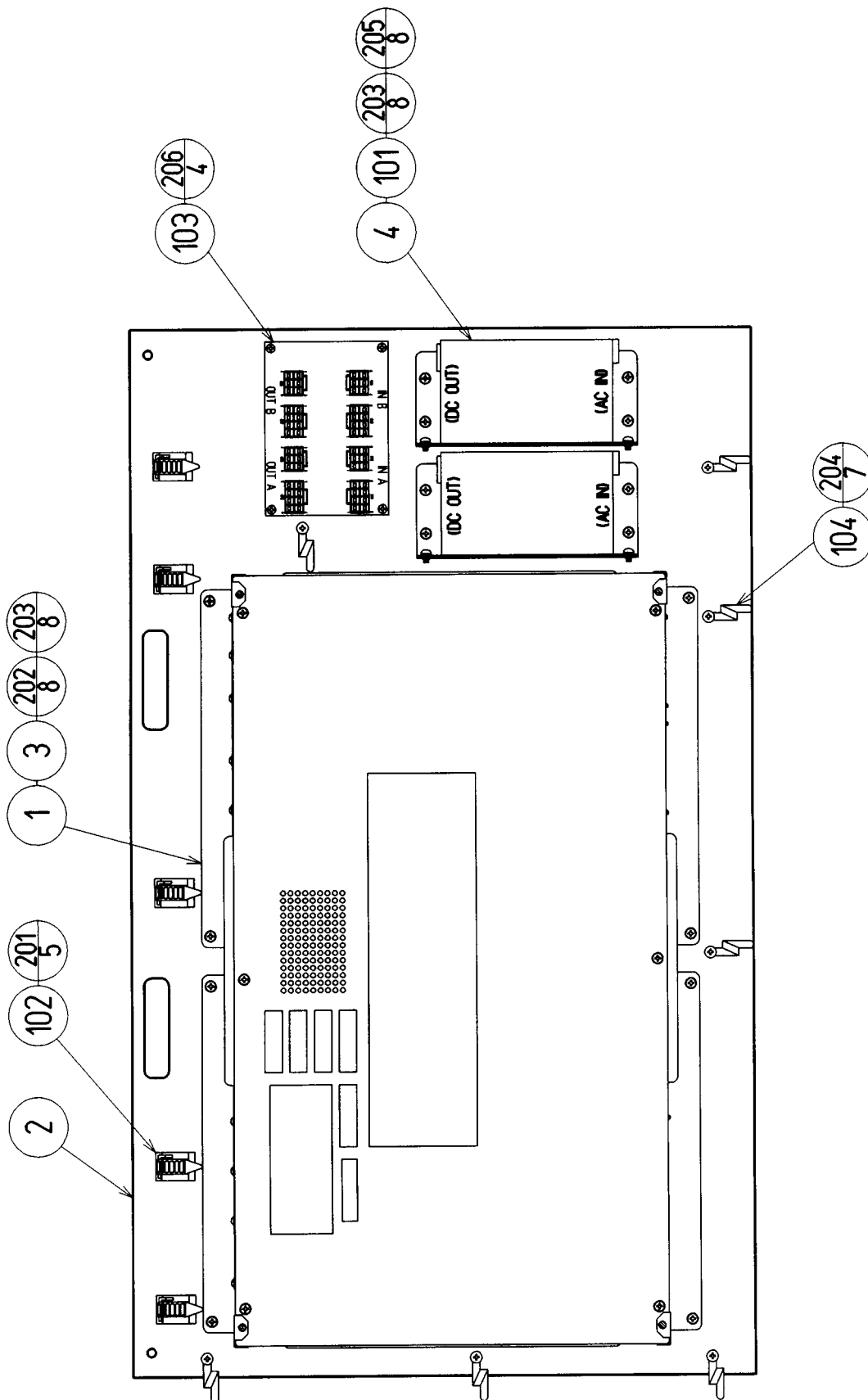
(D-2/2)

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|---------------|------------------------|------|
| 1 | FRI-3361 | ENCLOSURE | |
| 2 | FRI-3362 | BAFFLE | |
| 3 | FRI-3363 | SPEAKER NET | |
| 4 | FRI-3364 | HOLDER | |
| 5 | FRI-3365 | COVER | |
| 6 | FRI-3366X | EDGE GUARD | |
| 7 | FRI-3367 | COVER BRKT | |
| 8 | FRI-3368 | SPEAKER BUSH | |
| 101 | 130-5210 | SPKR 4INCH 4OHM 12W25W | |
| 102 | 280-0419 | HARNESS LUG | |
| 103 | 310-5029-F20 | SUMITUBE F F 20MM | |
| 104 | 310-5029-H20 | SUMITUBE F H 20MM | |
| 201 | 000-P00430-W | M SCR PH W/FS M4 X 30 | |
| 202 | 050-F00400 | FLG NUT M4 | |
| 203 | 000-T00416-0B | M SCR TH BLK M4 X 16 | |
| 204 | 000-F00516 | M SCR FH M5 X 16 | |
| 205 | 000-P00412-W | M SCR PH W/FS M4 X 12 | |
| 206 | 011-T03510 | TAP SCR TH 3.5 X 10 | |
| 207 | 000-T00430-0B | M SCR TH BLK M4 X 30 | |
| 301 | FRI-60069 | WIRE HARN SEAT SP | |

③⑥ ASSY EFACT SW (FRI-3400)



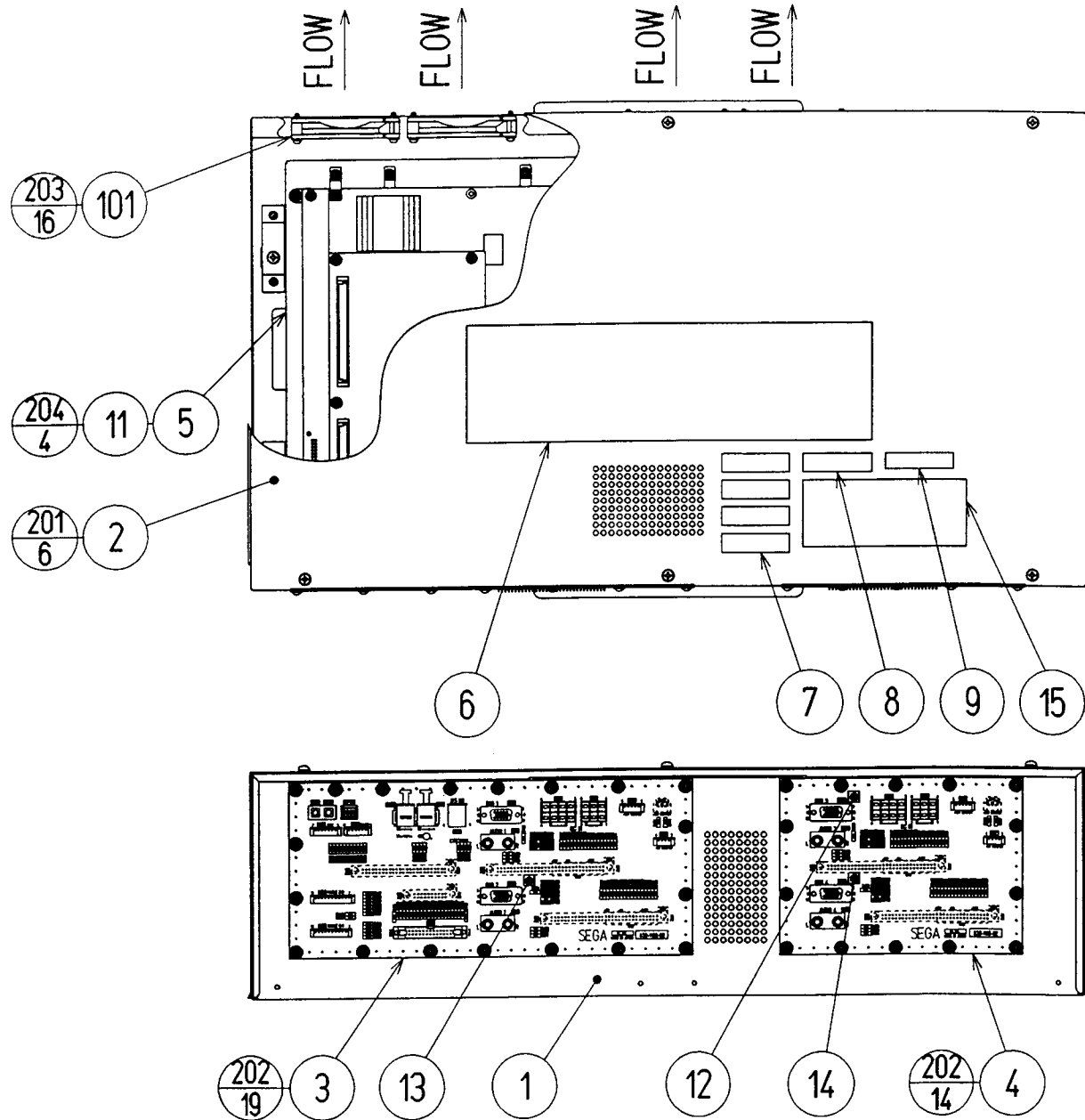
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|-------------|------------------------------|------|
| 1 | FRI-3401 | SW PLATE | |
| 2 | FRI-3402 | BUTTON SHEET SC | |
| 3 | FRI-3403 | BUTTON SHEET TC | |
| 4 | FRI-3404 | BUTTON SHEET ABS | |
| 5 | FRI-3405 | BUTTON SHEET IBS | |
| 101 | 509-5838-Y | SW PB LW1L-15Y-TK1670 | |
| 102 | 509-5653 | PB W/L 6V W/O LEN, PLT 1L110 | |
| 103 | 253-5380-04 | BUTTON COVER 1L BL | |
| 104 | 253-5380-02 | BUTTON COVER 1L GR | |
| 301 | FRI-60074 | WIRE HARN EFFECT SW | |



③7 ASSY MAIN BD DX (FRI-4000)

(D-2/2)

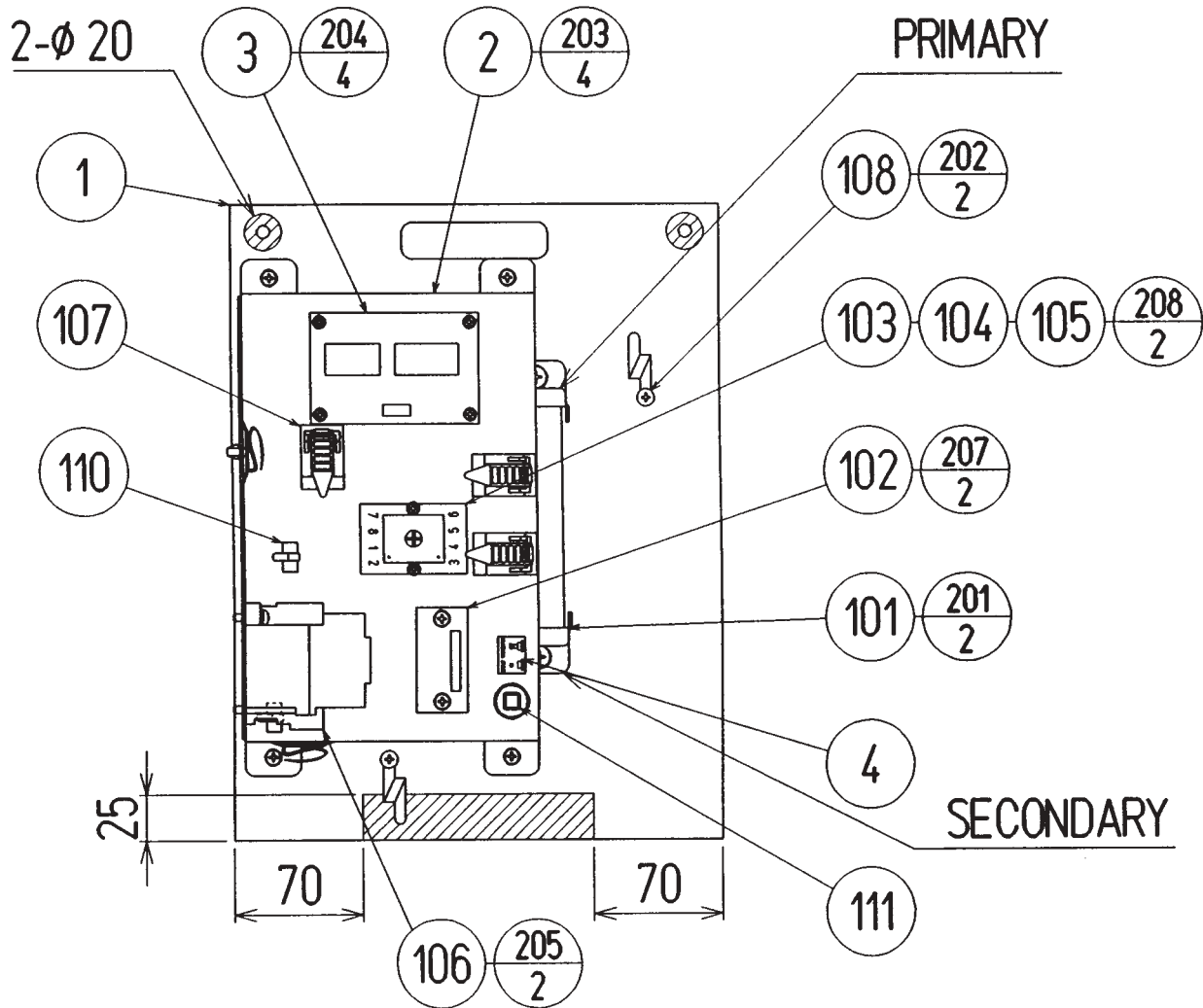
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|--------------|--------------------------|------|
| 1 | FRI-4050 ~ | ASSY SHIELD CASE FRI ~ | |
| 2 | APC-4001 | WOODEN MAIN BASE | |
| 3 | 105-5368 | SHIELD CASE BRKT | |
| 4 | APC-4002 | SW REGU BRKT | |
| 101 | 400-5397 | SW REGU FOR JVS | |
| 102 | 280-5009-01 | CORD CLAMP 21 | |
| 103 | 838-13760 | DC SEQUENCE BD | |
| 104 | 280-0419 | HARNESS LUG | |
| 105 | 601-0460 | PLASTIC TIE BELT 100 MM | |
| 106 | 270-5052-04 | L.FILTER D | |
| 201 | 011-F00310 | TAP SCR FH 3 X 10 | |
| 202 | 000-P00408-W | M SCR PH W/FS M4 X 8 | |
| 203 | 000-P00412-W | M SCR PH W/FS M4 X 12 | |
| 204 | 011-T03512 | TAP SCR TH 3.5 X 12 | |
| 205 | 000-P00406-W | M SCR PH W/FS M4 X 6 | |
| 206 | 011-P00325 | TAP SCR PH 3 X 25 | |
| 301 | FRI-60017 | WIRE HARN MAIN BD AC IN | |
| 302 | FRI-60018 | WIRE HARN MAIN BD DC OUT | |
| 303 | FRI-60019 | WIRE HARN MAIN BD DC A | |
| 304 | FRI-60020 | WIRE HARN MAIN BD DC B | |
| 305 | FRI-60021 | WIRE HARN MAIN BD DC C | |
| 306 | FRI-60022 | WIRE HARN MAIN BD DC D | |



③8 ASSY SHIELD CASE FRI ~ (FRI-4050 ~)

(D-2/2)

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|---------------|-------------------------------|------|
| 1 | 105-5366 | SHIELD CASE NAOMI MULTI | |
| 2 | 105-5367 | SHIELD CASE LID NAOMI MULTI | |
| 3 | 839-1109-02 | FLT BD NAOMI MULTI MASTER FRI | |
| 4 | 839-1110-02 | FLT BD NAOMI MULTI SLAVE FRI | |
| 5 | 833-13841 ~ | GAME BD FRI DX ~ | |
| 6 | 421-9174-01 | STICKER CAUTION ANTISTATIC | |
| 7 | 421-10023-AAA | STICKER BD SERIAL NUMBER AAA | |
| 8 | 421-10023-BAM | STICKER BD SERIAL NUMBER BAM | |
| 9 | 441-313841 | STICKER 833-13841 | |
| 10 | 601-10577 | CARTON BOX NAOMI MULTI | |
| 11 | 105-5390 | FIXING BRACKET | |
| 12 | 421-9757-L | STICKER L | |
| 13 | 421-9757-C | STICKER C | |
| 14 | 421-9757-R | STICKER R | |
| 101 | 260-0064 | FAN MOTOR DC12V | |
| 102 | 280-5275-SR10 | CORD CLAMP SR10 | |
| 103 | 601-0460 | PLASTIC TIE BELT 100 MM | |
| 201 | 000-P00408-W | M SCR PH W/FS M4 X 8 | |
| 202 | 010-P00308-F | S-TITE SCR PH W/F M3 X 8 | |
| 203 | 000-P00320-W | M SCR PH W/FS M3 X 20 | |
| 204 | 000-P00412-W | M SCR PH W/FS M4 X 12 | |
| 301 | APC-60045 | WIRE HARN FAN MOTOR MASTER | |
| 302 | APC-60046 | WIRE HARN FAN MOTOR SLAVE | |



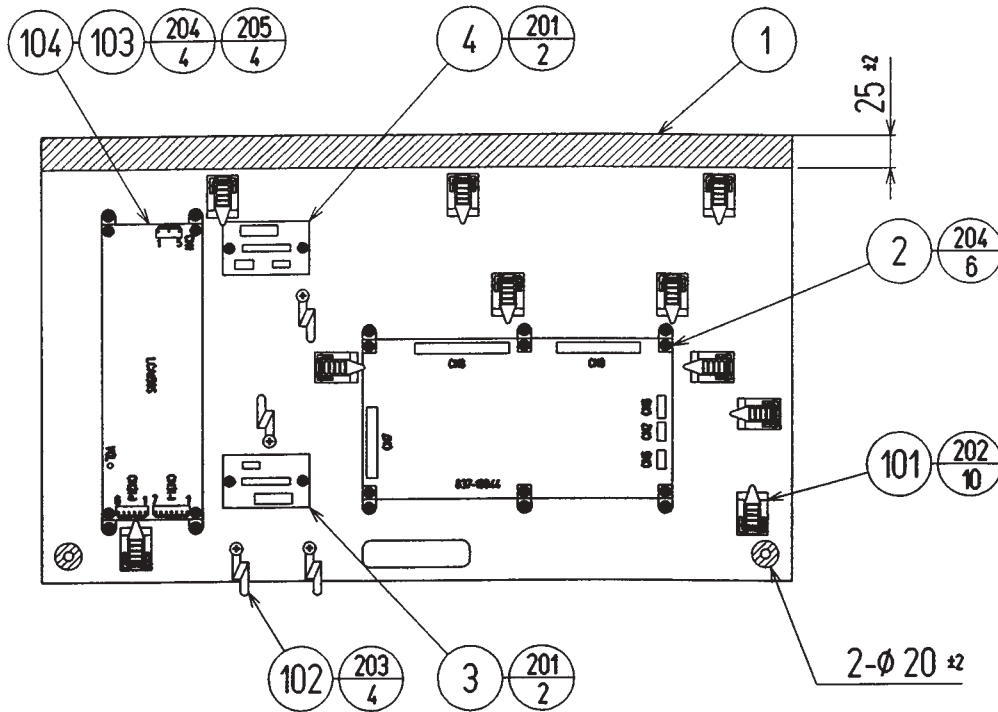
- Note) 1. 450-5163 ((103)) should be set to 3 sec.
 2. Make sure that there is no wiring, etc. in the slash mark portions.

③9 ASSY PWR SPLY DX (FRI-4100)

(D-2/2)

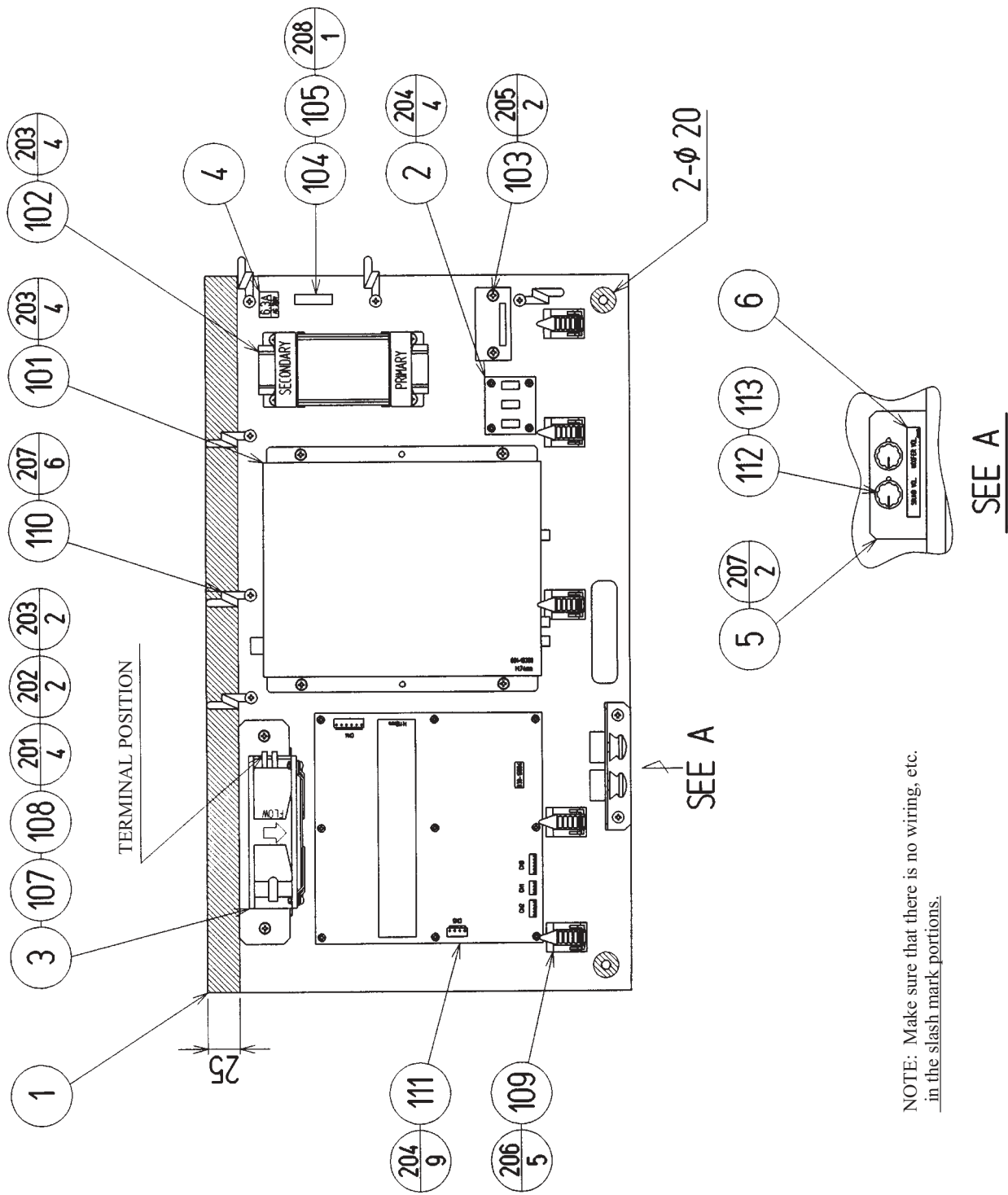
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|----------------|---------------------------|--------------------|
| 1 | FRI-4101 | WOODEN PWR SPLY BASE | |
| 2 | FRI-4102 | PWR SPLY BRKT | |
| 3 | 839-0976 | CONN BD | |
| 4 | 421-7468-01 | STICKER C.P W/PIC | |
| 101 | 560-5430-H | XFMR 100-120V 100V 15A WB | AC 110 ~ 120V AREA |
| | 560-5431-H | XFMR 220-240V 100V 15A WB | AC 220 ~ 240V AREA |
| 102 | 117-5225 | TERMINAL 3P 20A | |
| 103 | 450-5163 | TIMER RELAY GT5P-N30SA100 | |
| 104 | 214-0191 | RELAY SOCKET | |
| 105 | 601-7783 | FIXED SPRING | |
| 106 | 450-5126 | MAGNET CONTACT S-NIOCX | |
| 107 | 280-5169 | CORD CLAMP TL-20S | |
| 108 | 280-0419 | HARNESS LUG | |
| 110 | 280-5275-SR10 | CORD CLAMP SR10 | |
| 111 | 512-5046-15000 | C.P 15000MA CE UL | |
| 201 | 000-P00512-W | M SCR PH W/FS M5 X 12 | |
| 202 | 011-T03512 | TAP SCR TH 3.5 X 12 | |
| 203 | 000-P00412-W | M SCR PH W/FS M4 X 12 | |
| 204 | 000-P00320-W | M SCR PH W/FS M3 X 20 | |
| 205 | 000-P00416-W | M SCR PH W/FS M4 X 16 | |
| 207 | 000-P00416-S | M SCR PH W/S M4 X 16 | |
| 208 | 000-P00325-W | M SCR PH W/FS M3 X 25 | |
| 301 | FRI-60009 | WIRE HARN XFMR IN | |
| 302 | FRI-60010 | WIRE HARN XFMR OUT | |
| 303 | FRI-60011 | WIRE HARN MAG CONT IN | |
| 304 | FRI-60012 | WIRE HARN TIMER A | |
| 305 | FRI-60013 | WIRE HARN TIMER B | |
| 306 | FRI-60014 | WIRE HARN TIMER C | |
| 307 | FRI-60015 | WIRE HARN MAG CONT OUT | |
| 308 | FRI-60016 | WIRE HARN PWR SPLY OUT A | |
| 310 | FRI-60007 | WIRE HARN PWR SPLY OUT B | |

④ ASSY I/O BASE DX (FRI-4200)



NOTE) Make sure that there is no wiring, etc.
in the slash mark portions.

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|----------------|------------------------------|------|
| 1 | APC-4201 | WOODEN I/O BASE | |
| 2 | 837-13844 | I/O CONTROL BD 2 FOR JVS FRI | |
| 3 | 839-1148 | 4A DC SSR BD NH4P | |
| 4 | 839-1011 | SSR 1EA BD | |
| 101 | 280-5009-01 | CORD CLAMP 21 | |
| 102 | 280-0419 | HARNESS LUG | |
| 103 | 601-7467 | L-LOCK BK | |
| 104 | 400-5368-15024 | SW REGU LCA150S-24 | |
| 105 | 601-0460 | PLASTIC TIE BELT 100 MM | |
| 106 | 270-5052-04 | L-FILTER D | |
| 201 | 011-P00325 | TAP SCR PH 3 X 25 | |
| 202 | 011-F00310 | TAP SCR FH 3 X 10 | |
| 203 | 011-T03512 | TAP SCR TH 3.5 X 12 | |
| 204 | 011-T03516 | TAP SCR TH 3.5 X 16 | |
| 205 | 000-P00308-W | M SCR PH W/FS M3 X 8 | |
| 301 | FRI-60023 | WIRE HARN I/O AC IN | |
| 302 | FRI-60025X | WIRE HARN I/O | |
| 303 | FRI-60026 | WIRE HARN I/O DC IN | |
| 304 | FRI-60027 | WIRE HARN I/O ANALOG | |



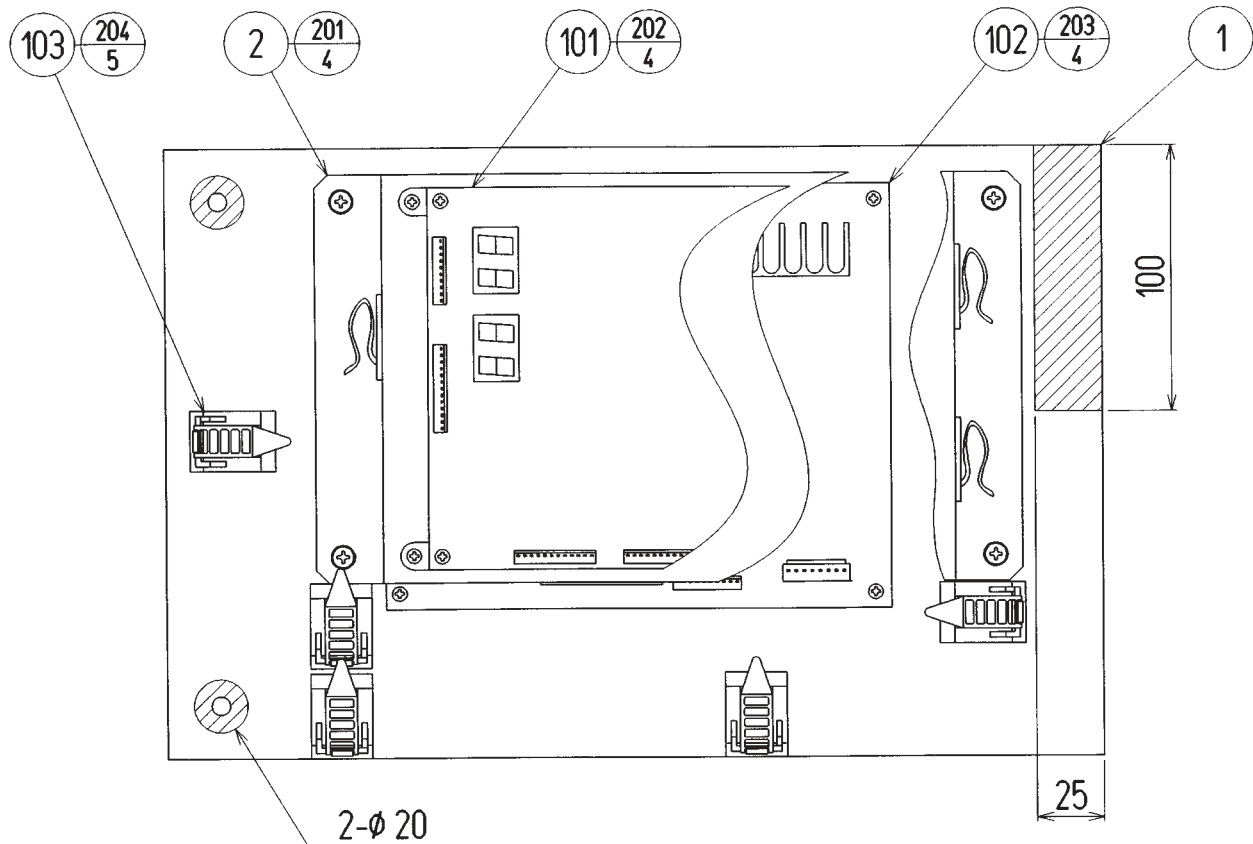
NOTE: Make sure that there is no wiring, etc. in the slash mark portions.

④1 ASSY AUDIO BASE DX (FRI-4300)

(D-2/2)

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|-----------------|-------------------------------|------|
| 1 | FRI-4301 | WOODEN AUDIO BASE | |
| 2 | 839-1147 | AUDIO MIX BD UL | |
| 3 | DRT-4502 | FAN MOTOR BRKT | |
| 4 | 421-7914-250630 | STICKER AC 250V 6.3A | |
| 5 | FRI-4302 | VR BRKT | |
| 6 | 421-11128 | STICKER AMP VOL | |
| 101 | 601-10369 | STEREO PWR AMP 47 | |
| 102 | 560-5406-V | XFMR 100V 23V5A X 2 | |
| 103 | 117-5225 | TERMINAL 3P 20A | |
| 104 | 514-5086-6300 | FUSE S.B 6300MA 250V HBC CE | |
| 105 | 514-5084 | FUSE HOLDER F-60B W/F-60 | |
| 106 | 310-5029-F20 | SUMI TUBE FF 20MM | |
| 107 | 260-0011-02 | AXIAL FLOW FAN AC100V 50-60HZ | |
| 108 | 601-8543 | FAN GUARD | |
| 109 | 280-5009-01 | CORD CLAMP 21 | |
| 110 | 280-0419 | HARNESS LUG | |
| 111 | 838-13604 | BASS AMP 50W X 1 | |
| 112 | 220-5179 | VOL CONT B-5K OHM | |
| 113 | 601-0042 | KNOB 22 MM | |
| 114 | 310-5029-D20 | SUMITUBE F D 20 MM | |
| 201 | 000-P00312-W | M SCR PH W/FS M3 X 12 | |
| 202 | 050-F00300 | FLG NUT M3 | |
| 203 | 000-P00412-W | M SCR PH W/FS M4 X 12 | |
| 204 | 011-P00325 | TAP SCR PH 3 X 25 | |
| 205 | 011-T03516 | TAP SCR TH 3.5 X 16 | |
| 206 | 011-F00310 | TAP SCR FH 3 X 10 | |
| 207 | 011-T03512 | TAP SCR TH 3.5 X 12 | |
| 208 | 011-F00312 | TAP SCR #1 FH 3 X 12 | |
| 301 | FRI-60028 | WIRE HARN AMP AC IN | |
| 302 | FRI-60029 | WIRE HARN AMP FAN | |
| 303 | FRI-60030 | WIRE HARN AMP XFMR IN | |
| 304 | FRI-60031 | WIRE HARN 47 AMP AC IN | |
| 305 | FRI-60032 | WIRE HARN BASS AMP AC IN | |
| 306 | FRI-60033 | WIRE HARN SOUND MIX IN | |
| 307 | FRI-60034 | WIRE HARN SOUND MIX OUT | |
| 308 | FRI-60035 | WIRE HARN SOUND OUT | |
| 309 | FRI-60036 | WIRE HARN AMP VOL IN | |
| 310 | FRI-60037 | WIRE HARN BASS SP OUT | |
| 311 | FRI-60038 | WIRE HARN SEAT SP OUT | |
| 312 | FRI-60091 | WIRE HARN BASS VOL | |

④2 ASSY SERVO DRV BASE DX (FRI-4400)



| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|--------------|--------------------------|------|
| 1 | FRI-4401 | WOODEN BASE SERVO | |
| 2 | FRI-4402 | SERVO DRV BRKT | |
| 101 | 838-13843 | DRIVE BD FRI | |
| 102 | 838-12912-01 | SERVO MOTOR DRIVE BD NEW | |
| 103 | 280-5009-01 | CORD CLAMP 21 | |
| 104 | 601-0460 | PLASTIC TIE BELT 100 MM | |
| 201 | 000-P00412-W | M SCR PH W/FS M4 X 12 | |
| 202 | 000-P00312-W | M SCR PH W/FS M3 X 12 | |
| 203 | 011-P00325 | TAP SCR PH 3 X 25 | |
| 204 | 011-F00310 | TAP SCR FH 3 X 10 | |
| 301 | FRI-60039 | WIRE HARN SERVO AC IN | |
| 302 | FRI-60040 | WIRE HARN DRV DC IN | |
| 303 | FRI-60041 | WIRE HARN DRV CTRL | |
| 304 | FRI-60042 | WIRE HARN SERVO CTRL | |
| 305 | FRI-60043 | WIRE HARN SERVO ENC | |
| 306 | FRI-60044 | WIRE HARN SERVO PWR | |

21. WIRE COLOR CODE TABLE

THE WIRE COLOR CODE is as follow:

- A PINK
- B SKY BLUE
- C BROWN
- D PURPLE
- E LIGHT GREEN

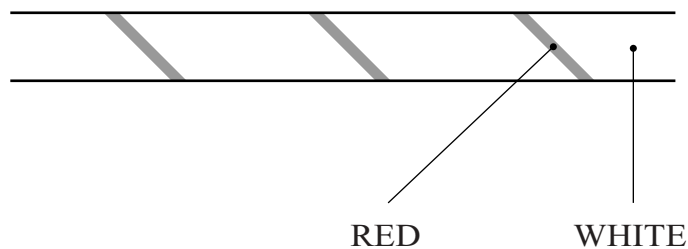
Wires other than those of any of the above 5 single colors will be displayed by 2 alphanumeric characters.

- 1 RED
- 2 BLUE
- 3 YELLOW
- 4 GREEN
- 5 WHITE
- 7 ORANGE
- 8 BLACK
- 9 GRAY

If the right-hand side numeral of the code is 0, then the wire will be of a single color shown by the left-hand side numeral (see the above).

Note 1: If the right-hand side alphanumeric is not 0, that particular wire has a spiral color code. The left-hand side character shows the base color and the right-hand side one, the spiral color.

<Example> 51 WHITE / RED



Note 2: The character following the wire color code indicates the size of the wire.

- U: AWG16, UL1015
- K: AWG18, UL1015
- L: AWG20, UL1007
- None: AWG22, UL1007

Warranty

Your new Sega Product is covered for a period of 90 days from the date of shipment. This certifies that the Printed Circuit Boards, Power Supplies and Monitor are to be free of defects in workmanship or materials under normal operating conditions. This also certifies that all Interactive Control Assemblies are to be free from defects in workmanship and materials under normal operating conditions. No other product in this machine is hereby covered.

Sellers sole liability in the event a warranted part described above fails shall be, at its option, to replace or repair the defective part during the warranty period. For Warranty claims, contact your Sega Distributor.

Should the Seller determine, by inspection that the product was caused by Accident, Misuse, Neglect, Alteration, Improper Repair, Installation or Testing, the warranty offered will be null and void.

Under no circumstances is the Seller responsible for any loss of profits, loss of use, or other damages.

This shall be the exclusive written Warranty of the original purchaser expressed in lieu of all other warranties expressed or implied. Under no circumstance shall it extend beyond the period of time listed above.



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