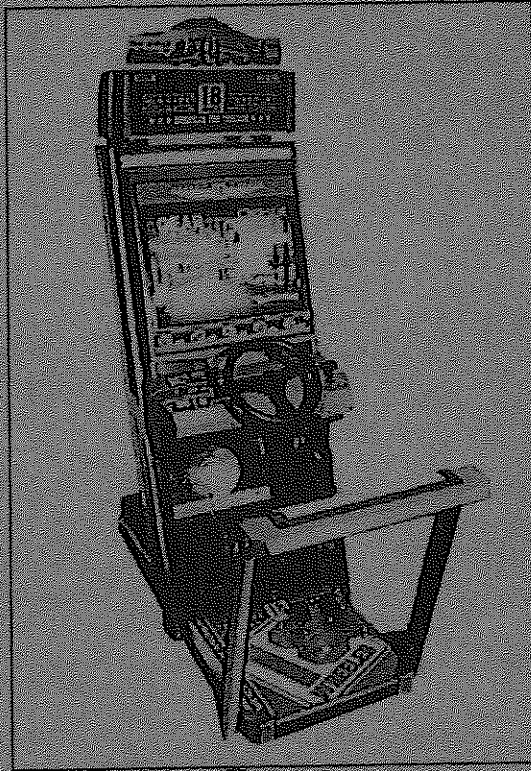
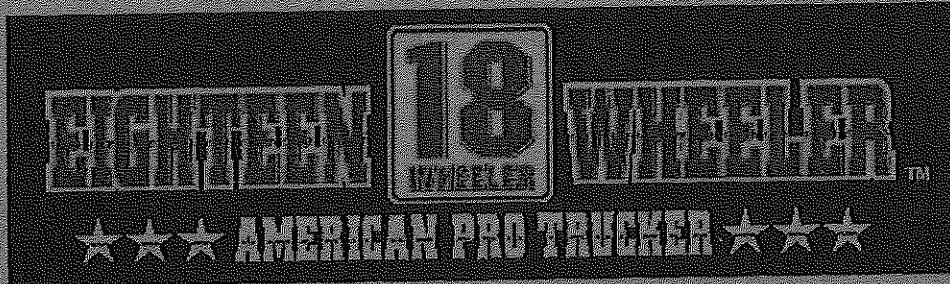


SERVICE MANUAL

SEGA



IMPORTANT!

Before using this product, read this SERVICE MANUAL carefully to understand the contents stated herein. After reading this manual, be sure to keep it available nearby the product or somewhere convenient in order to be able to refer to it whenever necessary.

Manufactured in the UK by

SEGA



MANUFACTURING DIVISION (UK)

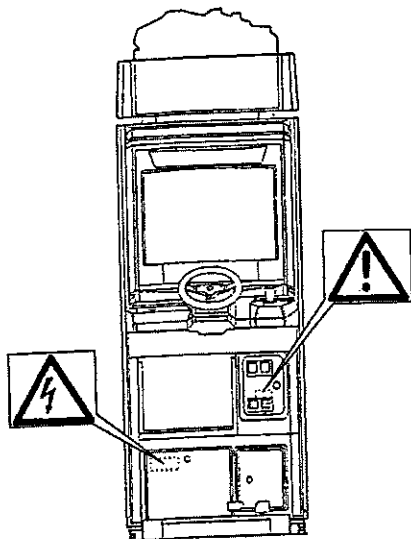
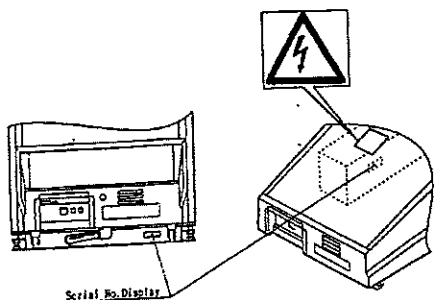
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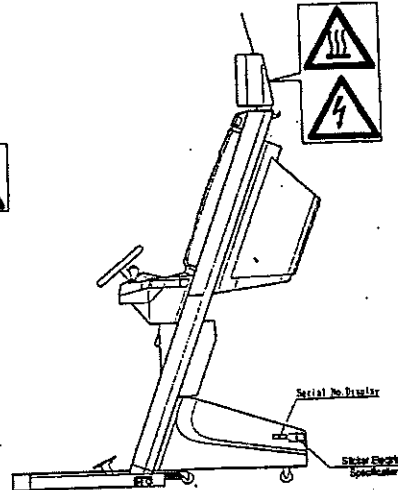
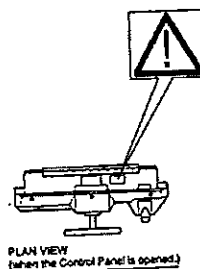
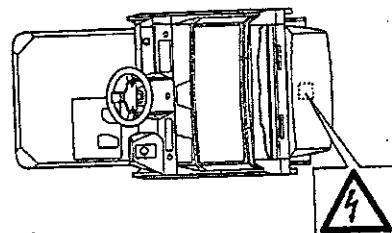
CONCERNING THE STICKER DISPLAY

SEGA product has stickers describing the product manufacture number (Serial Number) and electrical specification. If you require service assistance you will require the Serial Number. Identical machines may have different parts fitted internally. Only by quoting the Serial Number will the correct parts be identified.



CONCERNING WARNING STICKERS

SEGA product has warning displays on stickers, labels or printed instructions adhered/attached to or incorporated in the places where hazardous situations can arise. The warning displays are intended for the accident prevention of customers and service personnel.



SPECIFICATIONS	
Installation Space (cm):	80 (W) x 150 (D)
Height (cm):	225
Weight (kg):	Approx. 172
Power, Max: 414W	Rated Voltage (VAC): 230
	Rated Current (A): 1.8
Operating Temperature Range	5 - 40°C

Note: Descriptions in this manual are subject to change without prior notice.

2. INTRODUCTION TO THIS SERVICE MANUAL

SEGA ENTERPRISES LTD., supported by its experience in electronic high technology of VLSI's, microprocessors etc. and with a wealth of experience, have for more than 30 years been supplying various innovative and popular games to the world market. This Service Manual is intended to provide detailed descriptions together with all the necessary information covering the general operation of electronic assemblies, electro-mechanicals, servicing controls, spare parts, etc. as regards **AMERICAN PRO TRUCKER (18 WHEELER) Upright**, a new SEGA product. This manual is intended for those who have knowledge of electricity and technical expertise especially in IC's, CRT's, microprocessors etc. Carefully read this manual to acquire sufficient knowledge before working on the machine. Should there be any malfunction, non-technical personnel should under no circumstances touch the internal systems. Should such a situation arise contact the nearest branch listed below, or our head office.

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3. INSTALLATION AND MAINTENANCE INSTRUCTIONS



IMPORTANT!

- Installation and maintenance should only be carried out by **QUALIFIED SERVICE PERSONNEL**.

3.1. HANDLING AND INSTALLATION 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.

The game must **NOT** be installed under the following conditions:

- Outside, the game is designed for indoor use only.
- In areas directly exposed to sunlight, high humidity, dust, excessive heat or extreme cold.
- In locations that would present an obstacle in the case of an emergency i.e. near fire equipment or emergency exits.
- On unstable surfaces or surfaces subject to vibration.
- Where liquids, other than routine cleaning, may come into contact with the game.

Important:

- This machine should only be installed by Qualified Service Personnel.
- Be sure to switch the supply power **OFF** and remove the mains supply plug from the machine before any work is carried out on the machine.
- Do not attempt to repair the PCB's (Printed Circuit Boards) yourself. This will void the warranty. The PCB's contain static sensitive devices that could be damaged.
- Always return a faulty part to your distributor with adequate packaging and protection.
- When removing the plug from the mains always grasp the plug not the cable.
- Do not use a fuse that does not meet the specified rating.
- Make sure all connections are secure before applying power.



IMPORTANT!

- Ensure that the mains lead is not damaged. If the mains lead is damaged in any way there could be a danger of electric shock or a fire hazard.
- Ensure that the power supply is fitted with circuit protection. Using the power supply without circuit protection is a fire hazard.

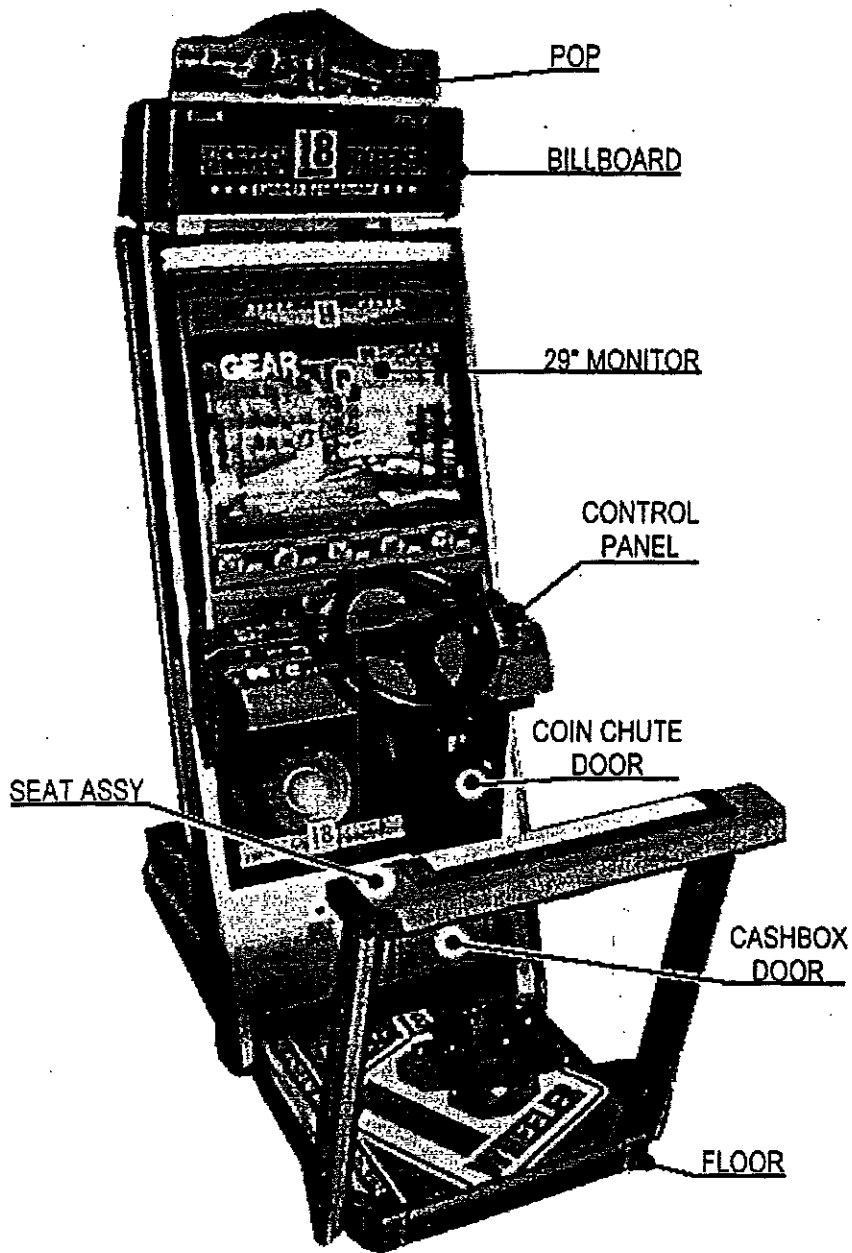
3.2. COIN HANDLING

Standard Sega machines are fitted with a C120 coin mechanism, however, as a service to our customers Sega machines can be supplied with no coin mechanism or door allowing the customer to fit a coin handling option from the approved list. Fit only the coin handling arrangements detailed below and follow the instructions provided in section 4. Failure to fit the coin handling options detailed or failure to follow the installation instructions will render the machine, under the CE marking directive, void.

Approved coin handling options:

- Coin controls C120/C220
- Generic mechanical
- Mars (MS111B1 and ME115)
- SECI RM4-G20

3.3. NAME OF PARTS

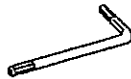


	Width (cm)	Length (cm)	Height (cm)
CABINET	76	105	180
FLOOR	63	71	15
BILLBOARD	76	17	31
SEAT	77	46	89
WHEN ASSEMBLED	76	147	224

3.4. ACCESSORIES

The machine is supplied with an installation kit. Please ensure the following parts are supplied:

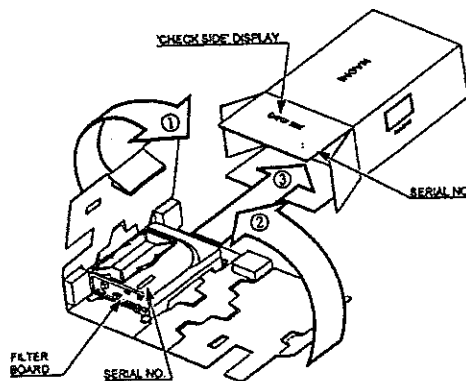
No.	PART NUMBER	QTY	DESCRIPTION	COMPONENT REFERENCE
1	PTR-1300UK	1	ASSY BILLBOARD	
2	PTR-1200UK	1	ASSY FLOOR STD	
3	CTA-0001	1	JOINT BRKT L	
4	CTA-0002	1	JOINT BRKT R	
5	PTR-1402UK	1	STICKER CARGO MULTI	
6	PTR-2005UK	1	STICKER SLIPSTREAM MULTI	
8	PTR-0003UK	1	POP PANEL PTR STD	
18	420-5927	1	SERVICE MANUAL NANA0 FST	
19	SAECE-057	1	DECLARATION OF CONFORMIT	
101	514-5078-5000	1	FUSE 5X20 CERAMIC SB 500	
201	030-000820-SB	2	M8X20 BLT W/S BNP	(3)-1,(4)-1
202	068-852216-OB	2	M8 WSHR 22OD FLT BNP	(3)-1,(4)-1
203	FAS-300014	2	HEX BLT W/FS CRM M6X16	(1)-2
401	420-6545-02UK	1	SERVICE MANUAL PTR STD	
406	OS1019	1	SELF SEAL BAG 9X12.3/4	
407	PK0237	1	INST KIT BOX NAO U/R DRI	
408	PK0061	0.025	BUBBLE WRAP LARGE 1.5M X	
411	540-0006-01	1	WRENCH M4 TMP PRF	
412	540-0007-01	1	WRENCH M5 TMP PRF	
413	540-0009-01	1	WRENCH M8 TMP PRF	
414	540-0015-01	1	WRENCH M6 TMP PRF	
415	220-5484-H	1	VOL 5-K-OHM HAPP 50-8026	SPARE
416	421-PTR	2	STICKER PTR	(407)-2



Items 411 to 414 - Tamperproof TORX wrench.

STOP
IMPORTANT!

- When returning the GAME BOARD for repair or replacement, be sure to package the entire ASSY SHIELD CASE in the original card transit box - THERE ARE NO USER-SERVICEABLE PARTS INSIDE.
- Failure to return the GAME BOARD in this manner may invalidate the warranty.



Wrap the ASSY SHIELD CASE with the packaging material and put it in the original transit box as shown. Putting it upside down or packing otherwise in the manner not shown can damage the GAME BOARD and parts.

3.5. ASSEMBLY INSTRUCTIONS



WARNING!



IMPORTANT!

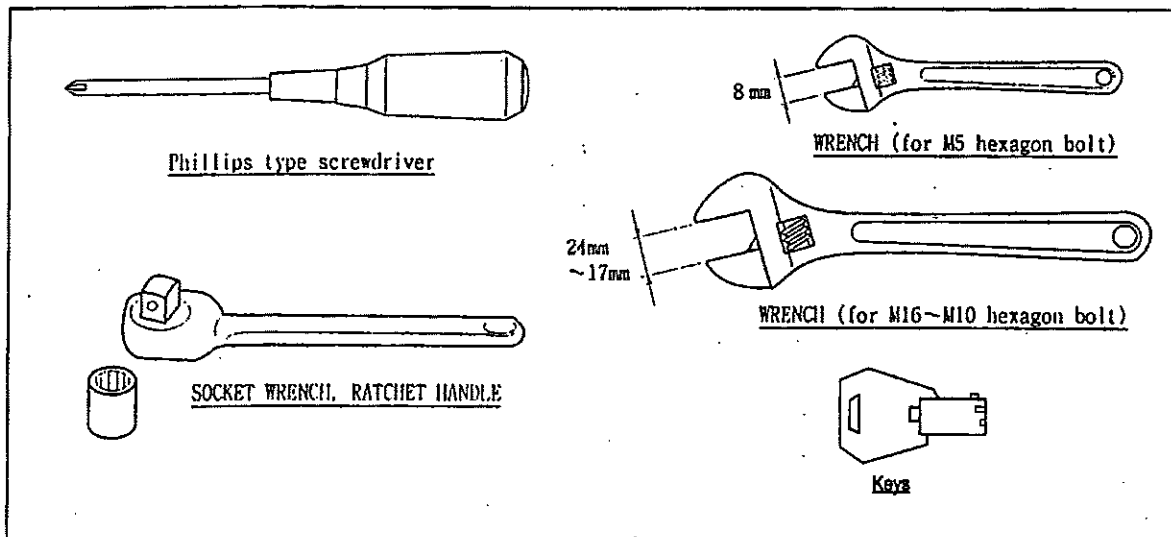
- Perform the assembly by following the procedure herein stated. Failure to comply with the instructions, for example, inserting the plug into an outlet at a stage not mentioned in this manual can cause an electric shock
- Assembling should be performed as per this manual. Since this is a complex machine, erroneous assembling can cause damage to the machine, or malfunction to occur.
- Do not attempt to complete this work alone, a minimum of 2 people are required.
- Assembly should only be carried out by **QUALIFIED SERVICE PERSONNEL**.

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

- STEP 1** **INSTALLING THE BILLBOARD**
- STEP 2** **INSTALLING THE FLOOR**
- STEP 3** **SECURING IN PLACE (LEG ADJUSTMENT)**
- STEP 4** **FITTING SEAT**
- STEP 5** **CONNECTION TO THE POWER SUPPLY**
- STEP 6** **ASSEMBLY CHECK**

Note that the parts contained within the installation kit are required for the assembly work.

The following tools will be required when installing this machine, in addition to the tools provided with the Installation Kit:



3.5.1. INSTALLING THE BILLBOARD



CAUTION!



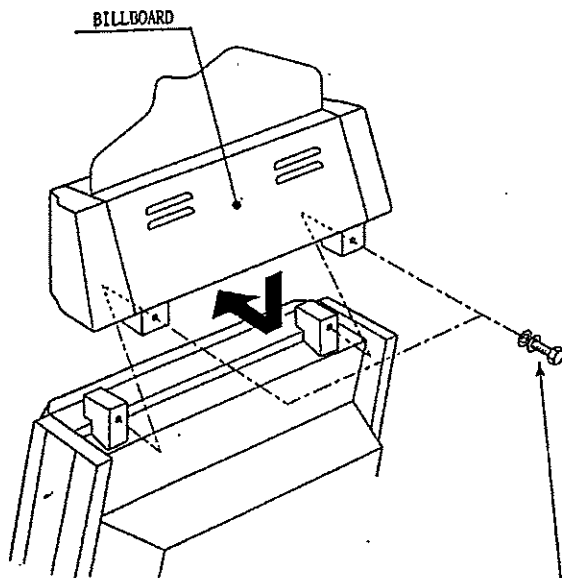
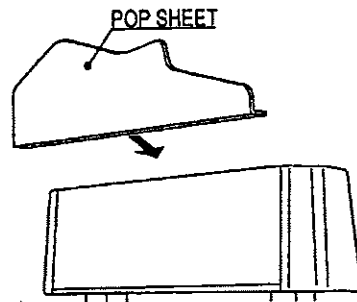
IMPORTANT!

- To perform work safely, use a secure and stable step to improve access to the top of the cabinet. Working without using a step may cause accidents.

- This operation should only be carried out by QUALIFIED SERVICE PERSONNEL.

- Secure the POP SHEET to the BILLBOARD using the 4 screws which hold the printed BILLBOARD PLATE in place.

OVERALL HEIGHT:	
With POP SHEET installed:	2,232 mm
Without POP SHEET installed:	2,087 mm

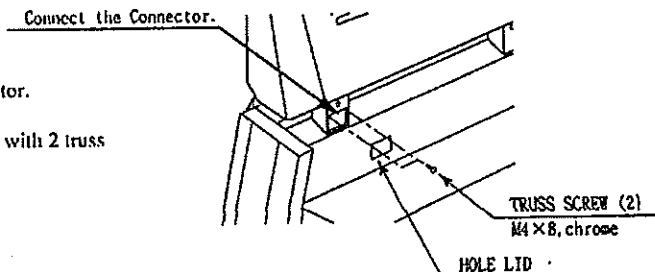


- Insert ASSY BILLBOARD on to the top part of the cabinet.

- Secure with 2 hexagon bolts.

HEXAGON BOLT (2)
M6×16, w/flat & spring washers, chrome

- Connect the Connector.
- Secure the Hole Lid with 2 truss screws.



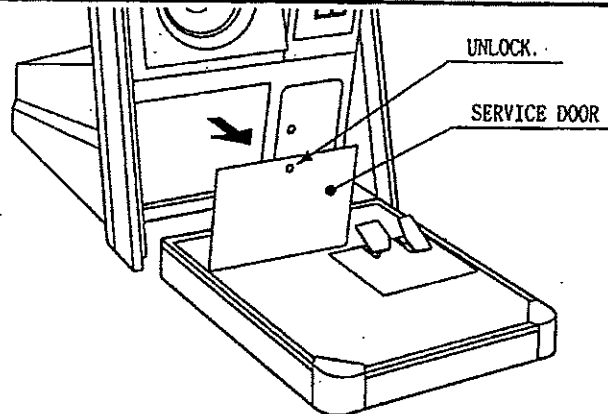
3.5.2. INSTALLING THE FLOOR



WARNING!

- Ensure all connections are secure - poor connections can cause electric shock or short circuit.
- Take care not to damage wiring during installation, as this can cause electric shock or short circuit.

- ① Unlock and remove the SERVICE DOOR from the front of the cabinet.

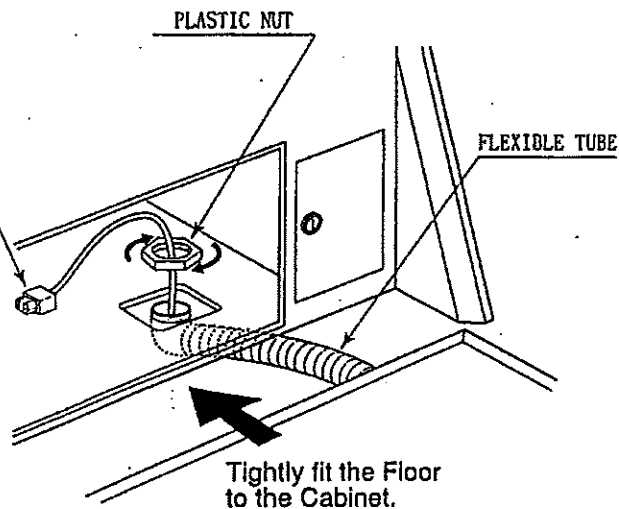


- ② Remove the plastic nut of the Connector at the end of ASSY FLOOR's Flexible Tube.
- ③ Insert the Connector at the end of Flexible Tube into the round hole on the bottom of cabinet from the underside, and secure by fastening the plastic nut. At this time, be careful so as not to damage the wire passing through the Flexible Tube.

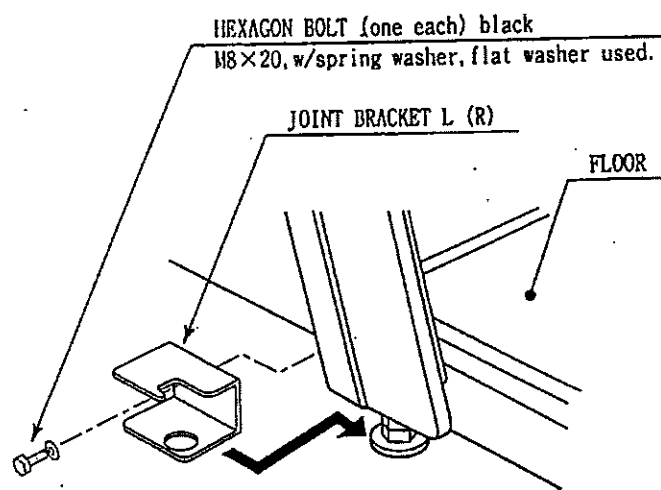
- ④ Connect the Connector at the end of the wires passing through the Flexible Tube to the Connector inside the cabinet.

After connecting the Connector inside the cabinet, secure the Connector with Clamps.

- ⑤ Secure the wires with Cord Clamp.
- ⑥ Fit ASSY FLOOR tightly to the cabinet.



- ⑦ Slightly lower the 2 Adjusters on the cabinet and install JOINT BRACKET L & R by inserting from the rear, and secure to ASSY FLOOR using hexagon bolts as shown.
- ⑧ After lowering the Adjusters fully downward, tighten both Adjuster's lock nuts fully upward.



3.5.3. SECURING IN PLACE (LEG ADJUSTER ADJUSTMENT)



CAUTION!

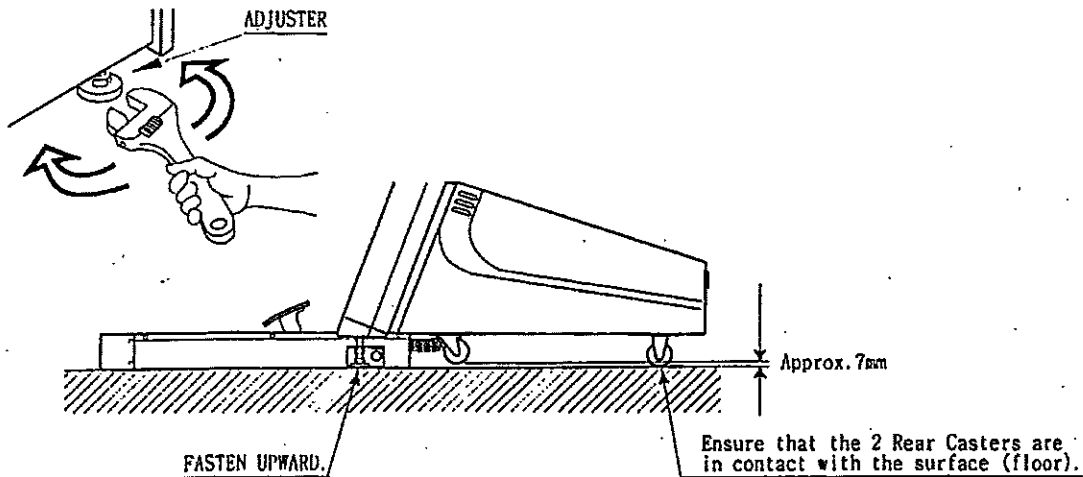
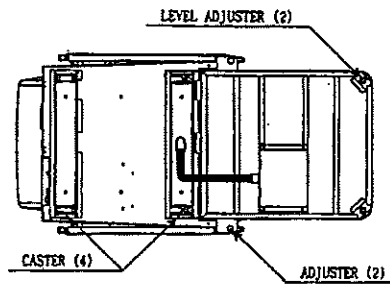


IMPORTANT!

- Make sure all of the leg adjusters are in contact with the floor. If they are not the machine may move and cause injury. This operation requires 2 people.
- This operation should only be carried out by QUALIFIED SERVICE PERSONNEL.

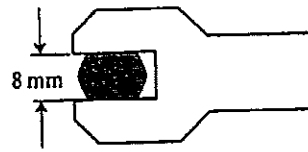
This machine has four castors and two leg adjusters on the main cabinet, and a further two level adjusters on the rear of the floor. When the installation position is decided, unscrew the leg adjusters so that they raise both front castors 7mm from the floor. Make sure the machine is level.

1. Move the product into the installed position.
2. Unscrew the adjusters until they are in contact the floor, and use a wrench to turn them further until the front castors are raised approximately 7mm above the floor.
3. Tighten the locknut on the leg adjusters against the base (upwards) to lock the legs in position.

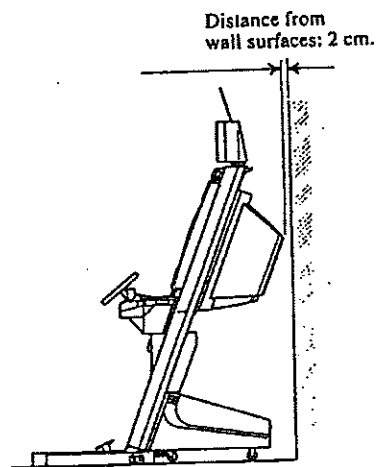
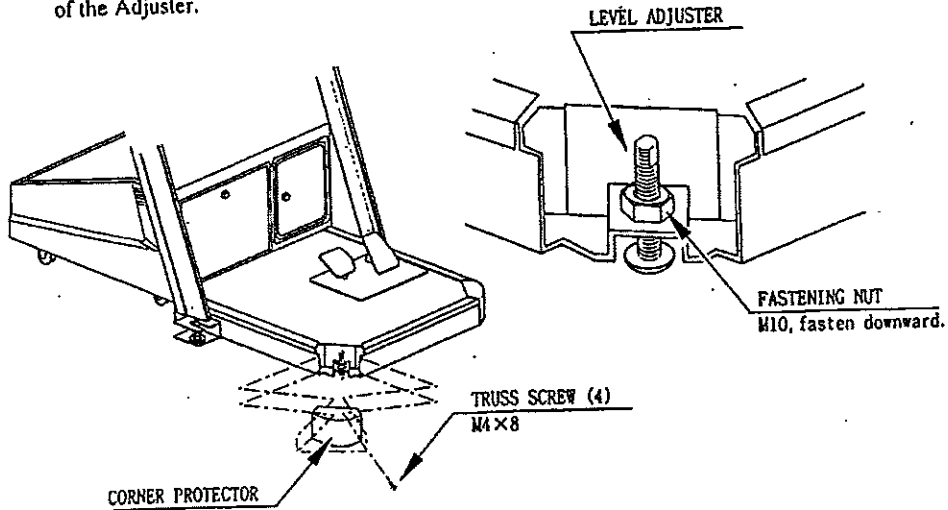


If this product is installed on irregular surfaces, use the two Level Adjusters on the bottom of the FLOOR to ensure the product is level.

- ① Take out the 4 screws and remove the Corner Protector of ASSY FLOOR.
- ② Adjust the height of Level Adjuster by turning the end of Level Adjuster's bolt with wrench.
- ③ After making adjustments, fasten the Adjuster Nut downward to secure the height of the Adjuster.



For Level Adjuster adjustment, use a wrench (width across flats: 8mm).



Provide sufficient space so as to allow for ventilation by the Air Vent.

3.5.4. FITTING THE SEAT



3.5.4.1. Introduction:

This kit facilitates a lean-on REST for application to AMERICAN PRO TRUCKER (18 WHEELER) Standard. This REST allows pressure to be taken off the left leg, which increases the length of time that a player may play the game without suffering from fatigue.

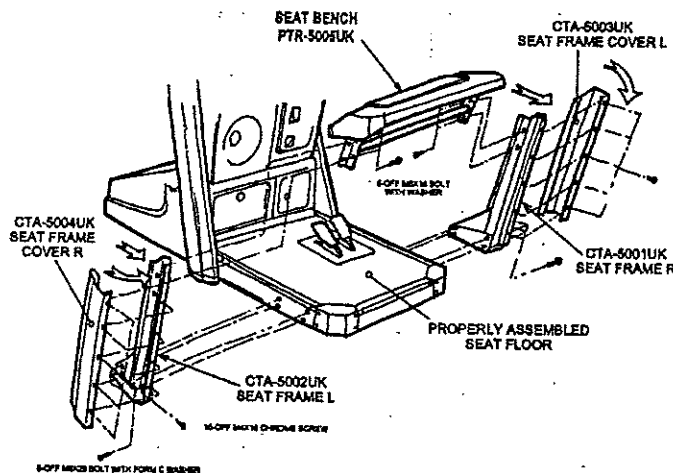
3.5.4.2. Kit contents:

PART NUMBER	DESCRIPTION	QTY
CTA-5001UK	SEAT FRAME R	1
CTA-5002UK	SEAT FRAME L	1
CTA-5003UK	SEAT FRAME COVER R	1
CTA-5004UK	SEAT FRAME COVER L	1
PTR-5005UK	SEAT BENCH PTR (with PTR cushion)	1
008-T00416-0C	M4X16 MSCR TMP PRF TH CRM	10
030-000825-SB	M8X25 BLT W/S BNP	8
068-852216-0B	M8 WSHR FORM C FLT BNP	8
030-000616-SB	M6X16 BLT W/S BNP	8
068-651416-0B	M6 WSHR FORM C FLT BNP	8

3.5.4.3. Installation instructions:

 IMPORTANT!	<ul style="list-style-type: none"> A condition of fitting this REST is that the machine is fully fitted with items CTA-0001 & CTA-0002 (JOINT BRKT L & R) as described in the 18 WHEELER Manual. Non-fitting of these brackets may lead to injury, as there will be nothing to secure the floor to the main cabinet. The REST relies on the floor being firmly secured to the main cabinet in order to support the weight of the player when resting against the machine.
 CAUTION!	<ul style="list-style-type: none"> The REST utilises the weight of the main cabinet to prevent tipping. It is important that this REST is used only to take the weight off the left leg. Sega accepts no responsibility for injury arising due to inappropriate usage of the REST.

- Fix the CTA-5001UK & CTA-5002UK SEAT FRAMES to the FLOOR ASSEMBLY (PTR-1200UK) using the 8-off M8 bolts and washers provided as shown.
- Fix the CTA-5003UK & CTA-5004UK SEAT FRAME COVERS to the SEAT FRAMES using the 10-off M4 tamperproof machine screws provided as shown.
- Fix the PTR-5005UK SEAT BENCH PTR between the SEAT FRAMES using the 8-off M6 bolts and washers provided as shown. Loosely fit these bolts (top ones first) before tightening.



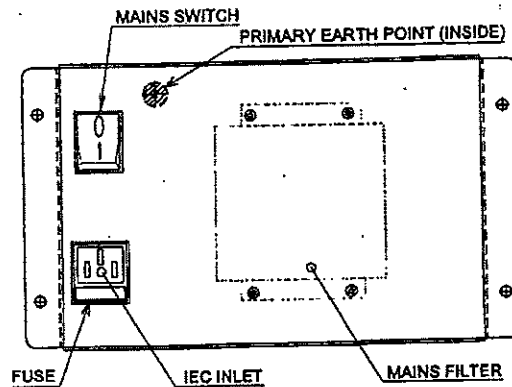
3.5.5. CONNECTION TO THE POWER SUPPLY



IMPORTANT!

- Be sure that the machine is not connected to the mains supply before attempting this operation
- This operation should only be carried out by **QUALIFIED SERVICE PERSONNEL**.

1. The AC Unit is located on the rear face, right hand side of the base unit, when viewing the screen. It houses the IEC inlet, mains switch and fuse.



2. Ensure that all of the machine's wires have been connected in accordance with the preceding sections and that the mains switch is OFF.
3. Check that the operating voltage of the mains supply matches the machine (section 1.1).
4. Insert the IEC lead into the IEC inlet and the mains plug into a wall socket. If applicable, switch the wall socket ON.
5. Stand clear of the machine and switch the mains switch ON.


```

INPUT TEST

COIN CHUTE #1 OFF
COIN CHUTE #2 OFF
SERVICE      OFF
TEST         OFF
START        OFF
VIEW         OFF
HORN         OFF
SHIFT [L]    OFF
SHIFT [D]    OFF
SHIFT [R]    OFF
HANDLE       XXXX
ADJEL        XXXX
RWAGE        XXXX

PRESS TEST + SERVICE BUTTON TO EXIT

```

(3) INPUT TEST:

Select INPUT TEST on the test mode menu screen to test the input switches. Actuate each switch (for the COIN CHUTE test, insert a coin into the coin inlet with the coin chute door open). If the display beside each parameter display ON when the input is made, the switch and wiring connections are satisfactory.

```

OUTPUT TEST

START LAMP  OFF
VIEW LAMP  OFF
HORN LAMP  OFF

->EXIT

SELECT WITH SERVICE BUTTON
AND PRESS TEST BUTTON

```

(4) OUTPUT TEST:

Select OUTPUT TEST from the menu in the test mode menu screen to test the output. Check that all the lamps illuminate as the respective status shows ON.

```

SOUND TEST

B.G.M      0/ XX
EFFECT     0/ XX
[ ]
ICS        0/ XX
[ ]
-> EXIT

SELECT WITH SERVICE BUTTON
AND PRESS TEST BUTTON

```

(5) SOUND TEST:

Select SOUND TEST from the test mode menu screen to check function of sound BD and wiring connections.

Check that the sound emitted from all speakers is satisfactory and of a desirable volume level.

Perform the above tests during each monthly inspection.

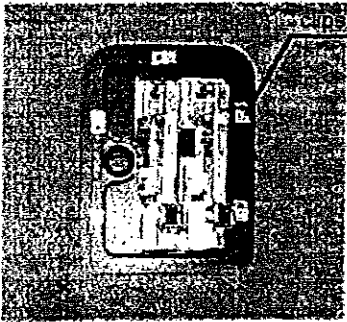
3.5.7. CREDIT BOARD WIRING TO COIN MECH.



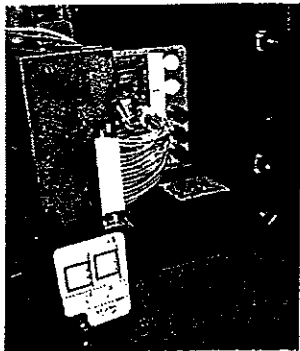
IMPORTANT!

- This operation should only be carried out by **QUALIFIED SERVICE PERSONNEL.**

When fitting the coin mechanism to the door please refer to the specific manufacturers installation instructions for that coin mechanism. To fit the door to the machine follow the procedure below.



- Loosen all of the bolts on the frame which secure the clips.
- Turn all clips in towards the door.



- Position the door into the aperture in the machine.
- Turn the clips around so that they will hold the door in the machine.
- Tighten all of the bolts.

COIN MECH
C220B

LOOM
LM1006IDC
LM1006LAMP-0.1

GENERIC
MECHANICALS

LM1008
LM1008-LAMP

MARS MS111B1
MARS ME115

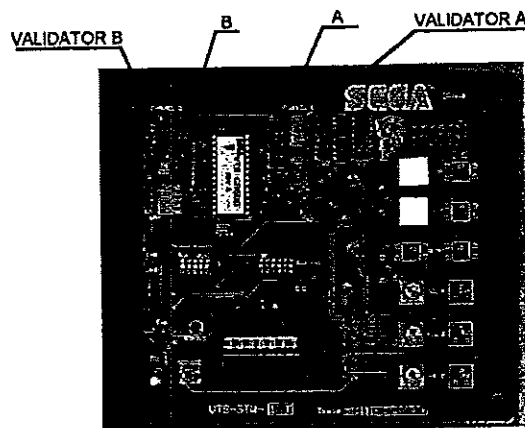
LM1007
LM1008-LAMP

SECI, C120

OWN LOOM AND
LM1006LAMP-0.1

INSTALLATION

- Attach the lamp holder to the bracket on the coin return button.
- Attach one 15-way connector to the C220 coin mech.
- Attach the other 15-way connector to Validator A on the credit board.
- Attach the 2-way connector to 'LAMP' on the VTS board.
- Fit the two lamp holders behind the coin return buttons.
- Attach the blue cable and orange cable to one mech's microswitch switch.
- Attach the blue/green cable and orange/green cable to the other mech's microswitch.
- Attach the 2-way mate and lok plug to the 2-way mate and lok cap provided.
- Attach one 15-way connector to Validator A and the other to Validator B on the credit board
- Fit the lamp holder to the bracket behind the coin return button.
- Fit one of the 13-way connectors to the coin mech.
- Fit the other 13-way connector to Validator A on the credit board. Note the 13-way connector is keyed and this key must coincide with the key on the credit board.
- Attach the lamp holder to the bracket on the coin return button.
- Attach the 2- connector to 'LAMP' on the VTS board.
- Attach the validator's own loom to position A on the credit board



3.6. MOVING THE MACHINE



WARNING!

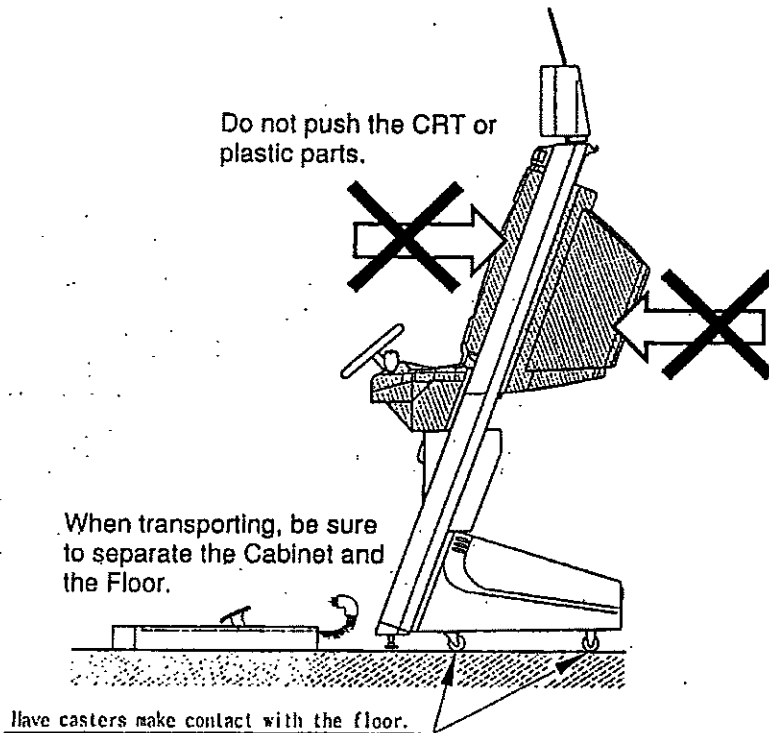


CAUTION!



IMPORTANT!

- When moving the machine, be sure to remove the plug from the power supply. Moving the machine with the plug inserted can cause the power cord to be damaged, resulting in a fire or electric shock.
- When moving the machine, retract the leg adjusters fully and ensure the casters make contact with the floor. During movement pay careful attention so that the casters or leg adjusters do not damage any other cabling laid on the floor. Such damage could result in a fire or electric shock.
- Do not push the upper part of the cabinet. Failure to observe this can cause the cabinet to fall forwards and result in accidents.
- When transporting the machine, be sure to hold the catch portion on the rear of the cabinet with the casters making contact with the surface as shown below. Inclining the machine by holding portions other than the catch or moving the cabinet without retracting the adjusters can damage the cabinet and/or the floor surface.
- Do not push the Billboard. Failure to observe this may damage the installation portions and may cause unexpected accidents.
- This operation should only be carried out by **QUALIFIED SERVICE PERSONNEL.**



(Remove the SEAT ASSY before moving)

3.7. CONTROL PANEL (HANDLE MECHA.) – 720° 'HAPP' type



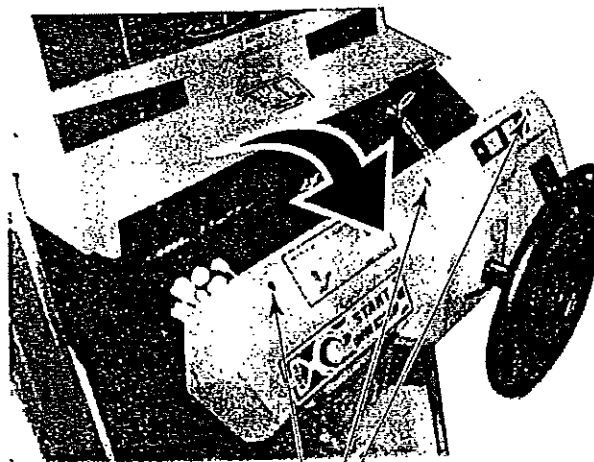
- Before starting work, ensure that the cabinet is isolated from the mains by switching off and removing the IEC mains lead from the wall outlet.
- Be careful not to damage wiring. Damaged wiring can cause electric shock and short circuits.
- When closing the Control Panel be very careful to avoid trapping fingers or hands.
- This procedure should only be carried out by **QUALIFIED SERVICE PERSONNEL**.

3.7.1. REPLACING VOLUME

If the steering operability becomes poor, and adjusting the **VOLUME SETTING** in the **TEST MODE** is ineffective, the cause may be the failure of the Volume Gear to mesh and/or the Volume Potentiometer malfunctioning.

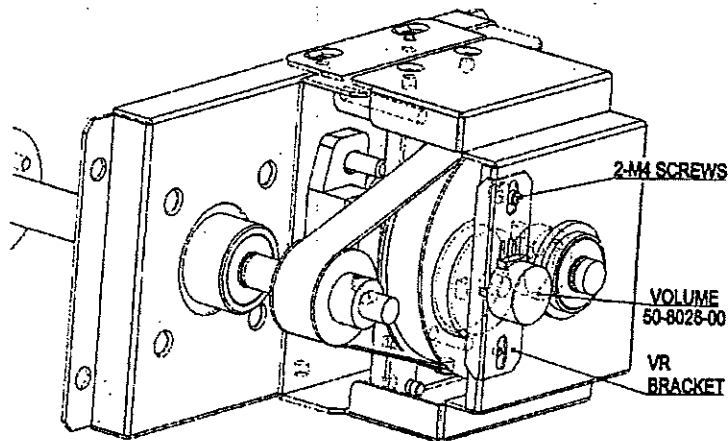
When the Steering Wheel is rotated fully left or right, if the Volume shaft is rotating within the movable range, the Volume is unlikely to be damaged. Use the procedure described herein to position the steering VR such that the correct centre value (refer to Section 5.3.5) is displayed when the Steering Wheel is at rest.

1. Power OFF the machine and remove the IEC lead from the wall outlet.
2. Remove the three tamperproof screws and open the Control Panel.



TAMPERPROOF SCREW (3)
M3 X 20, flat washer used. (chrome)

3. Loosen the two M4 screws and adjust the gear mesh by moving the VR Bracket.
4. Adjust to an appropriate setting by securing the steering wheel in the straight ahead position.
5. After adjustment, check the volume setting as described in Section 5.3.5. If necessary, repeat steps 3 & 4 until the volume value is within allowable limits ($\pm 3H$).



L: 30H→80H→C0H :R

HOW TO REPLACE

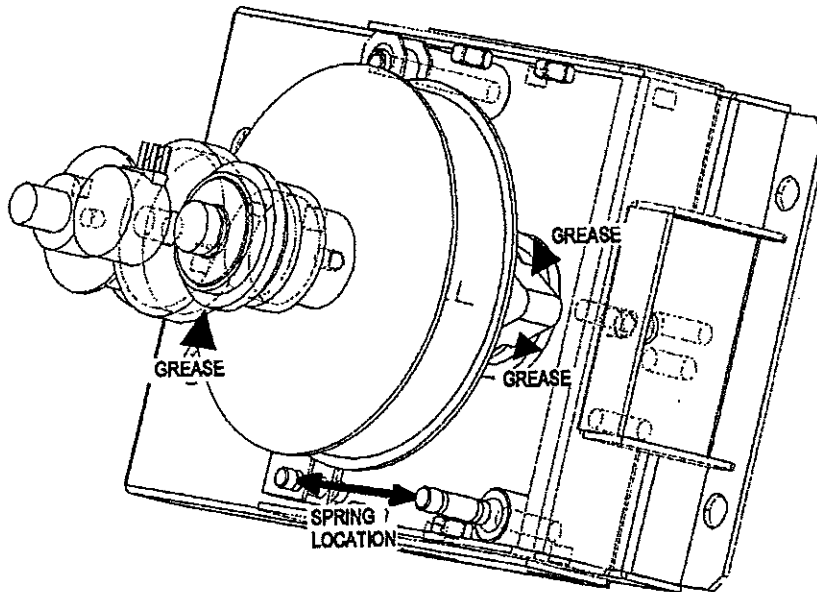
1. Disconnect the Volume Connector.
 2. Take out the two screws and remove the Volume together with the VR Bracket.
 3. After replacing the Volume, engage the gears at the angle shown and fix the VR Bracket.
- Close the Control Panel and replace the three tamperproof screws before turning power ON and setting the Volume value in the TEST MODE.

3.7.2. GREASING

STOP
IMPORTANT!

- Use only synthetic grease (grease or spray) as plastic parts are used. Do not use mineral based greases.
- Applying grease to parts other than those specified can cause malfunctioning or quality deterioration of parts.

Apply grease to the gear mesh and cam portions once every three months. Use a proprietary synthetic lubricant. Do not grease the Belt or Pulleys.



3.7.3. REPLACEMENT OF SPRING

In case of spring damage or wear, open the Control Panel and replace the spring by extending it over its mounting boss using long nosed pliers or similar. This should be done with the Steering Wheel rotated such that the springs are at their point of LEAST extension. Care should be used when releasing springs under tension to avoid being injured.

3.8. SHIFT LEVER

If the SHIFT LEVER SWITCH is not showing an input in the TEST MODE, replace the switch. Remove the Shift Lever Unit and apply grease to the mechanism's sliding portion once every three months.



WARNING!



- When performing work, be sure to turn power off. Working with power on can cause an electric shock or short circuit.
- Use care to ensure the wiring is not damaged. Damaged wiring can cause electric shock or short circuit.
- This operation should only be carried out by QUALIFIED SERVICE PERSONNEL

3.8.1. REMOVING SHIFT LEVER

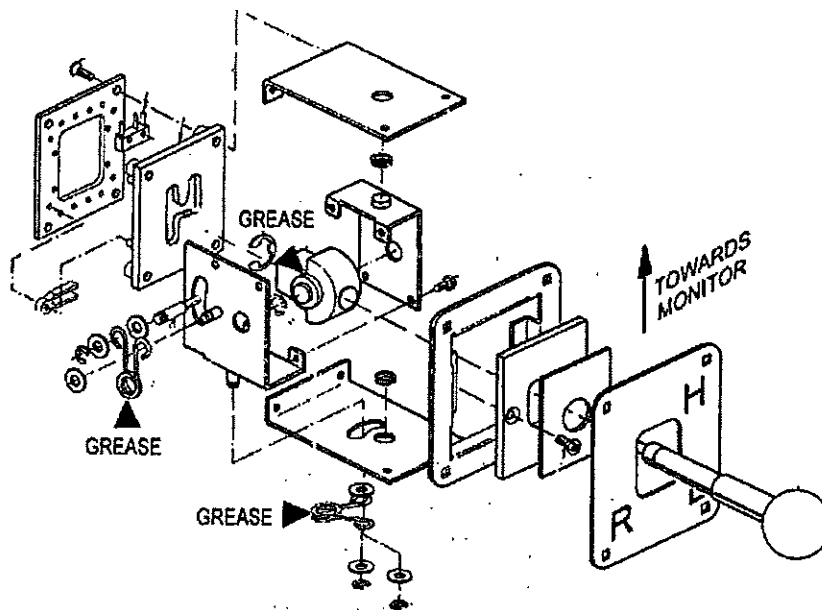
1. Turn the Power Switch OFF.
2. Remove the four tamperproof screws and lift out the Shift Lever Unit far enough to access the connector.
3. Disconnect, and withdraw the Unit completely.
4. Reinstall in reverse order, ensuring the Unit is orientated correctly (see sketch below).

3.8.2. SWITCH REPLACEMENT

1. Disconnect the switch to be replaced.
2. Each switch is secured with two M2 screws. Remove them to replace the microswitch.

3.8.3. GREASING

Apply grease to the Grease Points indicated once every three months. Use a proprietary synthetic lubricant.



3.9. ACCELERATOR AND BRAKE (HAPP TYPE)



WARNING!

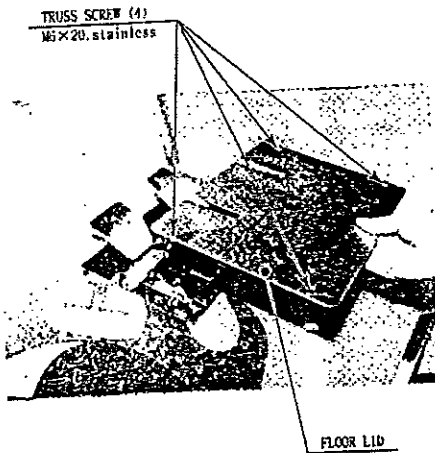


- Before performing work, be sure to turn power off. Working with power on can cause an electric shock or short circuit.
- Use care to ensure the wiring is not damaged. Damaged wiring can cause electric shock or short circuit.
- Touching parts of the machine other than those specified here can cause electric shock or short circuit.
- This procedure to be carried out only by QUALIFIED SERVICE PERSONNEL.

If the operation of the Accelerator and Brake pedals is unsatisfactory and not remedied by adjustment of the VOLUME SETTING in the TEST MODE, the cause may be mesh failure of the Volume Gear or a faulty Volume potentiometer. Follow the procedure below to adjust the Volume Gear mesh or replace the Volume potentiometer.

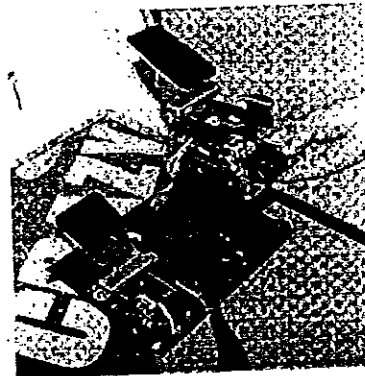
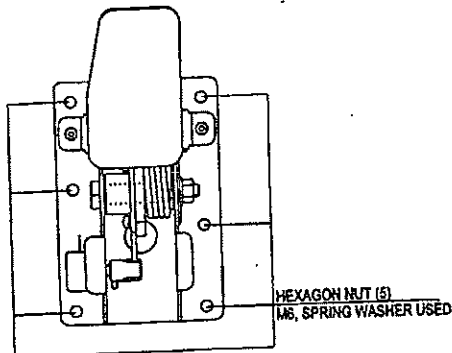
When the pedals are depressed fully, if the Volume shaft is rotating within the movable range, the Volume is unlikely to be damaged. Use the procedure described herein to position the VR such that the correct values (refer to Section 5.3.5.) are displayed at both extremes of pedal travel.

3.9.1. REMOVING THE ACCELERATOR AND BRAKE



1. Turn the power switch OFF and remove the IEC cable.
2. Take out the four truss screws and remove the Floor Lid.

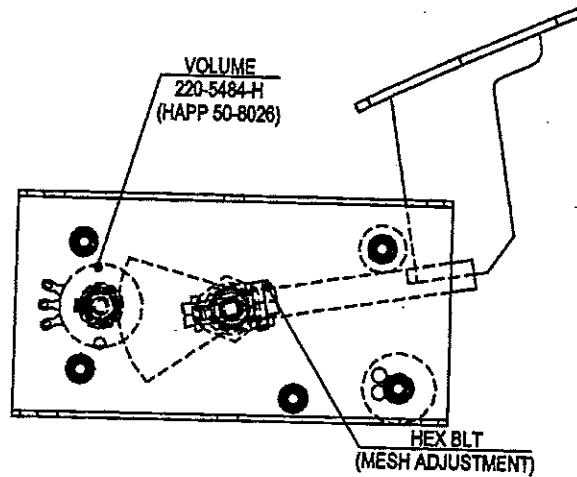
3. Take out the five hexagon nuts to remove the Accelerator (or Brake) Unit.
4. Disconnect the Connector and remove the Accelerator (or Brake) Unit.



3.9.2. ADJUSTING OR REPLACING THE VOLUME

ADJUSTMENT:

1. Loosen the Hex Bolt shown, and adjust the angle for optimum gear mesh.
2. Check the setting in Section 5.3.



REPLACEMENT:

1. The Volume is panel mounted: remove by undoing the nut and withdrawing the shaft through the panel hole.
2. After replacing the Volume, engage the gears at the angle shown, and replace the nut.
3. Install the Accelerator (or Brake) Unit and connect the connector.
4. Re-install in reverse order and replace the Floor Lid and IEC Cable before turning power ON.
5. Check the setting in Section 5.3.

3.9.3. GREASING



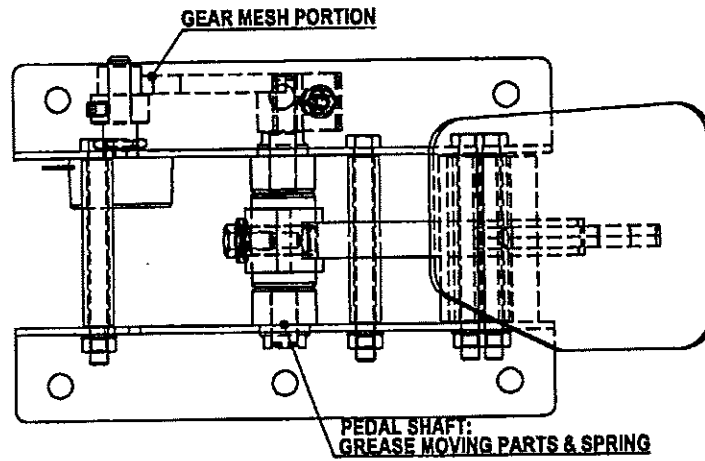
WARNING!



IMPORTANT!

- When performing work, be sure to turn power off. Working with power on can cause an electric shock or short circuit.
- Use only synthetic grease (grease or spray) as plastic parts are used. Do not use mineral based greases.
- Applying grease to parts other than those specified can cause malfunctioning or quality deterioration of parts.

Apply grease to the gear mesh portion and pedal shaft once every three months. Use a proprietary synthetic lubricant.



3.10. REPLACEMENT OF FLUORESCENT LAMPS



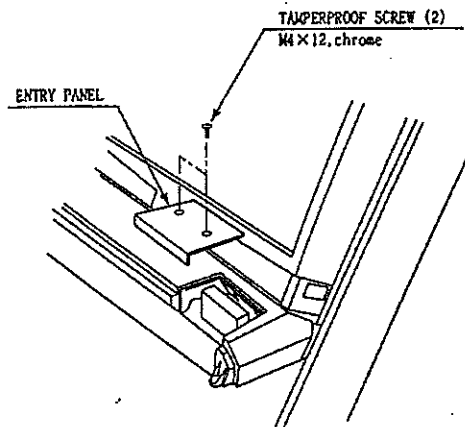
- Never touch places other than those specified. Touching places other than those specified can cause electric shock and short circuit. Disconnect the machine from the supply before attempting the replacement of any lamp.
- When performing work, be sure to turn power off. Working with power on can cause an electric shock or short circuit.
- Hot fluorescent lamps can cause burns. Be very careful when replacing them.
- Use a secure step to improve access to the upper parts of the cabinet.



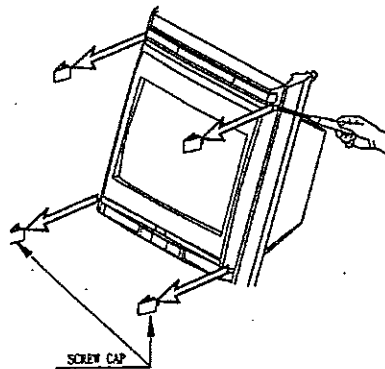
- Lamps should only be replaced by **QUALIFIED SERVICE PERSONNEL**.

3.10.1. FRONT FLUORESCENT:

1. Turn power OFF at the Main Switch and remove the IEC lead.
2. Open the Control Panel (see Section 3.7).
3. Remove the two truss screws and open the entry panel.

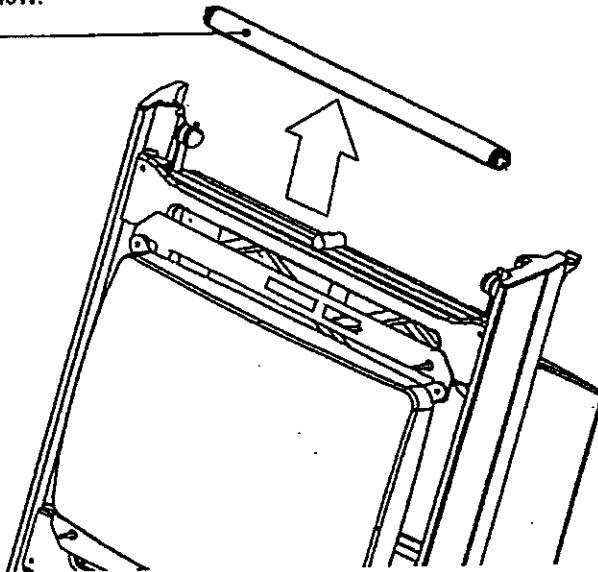


4. By using a flat bladed screwdriver, remove the four screw caps from the front panel.



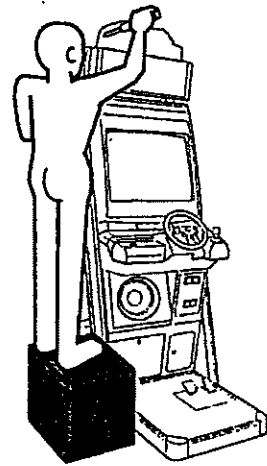
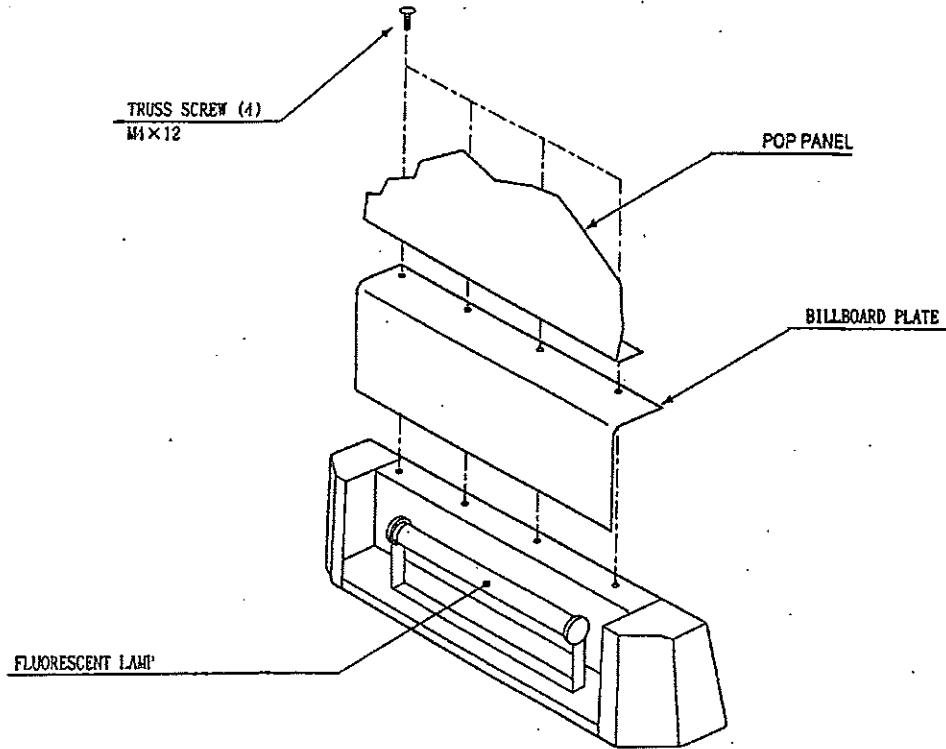
5. Take out the four tamperproof screws and the two lower screws, and carefully take off the Front Panel.
6. Remove the Billboard assembly as detailed in Section 3.10.2.
7. Remove the four screws and the Earth Link to allow the Billboard Holder to be removed.
8. The Fluorescent lamp can be removed by disconnecting the two end caps and withdrawing the Lamp upwards through the two mounting clips.
9. After replacing the lamp, reassemble in reverse order, being sure to replace the Earth Link between the Billboard Holder and frame.

FLUORESCENT LAMP 40W:
390-5695-40-DUK



3.10.2. BILLBOARD FLUORESCENT:

1. Take out the four screws and remove the Plate Holder.
2. Remove the Billboard Plate and replace the Fluorescent Lamp.



When performing work,
be sure to use a step.

3.11. GAME BOARD



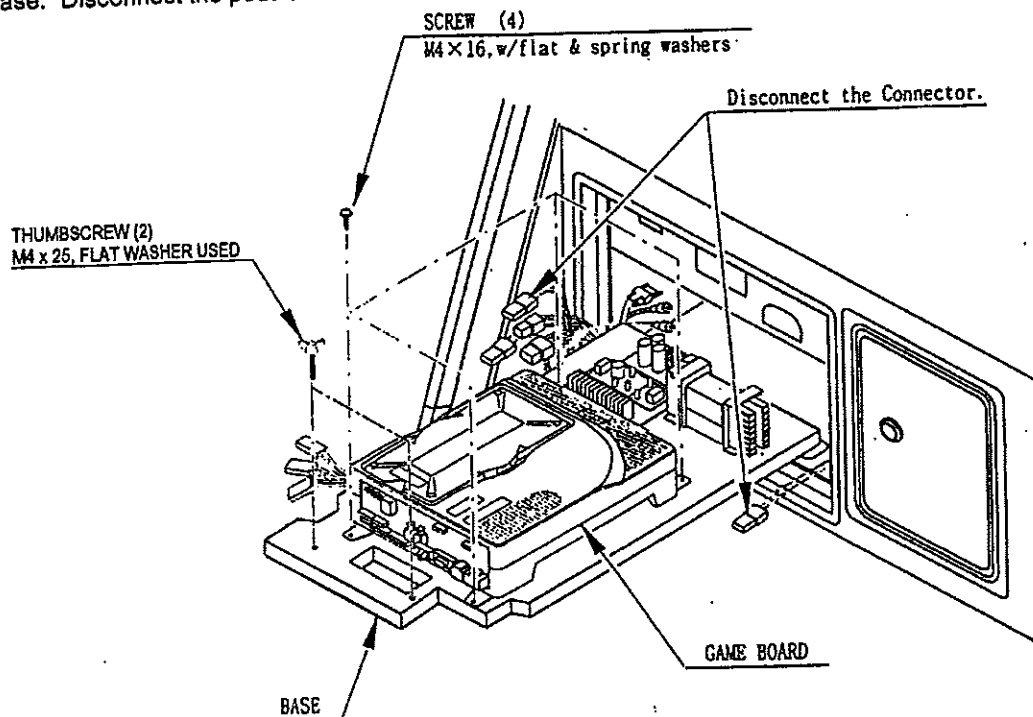
- When performing work, be sure to turn power off. Working with power on can cause an electric shock or short circuit.
 - Be careful not to damage wiring. Damaged wiring can cause an electric shock or short circuit.
 - The voltage/amperage ratings for the Game Board are 3.3V 12A, 5.0V 10A and 12V 2A. To avoid risk of fire, never use any board with supply requirements exceeding the above.
 - When replacing the Game Board with one not of JAMMA standard, be sure to use only the harness supplied by the manufacturer of the Game Board. Using other harnesses constitutes a fire risk.
- This operation should only be carried out by QUALIFIED SERVICE PERSONNEL.



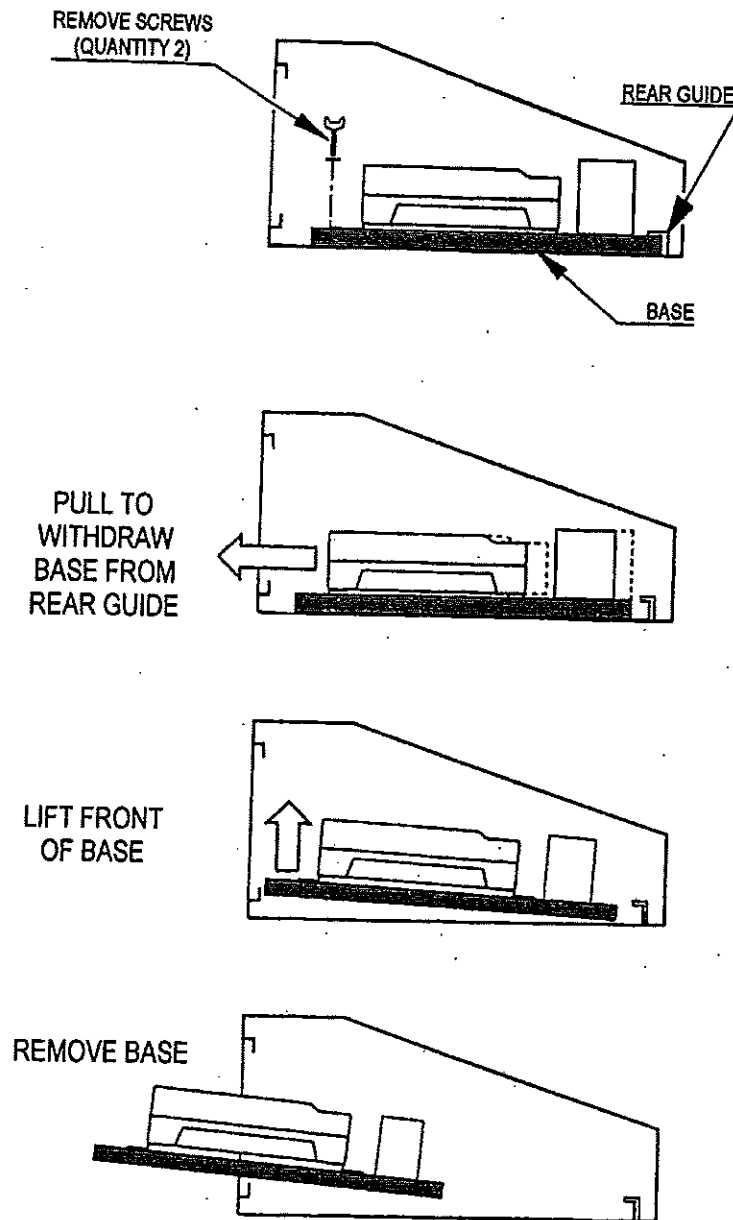
3.11.1. TAKING OUT THE GAME BOARD

To take out the Game Board (NAOMI SHIELD CASE), remove together with the wooden base on which the Game Board is mounted. If the Game Board is faulty, return to SEGA within the original packaging provided. There are no user-serviceable parts inside.

1. Turn power OFF and remove the IEC lead from the wall socket.
2. Disconnect the Shield Case Filter Board. Also disconnect all the devices, other than the Shield Case, on the base. Disconnect the pedals.



3. Remove the screws securing the wooden Base and remove it from the cabinet together with the Shield Case, as detailed below. Be careful not to damage wiring during removal.



4. Take out the four screws and remove the Shield Case.

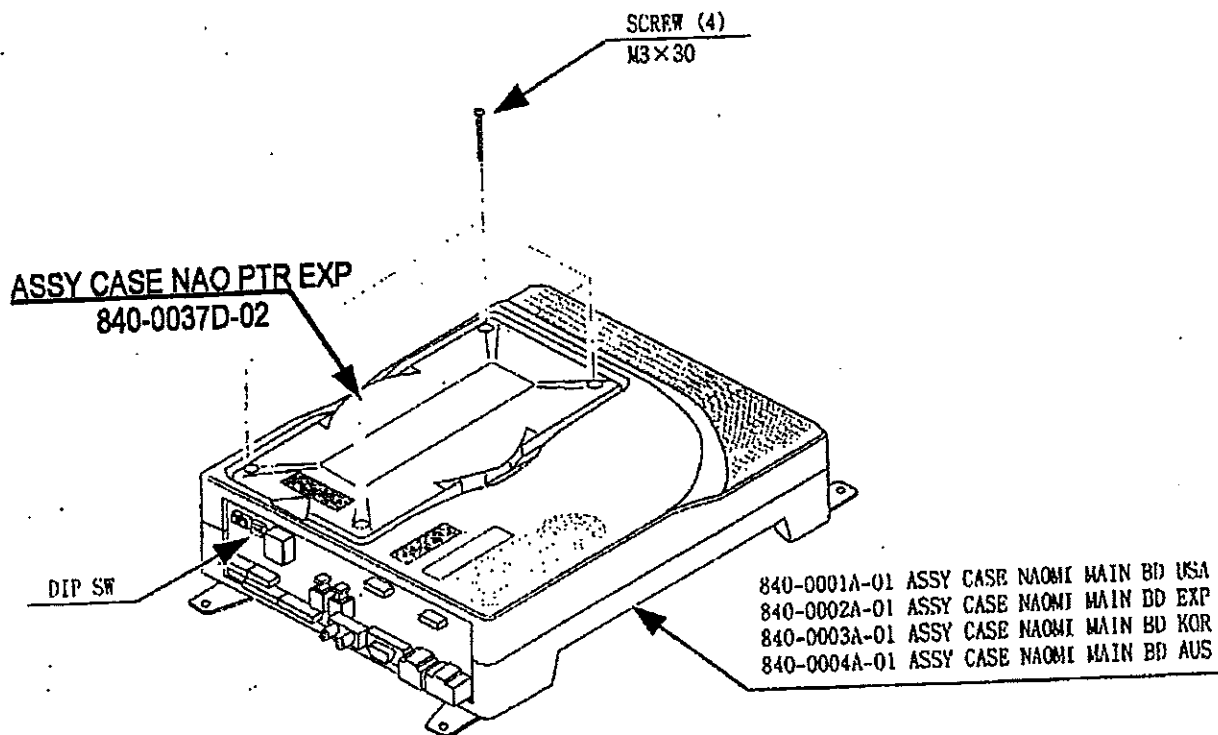
3.11.2. COMPOSITION OF GAMEBOARD

STOP

IMPORTANT!

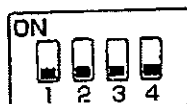
- These procedures should only be carried out by **QUALIFIED SERVICE PERSONNEL**.
- Ensure the DIP SW setting if performed as designated. Failure to observe this may cause malfunctioning.

ASSY CASE NAO PTR USA (840-0037D-01): USA
 ASSY CASE NAO PTR EXP (840-0037D-01): OTHERS
 ASSY CASE NAO PTR KOR (840-0037D-01): KOREA
 ASSY CASE NAO PTR AUS (840-0037D-01): AUSTRALIA



DIP SW SETTING

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



3.12. TROUBLESHOOTING



IMPORTANT!

- These procedures should only be carried out by **QUALIFIED SERVICE PERSONNEL**.

If a problem occurs, first check the wiring connections.

PROBLEMS	CAUSE	COUNTERMEASURES
When the main switch 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 PROTECTION DEVICE (ie; fuse) was activated due to an instantaneous overcurrent.	First, remove the cause of overcurrent and reinstate the circuit protection device to its original status. Then identify the cause of the fault on the item which caused the overcurrent & fix.
The colour image on the screen is incorrect.	Incorrect monitor adjustment.	Make appropriate adjustments. Refer to the Monitor Service Manual supplied with this product.
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 volume setting - refer to Section 5
	Malfunctioning BD and Amp.	Perform Sound Test to check it. Refer to the Service Manual supplied with the Game Board.
	Connector connection is incorrect.	Check connector connection from Base to Speaker/Woofer
The fluorescent lamp(s) does not light up.	Fluorescent lamp(s) needs replacement.	Replace the fluorescent lamp(s). Refer to Section 3.11
	The connector is disconnected.	Check connections - refer to Section 3.10.
Steering Wheel does not operate satisfactorily .	Steering Wheel deviation.	Adjust Volume value in the TEST MODE.
	Steering Wheel Volume malfunctioning.	Replace the Volume (see Section 3.7).
	ADJUST GEAR's engagement is not correct.	Adjust the engagement of ADJUST GEAR (see Section 3.7).
Three Speed Shifter doesn't operate satisfactorily.	Switch malfunctioning.	Replace the switch (see Section 3.8).
Operation of Accel & Brake Pedals is not satisfactory.	VR position deviated.	Adjust the VR value in the TEST MODE.
	VR malfunctioning.	Replace the VR (see Section 3.9).
	ADJUST GEAR's engagement is not correct.	Adjust the adjustment of ADJUST GEAR (see Section 3.9).

3.13. FUSES



WARNING!



IMPORTANT!

- Never touch places other than those specified. Touching places other than those specified can cause electric shock and short circuit. Disconnect the machine from the supply before attempting the replacement of any fuse.

- FUSES should only be replaced by QUALIFIED SERVICE PERSONNEL.
- Only replace fuses with ones of the same value and type.

There are a number of fuses used on this machine to protect the user and the machine from damage. Only replace the fuse once you have removed the cause of its failure. Detailed below is a list of the fuses used, their location and if relevant PCB reference:

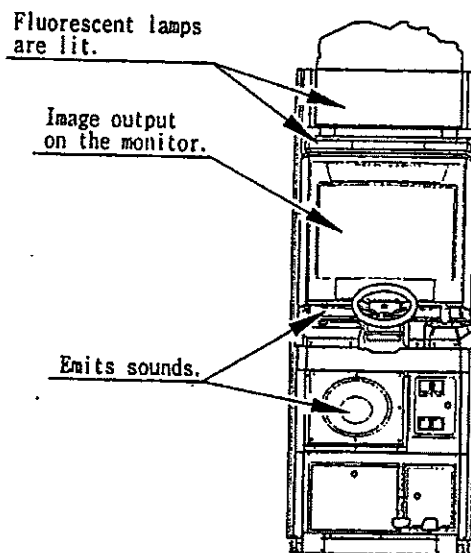
PART NUMBER	LOCATION	TYPE & DETAILS	QTY
514-5078-3150	STEREO AMP REF. F1, F2	5x20mm CERAMIC SB 3.15A	2
514-5078-4000	SWITCH REG REF. F1	5x20mm CERAMIC SB 4A	1
514-5078-5000	IEC INLET REF. F1	5x20mm CERAMIC SB 5A	1
514-5078-5000	CONN. BD. REF. F1	5x20mm CERAMIC SB 5A	1

There are also fuses located on the Monitor PCB. Refer to the relevant Monitor manual supplied to reference these fuses.

4. CONTENTS OF GAME

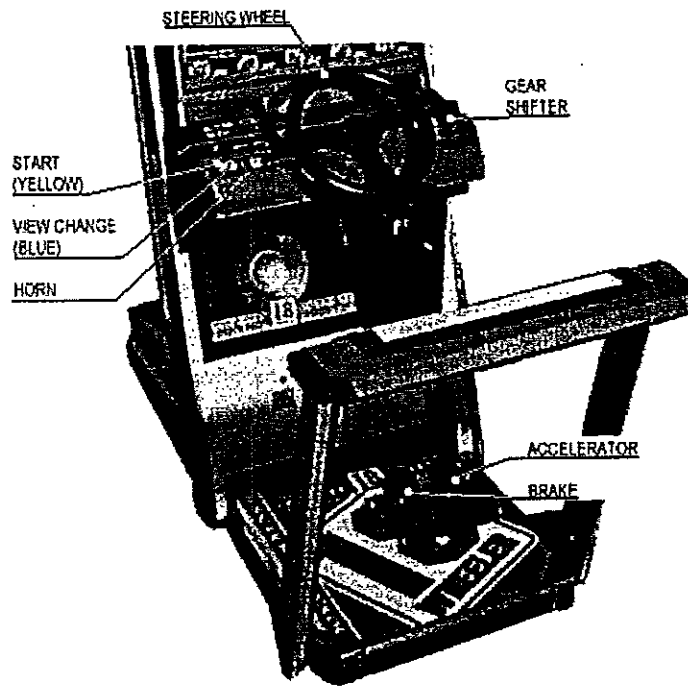
The following information assumes that the product is functioning satisfactorily. Should there be any discrepancies, a fault may have occurred. In this case, examine the machine to ascertain and eliminate the cause of the fault to ensure satisfactory operation.

The two fluorescent lamps are always lit when the product is connected to the mains supply. During Advertise mode, the two speakers and the woofer output the Advertise sounds and the Advertise screenplay sequence appears on the monitor. Note that the Advertise sound can be turned off - refer to Section 4.4.5 for details.



GAME OBJECTIVE

- AMERICAN PRO TRUCKER (18 WHEELER) is a single driving game in which the player competes with rival trucking companies while crossing the USA.
- Once coins to the value of one or more credits are inserted, the START button will flash. Press START to enter the TRUCK SELECT mode. The game starts once the truck and trailer have been selected.
- The number of coins inserted to obtain a credit can be set in the test mode. The number of credits required to start or continue a game can also be set in the test mode.
- The game consists of four stages, with three bonus stages.
- When using the continue feature, gameplay starts from the beginning of the stage last played.
- Scoring in the top five allows the player to enter his name.
- Pass the check points within the allotted time limit to progress through the courses and reach each goal.
- The game finishes after completing all four stages.
- If the player reaches the goal ahead of the rival truck, a bonus stage is played (the game continues even if the player fails the bonus stage).
- Falling to pass the check points within the allotted time limit will result in game over.



	SELECTION	DURING PLAY
STEERING WHEEL	Turn right or left to select an object.	Steer the truck.
HORN BUTTON	Confirm.	Using the horn when a car is blocking your path causes the car to either speed up or move out of your way. Using it when another truck is in your way causes the truck to speed up.
ACCELERATOR	Confirm.	Increase your speed.
BRAKE	No function.	Slow down and stop your truck.
GEAR SHIFT	No function.	3-position: HIGH, LOW and REVERSE.
VIEW CHANGE (BLUE)	No function.	Select either driver's view, or view from above and behind.
START BUTTON (YELLOW)	The START button flashes while adequate credits to play are inserted or remain unused.	

4.1. GAME SCREENS

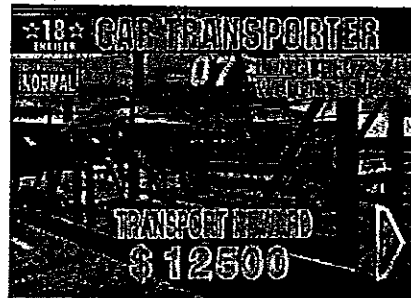
- TRUCK SELECT

Select from ASPHALT COWBOY, STREAMLINE, HIGHWAY CAT, LONG HORN and NIHONMARU (not Korea version). Each truck's SPEED, TORQUE and TOUGHNESS differ. Refer to the on screen ratings for details.



- TRAILER SELECT

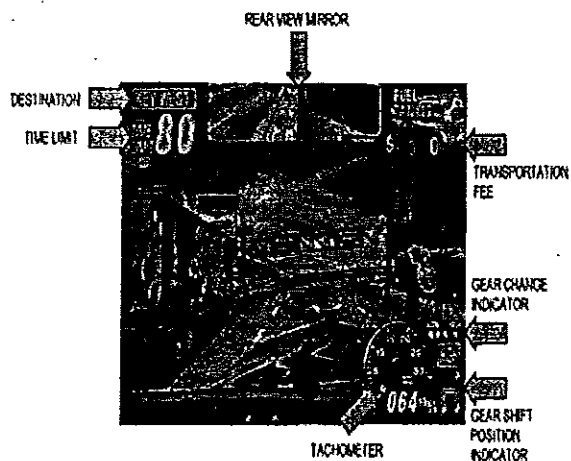
In stages 2, 3 and 4, you are given a choice of trailer loads. The WEIGHT, LENGTH and TRANSPORT REWARD differ – a longer/heavier load is more difficult to transport hence a higher reward for its safe delivery.



- If your score falls within the top five, you may enter your name.



- DESTINATION: Name of the destination point.
- TIME LIMIT: Indicates remaining time. Additional time is given when passing CHECKPOINTS or obtaining TIME BONUSES.
- REAR VIEW MIRROR: When using DRIVER'S VIEW, this shows what is going on behind.
- TRANSPORTATION FEE: Indicates the fee received on reaching the destination. Damaging the trailer by hitting cars, etc. will reduce this fee.
- TACHOMETER: Use this to judge the correct gear.
- GEAR CHANGE INDICATOR: Shows which gear the truck has selected. The lowest three gears are selected automatically – changing to and from high gear requires the player to shift gears.
- GEAR SHIFT POSITION INDICATOR: Shows the player which position the lever is in.



5. EXPLANATION OF TEST DATA AND DISPLAY

Use the switches inside the Control Panel to enter the TEST MODE. This will allow you to carry out post installation and periodic checks and adjustments. The following section details the function of each of the tests:

Refer to the service manual supplied with the Monitor for detailed instructions.

ITEM	DESCRIPTION	INTERVAL
INSTALLATION OF THE MACHINE	<p>When the machine is installed perform the following checks:</p> <ul style="list-style-type: none"> • Check to see that each setting is as per the standard settings input at the time of shipment. • In the INPUT TEST mode, check each switch and V.R. • In the OUTPUT TEST mode, check each of the lamps. • In the MEMORY TEST mode check all of the IC's on the IC BD. 	Monthly
MEMORY	<ul style="list-style-type: none"> • On the TEST MENU screen choosing the MEMORY TEST allows self test to be performed. In this test RAM & ROM are tested. 	Monthly
PERIODIC CHECKS	<p>Periodically perform the following</p> <ul style="list-style-type: none"> • MEMORY TEST. • Ascertain each setting. • In the INPUT TEST mode, test the control devices. • In the OUTPUT TEST mode, check each of the lamps. 	Monthly
CONTROL SYSTEM	<ul style="list-style-type: none"> • In the INPUT TEST mode, check each switch and V.R. • Adjust or replace each switch and V.R. 	Monthly
MONITOR	<ul style="list-style-type: none"> • In the CRT TEST mode, check to ensure the monitor is adjusted correctly • Clean screen (switch off machine and remove the plug) 	Monthly Weekly
IC BOARD	<p>MEMORY TEST</p> <ul style="list-style-type: none"> • In the SOUND TEST mode, check the sound related ROM's 	Monthly
DATA CHECK	<ul style="list-style-type: none"> • Check such data as held in the bookkeeping screens, relating to number and length of plays 	Monthly
EXTERIOR MAINTENANCE	<ul style="list-style-type: none"> • Clean surfaces 	Monthly
COIN MECHANISM	<ul style="list-style-type: none"> • Check switch operation (if fitted) 	Monthly

5.1. INTERNAL SWITCHES AND COIN METERS

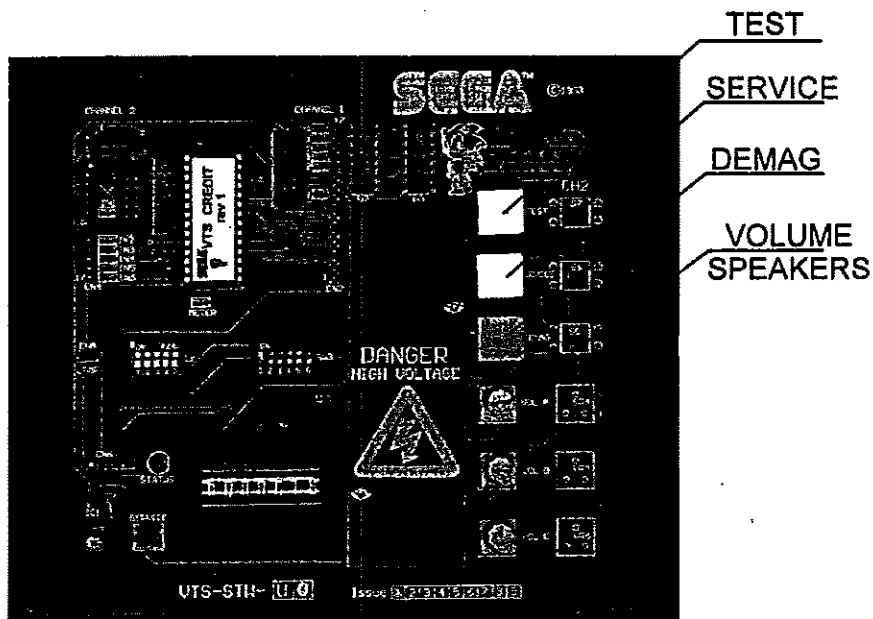


CAUTION!



IMPORTANT!

- Never touch places other than those specified. Touching places not specified can cause electric shock and short circuits
 - Be careful not to damage wiring. Damaged wiring can cause electric shock and short circuits.
-
- Adjust to the optimum sound volume considering the environmental requirements of the installation location.
 - If the COIN METER and the game board are electrically disconnected, game play is not possible.



Open the Coin Chute door to access the VTS PCB. The function of each switch is as follows.

**TEST BUTTON
(TEST SW)**

Used to enter TEST mode. Also has function during TEST mode. Refer to the later section detailing TEST mode.

**SERVICE BUTTON
(SERVICE SW)**

Gives credits without registering on the coin counter. Also used during TEST mode.

DEMAG

Eliminates colour unevenness from the monitor screen.

VOLUME CONTROL

Adjusts the volume of the speakers.

5.2. SYSTEM TEST MODE

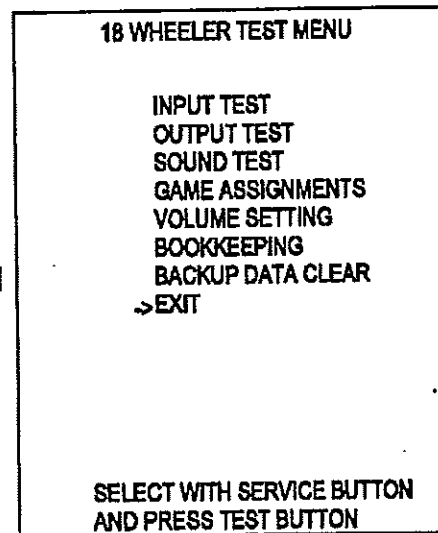
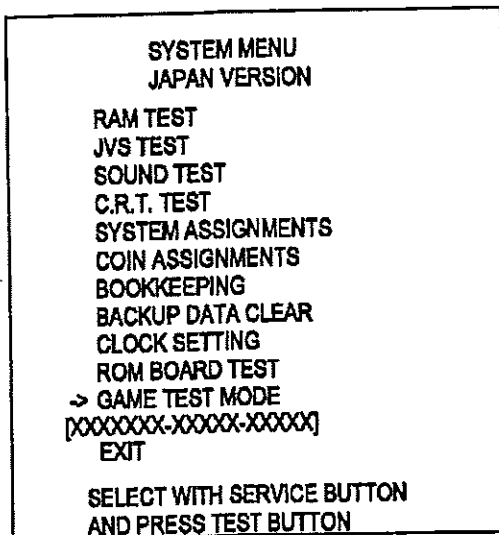


IMPORTANT!

- Any changes made in SYSTEM TEST MODE will only be stored once the EXIT command is chosen from the SYSTEM MENU. If the power is turned off before this, any changes made are ineffectual.
- Executing BACKUP DATA CLEAR in the SYSTEM TEST MODE does not clear the BOOKKEEPING data in the GAME TEST MODE.
- Entering the SYSTEM TEST MODE clears any coins less than one credit and the BONUS ADDER data.

The SYSTEM TEST MODE mainly allows for IC Board function checks, monitor adjustment, coin assignments, etc. Please also refer to the Monitor Service Manual supplied with this product. The following assignments, however, should be designated as follows for this product:

- CABINET TYPE: 1 PLAYER (S)
- MONITOR TYPE: HORIZONTAL
- COIN CHUTE TYPE: COMMON



- Press the TEST button to display the SYSTEM TEST MODE MENU.
- By pressing the SERVICE button, move the cursor (->) to the desired item and select with the TEST button.
- Use the SERVICE button to move the cursor and select the desired item with the TEST button.
- Select EXIT once changes are complete and press the TEST button to return to the normal mode.

5.2.1. RAM TEST

This allows the RAM functions to be checked on the Naomi Main Board. 'GOOD' is displayed for satisfactory RAMs, 'BAD' is displayed if any irregularities are found.

RAM TEST			
IC29	GOOD		
IC35	GOOD		
IC16	GOOD	IC18	GOOD
IC20	GOOD	IC22	GOOD
IC09	GOOD	IC10	GOOD
IC11	GOOD	IC12	GOOD

PRESS TEST BUTTON TO EXIT

During test, 'TESTING NOW' is displayed. Press the TEST button to return to the Menu Mode.

5.2.2. JVS TEST

In this test, Specifications of the I/O Board connected to NAOMI can be checked, and INPUT TEST can be performed. First, I/O Board Specifications are displayed.

```

                JVS TEST
                INPUT TEST
                NEXT NODE
                -> EXIT
NODE NAME      1/1
                SEGA ENTERPRISES,LTD.
                I/O 838-18683
                VER 1.04
                98/12
CMD VER       1.1
JVS VER       2.0
COM VER       1.0
SWITCH        2PLAYER(S) 11BITS
COIN          2SLOT
ANALOG        BCH
ROTARY        OCH
KEYCODE       0
SCREEN        X:0 Y:0 CH:0
CARD          OSLOT
HOPPER OUT    OCH
DRIVER OUT    8SLOT
ANALOG OUT    OCH
CHARACTER     CHARA:0 LINE:0
BACKUP        0

                SELECT WITH SERVICE BUTTON
                AND
                PRESS TEST BUTTON
    
```

(A)
(B)
(C)

Name and version of I/O BOARD.

Select with the SERVICE button and press the TEST button.

(A) INPUT TEST: Proceeds to the INPUT TEST of I/O BOARD being displayed.

(B) NEXT NODE: In the case where more than 2 I/O Boards are connected, proceeds to the next I/O Board.

(C) EXIT: Returns to the menu mode.

INPUT TEST SCREEN

```

                JVS TEST
                INPUT TEST
                NEXT NODE
                -> EXIT
NODE 1/1
SWITCH
SYSTEM        00000000
PLAYER1       00000000
              00000000
PLAYER2       00000000
              00000000
COIN          0000 0000
ANALOG        0000 0000 0000 0000
              0000 0000 0000 0000
                SELECT WITH SERVICE BUTTON
                AND
                PRESS TEST BUTTON
    
```

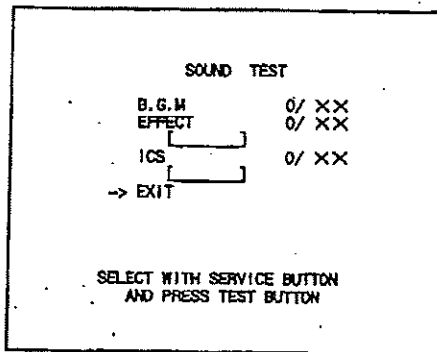
When INPUT is performed for the switches of Control Panel, etc., the value changes to 1 from 0.

If the Coin SW is inputted, the value momentarily changes to 1 from 0.

Analogue values are displayed between 0000 and FFO0.

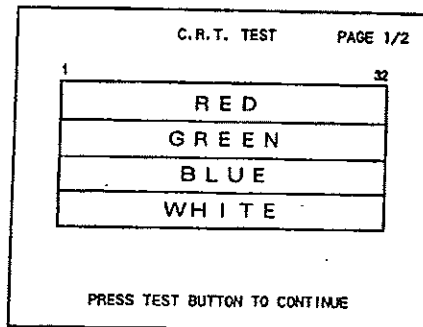
5.2.3. SOUND TEST

Sound Output test can be performed by emitting beeps from each speaker in turn.



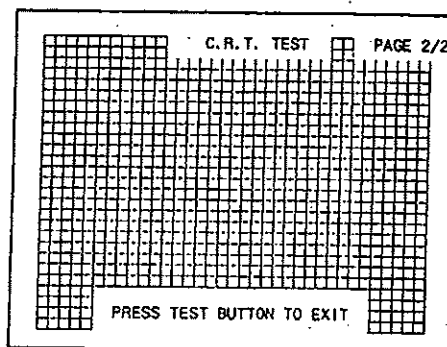
5.2.4. CRT TEST

A) RGB COLOUR ADJUSTMENT SCREEN - Allows monitor colour to be checked.



The red, green and blue colour bars are darkest at the leftmost end, becoming brighter towards the right in 31 graduations. Monitor brightness is satisfactory if the white colour bar is black at the leftmost end and white at the rightmost end. Press TEST button to proceed to the next page.

B) MONITOR SIZE ADJUSTMENT SCREEN - Allows monitor size to be checked.



Adjust so that the crosshatches do not go beyond the screen. Press TEST button to return to Menu Mode.

5.2.5. SYSTEM ASSIGNMENTS



- If the CABINET TYPE and MONITOR TYPE settings are unsuitable for the connected game, an error message is displayed after turning power on and upon finishing TEST mode, and the game is not playable.

Allows cabinet and board settings to be changed. Refer to Section 5.3 for changing the game related assignments such as game difficulty.

1. Press the SERVICE button to move the cursor to the desired item.
2. Press the TEST button to change the setting.
3. Upon finishing the settings, move the cursor to EXIT and press the TEST button.

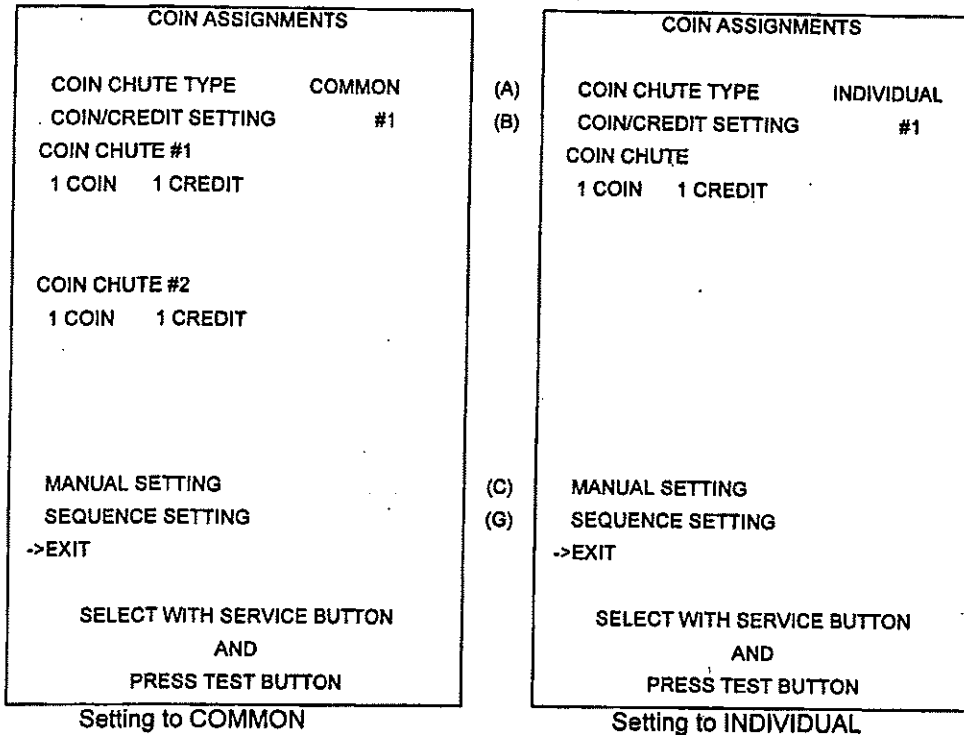
SYSTEM ASSIGNMENTS		
CABINET TYPE	2 PLAYER(S)	(A)
ADVERTISE SOUND	ON	(B)
MONITOR TYPE	HORIZONTAL	(C)
->EXIT		
SELECT WITH SERVICE BUTTON AND PRESS TEST BUTTON		

- (A) CABINET TYPE (1PLAYER(S), 2PLAYER(S), 3PLAYER(S), 4PLAYER(S)) - set the number of players between one and four. Default is 1P.
- (B) ADVERTISE SOUND (ON, OFF) - Set whether ADVERTISE sound is to be emitted or not. Default is ON.
- (C) MONITOR TYPE (HORIZONTAL, VERTICAL) - sets the on-screen display to the orientation of the monitor. Default is HORIZONTAL.

5.2.6. COIN ASSIGNMENTS

In this mode, the setting of incremental credit increase against coin insertion can be changed.

1. Press the SERVICE button to move the cursor to the desired item.
2. Press the TEST button.
3. Upon finishing the settings, move the cursor to EXIT and press the TEST button.



A) COIN CHUTE TYPE (COMMON, INDIVIDUAL) - Perform setting in the manner corresponding to Coin Chute Specifications.

COMMON - This setting is for cabinets which has a Coin Chute(s) for common use by plural players. Up to two Coin Chutes (#1 and #2) can be used and also, B) COIN/CREDIT SETTING ratio can be set separately for #1 and #2.

INDIVIDUAL - This setting is for the cabinet in which each player uses an independent coin chute. Coins inserted by each player are handled as the player's credits. Depending on the CABINET TYPE setting in the SYSTEAM ASSIGNMENTS and the functioning of the connected I/O Board, the number of Coin SW INPUT ports varies between one and four. B) COIN CREDIT SETTING ratio is common for each Coin Chute.

B) COIN/CREDIT SETTING (#1 to #27) - Sets the credit increase increment per coin insertion. There are 27 settings from #1 to #27, expressed in OO credit(s) as against OO coins inserted. #27 refers to FREE PLAY. For details, refer to Table 1 (COMMON) and Table 2 (INDIVIDUAL).

C) MANUAL SETTING - The Credit's incremental increase settings as against coin insertion.

5.2.7. BOOKKEEPING

Selecting this mode allows the BOOKKEEPING data to be accessed via a sequence of two pages. Each time the TEST button is pressed, the following page appears. .

```
BOOKKEEPING 1/2
NUMBER OF GAMES 0
NUMBER OF CONTINUE 0
AVERAGE PLAY TIME 00M00S

PRESS TEST BUTTON TO CONTINUE
```

Page 1/3 displays coin and credit related data.

- NUMBER OF GAMES: Total number of plays.
- NUMBER OF CONTINUE: Total number of continued games.
- AVERAGE PLAY TIME: Average duration of game.

```
BOOKKEEPING 2/2
TIME HISTOGRAM
00M00S - 00M29S ----- 0
00M30S - 00M59S ----- 0
01M00S - 01M29S ----- 0
01M30S - 01M59S ----- 0
02M00S - 02M29S ----- 0
02M30S - 02M59S ----- 0
03M00S - 03M29S ----- 0
03M30S - 03M59S ----- 0
04M00S - 04M29S ----- 0
04M30S - 04M59S ----- 0
05M00S - 05M29S ----- 0
05M30S - 05M59S ----- 0
06M00S - 06M29S ----- 0
06M30S - 06M59S ----- 0
OVER 07M00S ----- 0

PRESS TEST BUTTON TO EXIT
```

Page 2/3 displays a histogram of Number of Play plotted against Play Time. This histogram can be used to optimise the GAME DIFFICULTY setting.

Press the TEST button to exit.

5.2.8. BACKUP DATA CLEAR

This allows the BOOKKEEPING and Ranking data to be cleared. The GAME ASSIGNMENTS settings, and the contents of BOOKKEEPING in the SYSTEM TEST mode are unaffected by this command.

```
BACKUP DATA CLEAR
  YES (CLEAR)
-> NO (CANCEL)

SELECT WITH SERVICE BUTTON
AND PRESS TEST BUTTON
```

When clearing, use the SERVICE BUTTON to bring the cursor to YES (CLEAR) and press the TEST BUTTON. When the data has been cleared, COMPLETED will be displayed.

If clearing of data is not desired, select NO (CANCEL) to return to the MENU MODE.

5.2.9. CLOCK SETTING

This allows YEAR, MONTH, DAY, HOUR and MINUTE settings to be made.

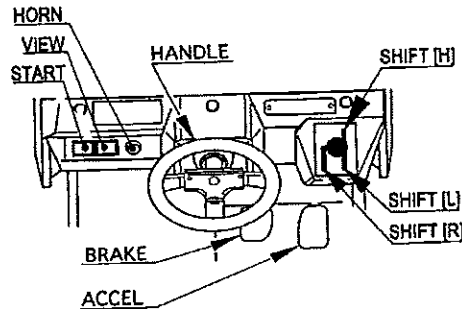
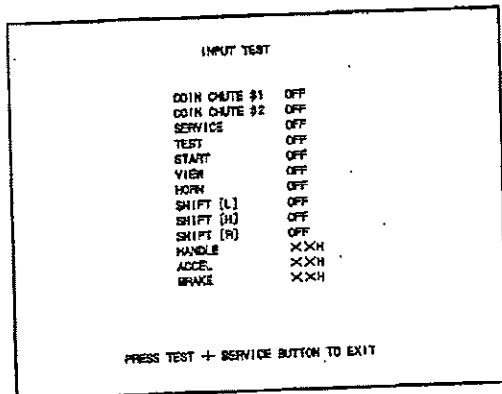
```
CLOCK SETTING
1998 12/02 14:30 33 WED
  YEAR
  MONTH
  DAY
  HOUR
  MINUTE
-> EXIT
SELECT WITH SERVICE BUTTON
AND
PRESS TEST BUTTON
```

Select the desired item with the SERVICE button and press the TEST button to increase the value. Upon finishing the SETTING, bring the cursor to EXIT and press the TEST button to return to the Menu Mode.

5.3. GAME TEST MODE

5.3.1. INPUT TEST

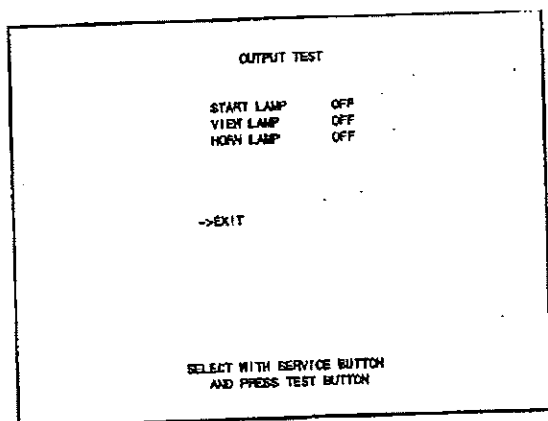
Selecting INPUT TEST displays the following screen, and allows the status of each switch to be checked and the volume value of the analogue inputs to be observed. Use this mode to periodically check the status of the switches and analogue inputs.



- Actuate each switch, observing the display - if the status of the corresponding input changes from OFF to ON, the switch and wiring connections are satisfactory.
- Operate the steering wheel and control pedals and check the corresponding volume value. If variations are inconsistent with operation, refer to Section 5.3.5.
- To check the COIN CHUTES, open the Coin Chute Door and insert a coin into the Coin Inlet.
- To EXIT the INPUT TEST mode, press the Service and Test buttons simultaneously.

5.3.2. OUTPUT TEST

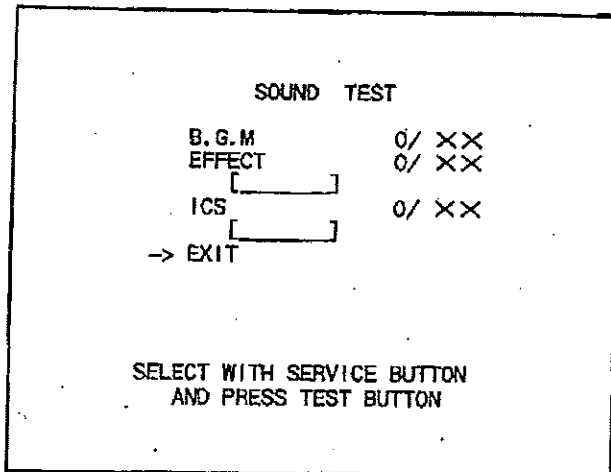
Selecting OUTPUT TEST displays the following screen and allows the status of the Lamps to be checked. This should be carried out periodically.



- The START, VIEW and HORN LAMP status automatically alternates between ON and OFF - check that each Lamp flashes in synchronisation with its respective status.
- Press the Test button to return to the TEST MENU.

5.3.3. SOUND TESTS

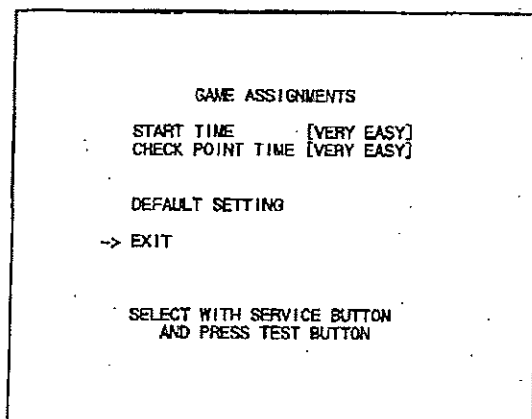
Selecting SOUND TEST displays the following screen and allows the sounds used in the game (BGM, EFFECT and ICS) to be checked.



- By pressing the SERVICE button, move the cursor (->) to select the desired item. Press the TEST button to emit the corresponding sound. Each time the TEST button is pressed, the following sound in the sequence is emitted.
- Select EXIT and press the TEST button to return to the menu mode.

5.3.4. GAME ASSIGNMENTS

Selecting GAME ASSIGNMENTS displays the following screen and allows the various time settings to be determined. The setting changes are not validated until TEST MODE is EXITed.



- START TIME: Sets the time limit given at the start of the game. Select from 5 levels of difficulty ranging from VERY EASY to VERY HARD. Default is NORMAL.
- CHECK POINT TIME: Sets the time given when the truck passes a check point. Select from 5 levels of difficulty ranging from VERY EASY to VERY HARD. Default is NORMAL.
- Select EXIT and press the TEST button to return to the menu mode.

5.3.5. VOLUME SETTING

Selecting VOLUME SETTING displays the following screen and allows the analogue units' (steering wheel and control pedals) volume level to be set.

Use this mode to set the volume levels if the operability is unsatisfactory or if a unit's potentiometer is replaced.

The HANDLE's centre value is required, along with the maximum and minimum values of the ACCEL and BRAKE.

VOLUME SETTING		
HANDLE SETTING		
-> SET CENTRE	[SET]	XXX
SET EARLY VALUE	[LOCK]	XXX
LEFT	[MAX]	XXX
RIGHT	[MAX]	XXX
ACCEL SETTING		
SET EARLY VALUE	[LOCK]	XXX
LEFT	[MAX]	XXX
RIGHT	[MAX]	XXX
BRAKE SETTING		
SET EARLY VALUE	[LOCK]	XXX
LEFT	[MAX]	XXX
RIGHT	[MAX]	XXX
EXIT WITH SAVE		
EXIT WITHOUT SAVE		
SELECT WITH SERVICE BUTTON AND PRESS TEST BUTTON		

- Select the volume value to be changed using the SELECT button.
- Press the TEST button - the [LOCK] status will change to [SET].
- Input the value by operating the unit to its left/right extents (Handle Mecha) and min/max extents (Accel/Brake).
- Press the SERVICE button to select EXIT and press TEST to return to the MENU mode. The maximum and minimum values are stored by selecting EXIT WITH SAVE. Choose EXIT WITHOUT SAVE to revert to the previous settings.

HANDLE VOLUME RANGE

LEFT	CENTRE	RIGHT
30H	80H	C0H

6. COIN MECH INSTALLATION AND CREDIT BOARD SET UP

6.1. INTRODUCTION

Game credits between the Coin Mechanism and the game board for this machine are controlled by a VTS board. This electronic circuit allows the price of play to be set for a range of different countries. These functions are set on Dual In Line (DIL) PCB mounted switches.

SW1 is used to set the currency (or coin ratio) and SW3 the price of play. Refer to the Tables on the following pages for the correct settings for your environment.

The VTS board pictured below is mounted in the Coin Chute Tower.

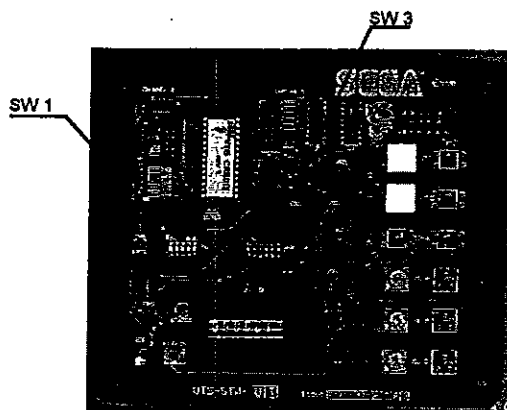
The VTS board is connected to the coin validator and lamps via a dedicated wiring harness depending upon the coin validator used:

Wiring Harness	Validator	
LM1006	Coin Controls	(15 way connector)
LM1007	Mars	(13 way connector)
LM1008	Mechanical	See note 2
N/A	NRI	See note 1

Notes

1. If NRI mechanisms are to be used, these should be ordered with the highest denomination coin on coin path #1 and the lowest denomination on coin path #4. The VTS board should be then be set up for either the UK or Switzerland settings. A minimum connecting lead length of 600mm is required.
2. Mechanical coin mechanisms may be connected in parallel allowing two identical mechanisms to be fitted.

The VTS Board



Credit Board Mode Settings Switch 3

Country	Setting	Switch 3 Setting						Coin Validator Programming										C120 Only			
		SW1	SW2	SW3	SW4	SW5	SW6	COIN1	COIN2	COIN3	COIN4	COIN5	COIN6	COIN7	COIN8	COIN9	COIN10	COIN11	COIN12		
UK	Coin Controls C220 Parallel	OFF	OFF	OFF	OFF			£1	50p new	20p	10p	-	50p old	-	-	-	-	-	-		
UK	Coin Controls C220 Binary	ON	OFF	OFF	OFF			£1	50p new	20p	10p	-	50p old	£2	-	-	-	-	-		
UK	Coin Controls C220 Binary	OFF	ON	OFF	OFF			£1	50p new	20p	10p	-	£2	50p old	-	-	-	-	-		
UK	Coin Controls C120 Parallel	ON	ON	OFF	OFF			£1	50p new	20p	10p	-	£2	50p old	-	-	-	-	-		
UK	Coin Controls C120 Parallel	OFF	OFF	ON	OFF			£2	£1	50p new	20p	10p	-	-	50p old	-	-	-	-		
UK	Mars MIE/MS 111 Parallel	ON	OFF	ON	OFF			£1	£2	20p	10p	50p new	50p old	-	-	-	-	-	-		
UK	NRI Parallel	OFF	ON	ON	OFF			10p	20p	50p	£1	-	-	-	-	-	-	-	-		
Belgium	Parallel	ON	ON	ON	OFF			-	50Bfr	20Bfr	5Bfr	-	-	-	-	-	-	-	-		
Holland	Parallel	OFF	OFF	OFF	ON			-	5NLG	2.5NLG	1NLG	-	-	-	-	-	-	-	-		
Austria	Parallel	ON	OFF	OFF	ON			20Sch	10Sch	5Sch	1Sch	-	-	-	-	-	-	-	-		
Spain	Coin Controls C220 Binary	OFF	ON	OFF	ON			500Pta	200Pta new	100Pta	50Pta new	25Pta new	200Pt old	50Pta old	25Pta old	-	-	-	-		
Spain	C120/NRI Parallel	ON	ON	OFF	ON			500Pta	200Pta old	100Pta	50Pta old	25Pta old	-	200Pta old	50Pta old	25Pta old	50Pta old	25Pta old	-		
Spain	Coin Controls C220 Parallel	OFF	OFF	ON	ON			100Pta	50Pta new	-	25Pta new	-	50Pta old	25Pta old	-	-	-	-	-		
Portugal	Parallel	ON	OFF	ON	ON			200Es	100Es	50Es	-	-	-	-	-	-	-	-	-		
	TBA					OFF		TBA													
	Channels																				

Please Note
The credit board automatically sets the validator for parallel and binary operation through an output on pin 8 of the 17 way pinstrip. For the feature to work it is necessary for the validator interconnecting cable to include a wire at this position

Note: These switch settings are under constant review and may change due to world currency updates.

- Set SW 1 according to the option settings found in the relevant Price of Play Settings Table on the following pages.
- For Germany (DM), France (Fr) & Switzerland (SFr), use the appropriate existing setting shown above (from another country) that matches the coin ratios programmed into y
- Set SW 3 on the VTS board as shown in the table above corresponding to the country required.

6.1.1. PRICE OF PLAY SETTINGS UK

	Price	Bonus			DIL Switch 1				
					Switch 1	Switch 2	Switch 3	Switch 4	Switch 5
1	10p	No Bonus			OFF	OFF	OFF	OFF	OFF
2	10p	6 = 50p			ON	OFF	OFF	OFF	OFF
3	20p	No Bonus			OFF	ON	OFF	OFF	OFF
4	20p	3 = 50p	6 = £1	12 = £2	ON	ON	OFF	OFF	OFF
5	30p	No Bonus			OFF	OFF	ON	OFF	OFF
6	30p	1.66 = 50p	4 = £1	8 = £2	ON	OFF	ON	OFF	OFF
7	30p	2 = 50p	4 = £1		OFF	ON	ON	OFF	OFF
8	30p	AMLD *	3 = £1	6 = £2	ON	ON	ON	OFF	OFF
9	40p	No Bonus			OFF	OFF	OFF	ON	OFF
10	40p	1.25 = 50p	3 = £1	6 = £2	ON	OFF	OFF	ON	OFF
11	50p	No Bonus			OFF	ON	OFF	ON	OFF
12	50p		3 = £1	6 = £2	ON	ON	OFF	ON	OFF
13	50p		2 = £1	5 = £2	OFF	OFF	ON	ON	OFF
14	60p	No Bonus			ON	OFF	ON	ON	OFF
15	60p		2 = £1	4 = £2	OFF	ON	ON	ON	OFF
16	80p	No Bonus			ON	ON	ON	ON	OFF
17	80p	1.25 = £1	2 = £1.50	2.5 = £2	OFF	OFF	OFF	OFF	ON
18	£1	No Bonus			ON	OFF	OFF	OFF	ON
19	£1		3 = £2		OFF	ON	OFF	OFF	ON
20	£1		2 = £2	5 = £4	ON	ON	OFF	OFF	ON
21	£1.50	No Bonus			OFF	OFF	ON	OFF	ON
22	£1.50		2 = £2		ON	OFF	ON	OFF	ON
23	£2	No Bonus			OFF	ON	ON	OFF	ON
24	£2			3 = £5	ON	ON	ON	OFF	ON
25	£3	No Bonus			OFF	OFF	OFF	ON	ON
26	£3			2 = £5	ON	OFF	OFF	ON	ON
27	£5	No Bonus			OFF	ON	OFF	ON	ON
28	£5			3 = £10	ON	ON	OFF	ON	ON
29	£7.50	No Bonus			OFF	OFF	ON	ON	ON
30	£7.50			2 = £10	ON	OFF	ON	ON	ON
31	£10	No Bonus			OFF	ON	ON	ON	ON
32	Free Play				ON	ON	ON	ON	ON

6.1.2. PRICE OF PLAY SETTINGS Austria-Czech-Denmark-Norway-
Israel-France2

	Price	Bonus			Switch 1				
					Switch 1	Switch 2	Switch 3	Switch 4	Switch 5
1	1	No Bonus			OFF	OFF	OFF	OFF	OFF
2	1			11 = 10	ON	OFF	OFF	OFF	OFF
3	1		6 = 5		OFF	ON	OFF	OFF	OFF
4	2	No Bonus			ON	ON	OFF	OFF	OFF
5	2			6 = 10	OFF	OFF	ON	OFF	OFF
6	2		3 = 5		ON	OFF	ON	OFF	OFF
7	3	No Bonus			OFF	ON	ON	OFF	OFF
8	3			4 = 10	ON	ON	ON	OFF	OFF
9	3		2 = 5		OFF	OFF	OFF	ON	OFF
10	4	No Bonus			ON	OFF	OFF	ON	OFF
11	4		3 = 10		OFF	ON	OFF	ON	OFF
12	5	No Bonus			ON	ON	OFF	ON	OFF
13	5			3 = 10	OFF	OFF	ON	ON	OFF
14	6	No Bonus			ON	OFF	ON	ON	OFF
15	6			4 = 20	OFF	ON	ON	ON	OFF
16	8	No Bonus			ON	ON	ON	ON	OFF
17	10	No Bonus			OFF	OFF	OFF	OFF	ON
18	10			3 = 20	ON	OFF	OFF	OFF	ON
19	20	No Bonus			OFF	ON	OFF	OFF	ON
20	20			3 = 50	ON	ON	OFF	OFF	ON
21	30	No Bonus			OFF	OFF	ON	OFF	ON
22	30			2 = 50	ON	OFF	ON	OFF	ON
23	50	No Bonus			OFF	ON	ON	OFF	ON
24	50			3 = 100	ON	ON	ON	OFF	ON
32	Free Play				ON	ON	ON	ON	ON

6.1.3. PRICE OF PLAY SETTINGS - BELGIUM

	Price	Bonus			DIL Switch 1				
					Switch 1	Switch 2	Switch 3	Switch 4	Switch 5
1	5BFr	No Bonus			OFF	OFF	OFF	OFF	OFF
2	5BFr			11 = 50BFr	ON	OFF	OFF	OFF	OFF
3	5BFr		5 = 20BFr		OFF	ON	OFF	OFF	OFF
4	10BFr	No Bonus			ON	ON	OFF	OFF	OFF
5	10BFr			6 = 50BFr	OFF	OFF	ON	OFF	OFF
6	10BFr		3 = 20BFr		ON	OFF	ON	OFF	OFF
7	15BFr	No Bonus			OFF	ON	ON	OFF	OFF
8	15BFr			4 = 50BFr	ON	ON	ON	OFF	OFF
9	15BFr		7 = 100BFr		OFF	OFF	OFF	ON	OFF
10	20BFr	No Bonus			ON	OFF	OFF	ON	OFF
11	20BFr			3 = 50BFr	OFF	ON	OFF	ON	OFF
12	20BFr		3 = 50BFr		ON	ON	OFF	ON	OFF
13	25BFr	No Bonus			OFF	OFF	ON	ON	OFF
14	25BFr			5=100BFr	ON	OFF	ON	ON	OFF
15	25BFr		3 = 50BFr		OFF	ON	ON	ON	OFF
16	30BFr	No Bonus			ON	ON	ON	ON	OFF
17	30BFr			4=100BFr	OFF	OFF	OFF	OFF	ON
18	30BFr		2=50BFr		ON	OFF	OFF	OFF	ON
19	40BFr	No Bonus			OFF	ON	OFF	OFF	ON
20	40BFr			3=100BFr	ON	ON	OFF	OFF	ON
21	50BFr	No Bonus			OFF	OFF	ON	OFF	ON
22	50BFr			3=100BFr	ON	OFF	ON	OFF	ON
23					OFF	ON	ON	OFF	ON
24					ON	ON	ON	OFF	ON
25					OFF	OFF	OFF	ON	ON
26					ON	OFF	OFF	ON	ON
27					OFF	ON	OFF	ON	ON
28					ON	ON	OFF	ON	ON
29					OFF	OFF	ON	ON	ON
30					ON	OFF	ON	ON	ON
31					OFF	ON	ON	ON	ON
32	Free Play				ON	ON	ON	ON	ON

6.1.4. PRICE OF PLAY SETTINGS - FRANCE

	Price	Bonus			DIL Switch 1				
					Switch 1	Switch 2	Switch 3	Switch 4	Switch 5
1	1Fr	No Bonus			OFF	OFF	OFF	OFF	OFF
2	1Fr	6 = 5Fr			ON	OFF	OFF	OFF	OFF
3	2Fr	No Bonus			OFF	ON	OFF	OFF	OFF
4	2Fr	3 = 5Fr	6 = 10Fr	12 = 20Fr	ON	ON	OFF	OFF	OFF
5	3Fr	No Bonus			OFF	OFF	ON	OFF	OFF
6	3Fr	1.66 = 5Fr	4 = 10Fr	8 = 20Fr	ON	OFF	ON	OFF	OFF
7	3Fr	2 = 5Fr	4 = 10Fr		OFF	ON	ON	OFF	OFF
8	3Fr	**	3 = 10Fr	6 = 20Fr	ON	ON	ON	OFF	OFF
9	4Fr	No Bonus			OFF	OFF	OFF	ON	OFF
10	4Fr	1.25 = 5Fr	3 = 10Fr	6 = 20Fr	ON	OFF	OFF	ON	OFF
11	5Fr	No Bonus			OFF	ON	OFF	ON	OFF
12	5Fr		3 = 10Fr	6 = 20Fr	ON	ON	OFF	ON	OFF
13	5Fr		2 = 10Fr	5 = 20Fr	OFF	OFF	ON	ON	OFF
14	6Fr	No Bonus			ON	OFF	ON	ON	OFF
15	6Fr		2 = 10Fr	4 = 20Fr	OFF	ON	ON	ON	OFF
16	8Fr	No Bonus			ON	ON	ON	ON	OFF
17	8Fr	1.25 = 10Fr	2 = 15Fr	2.5 = 20Fr	OFF	OFF	OFF	OFF	ON
18	10Fr	No Bonus			ON	OFF	OFF	OFF	ON
19	10Fr		3 = 20Fr		OFF	ON	OFF	OFF	ON
20	10Fr		2 = 20Fr	5 = 40Fr	ON	ON	OFF	OFF	ON
21	15Fr	No Bonus			OFF	OFF	ON	OFF	ON
22	15Fr		2 = 20Fr		ON	OFF	ON	OFF	ON
23	20Fr	No Bonus			OFF	ON	ON	OFF	ON
24	20Fr			3 = 50Fr	ON	ON	ON	OFF	ON
25	30Fr	No Bonus			OFF	OFF	OFF	ON	ON
26	30Fr			2 = 50Fr	ON	OFF	OFF	ON	ON
27	50Fr	No Bonus			OFF	ON	OFF	ON	ON
28	50Fr			3 = 100Fr	ON	ON	OFF	ON	ON
29	75Fr	No Bonus			OFF	OFF	ON	ON	ON
30	75Fr			2 = 100Fr	ON	OFF	ON	ON	ON
31	100Fr	No Bonus			OFF	ON	ON	ON	ON
32	Free Play				ON	ON	ON	ON	ON

** This is a special setting which gives no credit until a total of 10Fr is input and then gives three games.

6.1.5. PRICE OF PLAY SETTINGS - ITALY

	Price	Bonus			DIL Switch 1				
					Switch 1	Switch 2	Switch 3	Switch 4	Switch 5
1					OFF	OFF	OFF	OFF	OFF
2					ON	OFF	OFF	OFF	OFF
3					OFF	ON	OFF	OFF	OFF
4					ON	ON	OFF	OFF	OFF
5					OFF	OFF	ON	OFF	OFF
6					ON	OFF	ON	OFF	OFF
7					OFF	ON	ON	OFF	OFF
8					ON	ON	ON	OFF	OFF
9					OFF	OFF	OFF	ON	OFF
10	100L	No Bonus			ON	OFF	OFF	ON	OFF
11	100L			6 = 500L	OFF	ON	OFF	ON	OFF
12	100L		3 = 200L		ON	ON	OFF	ON	OFF
13	200L	No Bonus			OFF	OFF	ON	ON	OFF
14	200L			3 = 500L	ON	OFF	ON	ON	OFF
15	200L		3 = 400L		OFF	ON	ON	ON	OFF
16	300L	No Bonus			ON	ON	ON	ON	OFF
17	300L			2 = 500L	OFF	OFF	OFF	OFF	ON
18	300L		3 = 600L		ON	OFF	OFF	OFF	ON
19	400L	No Bonus			OFF	ON	OFF	OFF	ON
20	400L			3 = 1000L	ON	ON	OFF	OFF	ON
21	400L		3 = 800L		OFF	OFF	ON	OFF	ON
22	500L	No Bonus			ON	OFF	ON	OFF	ON
23	500L		3 = 1000L		OFF	ON	ON	OFF	ON
24	500L			5 = 2000L	ON	ON	ON	OFF	ON
25	600L	No Bonus			OFF	OFF	OFF	ON	ON
26	600L		3 = 1200L		ON	OFF	OFF	ON	ON
27	600L			4 = 2000L	OFF	ON	OFF	ON	ON
28	800L	No Bonus			ON	ON	OFF	ON	ON
29	800L		2 = 1000L		OFF	OFF	ON	ON	ON
30	1000L	No Bonus			ON	OFF	ON	ON	ON
31	1000L		2 = 1500L		OFF	ON	ON	ON	ON
32	Free Play				ON	ON	ON	ON	ON

6.1.6. PRICE OF PLAY SETTINGS - PORTUGAL

	Price	Bonus			DIL Switch 1				
					Switch 1	Switch 2	Switch 3	Switch 4	Switch 5
1	50Esc	No Bonus			OFF	OFF	OFF	OFF	OFF
2	50Esc			5 = 200Esc	ON	OFF	OFF	OFF	OFF
3	50Esc		3=100Esc		OFF	ON	OFF	OFF	OFF
4	100Esc	No Bonus			ON	ON	OFF	OFF	OFF
5	100Esc			5 = 400Esc	OFF	OFF	ON	OFF	OFF
6	100Esc		3 = 200Esc		ON	OFF	ON	OFF	OFF
7	150Esc	No Bonus			OFF	ON	ON	OFF	OFF
8	150Esc			3 = 400Esc	ON	ON	ON	OFF	OFF
9	200Esc	No Bonus			OFF	OFF	OFF	ON	OFF
10	200Esc			6 = 1000Esc	ON	OFF	OFF	ON	OFF
11	200Esc		4 = 600Esc		OFF	ON	OFF	ON	OFF
12	250 Esc	No Bonus			ON	ON	OFF	ON	OFF
13	250 Esc		3 = 500Esc		OFF	OFF	ON	ON	OFF
14	300 Esc	No Bonus			ON	OFF	ON	ON	OFF
15	300 Esc			4 = 1000Esc	OFF	ON	ON	ON	OFF
16	400 Esc	No Bonus			ON	ON	ON	ON	OFF
17	400 Esc			3 = 1000Esc	OFF	OFF	OFF	OFF	ON
32	Free Play				ON	ON	ON	ON	ON

6.1.7. PRICE OF PLAY SETTINGS - NETHERLANDS

	Price	Bonus			DIL Switch 1				
					Switch 1	Switch 2	Switch 3	Switch 4	Switch 5
1	1G	No Bonus			OFF	OFF	OFF	OFF	OFF
2	1G		2.5NLG = 2		ON	OFF	OFF	OFF	OFF
3	2G	No Bonus			OFF	ON	OFF	OFF	OFF
4	2G		5NLG = 3		ON	ON	OFF	OFF	OFF
5	3G	No Bonus			OFF	OFF	ON	OFF	OFF
6	3G		5NLG = 2		ON	OFF	ON	OFF	OFF
7	4G	No Bonus			OFF	ON	ON	OFF	OFF
8	4G		10NLG = 3		ON	ON	ON	OFF	OFF
9	5G	No Bonus			OFF	OFF	OFF	ON	OFF
10	5G		10NLG = 3		ON	OFF	OFF	ON	OFF
11	6G	No Bonus			OFF	ON	OFF	ON	OFF
12	6G		15NLG = 3		ON	ON	OFF	ON	OFF
13	8G	No Bonus			OFF	OFF	ON	ON	OFF
14	8G		20NLG = 3		ON	OFF	ON	ON	OFF
15	10G	No Bonus			OFF	ON	ON	ON	OFF
16	10G		20NLG = 3		ON	ON	ON	ON	OFF
17	15G		30NLG = 3		OFF	OFF	OFF	OFF	ON
18	15G	No Bonus			ON	OFF	OFF	OFF	ON
19	20G	No Bonus			OFF	ON	OFF	OFF	ON
32	Free Play				ON	ON	ON	ON	ON

6.1.8. PRICE OF PLAY SETTINGS - SPAIN

	Price	Bonus			DIL Switch 1				
					Switch 1	Switch 2	Switch 3	Switch 4	Switch 5
1	25Pta	No Bonus			OFF	OFF	OFF	OFF	OFF
2	25Pta			5=100Pta	ON	OFF	OFF	OFF	OFF
3	25Pta		3=50Pta		OFF	ON	OFF	OFF	OFF
4	50Pta	No Bonus			ON	ON	OFF	OFF	OFF
5	50Pta			3=100Pta	OFF	OFF	ON	OFF	OFF
6	50Pta		4=150Pta		ON	OFF	ON	OFF	OFF
7	75Pta	No Bonus			OFF	ON	ON	OFF	OFF
8	75Pta			3=200Pta	ON	ON	ON	OFF	OFF
9	75Pta		3=200Pta		OFF	OFF	OFF	ON	OFF
10	100Pta	No Bonus			ON	OFF	OFF	ON	OFF
11	100Pta			4=300Pta	OFF	ON	OFF	ON	OFF
12	100Pta		3=200Pta		ON	ON	OFF	ON	OFF
13	200Pta	No Bonus			OFF	OFF	ON	ON	OFF
14	200Pta			3=500Pta	ON	OFF	ON	ON	OFF
15	200Pta		3=400Pta		OFF	ON	ON	ON	OFF
16	300Pta	No Bonus			ON	ON	ON	ON	OFF
17	300Pta			2=500Pta	OFF	OFF	OFF	OFF	ON
18	300Pta		3=600Pta		ON	OFF	OFF	OFF	ON
19	400Pta	No Bonus			OFF	ON	OFF	OFF	ON
20	400Pta			3=1000Pta	ON	ON	OFF	OFF	ON
21	400Pta		3=800Pta		OFF	OFF	ON	OFF	ON
22	500Pta	No Bonus			ON	OFF	ON	OFF	ON
23	500Pta			3=1000Pta	OFF	ON	ON	OFF	ON
24	500Pta		2=800Pta		ON	ON	ON	OFF	ON
25	600Pta	No Bonus			OFF	OFF	OFF	ON	ON
26	600Pta			3=1200Pta	ON	OFF	OFF	ON	ON
27	600Pta		2=1000Pta		OFF	ON	OFF	ON	ON
28	800Pta	No Bonus			ON	ON	OFF	ON	ON
29	800Pta			2=1000Pta	OFF	OFF	ON	ON	ON
30	1000Pta	No Bonus			ON	OFF	ON	ON	ON
31	1000Pta			2=1500Pta	OFF	ON	ON	ON	ON
32	Free Play				ON	ON	ON	ON	ON

7. PERIODIC CHECK AND INSPECTION

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



WARNING!

- Be sure to check annually to see if the power cords are damaged, the plug is securely inserted and that there is no dust in the interior of the machine or between the socket and the power cord. Using the product in an unclean condition may cause a fire or electric shock.

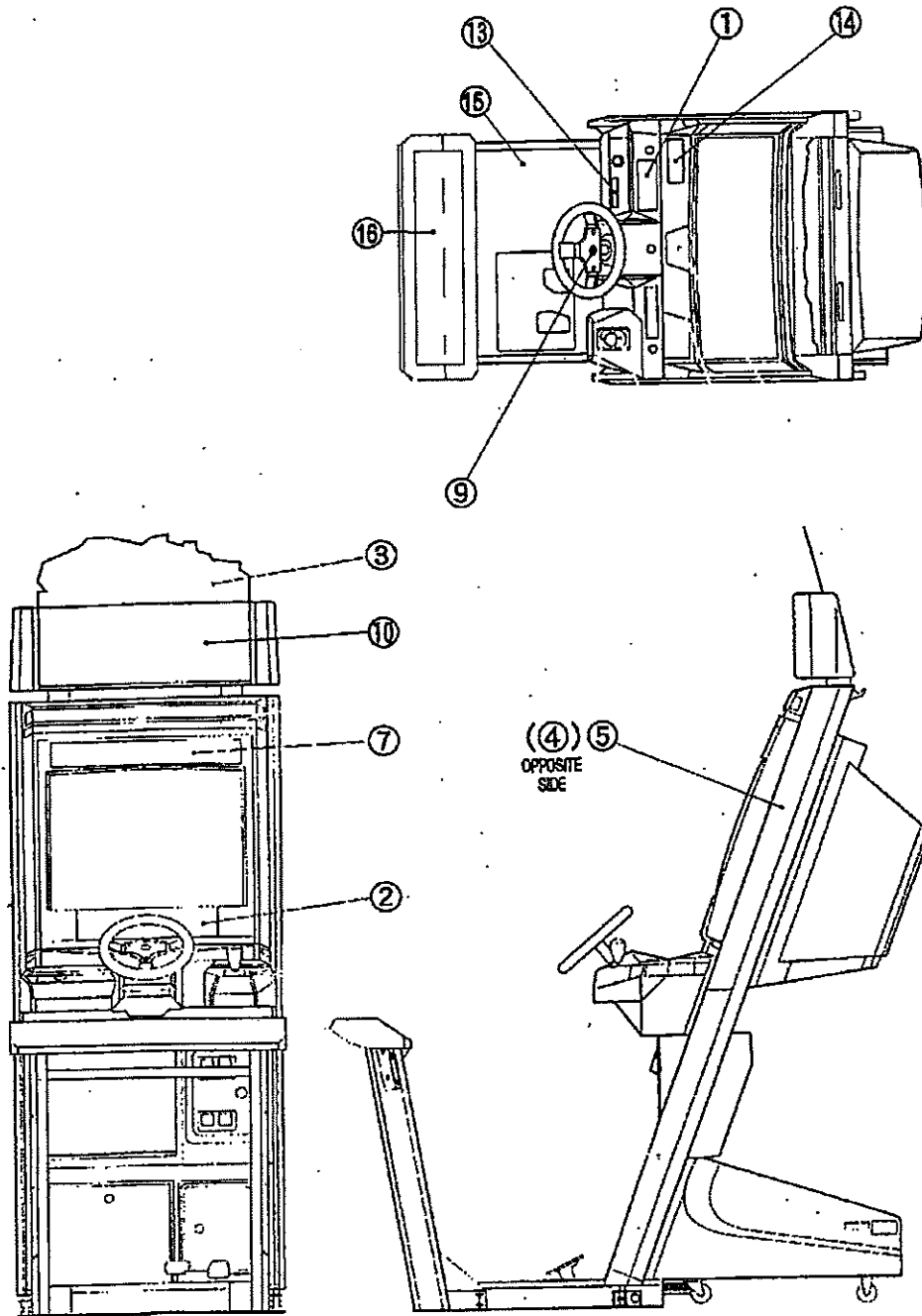
DESCRIPTION	WHAT TO CHECK	INTERVAL
CABINET	Check Adjusters' contact with surface	Daily
MONITOR	Clean CRT face - (Do Not use water jet)	Weekly
	Check settings	Monthly
GAME BD	Setting check	Monthly
CONTROL PANEL	Input test	Monthly
Speaker, sound	Sound test, check volume adjustment	Monthly
COIN SELECTOR	Coin insertion test	Monthly
	Cleaning	Tri-Monthly
POWER SUPPLY CORD	Check condition	Annually
INTERIOR	Clean (Do Not use water jet)	Annually
CABINET SURFACE	Clean (Do Not use water jet)	As required

7.1. CLEANING THE CABINET SURFACES

When the cabinet surfaces are badly soiled, remove stains with a soft cloth dipped in water or chemical detergent (diluted with water) and squeezed dry - **DO NOT USE A WATER JET**. To avoid damaging surface finish, do not use such solvents as thinner, benzene, etc. (other than ethyl alcohol), abrasives or bleaching agents.

8. DESIGN RELATED PARTS

For the Warning stickers refer to Section 1.



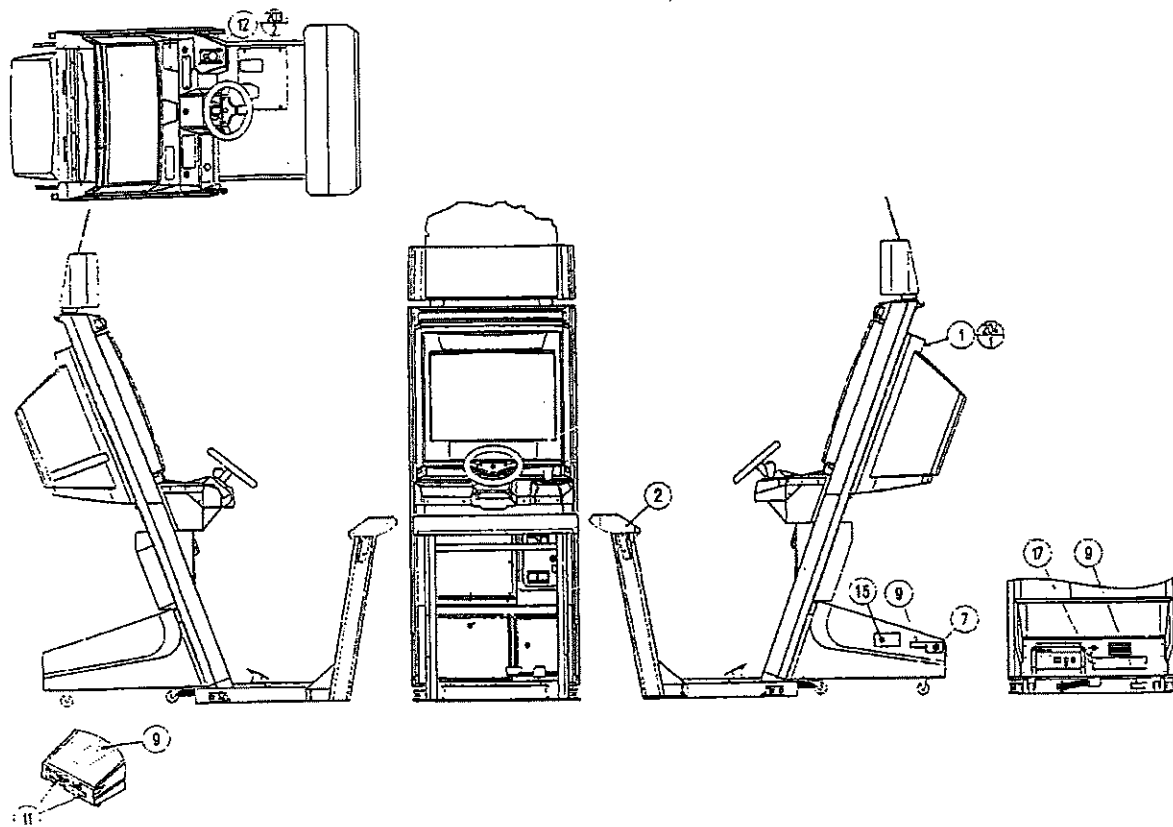
See listing overleaf for part numbers and descriptions.

DESIGN RELATED PARTS (continued)

No.	PART No.	DESCRIPTION
1	PTR-2005UK	STICKER SLIPSTREAM MULTI
2	PTR-1403UK	STICKER SUB INSTR
3	PTR-0003UK	POP PANEL PTR STD
4	PTR-1012UK	STICKER SIDE L
5	PTR-1013UK	STICKER SIDE R
7	PTR-1401UK	STICKER FRONT UPPER
9	PTR-2006UK	PTR WHEEL TRIM (3)
10	PTR-1304UK	BILLBOARD PLATE
13	PTR-2004UK	STICKER START,VR,HORN
14	PTR-1402UK	STICKER CARGO MULTI
15	PTR-1201UK	FLOOR MAT
16	PTR-5007UK	SEAT CUSHION PTR

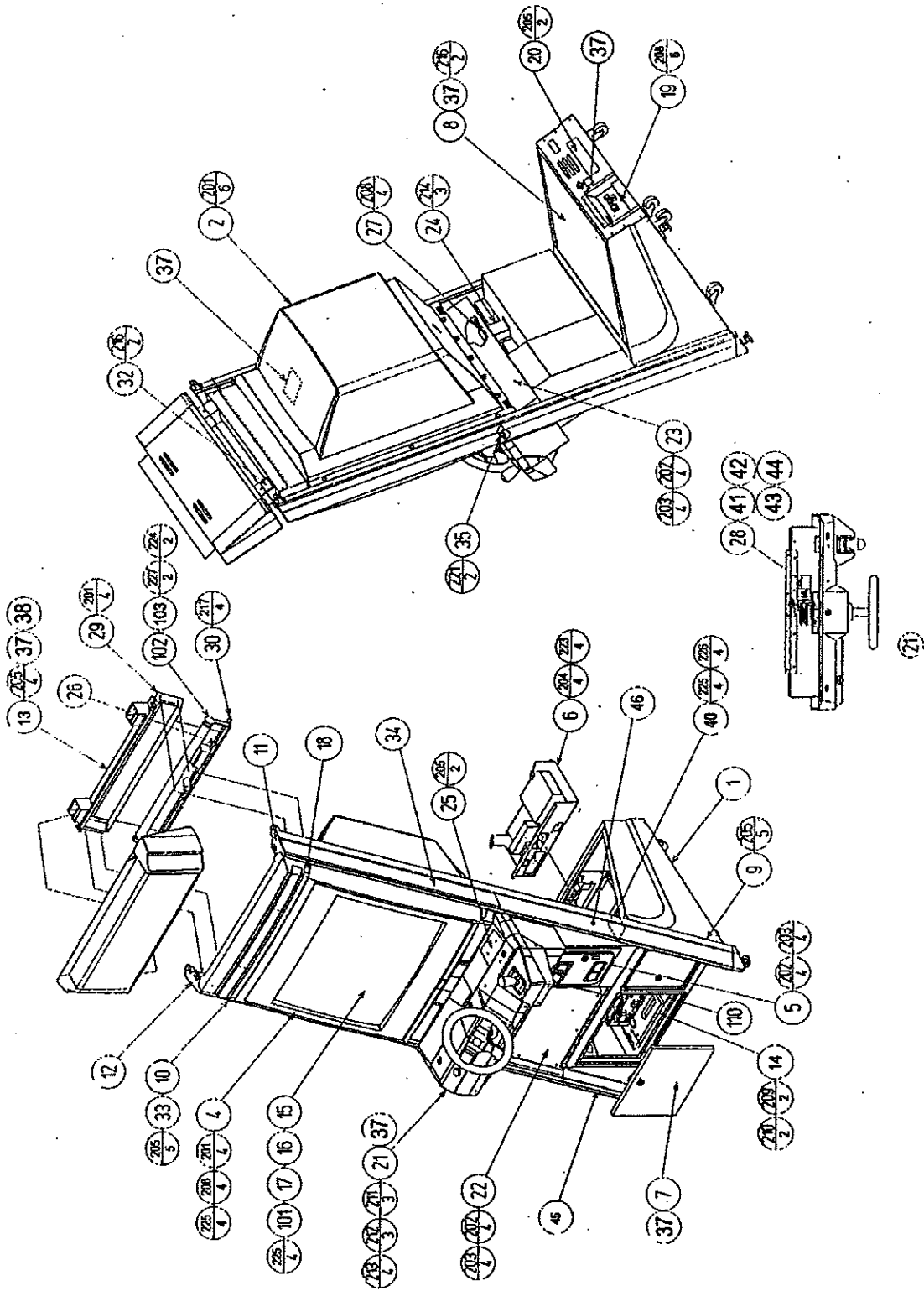
9. PARTS LIST

9.1. PTR-00001UK TOP ASSY PTR STD NANA0 FST



No.	PART NUMBER	QTY	DESCRIPTION	COMPONENT REFERENCE
1	PTR-10001UK	1	ASSY CABI STD NANA0 FST	
2	PTR-5000UK	1	ASSY SEAT PTR (OLD)	
5	PTR-INST-STD	1	ASSY INST KIT PTR STD NA	
7	421-7987-PTR-U	1	STICKER ELEC SPEC PTR NA	
9	421-7988-91UK	4	STICKER SERIAL NUMBER UK	CABI,CCT,FLOOR,BBD,SEAT
11	421-7020UK	2	STICKER CAUTION FORK	
12	MGL-2003	1	DENOMINATION PLATE	
13	PK0241	1	PTR PALLET	
14	PK0242	1	SLEEVE PTR U/R	
15	LB1046	1	LABEL TESTED FOR ELEC. S	
16	PK0121	1	POLY COVER 750X1100X1800	
203	008-T00412-0B	2	M4X12 MSCR TMP PRF TH BN	(12)-2
204	008-T00430-0C	1	M4X30 MSCR TMP PRF TH CR	REAR HATCH-1

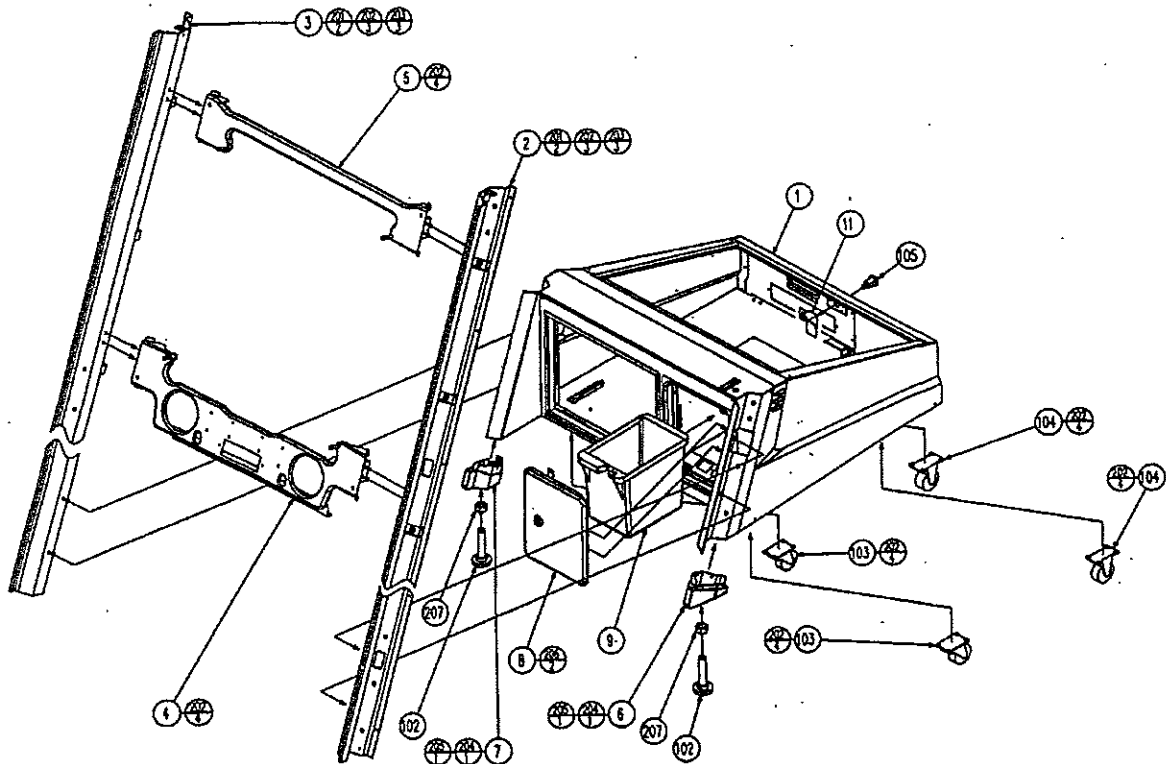
9.2. PTR-10001UK ASSY CABI STD NANA0 FST



No.	PART NUMBER	QTY	DESCRIPTION	COMPONENT REFERENCE
1	PTR-1100UK	1	ASSY FRAMEWORK BLACK	
2	NOA-1200	1	ASSY CRT COVER	
4	PTR-1410UK	1	ASSY FRONT PANEL PTR NAN	
5	CTA-1150UK	1	ASSY CC BOX WW	
6	NOA-4000UK	1	ASSY ELEC	
7	PTR-1750UK	1	ASSY SERVICE DOOR (BLACK	
8	PTR-1801UK	1	REAR HATCH (BLACK)	
9	NOB-1001UK	1	FRAME COVER UR R	
10	NOB-1002UK	1	FRAME COVER UR L	
11	NOA-1003	1	ENDCAP R	
12	NOA-1004	1	ENDCAP L	
13	PTR-1007UK	1	BILLBOARD HOLDER (BLACK)	
14	PTR-4300UK	1	ASSY MAIN BD STD	
15	280-6617	4	BUSH FOR TV LONG	
16	280-5113	4	COLLAR FOR NANA0 MONITOR	(101)-4
18	PTR-1006UK	4	SCR CAP	
19	PTR-1700UK	1	ASSY AC UNIT (BLACK)	
20	PTR-1116UK	1	LID COMUNIPORT (BLACK)	
21	PTR-20002UK	1	ASSY CONT PNL STD HAPP 7	
22	PTR-1150UK	1	ASSY WOOFER STD	
23	PTR-1001UK	1	CONTROL BOX	
24	CTA-1002	1	WIRE COVER	
25	PTR-1014UK	1	ENTRY COVER PTR	
26	421-7501-17	1	STICKER FL 20W	
27	837-13551-92	1	I/O CONTROL BD FOR JVS	
28	LB1103	1	STICKER CAUTION	INSIDE CONTROL PANEL (GEARS)
29	PTR-1005UK	1	REAR COVER UPPER (BLACK)	
30	NOA-1011	1	FL BRKT	
32	PTR-1008UK	1	HOLE LID (BLACK)	
33	PTR-1012UK	1	STICKER SIDE L	
34	PTR-1013UK	1	STICKER SIDE R	
35	RCR-1019	1	CHAIN HOLDER B	
37	LB1102	6	STICKER DANGEROUS VOLTAG	CRT,FL,HATCH,S/DOOR,CP,R LOCK
38	LB1104	1	STICKER CAUTION, HOT SUR	FL COVER
40	CTA-4200UK	1	ASSY XFMR	
41	CTA-2007UK	1	DRAINAGE GUTTER CE	(41)
42	OS1177	0.5	TAPE D/S PVC 50mm X 50 M	(41)
43	OS1239	0.1	SEALANT BLACK	(5)
44	CTA-1011UK	0.75	FOAM STRIP 8 X 6mm	(23)
101	200-5927	1	ASSY CLR DSPL 29TYPE 31K	
102	390-5695-40-CUK	1	FL TRAY 110V 40W (T12)	
103	390-5695-40-DUK	1	FL TUBE 40W 600L 1.5"DIA	
104	280-A01200-A	4	ROUTER TWIST D12 ADH	
105	280-A01248-PM	9	ROUTER TWIST D12 SO4.8 P	
106	280-A02048-PM	7	ROUTER TWIST D20 SO4.8 P	
107	280-A02000-A	5	ROUTER TWIST D20 ADH	
110	601-6231-D100	1	EDGING NEW TYPE	ROUND HOLE TO WOOFER BOX
111	280-N02310-0B	0.2	SLIT HARN WRAP 23mm DIA	WIRES THRU LH FRAME HOLE

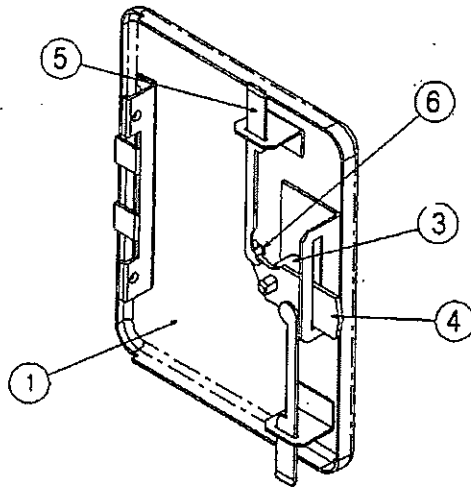
112	280-L00716-OS	3	STANDOFF 7OD 4ID 16L	(REMOTE BD)-3
113	OS1008	2	CABLE TIE, NYLON 150mm	
114	NOB-1117UK	1	WATER GUARD CE	AROUND MONITOR CHASSIS
115	OS1174	10	CABLE TIE, NYLON 100mm	
116	OS1230	1.18	FOAM STRIP 2mm X 10mm	2 X 0.59m TO (8)
117	OS1220	1	FOAM STRIP 8mmSQ ADHESIV	(21)-1
201	008-T00625-OC	14	M6X25 MSCR TMP PRF TH CR	(2)-6,(29)-4,(4)-4
202	030-000620-S	12	M6X20 BLT W/S PAS	(5)-4,(22)-4,(23)-4
203	FX0251	12	M6 WSHR 16OD FLT BZP	(5)-4,(22)-4,(23)-4
204	010-P00408	4	M4X8 TAPTITE POSI PAN	(6)-4
205	008-T00412-OC	30	M4X12 MSCR TMP PRF TH CR	
206	FX0013	4	M6 NUT FLG SER BZP	(101)-4
208	050-F00300	7	M3 NUT FLG SER BZP	(27)-4,(REMOTE BD)-3
209	032-000425	2	M4X25 BLT WING PAS	(14)-2
210	FX0301	2	M4 WSHR 16OD FLT BZP	(14)-2
211	008-B00820-OC	3	M8X20 MSCR TMP PRF BH CR	(21)-3
212	068-852116-OC	3	M8 WSHR FORM C FLT CRM	(21)-3
213	FX0302	10	M5 NUT FLG SER BZP	(21)-4,(EARTH)-6
214	FX0441	3	M4X20 MSCR POSI PAN BNP	(24)-3
215	000-P00416-W	2	M4X16 MSCR POSI PAN W/FS	(4)-2
216	000-T00408-OC	2	M4X8 MSCR POSI TH CRM	(32)-2
217	000-P00408-W	7	M4X8 MSCR POSI PAN W/FS	(30)-4,(EARTH)-3
221	000-P00512-W	2	M5X12 MSCR POSI PAN W/FS	(35)-2
223	FX0009	4	M4 WSHR FORM A FLT BZP	(6)-4
224	050-F00400	5	M4 NUT FLG	(102)-2,(5E)-1,(29E)-1,(31E)-1
225	FX0012	8	M6 WSHR 25OD FLT BZP	(40)-4,(101)-4
226	FX0056	4	M6X25 MSCR POSI PAN BZP	(40)-4
227	FX0021	2	M4X8 MSCR POSI PAN BZP	(103)-2
228	FX0155	3	N6X1/2" S/TAP POSI FLG B	(112)-3
301	CTA-6001UK	1	ASSY WIRE L	
302	CTA-6002UK	1	ASSY WIRE R	
311	600-7159-070	1	WIRE HARN JVS PWR 070CM	
312	600-7141-250	1	CABLE JVS TYPE A-B 250CM	
313	600-7009-2000	1	ASSY RGB CA D-SUB 15P 20	
319	CTA-60060	1	WIRE HARN A/D	
320	PTR-61056UK	1	WIRE HARN SW CONTROL	
321	CTA-60062	1	WIRE HARN I/O BOARD PWR	
322	CTA-60066UK	1	WIRE HARN SW UNIT EXT	
323	CTA-60067UK	1	WIRE HARN VOL EXT	
324	CTA-60068UK	1	WIRE HARN SPEAKER	
325	CTA-60069	1	WIRE HARN WOOFER	
326	NOB-60201UK	1	WIRE HARN FL NOB	
328	600-9070-45K	1	WIRE HARN EARTH 700mm M4	BASE LID TO XFMR
329	600-9060-45K	1	WIRE HARN EARTH 600mm M4	CONTROL BOX TO COIN BOX
330	600-9090-45K	1	WIRE HARN EARTH,900mm,M4	RH FRAME TOP TO FL BRKT
331	600-9010-44K	1	WIRE HARN EARTH 100mm M4	FL BRKT TO B/BD HOLDER
332	600-9080-45K	1	WIRE HARN EARTH 800mm M4	BASE TO RH FRAME (BOTTOM)

9.3. PTR-1100UK ASSY FRAMEWORK BLACK



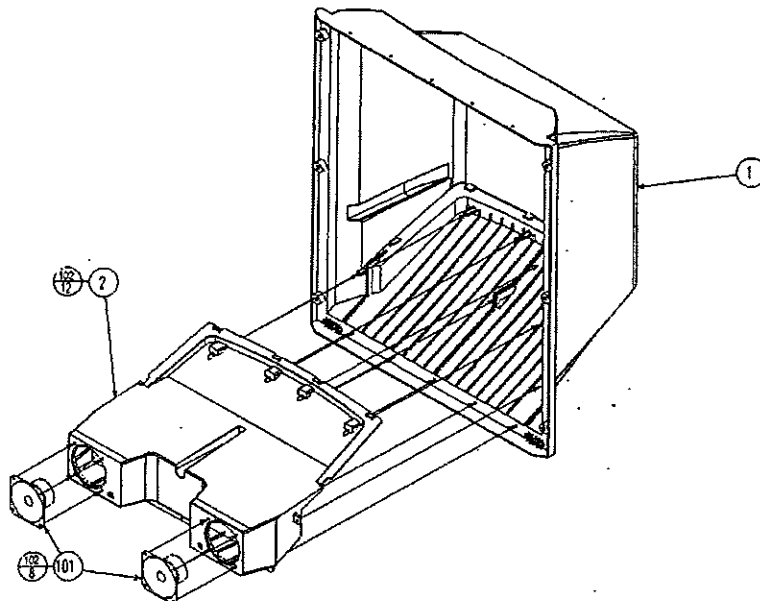
No.	PART NUMBER	QTY	DESCRIPTION	COMPONENT REFERENCE
1	PTR-1601UK	1	BASE BOX	
2	PTR-1101UK	1	MAIN FRAME U/R R (BLACK)	
3	PTR-1102UK	1	MAIN FRAME U/R L	
4	NOA-1111X	1	LOWER BEAM	
5	NOA-1112X	1	UPPER BEAM	
6	NOA-1113	1	HOOF R	
7	NOA-1114	1	HOOF L	
8	PTR-1900UK	1	ASSY CASH BOX DOOR (BLACK)	
9	253-5366	1	CASH BOX	
11	NOA-1115UK	1	TNG REAR HATCH	
102	601-5699X	2	LEG ADJUSTER BOLT M16x75	
103	601-10461UK	2	CASTOR 50 SWIVEL	
104	601-10462UK	2	CASTOR 50 FIXED	
105	220-5575UK	1	LOCK	
201	FX0013	4	M6 NUT FLG SER BZP	(2)-2,(3)-2
202	030-000620-S	22	M6X20 BLT W/S PAS	
203	068-652016	6	FLT WSHR 6.5-20X1.6	(2)-3,(3)-3
204	FX0302	2	M5 NUT FLG SER BZP	(6)-1,(7)-1
205	010-P00408	2	M4X8 TAPTITE POSI PAN	(6)-1,(7)-1
206	FX0072	2	M3X12 MSCR POSI CSK BZP	(8)-2
207	FX0272	2	M16 NUT BZP	(102)-2
208	010-P00306	1	M3X6 S-TITE SCR PH	(10)-1
209	FX0251	8	M6 WSHR 16OD FLT BZP	(4)-4,(5)-4
210	FAS-200004	8	M6X14 MSCR SKT CAP BNP	(104)-8
211	FX0398	8	M6 WSHR SPR BNP	(104)-8

9.4. PTR-1900UK ASSY CASH BOX DOOR (BLACK)



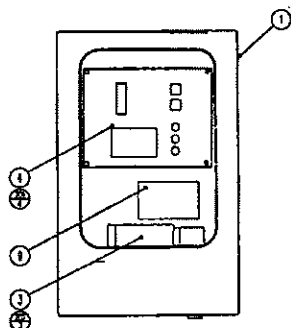
No.	PART NUMBER	QTY	DESCRIPTION	COMPONENT REFERENCE
1	PTR-1901XUK	1	CASH DOOR PAINTED (BLACK)	
3	220-5574UK	1	LOCK KEYED DIFFERENT	
4	HOT-1203XUK	1	CENTER TNG	
5	HOT-1204X	2	SIDE TNG	
6	065-E00300	2	E RING 3MM	

9.5. NOA-1200 ASSY CRT COVER



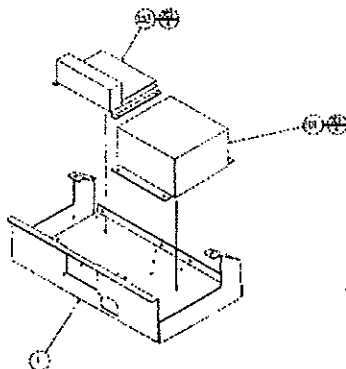
No.	PART NUMBER	QTY	DESCRIPTION	COMPONENT REFERENCE
1	NOA-1201	1	CRT COVER	
2	NOA-1202	1	SPEAKER BOX	
101	130-5205	2	SPEAKER 40HM 10W 100 W/S	
102	000-P00410-W	20	M4X10 MSCR POSI PAN W/FS	(101)-8,(2)-12
301	NOA-60031	1	WIRE HARN SPEAKER L	[NOT SHOWN]
302	NOA-60032	1	WIRE HARN SPEAKER R	[NOT SHOWN]

9.6. CTA-1150UK ASSY CC BOX WW



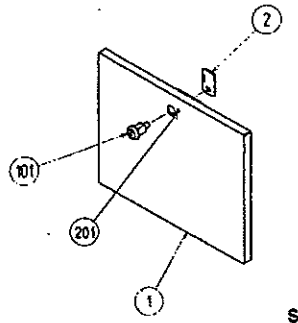
No.	PART NUMBER	QTY	DESCRIPTION	COMPONENT REFERENCE
1	CTA-1151UK	1	CC BOX WW	
3	CTA-1154UK	1	CHUTE CE	
4	VTS-STW-U	1	VTS BOARD UPRIGHT TYPE	
9	LB1103	1	STICKER CAUTION	
201	000-P00408-W	4	M4X8 MSCR POSI PAN W/FS	(4)-4
202	000-F00408	3	M4X8 MSCR POSI CSK BZP	(3)-3
301	CTA-60101UK	1	WIRE HARN VTS CTA	

9.7. NOA-4000UK ASSY ELEC



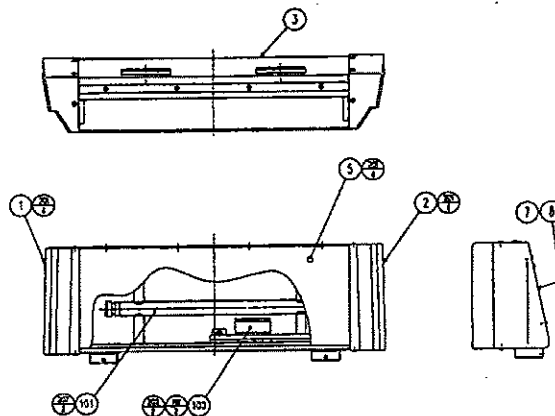
No.	PART NUMBER	QTY	DESCRIPTION	COMPONENT REFERENCE
1	NOA-4001X	1	ELEC BASE	
101	400-5397	1	SW REGU FOR JVS	
103	838-13616	1	AUDIO POWER AMP 2CH	
107	280-A02048-PM	4	ROUTER TWIST D20 SO4.8 P	[NOT SHOWN]
108	601-6231-B095	1	EDGE TRIM NEW TYPE 0.91t	BACK EDGE IN MIDDLE [NOT SHOWN]
109	EP1317	2	FERRITE CORE ROUND CABLE	SW REGU INLET-1, OUTLET-1 [NOT SHOWN]
110	280-A01248-PM	2	ROUTER TWIST D12 SO4.8 P	[NOT SHOWN]
111	280-A02000-A	1	ROUTER TWIST D20 ADH	[NOT SHOWN]
201	010-P00408	4	M4X8 TAPTITE POSI PAN	(101)-4
202	010-P00308	4	M3X8 TAPTITE POSI PAN BZ	(103)-4
303	NOB-60013UK	1	WIRE HARN SW REGU INT	[NOT SHOWN]
304	NOA-60014	1	WIRE HARN I/O BD PWR	[NOT SHOWN]
305	NOB-60202UK	1	WIRE HARN AUDIO POWER-IN	[NOT SHOWN]
306	600-7159-039	1	WIRE HARN JVS PWR 039CM	[NOT SHOWN]

9.8. PTR-1750UK ASSY SERVICE DOOR (BLACK)



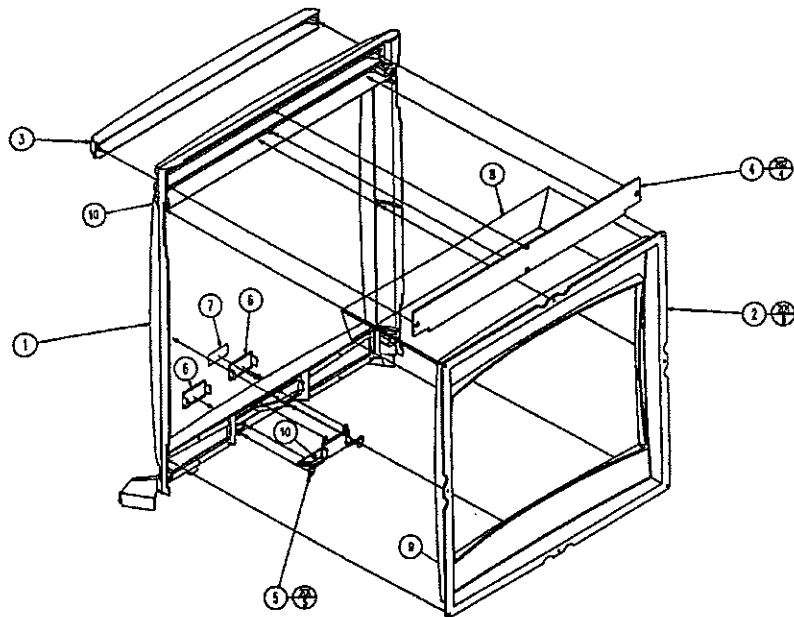
No.	PART NUMBER	QTY	DESCRIPTION	COMPONENT REFERENCE
1	PTR-1751UK	1	SERVICE DOOR (BLACK)	
2	DP-1167UK	1	TNG LKG UK	
101	220-5575UK	1	LOCK	
201	008-T00430-0C	1	M4X30 MSCR TMP PRF TH CR	INSERT HALF WAY SO TNG OPENS

9.9. PTR-1300UK ASSY BILLBOARD



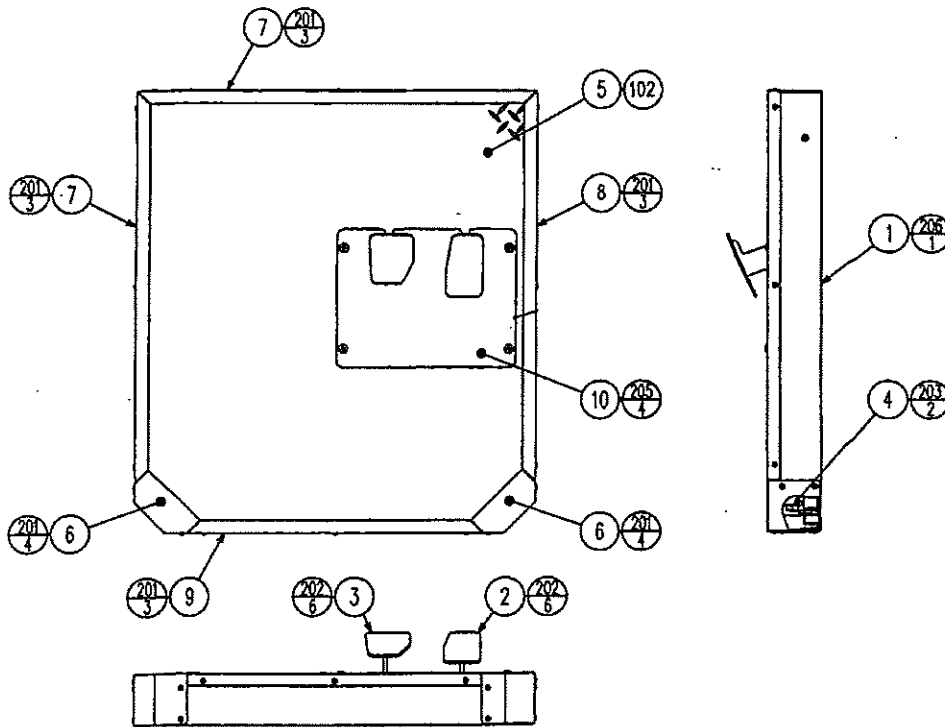
No.	PART NUMBER	QTY	DESCRIPTION	COMPONENT REFERENCE
1	PTR-1301UK	1	BILLBOARD COVER L	
2	PTR-1302UK	1	BILLBOARD COVER R	
3	PTR-1303UK	1	BILLBOARD BASE (BLACK)	
5	PTR-1304UK	1	BILLBOARD PLATE	
7	LB1102	1	STICKER DANGEROUS VOLTAGE	(3)-1
8	LB1104	1	STICKER CAUTION, HOT SUR	(3)-1
9	421-7501-12	1	STICKER FL 15W	(103)-1
101	LT1001	1	TUBE FLUORESCENT 15W E30	
102	280-A00900-A	5	ROUTER TWIST D9 ADH	
103	390-5637-15AUK	1	FL TRAY 15W 100V	
201	000-T00416-0C	12	M4X16 MSCR POSI TH CRM	(1)-4,(2)-4,(5)-4
203	050-F00400	3	M4 NUT FLG	(103)-2,(EARTH)-1
206	FX0301	2	M4 WSHR 16OD FLT BZP	(103)-2
207	FX0021	2	M4X8 MSCR POSI PAN BZP	(101)-2
301	CTA-60020UK	1	WIRE HARN BILLBOARD	
302	NOB-60201UK	1	WIRE HARN FL NOB	

9.10. PTR-1410UK ASSY FRONT PANEL PTR NANA0 FST



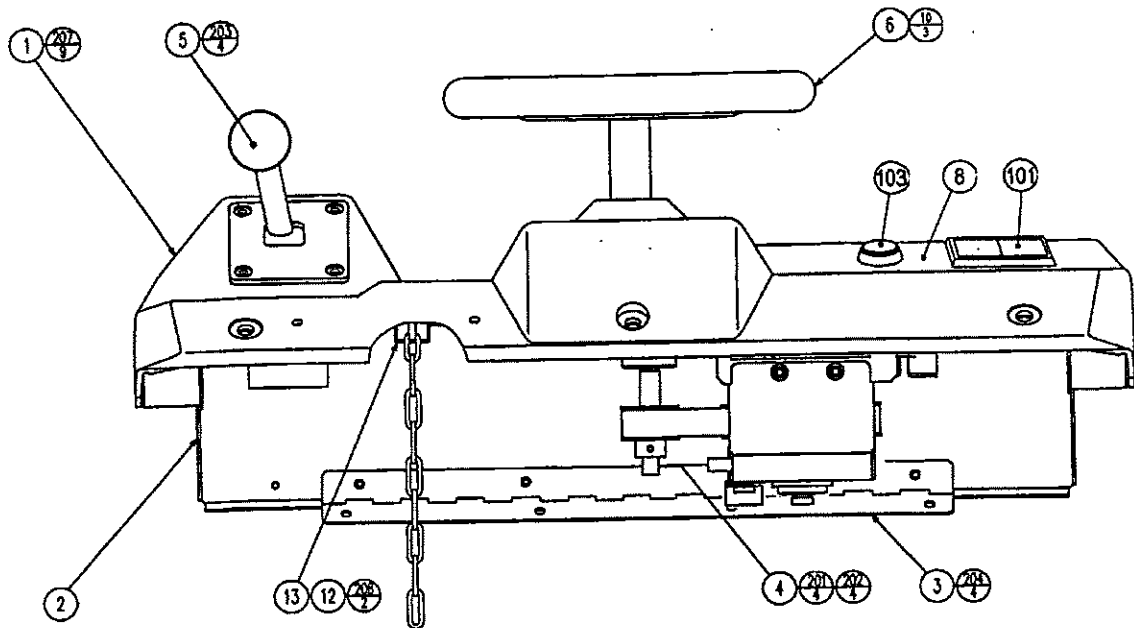
No.	PART NUMBER	QTY	DESCRIPTION	COMPONENT REFERENCE
1	PTR-1501UK	1	FRONT PANEL PTR	
2	NOA-1502-02	1	INNER MASK NF	
3	NOA-1503	1	LIGHT COVER	
4	NOA-1504UK	1	PRISM PLATE	
5	PTR-1505UK	1	LID GCS	
6	PTR-1506UK	2	LID VMS	CLIP-IN
7	NOA-1507	1	EMBLEM NAOMI	
8	PTR-1401UK	1	STICKER FRONT UPPER	
9	PTR-1403UK	1	STICKER SUB INSTR	
201	000-P00412-W	13	M4X12 MSCR POSI PAN W/FS	(2)-8,(5)-5
202	FX0159	4	N6X5/8" S/TAP POSI PAN B	(4)-4

9.11. PTR-1200UK ASSY FLOOR STD



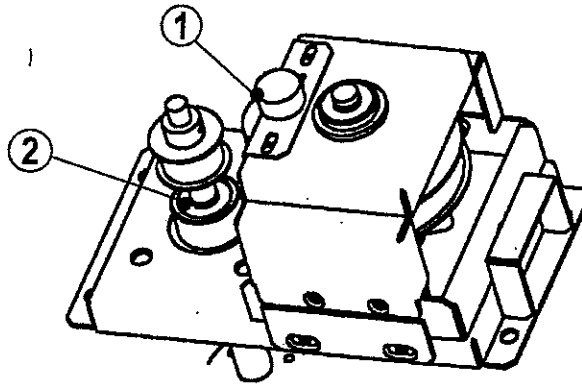
No.	PART NUMBER	QTY	DESCRIPTION	COMPONENT REFERENCE
1	CTA-1501UK	1	FLOOR BASE	
2	CTA-1600	1	ACCEL UNIT	
3	CTA-1650	1	BRAKE UNIT	
4	CTA-1502	2	LEVEL ADJUSTER	
5	PTR-1201UK	1	FLOOR MAT	
6	CTA-1504UK	2	CORNER PROTECTOR	
7	CTA-1506UK	1	SASH SIDE	
8	CTA-1505	2	SASH SIDE	
9	CTA-1507	1	SASH REAR	
10	CTA-1508	1	FLOOR LID	
101	280-A01200-A	1	ROUTER TWIST D12 ADH	
102	OS1177	1.5M	TAPE D/S PVC 50mm X 50 M	(5)-1.5
201	000-T00408-OC	20	M4X8 MSCR POSI TH CRM	(6)-8,(7)-9,(9)-3
202	FX0013	12	M6 NUT FLG SER BZP	(2)-6,(3)-6
203	FX0206	2	M10 NUT BZP	(4)-2
205	000-T00620-OC	4	M6X20 MSCR POSI TH CRM	(10)-4
206	050-F00400	1	M4 NUT FLG	(EARTH)-1
301	CTA-60030	1	WIRE HARN FLOOR TUBE	

9.12. PTR-20002UK ASSY CONT PNL STD HAPP 720DEG



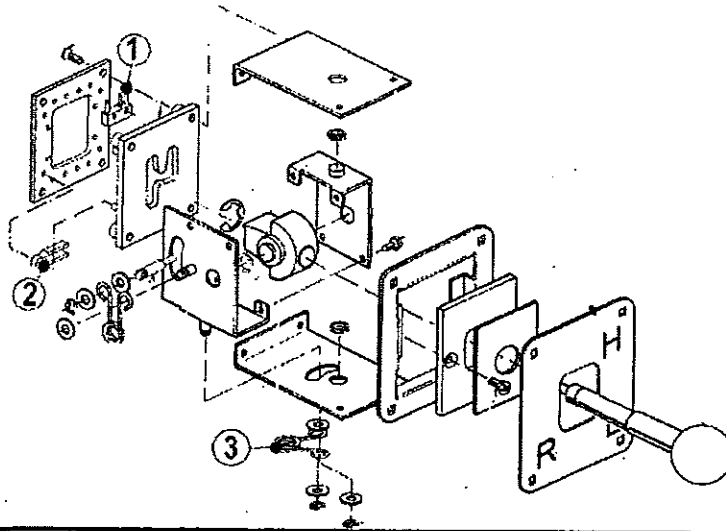
No.	PART NUMBER	QTY	DESCRIPTION	COMPONENT REFERENCE
1	PTR-2003-AUK	1	CONTROL PANEL BLANK	
2	PTR-2002UK	1	CONTROL PANEL BRKT	
3	CTA-2003	1	HINGE 456	
4	PTR-2100UK	1	ASSY 720DEG MECHA W/BOSS	
5	PTR-2200UK	1	ASSY 3-WAY SHIFTER W/HARN	
6	PTR-2001UK	1	HAPP WHEEL 50-2782-00 D3	
8	PTR-2004UK	1	STICKER START,VR,HORN	
10	PTR-2006UK	3	PTR WHEEL TRIM	ONE EACH SPOKE
12	CTA-2006	1	CHAIN HOLDER 220	
13	RCR-1019	1	CHAIN HOLDER B	
101	PTR-2010UK	1	SW PB DUAL RECT YE/BL 6V	YELLOW SW ON LEFT
102	280-A00900-A	6	ROUTER TWIST D9 ADH	
103	PTR-2020UK	1	SW PB 44DIA WHITE W/HORN	
201	FX0220	4	M8 NUT NLK BZP	(4)-4
202	FX0365	4	M8 WSHR FORM A FLT BZP	(4)-4
203	008-T00512-OB	4	M5X12 MSCR TMP PRF TH BN	(5)-4
204	FX0302	5	M5 NUT FLG SER BZP	(3)-4,(EARTH)-1
207	008-T00412-OB	9	M4X12 MSCR TMP PRF TH BN	(1)-9
208	000-P00512-W	2	M5X12 MSCR POSI PAN W/FS	(13)-2
304	PTR-61057UK	1	WIRE HARN I/P & O/P	
305	PTR-61059UK	1	WIRE HARN PUSHBUTTONS	
306	CTA-60065	1	WIRE HARN HANDLE EXT	
310	PTR-61058UK	1	WIRE HARN SHIFTER	
311	600-9010-55K	1	WIRE HARN EARTH 100mm M5	CP BASE TO CONTROL PANEL

9.13. PTR-2100UK ASSY 720 DEG MECHA



No.	PART NUMBER (HAPP)	QTY	DESCRIPTION	COMPONENT REFERENCE
1	50-8026-00	1	VOLUME	
2	50-8143-00	2	EXTENSION SPRING	NOT SHOWN
3	50-8130-00	4	BEARING	

9.14. PTR-2200UK ASSY 3-WAY SHIFTER W/HARN



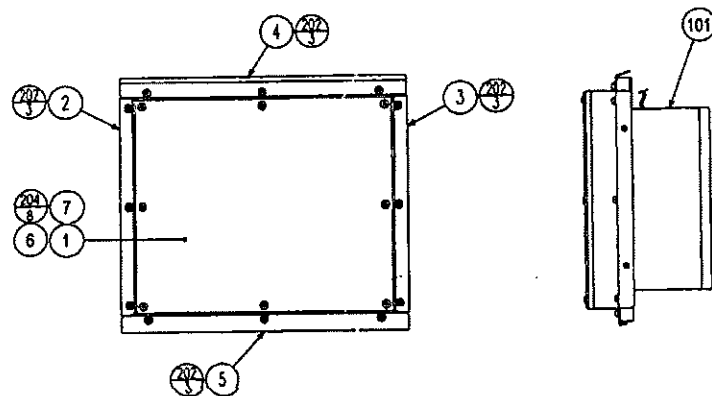
No.	PART NUMBER (HAPP)	QTY	DESCRIPTION	COMPONENT REFERENCE
1	95-4118-00	3	MICROSWITCH	
2	96-0089-00	3	CLIP	
3	50-8294-00	2	TORSION SPRING	

9.15. PTR-5000UK ASSY SEAT PTR

SEE SECTION 3.5.4.

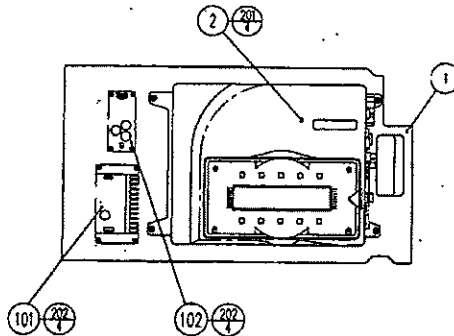
No.	PART NUMBER	QTY	DESCRIPTION	COMPONENT REFERENCE
1	CTA-5001UK	1	SEAT FRAME R	
2	CTA-5002UK	1	SEAT FRAME L	
3	CTA-5003UK	1	SEAT FRAME COVER R	
4	CTA-5004UK	1	SEAT FRAME COVER L	
5	PTR-5005UK	1	SEAT BENCH	
7	PK0238	1	CARTON BOX NAO U/R DRIVE	
8	PTR-5007UK	1	PTR CUSHION	(5)-1
101	OS1019	1	SELF SEAL BAG 9X12.3/4	
102	421-7988-91UK	1	STICKER SERIAL NUMBER UK	
103	244-D05025-01	1.8	TAPE D/S 50MMX55M ROLL 3	(8)-3X0.6m
201	030-000825-SB	8	M8X25 BLT W/S BNP	(1)-4,(2)-4,
202	068-852216-OB	8	M8 WSHR 22OD FLT BNP	(1)-4,(2)-4,
203	008-T00416-OC	8	M4X16 MSCR TMP PRF TH CR	(3)-4,(4)-4
204	280-K02529-WX	10	DRIVE FASTENER 25FH 24L	(8)-10
205	FX0396	8	M6X16 SET BNP	(5)-8
206	FS1018	8	M6 WSHR FORM C FLT BNP	(5)-8
401	420-6545-03UK	1	INSTALL INSTR PTR SEAT	

9.16. PTR-1150UK ASSY WOOFER STD



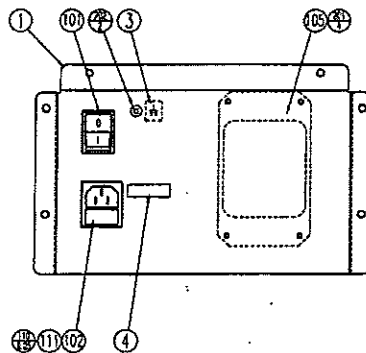
No.	PART NUMBER	QTY	DESCRIPTION	COMPONENT REFERENCE
1	PTR-1151UK	1	WOOFER PLATE	
2	CTA-2202	1	WOOFER BRKT L	
3	CTA-2203	1	WOOFER BRKT R	
4	CTA-2204	1	WOOFER BRKT LOWER	
5	CTA-2205	1	WOOFER BRKT LOWER	
6	JBA-1151	2	WOOFER CUSHION H	
7	JBA-1152	2	WOOFER CUSHION V	
101	130-5208-91-GO	1	WOOFER BOX 40HM 75W GOLD	
202	000-P00520-WB	12	M5X20 MSCR POSI PAN W/FS	(2)-3,(3)-3,(4)-3,(5)-3
204	000-T00560-OB	8	M5X60 MSCR POSI TH BNP	(1)-8

9.17. PTR-4300UK ASSY MAIN BD STD



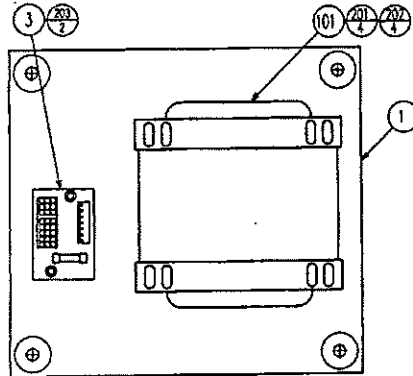
No.	PART NUMBER	QTY	DESCRIPTION	COMPONENT REFERENCE
1	CTA-4101UK	1	WOODEN BASE MAIN	
2	840-0037D-02	1	ASSY CASE NAO PTR	
101	838-13758	1	LOWPASS AMP CTA	
102	838-13759	1	RECT BD CTA	
106	LB1101	1	STICKER WARNING BATTERY	
201	000-P00416-W	4	M4X16 MSCR POSI PAN W/FS	(2)-4
202	FX0151	8	N4X1" S/TAP POSI PAN BZP	(2)-4
302	CTA-60101	1	WIRE HARN VOL AND SOUND	(101)-4,(102)-4
303	CTA-60102	1	WIRE HARN WFR AND PWR	
304	CTA-60103UK	1	WIRE HARN AUDIO LP POWER	
305	NOB-60203UK	1	WIRE HARN EMC EMISSIONS	G/B R. FOOT TO XFMR

9.18. PTR-1700UK ASSY AC UNIT (BLACK)



No.	PART NUMBER	QTY	DESCRIPTION	COMPONENT REFERENCE
1	PTR-1701UK	1	AC BRKT (BLACK)	
3	LB1096	1	STICKER PROTECTIVE EARTH	NEXT TO EARTH STUD ON INSIDE
4	421-6595-5000-T	1	STICKER FUSE 5000mA TYPE	NEXT TO IEC INLET ON OUTSIDE
101	SW1021	1	SWITCH ROCKER 250V AC	
102	EP1302	1	EUROSOCKET FUSED 10A 250	
105	EP1379	1	FILTER EMI 10A ARCOTRONI	
110	310-5029-D508	0.05	HEAT SHRINK SLEEVING 50.	(102)-0.05m
111	514-5078-5000	1	FUSE 5X20 CERAMIC SB 500	(102)-1
201	000-P00308-W	4	M3X8 MSCR POSI PAN W/FS	(105)-4
202	050-F00400	2	M4 NUT FLG	EARTH - 2
301	NOB-60001UK	1	WIRE HARN AC BRKT (NOB)	
302	NOB-60004UK	1	WIRE HARN AC OUT	
303	600-9030-45K	1	WIRE HARN EARTH 300mm M4	AC BRKT TO XFMR
304	600-9080-45K	1	WIRE HARN EARTH 800mm M4	BASE TO RH FRAME (BOTTOM)
305	600-9025-44K	1	WIRE HARN EARTH 250mm M4	AC BRKT TO BASE

9.19. CTA-4200UK ASSY XMFR



No.	PART NUMBER	QTY	DESCRIPTION	COMPONENT REFERENCE
1	CTA-4201UK	1	WOODEN BASE XFMR CTA	
3	838-11856CE-02	1	CONN BD W/FUSE 6.3A CE	
101	560-5422-01UK	1	XFMR CTA	
201	000-P00416-W	4	M4X16 MSCR POSI PAN W/FS	(101)-4
202	FX0301	4	M4 WSHR 16OD FLT BZP	(101)-4
203	FX0151	2	N4X1" S/TAP POSI PAN BZP	(3)-2
301	CTA-60013UK	1	WIRE HARN CONN BD OUT	

9.20. CTA-6001UK ASSY WIRE L

ASSEMBLY NOT SHOWN

No.	PART NUMBER	QTY	DESCRIPTION	COMPONENT REFERENCE
101	601-0460-RUK	10	CABLE TIE 100mm X 2mm ON	
301	NOB-60043	1	WIRE HARN PWR I/O BD	
302	NOB-60044	1	WIRE HARN SOUND VOL	
303	NOB-60045	1	WIRE HARN SPEAKER L	
304	NOB-60046	1	WIRE HARN SPEAKER R	
308	600-7158-0100	1	CA AUDIO RCA TO RCA 2CH	
309	CTA-60002	1	WIRE HARN ACCEL BRAKE	
310	CTA-60003	1	WIRE HARN WOOFER EXT	
312	CTA-60004	1	WIRE HARN WOOFER VOL EXT	
313	CTA-60005	1	WIRE HARN CENTER SOUND	
314	600-9075-45K	1	WIRE HARN EARTH 750mm M4	CONTROL BOX TO LH FRAME TOP
315	600-9055-45K	1	WIRE HARN EARTH 550mm M4	BASE TO LH FRAME BOTTOM

9.21. CTA-6002 ASSY WIRE R

ASSEMBLY NOT SHOWN

No.	PART NUMBER	QTY	DESCRIPTION	COMPONENT REFERENCE
101	601-0460-RUK	10	CABLE TIE 100mm X 2mm ON	
301	CTA-60041UK	1	WIRE HARN AC EXT	
303	CTA-60001UK	1	WIRE HARN AC EXT	

9.22. PTR-INST-STD ASSY INST KIT PTR STD NANA0 FST

ASSEMBLY NOT SHOWN

No.	PART NUMBER	QTY	DESCRIPTION	COMPONENT REFERENCE
1	PTR-1300UK	1	ASSY BILLBOARD	
2	PTR-1200UK	1	ASSY FLOOR STD	
3	CTA-0001	1	JOINT BRKT L	
4	CTA-0002	1	JOINT BRKT R	
5	PTR-1402UK	1	STICKER CARGO MULTI	
6	PTR-2005UK	1	STICKER SLIPSTREAM MULTI	
8	PTR-0003UK	1	POP PANEL PTR STD	
18	420-5927	1	SERVICE MANUAL NANA0 FST	
19	SAECE-057	1	DECLARATION OF CONFORMIT	
101	514-5078-5000	1	FUSE 5X20 CERAMIC SB 500	
201	030-000820-SB	2	M8X20 BLT W/S BNP	(3)-1,(4)-1
202	068-852216-OB	2	M8 WSHR 22OD FLT BNP	(3)-1,(4)-1
203	FAS-300014	2	HEX BLT W/FS CRM M6X16	(1)-2
401	420-6545-02UK	1	SERVICE MANUAL PTR STD	
406	OS1019	1	SELF SEAL BAG 9X12.3/4	
407	PK0237	1	INST KIT BOX NAO U/R DRI	
408	PK0061	0.025	BUBBLE WRAP LARGE 1.5M X	
411	540-0006-01	1	WRENCH M4 TMP PRF	
412	540-0007-01	1	WRENCH M5 TMP PRF	
413	540-0009-01	1	WRENCH M8 TMP PRF	
414	540-0015-01	1	WRENCH M6 TMP PRF	
415	220-5484-H	1	VOL 5-K-OHM HAPP 50-8026	SPARE
416	421-PTR	2	STICKER PTR	(407)-2

10. APPENDIX A - ELECTRICAL SCHEMATIC

10.1. WIRE COLOURS

THE WIRE COLOUR CODE IS AS FOLLOWS:

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

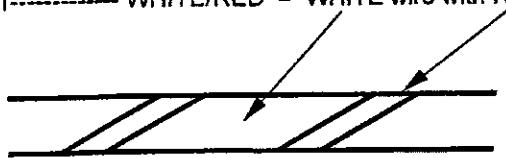
Wires other than those of any of the colours listed above will be displayed by 2 alphanumeric characters:

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

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

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

[Example] 51----- WHITE/RED = WHITE wire with RED stripes

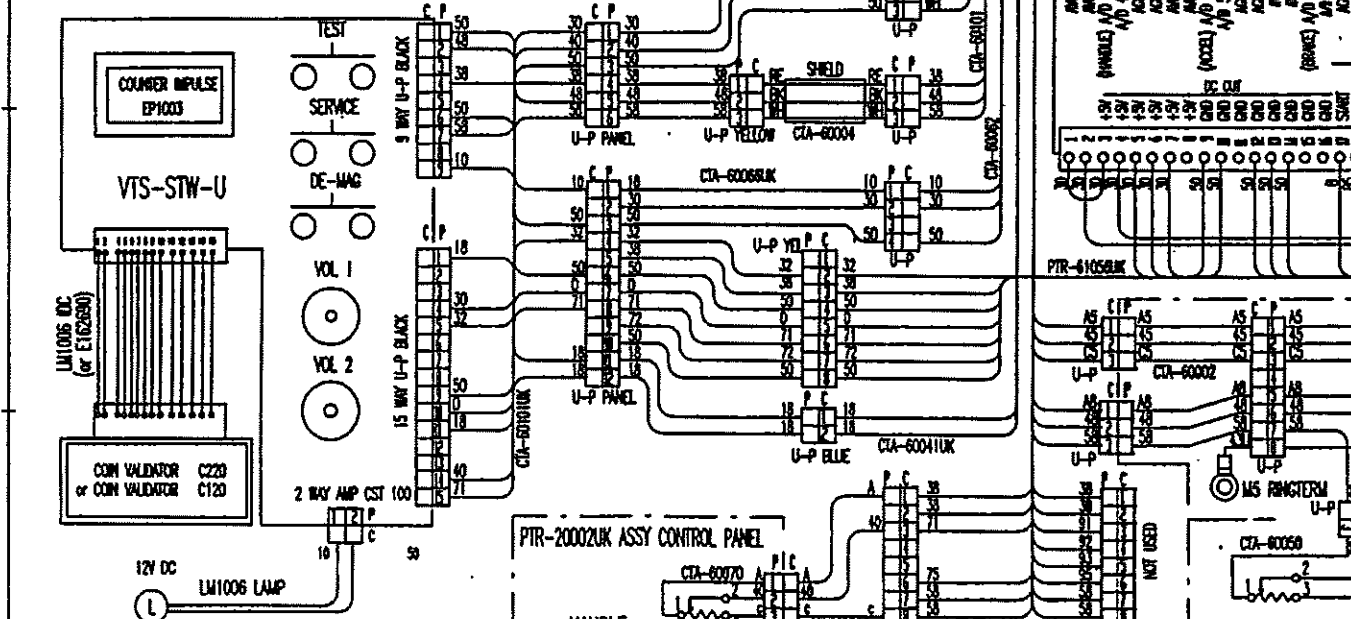
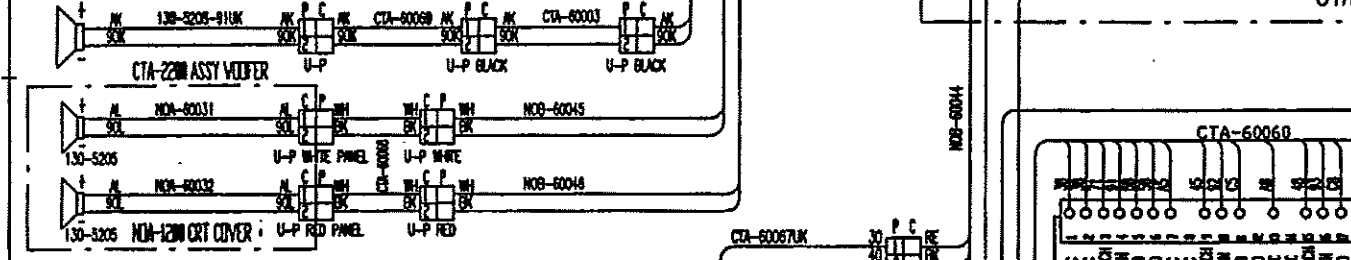
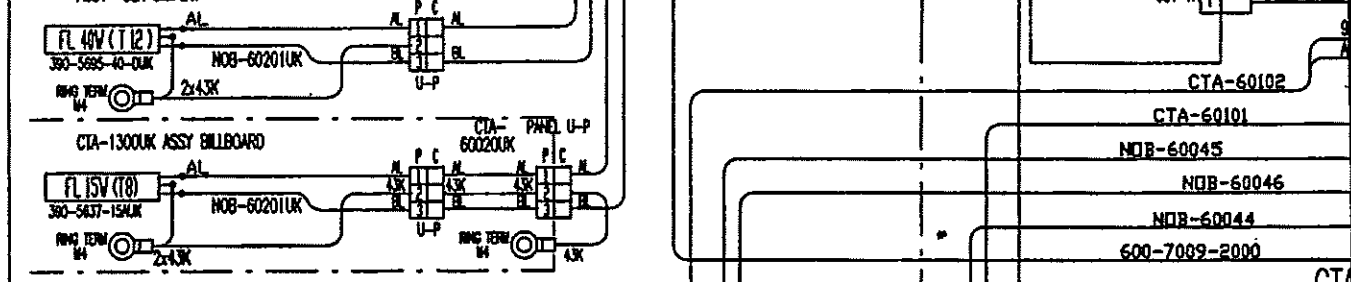
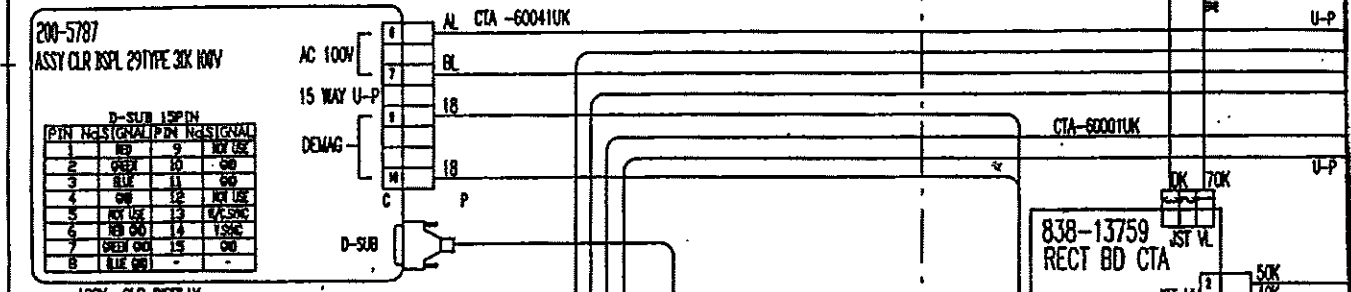
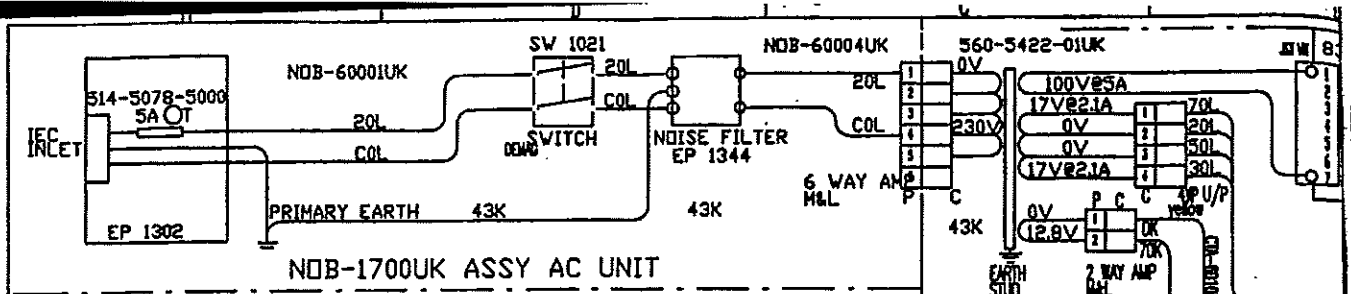


Note 2: The character following the wire colour code indicates the size of the wire.

K:	AWG18, UL1015
L:	AWG20, UL1007
None	AWG22, UL1007

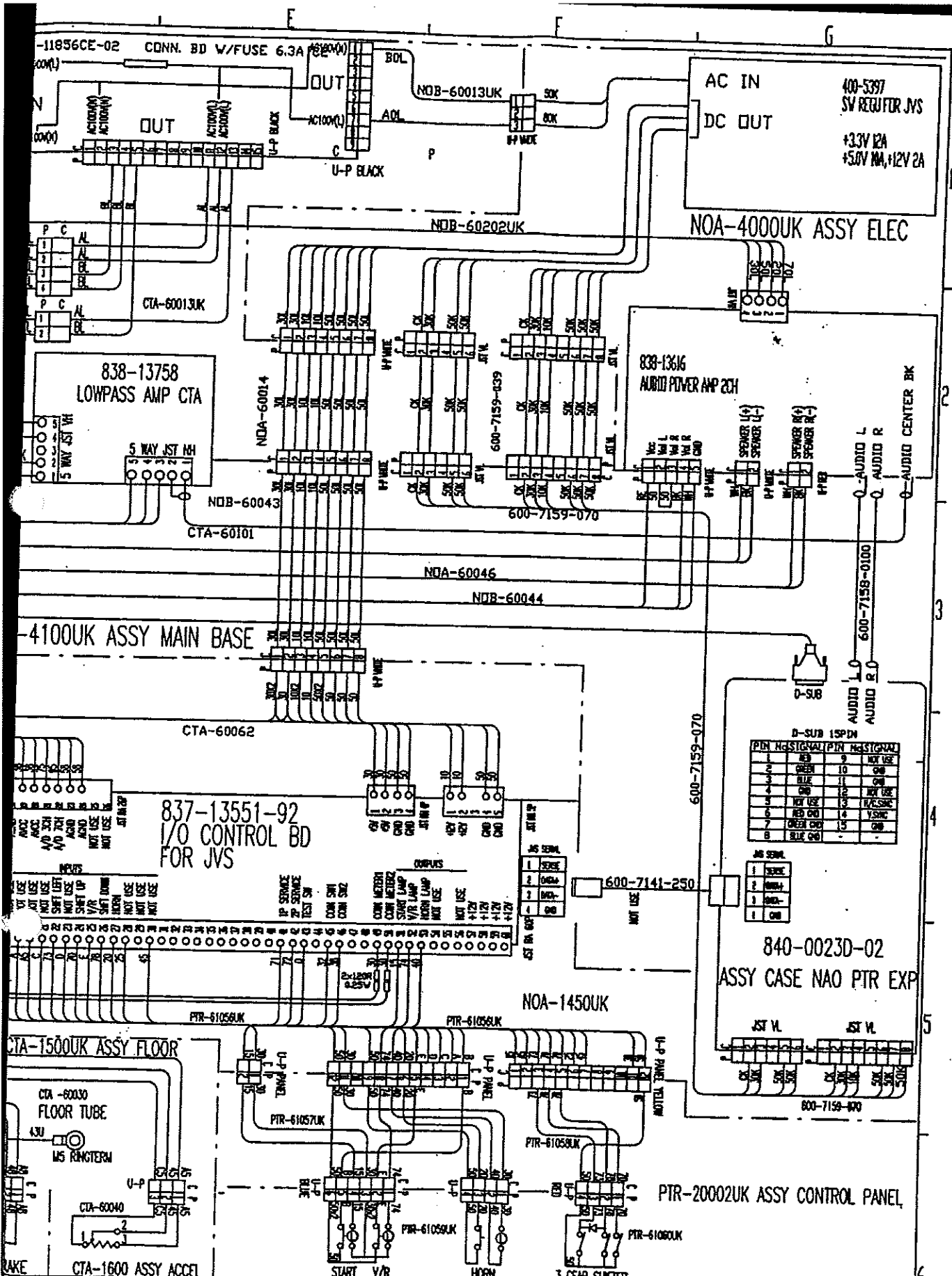
10.2. ELECTRICAL SCHEMATIC

The following pages contains the electrical schematic for this machine.



HANDLE		U-P PANEL		U-P PANEL		U-P PANEL		U-P PANEL	
BLACK	1	1	1	1	1	1	1	1	1
BROWN	2	2	2	2	2	2	2	2	2
WHITE	3	3	3	3	3	3	3	3	3
GREEN	4	4	4	4	4	4	4	4	4
YELLOW	5	5	5	5	5	5	5	5	5
RED	6	6	6	6	6	6	6	6	6
GRAY	7	7	7	7	7	7	7	7	7
BLUE	8	8	8	8	8	8	8	8	8
PINK	9	9	9	9	9	9	9	9	9
ORANGE	10	10	10	10	10	10	10	10	10
RED	11	11	11	11	11	11	11	11	11
GRAY	12	12	12	12	12	12	12	12	12
BLUE	13	13	13	13	13	13	13	13	13
PINK	14	14	14	14	14	14	14	14	14
ORANGE	15	15	15	15	15	15	15	15	15
RED	16	16	16	16	16	16	16	16	16
GRAY	17	17	17	17	17	17	17	17	17
BLUE	18	18	18	18	18	18	18	18	18
PINK	19	19	19	19	19	19	19	19	19
ORANGE	20	20	20	20	20	20	20	20	20
RED	21	21	21	21	21	21	21	21	21
GRAY	22	22	22	22	22	22	22	22	22
BLUE	23	23	23	23	23	23	23	23	23
PINK	24	24	24	24	24	24	24	24	24
ORANGE	25	25	25	25	25	25	25	25	25
RED	26	26	26	26	26	26	26	26	26
GRAY	27	27	27	27	27	27	27	27	27
BLUE	28	28	28	28	28	28	28	28	28
PINK	29	29	29	29	29	29	29	29	29
ORANGE	30	30	30	30	30	30	30	30	30
RED	31	31	31	31	31	31	31	31	31
GRAY	32	32	32	32	32	32	32	32	32
BLUE	33	33	33	33	33	33	33	33	33
PINK	34	34	34	34	34	34	34	34	34
ORANGE	35	35	35	35	35	35	35	35	35
RED	36	36	36	36	36	36	36	36	36
GRAY	37	37	37	37	37	37	37	37	37
BLUE	38	38	38	38	38	38	38	38	38
PINK	39	39	39	39	39	39	39	39	39
ORANGE	40	40	40	40	40	40	40	40	40
RED	41	41	41	41	41	41	41	41	41
GRAY	42	42	42	42	42	42	42	42	42
BLUE	43	43	43	43	43	43	43	43	43
PINK	44	44	44	44	44	44	44	44	44
ORANGE	45	45	45	45	45	45	45	45	45
RED	46	46	46	46	46	46	46	46	46
GRAY	47	47	47	47	47	47	47	47	47
BLUE	48	48	48	48	48	48	48	48	48
PINK	49	49	49	49	49	49	49	49	49
ORANGE	50	50	50	50	50	50	50	50	50

22/0



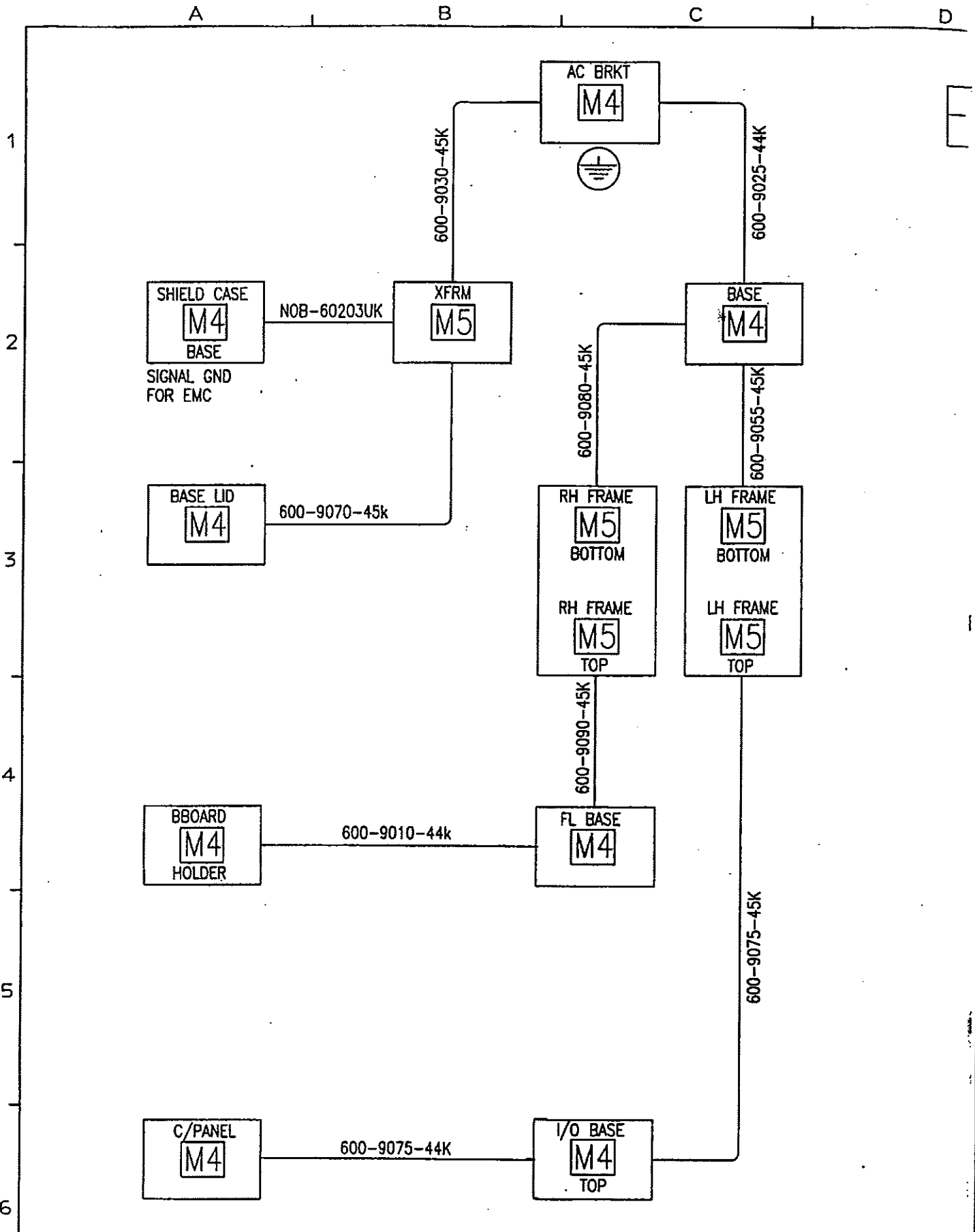
D-SUB 15PIN

PIN	NO SIGNAL	PIN	NO SIGNAL
1	RED	9	NOT USE
2	GREEN	10	NOT USE
3	BLUE	11	NOT USE
4	ORANGE	12	NOT USE
5	RED ORN	13	NOT USE
6	GREEN ORN	14	NOT USE
7	BLUE ORN	15	NOT USE
8	BLUE ORN		

CHECKED	D.CHECKED	APPROVED

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18 WHEELER STD PTR STD 1/2



8	BLACK	F	LIGHT GREEN	40	WHITE AWG20
7	ORANGE	G	PURPLE	41	WHITE RED
6	WHITE	H	BROWN	42	WHITE
5	GREEN	I	SKY BLUE	EXAMPLE	
4	YELLOW	J	PINK	U	AWG16 UL1075
3	BLUE	K	GRAY	V	AWG18 UL1075
2	RED	L	WINE COLOR	W	AWG22 UL1075
1	RED	M	GRAY	X	AWG24 UL1075

DRAWN
 M.Tor
 PTR-0000UK
 07/03/06
 TOP ASSY

ARTH MAP & CODE

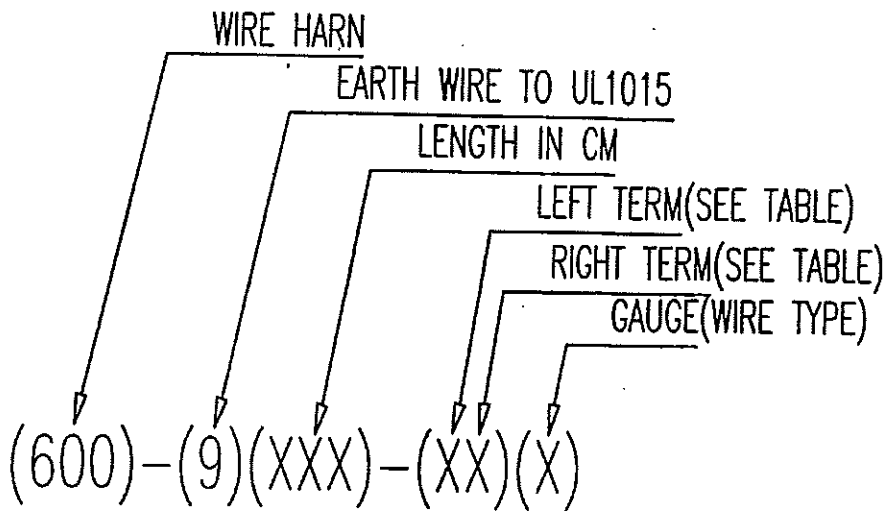


TABLE OF TERMINALS CODE

1	A	0.110" FASTON 0.3mm TAB	M	AMP WML SOCKET 350636-1
2	B	0.110" FASTON 0.5mm TAB	N	
3	C	0.110" FASTON 0.8mm TAB	P	
4	M4 RING TERM	D 0.187" FASTON 0.5mm TAB	R	
5	M5 RING TERM	E 0.187" FASTON 0.8mm TAB	S	
6	M6 RING TERM	F 0.250" FASTON 0.8mm TAB	T	
7		G BOOTLACE SPLICE AMP 92833-2	V	
8	M8 RING TERM	H BOOTLACE SPLICE AMP 92836-2	W	
9		J AMP U/P PIN 175150-1	X	
		K AMP U/P SOCKET 175152-1	Y	
		L AMP WML PIN 350687-1	Z	

TABLE OF WIRE GAUGE (TYPE)

L	20 AWG WIRE
K	18 AWG WIRE
U	16 AWG WIRE
R	15 AMP BRAD
S	125 AMP BRAD
T	60 AMP BRAD
V	90 AMP BRAD
W	15 AMP BRAD (INSULATED)
X	25 AMP BRAD (INSULATED)
Y	60 AMP BRAD (INSULATED)
Z	90 AMP BRAD (INSULATED)

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18 WHEELER U/R

PTR STD 2/2

DESCRIPTION

DIAGRAM No.

E

F

88

G