SEGA

MANX TT
SuperBike

Built in the UK by

Deith Leisure

A MEMBER OF THE SEGA GROUP

420-6207-03UK

CONTENTS

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+-----------------------------------------------------------+
|                    SPECIFICATIONS                         |
|                                                           |
|   Insallatin Space:    2383mm X 1068mm (93.8 " X  42 ")   |
|                                                           |
|   Height:              2015mm                             |
|   Weight:              470Kgs                             |
|                                                           |
|   Power, Max.          820 Watts at 220 V                 |
|                                                           |
|                                                           |
|                                                           |
|   For TAIWAN                       N/A                     |
|   Power, Current                   N/A                     |
|                                                           |
|   Monitor:                         N/A                     |
+-----------------------------------------------------------+
```

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

INTRODUCTION TO THIS OWNERS MANUAL.

SEGA ENTERPRISES LTD, supported by its high electronic technology of LSI's, microprocessors, etc. and with with a wealth of experience, has for more that 30 years been supplying various innovative and popular game machines to the world market. This Owners Manual is intended to provide detailes descriptions together with all the necessary information covering the general operation of electronic assemblies, electromechanicals, servicing control, spare parts, etc. as regards MANX TT SUPERBIKE TWIN, a new SEGA product.
This manual is intended for those who have a knowledge of electricity and technical expertise especially in IC's, CRT's, microprocessors, etc. Carefully read this manual to acquire sufficent knowledge before working on the machine. Should there be a malfunction, non-technical personnel should under ne circumstances to the interior systems.. Should such a situation arise immediately contact our main office or the naerest branch office listed below;

SEGA ENTERPRISES EUROPE LIMITED/AMUSEMENT MACHINE SALES DIVISION
Unit 2 Industrial Estate, Leigh Close, New Malden, Surrey KT3 3NL, England
PHONE: 0181 336 1222
FAX: 0181 336 1715

SEGA SOUTHERN EUROPE LIASON OFFICE
Calle Vallellano, 19-23, 1 A,37008-Salamanca, Spain.
PHONE: 923 265893
FAX: 923 265913

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

To ensure the safe usage of the product, be sure to read the following before using the product. The following instructions are intended for the owners, operators and the personnel in charge of the operation of the product. After carefully reading and sufficiently understanding the instructions, handle the product appropriately.

Herein, explanations which require special attention are enclosed with dual lines. Depending on the potentially hazardous degrees, terms of WARNING!, CAUTION! and IMPORTANT! are used. SEGA is not liable whatsoever, even during the Liability period, for any injury or damage caused by the usage in the manner counter to the instructions herein stated. In order to prevent accidents, warning stickers and printed instructions are applied to the places where a potentially hazardous situation relating to the product can occur. For safety cause, be sure to comply with such warnings.

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

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

IMPORTANT! This is cautionary information which should be complied with when handling the product. Indicates that mishandling the product by disregarding this will cause a potentially hazardous situation which might not result in personal injury but can damage the equipment, etc.

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

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

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

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

O Ensure that the Power Supply used is equipped with a Circuit Protector.

This product does not incorporate the Circuit Protector. Using a power supply which is not equipped with the Circuit Protector can cause a fire when short circuit occurs.

O Be sure to use fuses which meet the specified rating.

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

The parts of the product include warning labels for safety, covers for personal protection, etc. It is very hazardous to operate the product by removing parts and or modifying the circuits. Should doors, lids and protective parts be damaged or lost, refrain from operating the product. SEGA is not liable whatsoever for any injury and or damage caused by Specification changes (using other firm's parts, or by conversion) not designated by SEGA.

○ **Ensure that the product is of appropriate Electrical Specifications.**

Before installing the product, check for Electrical Specifications. SEGA products have a name-plate on which Electrical Specifications are described. Ensure that the product is compatible with the power supply voltage and frequency requirements of the location.

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

To ensure safety for the customers, labels and printed instructions describing potentially hazardous situation are applied to places where accidents can be caused. Ensure that where the product is operated has sufficient lighting allowing the warnings to be read. If any label is peeled off, apply it again immediately.

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

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

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

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

INSPECTIONS IMMEDIATELY AFTER TRANSPORTING THE PRODUCT TO THE LOCATION.

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

☐ Are there any dented portions or defects (cuts, etc.) on the external surfaces of the cabinet?

☐ Are Casters and Leg Adjusters damaged?

☐ Do the power supply voltage and frequency requirements meet with those of the location?

☐ Are all wiring connectors correctly and securely connected? Unless connected in the correct direction, connector connections can not be made accurately. Do not insert connectors forcibly.

☐ Are all IC's of each IC BD firmly inserted?

☐ Do power cords have cuts and dents?

☐ Do the fuses used meet specified rating? Is the Circuit Protector in an energized status?

☐ Are such units as Monitors, Control equipment, IC BD, etc. firmly secured? Are all Earth Wires connected?

☐ Are all accessories available?

☐ Can all Doors and Lids be opened with the Accessory keys? Can Doors and Lids be firmly closed?

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.
This Game is designed for indoor use only. The game must NOT be installed outdoors or under the following conditions:

1. In areas directly exposed to sunlight, high humidity, dust, excessive heat or extreme cold.
2. In locations that would present an obstacle in the case of an emergency i.e. near fire equipment or emergency exits.
3. On an unstable surface or suject to vibrations.

IMPORTANT.
Ensure that the line voltage matches that of the transformer input tapping. Please note the voltage that the machine has been set to during manufacture. This information is located on the rear of the machine.
Be sure to switch the power OFF before replacing any user servicable parts.
Do NOT attempt to repair the PCB (Printed Circuit Board) yourself as this will void the warranty. The PCB contains static sensitive components that could be damaged.
Always return a faulty PCB to your distributor.
When removing the plug from a mains outlet always grasp the plug and not the cable.
Do not use a fuse that does not meet a specified rating.
Make sure all connections are secure before restoring power.

> **Ensure that the mains lead is not exposed. If the mains lead becomes exposed there is a danger of an electric shock or a short circuit**
> **Ensure that the power supply is fitted with a circuit protector. Using the power supply without a circuit protector is a fire hazard.**

> *WARNING !*
>
> DO NOT ALLOW LIQUIDS TO COME INTO CONTACT WITH THE MACHINE

2. PREVENTION OF COUNTERFEITING OR CONVERSION

- LABELLING

To prevent counterfeits or conversions, the folowing labels are put on all SEGA products. When handling such goods be sure to confirm that the labels are present. They are used to prevent unlawful acts such as the unauthorised copying of the products and the PCB's or carrying on business by manufacturing similar items or by converting, selling or using such products or PCB's.

The following seal is put on all machines manufactured by SEGA
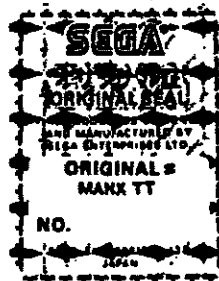
ORIGINAL SEAL

- COPYRIGHT NOTICE

  This SEGA product has the copyright notice as follows:

  ©SEGA 1996

  This signifies that this work was disclosed in 1996 and is the property of SEGA ENTERPRISES LTD.

3. ACCESSORIES

When Transporting the machine ensure that the following parts are supplied;

Seq. No.	Part Number	Description	Qty.
1	TTR-0200UK	ASSY BILLBOARD TWIN UK	1
2	TTR-1530UK	ASSY FLOOR SIDE UK	2
3	TTR-1520UK	ASSY FLOOR C UK	1
4	TTR-0007	BILLBOARD BRKT	2
5	TTR-0009	FLOOR BRKT F	2
6	TTR-0010	FLOOR BRKT R	3
7	TTR-0011	JOINT PIPE UPPER	1
8	TTR-0014	DESIGN PLATE MAP	1
9	TTR-0015	HOLE PLATE	1
10	TTR-0016	MAP HOLDER	1
11	TTR-0017	MAP SASH UPPER	1
12	TTR-0018	MAP SASH LOWER	1
13	440-WP0057-EG	PLATE W FOOTMAT ENG	2
14	440-WP0058-EG	PLATE W THIS AREA ENG	2
204	030-000820-SB	M8X20 BLT W/S BNP	27
205	030-000860-SB	M8X60 BLT W/S BNP	12
206	FS1014	M8 WSHR FORM C FLT BNP	39
207	FX0411	M8X30 BLT BNP	4
208	FX0429	M5X20 MSCR POSI PAN BNP	2
209	000-T00408-OC	M4X8 MSCR POSI TH CRM	6
210	FX0400	M8 WSHR FORM A FLT BNP	4
211	FS1019	M8 WSHR SPR BNP	4
212	FS1012	M5 WSHR FORM C FLT BNP	2
213	FX0343	M5 WSHR SPR BNP	2
400	420-6207-03UK	OWNERS MANUAL MANX T.T TWIN UK	1
401	OS1019	SELF SEAL BAG 9X12.3/4	1
407	220-5484	VOL CONT B-5K OHM	2
409	421-9041	STICKER No.1~8 BIKE L	1
410	421-9042	STICKER No.1~8 BIKE R	1
411	421-9014	STICKER FRONT NOS. 1~8	1
413	509-0161	SW PB TYPE 1T YEL W/LAMP	1
414	TTR-0015	HOLE PLATE	1
415	310-5050-220110	FLEX TUBE 22-0110CM	1
416	310-5051-22	CONN 22	2
501	PK0058	CARTON INST KIT TWIN	1

4. PRECAUTIONS WHEN ASSEMBLING AND MOVING GAME

WARNING:
- Perform the assembly work by following the procedure stated. Failing to comply with these instructions, for example, inserting the plug into an outlet at the wrong stage may cause an electric shock.

When carrying out the assembly work, follow the procedure in the following 3-item sequence.

1. CABINET ASSEMBLY
2. SECURING IN PLACE
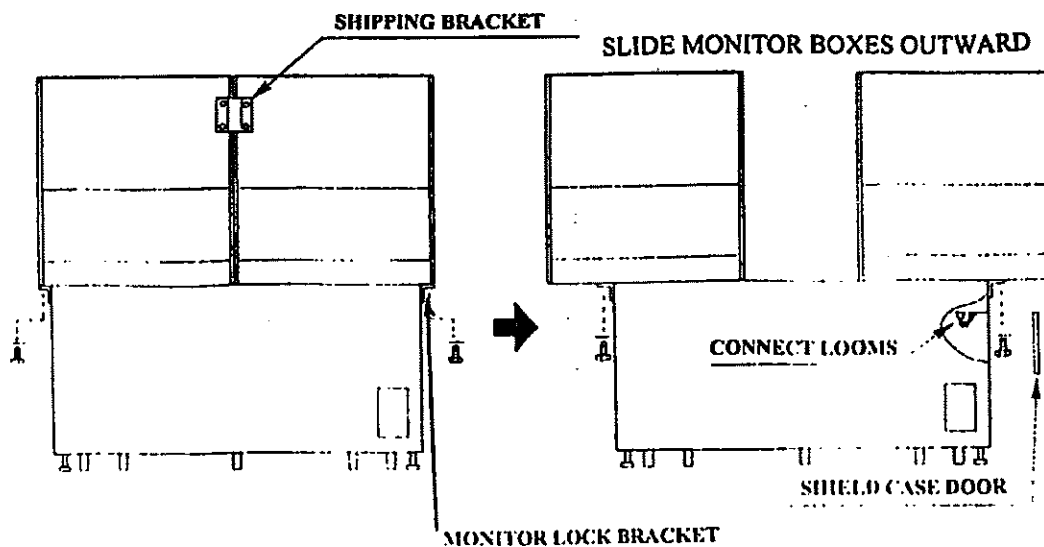## 3. POWER SUPPLY CONNECTION
4. ASSEMBLY CHECK

1.CABINET ASSEMBLY

When the machine is recieved it is in three boxes, once unpacked it must be correctly assembled before play can begin. To correctly assemble the machine follow the procedure detailed below;

FAILURE TO ASSEMBLE THE MACHINE IN THE MANNER SHOWN BELOW MAY CAUSE AN ELECTRICAL HAZARD AND WILL RESULT IN THE MACHINE NOT COMPLYING WITH THE RELEVENT SAFETY REGULATIONS. DEITH LEISURE LTD. WILL NOT TAKE ANY RESPONSIBILITY IF THE MACHINE IS NOT CONNECTED CORRECTLY.

A. MONITOR UNIT ASSEMBLY.

1. Remove the Shipping Bracket (TTR-0023), this is located on the top rear of the monitor boxes.
2. Remove the two Monitor Lock Brackets (TTR-1018), as shown in the diagram below. Remember to keep the bolts and washers removed at this stage as they will be required later.
3. Slide the two Monitor Boxes outwards untill they are in the correct position for game play.

SHIPPING BRACKET

SLIDE MONITOR BOXES OUTWARD

CONNECT LOOMS

SHIELD CASE DOOR

MONITOR LOCK BRACKET

M8 x 40 (030-000840-SB)
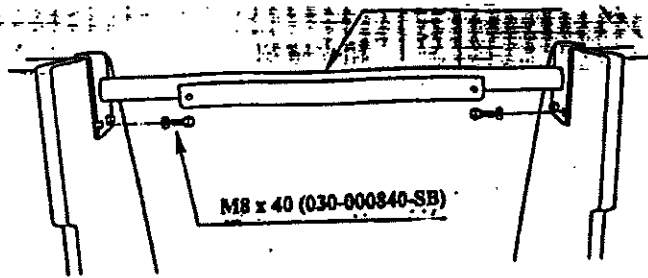
NOTE: DO NOT TIGHTEN ANY BOLTS IN POSITION UNTIL IT IS STATED IN THE INSTRUCTIONS THAT IT SHOULD BE DONE

MAP SASH UPPER

M4 x 8 (000-T00408-OC)

MAP HOLDER

MAP SASH LOWER

M5 x 20 (FX0249)

M4 x 8 (000-T00408-OC)

DESIGN PLATE MAP
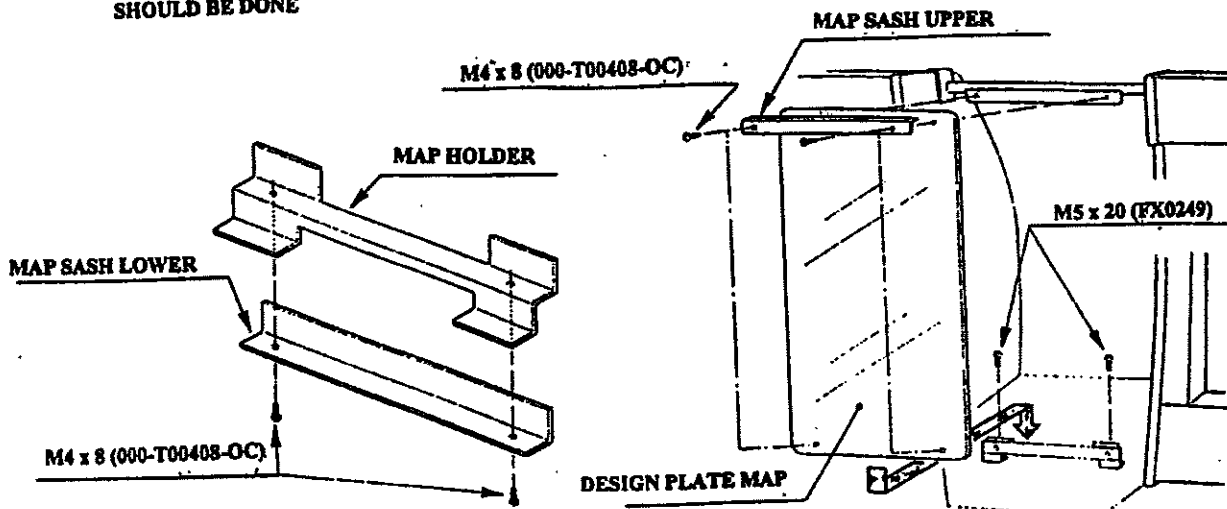
4. Place the Joint Pipe Upper (TTR-0011) between the two Monitor Boxes as shown below and secure in place using 4 M8 x 30 Bolts (FX0411), 4 M8 Spring Washers (FS1019) and four M8 Flat Washers (FX0400).

5. Secure the Map Holder (TTR-0016) to the Map Sash Lower (TTR-0018) using 2 M4 x 8 Chrome Screws (000-T00408-OC) and secure theis to the Lower Cabinet using 2 M5 x 20 Screws (FX0249), 2 M5 Spring Washers (FX0343) and 2 M5 Flat Washers (FS1012).

6. Fit the Design Plate Map (TTR-0014) in place and secure using 2 M4 x 8 Chrome Screws (000-T00408-OC) at the bottom and 2 of the same screws at the top with the Map Sash Upper (TTR-0017).

7. Replace the two Monitor Lock Brackets (TTR-1018) removed during stage 2 and secure with the same bolts.

8. Secure the Monitor Unit in its final position (see section 2).

9. Connect the Looms to the Monitor Box, located inside the Shield Case Door on the upper surface of the Lower cabinet

B. FITTING THE BIKE UNITS..

1. Push the two Bike Units up to the Monitor unit but do not fit them in position yet.
2. Connect the Looms that are hanging out of the front of the Monitor Unit to the looms which are hanging from the front of the Bike Units.
3. Connect the Earth Loom which is also hanging from the Monitor Unit to the M4 Stud located on the inside upper surface of the Rear Frame (TTR-1502-A)
4. Fit the two Bike Units to the Monitor Unit, ensuring that the Player 1 and Player 2 bikes are in the correct position. Before fixing in position use the leg adjusters on the bikes to ensure that the edge of the Lower Cabinet and the edge of the Bike Unit are parallel. Secure them in place using twelve M8 x 60 Bolts (030-000860-WB) and twelve M8 Flat Washers (FS1014).

BIKE UNIT

M8 x 60 (030-000860-SB)
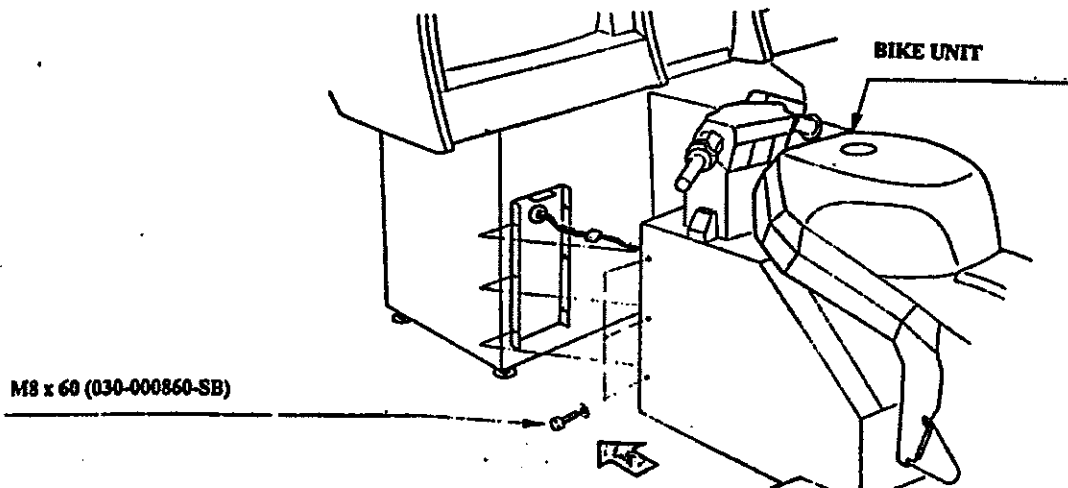
CAUTION: REMOVE SHIPPING BRACKET FROM BIKE UNIT BEFORE GAME PLAY. THIS IS THE RED BRACKET LOCATED ON THE SIDE OF THE BIKE UNIT.

C. FITTING THE BILLBOARD.

1. Place the Billboard on top of the Monitor Unit so that the Billboard Stand (TTR-0206) locates on the Billboard Hook (TTR1060) on the top of the Monitor Unit.
2. Connect the looms on the left hand side of the billboard to the connectors on the top of the left hand Monitor Box.
3. Secure the Billboard to the Billboard Holder using the Billboard Bracket (TTR-0007) and four M8 x 20 Bolts (030-000820-SB) and four M8 Flat Washers (FS1014).
4. Fit the Stand Support to the Cabinet and Billboard stand using 4 M8 x 20 BOLTS (030-000820-SB) and 4 M8 Flat Washers (FS1014) for each bracket.
5. Once the billboard is in position all the bolts can be tightened.

BILLBOARD

STAND SUPPORT

M8 x 20 (030-000820-SB)

M8 x 20 (030-000820-SB)

BILLBOARD HOOK

6
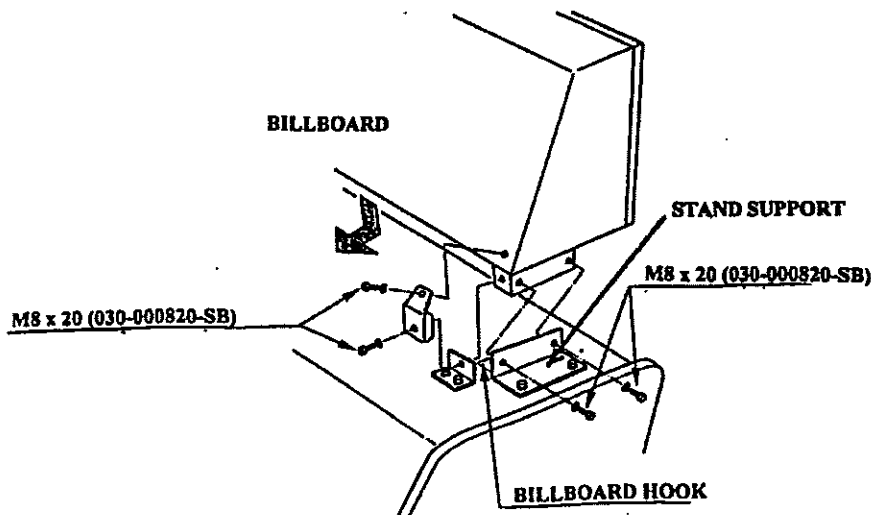
D. FINAL ASSEMBLY.

1. Fit the Floor Center (TTR-1520UK) between the two Bike Units so that it locates on the 2 brackets on the side of the Rear Frames (4 total).
2. Secure the Floor Center in place using the one of the Floor Bracket R (TTR-0010) along the edge closest to the Monitor Unit and five M8 x 20 Bolts (030-000820-SB) and five M8 flat washers (FS1014).
3. Fit the two Floor Side (TTR-1530UK) on the outside of the two Bike Units, and secure in place using the remaining two Floor Bracket R (TTR-0010) along the edge furthest from the Monitor Unit and five M8 x 20 Bolts (030-000820-SB) and five M8 Flat Washers (FS1014) for each bracket. At this stage also fit the two Floor Bracket F (TTR-0009) as shown in the diagram using four M8 x 20 Bolts (030-000830-SB) and four M8 Flat Washers (FS1014) for each bracket.

FLOOR SIDE

FLOOR SIDE

FLOOR CENTER

M8 x 20 (030-000820-SB)

FLOOR BRACKET F

FLOOR BRACKET R

7
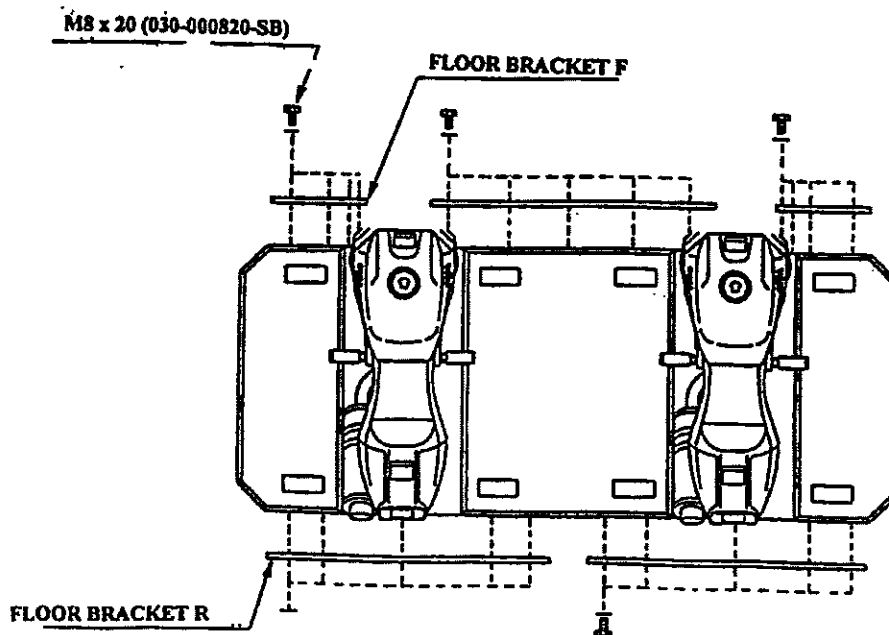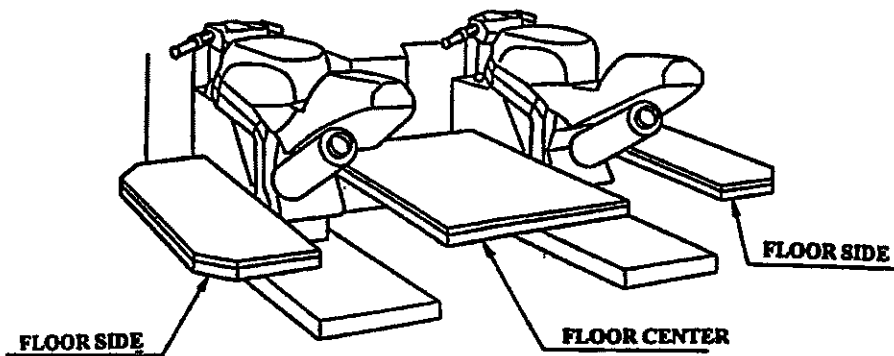
> ⚠ **CAUTION!** Make sure that all of the leg adjusters are in contact with the floor. If they are not, the cabinet may move causing an accident.

This machine is fitted with 11 Castors (5 for the Monitor Unit and 3 each for the Bike Units) and 10 Leg Adjusters (4 for the Monitor Unit and 6 on the three Floor Units). The Monitor Unit should be in its final position and the Leg Adsjusters in contact with the floor before the Bike Units are fitted.
When the Machine is in its final position wind the Leg Adjusters down untill they come into contact with the floor, continue to wind them down untill the castors are approximately 5mm from the floor. Then ensure that the machine is level.

① Move the machine to the installation position. When installing the machine against or close to a wall, be sure to secure a passage space to enable the player to take a ride in the machine.

② Cause all of the leg adjusters to make contact with the floor. By using a wrench, make adjustments in the height of the leg adjusters to ensure that the machine's position is level.

③ After making adjustments, fasten the leg adjuster nut upward and secure the height of the leg adjuster

FASTEN UPWARD. CASTER
Approx. 5mm
LEG ADJUSTER

CASTOR – LEG ADJUSTER

9
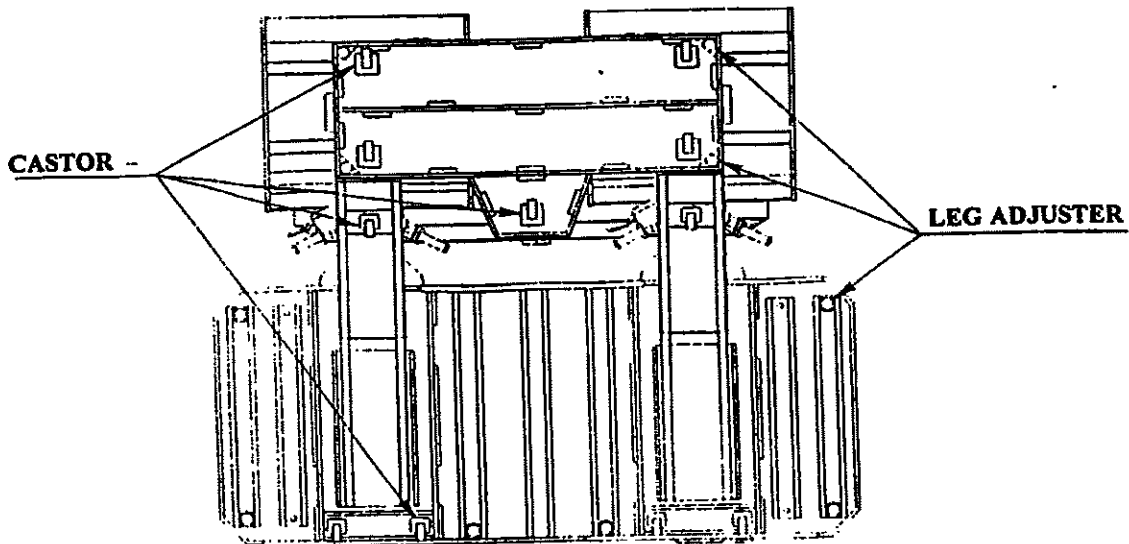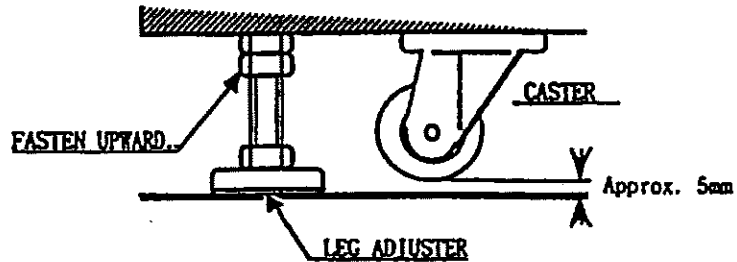
3. POWER SUPPLY CONNECTIONS

⚠ CAUTION!

- **Ensure that the mains lead is not exposed. If the mains lead becomes exposed there is a danger of an electric shock or a short circuit**
- **Ensure that the power supply is fitted with a circuit protector. Using the power supply without a circuit protector is a fire hazard.**

The AC Unit is located on the lower right hand corner of the rear of the Lower Cabinet

TO MAINS SOCKET

MAINS SWITCH
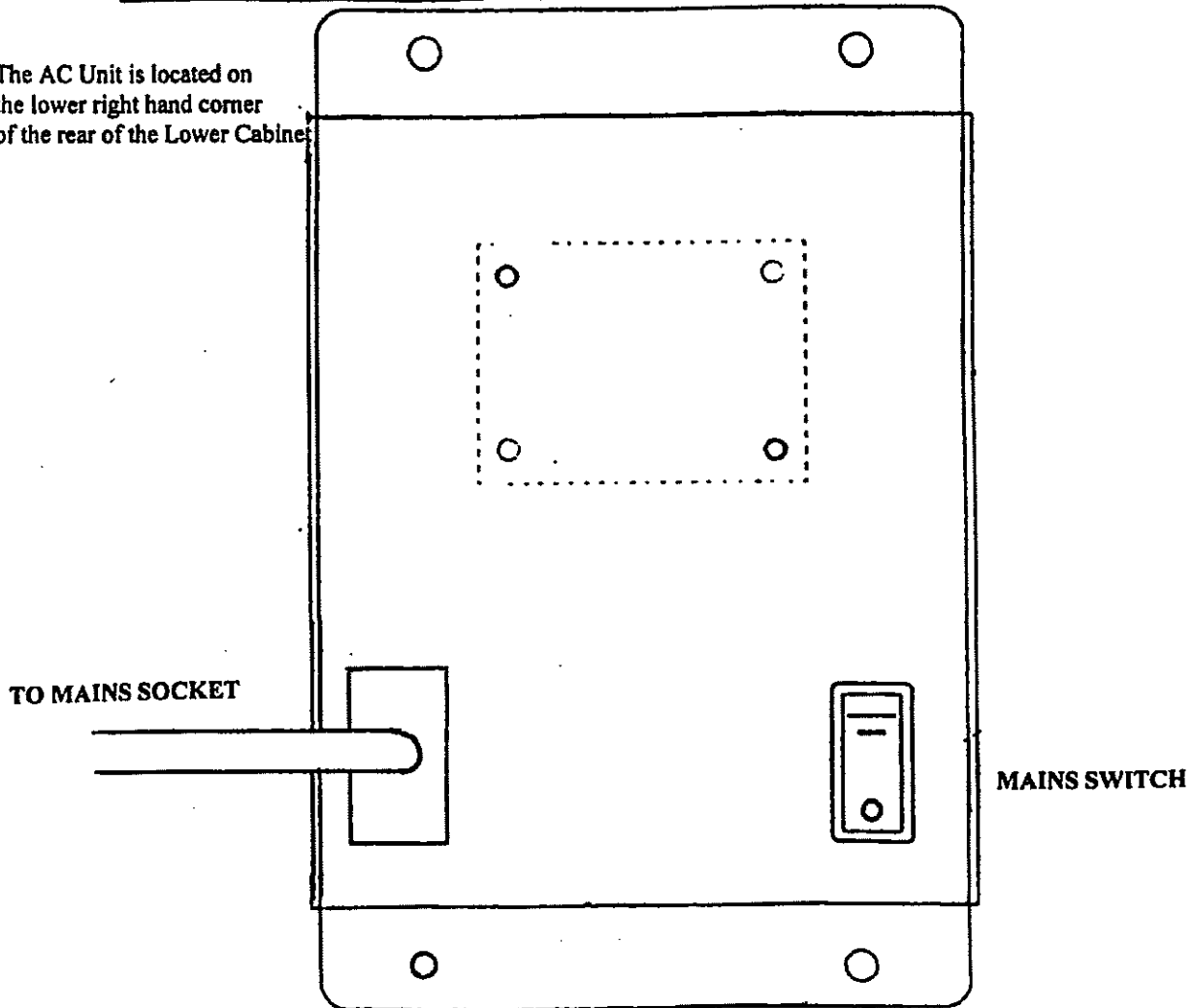
4. ASSEMBLY CHECK

When the machine has been installed and power sucessfully turned on perform the ASSEMBLY CHECK. Place the machine in TEST MODE (Refer to TEST MODE Sectiion) and perform the following checks;

1. MEMORY TEST
2. INPUT TEST
3. SOUND TEST
4. C.R.T. TEST

Instruction on how to perform each test are also detailed in the TEST MODE section of this manual.

5. SW UNIT

KLINGON BOARD

TEST BUTTON

SERVICE BUTTON

DEMAG BUTTON

VOLUME CONTROL

COUNTER
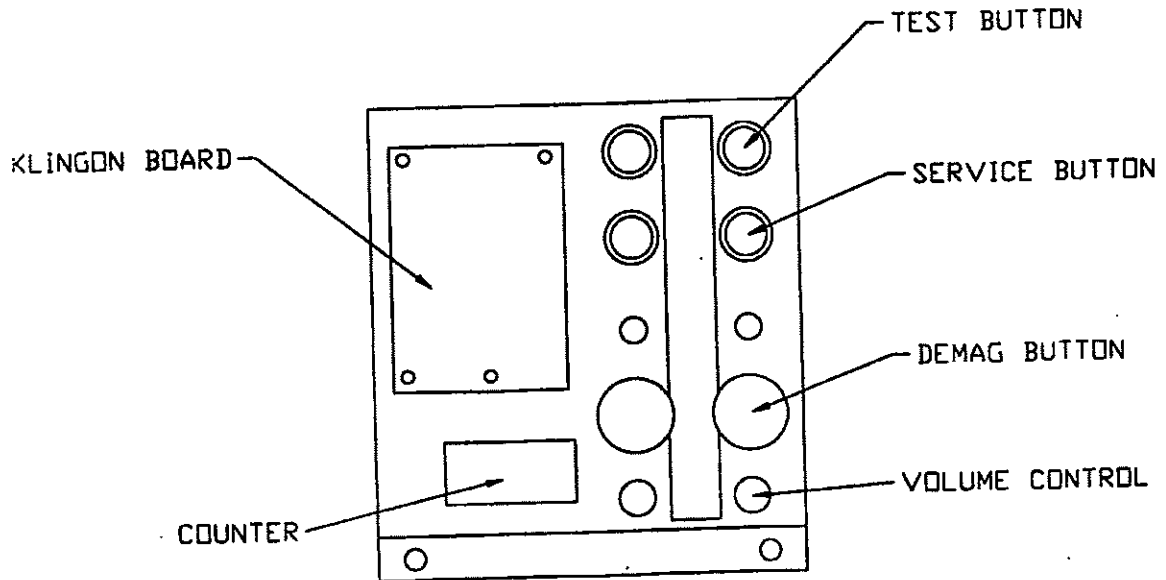
Open the coin chute door, and the switch unit shown will appear. The functioning of each SW is as follows:

TEST BUTTON
TEST
: For the handling of the test button, refer to the following pages.

SERVICE BUTTON
SERVICE
: Gives credits without registering on the coin meter.

SPEAKER VOL.
SPEAKER
: Can adjust the volume of all Speakers of the machine.

6. TEST MODE

Selection of TEST ITEMS.

1) Push the TEST SW (Located on the VTS Panel) to cause the following TEST ITEM MENU to appear;

```
                        TEST MENU

                      MEMORY TEST
                      INPUT TEST
                      SOUND TEST
                      C.R.T. TEST
                   GAME ASSIGNMENTS
                   COIN ASSIGNMENTS
                      BOOKKEEPING
                   BACKUP DATA CLEAR
                      OUTPUT TEST
                         EXIT

            SELECT BY PUSHING THE SERVICE BUTTON
                AND PUSH THE TEST BUTTON
```

2) By pushing the SERVICE SW, bring the arrow marker to the desired item and press the TEST SW.

3) When the test has been completed, bring the arrow marker to the EXIT selection and press the TEST button to exit back to the previous menu or back to the game play.

A. MEMORY TEST.

This is used to check the PCB's memory IC's.
When the IC is in good operating condition, "GOOD" will appear next to each number.
If a fault exists on that particular IC the "BAD" will appear.

```
                      MEMORY TEST

           IC04          IC05          IC06
           IC07          IC08          IC09
           IC10          IC11          IC12
           IC13          IC14          IC15

           IC45          IC46          IC47
           IC48          IC49          IC50
           IC54          IC55

               PUSH TEST BUTTON TO EXIT
```

B. INPUT TEST

This test screen displays the state of each switch or potentiometer used in the normal operation of the game. If a switch is operated the display will read "ON" for that particular switch, in the same way the current value for each potentiometer is displayed in Hex. The screen is set out as follows;

```
                              INPUT TEST

                              MIN         MAX        MID

        THROTTLE    :   2bH  (26H)      (e9H)
        BRAKE       :   28H  (27H)      (83H)
        BANK        :   83H  (20H)      (dcH)       (7fH)

        SHIFT UP    :   OFF
        SHIFT DOWN  :   OFF
        START / VR  :   OFF

  COIN CHUTE #1     :   OFF
  COIN CHUTE #2     :   OFF
  SERVICE           :   OFF
  TEST              :   OFF

        PUSH THE TEST BUTTON TO EXIT
```

The values shown above for the potentiometers is that as should be displayed by the machine when it is in the central position without the throttle or brake being applied.

C. SOUND TEST

The SOUND TEST screen is used to check that all the sounds and effects appropiate to this machine are in working order. The screen will appear as shown below.

```
                    SOUND TEST

        VOICE       :
        EFFECT      :
        EFFECT_M1   :
        BRAKE_M1    :
        ENGINE_M1   :
        ENGINE      :
        B.G.M.      :
        EXIT        :

        SELECT USING THE SERVICE BUTTON
            AND PUSH THE TEST BUTTON
```
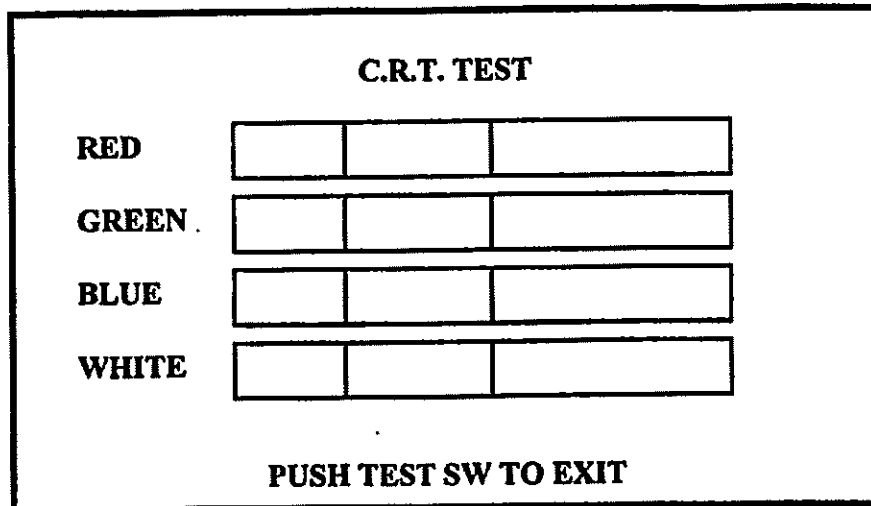
Select the desired catagory of noise, effect or music from the list displayed and then move through the list of sounnds in that category by pushing the TEST SW, to listen to thet sound push the SERVICE SW.

D. C.R.T. TEST

RGB COLOUR ADJUSTMENT SCREEN.

This screen allows the user to check and adjust as necessary the bias and gain of the primary colours in the display and white.

```
+-------------------------------------------------+
|                                                 |
|                 C.R.T. TEST                     |
|                                                 |
|   RED      [     |      |          ]            |
|                                                 |
|   GREEN .  [     |      |          ]            |
|                                                 |
|   BLUE     [     |      |          ]            |
|                                                 |
|   WHITE    [     |      |          ]            |
|                                                 |
|              PUSH TEST SW TO EXIT               |
|                                                 |
+-------------------------------------------------+
```

Each of the colours is darkest on the left-hand side of the screen and becomes lighter towards the right of the screen in 16 gradations. The monitor brightness is satisfactory if the white colour bar is black at the left-hand side of the screen and white at the right-hand side.

MONITOR SIZE ADJUSTMENT

This screen allows the size of the picture within the screen to be altered. The size casn be altered by using the appropriate buttons on the PTV handset. Ensure that the checkerd pattern does not exyend beyond the limits of the screen.

E. GAME ASSIGNMENTS.

The Game Assignments screen is provided to allow the user to alter the characteristics of the game, i.e. game difficulty, duration etc. The screen display should be as folows;

```
                        GAME ASSIGNMENTS

              ADVERTISE SOUND      :(    OFF        )
              COUNTRY              :(    EXPORT     )
              BIKE COLOUR          :(    RED No. 1  )
              RACE MODE            :(    RACE       )
   LAXEY      No. OF LAPS          :(    4          )
              GAME DIFFICULTY      :(    NORMAL     )
   T.T.       No. OF LAPS          :(    4          )
              GAME DIFFICULTY      :(    NORMAL     )
              START SWITCH OP      :(    ON         )
              EXIT


                  SELECT WITH THE SERVICE SW
                  AND PUSH THE TEST SW
```

1. ADVERTISE SOUND
This allows the sound to be turned on or off during the attaract mode.

2. COUNTRY
The game can be switched between JAPAN, USA or EXPOPRT depending on where the unit is to be installed. This unit should be set to EXPORT.

3. BIKE COLOUR
The colour of the bike on screen can be altered between RED (No. 1), BLUE (No. 2), YELLOW (No. 3) and GREEN (No. 4).

4. RACE MODE
The game can be played in one of two modes, RACE allows the game to be played as a race with 7 other riders in the game. T.T. allows the game to be played as a time trial, with a lone rider against the clock.

5 & 7. No. OF LAPS
The number of laps over which the game can be played can be altered between 1 lap and 8 laps.

6 & 8. GAME DIFFICULTY.
The difficulty of the game can be altered in stages from EASY to HARDEST by altering the time allowed to get from one checkpoint to another during gameplay.

9. START SWITCH OP.
The use of the sart switch can be altered between ON or OFF.

F. COIN ASSIGNMENTS

In this mode the Coin/Credit settings can be altered. The screen should look like this;

```
                    COIN ASIGNMENT

    COIN CREDIT SETTING          #27

    COINCHUTE #1
                          FREEPLAY

    COINCHUTE #2
                          FREEPLAY


    MANUAL SETTING
    EXIT

              SELECT WITH THE SERVOCE SW
              AND PUSH THE TEST SW
```

The coin/credit setting can be varied between 27 preset options (shown above is option 27, the FREEPLAY option). This screen also allows the manual setting of the coin options for a custom setup.

COIN/CREDIT SETTING (COIN CHUTE COMMON TYPE)

NAME OF SETTING	FUNCTIONING OF COIN CHUTE #1		FUNCTIONING OF COIN CHUTE #2	
SETTING #1	1 COIN	1 CREDIT	1 COIN	1 CREDIT
SETTING #2	1 COIN	2 CREDITS	1 COIN	1 CREDIT
SETTING #3	1 COIN	3 CREDITS	1 COIN	1 CREDIT
SETTING #4	1 COIN	4 CREDITS	1 COIN	1 CREDIT
SETTING #5	1 COIN	5 CREDITS	1 COIN	1 CREDIT
SETTING #6	1 COIN	2 CREDITS	1 COIN	2 CREDITS
SETTING #7	1 COIN	5 CREDITS	1 COIN	2 CREDITS
SETTING #8	1 COIN	3 CREDITS	1 COIN	3 CREDITS
SETTING #9	1 COIN	4 CREDITS	1 COIN	4 CREDITS
SETTING #10	1 COIN	5 CREDITS	1 COIN	5 CREDITS
SETTING #11	1 COIN	6 CREDITS	1 COIN	6 CREDITS
SETTING #12	2 COINS	1 CREDIT	2 COINS	1 CREDIT
SETTING #13	1 COIN	1 CREDIT	2 COINS	1 CREDIT
SETTING #14	1 COINS	2 CREDITS	2 COINS	1 CREDIT
SETTING #15	1 COIN	1 CREDIT	1 COIN	1 CREDIT
	2 COINS	3 CREDITS	2 COINS	3 CREDITS
SETTING #16	1 COIN	3 CREDITS	1 COIN	1 CREDIT
			2 COINS	3 CREDITS
SETTING #17	3 COINS	1 CREDIT	3 COINS	1 CREDIT
SETTING #18	4 COINS	1 CREDIT	4 COINS	1 CREDIT
SETTING #19	1 COIN	1 CREDIT	1 COIN	1 CREDIT
	2 COINS	2 CREDITS	2 COINS	2 CREDITS
	3 COINS	3 CREDITS	3 COINS	3 CREDITS
	4 COINS	5 CREDITS	4 COINS	5 CREDITS
SETTING #20	1 COIN	5 CREDITS	1 COIN	1 CREDIT
			2 COINS	2 CREDITS
			3 COINS	3 CREDITS
			4 COINS	5 CREDITS
SETTING #21	5 COINS	1 CREDIT	5 COINS	1 CREDIT
SETTING #22	1 COIN	2 CREDITS	3 COINS	1 CREDIT
			5 COINS	2 CREDITS
SETTING #23	2 COINS	1 CREDIT	2 COINS	1 CREDIT
	4 COINS	2 CREDITS	4 COINS	2 CREDITS
	5 COINS	3 CREDITS	5 COINS	3 CREDITS
SETTING #24	1 COIN	3 CREDITS	2 COINS	1 CREDIT
			4 COINS	2 CREDITS
			5 COINS	3 CREDITS
SETTING #25	1 COIN	1 CREDIT	1 COIN	1 CREDIT
	2 COINS	2 CREDITS	2 COINS	2 CREDITS
	3 COINS	3 CREDITS	3 COINS	3 CREDITS
	4 COINS	4 CREDITS	4 COINS	4 CREDITS
	5 COINS	6 CREDITS	5 COINS	6 CREDITS
SETTING #26	1 COIN	6 CREDITS	1 COIN	1 CREDIT
			2 COINS	2 CREDITS
			3 COINS	3 CREDITS
			4 COINS	4 CREDITS
			5 COINS	6 CREDITS
SETTING #27	FREE PLAY		FREE PLAY	

G. BOOKKEEPING

This selection from the main menu will give a record of the statistics for the machine, i.e. number of times the game is played or length of each individual game. The scrren should look as follows;

```
                        BOOKKEEPING

                COINCHUTE #1    :          00
                COINCHUTE #2    :          00
                TOTAL GAMES     :          00

                COIN CREDITS    :          00
                SERVICE CREDITS:           00
                TOTAL CREDITS   :          00

                No. OF CREDITS  :          00

        TOTAL TIME              0D   00H   00M   00S
        GAME PLAY TIME               00H   00M   00S
        AV. GAME TIME                00H   00M   00S
        LONGEST GAME TIME            00H   00M   00S
        SHORTEST GAME TIME           00H   00M   00S

                PUSH TEST FOR NEXT SCREEN
```

There are four more screens available in this option, the remainder of the screens show statistics concerning the average game time and individual statistics for the two courses.

H. BACK-UP DATA CLEAR

In this option the user is presented with the opportunity to either adopt any changes inputted during the operstion of the Test mode or to cancel them and revert to the factiory set options. The screen is set out as follows;

```
                BACKUP DATA CLEAR

                YES          (CLEAR)
                NO           (CANCEL)

        SELECT BY PRESSING THE SERVICE SW
                AND PUSH THE TEST SW
```

I. OUTPUT TEST

This option allows the user to ensure that all the electromechanical assemblies of the game are operating correctly. The display will look as follows;

<div style="text-align:center">
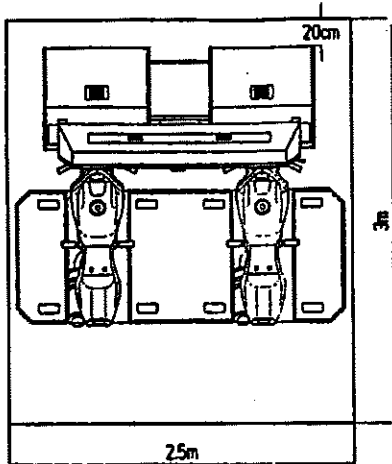
OUTPUT TEST

DRIVE BOARD TEST
MOTOR TEST
LAMP TEST
EXIT

**SELECT BY PRESSING THE SERVICE SW**
AND PUSH THE TEST SW

</div>

7. PRECAUTIONS FOR THE GAME

PRECAUTIONS BEFORE GAME PLAY COMMENCES

WARNING!

Ensure that there is adequate space around the machine, once installed, to prevent any interference whilst the bikes are moving.

Ensure, periodically, that the safety guards are in position either side of the Centering Mecha, and that they are functioning correctly.
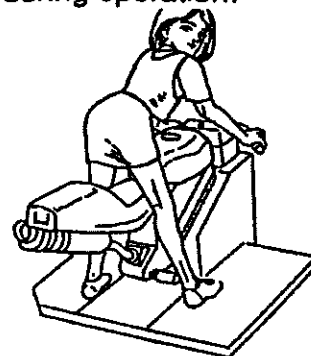
Safety Guards
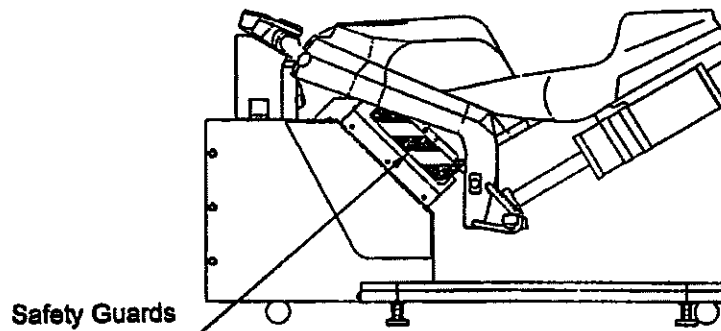
CAUTIONS DURING GAME PLAY

WARNING!

In order to avoid accidents, check the following during operation:

● The player whose feet can not be placed on the base could fall down causing an accident. To avoid an accident, instruct persons of short stature to refrain from playing the game.
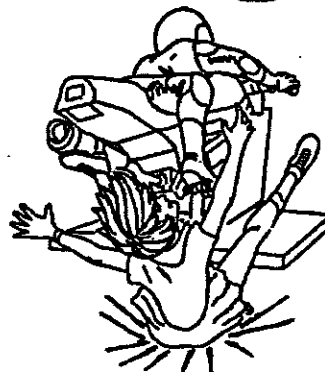
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⚠️

● Instruct those who wear high-heeled shoes to refrain from playing the game by explaining that playing game with high-heeled shoes is very likely to cause potentially hazardous situation.

● To avoid injury and parts damage, instruct not to ride tandem (with another person).

● Instruct the player to take a firm grip of the handle during play. This machine reacts as per the game contents. At the time of course out and crashing, the bike body is subject to swinging compulsorily. To avoid injury, instruct the players to refrain from single-handed taking grip of the handle (which is very likely to cause potentially hazardous situation, should he attempt to do so).
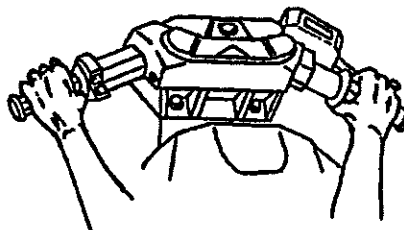
● To avoid injury resulting from coming into contact with the player or the bike body, keep persons other than the player away from the Rear Base.

● To avoid injury, and damage to parts and items, instruct the player not to place things on the base.
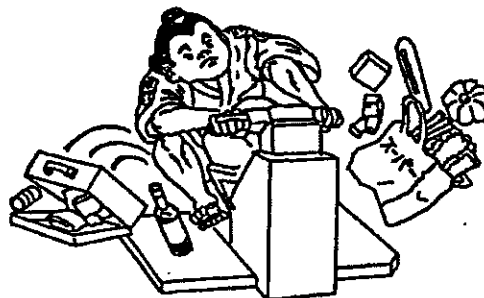
● Caution persons under the influence of liquor to refrain from playing the game.

8. GENERAL MAINTENANCE

HANDLE MECHANISM

In the Test Mode, if Throttle and Brake V.R. value variations can not be set within the allowable range. V. R. installation position adjustment or V.R. replacement are needed. Also, make sure to apply grease to the Throttle/Brake mechanism once every 6 months. To perform the above work, remove the Handle cover and Brake Cover. (When replacing the throttle V.R. however, remove only the Handle Cover.) When replacing the START button, first remove the wiring connected to the START button and then remove the START button from the Handle Cover.

> **WHEN WORKING INSIDE THIS MACHINE, ENSURE THAT THE POWER IS SWITCHED OFF. WORKING WHILST THE POWER IS STILL ON CAN CAUSE AN ELECTRIC SHOCK OR SHORT CIRCUIT.**
> **BE SURE NOT DAMAGE ANY ELECTRICAL WIRING INSIDE THE CABINET. DOING SO MAY CAUSE AN ELECTRIC SHOCK OR SHORT CIRCUIT.** -

For Throttle/Brake V.R. adjustment, remove the Handle Cover and Brake Cover by using the following procedure. There is a connector's wiring connection inside the Handle Cover. Be very careful so as not to damage the wiring.

1. Remove the 5 screws which secure the Handle Cover.
2. Remove the 4 screws which secure the Brake Cover.
3. The Handle Cover is removable from the Handle Unit as per (1) above. Disconnect the connector to remove the Handle Cover from the Handle Mecha. Then, the Brake Cover is removable.

ACCELERATOR / BRAKE V.R. ADJUSTMENT

> **PAY CAREFUL ATTENTION TO NOT TOUCHING ANY AREAS OF THE MACHINE THAT ARE NOT SPECIFIED. TOUCHING THESE AREAS MAY CAUSE AN ELECTRIC SHOCK.**

This machine has V.R. setting functions. Game is playable satisfactorily if the V.R. Shaft can rotate without any problem within the mobile range of the Grip and Brake Lever. Display the INPUT TEST mode, and while maintaining the status without applying the Throttle and brake respectively to the Grip and Brake Lever, follow the procedure below to make V.R. adjustments.

ADJUSTING THE THROTTLE V.R.

1. Remove the Handle Cover and then remove the Brake Cover.
2. Loosen screw B and move the Gear to ensure that the variation value in the V.R. adjustment mode is within 20H plus or minus 10.
3. If the value is within the specified range, retighten Screw A.
4. Perform V.R. setting.

ADJUSTING THE BRAKE V.R.

1. Remove the Handle Cover and then remove the Brake Cover.
2. Loosen Screw B and move the Gear to ensure that the variation in the V.R. adjustment mode is within 20H plus or minus 10.
3. If the value is within the specified range, retighten Screw B.
4. Perform V.R. setting.

THROTTLE / BRAKE V.R. REPLACEMENT

For V.R. replacement, turn the V.R. shaft to the periphery of V.R. shaft angle in which the V.R. value is the minimum, engage the Gears and secure the V.R. brakcet. At this time, make sure that the throttle and brake are not applied respectively to the Grip and Brake Lever. Game is playable satisfactorily if the V.R. shaft rotates without any problem within the mobile range of the Grip and the Lever.

1. Take out the 2 screws which secure the V.R. Bracket to remove the bracket from the Handle Unit.
2. To remove the PINION GEAR, loosen the 2 Set Screws of the Pinion Gear attached to the Shaft of the V.R. to be replaced.
3. Take out Nut A from the V.R. Shaft to remove the V.R. from the Bracket.
4. After replacement, assemble in the procedure opposit to the above.
5. In the Test Mode, perform V.R. setting.

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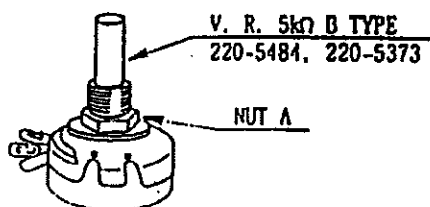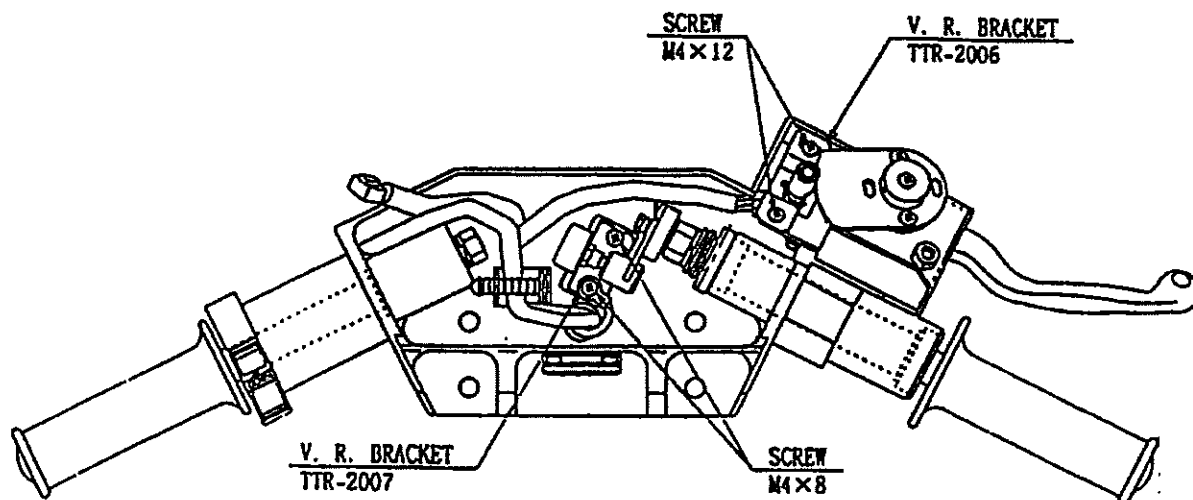
9. GAME BOARD

ENSURE THAT THE MAINS POWER HAS BEEN SWITCHED OFF, AND THE PLUG DISCONNECTED BEFORE ATTEMPTING TO PERFORM ANY WORK INSIDE THE CABINET. FAILURE TO DO SO MAY RESULT IN A SHORT CIRCUIT OR ELECTRIC SHOCK.

In order to remove the Game Board from the Cabinet follow the procedure detailed below;

1. Remove the Shield Case Door (TTR-1203UK) from the side of the Lower Cabinet by removing the two M4 x 30 Screws (000-t00430-OB) which secure it in place.
2. Remove the two M5 x 30 Screws (000-P00530-W) which secures the Shield Case Assembly (TTR-1300) in place and slide out the Shield Case Assembly part way. Do not remove the assembly completely at this stage.
3. Disconnect the Connectors between the Shield Case Assembly and the rest of the machine.
4. The Shield Case Assembly can now be removed from the cabinet.
5. Remove the three M4 x 8 Screws (000-P00408-W) which secure the Shield Case Lid (105-5219-91) and remove the Lid.
6. Remove the seven M3 x 8 Screws (FX0020) which secure the Game Board (833-12466) in place and slide the Game Board from the Shield Case.
7. To replace the Game Board follow the above procedure in reverse.

SHIELD CASE LID (105-5219-91)

M4 x 8 (000-P00408-W)

M4 x 30 (000-T00430-OB)

SHIELD CASE DOOR (TTR-1203UK)

SHIELD CASE ASSEMBLY (TTR-1300)
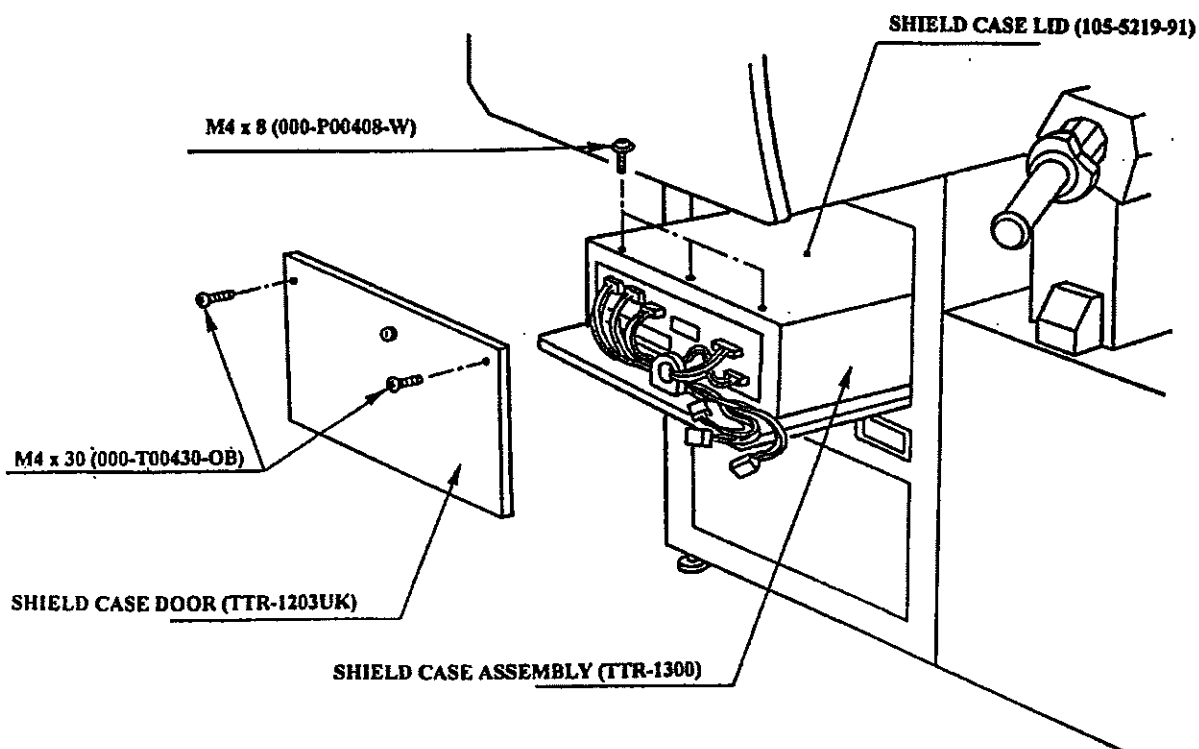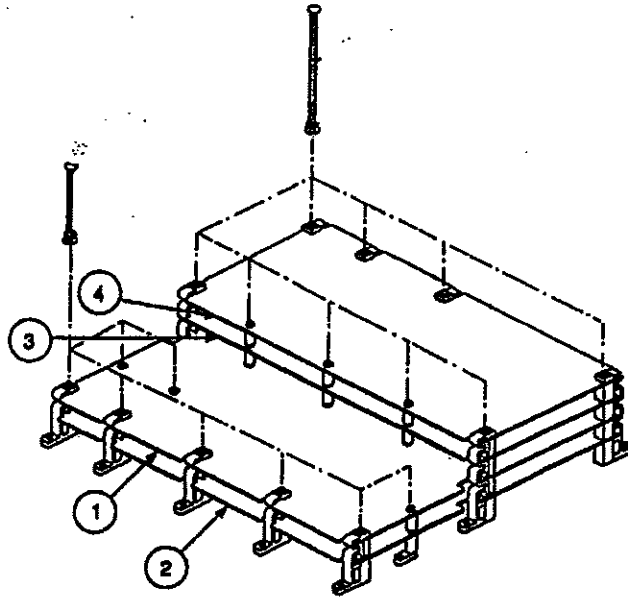
No.	PART No.	DESCRIPTION
1	837-10848-01-91	MODEL2 A-CRX CPU BD COM
2	837-10849-02	MODEL2 A-CRX VIDEO BD COM
3	837-12396	COMM BD MANX T.T
4	834-12467	ROM BD MANX T.T TWIN
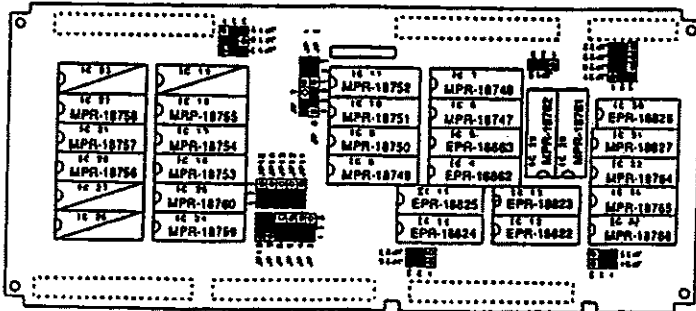
ROM BD MANX T.T TWIN (834-12467)

10. COMMUNICATION PLAY

This machine can be configured for use when linked to other MANX TT SUPERBIKE TWIN machines. In order to connect machines together follow the procedure detailed below.

> CAUTION: WHEN MORE THAN ONE MACHINE IS TO BE USED THERE MUST BE A GAP OF AT LEAST 100mm BETWEEN THE TWO MACHINES TO PREVENT THE BIKE UNITS FROM COLLIDING WHEN THE GAME IS BEING PLAYED.
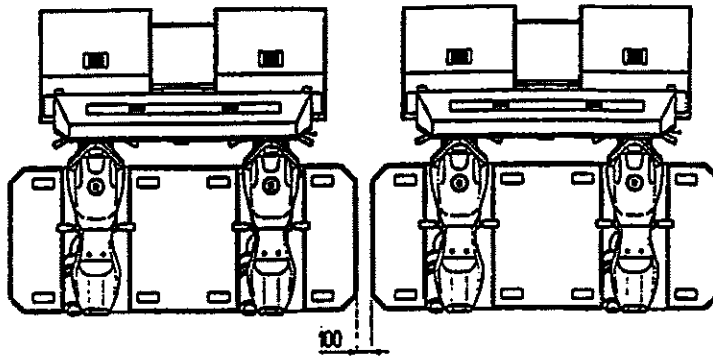
1. Remove the Hole Plate (TTR-1212) from the lower rear corner of the side of the Monitor Unit.
2. Replace this with Hole Plate (TTR-0015).

ホールリッド
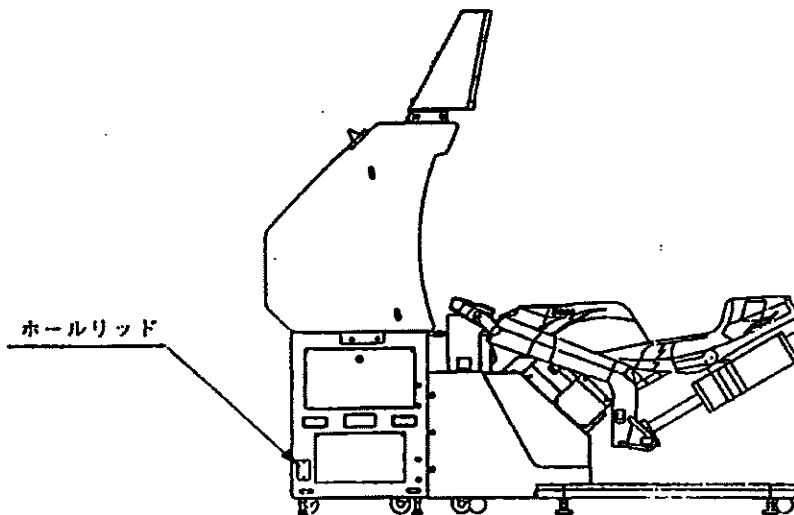
3. Using the Fibre Optic Cables from the Shield Case connect the machines together in the manner shown below, route the fibre optic cable through the Hole Plate fitted in stage 2.

Note that when linking Shield Cases the TX connector is always connected to the RX connector

TTR-1300
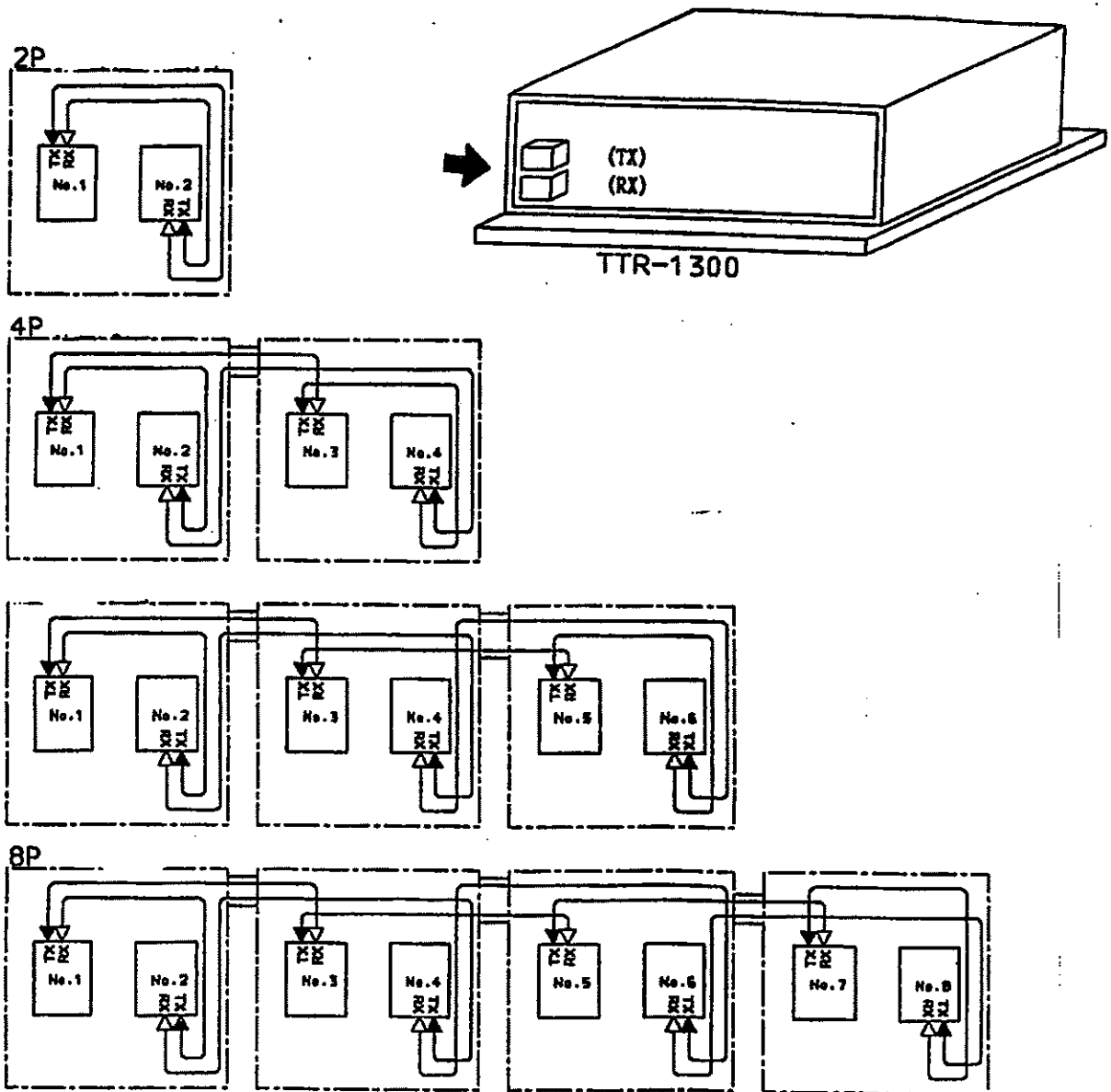
NOTE: Do not forget to set the Bike No. in the TEST MODE Game Assignments.
Once the machines have been installed and setup for communication play do not for get to add the Bike
No. Decals supplied in the installation kit, as shown below.
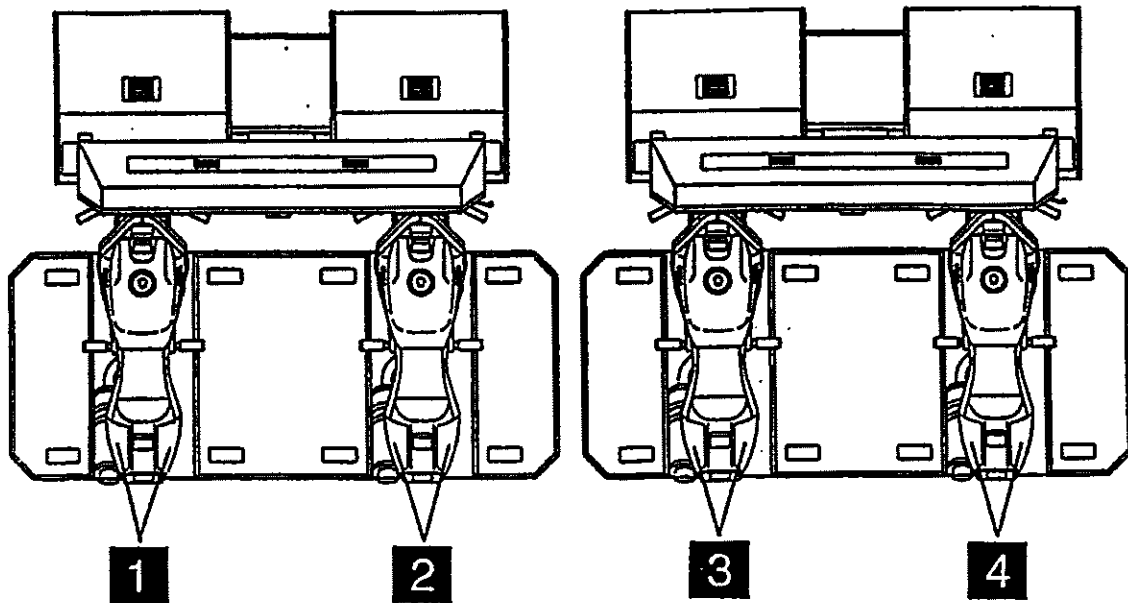
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11. PARTS LISTS

1. TOP ASSEMBLY. TTR-00001UK

Seq. No.	Part Number	Description	Qty.
1	TTR-INST-KIT2	ASSY INSTALLATION KIT TWIN	1
2	TTR-5000UK	ASSY HANDING KIT UK	1
4	TTR-10001UK	ASSY FRONT CABINET UK	1
5	TTR-1500UK	ASSY BIKE MECHA UK	2
6	TTR-1203UK	SHIELD CASE DOOR UK	2
7	TTR-1205	PWR SPLY DOOR	2
8	TTR-1207	ELEC DOOR	1
17	DYN-0010UK	DENOMI PLATE	1
18	421-5800-284	ORIGINAL SEAL SEGA MANX T.T.	1
25	440-WS0033-EG	STICKER W BD POWER OFF ENG	5
26	421-7020UK	STICKER CAUTION FORK	2
27	421-7987	STICKER ELEC SPEC	1
29	421-7988-91	STICKER SERIAL NUMBER	3
33	TTR-0020	SHIPPING BRKT	2
35	SGM-4403	POLY COVER 1100X2200X1700	1
36	SGM-4404	POLY COVER 1500X500X1000	2
40	105-5219-91	SHIELD CASE LID	2
41	PK0054	PALLET FRONT CABI TTRT	1
43	PK0056	PALLET BIKES TTRT	1
44	TTR-1203-AUK	STICKER SH CASE DR L UK	1
45	TTR-1204-AUK	STICKER SH CASE DR R UK	1
46	TTR-1205-AUK	STICKER PWR SPLY DR L UK	1
47	TTR-1206-AUK	STICKER PWR SPLY DR R UK	1
48	TTR-1063-AUK	MASK HOLDER BLANK	2
49	TTR-1063-BUK	STICKER MASK HOLDER	2
201	000-T00408-OB	M4X8 MSCR POSI TH BNP	8
202	000-P00408-W	M4X8 MSCR POSI PAN W/FS PAS	6
203	000-T00430-OB	M4X30 MSCR POSI TH BNP	10
204	FS1014	M8 WSHR FORM C FLT BNP	4
205	000-T00425-OB	M4X25 MSCR TH BNP	8
206	FX0011	M4 NUT FLG SER BZP	2
418	TTR-0023	SHIPPING BRKT CABI	1
419	030-000830-SB	M8X30 BLT W/S BNP	4

2. INSTALLATION KIT. TTR-INST-KIT2

Seq. No.	Part Number	Description	Qty.
1	TTR-0200UK	ASSY BILLBOARD TWIN UK	1
2	TTR-1530UK	ASSY FLOOR SIDE UK	2
3	TTR-1520UK	ASSY FLOOR C UK	1
4	TTR-0007	BILLBOARD BRKT	2
5	TTR-0009	FLOOR BRKT F	2
6	TTR-0010	FLOOR BRKT R	3
7	TTR-0011	JOINT PIPE UPPER	1
8	TTR-0014	DESIGN PLATE MAP	1
9	TTR-0015	HOLE PLATE	1
10	TTR-0016	MAP HOLDER	1
11	TTR-0017	MAP SASH UPPER	1
12	TTR-0018	MAP SASH LOWER	1
13	440-WP0057-EG	PLATE W FOOTMAT ENG	2
14	440-WP0058-EG	PLATE W THIS AREA ENG	2
204	030-000820-SB	M8X20 BLT W/S BNP	27
205	030-000860-SB	M8X60 BLT W/S BNP	12
206	FS1014	M8 WSHR FORM C FLT BNP	39
207	FX0411	M8X30 BLT BNP	4
208	FX0429	M5X20 MSCR POSI PAN BNP	2
209	000-T00408-OC	M4X8 MSCR POSI TH CRM	6
210	FX0400	M8 WSHR FORM A FLT BNP	4
211	FS1019	M8 WSHR SPR BNP	4
212	FS1012	M5 WSHR FORM C FLT BNP	2
213	FX0343	M5 WSHR SPR BNP	2
400	420-6207-03UK	OWNERS MANUAL MANX T.T TWIN UK	1
401	OS1019	SELF SEAL BAG 9X12.3/4	1
407	220-5484	VOL CONT B-5K OHM	2
409	421-9041	STICKER No.1~8 BIKE L	1
410	421-9042	STICKER No.1~8 BIKE R	1
411	421-9014	STICKER FRONT NOS. 1~8	1
413	509-0161	SW PB TYPE 1T YEL W/LAMP	1
414	TTR-0015	HOLE PLATE	1
415	310-5050-220110	FLEX TUBE 22-0110CM	1
416	310-5051-22	CONN 22	2
501	PK0058	CARTON INST KIT TWIN	1

3. BILLBOARD TWIN ASSEMBLY. TTR-0200UK

Seq. No.	Part Number	Description	Qty.
1	TTR-0201UK	BILLBOARD BOX UK	1
2	TTR-0202	CORNER SASH UPPER	1
3	TTR-0203	CORNER SASH LOWER	1
4	TTR-0204	CORNER SASH LEFT	1
5	TTR-0205	CORNER SASH RIGHT	1
6	TTR-0206	BILLBOARD STAND	2
8	423-0263	BILLBOARD PLATE	1
9	421-7501-18	STICKER FL32W	1
10	440-WS0002-EG	STICKER W POWER OFF	1
11	440-WS0012-EG	STICKER W HIGH TEMP	1
12	TTR-0555UK	WOODEN BASE FL TRAY	1
101	LT1021	FL TRAY 30W 240V	1
102	LT1014	TUBE FL 30W 36" DIA25mm	1
201	000-T00408-OC	M4X8 MSCR POSI TH CRM	2
202	000-P00416-W	M4X16 MSCR POSI PAN W/FS PAS	2
203	030-000820-S	M8X20 BLT W/S PAS	4
204	FX0163	N8X1/2" S/TAP POSI FLG BZP	4
205	FX0021	M4X8 MSCR POSI PAN BZP	1
206	FX0009	M4 WSHR FORM A FLT BZP	1
207	FX0243	M4 WSHR SPR BZP	1
301	600-6697-19UK	WIRE HARN BILLBOARD	1
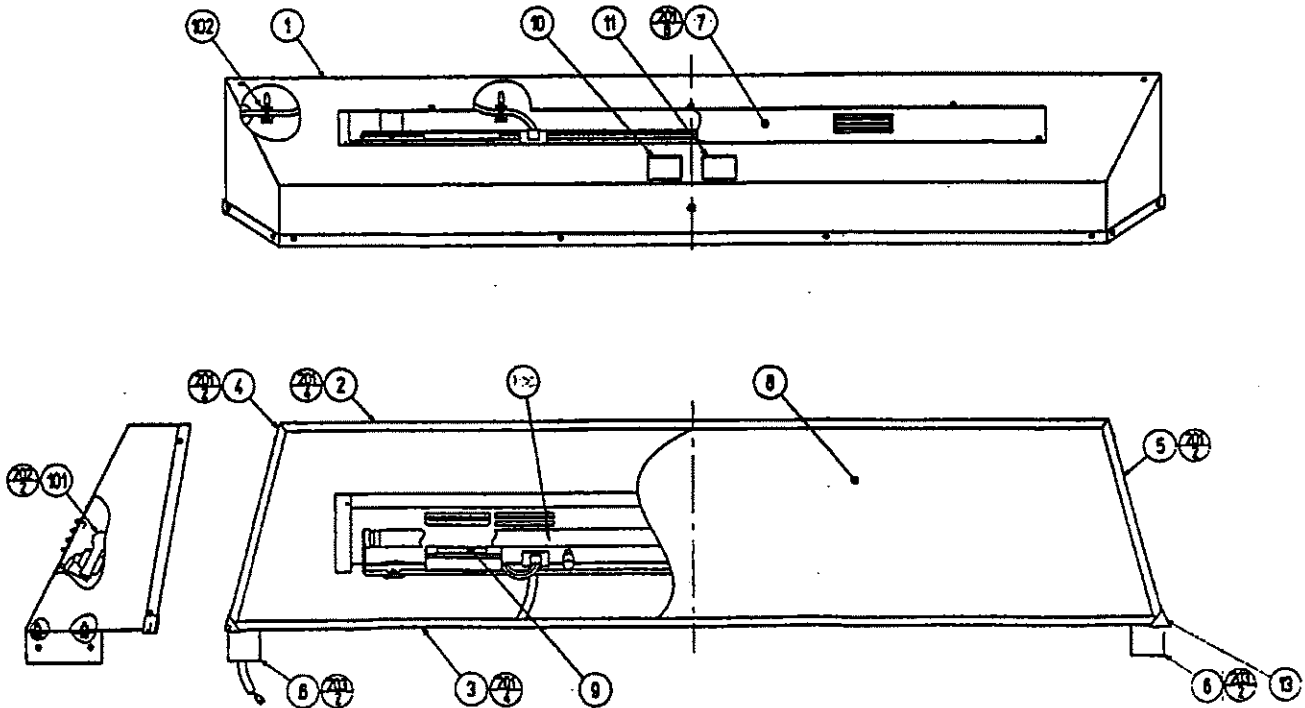
4. FLOOR CENTER ASSEMBLY. TTR-1520UK

Seq. No.	Part Number	Description	Qty.
1	TTR-1521UK	FLOOR CENTRE UK	1
3	TTR-1523	CORNER EDGE INNER	2
4	TTR-1524	CORNER EDGE FR	2
5	440-WP0057-EG	PLATE W FOOTMAT ENG	2
6	440-WP0058-EG	PLATE W THIS AREA ENG	2
201	000-T00408-OC	M4X8 MSCR POSI TH CRM	6
202	FX0011	M4 NUT FLG SER BZP	6
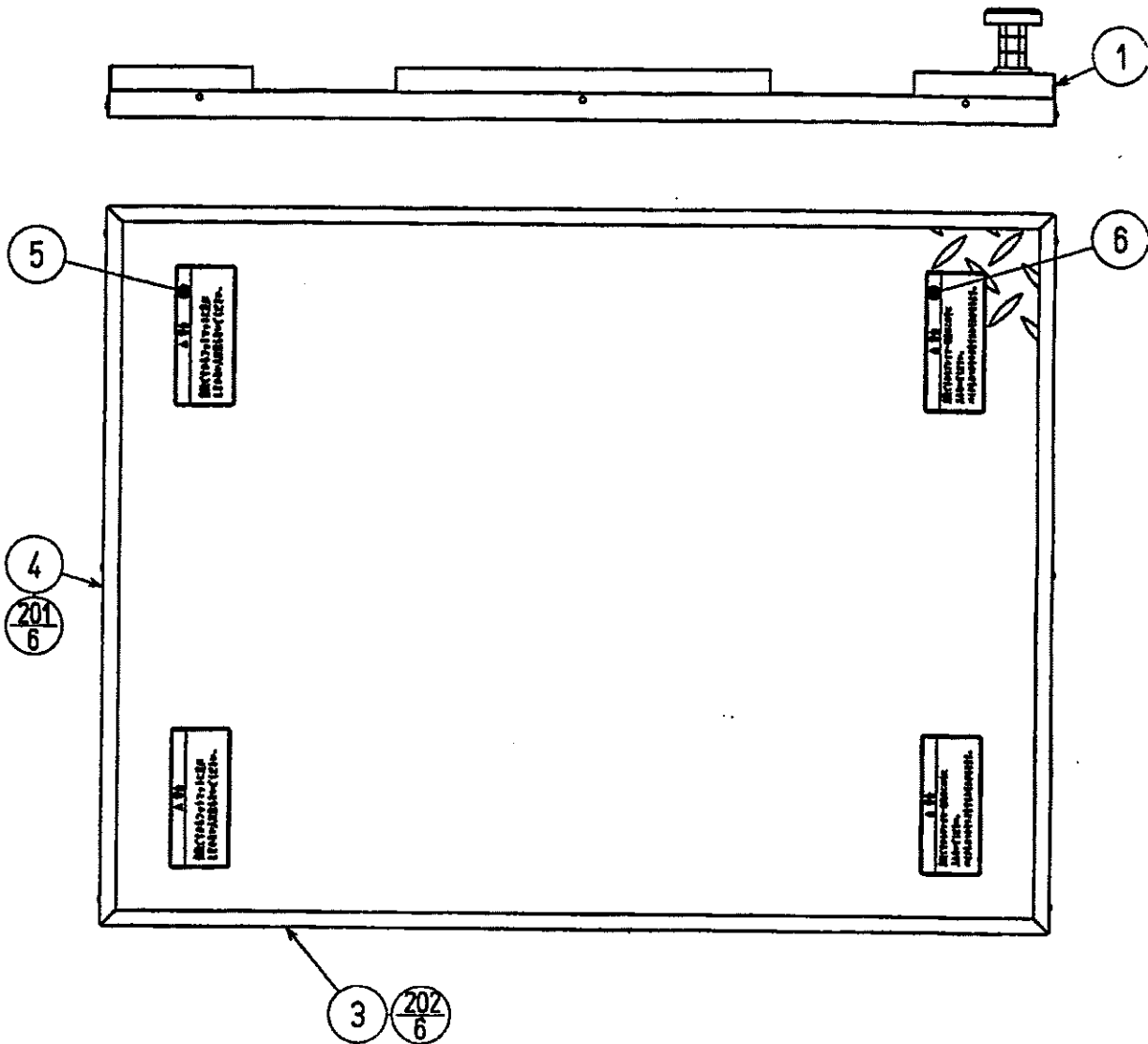
5. FLOOR SIDE ASSEMBLY. TTR-1550UK

Seq.No.	Part Number	Description	Qty.
1	TTR-1531UK	FLOOR SIDE UK	1
3	TTR-1533	CORNER EDGE OUTER	1
4	TTR-1523	CORNER EDGE INNER	1
201	000-T00408-OC	M4X8 MSCR POSI TH CRM	6
202	FX0011	M4 NUT FLG SER BZP	3
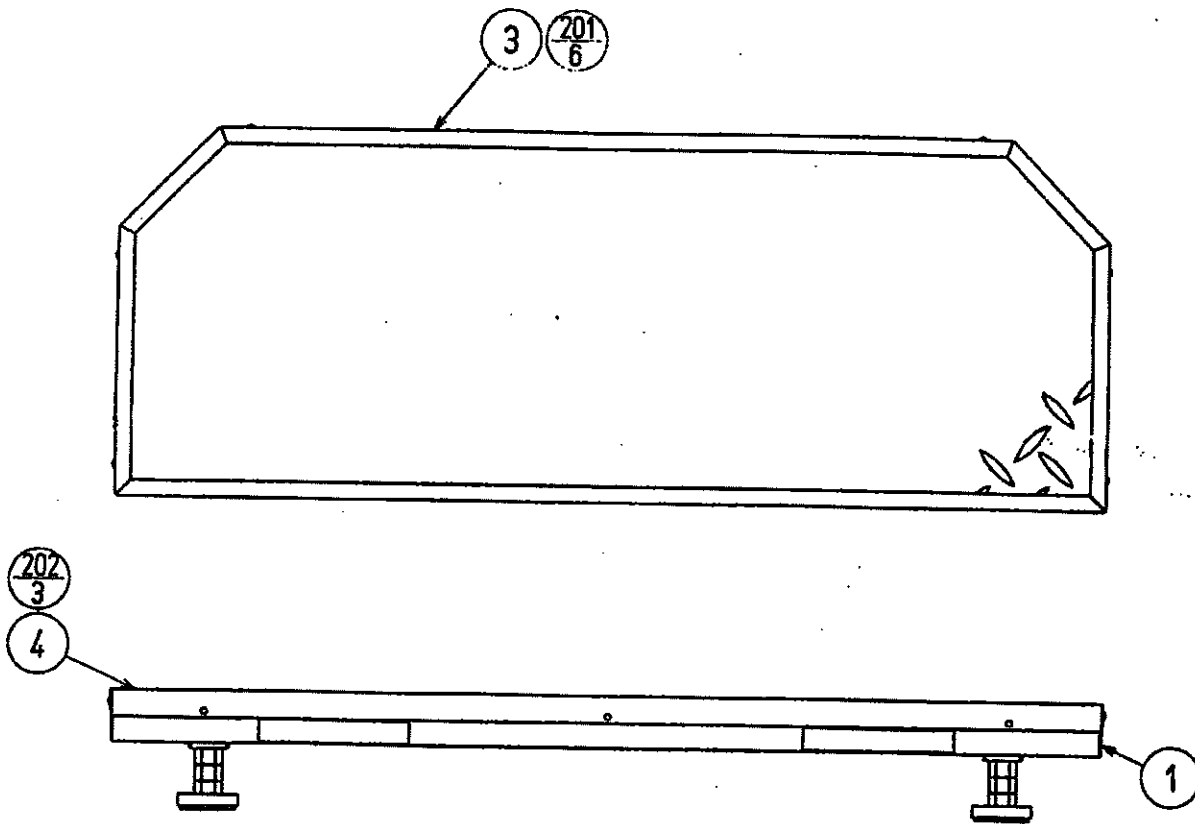
6. HANDING KIT. TTR-5000UK

Seq. No.	Part Number	Description	Qty.
1	TTR-1502-C	STICKER REAR FRAME L	1
2	TTR-1502-B	STICKER STEP CENTRE	2
3	TTR-1552-A	STICKER REAR FRAME R	1
4	TTR-3016-B	STICKER TANK LINE RED L	1
5	TTR-3016-C	STICKER TANK LINE RED R	1
6	TTR-3016-D	STICKER SEGA LOGO BLUE STM30	4
7	TTR-3017-A	STICKER TANK LINE BLUE L	1
8	TTR-3017-B	STICKER TANK LINE BLUE R	1
9	TTR-3055-A	STICKER SEAT LINE RED L	1
10	TTR-3055-B	STICKER SEAT LINE RED R	1
11	TTR-3055-C	STICKER NO.BASE TWIN L	2
12	TTR-3055-D	STICKER NO.BASE TWIN R	2
13	TTR-3051-G	STICKER SEAT COWL SPO A	2
14	TTR-3051-H	STICKER SEAT COWL SPO B	2
15	TTR-3058-A	STICKER SEAT LINE BLUE L	1
16	TTR-3058-B	STICKER SEAT LINE BLUE R	1
17	TTR-3051-B	SEAT CUSHION	2

7. FRONT CABINET ASSEMBLY. TTR-10001UK

Seq. No.	Part Number	Description	Qty.
1	TTR-1050UK	ASSY MONITOR L UK	1
2	TTR-1070UK	ASSY MONITOR R UK	1
3	TTR-1200UK	ASSY FRONT CABINET LOWER UK	1
4	TTR-1018	MONITOR LOCK BRKT	2
6	TTR-1066	ADJUST PANEL	2
7	TTR-1067	MONOITOR MASK	2
8	422-0565-01	PLAY INSTR SHT TTR TWIN UK	2
101	200-5395-24-10R	ASSY CLR DPSL 29" SANWA	2
102	PP1000	BUSH FOR NANAO MONITOR	8
103	PP1001	COLLAR FOR NANAO MONITOR	8
105	OS1225	SPACER M3X16 ROUND NYLON	4
201	030-000840-SB	M8X40 BLT W/S BNP	8
202	FX0400	M8 WSHR FORM A FLT BNP	8
206	000-T00530-OB	M5X30 MSCR POSI TH BNP	4
207	FS1027	M5 WSHR 19OD FLT BNP	4
208	FX0013	M6 NUT FLG SER BZP	8
209	000-P00312-WB	M3X12 MSCR POSI PAN BNP	4
213	FX0163	No8X1/2" S/TAP POSI FLG BZP	4
214	FX0012	M6 WSHR 25OD FLT BZP	8
216	FX0399	M3X8 MSCR POSI PAN BZP	4
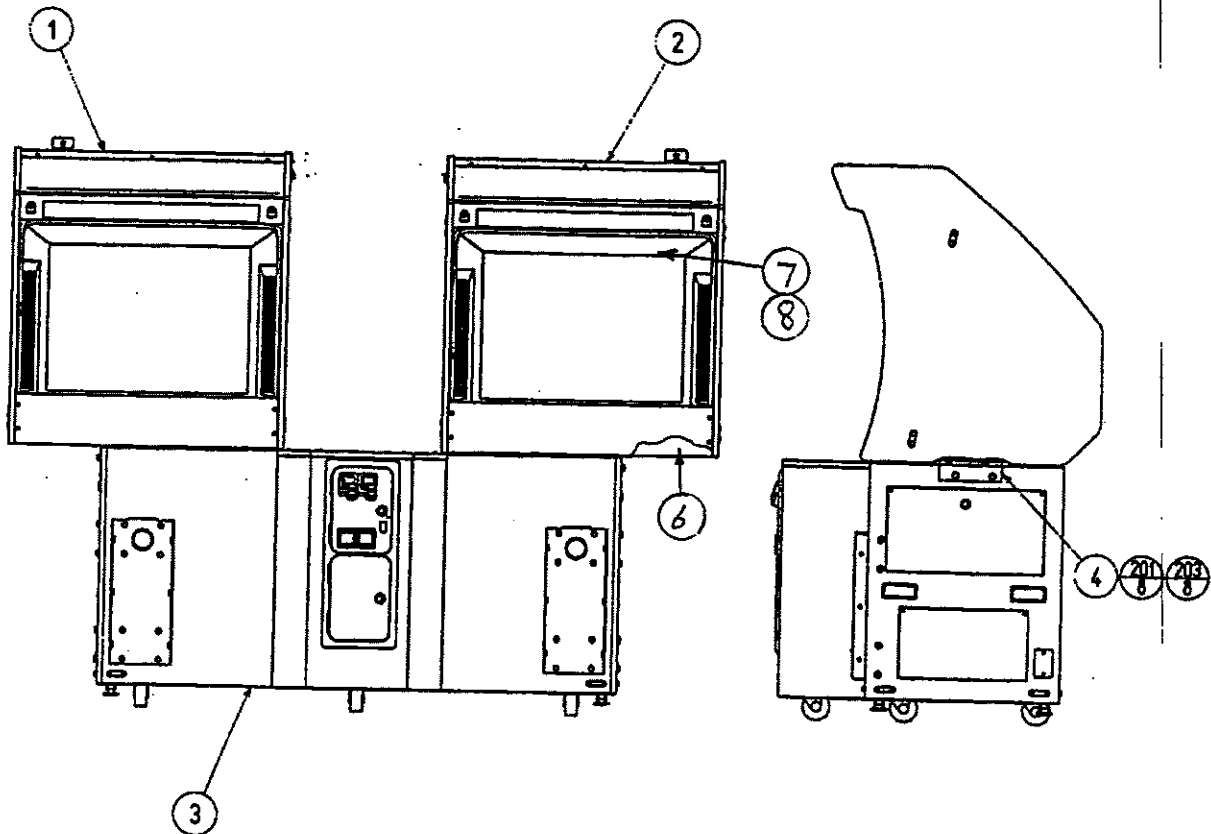
8. MONITOR BOX ASSEMBLY LEFT. TTR-1050UK

Seq. No.	Part Number	Description	Qty.
1	TTR-1051UK	ASSY SUB CABI MONITOR L UK	1
2	TTR-1090	ASSY SPEAKER	2
4	TTR-1064	DESIGN PLATE LEADER	1
5	TTR-1065	SASH	1
8	TTR-1080	LAMP UNIT	1
205	000-T00412-OB	M4X12 MSCR POSI TH BNP	3
210	000-P00416-W	M4X16 MSCR POSI PAN W/FS PAS	4
211	000-P00440-W	M4X40 MSCR POSI PAN W/S PAS	2
301	600-6697-13UK	WIRE HARN MONITOR L1	1
302	600-6697-18UK	WIRE HARN MONITOR R2	1
304	600-6697-104	WIRE HARN BILL BD SUPPLY EXT	1
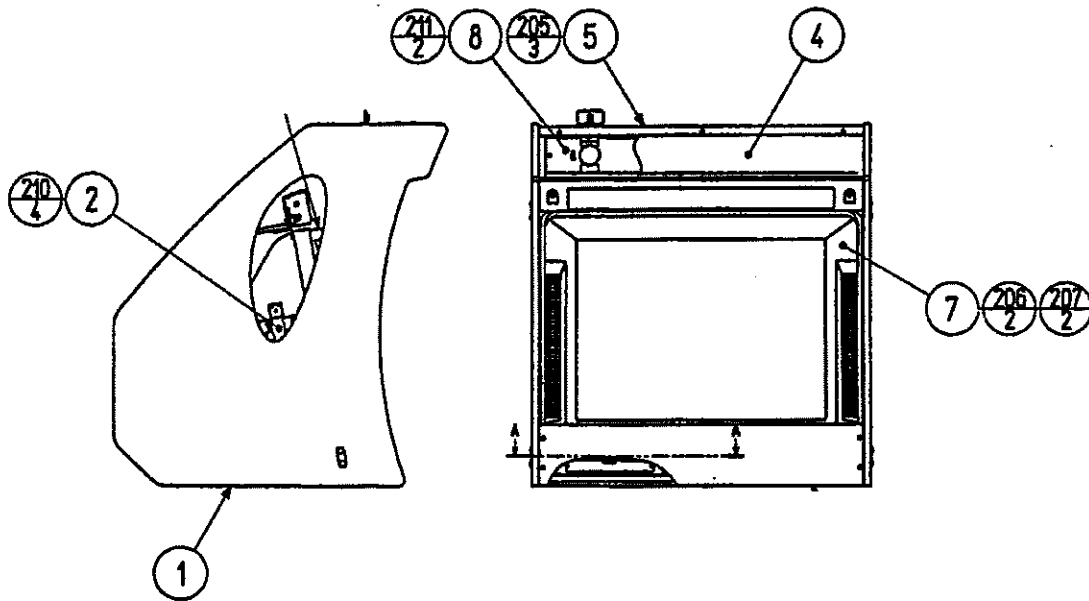
9. LAMP UNIT. TTR-1080

Seq. No.	Part Number	Description	Qty.
1	TTR-1081	LAMP BASE	1
2	421-7501-01	STICKER10V 25W	3
101	214-0184	LAMP SOCKET E17 (ES-T26N)	3
102	390-5573	LAMP 110V 25W(R40 E17 F110V)	3
201	FX0148	N4X3/4" S/TAP POSI PAN BZP	6
301	600-6697-16UK	WIRE HARN LEADER LAMP	1
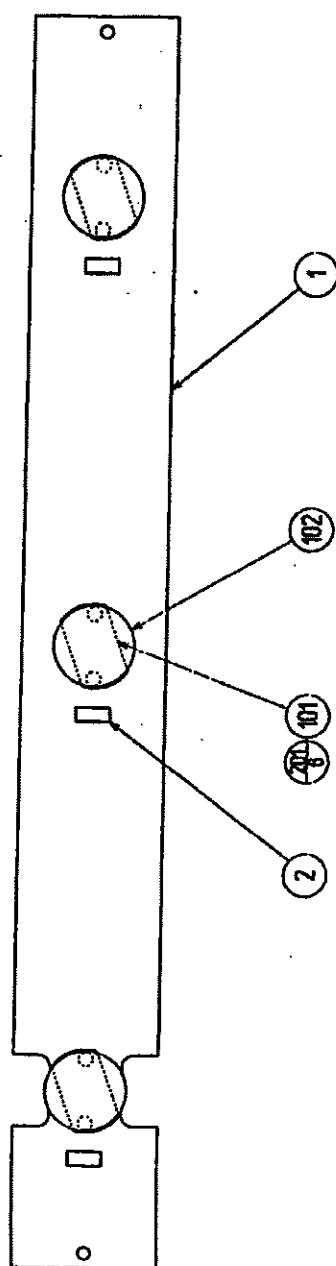
10. SPEAKER ASSEMBLY. TTR-1090

Seq. No.	Part Number	Description	Qty.
1	TTR-1091	SPEAKER BRKT	1
101	130-5140	SPEAKER BOX MINI DOME	1
201	000-P00412-W	M4X12 MSCR POSI PAN W/FS PAS	2
301	600-6697-15	WIRE HARN SPKR	1
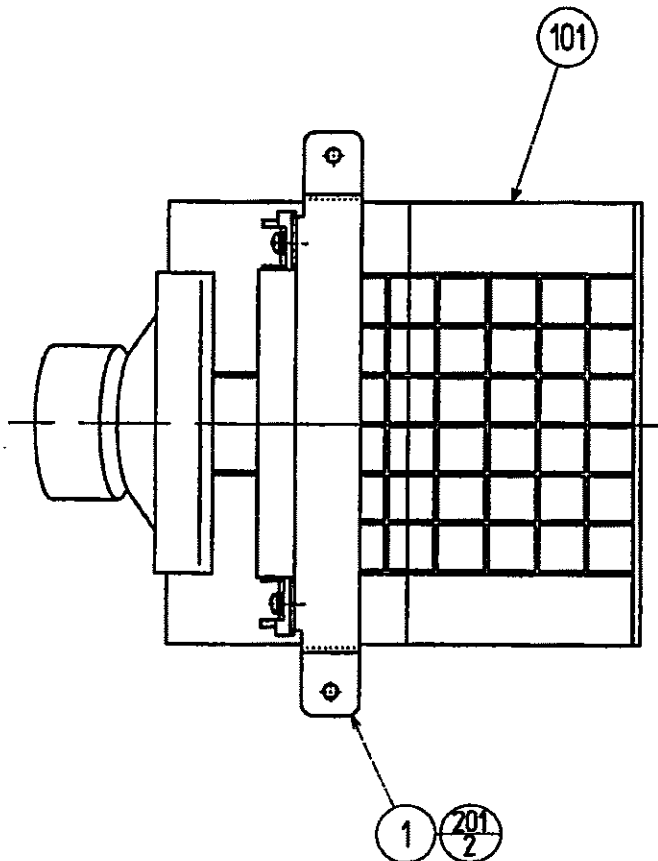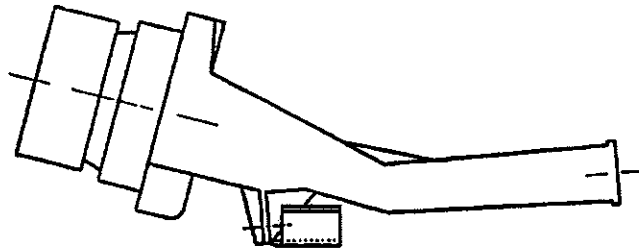
11. MONITOR SUB-CABINET ASSEMBLY. TTR-1051UK

Seq. No.	part Number	Description	Qty
1	TTR-1052-A	MONITOR BOX L BLANK	1
2	TTR-1053	MONITOR BACK LID	1
3	TTR-1054	MONITOR SUPPORT	2
4	TTR-1055	MASK SUPPORT	1
5	TTR-1056	SASH HOLDER	1
6	TTR-1057UK	CONN PLATE CABI UK	1
7	TTR-1058UK	CONN PLATE FL UK	1
9	TTR-1060	BILLBOARD HOOK	1
10	TTR-1061	BILLBOARD HOLDER	1
12	117-5235	PLATE 6-30	4
13	MP1017B	VENT AIR BLACK	1
15	TTR-1008	NUT PLATE 2-M8	2
17	DYN-2121	NUT PLATE 2-M8	3
18	TTR-1052-EUK	STICKER MON BOX L UK	1
201	000-T00430-OB	M4X30 MSCR POSI TH BNP	2
202	031-000630-OC	M6X30 CRG BLT CRM	8
203	FX0013	M6 NUT FLG SER BZP	8
204	000-T00416-OB	M4X16 MSCR POSI TH BNP	3
205	FX0278	M4X16 MSCR POSI CSK BZP	4
206	000-P00425-W	M4X25 MSCR POSI PAN W/FS PAS	4
207	030-000830-SB	M8X30 BLT W/S BNP	4
209	FS1014	M8 WSHR FORM C FLT BNP	4
210	000-T00420-OB	M4X20 MSCR POSI TH BNP	4
211	FX0163	N8X1/2" S/TAP POSI FLG BZP	0
303	LM9433	LOOM EARTH 600mm	1
304	LM9313	LOOM EARTH 500mm	1

SEE A
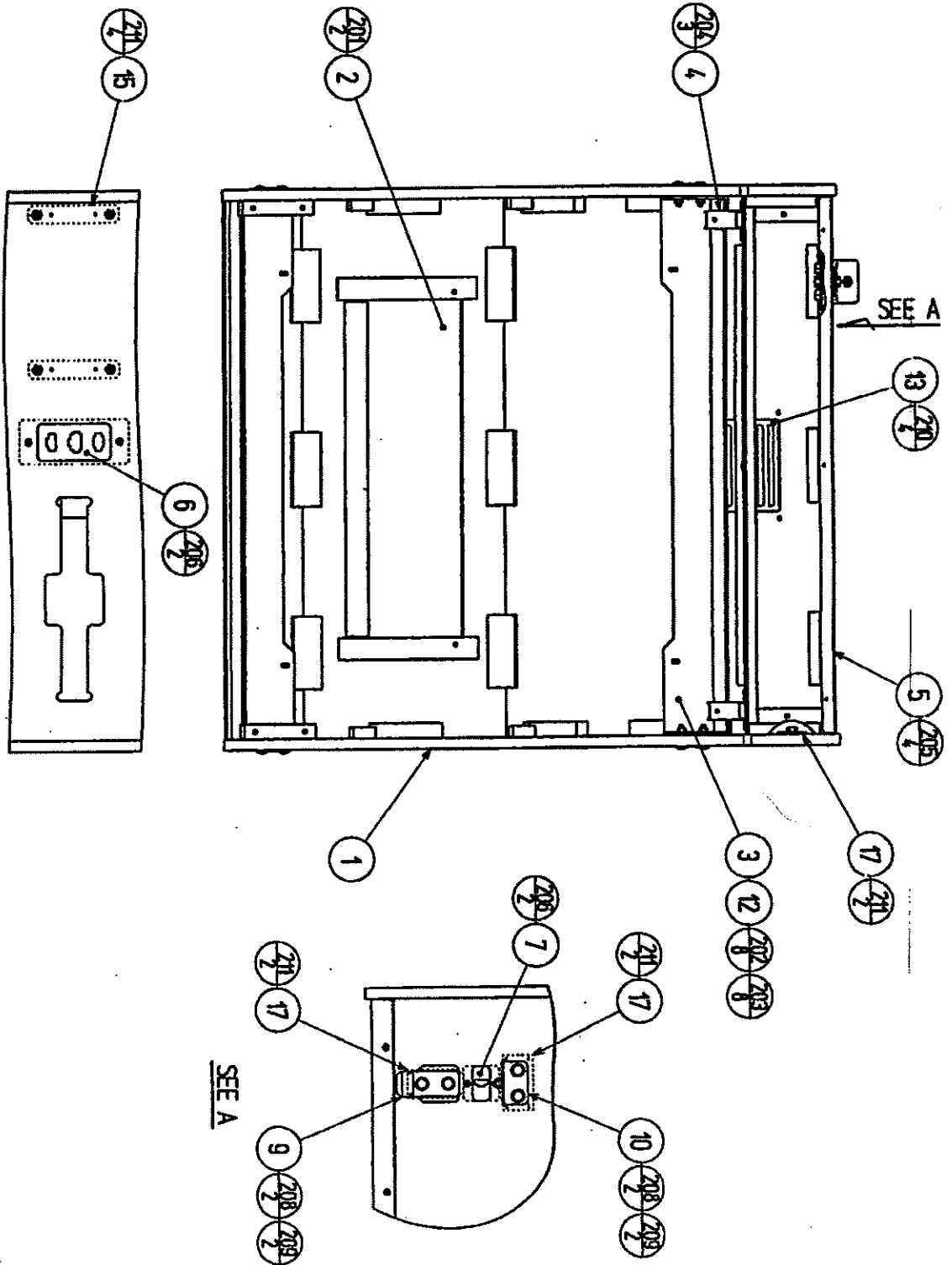
12. MONITOR BOX ASSEMBLY RIGHT. TTR-1070UK

Seq. No.	Part Number	Description	Qty.
1	TTR-1071UK	ASSY SUB CABI MONITOR R UK	1
2	TTR-1090	ASSY SPEAKER	2
4	TTR-1064	DESIGN PLATE LEADER	1
5	TTR-1065	SASH	1
8	TTR-1080	LAMP UNIT	1
205	000-T00412-OB	M4X12 MSCR POSI TH BNP	3
210	000-P00416-W	M4X16 MSCR POSI PAN W/FS PAS	4
211	000-P00440-W	M4X40 MSCR POSI PAN W/S PAS	2
301	600-6697-17UK	WIRE HARN MONITOR R1	1
302	600-6697-18UK	WIRE HARN MONITOR R2	1
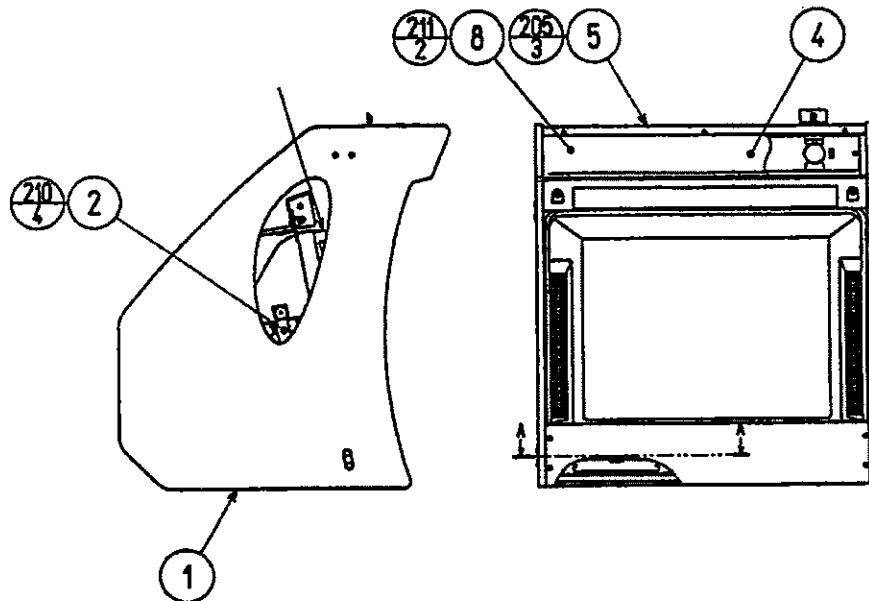
13. MONITOR SUB-CABINET ASSEMBLY. TTR-1071UK

Seq. No.	Part Number	Description	Qty.
1	TTR-1072-A	MONITOR BOX R BLANK	1
2	TTR-1053	MONITOR BACK LID	1
3	TTR-1054	MONITOR SUPPORT	2
4	TTR-1055	MASK SUPPORT	1
5	TTR-1056	SASH HOLDER	1
6	TTR-1057	CONN PLATE CABI	1
9	TTR-1060	BILLBOARD HOOK	1
10	TTR-1061	BILLBOARD HOLDER	1
12	117-5235	PLATE 6-30	4
13	MP1017B	VENT AIR BLACK	1
15	TTR-1008	NUT PLATE 2-M8	2
17	DYN-2121	NUT PLATE 2-M8	3
18	TTR-1072-EUK	STICKER MON BOX R UK	1
201	000-T00430-OB	M4X30 MSCR POSI TH BNP	2
202	031-000630-OC	M6X30 CRG BLT CRM	8
203	FX0013	M6 NUT FLG SER BZP	8
204	000-T00416-OB	M4X16 MSCR POSI TH BNP	3
205	FX0278	M4X16 MSCR POSI CSK BZP	4
206	000-P00425-W	M4X25 MSCR POSI PAN W/FS PAS	2
208	030-000830-SB	M8X30 BLT W/S BNP	4
209	FS1014	M8 WSHR FORM C FLT BNP	4
210	000-T00420-OB	M4X20 MSCR POSI TH BNP	4
211	FX0163	N8X1/2" S/TAP POSI FLG BZP	10
303	LM9433	LOOM EARTH 600mm	1
304	LM9313	LOOM EARTH 500mm	1

14. FRONT CABINET LOWER ASSEMBLY. TTR-1200UK

Seq. No.	Part Number	Description	Qty.
1	TTR-1201UK	ASSY SUB CABINET LOWER UK	1
2	TTR-1250UK	AC UNIT UK	1
3	TTR-1300	ASSY SHIELD CASE	2
4	TTR-4300UK	ASSY PWR SPLY UK	2
5	TTR-4400UK	ASSY ELEC UK	1
6	TTR-5100UK	ASSY VTS TTRT UK	1
7	253-5366UK	CASH BOX WOOD 233X144X195D	1
101	600-6275-0700	CABLE FIBER OPTIC 5mm X 700cm	2
201	000-T00420-OB	M4X20 MSCR POSI TH BNP	4
202	FX0163	N8X1/2" S/TAP POSI FLG BZP	3
203	000-P00530-W	M5X30 MSCR PH W/FS	10
204	FX0011	M4 NUT FLG SER BZP	1
301	LM9012	LOOM EARTH 200mm	1
302	LM9112	LOOM EARTH 300mm	1
303	LM9512	LOOM EARTH 750mm	1
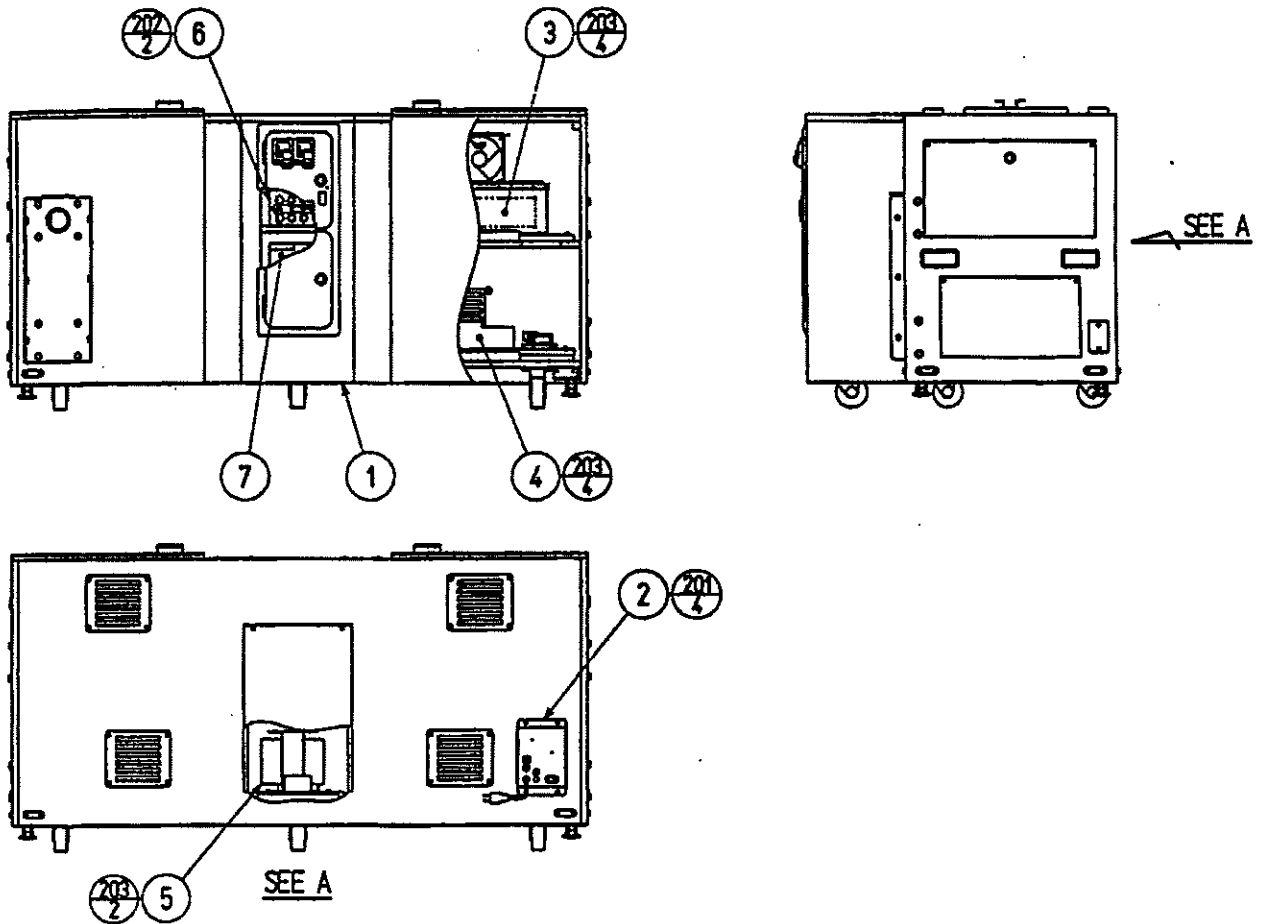
15. SUB-CABINET LOWER ASSEMBLY. TTR-1201UK

Seq. No.	Part Number	Description	Qty
1	TTR-1202-AUK	WOODEN CABINET LOWER UK BLANK	1
7	TTR-1208UK	NUT PLATE 6-M8 UK	4
8	TTR-1209	JOINT BRKT	2
10	TTR-1211	GUIDE BRKT	2
11	TTR-1212	HOLE LID	2
24	TTR-1008	NUT PLATE 2-M8	2
26	MP1017B	VENT AIR BLACK	4
27	253-5396	CABINET HANDLE	4
30	440-WS0002-EG	STICKER W POWER OFF	1
31	TTR-0013UK	CENTRE PLATE UK	1
40	TTR-1202-BUK	STICKER CABI L UK	1
41	TTR-1202-CUK	STICKER CABI R UK	1
46	TTR-1214UK	CASTOR SPACER UK	5
104	117-5233	PLATE LEG BRKT, BLACK	8
105	MA1015	FOOT ADJUST M16X90 D45 1 L/NUT	4
106	MA1007	CASTOR SWIVEL 63mm NYLON	5
107	ARC-1006	LEG BRACKET	4
108	FN1000	FAN AXIAL 240V AC 120mm x 38mm	2
109	FN1012	MESH GUARD METAL 120mm FAN	2
204	030-000830-SB	M8X30 BLT W/S BNP	8
205	FX0400	M8 WSHR FORM A FLT BNP	8
206	030-000830-S	M8X30 BLT W/S PAS	20
207	FX0365	M8 WSHR FORM A FLT BZP	20
208	000-T00416-OB	M4X16 MSCR POSI TH BNP	4
209	FX0163	N8X1/2" S/TAP POSI FLG BZP	4
213	000-T00420-OB	M4X20 MSCR POSI TH BNP	20
215	030-000850-SB	M8X50 BLT W/S BNP	20
217	030-000630-SB	HEX BLT BLK W/S M6X30	16
218	FX0021	M4X8 MSCR POSI PAN BZP	2
219	FX0009	M4 WSHR FORM A FLT BZP	2
220	FX0019	M4 WSHR S/PRF BZP	2
221	FX0427	N10X3/8" S/TAP HEX BZP	8
222	OS1195	RIVET SNAP MOSS SR1811	8
223	FX0011	M4 NUT FLG SER BZP	4
224	FX0261	M8 WSHR SPR BZP	20
301	600-6697-07UK	WIRE HARN FRONT CAB EXT 1	1
302	600-6697-08UK	WIRE HARN FRONT CAB EXT 2	1
303	600-6697-09UK	WIRE HARN FRONT CAB EXT 3	1
304	600-6697-10	WIRE HARN FRONT CAB EXT 4	1
305	600-6697-11UK	WIRE HARN FRONT CAB EXT 5	1
306	600-6697-12UK	WIRE HARN FRONT CAB EXT 6	1
307	600-6697-20	WIRE HARN FRONT CAB EXT 7	1
308	600-6697-35UK	WIRE HARN FRONT CAB EXT 8	1
309	600-6697-102	WIRE HARN PLAYER SEL SW	2
310	600-6697-103	WIRE HARN BILL BD SUPPLY	1
311	LM9511	LOOM EARTH 750mm	1
312	LM9211	LOOM EARTH 400mm	2
313	LM9711	LOOM EARTH 1500mm	1
314	LM9311	LOOM EARTH 500mm	2

SECTION Y-Y

SECTION X-X
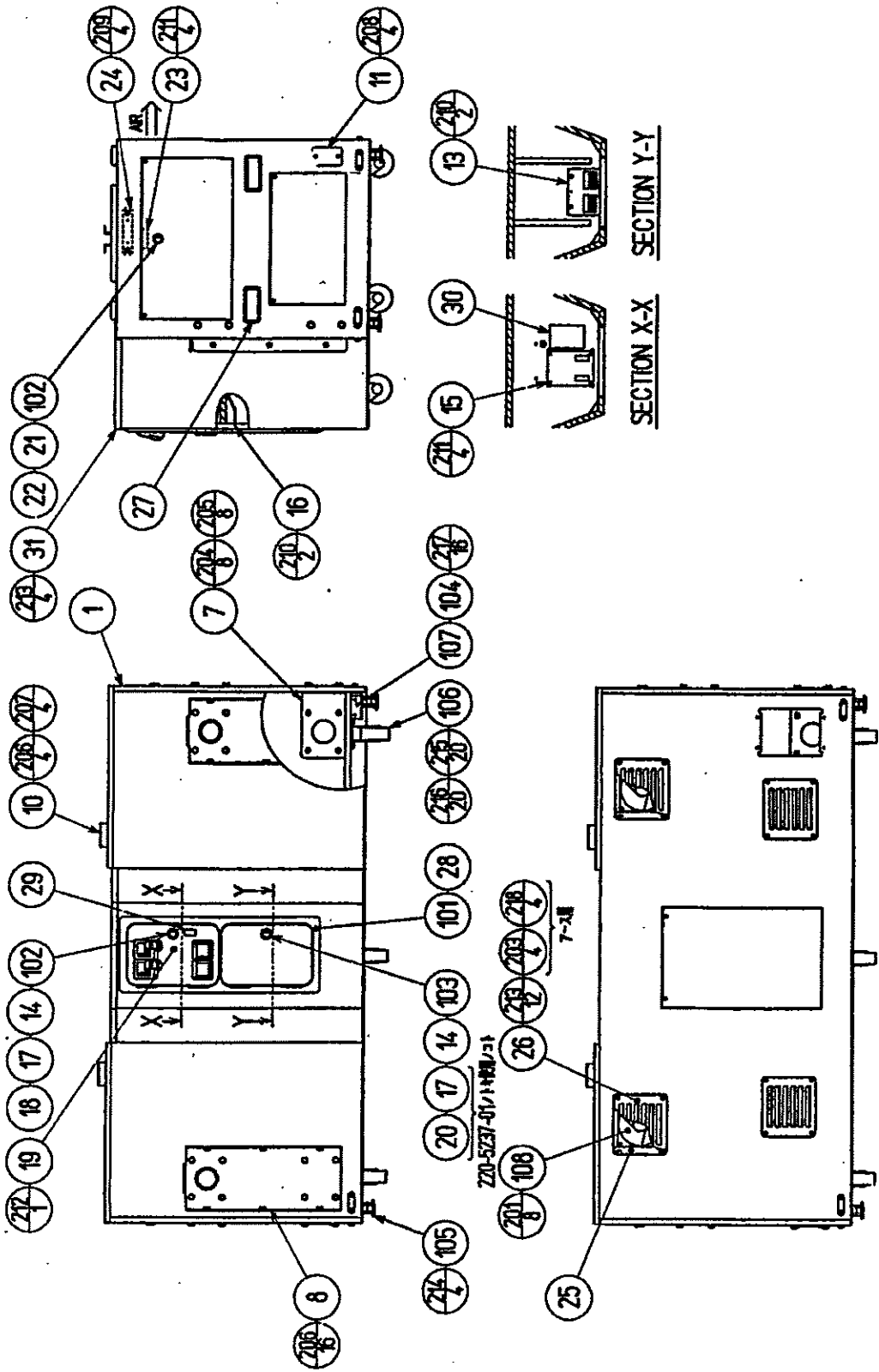
16. AC UNIT ASSEMBLY. TTR-1250UK

Seq. No.	Part Number	Description	Qty.
1	TTR-1251UK	AC BRKT UK	1
101	EP1348	SOCKET IEC 10AMP SNAP-IN	1
102	EP1349	CIRCUIT BREAKER THERM O/L 8A	1
103	EP1344	FILTER EMI 10A BLP	1
201	FX0021	M4X8 MSCR POSI PAN BZP	4
202	FX0011	M4 NUT FLG SER BZP	1
203	310-5029-D508	HEAT SHRINK SLEEVING 50.8DIA	0.04
301	600-6697-01UK	WIRE HARN AC UNIT TWIN	1
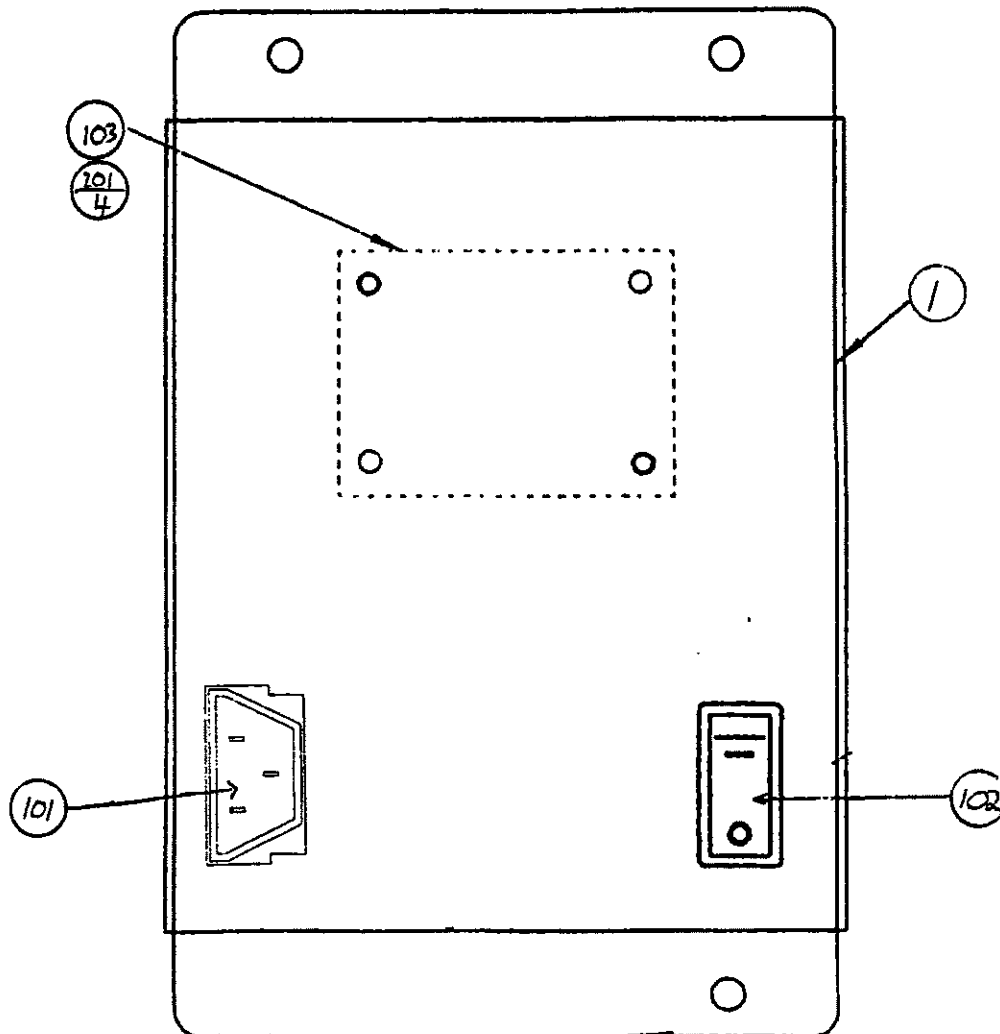
17. SHIELD CASE ASSEMBLY. TTR-1300

Seq. No.	Part Number	Description	Qty.
1	TTR-1301UK	SHIELD CASE BASEUK	1
2	105-5218	SHIELD CASE	1
4	839-0744	PEC FILTER BD A-CRX RALLY	1
5	833-12466	GAME BD MANX T.T TWIN	1
101	FN1016	FAN AXIAL 5V DC 80mm	1
102	OS1098	CRIMP BELL END SMALL	2
202	FX0163	N8X1/2" S/TAP POSI FLG BZP	4
204	FX0020	M3X8 TAPTITE POSI PAN BZP	29
205	FX0305	M3X30 MSCR POSI PAN BZP	4
206	FX0263	M3 WSHR FORM A FLT BZP	4
207	FX0239	M3 WSHR SPR BZP	4
301	600-6697-24	WIRE HARN SHIELD CASE 1	1
302	600-6697-25	WIRE HARN SHIELD CASE 2	1
303	600-6502-13	WIRE HARN DC FAN	1

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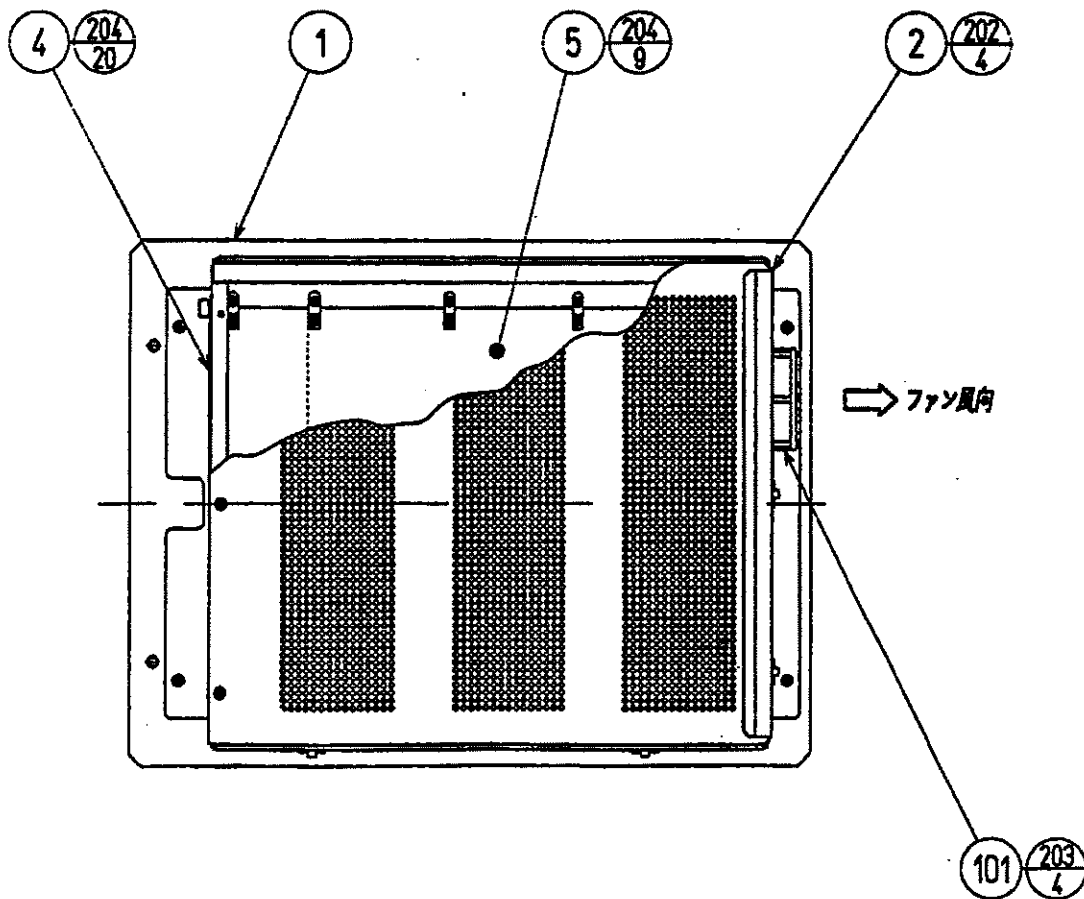
18. POWER SUPPLY ASSEMBLY. TTR-4300UK

Seq. No.	Part Number	Description	Qty.
1	TTR-4301	PWR SPLY BASE	1
2	838-10801-04	CONN BD B W/O FUSE	1
3	838-11650-14	EQ.PWR AMP MANX T.T TWIN	1
4	838-12280	MONORAL AMP	1
5	839-0451-01	LIGHT CONTROL BD TTR	1
101	400-5264-91	SW REGU +5V12A,12V1.5A,-5V.1A	1
201	FX0151	N4X1" S/TAP POSI PAN BZP	15
202	FX0163	N8X1/2" S/TAP POSI FLG BZP	4
301	600-6697-21	WIRE HARN ELEC 1	1
302	600-6697-22UK	WIRE HARN ELEC 2	1
303	600-6697-23	WIRE HARN ELEC 3	1
304	600-6697-33	WIRE HARN ELEC 4	1
305	600-6697-34	WIRE HARN ELEC 5	1
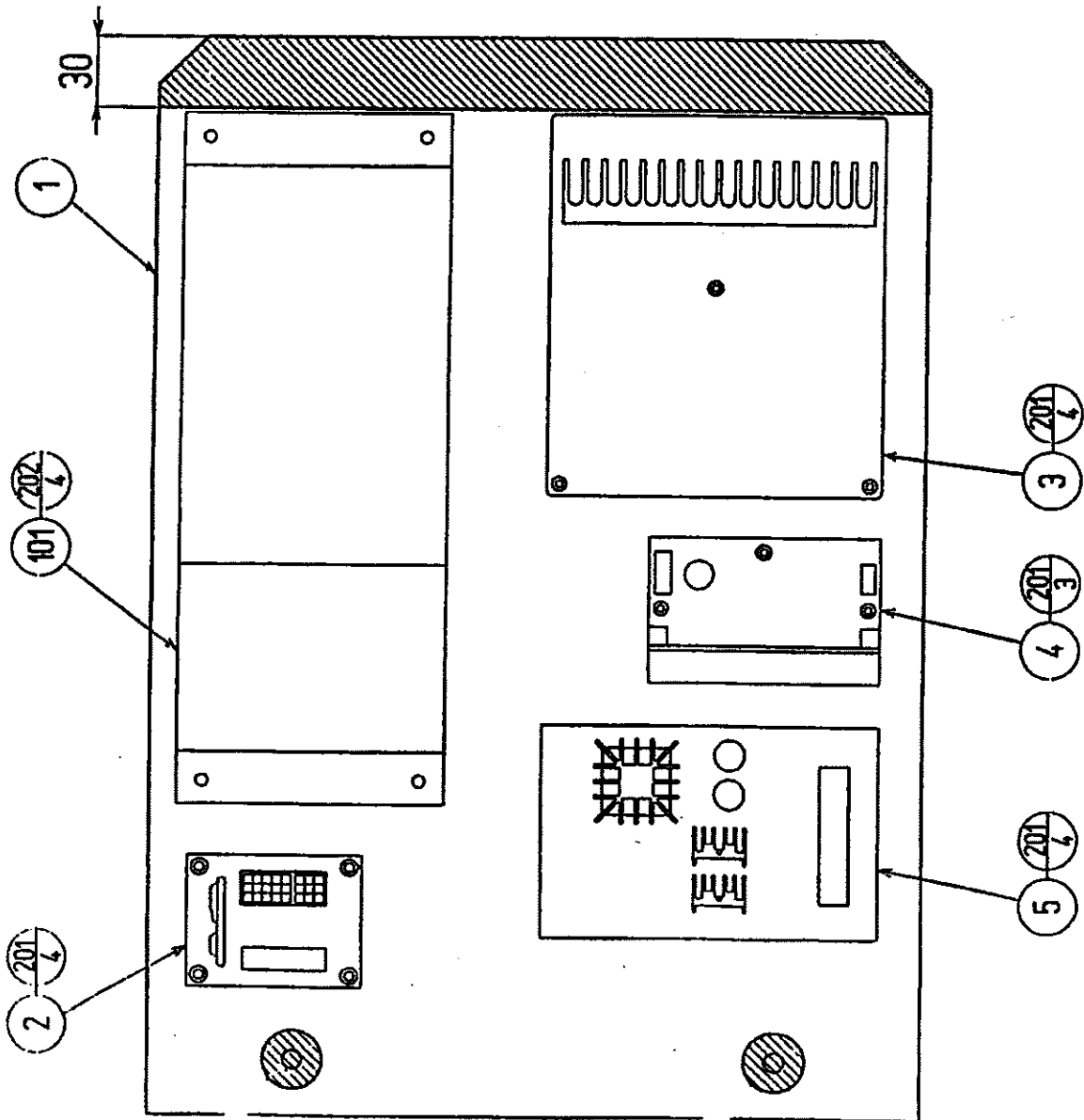
19. ELEC ASSEMBLY. TTR-4400UK

Seq. No.	Part Number	Description	Qty.
1	TTR-4401UK	ELEC BASE UK	1
101	560-5224UK	TRANSFORMER TT RACE TWIN 892VA	1
201	FX0163	N8X1/2" S/TAP POSI FLG BZP	4
202	FX0038	M4X20 MSCR POSI PAN BZP	1
203	FX0241	M4 WSHR FORM C FLT BZP	2
204	FX0243	M4 WSHR SPR BZP	1
205	FX0011	M4 NUT FLG SER BZP	2
301	600-6697-02UK	WIRE HARN PWR SUPPLY 1	1
302	600-6697-04UK	WIRE HARN PWR SUPPLY 3	1
303	600-6697-05UK	WIRE HARN PWR SUPPLY 4	1
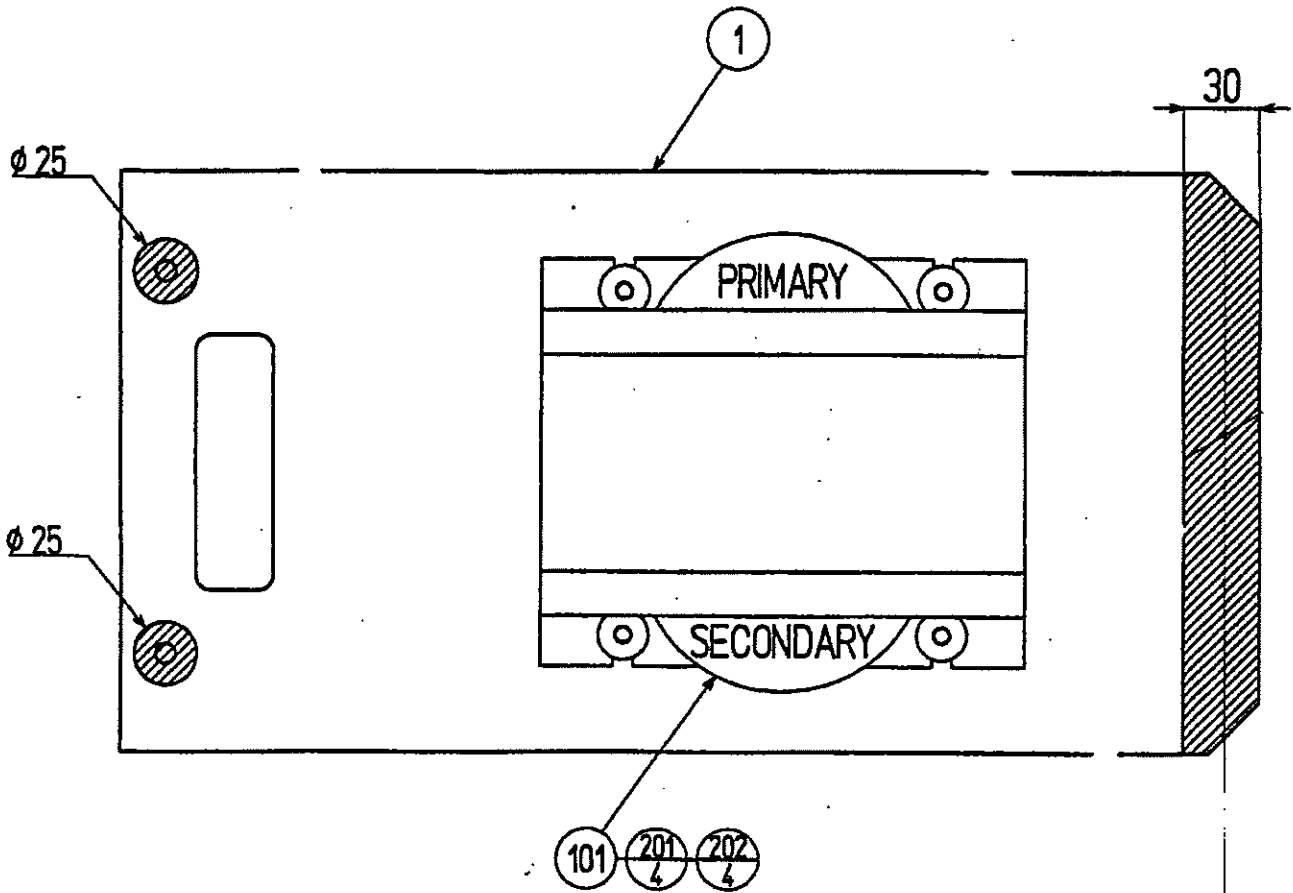
20. VTS ASSEMBLY. TTR-5100UK

Seq. No.	Part Number	Description	Qty.
1	MP1284	BRKT PANEL VTS (KWIK FIT)	1
2	SW1100	SWITCH MOMENTARY 0.11" TAB	4
3	EP1003	COUNTER IMPULSE, PANEL W/CLIP	1
4	EP1004	PEC CREDIT BD KLINGON	1
5	EP1331	POT 4.7K LIN 0.11" TAB	2
6	EP1018	KNOB 15MM DIA FOR 6.3MM SHAFT	2
7	SW1099	SWITCH PB MOMENTARY 30/40AMP	2
8	LB1006	LABEL VTS 1 SIL/BLK VERT LIST	1
9	LB1028	LABEL 110VAC MINI YELL/BLK	1
11	OS1181	CABLE TIE BASE 19mmSq SELF/ADH	5
12	OS1174	CABLE TIE, NYLON 100mm	6
13	OS1098	CRIMP BELL END SMALL	2
14	OS1055	TERM 1/4" RECEPT. RED F/INSUL	2
15	FX0029	M3X10 MSCR POSI PAN BZP	4
16	FX0263	M3 WSHR FORM A FLT BZP	4
19	LB1010	LABEL DLM ASSEMBLED	1
20	LB1011	LABEL DLM TESTED	1
301	600-6697-101	WIRE HARN VTS TT TWIN	1
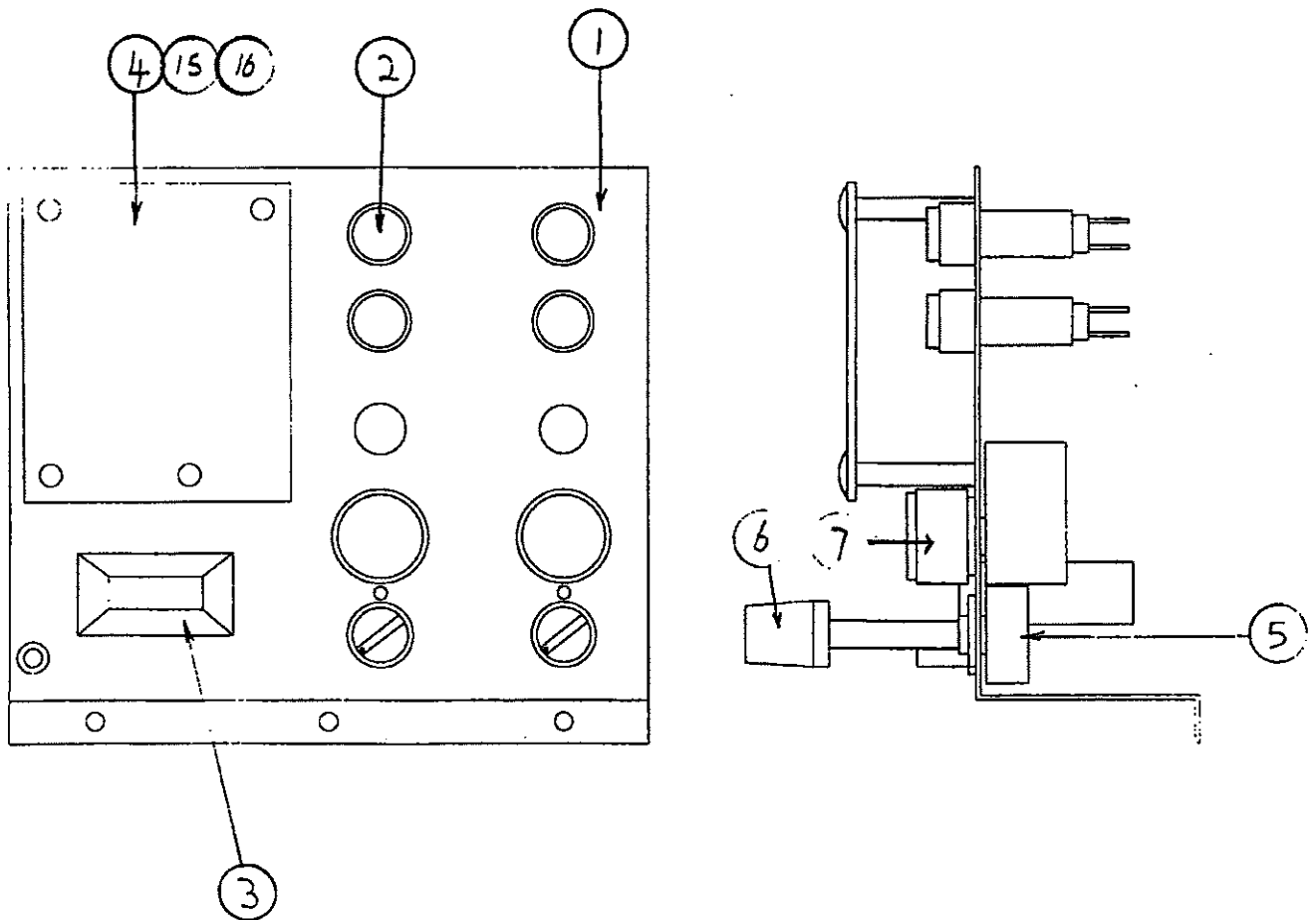
21. CENTERING MECHA ASSEMBLY. TTR-3040

Seq. No.	Part Number	Description	Qty.
1	TTR-3041	CENTERING BASE	1
2	TTR-3042	ROSTA BRKT TWIN	1
3	TTR-3043	ROSTA MOUNT BRKT	1
4	TTR-3044	STOPPER BLOCK	1
5	TTR-3045	STOPPER RUBBER	1
7	TTR-3047	VR MOUNT BRKT	1
8	TTR-3048	VR BRKT	1
9	TTR-3202	MOUNT BLOCK	2
10	TTR-3203X	CENTERING SHAFT	1
11	TTR-3205	FLT 14.5-36X3.2	2
12	TTR-2009	GEAR HOLDER 80	1
13	601-6005	ADJUST GEAR,DYN-1300 ASSY.	1
14	601-7945	GEAR 20	1
15	TTR-3049	SLIDE PLATE	2
101	601-8596	ROSTA 22SQ (DR-S 27X60) – BLUE	2	STABILISES BIKE
102	100-5224	BEARING 25 FYH UCP305	2
103	220-5484	VOL CONT B-5K OHM	1
106	OS1034	SLEEVE H 20 BLACK	3
201	FX0208	M14 NUT BZP	2
202	FX0235	M14 WSHR SPR BZP	6
203	FAS-200007	M14X70 SKT CAP S/C	4
204	FX0374	M14 WSHR FORM A FLT BZP	4
205	030-000820-S	M8X20 BLT W/S PAS	8
206	FX0365	M8 WSHR FORM A FLT BZP	8
207	000-P00408-W	M4X8 MSCR POSI PAN W/FS PAS	6
208	FX0218	M5 NUT NLK BZP	1
209	FX0289	M4X16 MSCR POSI PAN BZP	2
210	FX0399	M3X8 MSCR POSI PAN BZP	2
301	600-6659-43	WIRE HARN ANGLE VOL	1
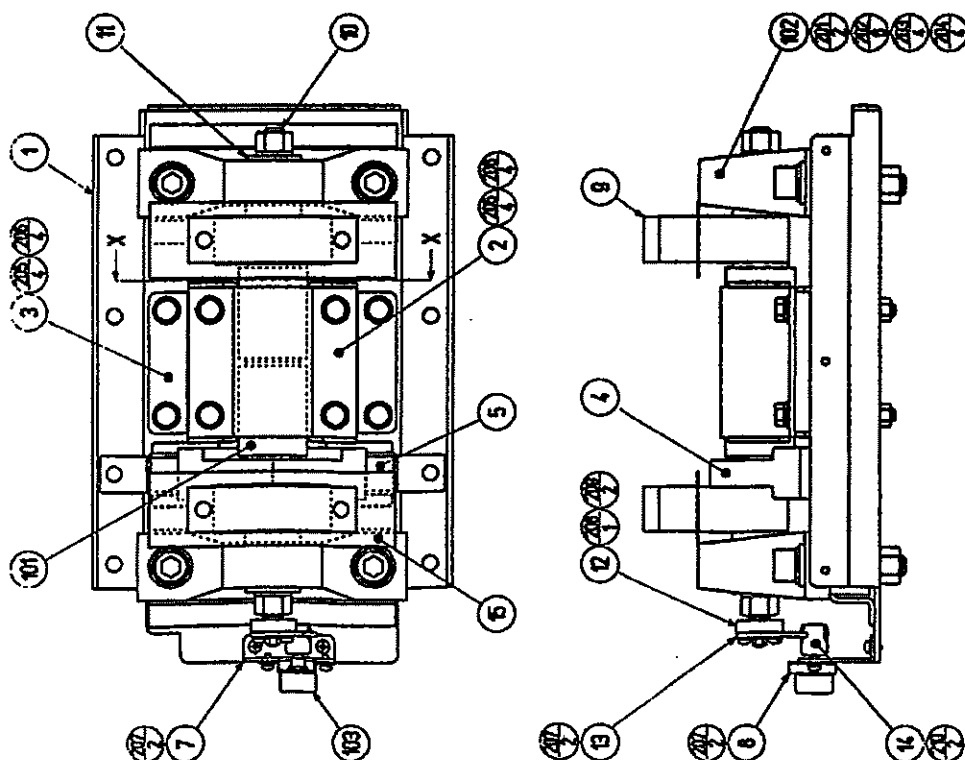
22. MUFFLER ASSEMBLY. TTR-3090

Seq. No.	Part Number	Description	Qty.
1	TTR-3091	MOUNT BRKT	1
2	TTR-3092	SILENCER BAND	2
3	TTR-3093	CENTRE PIPE	1
4	TTR-3094	CUSHION RUBBER	2
5	TTR-3008	FRAME LID	1
101	130-5147	SPEAKER DUCT WOOFER	1
201	FAS-110005	N8X3/8" S/TAP POSI TH CRM	3
202	000-T00616-OC	M6X16 MSCR POSI TH CRM	2
203	000-T00408-OC	M4X8 MSCR POSI TH CRM	3

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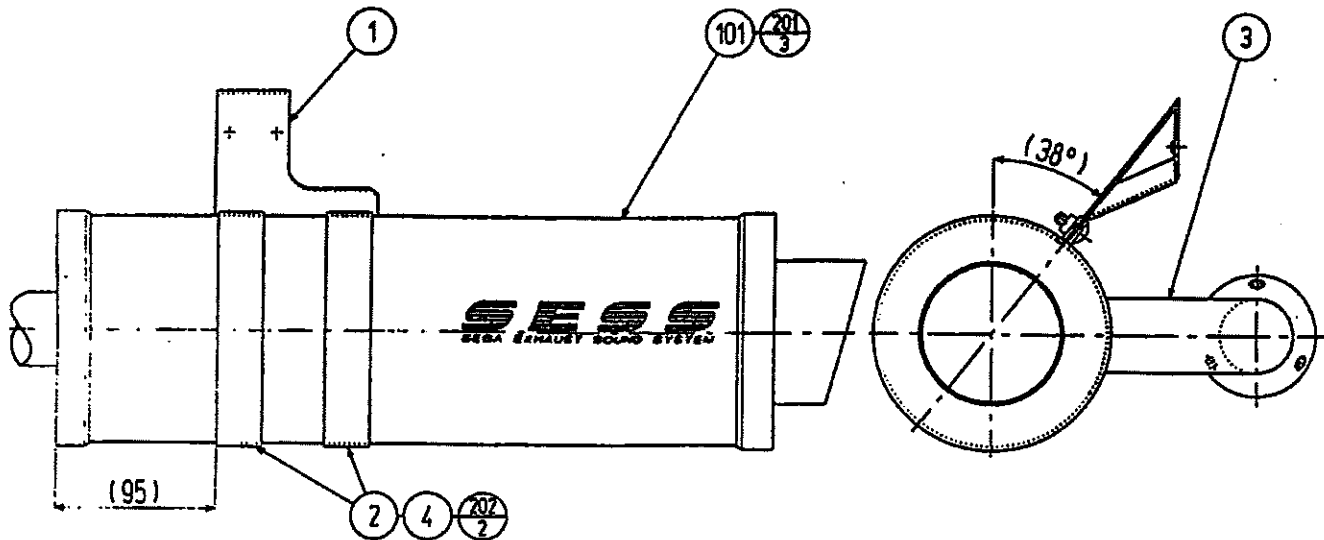
23. BIKE FRAME TWIN ASSEMBLY. TTR-3095UK

Seq. No.	Part Number	Description	Qty.
1	TTR-3071	BIKE FRAME	1
2	TTR-3072	STEP RUBBER	2
3	TTR-3073	STEP COLLAR	2
4	TTR-3074	SUB MOUNT PLATE	2
5	TTR-3007	WIRE COVER	1
6	TTR-3054UK	ASSY SEAT COWL UK	1
201	030-000620-SB	M6X20 BLT W/S BNP	10
202	FAS-110005	N8X3/8" S/TAP POSI TH CRM	4
203	FX0413	M6 WSHR FORM A BNP	10
204	FX0220	M8 NUT NLK BZP	2
205	FX0400	M8 WSHR FORM A FLT BNP	3
206	FS1019	M8 WSHR SPR BNP	2
301	600-6659-41	WIRE HARN BIKE FRAME 1	1
302	000-P00412-WB	M4X12 MSCR POSI PAN W/FS BNP	1
303	030-000830-SB	M8X30 BLT W/S BNP	2
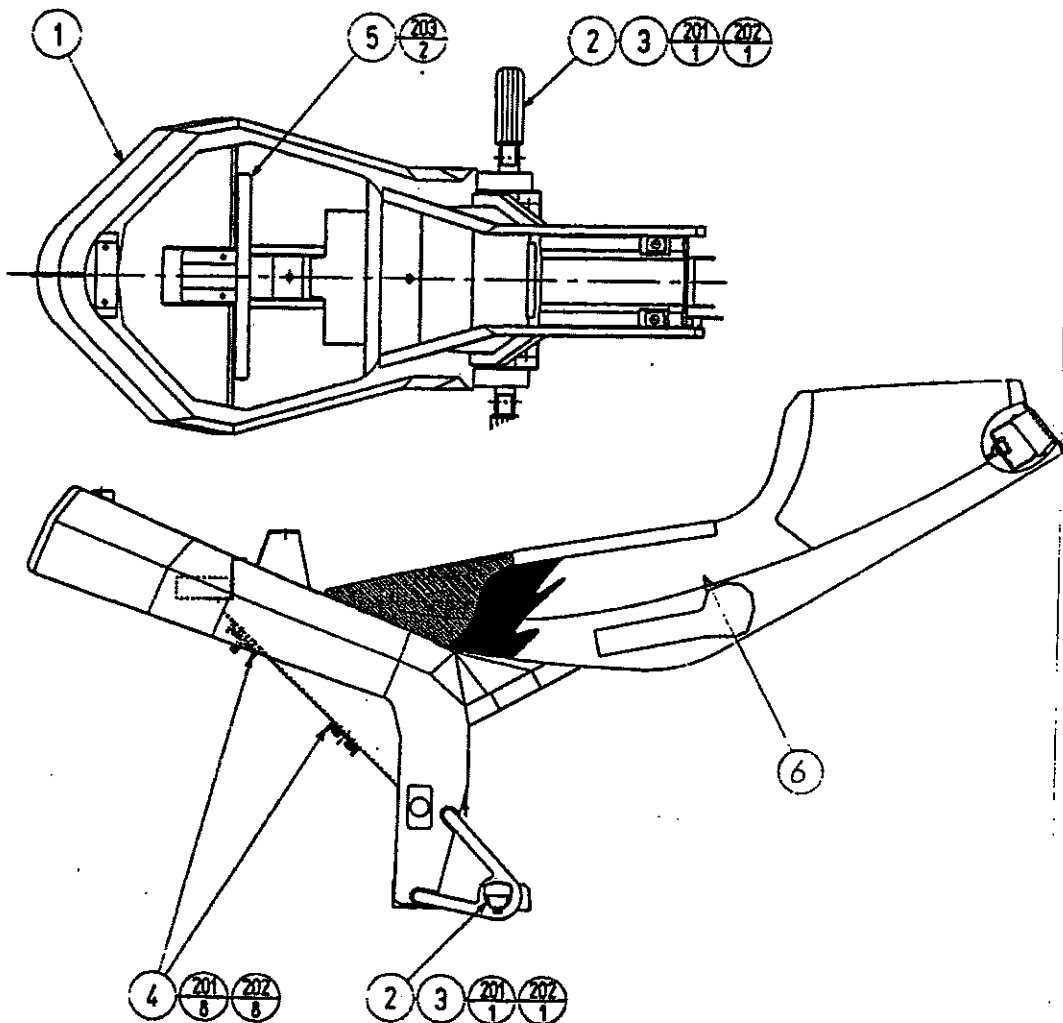
24. HANDLE MECHA ASSEMBLY. 610-0391

Seq. No.	Part Number	Description	Qty.
1	TTR-2001	HANDLE BASE	1
2	TTR-2002	HANDLE LEFT	1
3	TTR-2003	SW COVER	1
4	TTR-2004	LEVER HOLDER UPPER	1
5	TTR-2005	STOPPER SHAFT	1
6	TTR-2006	BRAKE VOL. BRACKET	1
7	TTR-2007	ACCEL. VOL. BRACKET	1
8	TTR-2008	STOPPER LID	1
9	TTR-2009	GEAR HOLDER 80	1
10	TTR-2010	GEAR HOLDER 110	1
11	TTR-2011	GEAR 110	1
12	TTR-2012	COVER HOLDER BRACKET	1
13	TTR-2013	GRIP L	1
14	TTR-2014	GRIP R	1
15	TTR-2015	STOPPER RUBBER	1
16	TTR-2016	ACCEL. STOPPER	1
17	COL-2202—N	BRAKE LEVER	1
18	COL-2203	LEVER SHAFT	1
19	COL-2204	TORSION SPRING 1.2	1
20	COL-2205	LEVER COLLAR	1
21	COL-2215	STOPPER DISK	1
22	GPD-2009	TORSION SPRING	1
23	GLC-2218	KEY 3x3x7	1
24	HSD-2017	SPRING HOLDER	1
25	HSD-2019	KEY 4x4x12	1
101	100-5041	BEARING (NSK F688ZZ)	2
102	100-5111	BEARING DIA. 12 (NSK 6001ZZ)	1
103	100-5112	BEARING DIA. 17 (NSK 6003ZZ)	1
104	100-5228	BEARING PIN 4x19.8	1
105	601-5564	STOPPER	1
106	601-6005	ADJUST GEAR	1
107	601-7944	GEAR 15	1
108	601-7945	GEAR 20	1
109	220-5484	VOL CONT B-5KOHM	2
110	810-5029-D20	SUMITUBE F D20MM	10
111	601-0460	CABLE TIE 100MM	5
112	509-5724	PUSH BUTTON SW GREEN	1
113	509-5725	PUSH BUTTON SW RED	1
201	000-F00308	MSCR FH M3x8	4
202	000-P00408-W	MSCR PH W/FS M4x8	3
203	000-P00412-W	MSCR PH W/FS M4x12	7
204	000-P00512-W	MSCR PH W/FS M5x12	3
205	050-F00500	FLG NUT M5	1
206	050-U00600	U NUT M6	1
207	050-H01200	HEX NUT M12	2
208	060-S01200	SPR WSHR M12	2
209	060-F01200	FLT WSHR M12	1
210	028-A00306-P	SET SCR HEX SKT CUP P M3x6	4
211	028-A00408-P	SET SCR HEX SKT CUP P M4x8	4
301	600-6859-45	WIRE HARN HANDLE UNIT 1	1
302	600-6659-46	WIRE HARN HANDLE UNIT 2	1
303	600-5569-52	WIRE HARN HANDLE UNIT 3	1
304	600-6659-60	WIRE HARN EARTH HANDLE UNIT	1

SECTION A-A
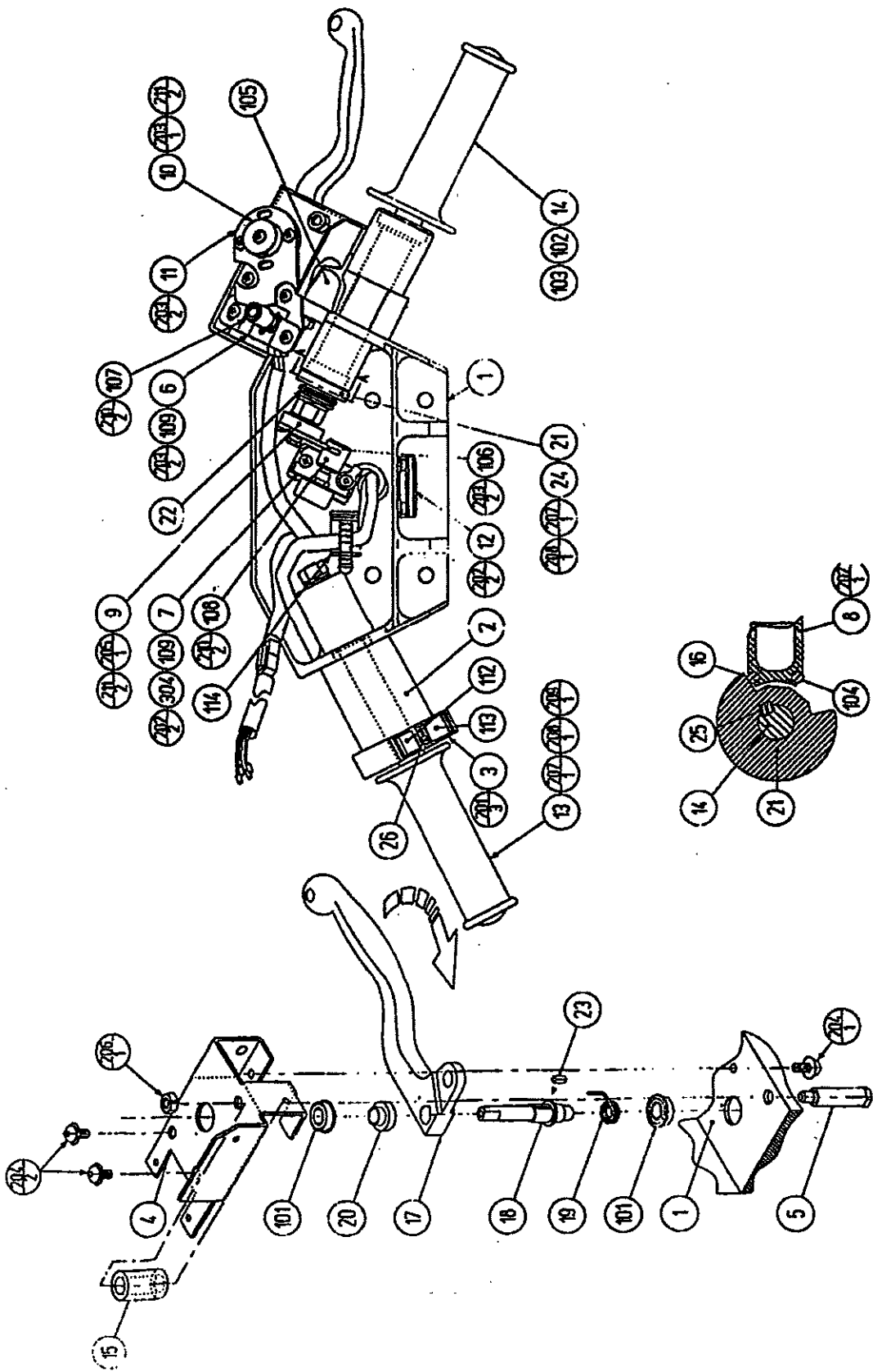
26. TAIL LIGHT ASSEMBLY. TTR-3060UK

Seq. No.	Part Number	Description	Qty.
1	TTR-3061	LENS	1
2	TTR-3062	LED BRKT	1
3	TTR-3063UK	TAIL LID UK	1
101	390-5621	LED BD	1
202	000-T00408-OC	M4X8 MSCR POSI TH CRM	5
203	FAS-500010	M5 NUT MULTI PURPOSE L=20 NBR	2
204	FX0011	M4 NUT FLG SER BZP	1
205	FX0428	M5X14 MSCR POSI PAN BZP	4
206	FX0245	M5 WSHR FORM A FLT BZP	4
301	LM9611	LOOM EARTH 1000mm	1
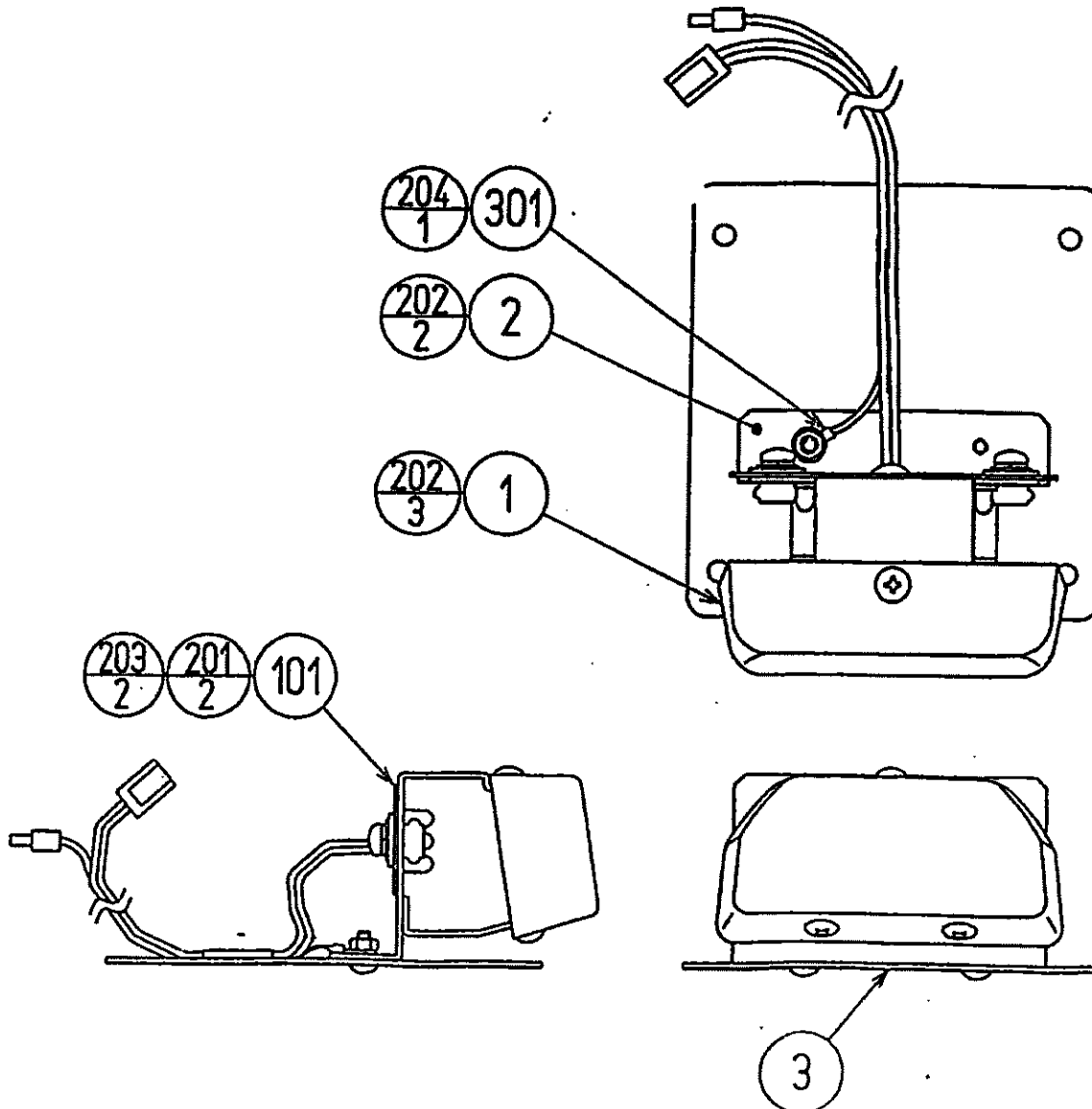
25. SEAT COWL ASSEMBLY. TTR-3054UK

Seq. No.	Part Number	Description	Qty.
1	TTR-3051-A	SEAT COWL BLANK	1
2	TTR-3060UK	ASSY TAIL LIGHT UK	1
4	TTR-3052	M8 BOLT (SPECIAL)	2
201	FAS-110005	N8X3/8" S/TAP POSI TH CRM	4
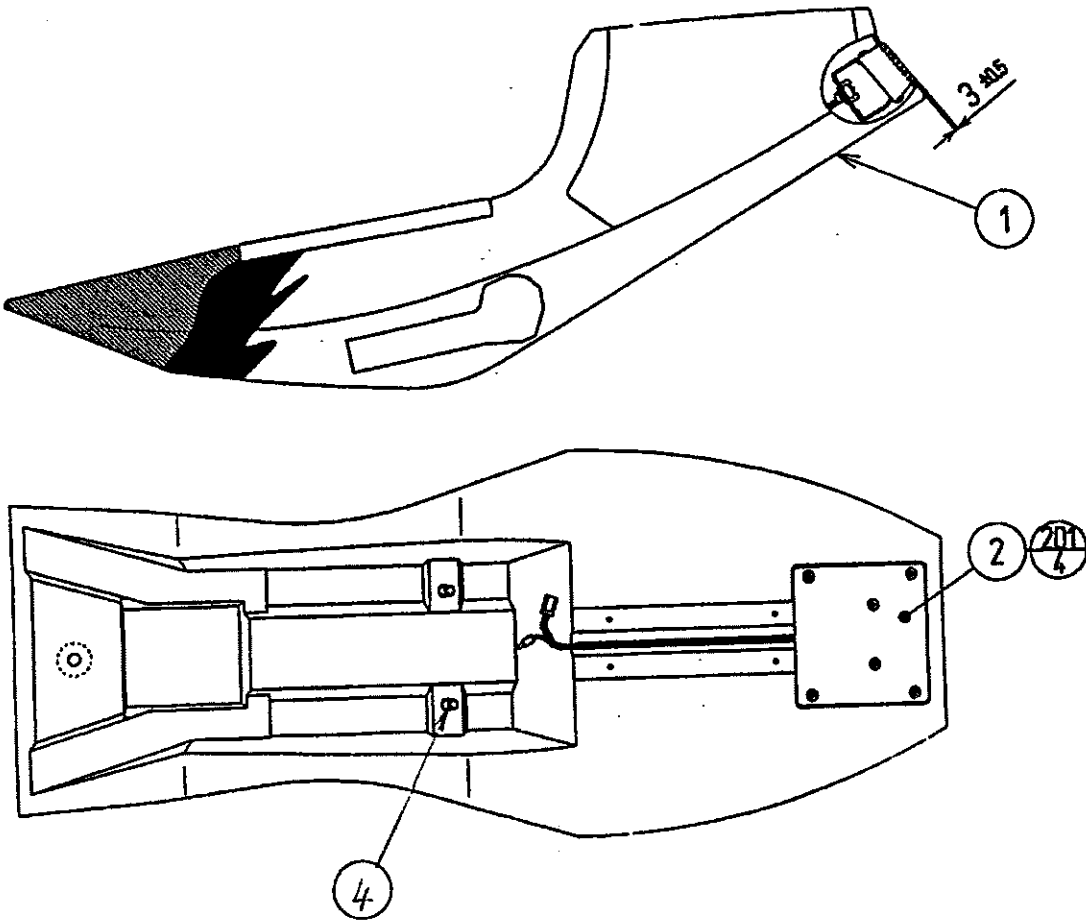
27. BIKE ASSEMBLY. TTR-1500UK

Seq. No.	Part Number	Description	Qty.
1	TTR-1502-A	REAR FRAME BLANK	1
2	TTR-3040	ASSY CENTERING MECHA	1
4	TTR-3090	ASSY MUFFLER	1
5	TTR-3095UK	ASSY BIKE FRAME TWIN UK	1
6	610-0391-W	ASSY HANDLE MECHA W/BRK W/COVR	1
7	TTR-1503	PROTECT COVER L	1
8	TTR-1504	PROTECT COVER R	1
9	TTR-1505UK	VR COVER	1
10	TTR-3002	FUEL CAP	1
15	TTR-3016-A	TANK BLANK WHITE	1
16	PP1105	GROMMET OPEN 25 HOLE 1.6t MATL	1
17	PP1106	PROTECT TUBE SPIRAL 6mm BLACK	0.5
18	TTR-0025	BANK GUARD L	1
19	TTR-0026	BANK GUARD R	1
20	TTR-0027UK	GUARD HOLDER UK	2
201	000-T00408-OC	M4X8 MSCR POSI TH CRM	11
202	000-P00408-WB	M4X8 MSCR POSI PAN W/FS BNP	6
204	000-P00512-WB	M5X12 MSCR PH W/FS BNP	6
205	020-000410-HZ	M4X10 MSCR SKT CAP BNP	4
207	030-000860-SB	M8X60 BLT W/S BNP	8
208	FX0220	M8 NUT NLK BZP	4
209	FX0413	M6 WSHR FORM A BNP	2
210	FX0400	M8 WSHR FORM A FLT BNP	15
211	FS1019	M8 WSHR SPR BNP	4
212	020-000625-HZ	M8X25 MSCR SKT CAP BNP	2
213	020-000830-HZ	M8X30 MSCR SKT CAP BNP	2
215	000-T00512-OC	M5X12 MSCR POSI TH CRM	2
216	FAS-300001	M8X20 BLT W/FS CRM	4
217	FX0009	M4 WSHR FORM A FLT BZP	2
218	FX0243	M4 WSHR SPR BZP	2
219	FX0021	M4X8 MSCR POSI PAN BZP	2
220	FX0403	M4X8 MSCR POSI PAN BNP	4
221	FS1009	M4 WSHR FORM A FLT BNP	4
301	600-6697-36UK	WIRE HARN BIKE FRAME EXT UK	1
302	LM9411	LOOM EARTH 600mm	1
303	LM9311	LOOM EARTH 500mm	1
304	600-6697-26	WIRE HARN REAR BASE EXT 1	1
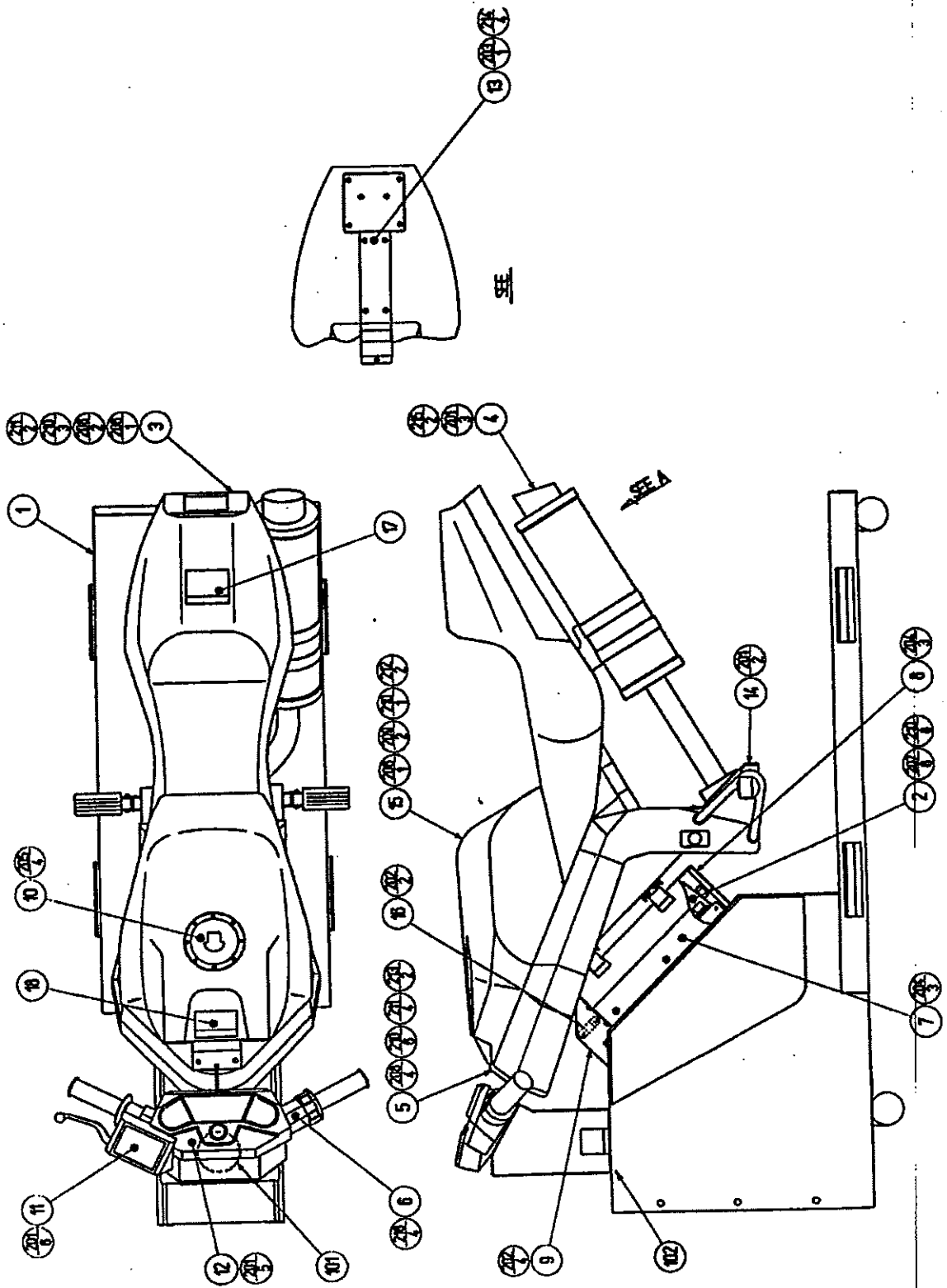
12. WIRE COLOUR CODE

THE WIRE COLOUR CODE IS AS FOLLOWS:

A   PINK
B   SKY BLUE
C   BROWN
D   PURPLE
E   LIOGHT 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   GRAY

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:Ifthe right hand side alphanumeral 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.

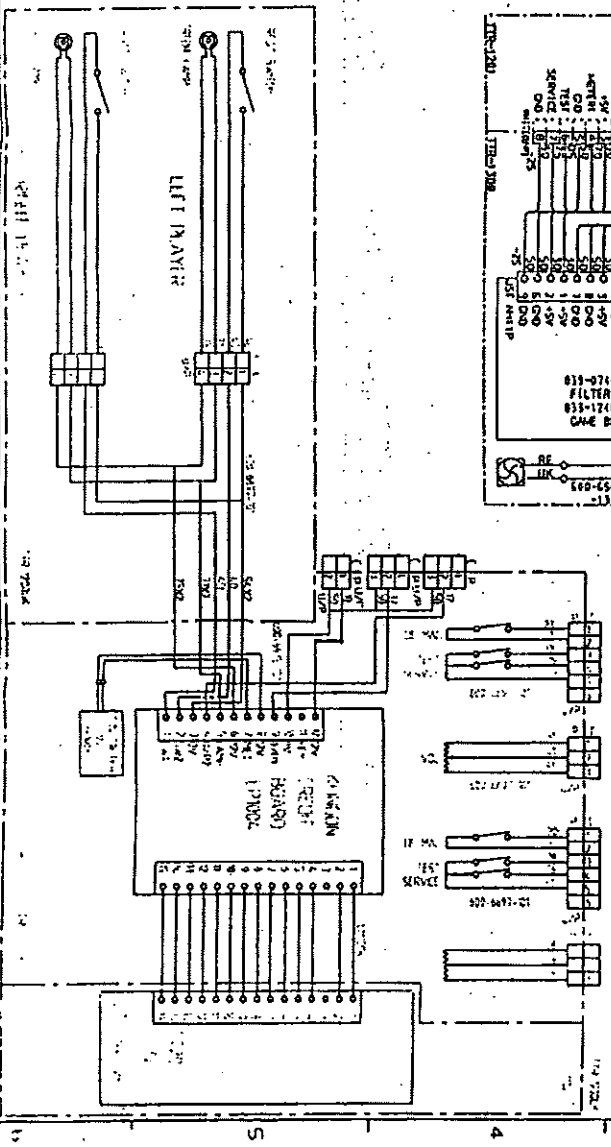[Example] 51------------ WHITE/RED

WHITE   RED

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

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

SEGA ENTERPRISES LTD

MANX TT SUPERBIKE TWIN

14. COIN MECH INSTALLATION AND CREDIT BOARD SETUP

Game credits between the Coin Mech and the game board for the Fighting Vipers machine are controlled by a *Klingon* 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 PCB mounted switches.

DIL-2 is used to set the currency (or coin ratio) and DIL-1 the price of play. Refer to the Tables on the following pages for the correct settings for your environment.

The *Klingon* board pictured in Fig 8 is mounted on the VTS Bracket within the Coin Chute Tower.

The *Klingon* 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
-	-	NRI	See note 1

Notes

1. If NRI mechs 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 *Klingon* 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 mechs may be connected in parallel allowing two identical mechs to be fitted.

Klingon Credit Board Option Settings

DIL Switch 2 (under IC socket)   Coin Controls:
                                                  Mars:

SW1	SW2	SW3	SW4	OPTIONS	COIN 1 F	COIN 2 E	COIN 3 D	COIN 4 C
OFF	OFF	OFF		UK Coin Setting	£1	50p	20p	10p
ON	OFF	OFF		Belgium Coin Setting	n/u	50Bf	20Bf	25Pst
OFF	ON	OFF		Spain Coin Setting	100Pst	50 Pst	n/u	5 Pst
ON	ON	OFF		German Coin setting using NRI				
OFF	OFF	ON		Holland Coin Setting	n/u	5G	2.5G	1G
ON	OFF	ON		Portugal Coin Setting	100Esu	50 Esu	n/u	n/u
OFF	ON	ON		Austria Coin Setting	20	10	5	1
ON	ON	ON		Switzerland Coin Setting	5Sf	2Sf	1Sf	n/u
			OFF	Direct mode				
			ON	2 Channel Mode				

Set DIL switches (DIL-1) SW-1 to SW-5 according to the option settings found in the relevant Price Of Play Settings Table on the following pages.

Set DIL switches (DIL-2) on the *Klingon* board located under the IC socket as shown in the table above. SW-4 must always be set 'ON' as the game board only operates in common mode. Care must be exercised when removing IC-1 so as not to damage its lead-outs pins. After setting the switches return the IC to its socket with the package indent mark adjacent to the board edge.
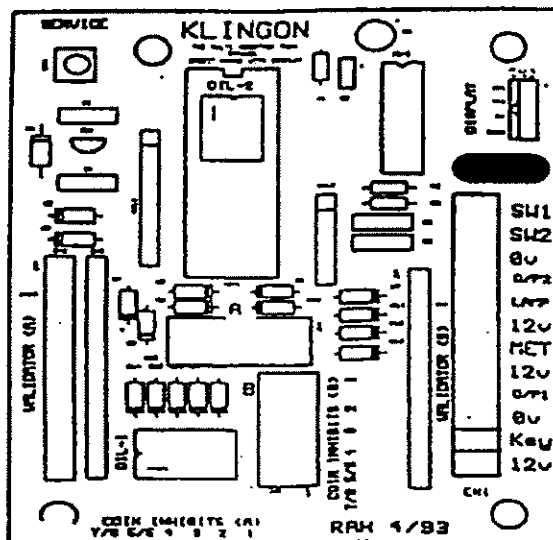
Fig. 8 THE *KLINGON* CREDIT BOARD

PRICE OF PLAY SETTINGS FOR THE UK

			DIP SWITCH				
			1	2	3	4	5
10p Play	50p = 5	£1 = 10	OFF	OFF	OFF	OFF	OFF
10p Play	50p = 5	£1 = 11	ON	OFF	OFF	OFF	OFF
10p Play	50p = 6	£1 = ?	OFF	ON	OFF	OFF	OFF
20p Play	50p = 2½	£1 = 5	ON	ON	OFF	OFF	OFF
20p Play	50p = 3	£1 = 6	OFF	OFF	ON	OFF	OFF
20p Play	50p = 3	£1 = 7	ON	OFF	ON	OFF	OFF
30p Play	50p = 1 2/3	£1 = 3 1/3	OFF	ON	ON	OFF	OFF
30p Play	50p = 2	£1 = 4	ON	ON	ON	OFF	OFF
30p Play	50p = 2	£1 = 5	OFF	OFF	OFF	ON	OFF
40p Play	50p = 1¼	£1 = 2½	ON	OFF	OFF	ON	OFF
40p Play	50p = 1¼	£1 = 3	OFF	ON	OFF	ON	OFF
50p Play	50p = 1	£1 = 2	ON	ON	OFF	ON	OFF
50p Play	50p = 1	£1 = 3	OFF	OFF	ON	ON	OFF
60p Play	50p = 5/6	£1 = 1 2/5	ON	OFF	ON	ON	OFF
60p Play	50P = 5/6	£1 = 2	OFF	ON	ON	ON	OFF
80p Play	50p = 5/8	£1 = 1¼	ON	ON	ON	ON	OFF
£1 Play	£1 = ½	£1 = 1	OFF	OFF	OFF	OFF	ON
£1 Play	£1 = ½ £1 = 1 £1 = 3		ON	OFF	OFF	OFF	ON
£2 Play	50p = ¼	£1 = ½	OFF	ON	OFF	OFF	ON
£2 Play	50p = ¼ £1 = ½ £1 = 3		ON	ON	OFF	OFF	ON
£3 Play	50p = ¼ £1 = ½ £5 = 3		ON	ON	OFF	OFF	ON
£3 Play	NO BONTSES		OFF	OFF	ON	OFF	ON
£3 Play	-	£5 = 3	ON	OFF	ON	OFF	ON
£5 Play	-	-	OFF	ON	ON	OFF	ON
£5 Play	-	£10 = 3	ON	ON	ON	OFF	ON
FREE PLAY OPTION			ON	ON	ON	ON	ON

PRICE OF PLAY SETTINGS FOR SPAIN

			DIP SWITCH				
			1	2	3	4	5
25Pst Play	50Pst = 2	100Pst = 4	OFF	OFF	OFF	OFF	OFF
25Pst Play	50Pst = 2	100Pst = 5	ON	OFF	OFF	OFF	OFF
			OFF	ON	OFF	OFF	OFF
50Pst Play	100Pst = 2	-	ON	ON	OFF	OFF	OFF
50pst Play	100pst = 3	-	OFF	OFF	ON	OFF	OFF
50Pst Play	100Pst = 3	200Pst = 7	ON	OFF	ON	OFF	OFF
75Pst = Play	100Pst = 2/3	-	OFF	ON	ON	OFF	OFF
75Pst Play	100Pst = 2/3	200Pst = 3	ON	ON	ON	OFF	OFF
75Pst Play	200Pst = 3	400Pst = 7	OFF	OFF	OFF	ON	OFF
100Pst Play	-	-	ON	OFF	OFF	ON	OFF
100Pst Play	200Pst = 3	-	OFF	ON	OFF	ON	OFF
200Pst Play	-	-	ON	ON	OFF	ON	OFF
200Pst Play	500Pst = 3	-	OFF	OFF	ON	ON	OFF
300Pst Play	-	-	ON	OFF	ON	ON	OFF
300Pst Play	500Pst = 2	-	OFF	ON	ON	ON	OFF
400Pst Play	-	-	ON	ON	ON	ON	OFF
400Pst Play	1000Pst =	-	OFF	OFF	OFF	OFF	ON
			ON	OFF	OFF	OFF	ON
			OFF	ON	OFF	OFF	ON
[Coin Metering: 1 Pulse = 25Pst]			ON	ON	OFF	OFF	ON
			ON	ON	OFF	OFF	ON
			OFF	OFF	ON	OFF	ON
			ON	OFF	ON	OFF	ON
			OFF	ON	ON	OFF	ON
			ON	ON	ON	OFF	ON
FREE PLAY OPTION			ON	ON	ON	ON	ON

PRICE OF PLAY SETTINGS FOR PORTUGAL

			DIP SWITCH				
			1	2	3	4	5
10Esc Play	50Esc = 5	100Esc = 10	OFF	OFF	OFF	OFF	OFF
10Esc Play	50Esc = 5	100Esc = 11	ON	OFF	OFF	OFF	OFF
10Esc Play	50Esc = 6	100Esc = 12	OFF	ON	OFF	OFF	OFF
20Esc Play	50Esc = 2½	100Esc = 5	ON	ON	OFF	OFF	OFF
20Esc Play	50Esc = 3	100Esc = 6	OFF	OFF	ON	OFF	OFF
20Esc Play	50Esc = 3	100Esc = 7	ON	OFF	ON	OFF	OFF
30Esc Play	50Esc = 1 2/3	100Esc = 1 1/3	OFF	ON	ON	OFF	OFF
30Esc Play	50Esc = 2	100Esc = 4	ON	ON	ON	OFF	OFF
30Esc Play	50Esc = 2	100Esc = 5	OFF	OFF	OFF	ON	OFF
40Esc Play	50Esc = 1 ¼	100esc = 2½	ON	OFF	OFF	ON	OFF
40Esc Play	50Esc = 1 ¼	100Esc = 3	OFF	ON	OFF	ON	OFF
50Esc Play	50Esc = 1	100Esc = 2	ON	ON	OFF	ON	OFF
50Esc Play	50Esc = 1	100Esc = 3	OFF	OFF	ON	ON	OFF
60Esc Play	50Esc = 5/6	100Esc = 1 2/5	ON	OFF	ON	ON	OFF
60Esc Play	50Esc = 5/6	100Esc = 2	OFF	ON	ON	ON	OFF
80Esc Play	50Esc = 5/8	100Esc = 1¼	ON	ON	ON	ON	OFF
100Esc Play	50Esc = ½	100Esc = 1	OFF	OFF	OFF	OFF	ON
100Esc Play	50Esc = ½ 100Esc = 1 200Esc = 3		ON	OFF	OFF	OFF	ON
200Esc Play	50Esc = ¼	100Esc = ½	OFF	ON	OFF	OFF	ON
200Esc Play	50Esc = ¼ 100Esc = ½ 500Esc = 3		ON	ON	OFF	OFF	ON
			ON	ON	OFF	OFF	ON
			OFF	OFF	ON	OFF	ON
			ON	OFF	ON	OFF	ON
			OFF	ON	ON	OFF	ON
			ON	ON	ON	OFF	ON
FREE PLAY OPTION			ON	ON	ON	ON	ON

PRICE OF PLAY SETTINGS FOR AUSTRIA

			DIP SWITCH				
			1	2	3	4	5
1Sch Play	5Sch = 5	10Sch = 10	OFF	OFF	OFF	OFF	OFF
1Sch Play	5Sch = 5	10Rch = 11	ON	OFF	OFF	OFF	OFF
1Sch Play	5Sch = 6	10Sch = 12	OFF	ON	OFF	OFF	OFF
2Sch Play	5Sch = 2½	10Sch = 5	ON	ON	OFF	OFF	OFF
2Sch Play	5Sch = 3	10Sch = 6	OFF	OFF	ON	OFF	OFF
2Sch Play	5Sch = 3	10Sch = 7	ON	OFF	ON	OFF	OFF
3Sch Play	5Sch = 1 2/3	10Sch = 2 1/3	OFF	ON	ON	OFF	OFF
3Sch Play	5Sch = 2	10Sch = 4	ON	ON	ON	OFF	OFF
3Sch Play	5Sch = 2	10Sch = 5	OFF	OFF	OFF	ON	OFF
4Sch Play	5Sch = 1¼	10Sch = 2½	ON	OFF	OFF	ON	OFF
4Sch Play	5Sch = 1¼	10Sch = 3	OFF	ON	OFF	ON	OFF
5Sch Play	5Sch = 1	10Sch = 2	ON	ON	OFF	ON	OFF
5Sch Play	5Sch = 1	10Sch =3	OFF	OFF	ON	ON	OFF
6Sch Play	5Sch = 5/6	10Sch = 1 2/5	ON	OFF	ON	ON	OFF
6Sch Play	5Sch = 5/6	10Sch = 2	OFF	ON	ON	ON	OFF
8Sch Play	5Sch = 5/8	10Sch = 1¼	ON	ON	ON	ON	OFF
10Sch Play	5Sch = ½	10Sch = 1	OFF	OFF	OFF	OFF	ON
10Sch Play	5Sch = ½ 10Sch = 1 20Sch = 3		ON	OFF	OFF	OFF	ON
20Sch Play	5Sch = ¼	10Sch = ½	OFF	ON	OFF	OFF	ON
20Sch Play	5Sch = ¼ 10Sch = ½ 50Sch = 3		ON	ON	OFF	OFF	ON
30Sch Play	NO BONUSES		OFF	OFF	ON	OFF	ON
30Sch Play	50Sch = 3	-	ON	OFF	ON	OFF	ON
50Sch Play	-	-	OFF	ON	ON	OFF	ON
50Sch Play	100Sch = 3	-	ON	ON	ON	OFF	ON
FREE PLAY OPTION		-	ON	ON	ON	ON	ON

Coin Assignement: Coin 1 = 20Sch, Coin 2 = 10Sch, Coin 3 = 5Sch, Coin 4 = 1Sch

PRICE OF PLAY SETTINGS FOR BELGIUM

			DIP SWITCH				
			1	2	3	4	5
5F Play	20F = 4	50F = 10	OFF	OFF	OFF	OFF	OFF
5F Play	20F = 4	50F = 11	ON	OFF	OFF	OFF	OFF
5F Play	20F = 5	50F = 12	OFF	ON	OFF	OFF	OFF
10F Play	20F = 2	50F = 5	ON	ON	OFF	OFF	OFF
10F Play	20F = 2	50F = 5	OFF	OFF	ON	OFF	OFF
10F Play	20F = 3	50F = 7	ON	OFF	ON	OFF	OFF
15F Play	20F = 1 1/3	50F = 3 1/3	OFF	ON	ON	OFF	OFF
15F Play	20F = 1 1/3	50F = 4	ON	ON	ON	OFF	OFF
15F Play	20F = 2	50F = 5	OFF	OFF	OFF	ON	OFF
20F Play		50F = 2½	ON	OFF	OFF	ON	OFF
20F Play		50F = 3	OFF	ON	OFF	ON	OFF
20F Play	50F = 3	100F = 7	ON	ON	OFF	ON	OFF
25F Play	20F = 4/5	50F = 2	OFF	OFF	ON	ON	OFF
25F Play	20F = 4/5	50F = 2 100F = 5	ON	OFF	ON	ON	OFF
25F Play	20F = 4/5	50F = 3 100F = 6	OFF	ON	ON	ON	OFF
30F Play	20F = 2/3	50F = 1½	ON	ON	ON	ON	OFF
30F Play	20F = 2/3	50F = 1 2/3 100F = 4	OFF	OFF	OFF	OFF	ON
30F Play	20F = 2/3	50F = 2 100F = 4	ON	OFF	OFF	OFF	ON
40F Play	20F = ½	50F = 1¼	OFF	ON	OFF	OFF	ON
40F Play	20F = ½	50F = 2¼ 100F = 3	ON	ON	OFF	OFF	ON
			ON	ON	OFF	OFF	ON
			OFF	OFF	ON	OFF	ON
			ON	OFF	ON	OFF	ON
			OFF	ON	ON	OFF	ON
FREE PLAY OPTION			ON	ON	ON	ON	ON

Meter Operates on 1BF = 1 Pulse
Coin 1 = 50F, Coin 2 = 20F, Coin 3 = 5F, Coin 4 = 1F

PRICE OF PLAY SETTINGS FOR FRANCE / SWITZERLAND

			DIP SWITCH				
			1	2	3	4	5
1F Play	5F = 5	10F = 10	OFF	OFF	OFF	OFF	OFF
1F Play	5F = 5	10F = 11	ON	OFF	OFF	OFF	OFF
1F Play	5F = 6	10F = 12	OFF	ON	OFF	OFF	OFF
2F Play	5F = 2½	10F = 5	ON	ON	OFF	OFF	OFF
2F Play	5F = 3	10F = 6	OFF	OFF	ON	OFF	OFF
2F Play	5F = 3	10F = 7	ON	OFF	ON	OFF	OFF
3F Play	5F = 1 2/3	10F = 3 1/3	OFF	ON	ON	OFF	OFF
3F Play	5F = 2	10F = 4	ON	ON	ON	OFF	OFF
3F Play	5F = 2	10F = 5	OFF	OFF	OFF	ON	OFF
4F Play	5F = 1¼	10F = 2½	ON	OFF	OFF	ON	OFF
4F Play	5F = 1¼	10F = 3	OFF	ON	OFF	ON	OFF
5F Play	5F = 1	10F = 2	ON	ON	OFF	ON	OFF
5F Play	5F = 1	10F = 3	OFF	OFF	ON	ON	OFF
6F Play	5F = 5/6	10F = 1 2/5	ON	OFF	ON	ON	OFF
6F Play	5F = 5/6	10F = 2	OFF	ON	ON	ON	OFF
8F Play	5F = 5/8	10F = 1¼	ON	ON	ON	ON	OFF
10F Play	5F = ½	10F = 1	OFF	OFF	OFF	OFF	ON
10F Play	5F = ½ 10F = 1 20F = 3		ON	OFF	OFF	OFF	ON
20F Play	5F = ¼	10F = ½	OFF	ON	OFF	OFF	ON
20F Play	5F = ¼ 10F = ½ 50F = 3		ON	ON	OFF	OFF	ON
			ON	ON	OFF	OFF	ON
			OFF	OFF	ON	OFF	ON
			ON	OFF	ON	OFF	ON
			OFF	ON	ON	OFF	ON
			ON	ON	ON	OFF	ON
FREE PLAY OPTION			ON	ON	ON	ON	ON

PRICE OF PLAY SETTINGS FOR HOLLAND

			DIP SWITCH				
			1	2	3	4	5
1G Play	NO BONUS		OFF	OFF	OFF	OFF	OFF
1G Play	2.5G = 3	5G = 6	ON	OFF	OFF	OFF	OFF
1G Play	2.5G = 3	5G = 7	OFF	ON	OFF	OFF	OFF
2G Play	NO BONUS		ON	ON	OFF	OFF	OFF
2G Play	5G = 3		OFF	OFF	ON	OFF	OFF
2G Play	5G = 3	10G = 7	ON	OFF	ON	OFF	OFF
3G Play	NO BONUS		OFF	ON	ON	OFF	OFF
3G Play	5G = 2		ON	ON	ON	OFF	OFF
3G = Play	5G = 2	10G = 5	OFF	OFF	OFF	ON	OFF
4G Play	NO BONUS		ON	OFF	OFF	ON	OFF
4G Play	10G = 3		OFF	ON	OFF	ON	OFF
5G Play	NO BONUS		ON	ON	OFF	ON	OFF
5G Play	10G = 3		OFF	OFF	ON	ON	OFF
6G Play	NO BONUS		ON	OFF	ON	ON	OFF
6G Play	15G = 3		OFF	ON	ON	ON	OFF
8G Play	NO BONUS		ON	ON	ON	ON	OFF
8G Play	20G = 3		OFF	OFF	OFF	OFF	ON
10G Play	NO BONUS		ON	OFF	OFF	OFF	ON
10G Play	20G = 3		OFF	ON	OFF	OFF	ON
			ON	ON	OFF	OFF	ON
			ON	ON	OFF	OFF	ON
			OFF	OFF	ON	OFF	ON
			ON	OFF	ON	OFF	ON
			OFF	ON	ON	OFF	ON

FREE PLAY OPTION

ON	ON	ON	ON	ON

1 Meter Pulse = 0.5G

Coin 1 = N/U,   Coin 2 = 5G,   Coin 3 = 2.5G,   Coin 4 = 1G