SEGA
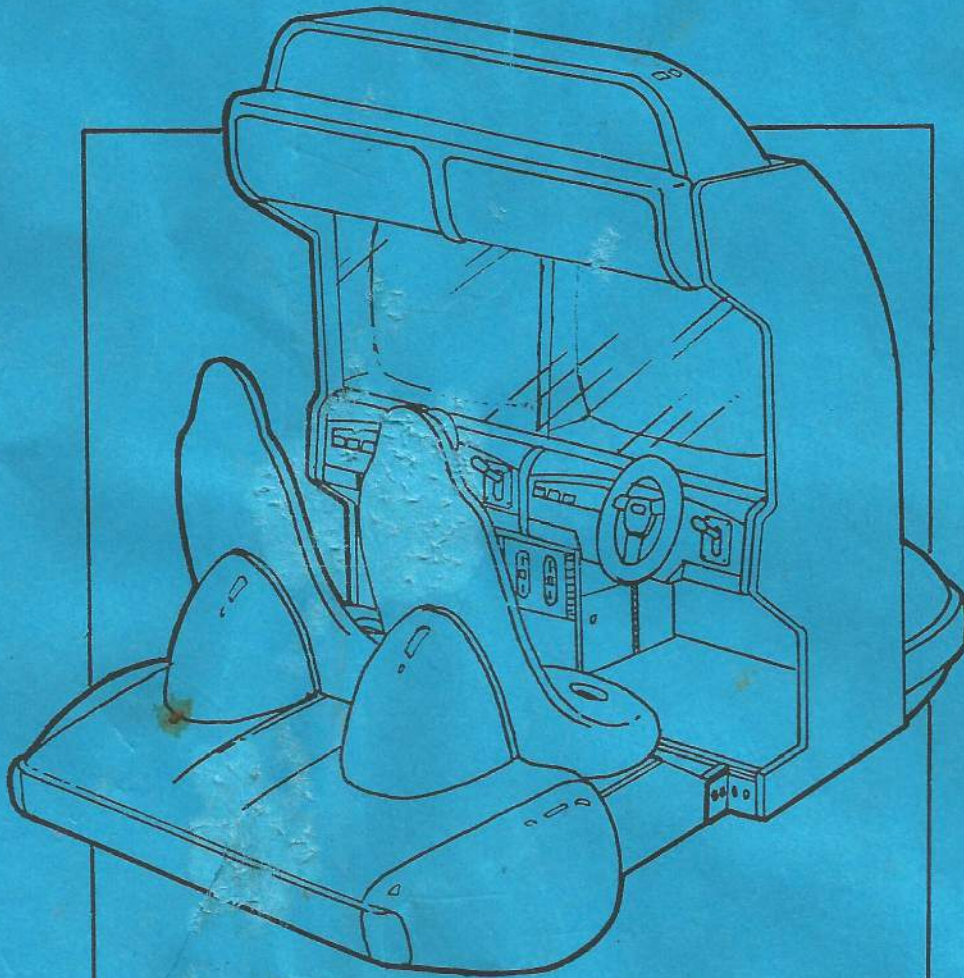
Out Runners

OPERATOR'S
MANUAL

LEISURE & ALLIED INDUSTRIES

CORRESPONDENCE regarding this cabinet should be addressed to:

LEISURE & ALLIED INDUSTRIES

34 PALMERSTON STREET,
PERTH, 6000

Telephone: 328 3611
Facsimile: 328 3446

OR Leisure & Allied Industries in your capital city
Branches located at Sydney – Melbourne – Adelaide – Brisbane

CONTENTS

CONTENTS (cont.)

CAUTION

DO NOT	attempt to test the logic board (PC boards) with ordinary test equipment as this may result in damage to digital components.
DO NOT	connect or disconnect any of the logic boards (PC boards) integrated circuit modules while the power is ON.
DO NOT	subject OUTRUNNERS to extreme temperature variations. Reliability of electronic components deteriorates rapidly above 60° centigrade.
DO NOT	expose the game/logic PC boards to U.V. radiation (e.g. direct sunlight) as this will eventually ruin the EPROM programming.

OUTRUNNERS boards should not require adjustment after factory setting by technicans.

If a PC board should need servicing contact your nearest Leisure & Allied Industries office.

SERVICE INSTRUCTIONS

JOINING OF TWO SECTIONS

*   Warning: Do not connect front section to mains power before two sections are joined together.

1)   On a level surface position the front and rear sections about 12cm apart.

2)   Make sure the machine is disconnected from mains. Connect the speaker cables across the join.

3)   Fix the cabinets together using the connecting brackets and bolts supplied.

4)   Once the cabinets are secure, raise the unit by screwing down the glides front and back. About 5mm clearance under castors is sufficient.

5)   When the two cabinets are correctly positioned and any necessary cables joined, then the machine can be connected to the mains supply.

6)   Always lower the machine onto its castors if further transportation on site is necessary.

FRONT SECTION

REAR SECTION

HOW TO PLAY

HANDLE (STEERING WHEEL)   SHIFT LEVER

BGM SELECT PANEL

START KEY SW

BRAKE PEDAL   ACCELERATOR PEDAL
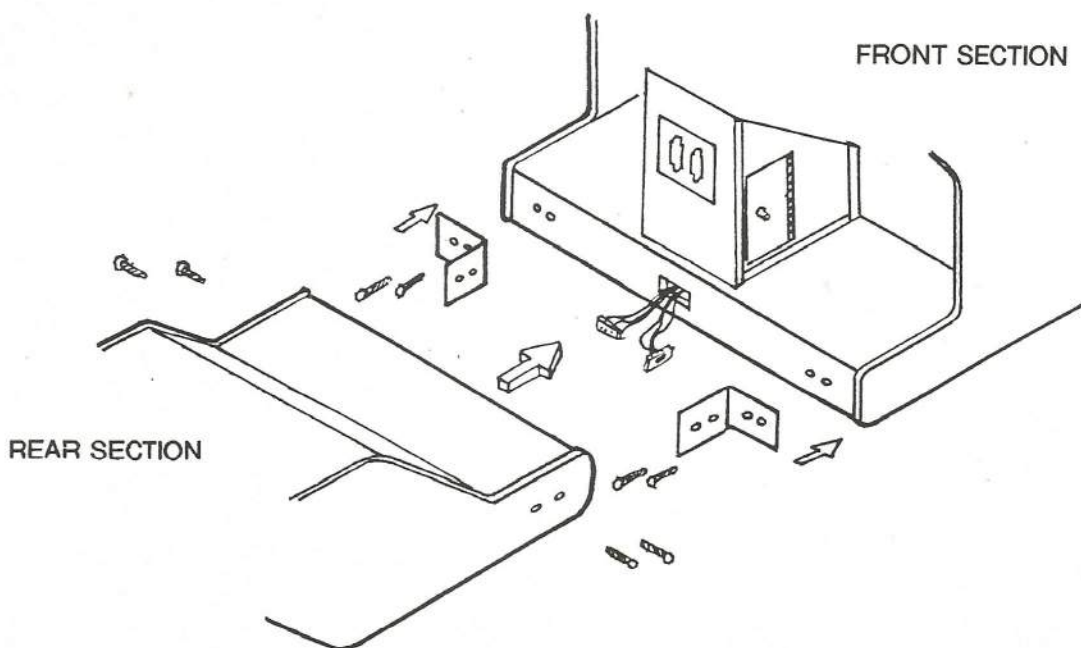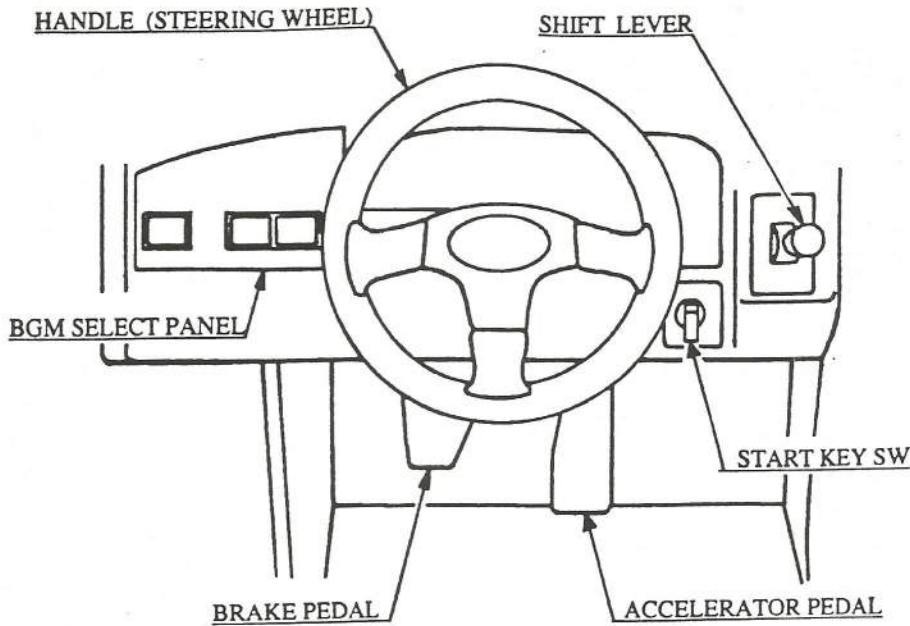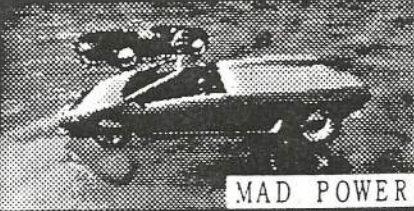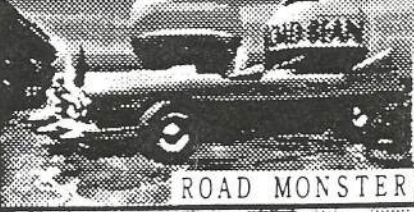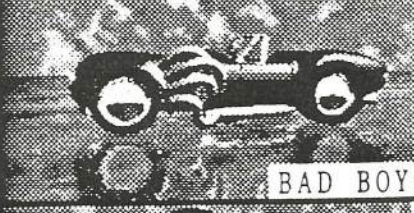
① Insert a coin(s) and turn the START KEY SW to the right.

② Select the desired car out of the 8 different types by turning the HANDLE and make the selection effective by stepping on the ACCELERATOR.

③ For each car, select the desired SHIFT TYPE (AUTO or MANUAL) by turning the HANDLE and make the selection effective by stepping on the ACCELERATOR.

④ Now, you are ready for GAME START. In the case of COMMUNICATIONS PLAY, those players who turned the START KEY SW within a limited time are allowed to participate in the same race.

⑤ A CHECK POINT sign board appears in between stages. Passing this point within the limited time allows the game time to be extended , enabling you to continue playing.

⑥ At the CHECK POINT, you can choose the next course by passing either left or right side of the personnel standing in the middle of the road under the sign board. In the case of COMMUNICA-TIONS PLAY, the leading car determines the next course and all other cars are required to take the same course chosen by the leading car.

⑦ While driving on the course, when the time is up, the game is over.

⑧ Reaching the finishing line within the limited time, you are successful. There are 10 finishing lines in total, each having a different ending scene.

⑨ The best time player per finishing line is allowed to enter his name as OutRunner of OutRunners.

⑩ The map display enables the player to recognize his final destination and his course.

During game play, by operating the BGM SELECT PANEL SWes, various background music can be selected.

○ KNACK OF HOW-TO-PLAY

To win a race, you should thoroughly understand the characteristics of each car. Furthermore, to make sure that you win, choose a course in a manner so as to fully utilize the car's characteristics.

COLOR AND NAME OF CAR	ADVANTAGES	DISADVANTAGES	AUTOMATIC / MANUAL
YELLOW — MAD POWER	Its max speed is of top class. Being large-sized, it is quite resistible against shock.	At a curve, it goes off outward and keeps slipping.	AUTOMATIC / 6 SHIFTs
BLUE — EASY HANDLING	No special advantages and disadvantages (the easiest one to handle).		AUTOMATIC / 5 SHIFTs
PINK — ROAD MONSTER	Being the largest of all, it is most resistible against shock.	Its speed is quite slow. Its acceleration and maneuverability are poor.	AUTOMATIC / 3 SHIFTs
GREEN — WILD CHASER	It is suitable for off road run and is not much affected by the road condition, maintaining its speed even when it is off road.	Its speed is slow. The max. speed is low.	AUTOMATIC / 3 SHIFTs
BLACK — BAD BOY	In acceleration, it's best of all. Also, its brake is quite effective.	Steering operability is poor.	AUTOMATIC / 2 SHIFTs
ORANGE — QUICK REACTOR	It's capable of making a small turn at the corner. Its maneuverabiliity is best of all..	It is most susceptible to shock.	AUTOMATIC / 4 SHIFTs
SILVER — SMOOTH OPERATOR	No special advantages and disadvantages (the easiest one to handle).		AUTOMATIC / 2 SHIFTs
RED — SPEED BUSTER	Its max speed is of top class. Being large-sized, it is quite resistible against shock.	At the curve, it goes outward off the way.	AUTOMATIC / 2 SHIFTs

SERVICE BRACKET

This machine has two identical service brackets - one for the left side, one for the right side.

TEST

REAR VOLUME

SERVICE
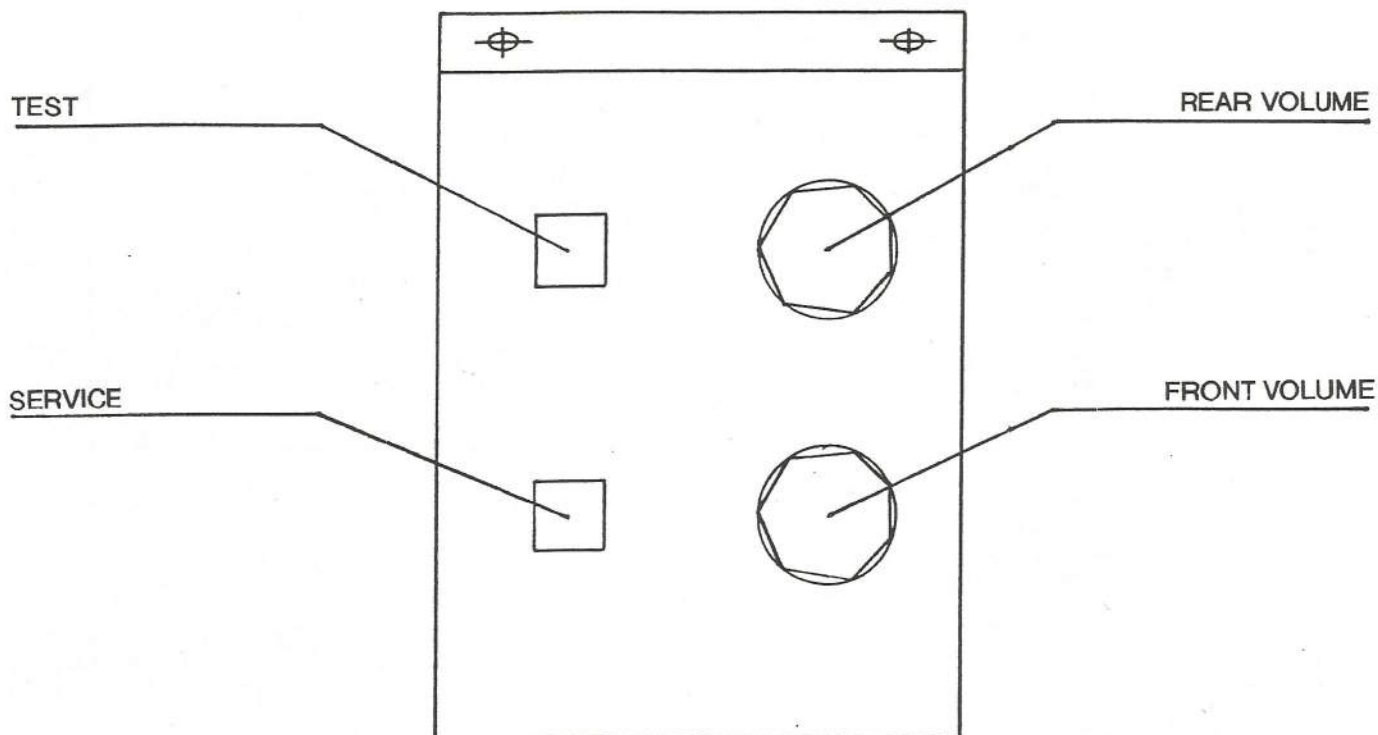
FRONT VOLUME

Test switch	-	This activates the setup menus
Service switch	-	This allows a credit to be activated without activating the coin counter.
Rear volume	-	Adjusts rear speaker sound level.
Front volume	-	Adjusts front speaker sound level.

TEST MODE

The Test Mode allows the functioning of each part of the Cabinet to be checked, the monitor to be adjusted, and the coins and game related various settings to be performed.

Press the TEST BUTTON to cause the following Test Item Menu to be displayed on the 1P and 2P side monitors.

In the case where more than 2 machine units are linked, the units other than the master unit should also enter the test mode at the same time the master unit does..

```
        TEST   MODE

        INDIVIDUAL

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

    SELECT   BY   SERVICE   BUTTON
       AND   PUSH   TEST   BUTTON
```

Press the SERVICE BUTTON untill the pointer "→" is moved to the desired item. Then press the TEST BUTTON.

After the test is complete, move "→" to "EXIT" and press the TEST BUTTON to return to the Game Mode.

In the case where more than 2 machine units are linked, the units other than the master unit should also exit at the same time the master unit does.

You may position the pointer to "INDIVIDUAL" and press the TEST BUTTON. The word "INDIVIDUAL" toggles to "CONTINUE". In the "CONTINUE" mode, each push of the TEST BUTTON causes transition to the next item. In the "INDIVIDUAL" mode, only the item indicated by the pointer is tested.

MEMORY TEST

The MEMORY TEST mode is for checking the memory IC operations on the board. "GOOD" is displayed for normal ICs and "BAD" is displayed for abnormal ICs.

```
            M O M O R Y   T E S T

         8 3 7 - 8 8 9 0   <ROM>

   I C 3 6    GOOD    I C 3 7    GOOD    I C 3 9    GOOD
   I C 4 0    GOOD

         8 3 7 - 8 6 7 6   <RAM>

   I C 1      GOOD    I C 2      GOOD    I C 3      GOOD
   I C 4      GOOD    I C 2 1    GOOD    I C 5 4    GOOD
   I C 5 7    GOOD    I C 5 8    GOOD    I C 6 0    GOOD
   I C 6 1    GOOD    I C 6 7    GOOD    I C 6 8    GOOD
   I C 7 0    GOOD    I C 1 1 5  GOOD    I C 1 1 6  GOOD
   I C 1 1 7  GOOD    I C 1 1 8  GOOD    I C 1 2 0  GOOD
   I C 1 2 1  GOOD    I C 1 2 2  GOOD    I C 1 2 3  GOOD

         P U S H   T E S T   B U T T O N   T O   E X I T
```

The right-hand side of each IC displays the following in the sequential order shown.

_ _ _ _	→	TEST	→	GOOD or BAD
(before test)		(under test)		(test completed)
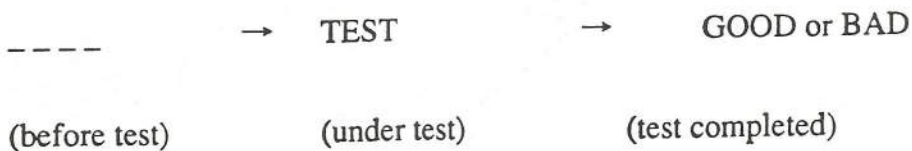
During the test, NOW TESTING flashes at the above portion of PUSH TEST BUTTON TO EXIT.

When the test is completed, if the results are shown as above, it is satisfactory.

It takes approximately one minute to complete the test. If the period exceeds one minute, this may have been caused by board malfunctioning.

After finishing the test, pressing the TEST button allows the MENU mode to return on to the screen.

VOLUME ADJUSTMENT

Select VOLUME ADJUSTMENT to cause the following to appear on the screen so that volume adjustment can be performed for each control device.

```
        VOLUME   ADJUSTMENT

            ADJUST

      →     CANCEL

          MONITOR   A
    STEERING   WHEEL
    [                    ▓        ]

    ACCELERATOR
    [   ▓                         ]

    BRAKE
    [   ▓                         ]

          MONITOR   B
    STEERING   WHEEL
    [               ▓             ]

    ACCELERATOR
    [   ▓                         ]

    BRAKE
    [  ▓                          ]

      SELECT   BY   SERVICE   BUTTON
        AND   PUSH   TEST   BUTTON
```

· Bring the cursor to CANCEL and press the TEST button to allow the MENU mode to return on to the screen.

· Bring the cursor to ADJUST and press the TEST button to cause the screen to change to ADJUST mode (in the following page), which allows VOLUME ADJUSTMENT to be performed.

· MONITOR A shows the control devices of the left-hand side seat and MONITOR B, those of the right-hand side seat.

* If the red cursor moves fully within the range shown in the green color, it is satisfactory (move the Steering Wheel, Accel., and Brake fully within the mobile range). If the results are not satisfactory, make adjustment in the ADJUST mode.

* When the Game Bd. or V. R. is replaced, be sure to perform VOLUME ADJUSTMENT by using the ADJUST mode.

```
┌─────────────────────────────────────────────────────────────┐
│                                                               │
│       VOLUME  ADJUSTMENT                                      │
│                                                               │
│          ADJUSTING                                            │
│                                                               │
│                                                               │
│                                                               │
│           MONITOR  A                                          │
│       STEERING  WHEEL                                         │
│       ┌──────────────────────┬──┬──────────────────────────┐ │
│       └──────────────────────┴──┴──────────────────────────┘ │
│                                                               │
│       ACCELERATOR                                             │
│       ┌──┬──┬──────────────────────────────────────────────┐ │
│       └──┴──┴──────────────────────────────────────────────┘ │
│                                                               │
│       BRAKE                                                   │
│       ┌──┬──┬──────────────────────────────────────────────┐ │
│       └──┴──┴──────────────────────────────────────────────┘ │
│                                                               │
│           MONITOR  B                                          │
│       STEERING  WHEEL                                         │
│       ┌──────────────────────┬──┬──────────────────────────┐ │
│       └──────────────────────┴──┴──────────────────────────┘ │
│                                                               │
│       ACCELERATOR                                             │
│       ┌──┬──┬──────────────────────────────────────────────┐ │
│       └──┴──┴──────────────────────────────────────────────┘ │
│                                                               │
│       BRAKE                                                   │
│       ┌──┬──┬──────────────────────────────────────────────┐ │
│       └──┴──┴──────────────────────────────────────────────┘ │
│                                                               │
│       PUSH  TEST  BUTTON  TO  EXIT                            │
│                                                               │
└─────────────────────────────────────────────────────────────┘
```
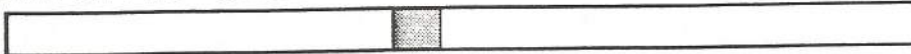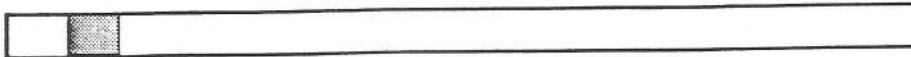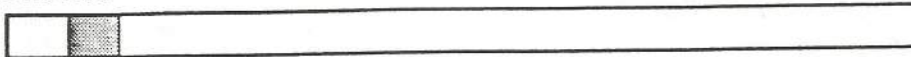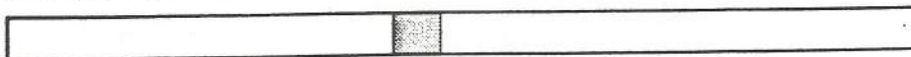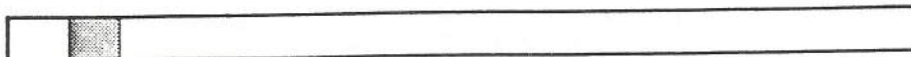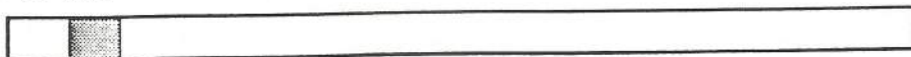
· By entering this mode, move the Steering Wheel, Accl. and Brake for each of the right and left seats fully within the mobile range.

· The mobile range for adjustment is shown in the green color.

· Pressing the TEST button causes the VOLUME ADJUSTMENT setting to be registered, allowing the MENU mode to return on to the screen.

* The mobile range for the adjustment will not cover the entire bar space, and also, it varies depending on the Steering Wheel, Accel. and Brake for each of the right and left seats. Therefore, be careful of this point.

INPUT TEST

This mode displays the status of each switch and VR. Monitor A displays the 1P side player's data, and Monitor B, the 2P side player's data.

```
                    INPUT  TEST

   MONITOR  A                 MONITOR  B

      80         STEERING  WHEEL         80
   [==========|====]         [=========|======]

       0          ACCELERATOR            0
   [|================]       [|================]

       0             BRAKE               0
   [|================]       [|================]

      Off         SHIFT  UP             Off
      Off         SHIFT  DOWN           Off
      Off         START                 Off
      Off         DJ/MUSIC              Off
      Off           < <                 Off
      Off           > >                 Off
      Off         COIN                  Off
      Off         SERVICE               Off

               TEST     Off

   PUSH  TEST  BUTTON  TO  EXIT
```
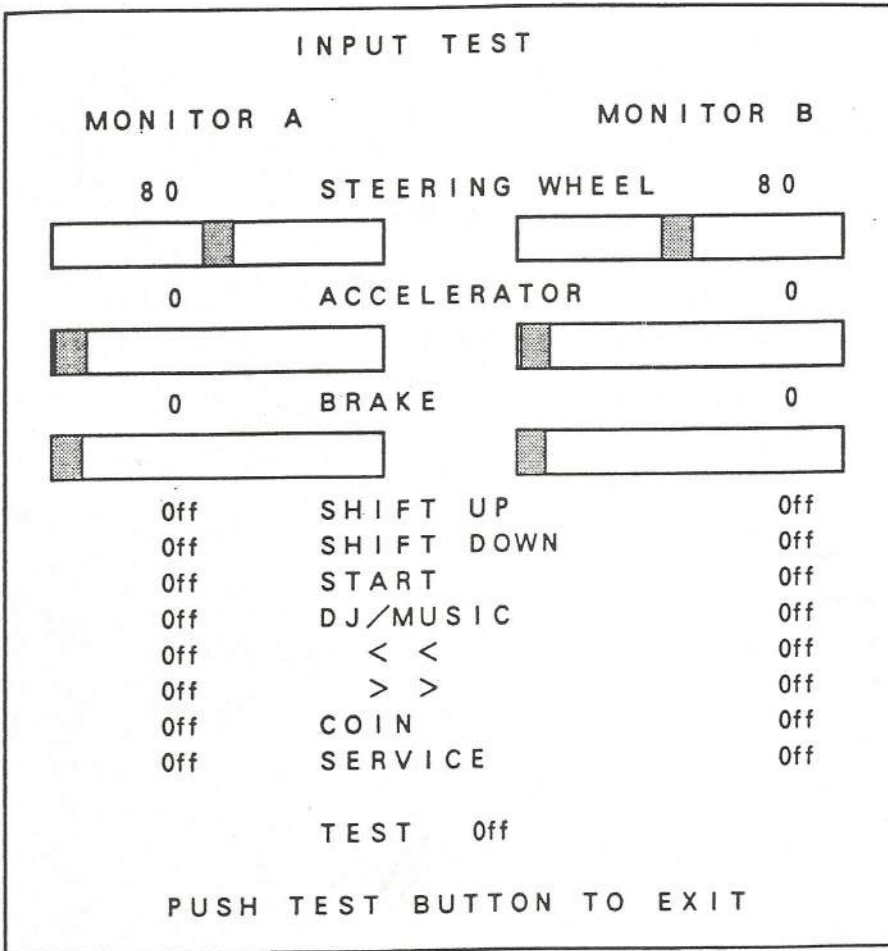
• The V.R. system allows the present V.R. value to be displayed. The following shows the correct values:

STEERING WHEEL   : Under 7H   ←   7 8 H ~ 8 7 H   →   Over F8H
                                   (Centering position)

ACCELERATOR   : Under 7H   ←————————————————→   Over F8H
BRAKE   (Pedal OFF)   (Pedal ON)

• The VR value can be roughly checked by watching the cursor position in the respective gauges under the STEERING WHEEL, ACCELERATOR and BRAKE items.

• The value shown in the respective items of STEERING WHEEL, ACCELERATOR and BRAKE is a standard for the status in which said items are not subject to force.

• Pressing the TEST button causes the MENU mode to return on to the screen.

✳ In this mode, periodically check the status of each SW and VR.

OUTPUT TEST

This mode is for checking the motor and lamp status.

```
                    OUTPUT   TEST

    MONITOR   A                  MONITOR   B

    CHECK  POINT       Off       CHECK  POINT       Off

    RACE  LEADER       Off       RACE  LEADER       Off

    DJ/MUSIC           Off       DJ/MUSIC           Off

    <<    >>           Off       <<    >>           Off

    STEERING  WHEEL    Off       STEERING  WHEEL    Off

                  →    EXIT

         SELECT  BY  SERVICE  BUTTON
            AND  PUSH  TEST  BUTTON
```

MONITOR A , Lamps and Steering Wheel Motor listed on the left-hand side of the above OUTPUT TEST page are those for the left-hand side seat, and MONITOR B, Lamps and Steering Wheel Motor listed on the right-hand side of said page are for the right-hand side seat.

By bringing the cursor to the test item and pressing the TEST button, if the on-screen display becomes On and the lighting up of the lamps and the vibration of steering wheels are ascertained, it is satisfactory.

Bring the "→" to "EXIT" and press the TEST BUTTON to return to the Menu mode.

SOUND TEST

Choose SOUND TEST to cause the following mode to appear on the monitor so that SOUND MEMORY check can be performed.

```
              SOUND   TEST

      MONITOR  A  No.   0

      MONITOR  B  No.   0

    →  EXIT


       SELECT  BY  SERVICE  BUTTON
          AND  PUSH  TEST  BUTTON
```

The sound is emitted from the SPEAKER of the left-hand side seat when the arrow points MONITOR A, and from the SPEAKER of the right-hand side seat when the arrow points MONITOR B (the sound can not be emitted from both SPEAKERs at the same time).

At No. 0, however, sound will not be emitted.

Bring the "→" to "EXIT" and press the TEST BUTTON to return to the Menu mode.

C.R.T. TEST

(1) RGB color adjusting screen (1/2)

This page is adjusting the monitor color.

```
┌─────────────────────────────────────────┐
│        C. R. T.  TEST    1/2              │
│  ┌──────────────────────────────────┐    │
│  │             ┌─────────┐           │    │
│  │             │  RED    │           │    │
│  │             └─────────┘           │    │
│  │           ┌──────────┐            │    │
│  │           │  GREEN   │            │    │
│  │           └──────────┘            │    │
│  │            ┌────────┐             │    │
│  │            │  BLUE  │             │    │
│  │            └────────┘             │    │
│  │               WHITE               │    │
│  └──────────────────────────────────┘    │
│   PUSH TEST BUTTON TO CONTINUE            │
└─────────────────────────────────────────┘
```
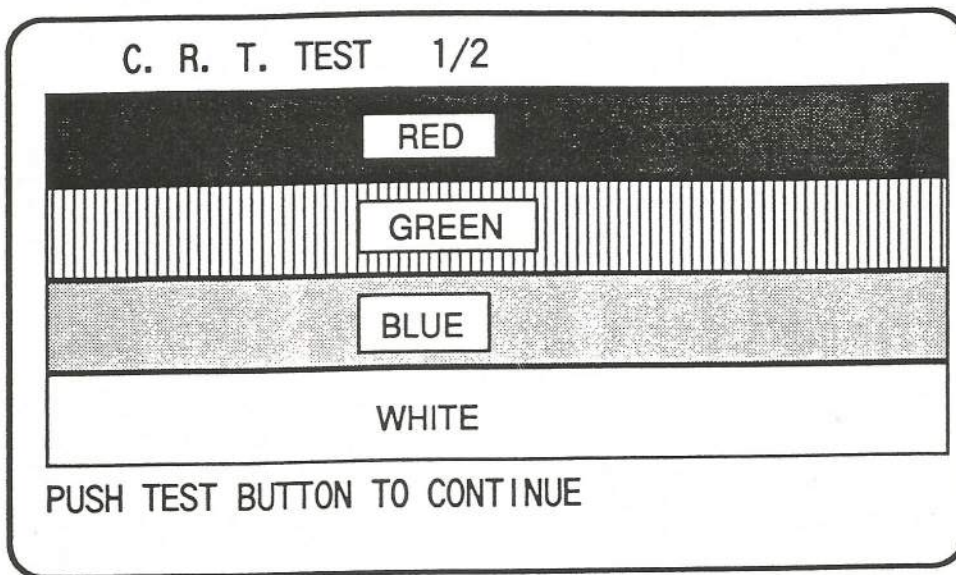
Red, green, and blue are darkest on the leftmost scale and get brighter by 31 gradations to the right.

The contrast of the monitor is normal, if the white color bar is black in the leftmost position and is white in the rightmost position.

Press the TEST BUTTON to turn a page.

(2) Monitor size adjusting screen (2/2)

This page is for checking the monitor size.
When adjusting the monitor size, be careful that grids do not go off of the screen.

```
┌─────────────────────────────────────────┐
│  ┌──────────────────────────────────┐    │
│  │                                   │    │
│  │     C. R. T.  TEST   2/2          │    │
│  │                                   │    │
│  │                                   │    │
│  │                                   │    │
│  │                                   │    │
│  │                                   │    │
│  │                                   │    │
│  │                                   │    │
│  │   PUSH TEST BUTTON TO EXIT        │    │
│  └──────────────────────────────────┘    │
└─────────────────────────────────────────┘
```

Press the TEST BUTTON to return to the Menu.

GAME ASSIGNMENTS

In this mode, the present game setting is displayed and also, the game setting changes can be made.

```
┌─────────────────────────────────────────────┐
│          GAME ASSIGNMENTS                     │
│                                               │
│    GAME DIFFICULTY          5                 │
│      EASY                         HARD        │
│      ┌──────────────────────────────────┐    │
│      │▓▓▓▓▓▓▓▓▓▓▓▓▓▓│                    │    │
│      └──────────────────────────────────┘    │
│    TIME DIFFICULTY                            │
│      PRE-STAGE          NORMAL                │
│      STAGE  1           NORMAL                │
│      STAGE  2           NORMAL                │
│      STAGE  3           NORMAL                │
│      STAGE  4           NORMAL                │
│      FINAL STAGE        NORMAL                │
│                                               │
│    STEERING REACTION        On                │
│                                               │
│    ADVERTISE SOUND          Off               │
│                                               │
│  → EXIT                                       │
│                                               │
│    SELECT BY SERVICE BUTTON                   │
│      AND PUSH TEST BUTTON                     │
│                                               │
└─────────────────────────────────────────────┘
```

· GAME DIFFICULTY   The number of the cars which obstruct the player car can be changed
                      (1: minimum; 8: maximum). At the time of shipment, the number is set to 5 as a
                      standard.

· TIME DIFFICULTY   Time that can be increased or decreased at the beginning of each stage can be
                      changed. (NORMAL±5 seconds). At the time of shipment, it is set to NORMAL.

· STEERING REACTION   Whether Steering Wheel's vibration is available or not can be set. At the time of
                      shipment, it is set to Yes.

· ADVERTISE SOUND   ADVERTISE SOUND Yes or No can be set. At the time of shipment, it is set to No.

* When more than 2 units are linked, once the above setting is made for the MASTER unit, the same setting applies to
  all of the SLAVE units (however, even if changes are made for the SLAVE units only, such changes will not be
  reflected in the game), (refer to 8-11).

· Select an item to be changed using the SERVICE BUTTON, then press the TEST BUTTON to make changes.

· Bring the arrow mark(→) to EXIT and press the TEST BUTTON to return to the Menu.

COIN ASSIGNMENTS

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

```
COIN ASSIGNMENTS

COIN / CREDIT  SETTING    #1
          1  COIN  1  CREDIT

MANUAL SETTING

→   EXIT

SELECT BY SERVICE BUTTON
    AND PUSH TEST BUTTON
```

· The COIN/CREDIT SETTING is classified into #1, #6, #8, #9, #10, #11, #12, #15, #17, #18, #19, #21, #22, #24, and #26.

· Choosing the MANUAL SETTING allows a finer classification settings to be made.

· Bring the arrow mark(→) to EXIT and press the TEST BUTTON to return to the Menu.

COIN/CREDIT SETTING

NAME OF SETTING	EACH SEAT'S COIN CHUTE
SETTING #1	1 COIN 1 CREDIT
SETTING #6	1 COIN 2 CREDITS
SETTING #8	1 COIN 3 CREDITS
SETTING #9	1 COIN 4 CREDITS
SETTING #10	1 COIN 5 CREDITS
SETTING #11	1 COIN 6 CREDITS
SETTING #12	2 COINS 1 CREDIT
SETTING #15	1 COIN 1 CREDIT 2 COINS 3 CREDITS
SETTING #17	3 COINS 1 CREDIT
SETTING #18	4 COINS 1 CREDIT
SETTING #19	1 COIN 1 CREDIT 2 COINS 2 CREDITS 3 COINS 3 CREDITS 4 COINS 5 CREDITS
SETTING #21	3 COINS 1 CREDIT 5 COINS 2 CREDITS
SETTING #22	2 COINS 1 CREDIT 4 COINS 2 CREDITS 5 COINS 3 CREDITS
SETTING #24	1 COIN 1 CREDIT 2 COINS 2 CREDITS 3 COINS 3 CREDITS 4 COINS 4 CREDITS 5 COINS 6 CREDITS
SETTING #26	FREE PLAY

○MANUAL SETTING

```
┌─────────────────────────────────────────────┐
│           COIN ASSIGNMENTS                    │
│                                               │
│          MANUAL SETTING                       │
│                                               │
│   COIN TO CREDIT  1 COIN  1 CREDIT·············│·······  ①
│                                               │
│   BONUS ADDER       NO BONUS ADDER············│·······  ②
│                                               │
│   COIN CHUTE MULTIPLIER                       │
│   COIN      1 COIN COUNTS AS 1  COIN··········│·······  ③
│      1  2  3  4  5  6  7  8  9                 │
│      1  2  3  4  5  6  7  8  9                 │
│   CREDIT                                      │
│                                               │
│ →  EXIT                                       │
│                                               │
│                                               │
│   SELECT BY SERVICE BUTTON                    │
│     AND PUSH TEST BUTTON                      │
│                                               │
└─────────────────────────────────────────────┘
```

① Determines COIN/CREDIT setting.

② This sets how many COINS should be inserted to obtain one SERVICE COIN.

③ This sets how many tokens one COIN represents.

MANUAL SETTING

COIN TO CREDIT	1 COIN 1 CREDIT
	2 COINS 1 CREDIT
	3 COINS 1 CREDIT
	4 COINS 1 CREDIT
	5 COINS 1 CREDIT
	6 COINS 1 CREDIT
	7 COINS 1 CREDIT
	8 COINS 1 CREDIT
	9 COINS 1 CREDIT

BONUS ADDER	NO BONUS ADDER
	2 COINS GIVE 1 EXTRA COIN
	3 COINS GIVE 1 EXTRA COIN
	4 COINS GIVE 1 EXTRA COIN
	5 COINS GIVE 1 EXTRA COIN
	6 COINS GIVE 1 EXTRA COIN
	7 COINS GIVE 1 EXTRA COIN
	8 COINS GIVE 1 EXTRA COIN
	9 COINS GIVE 1 EXTRA COIN

COIN CHUTE MULTIPLIER	1 COIN COUNTS AS 1 COIN
	1 COIN COUNTS AS 2 COINS
	1 COIN COUNTS AS 3 COINS
	1 COIN COUNTS AS 4 COINS
	1 COIN COUNTS AS 5 COINS
	1 COIN COUNTS AS 6 COINS
	1 COIN COUNTS AS 7 COINS
	1 COIN COUNTS AS 8 COINS
	1 COIN COUNTS AS 9 COINS

NETWORK ASSIGNMENTS

```
┌─────────────────────────────────────────────────┐
│                                                   │
│           NETWORK ASSIGNMENTS                     │
│                                                   │
│      COMMUNICATION          NETWORK               │
│                                                   │
│      PRIVILEGE MODE         MASTER                │
│                                                   │
│      CABINET ID#            1                     │
│                                                   │
│   →  EXIT                                         │
│                                                   │
│                                                   │
│      SELECT BY SERVICE BUTTON                     │
│        AND PUSH TEST BUTTON                       │
│                                                   │
└─────────────────────────────────────────────────┘
```

The PRIVILEGE MODE and CABINET ID# will not be displayed on the screen if STAND ALONE is selected by bringing cursor to COMMUNICATION.

Bringing the arrow mark to COMMUNICATION and pressing the TEST button allows the following 2 items to be alternately displayed.

STAND ALONE   (when not to be linked with other unit)

NETWORK   (when more than 2 units are linked)

Bringing the arrow mark to PRIVILEGE MODE and pressing TEST button allows the following 2 items to be displayed alternately.

MASTER   When more than 2 units are linked, one of them should be made the MAS-
               TER unit and the settings made (game, coin, etc.) for the MASTER cabinet
               also apply to the SLAVE cabinets.

SLAVE   When more than 2 units are linked, all cabinets except for the MASTER
               cabinet are SLAVE cabinets. Changing the settings for the SLAVE cabi-
               nets only will not be effective.

CABINET ID#   When more than 2 cabinets are linked, the ID Nos. 1, 2, 3, and 4 are set
               starting from the extreme left (facing the front portions of the MONI-
               TORs). Setting the same No. for 2 or more cabinets, or using the sequen-
               tial order in a confused manner may cause some problems to the display
               during game play, therefore, pay careful attention to this point.

BOOKKEEPING

This mode allows each of the CREDIT/TIME/GAME data to be ascertained.

```
              BOOKKEEPING  1/2

        COIN CHUTE  A     0
        COIN CHUTE  B     0
        TOTAL COINS       0

           COIN CREDITS      0
        SERVICE CREDITS      0
          TOTAL CREDITS      0

       NUMBER OF GAMES  A     0
       NUMBER OF GAMES  B     0

   TOTAL TIME              0D  0H  0M  0S
   GAME PLAY TIME  A       0D  0H  0M  0S
   GAME PLAY TIME  B       0D  0H  0M  0S

      AVERAGE GAME TIME     _ _M_ _S
      LONGEST GAME TIME     _ _M_ _S
      SHORTEST GAME TIME    _ _M_ _S

      PUSH TEST BUTTON TO CONTINUE
```

A shows the 1P side (left-side) player' s data and B, the 2P side(right-side) player' s data.

- COIN CHUTE: Number of activations of coin chute
- TOTAL COINS: Total number of activations of coin chutes
- COIN CREDITS: Number of CREDITs registered by COIN insertion
- SERVICE CREDITS: Number of times the SERVICE BUTTON is used
- TOTAL CREDITS: Total number of credits (COIN CREDITS + SERVICE CREDITS)
- NUMBER OF GAMES: Each seat's total games
- GAME PLAY TIME: Each seat's total game time

When more than 2 figures are displayed, an alphabetical letter "S" signifying plural quantity is shown at the end of each item.

Pressing the TEST BUTTON displays Page 2/2.

```
┌─────────────────────────────────────────────────────────────┐
│                                                               │
│           BOOKKEEPING 2/2                                     │
│                                                               │
│                  TIME HISTOGRAM                               │
│         STAGE 1      0                                        │
│         STAGE 2      0                                        │
│         STAGE 3      0                                        │
│         STAGE 4      0                                        │
│         STAGE 5      0                                        │
│         COMPLETE     0                                        │
│                                                               │
│                OutRunner of OutRunners    ,      "            │
│         AUSTRALIA          _ _ _ _ _  _ _ _  _ _, _ _" _ _    │
│         HONGKONG           _ _ _ _ _  _ _ _  _ _, _ _" _ _    │
│         JAPAN              _ _ _ _ _  _ _ _  _ _, _ _" _ _    │
│         CHINA              _ _ _ _ _  _ _ _  _ _, _ _" _ _    │
│         RUSSIA             _ _ _ _ _  _ _ _  _ _, _ _" _ _    │
│         NORTHERN EUROPE    _ _ _ _ _  _ _ _  _ _, _ _" _ _    │
│         SWITZERLAND        _ _ _ _ _  _ _ _  _ _, _ _" _ _    │
│         ATLANTIC OCEAN     _ _ _ _ _  _ _ _  _ _, _ _" _ _    │
│         SPAIN              _ _ _ _ _  _ _ _  _ _, _ _" _ _    │
│         KENYA              _ _ _ _ _  _ _ _  _ _  _ _  _ _    │
│                                                               │
│              PUSH TEST BUTTON TO EXIT                         │
│                                                               │
└─────────────────────────────────────────────────────────────┘
```

TIME HISTOGRAM: Number of players whose play became "GAME OVER" at
                       each stage. (COMPLETE refers to the number of players who
                       finished the game.)

OutRunner of OutRunners: Registering the best-time players who reached the finishing line
                       at each finishing point (color of car, 3 initial letters and time)

Pressing the TEST BUTTON restores the Menu screen.

BACKUP DATA CLEAR

Clears the contents of BOOKKEEPING.

```
┌─────────────────────────────────────┐
│                                      │
│         BACKUP DATA CLEAR            │
│                                      │
│           YES (CLEAR)                │
│                                      │
│       →   NO (CANCEL)                │
│                                      │
│     SELECT BY SERVICE BUTTON         │
│      AND PUSH TEST BUTTON            │
│                                      │
└─────────────────────────────────────┘
```

When clearing, bring "→" to "YES" and when not clearing, to "NO", by using the SERVICE BUTTON, and then push the TEST BUTTON.

Bring "→" to "NO" and press the TEST BUTTON to cause the Menu mode to return on to the screen.

When the data has been cleared, "COMPLETED" will be displayed and the Menu mode returns on to the screen.

LINK PLAY

To connect two machines together for link play it is necessary to purchase a link fibro optic cable.

Connect the cable between the PCB's of the machines using the link holes provided.

To remove the link hole covers, remove the front access panel and undo them from the inside of the machine.

FRONT ACCESS DOOR

LEFT LINK HOLE COVER

RIGHT LINK HOLE COVER
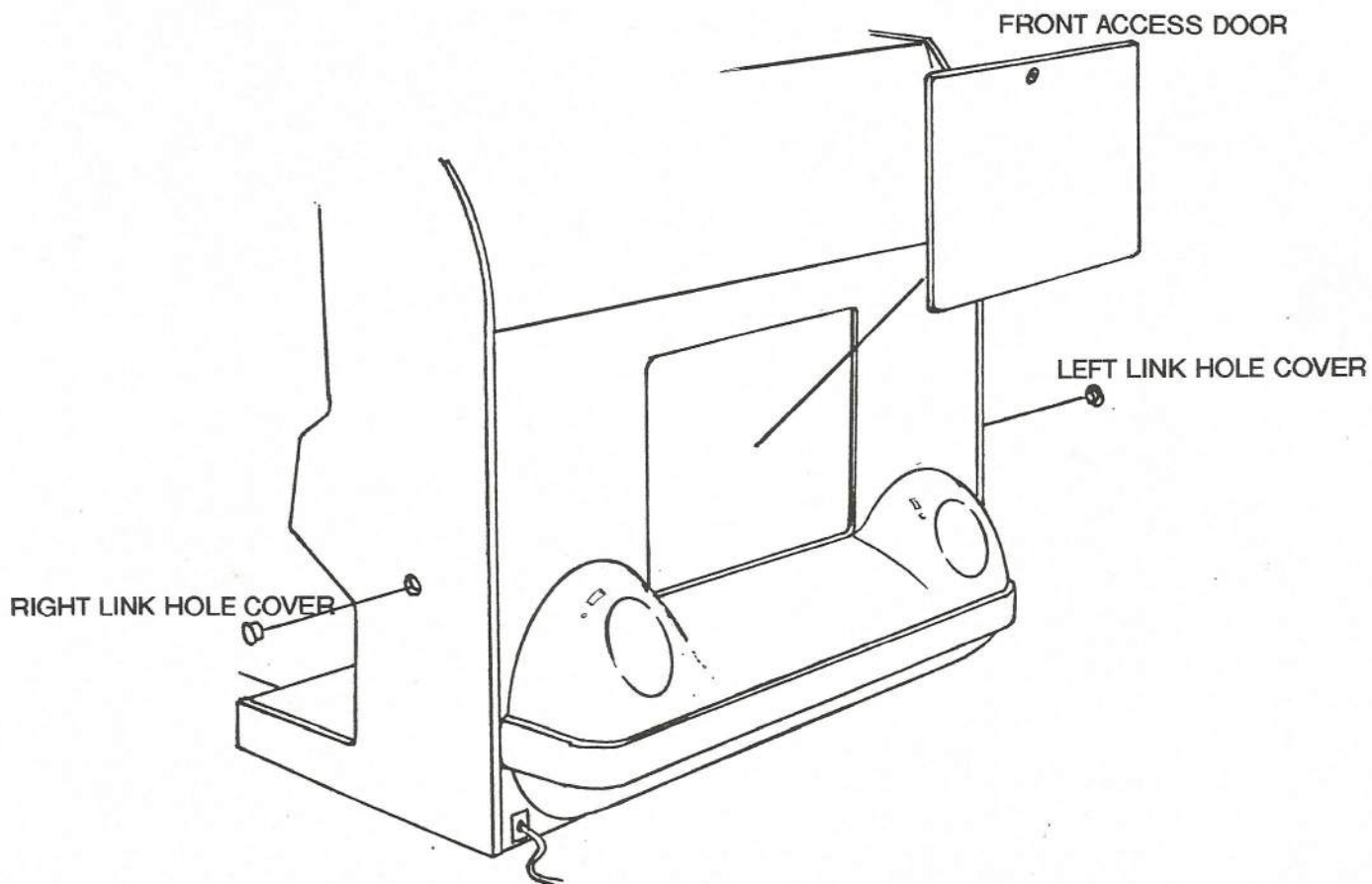
1 INSTALLATION PRECAUTIONS

When linking a number of machines, be sure to supply sufficient power for the corresponding number of machines. The per unit standard voltage/amperage is 100~120V/10A and 200~240V/5A.

2 COMMUNICATIONS CABLE CONNECTION

4P LINK SYSTEM

6P LINK SYSTEM

8P LINK SYSTEM
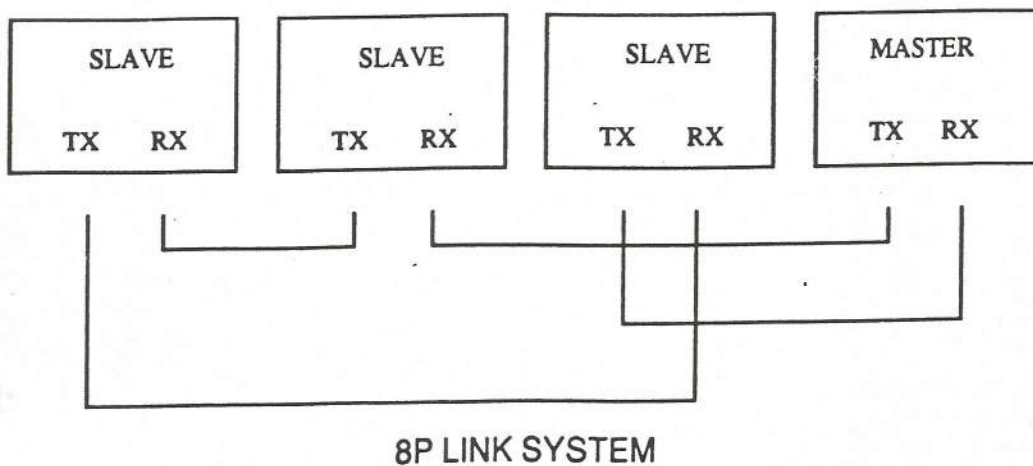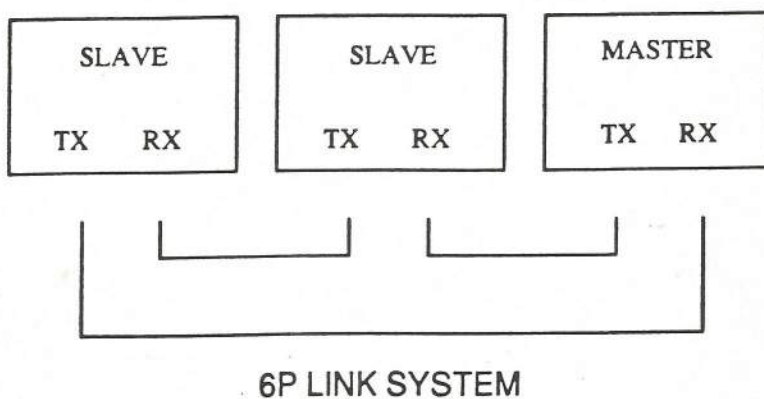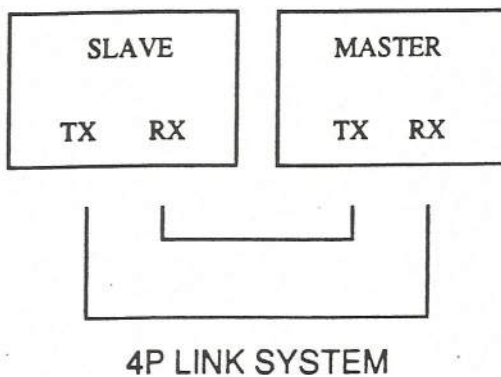
3 SETTING FOR COMMUNICATIONS PLAY

· Cause all of the machines to enter the test mode and change the game setting for each seat in a manner so as to meet the communications play. When changing the setting, refer to the explanations mentioned in Section 8. TEST AND DATA DISPLAY.

· Press the TEST button to enter the TEST mode and choose "NETWORK ASSIGNMENTS."

· Bring the arrow mark to "COMMUNICATION" and press the TEST button to select "NET-WORK."

· Move the arrow mark to "PRIVILEGE MODE" and press the TEST button to allow one of the cabinets to be set to "MASTER." Set all other cabinets to "SLAVE."

· Bring the arrow mark to "CABINET ID#," press the TEST button, and set plural number of the machines sequentially to ID#1, 2, 3, and 4 as applicable starting from the extreme left facing the monitors' front side.

· If the same number is set for 2 or more cabinets, or if the sequential order is incorrect, the game display, etc. will be confused. Therefore, be careful of this point.

4 SETTING THE GAME DIFFICULTY

In the case of COMMUNICATIONS play, the game difficulty setting is made by the MAS-TER cabinet. Even if the setting is changed by the SLAVE machines, the setting will not be effective for the game. Changing the setting by the MASTER cabinet causes all of the SLAVE machines also to change the setting by following the MASTER unit.

5 CAUTIONS TO BE HEEDED WHEN IN THE TEST MODE

The machines connected for the communications play perform the NETWORK check at the time the power is turned on and when exiting the test mode. The communications play by all of the machines is not possible unless all of the machines which were connected for the communications play simultaneously perform the NETWORK CHECK. Should the testing become necessary for even one machine, all of the remaining machines are required to enter the test mode. When the test is finished for the unit which required the test, all of the machines are to exit from the test mode at the same time.

ACCEL. & BRAKE

In the TEST mode, if ACCEL. & BRAKE VR value variation adjustment can not be made within the allowable range, the adjustment of VR position or VR replacement is required. Also, apply grease to the mechanism part once every 6 months as a standard. To perform the above work, take out ACCEL. & BRAKE from the cabinet.

1 TAKING OUT THE ACCEL & BRAKE

① Take off the 5 hexagon bolts.

② Take out the ACCEL. & BRAKE from the cabinet.

③ Disconnecting the 2 connectors allows ACCEL. & BRAKE to be removed from the cabinet.

When adjusting the VR, perform the work by watching the test mode screen with the connectors being as is connected.

When installing ACCEL. & BRAKE, pay attention so that the connectors are not caused to be damaged.

HEXGON BOLT, black　　(5)
M8×35, w/ flat & spring washers

ACCEL. & BRAKE
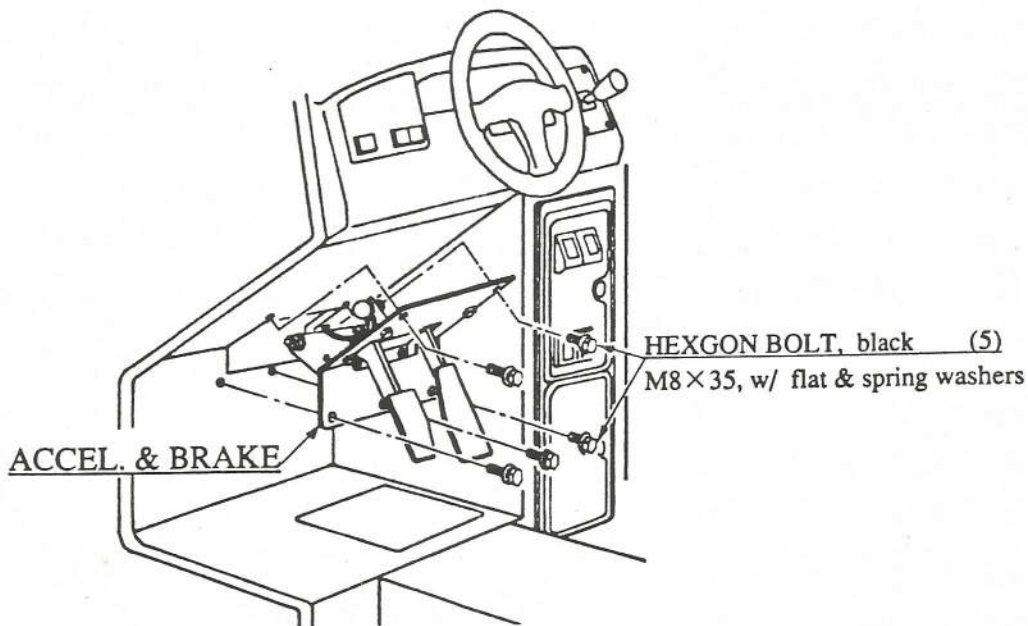
2 ADJUSTMENT AND REPLACEMENT OF VOLUME

Choose VOLUME ADJUSTMENT in the TEST mode. Move the ACCEL. pedal and BRAKE pedal to the maximum of the mobile range and ascertain the VR value variation displayed on the screen. If the VR value is out of the range displayed on the screen, an adjustment of the VR position or a replacement of the VR is required. If the VR value stays within the range shown on the screen, no adjustment is required.

Note that the following procedure apply to both ACCEL. and BRAKE.

VOLUME ADJUSTMENT

① Cause the VOLUME ADJUST-
MENT mode to appear on the
screen. (Refer to 8-4.)

② Loosen the 2 screws shown.

③ Turn the gear which is attached to
the VR and make adjustment in a
manner so that the VR value will
stay within the specified range.

④ Fasten the 2 screws by paying
attention to gear engagement and
backlash.

⑤ After making adjustments, newly
perform the setting of VR value in
the VOLUME ADJUSTMENT
mode.

SCREW   (2)
M4×12, w / flat & spring washers
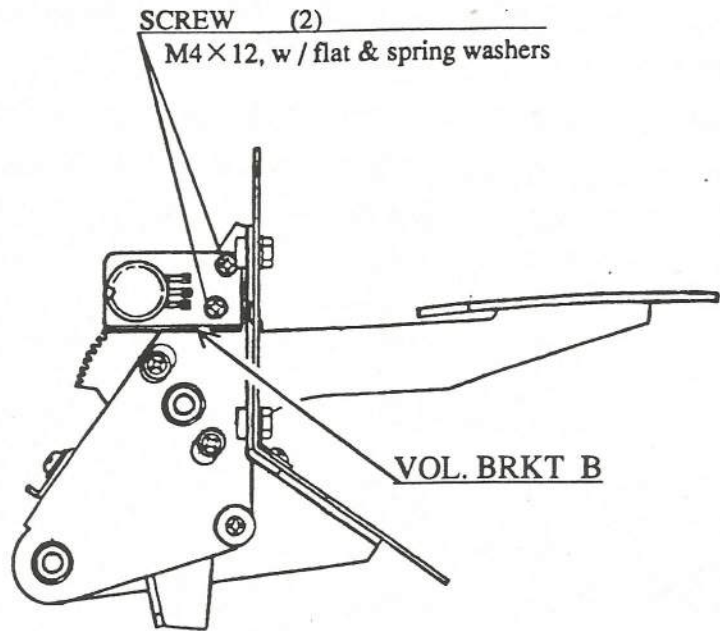
VOL. BRKT B

REPLACEMENT OF VOLUME (220-5130 VOL CONT B - 5K OHM)

Take off the 2 screws which secure the VOL. BRKT and remove the VR with the gear and
bracket as is attached. After the replacement, ascertain the VR value variation in the VOL-
UME ADJUSTMENT mode.

3 GREASING

Once every 6 months as a standard,
apply grease to the portions where
the springs and gears are engaged.

Also, be very careful so that grease
will not attach to the stopper's
rubber part.
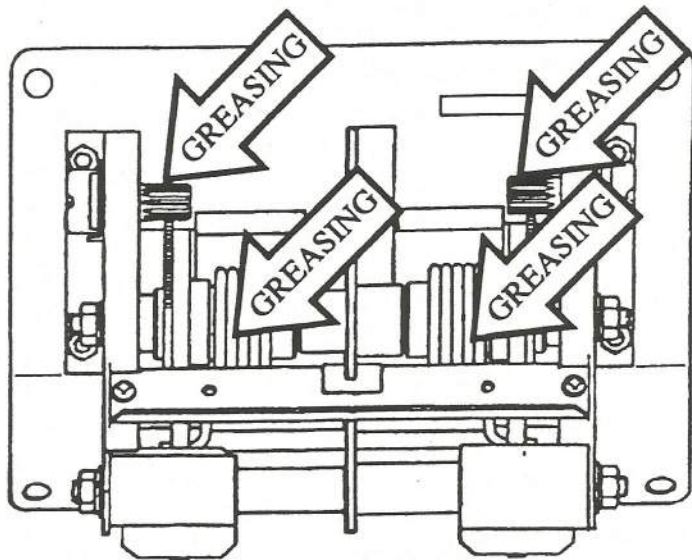
CONTROL PANEL

In the TEST mode, if adjustment can not be made in a manner so that the VR value variations are within the allowable range, an adjustment of VR position or a replacement of VR is required. Also, apply grease to the steering wheel mechanism's shaft or sliding portions once every 6 months as a standard.

When performing the above work, remove the CONTROL PANEL from the cabinet.

1 REMOVING THE CONTROL PANEL

① Take off the 3 tamperproof screws

② Take off the 2 tamperproof screws and 2 hexagon bolts from the underside of the CONTROL PANEL.

③ Pull out the CONTROL PANEL.

④ Disconnect the 5 connectors to allow the CONTROL PANEL to be removed from the cabinet.

TAMPERPROOF SCREW(3)
M8×20, using flat washer

CONTROL PANEL

HEXAGON BOLT, black (2)
M8×30, w/flat & spring washers

TAMPERPROOF SCREW (2)
M8×30, w/flat & spring washers
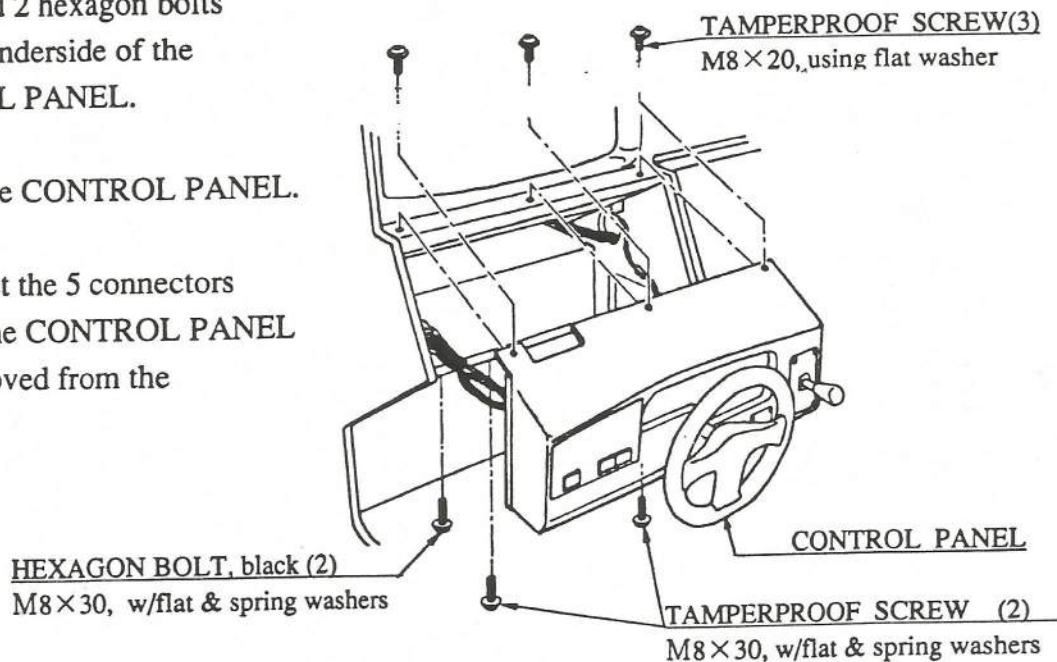
When making the VR adjustment, perform the work with the connectors as is connected, by watching the VOLUME ADJUSTMENT mode on the screen.

When installing the CONTROL PANEL, pay attention so that the connectors are not caused to be damaged.

When the CONTROL PANEL is removed, the monitor adjustment knobs appear. For the adjustment, refer to the following section.

COUPLING

MOTOR

SLIDE BASE

COLLAR L

JOINT BAR

VR GEAR

VOL CONT B-5K OHM
220-5130

COLLAR

WHITE CAM

SPRING

HANDLE GEAR

SWING ARM
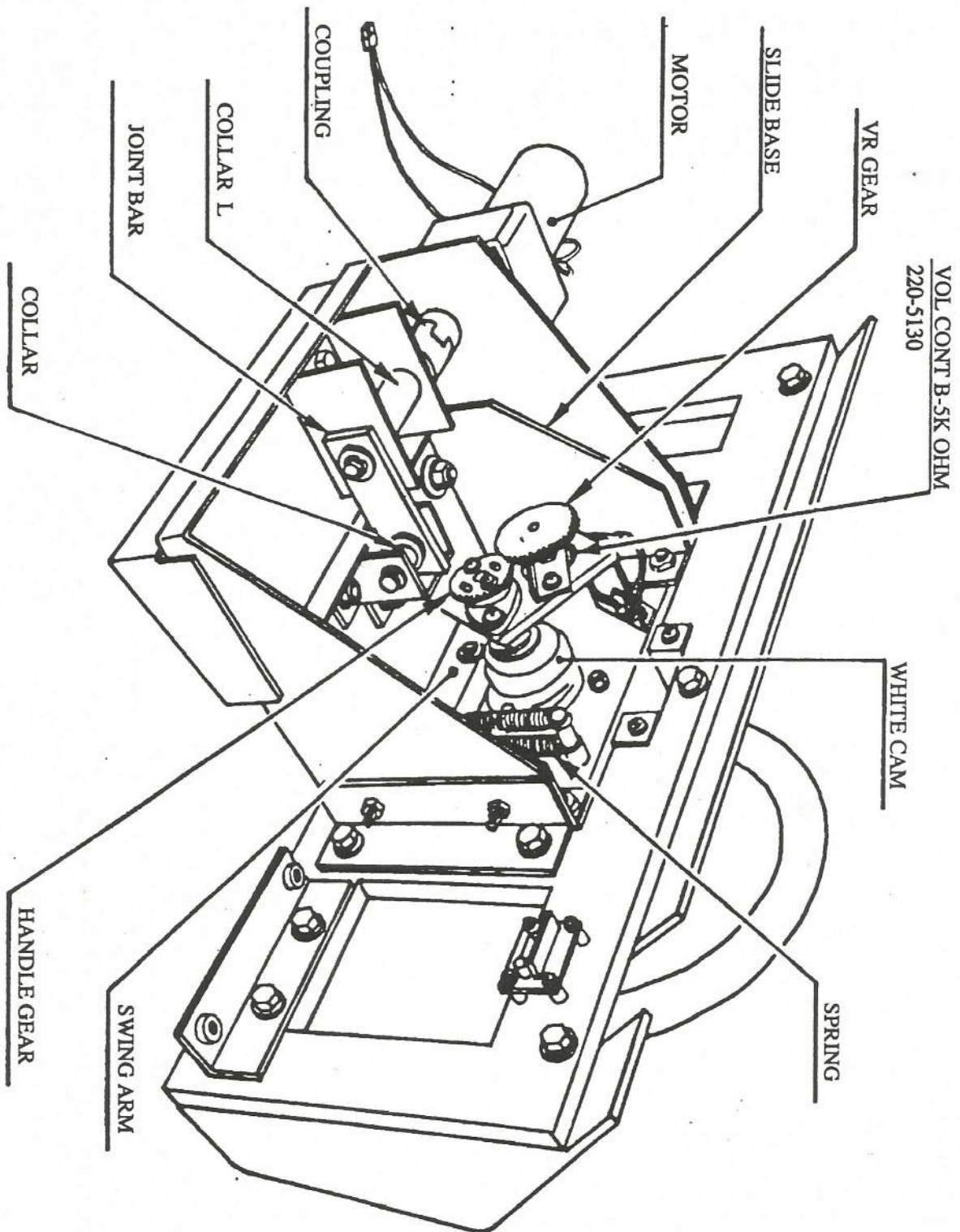
3 ADJUSTMENT AND REPLACEMENT OF VOLUME

Cause the VOLUME ADJUSTMENT mode to appear on the screen. Move the steering wheel to its maximum mobile range and ascertain the VR value variation shown on the screen. If the VR value is out of the displayed range, an adjustment of the VR position or a replacement of VR is required.

| Adjusting the VR |

① Make the VR BRACKET movable by loosening its SCREWs "A".

② Move the VR BRACKET until the VR GEAR is disengaged from the HANDLE GEAR. Rotate the VR shaft so that the value displayed on screen is within the tolerance.

③ Tighten SCREWs "A." Backlash should be adjusted at this moment.

④ If fine adjustment is necessary, loosen the SCREWs "B" and rotate the HANDLE GEAR until the desired value is attained.

⑤ After making adjustments, newly set the VR value in the VOLUME ADJUSTMENT mode.
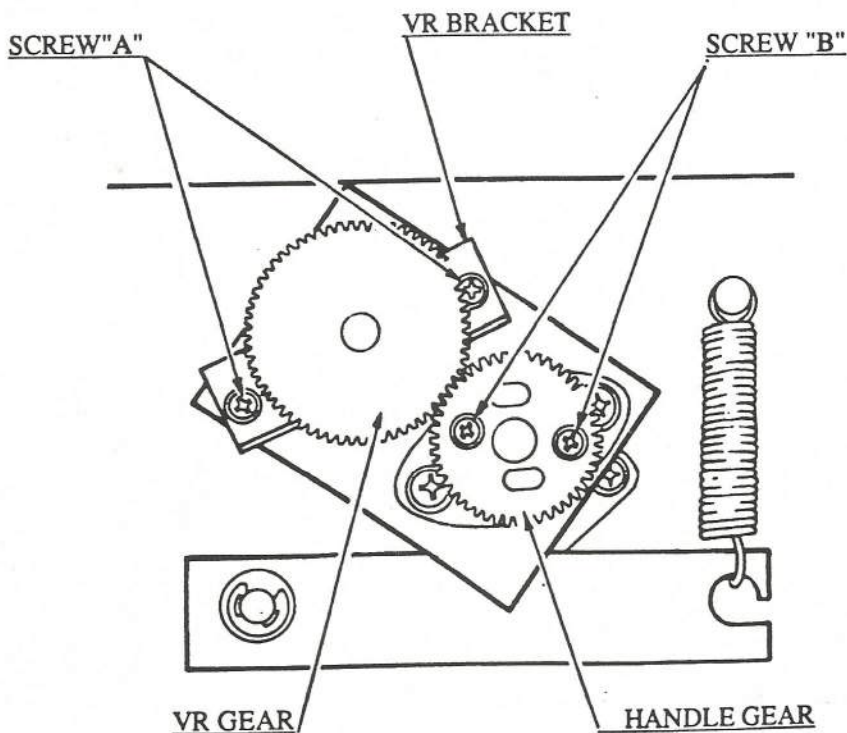
REPLACEMENT OF VOLUME (220-5130 VOL CONT B - 5K OHM)

(1) Remove the SCREWs "A" that fasten the VR BRACKET. The VR BRACKET becomes unfastened and the VR GEAR disengaged from the HANDLE GEAR.

(2) Remove the VR GEAR from the VR. Now replace the VR.

(3) After the replacement of the VR, newly set the VR value in the VOLUME ADJUST-MENT mode.
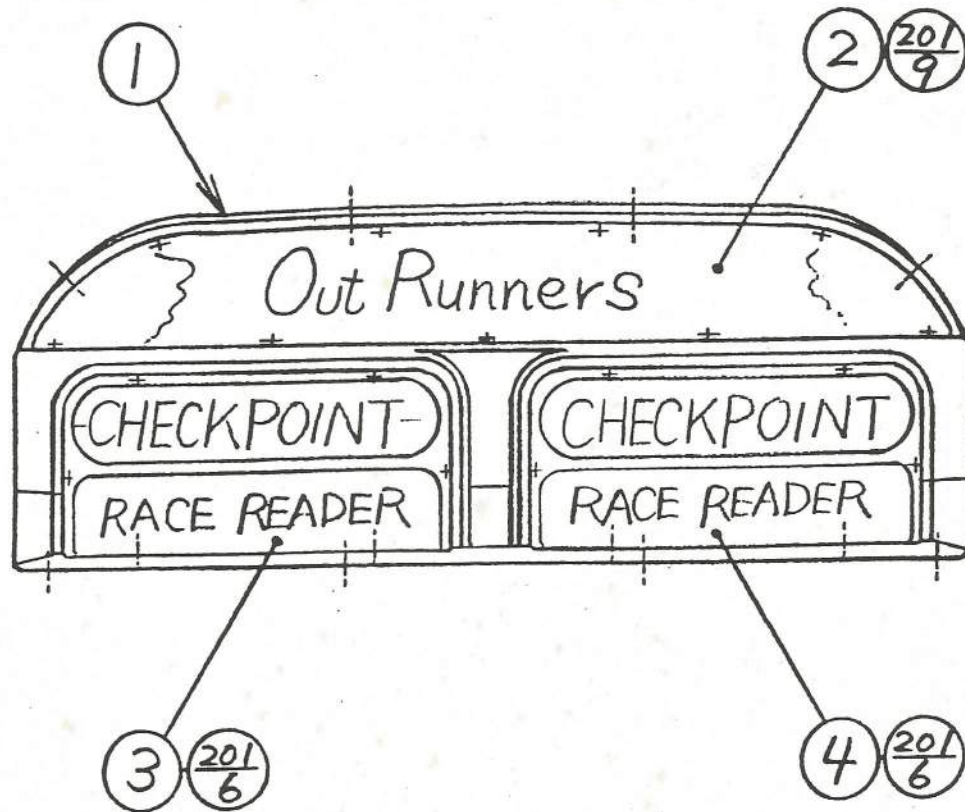
SECTION B
TECHNICAL DETAILS
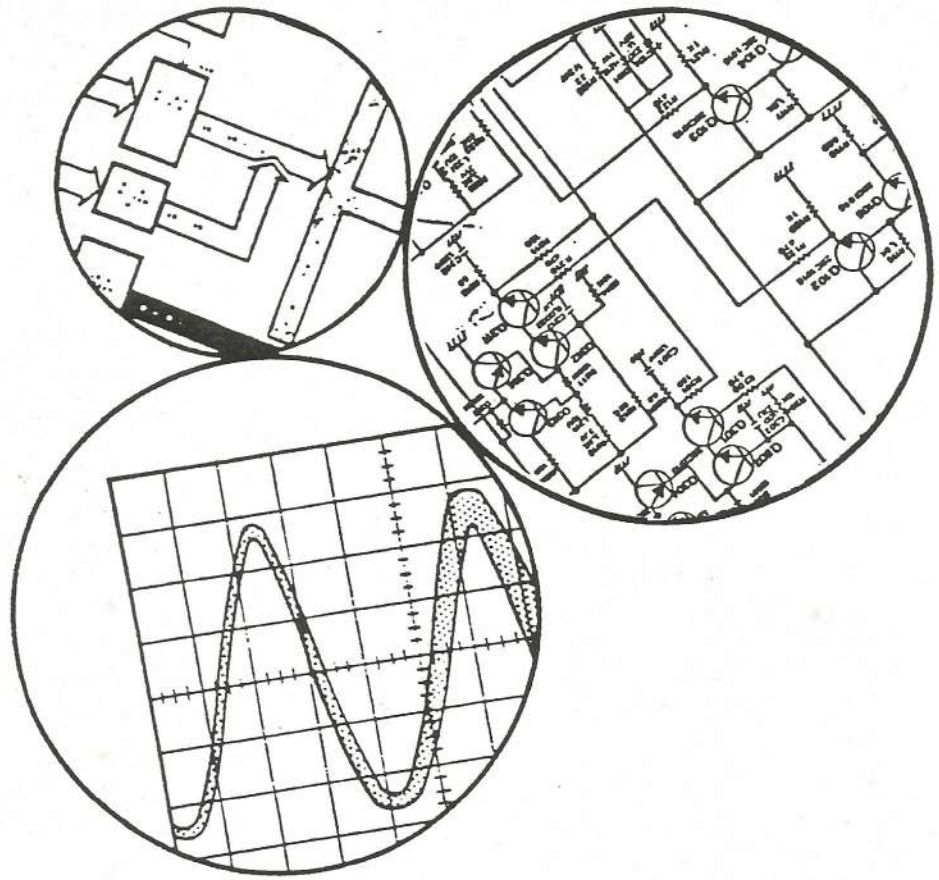
It is advised that anybody using SECTION B for repairing or modifying any of the components of the game should be a qualified technician having a basic knowledge of digital electronics, integrated circuits and electricity.

ASSY BILLBOARD (OUT-1032)

ITEM NO.	PART NO.	DESCRIPTION
1	OUT-1033	BILLBOARD COVER
2	OUT-1034	TOP PANEL OUTRUNNERS
3	OUT-1035	BILLBOARD RED
4	OUT-1036	BILLBOARD BLUE
201	029-0014	M SCR TH CRM M4×12

ASSY RADIO (OUT-2024)
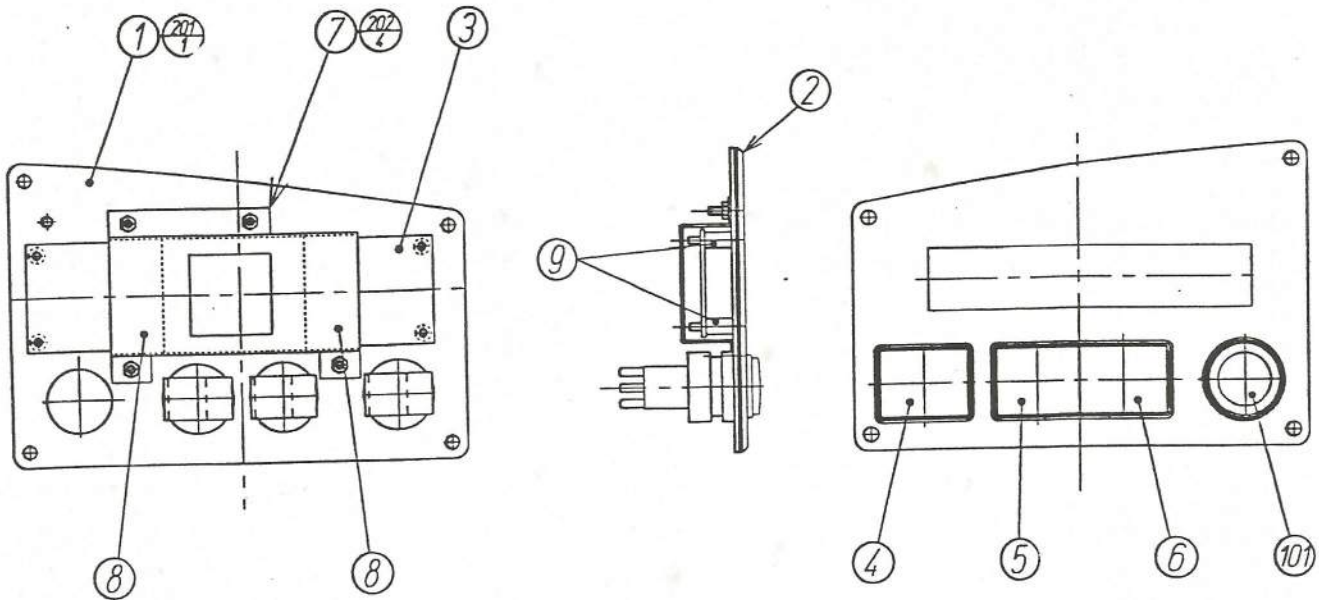
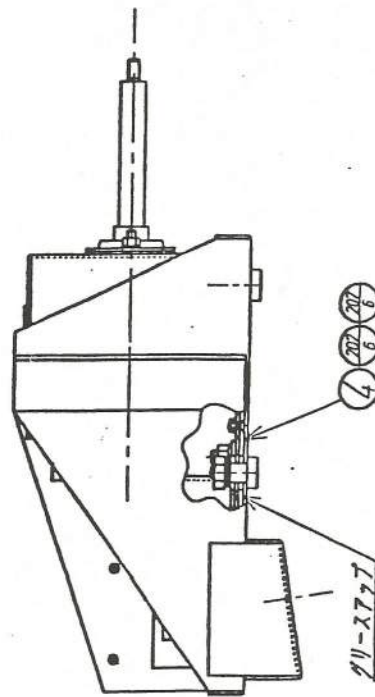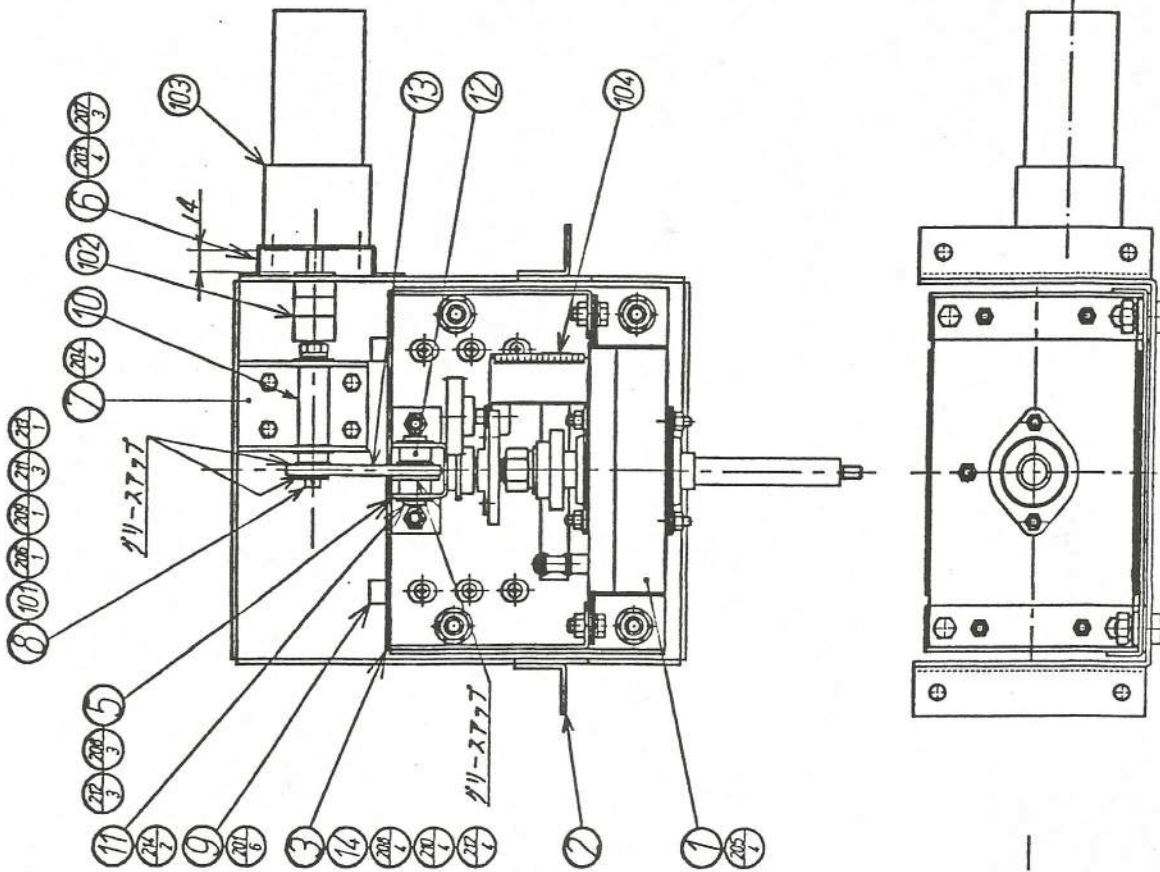| ITEM NO.	PART NO.	DESCRIPTION
1	OUT-2009	RADIO PLATE
2	OUT-2023	RADIO PANEL MARS
3	838-9612	ASSY LCD W/CONN
4	509-5495-01	PUSH BUTTON DJ/MUSIC
5	509-5495-02	PUSH BUTTON MUSIC
6	509-5495-03	PUSH BUTTON SELECT
7	OUT-2020	LCD HOLDER
8	OUT-2021	CUSHION
9	280-5185-10	SPACER TUBE L=10
101	509-5440	PUSH BTN SW 1T GREEN W/L DC14V
201	051-0004	FLG NUT M4
202	051-0003	FLG NUT M3
301	600-6253-57	WIRE HARN RADIO SW
302	600-6253-59	WIRE HARN LCD
303	600-6253-63	WIRE HARN EARTH RADIO
304	600-6253-71	WIRE HARN PLAYER SEL SW

ASSY KEY (OUT-2011)
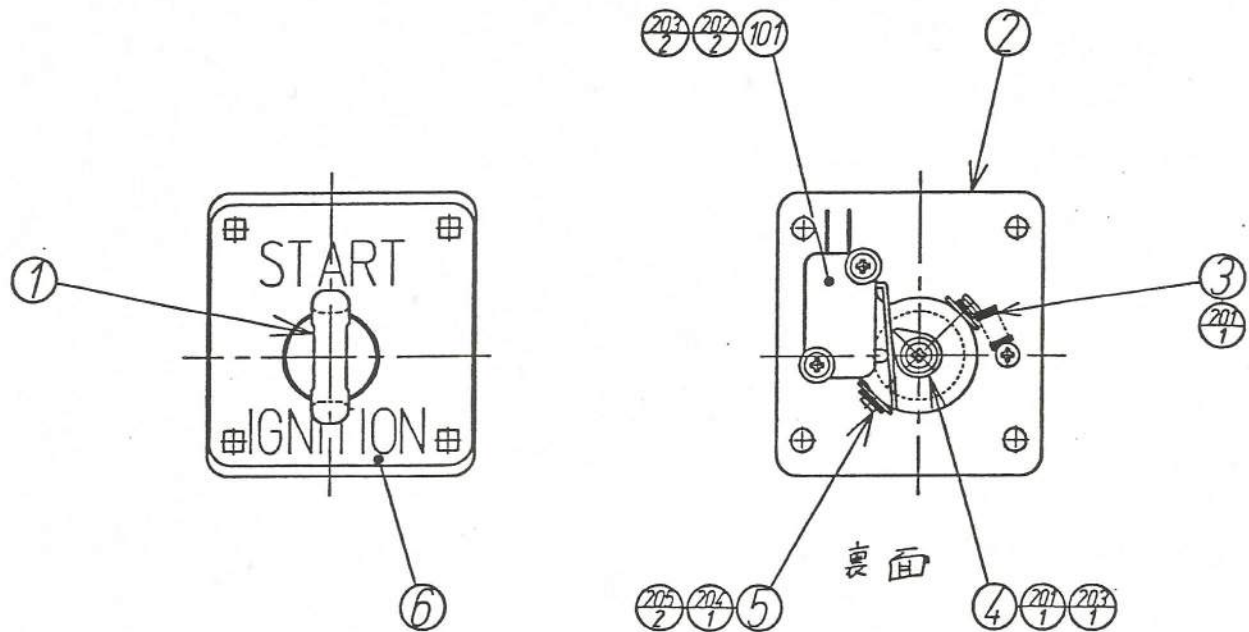
註 1. 傾動部グリースアップノコト
　　（ホワイトグリス）
　　2. ネジ締付付トルク 5kg-cm

ITEM NO.	PART NO.	DESCRIPTION
1	OUT-2012	KEY
2	OUT-2013	HOUSING
3	OUT-2014	EXT SPRING
4	OUT-2015	CAM
5	OUT-2016	PIN
6	OUT-2019	PLATE IGNITION
101	509-5281	SW MICRO TYPE (MATSUSHITA AH76525)
201	012-0308	TAP SCR PH 3×8
202	012-0320	TAP SCR PH 3×20
203	060-0003	FLT WSHR M3
204	065-0003	E RING 3mm
205	060-0004	FLT WSHR M4
301	600-6253-56	WIRE HARN KEY SW

ITEM NO.	PART NO.	DESCRIPTION
1	RDY-2100	ASSY HANDLE MECHA
2	OUT-2101	BASE
3	OUT-2102	SLIDE BASE
4	OUT-2103	SLIDER
5	OUT-2104	JOINT BRACKET
6	OUT-2105	MOTOR BRACKET
7	OUT-2106	SHAFT BRACKET
8	OUT-2107	CAM SHAFT
9	OUT-2108	SLIDE GUIDE
10	OUT-2109	COLLAR L
11	OUT-2110	JOINT PIN
12	OUT-2111	COLLAR
13	OUT-2112	JOINT BAR
14	OUT-2113	SLIDE SPACER
101	100-5165	BEARING ϕ15 W/FLANGE
102	111-0036	COUPLING (MIKI J-050-T5)
103	350-5142-01	MOTOR DC45V W/HOLE
104	601-5526-060	BUSH 1.6t
105	209-0023	CONN CLOSED END
201	000-0510-FS	M SCR PH W/FS M5×10
202	001-0410	M SCR FH M4×10
203	000-0410-FS	M SCR PH W/FS M4×10
204	039-0160	HEX BLT W/FS M6×16
205	039-0124	HEX BLT W/FS M8×20
206	045-0022	COT PIN 2.5×20
207	051-0004	FLG NUT M4
208	050-0008	HEX NUT M8
209	059-0038	HEX NUT（3種）M10
210	060-0008	FLT WSHR M8
211	060-0010	FLT WSHR M10
212	061-0008	SPR WSHR M8
213	061-0010	SPR WSHR M10
214	065-0012	E RING 12mm
301	600-6253-62	WIRE HARN DC MOTOR

組立時は、ダリスアップ付ける事。
メジ(ボルト)/締メ付ケトルク＝荷イナ、下E/トルク＝平メイナ:

HEX NUT M8 ······ 220㎏/㎝
HEX BOLT M8 ······ 100㎏/㎝
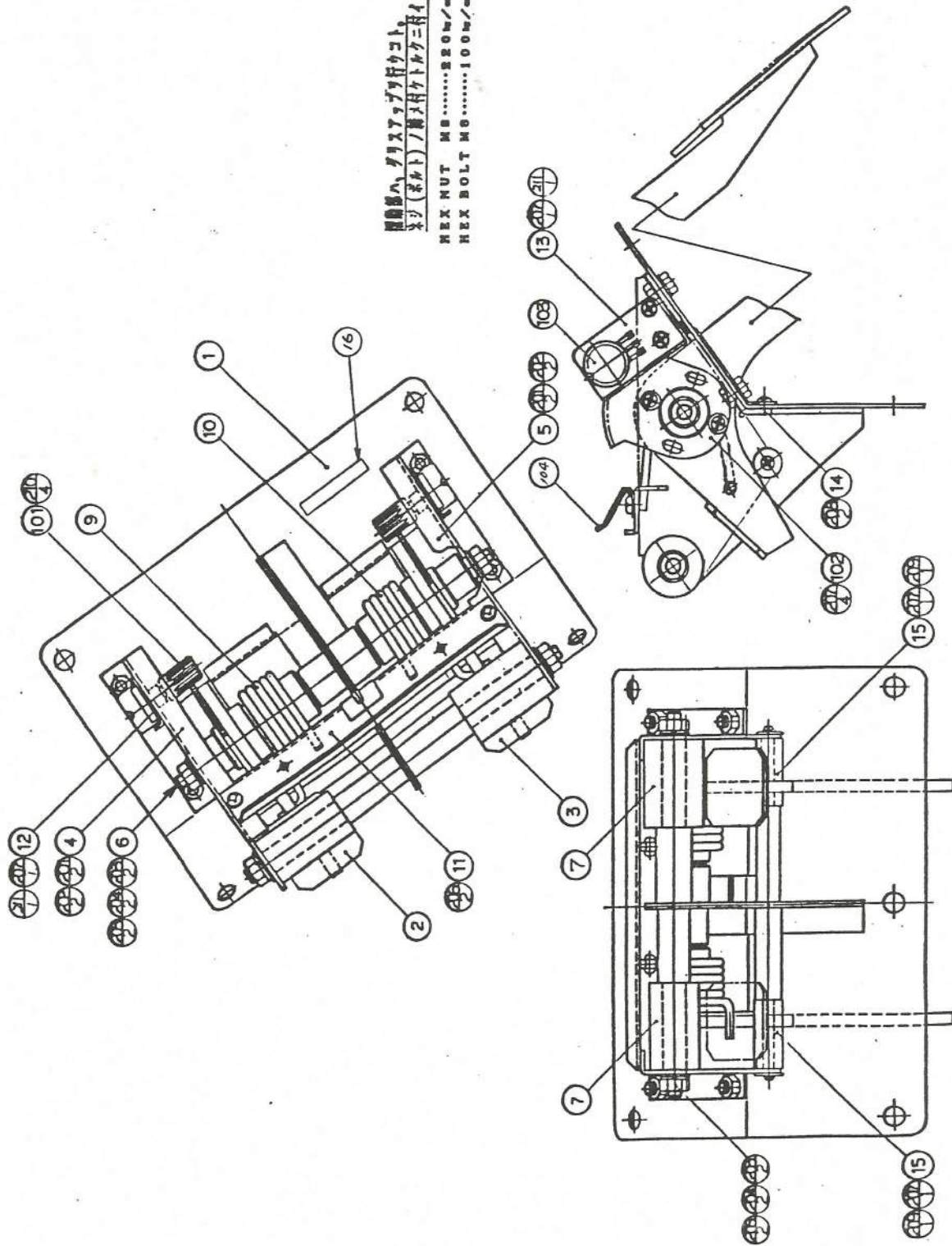
ITEM NO.	PART NO.	DESCRIPTION
1	RDY-1101	PEDAL BASE
2	RDY-1102	ACCEL PEDAL
3	RDY-1103	BRAKE PEDAL
4	RDY-1104	SIDE PLATE A
5	RDY-1105	SIDE PLATE B
6	RDY-1106	PEDAL AXLE
7	RDY-1107	STOPPER A
9	RDY-1109	TORSION SPRING A
10	RDY-1110	TORSION SPRING B
11	RDY-1111	SPRING HOOK
12	RDY-1112	VOL. BRKT A
13	RDY-1113	VOL. BRKT B
14	RDY-1114	PEDAL BANDAGE
15	RDY-1115	RETURN STOPPER
16	421-8100-03	STICKER RDY-1100-03
101	601-5410	GEAR 15, $\phi 6$
102	601-6450	GEAR 110
103	220-5130	VOL CONT B-5K OHM
104	280-0425	CORD CLAMP 10 ϕ
201	039-0128	HEX BLT BLK M6×12
202	069-0023	SPR WSHR BLK M6
203	050-0008	HEX NUT M8
204	060-0008	FLT WSHR M8
205	061-0008	SPR WSHR M8
206	000-0510-S	M SCR PH W/FS M5×10
207	000-0412-FS	M SCR PH W/FS M4×12
208	008-0408	TMP PRF SCR TH M4×8
209	069-0007	FLT WSHR 4.4-16×1.6
210	028-0001	SET SCR HEX SKT CP UNBR M3×4
211	000-0412-S	M SCR PH W/S M4×12
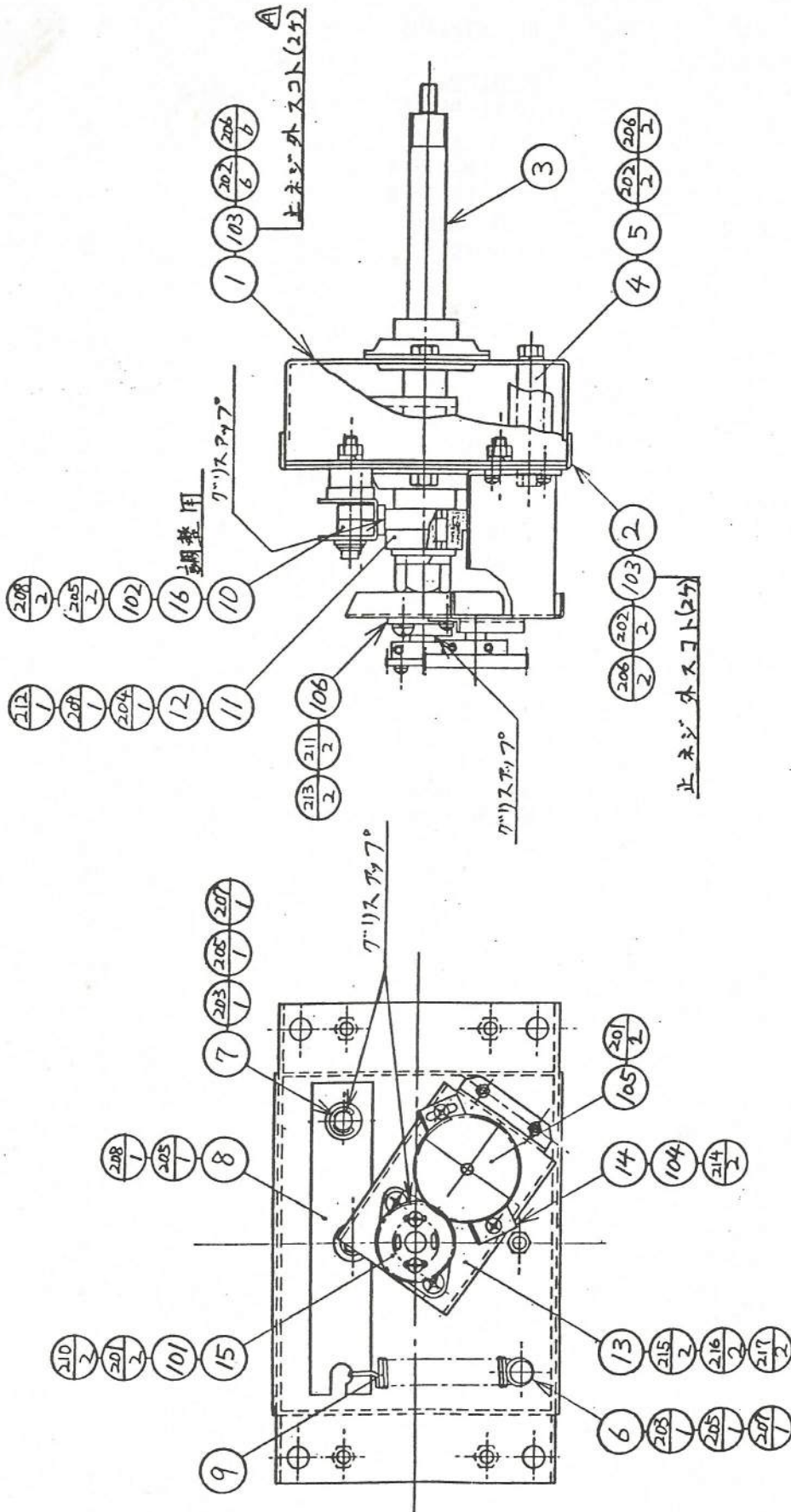
ASSY HANDLE MECHA (RDY-2100)

(D-1/2)

- 40 -

ASSY HANDLE MECHA (RDY-2100)

ITEM NO.	PART NO.	DESCRIPTION
1	RDY-2101	HANDLE BASE
2	RDY-2102	LID HANDLE BASE
3	RDY-2103	STEERING SHAFT
4	RDY-2104	STOPPER SHAFT
5	SLC-1120	STOPPER RUBBER
6	SLC-1122X	HOOK SPRING
7	SLC-1123	SWING ARM SHAFT
8	SLC-1124	SWING ARM
9	SLC-1137X	EXT SPRING L
10	SOR-2112	BEARING SHAFT
11	SLC-1141X	WHITE CAM
12	SOR-2115	KEY 5×10
13	RDY-2105	VR BASE
14	RDY-2106	VR BRACKET
15	RDY-2107	ADJUST RING
16	SDR-2113	SPACER
101	601-6172	GEAR 48
102	100-5018	BALL BEARING $\phi 8$
103	100-5096	BEARING $\phi 17$ (FYH SBPFL 203)
104	220-5130	VOL CONT B-5KOHM
105	601-7088	GEAR 64
106	100-5138	BEARING $\phi 12$ (オイレスピロー 80FL-12)
201	028-0019	SET SCR HEX SKT CP UNBR M4×8
202	050-0006	HEX NUT M6
203	050-0008	HEX NUT M8
204	059-0022	HEX NUT M16
205	060-0008	FLT WSHR M8
206	061-0006	SPR WSHR M6
207	061-0008	SPR WSHR M8
208	065-0007	E RING 7mm
209	069-0060	SPR WSHR M16
210	000-0412-FS	M SCR PH W/FS M4×12
211	054-0006	U NUT M6
212	069-0042	FLT WSHR M16
213	029-0372	M SCR PH W/FS M6×16
214	000-0408-FS	M SCR PH W/FS M4×8
215	050-0004	HEX NUT M4
216	061-0004	SPR WSHR M4
217	060-0004	FLT WSHR M4
301	SGB-4112-16	WIRE HARN HANDLE VR
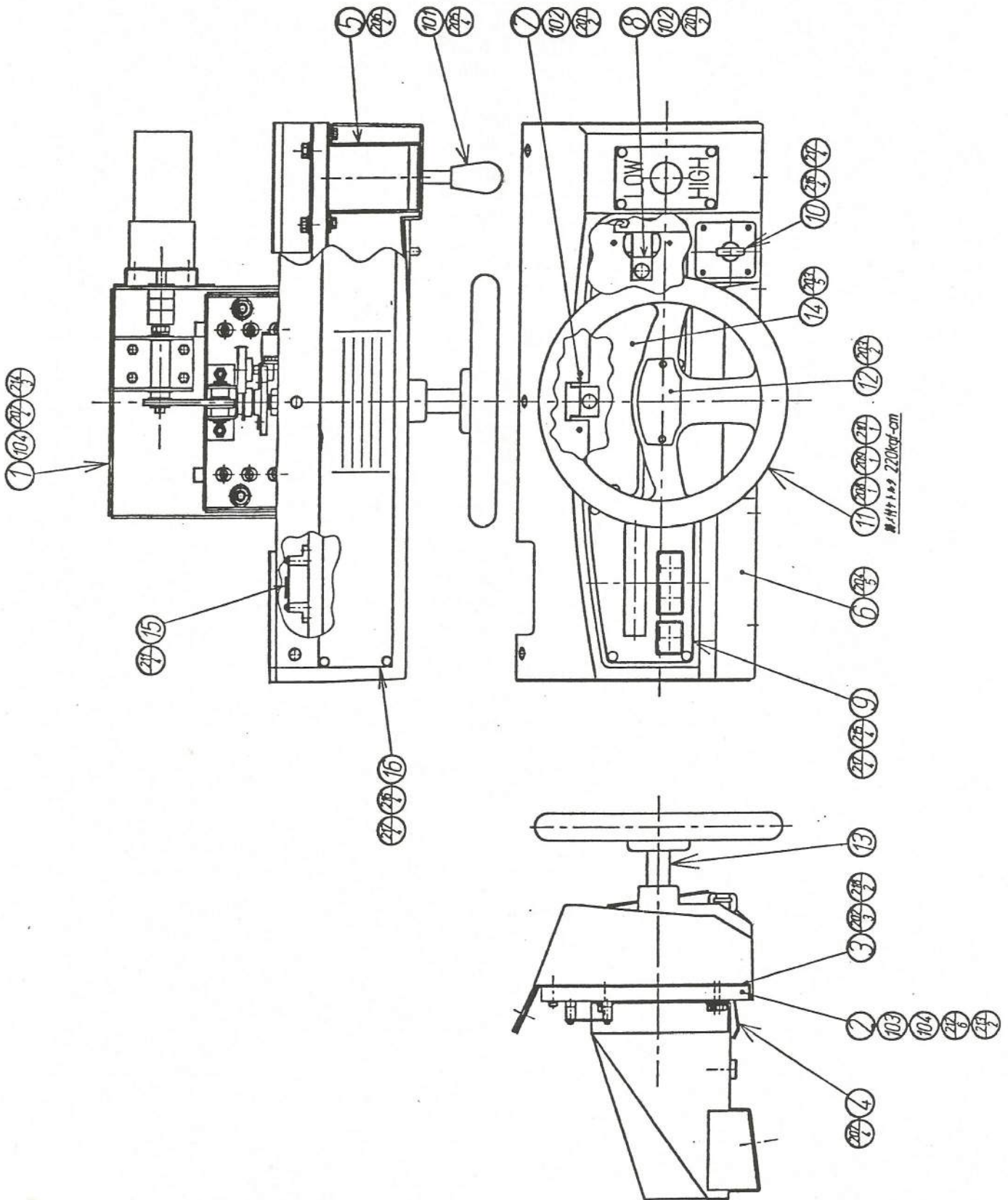
ITEM NO.	PART NO.	DESCRIPTION
1	OUT-2100	ASSY SLIDE MECHA
2	OUT-2001	WOOD BASE
3	OUT-2002	SUPPORT BRACKET
4	OUT-2003	REAR BRACKET
5	OUT-2004	SHIFT BRACKET
6	OUT-2005	CONT PANEL COVER
7	OUT-2006	LAMP BRACKET A
8	OUT-2007	LAMP BRACKET B
9	OUT-2008	ASSY RADIO
10	OUT-2011	ASSY KEY
11	RDM-2001	STEERING WHEEL ϕ270
12	RDM-2012	STEERING EMBLEM
13	OUT-2017	HANDLE COLLAR
14	OUT-2018	METER
15	839-0583	I/F BD
16	OUT-2022-01	GUARD PLATE INSTR ENG
101	610-0316	UP/DOWN SHIFT
102	390-5346	LAMP WEDGE BASE TYPE 14V 2.7W
103	280-0419	HARNESS LUG
104	280-5225	CORD CLAMP 21
105	209-0023	CONN CLOSED END
106	601-0460	PLASTIC TIE BELT 100mm
201	000-0425-FS	M SCR PH W/FS M4×25
202	000-0525-FS	M SCR PH W/FS M5×25
203	008-0416	TMP PRF SCR TH M4×16
204	029-0169	TMP PRF SCR TH CHROME M4×16
205	008-0512	TMP PRF SCR TH M5×12
206	039-0160	HEX BLT W/FS M6×16
207	069-0162	HEX BLT W/S M8×30
208	050-0008	HEX NUT M8
209	061-0008	SPR WSHR M8
210	069-0048	FLT WSHR BLK 8.5-22×1.6
211	005-3125	W SCR RH 3.1×25
212	005-3510	W SCR RH 3.5×10
213	006-3113	W SCR FH 3.1×13
214	010-0406-F	S-TITE SCR PH W/F M4×6
215	031-0414-B	CRG BLT BLK M4×14
216	039-0131	CRG BLT CRM M4×14
217	051-0004	FLG NUT M4
218	000-0416-FS	M SCR PH W/FS M4×16
301	600-6253-51	WIRE HARN EXT HANDLE
302	600-6253-52	WIRE HARN EXT CNTR PNL
303	600-6253-53	WIRE HARN SHIFT SW
304	600-6253-54	WIRE HARN EXT MOTOR
305	600-6253-55	WIRE HARN EARTH CNTR PNL

1181241	Monitor mask
128126	Louvre plate
128132B	Black seat
116126	Eagle lock
11138X112	Glides
1282970	Swivel castors
126132	Wire key hook
102144	Cash box
121126 15AMP	Power supply
121121	Power supply cover
104S6C	Micromech coin mech
160123	Micro harness interface
128779006007	Coin counter
112122	Power cord
118131	26" Nanao monitor
1281331	Small DB box
128122	Noise filter
1231231	Mains switch
074154	Fuse holder chassis type
123S1080	Service switch
078R2154	Vol pot 50ohm
078139	Vol pot 5kohm
078H6060	Knob - vol pot
128150	Power reset unit
074135	Fuse
126H2097B	Cord grip grommet
10754000420	Push buttons
128L462409	4" speakers
126M33822	22-way edge connector
073IN4004	Diode
125TS1153001	Transformer
128DP201AT	Computer fan
108AS1518	Fluoro tube 18"
10812	Tool clips
108123	Fluoro ballast
108S10	Fluoro starter
108121	Fluoro starter base
10847900	Lampholder GB

INPUT AND OUTPUT

GAME BD OUTRUNNERS(834-9559-XX)

SOUND VOLUME

⊗

CNC

CNA

CNJ

CN2

CNB
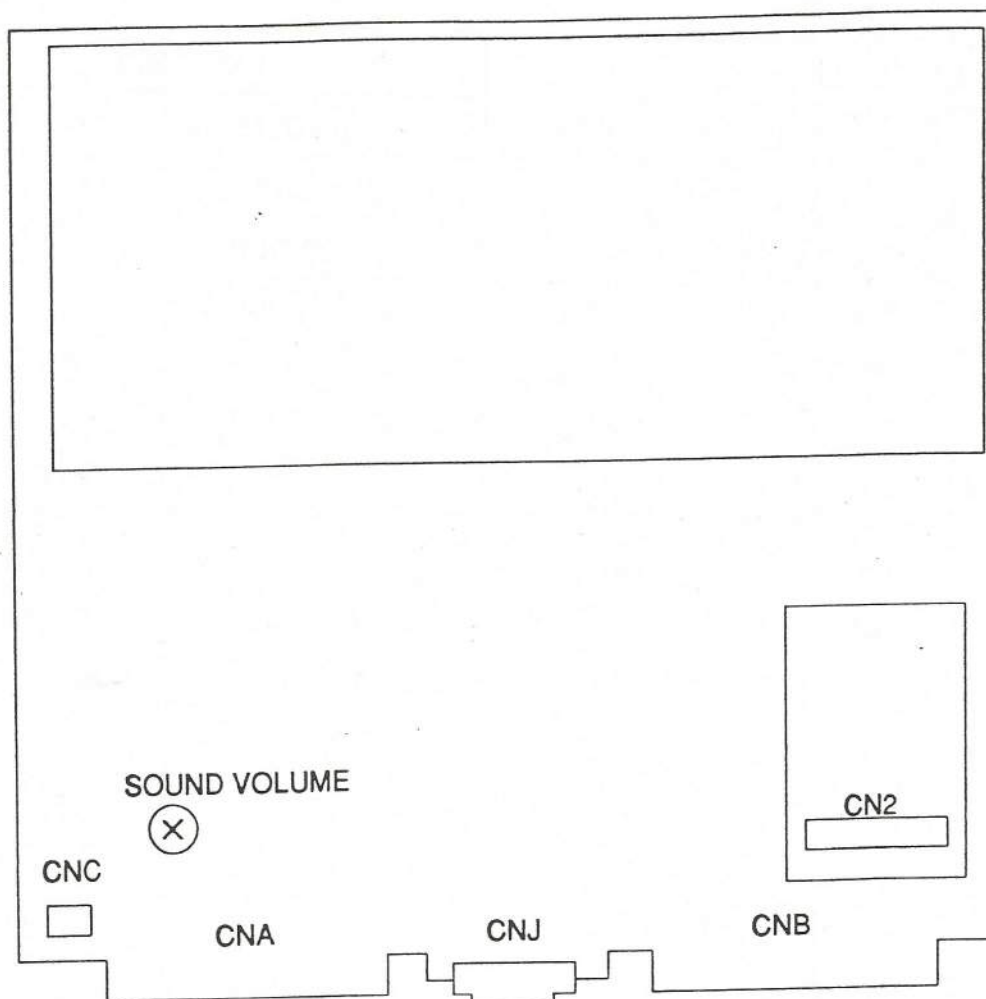
CNA :Signal INPUT/OUTPUT for LEFT PLAYER
CNB :Signal INPUT/OUTPUT for RIGHT PLAYER
CNJ :Signal OUTPUT for LEFT/RIGHT PLAYERS
CNC :Sound OUTPUT for LEFT/RIGHT PLAYER
CN2 :For LEFT/RIGHT PLAYERS: Signal INPUT as regards the STEERING WHEEL.
Signal INPUT as regards the ACCEL.
Signal INPUT as regards the BRAKE.

SOUND VOLUME : SOUND VOLUME adjustment VR.

L.A.I. MICROMECH HARNESS INTERFACE PCB
BJ-0493
USED WITH S6 MICROMECH

SOLDER SIDE		PARTS SIDE
0 VOLTS	1	0 VOLTS
0 VOLTS	2	0 VOLTS
+12 VOLTS	3	+12 VOLTS
+12 VOLTS	4	+12 VOLTS
	5	
	6	
	7	
CREDIT DISPLAY CLOCK	8	PLAYER 4 CREDIT OUT
CREDIT DISPLAY DATA	9	PLAYER 3 CREDIT OUT
PLAYER 1 CREDIT OUT	10	PLAYER 2 CREDIT OUT
COIN METER OUTPUT	11	
ALARM OUT (TTL ACTIVE HIGH)	12	
	13	
	14	CREDIT LAMP OUTPUT
	15	
	16	
	17	
	18	
	19	
SERVICE BUTTON (OPTIONAL)	20	
PLAYER 2 START SWITCH	21	PLAYER 4 START SWITCH
PLAYER 1 START SWITCH	22	PLAYER 3 START SWITCH

HOST SYSTEM

MAX 17V
MIN 11V

V MAX 40V
I MAX 200MA
Vlow 1.2V NOM

INHIBIT <0.6V
ACCEPT >1.2V
OR OPEN CIRCUIT

I=100MA 700MA PEAK (20MS)

+12V NOM.
PLAYER O/P PULSE 1
PLAYER O/P PULSE 2
PLAYER O/P PULSE 3
PLAYER O/P PULSE 4
CASH METER O/P
PLAYER I/P 1
PLAYER I/P 2
PLAYER I/P 3
PLAYER I/P 4
YO-YO ALARM
INHIBIT
GND

S6 VALIDATOR

1
4
3
5
6
8
12
11
15
10
13
2
16

+5
2K2
+5
2K7
5K
3K
+5
+5
4K7
4K7
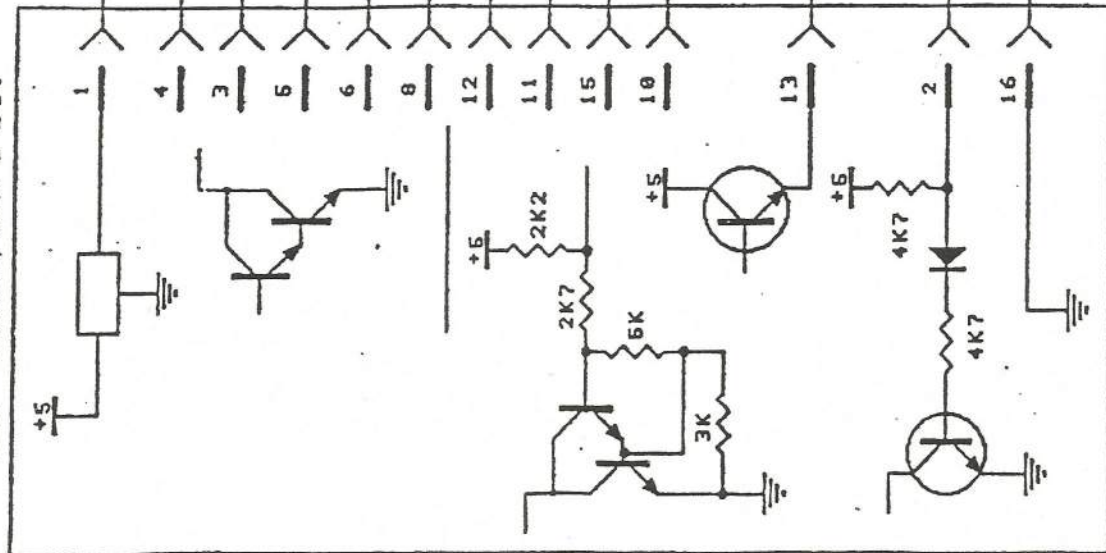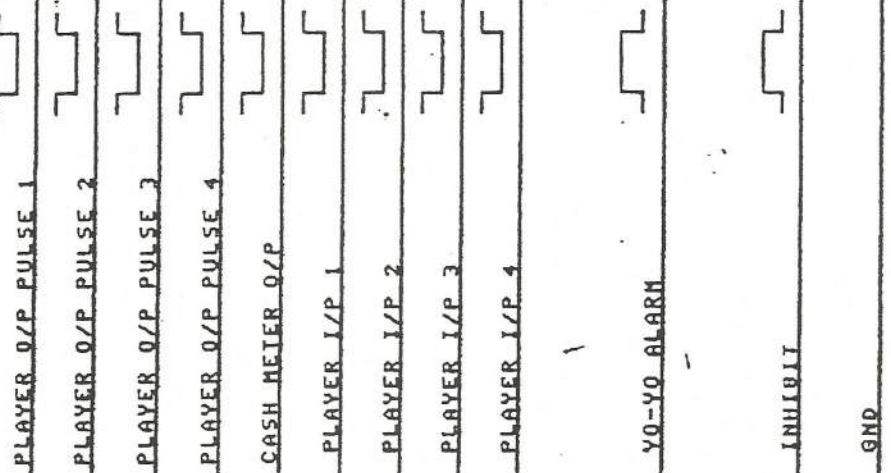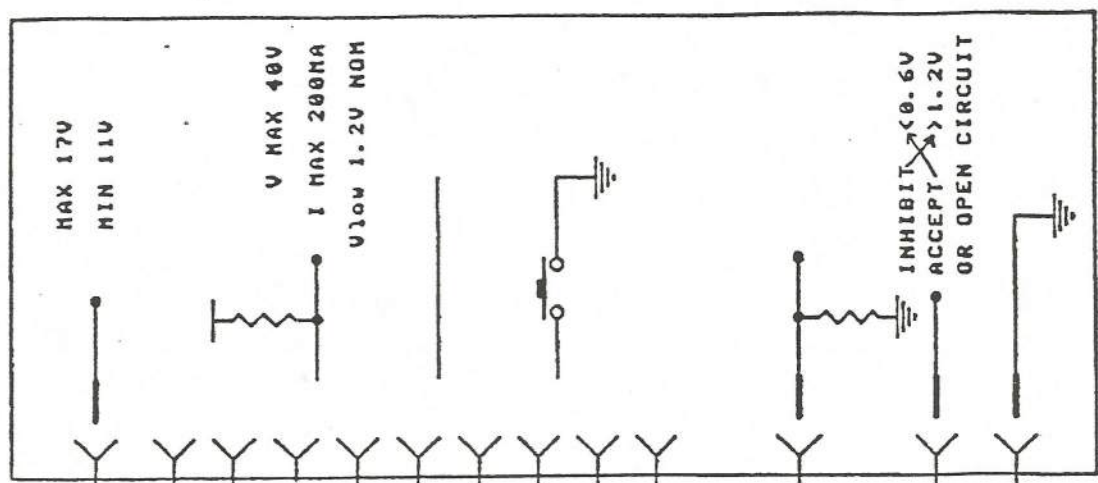
Title	S6 VALIDATOR		Revision
Size	Number	90000-301	
A4			
Date: 8-MAR 1993		Sheet 1 of 1	
File: A:\S6IO/1		Drawn By: N.R.H	

LEFT CONTROL PANEL

RIGHT CONTROL PANEL

RED
BLACK
WHITE
BLACK

RED
BLACK
WHITE
BLACK

15AMP POWER SUPPLY

POWER TO RIGHT HARNESS

POWER TO LEFT HARNESS

SSR P.C.B
DC MOTOR RIGHT

YELLOW

YELLOW

SSR P.C.B
DC MOTOR LEFT

WH/BLU
WH/RD

TO DIN PLUG
MAIN P.C.B

48VDC SUPPLY
P.C.B

48VDC SUPPLY
P.C.B

48VDC MOTOR DRIVE CIRCUIT

BLUE
ORANGE
BLUE
ORANGE

PURPLE
BLACK
PURPLE
BLACK

RED
BLUE
BLACK
GRAY
GREY

TRANSFORMER 240V
PRIMARY
SECONDARY
0-18 0-18VOLTS
ALT No M3026

BILLBOARD LIGHTING

RACE LEADER R
L4

CHECK POINT R
L3

RACE LEADER L
L2

CHECK POINT L
L1

SSR P.C.B

ORN/VIO
GRY/GRN
RED
TO RIGHT MAIN HARNESS

OR/WH
YELLOW
RED
TO LEFT MAIN HARNESS

TO DB BOX
240VAC

TO TOP FLOURECENT

TO TOP FLOURECENT

Title DUAL OUTRUNNERS
Size A2   Number 205   Revision A
Sheet 2 of 2
Drawn By R.J.H

- 48 -

OUTRUNNERS (WOOFER AUDIO SYSTEM)

Title

Size A4 Number 205 Revision A

Date: 8-OCT 1993 Sheet 1 of 3
File: A:\OUTDUAL/3 Drawn By: R.J.N

WOOFER AMPLIFER RIGHT SIDE

WOOFER AMPLIFER LEFT SIDE

TRANSFORMER CT

M3025/M3055

POWER SUPPLY

4W JST
TO MAIN
P.C.B

RIGHT SIDE
SCREEN
LEFT SIDE
SCREEN

TO RIGHT VOLUME

TO LEFT VOLUME

FM

240VAC

SCREEN
SCREEN

SCREEN
SCREEN

BLK/YL
OR/BLU
BLU/OR

BLK/YL
OR/BLU
BLU/OR

WH/OR
GRN/VIO
YL/OR
WH/BLK
GRN/WH
YL/BLK

BRN
GRN
BLU

18V 0V 18V
18V 0V 18V

+12V 0V

RED
WHITE
RED
WHITE

PK/WH
GRY/WH
S1

PK/WH
GRY/WH
S2

or 240V operation. NB: As for all switching regulators, to make safe, all ground and earth terminals must be connected. This safety measure also eliminates noise.

15 amp

WARNING: Check all connections. Any wrong wiring in the host machine or on power terminals will cause a short, causing short circuit device/overload to operate. The power supply will shut down.

This power supply requires at least 3 square millimetres (3mm2) cross sectional wires for +5V and ground circuits to give adequate current.

SCHEMATIC DIAGRAM

MS8-26

WARRANTY

LAI warrants all new video and pinball games sold by them for a period of 180 days from the date of sale. LAI's exclusive obligation is to repair any item with any defect as a result of faulty workmanship or materials, providing the defective item or items of equipment are returned to the LAI office from which the machine was purchased at the purchaser's expense.

LAI shall have no obligation to make repairs necessitated by negligence, misuse by any other person and any interference to the components by any unauthorised person shall automatically void any existing warranty. In the event of a component not being covered by warranty, LAI will only repair the faulty items providing the purchaser agrees to pay the appropriate service rates as set out in our schedule of charges from time to time.

This warranty supersedes all other warranties expressed or implied.

HEAD OFFICE:

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