THIS MANUAL IS MADE FOR USE WITH THE 2-IN-1 SITDOWN CABINET CONSTRUCTED IN JAPAN.
# TABLE OF CONTENTS

1. Specifications ................................................................. 1-2

2. Warnings
   2-1 Installation ............................................................... 3
   2-2 Transportation ........................................................... 3
   2-3 Operation ................................................................. 3-4
   2-4 Turning on/Re-setting ................................................ 4

3. Main cabinet parts .......................................................... 5

4. Assembly
   4-1 Main cabinet ............................................................. 6
   4-2 Seat unit ................................................................. 7
   4-3 Placard ................................................................. 8
   4-4 Commlink system .................................................... 9

5. Adjustments
   5-1 Adjustment switches .................................................. 10
   5-2 Monitor ................................................................. 11
   5-3 Dip switches ........................................................... 12-13
   5-4 Test mode ............................................................. 14-18

6. How to play ................................................................. 19

7. Basic maintenance
   7-1 Power unit ............................................................. 20
   7-2 Steering wheel unit ................................................... 20-22
   7-3 Shift unit ............................................................. 23
   7-4 Accelerator/Brake unit ............................................. 24-25
   7-5 Game PC board ....................................................... 26-27
   7-6 Acrylic screen cover ................................................ 27

8. Assembly diagrams
   Main cabinet assembly
   Seat cabinet assembly
   Steering wheel unit assembly
   Shift unit assembly
   Accelerator/Brake unit assembly
   Shielded cage assembly
   Placard assembly
   CRT monitor assembly

9. Entire wiring diagram
1. SPECIFICATION

1) Power usage
2) Power consumption
3) Monitor
4) Dimensions
5) Machine weight
6) Coin box capacity
7) Coin - credit setting

*AC 100V (50/60 Hz)
Approx. 350W
25" color (two)
*Width 1,250mm
*Depth 1,601mm
*Height 1,751mm

*Approx. 210 kg
*2,800 (¥100 coin size)
1 coin, 1 credit—4 coins, 1 credit
9) **Accessories:**

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash box key</td>
<td>X 1</td>
</tr>
<tr>
<td>Coin entry/maintenance door key</td>
<td>X 3</td>
</tr>
<tr>
<td>Manual</td>
<td>X 1</td>
</tr>
<tr>
<td>Fuse (6A/125V)</td>
<td>X 1</td>
</tr>
<tr>
<td>Potentiometer (5K ohm)</td>
<td>X 1</td>
</tr>
<tr>
<td>Lamp (for the start/race alone button)</td>
<td>X 1</td>
</tr>
<tr>
<td>Hexagon wrench 2mm</td>
<td>X 1</td>
</tr>
<tr>
<td>Hexagon wrench 5mm</td>
<td>X 1</td>
</tr>
<tr>
<td>Seat No. 1 sticker</td>
<td>X 1</td>
</tr>
<tr>
<td>Seat No. 2 sticker</td>
<td>X 1</td>
</tr>
<tr>
<td>Seat No. 3 sticker</td>
<td>X 1</td>
</tr>
<tr>
<td>Seat No. 4 sticker</td>
<td>X 1</td>
</tr>
</tbody>
</table>

**ATTENTION:** Specifications are subject to change without prior notification. If this machine is altered in any way without prior written consent from the manufacturer, Jaleco Ltd. holds no responsibility.
2. WARNINGS

2-1 Installation
This machine is for use indoors. The following locations are not suitable.
1. Outdoors
2. In places where there is exposure to rain, leaks, or direct sunlight. In addition, damp or humid places, dusty places or near a heat source. Places of high temperature or places where the formation of dew is possible.
3. To ensure safety, before operation, this machine must be placed in a location with an emergency exit, and a fire extinguisher must be nearby.
4. This machine must not be placed on an unstable surface. In addition, any incline or any other surface which is not flat cannot be used.
5. This machine must not be placed near dangerous, inflammable materials or volatile chemicals.

2-2 Transportation
Please take care during transportation so that no excessive shocks are incurred by the machine. Also, make sure the seat unit is removed from the machine.

2-3 Operation
1. To ensure that this machine functions properly, it must be connected directly to a wall or power outlet, and not to an extension outlet with other machines running off it. The machine will not function correctly if the voltage supply is low or fluctuating.
2. Please make sure that the machine's power cord is attached firmly to the wall outlet or extension cord of the proper gauge and grounded.
3. Before disconnecting the power cord, make sure the power switch is turned off.
4. It is dangerous to pull the power cord out even for a second while the machine is on.
5. Please make sure that the power cord is placed in a secure manner so as to avoid being tripped over.
6. Only use fuses which meet the current electrical standards for this machine.
7. When disconnecting the power cord, please be sure to pull the plug and not the power cord.
8. Testing the PCB using a tester may cause damage to the PCB from the tester's voltage.

2-4 Turning on/Re-setting
When the machine is turned on in the morning or when the machine is turned off and then turned on for resetting, the accelerator should not be pressed down; otherwise, the car will not speed up correctly when played.
3. IDENTIFICATION OF MAIN CABINET PARTS

- steering unit
- placard
- main cabinet
- maintenance door
- CRT monitor
- shift unit
- accelerator and brake unit
- coin entry door
- cash box door
- seat (R)
- seat (L)
4. ASSEMBLY

4-1 MAIN CABINET

Use the four adjusters, located on the bottom of the machine, to make sure there is at least a 5mm space between the wheels and the floor.

Main Cabinet

Adjuster

Adjuster

Adjuster

at least 5mm
4-2 SEAT UNIT

First attach the connector from the main cabinet to the connector on the seat unit. Then, secure the seat on the cabinet using the flat washers and the button head bolts. Take care not to pinch the connector or cable in-between the seat and the cabinet.

Seat (R) is installed in a similar fashion except the left and right will be the opposite of the diagram (seat L)

ATTENTION: When dis-assembling, make sure to disconnect the connectors, otherwise, the cord may break.
4-3 PLACARD

Fasten the placard onto the main cabinet using flat screws.

M4 X 30 screw

placard

M4 X 15 screw

main cabinet
4-4 COMMLINK SYSTEM (optional)

When connecting two machines to allow a four player game, the commlink cable is necessary.

ATTENTION: When using the 4 player mode, the dip switches need to be set accordingly (see 5-4).

ATTENTION: Try to keep the link cable separate from the other cables when assembling.
5. ADJUSTMENTS

5-1 CONTROL PANEL

The adjustment switches are located inside the coin entry door (see diagram). The switches on the right side are for the right player and the switches on the left side are for the left player.

1. Test switch
   This switch is to be used to run a check of the game's systems. Refer to "test mode" section 5-4 of this manual.

2. Service switch
   For use in servicing the coin counter, allows an increase in the number of credits without affecting the coin counting mechanism.

3. Speaker volume (F)
   Regulates the volume of the cabinet's speaker.

4. Speaker volume (R)
   Regulates the volume of the seat's speaker.
5-2 MONITOR ADJUSTMENTS

1. Brightness
2. Contrast
3. B. BKG
4. G. BKG
5. R. BKG
6. Vertical positioning
7. Vertical hold (tracking)
8. Horizontal positioning
9. Horizontal hold (tracking)
10. Horizontal size
5-3 DIP SWITCH SETTINGS
Removing the dip switch cover on the PCB will reveal the dip switches in the following diagram.

![Dip Switch Diagram](image)

GRAND PRIX STAR (VERSION 1.1) WITHOUT "RACE TOGETHER" BUTTON

1. Credit switch setting (SW. 1)

<table>
<thead>
<tr>
<th>DIP SWITCH #1</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 COIN 1 CREDIT</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 COIN 2 CREDITS</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 COIN 3 CREDITS</td>
<td>OFF</td>
<td>ON</td>
<td>OFF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 COIN 4 CREDITS</td>
<td>ON</td>
<td>ON</td>
<td>OFF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 COIN 5 CREDITS</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 COIN 6 CREDITS</td>
<td>ON</td>
<td>OFF</td>
<td>ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 COIN 7 CREDITS</td>
<td>OFF</td>
<td>ON</td>
<td>ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 COINS 3 CREDITS</td>
<td>ON</td>
<td>ON</td>
<td>ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COINCHUTE #2</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 COIN 1 CREDIT</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 COIN 2 CREDITS</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 COIN 3 CREDITS</td>
<td>OFF</td>
<td>ON</td>
<td>OFF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 COIN 4 CREDITS</td>
<td>ON</td>
<td>ON</td>
<td>OFF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 COINS 1 CREDIT</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 COINS 1 CREDIT</td>
<td>ON</td>
<td>OFF</td>
<td>ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 COINS 1 CREDIT</td>
<td>OFF</td>
<td>ON</td>
<td>ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 COINS 1 CREDIT</td>
<td>ON</td>
<td>ON</td>
<td>ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

FREE PLAY
- NO
- YES

TOTAL
- KEEP SWITCH TO "OFF"

<table>
<thead>
<tr>
<th>FREE PLAY</th>
<th>OFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>ON</td>
</tr>
</tbody>
</table>

| NOT USED - KEEP SWITCH TO "OFF" | OFF |
2. Play control setting (SW. 2)

<table>
<thead>
<tr>
<th>DIP SWITCH #2</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOT USED - KEEP SWITCH TO &quot;OFF&quot;</td>
<td>OFF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOT USED - KEEP SWITCH TO &quot;ON&quot;</td>
<td>ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIFFICULTY LEVEL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STANDARD</td>
<td>OFF</td>
<td>OFF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIFFICULT</td>
<td>ON</td>
<td>OFF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MORE DIFFICULT</td>
<td>OFF</td>
<td>ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EASY</td>
<td>ON</td>
<td>ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PLAY TIME</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NORMAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNLIMITED</td>
<td>ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOUND IN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NECESSARY</td>
<td>OFF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNNECESSARY</td>
<td>ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATTRACT MODE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOT USED - KEEP SWITCH TO &quot;OFF&quot;</td>
<td>OFF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOT USED - KEEP SWITCH TO &quot;OFF&quot;</td>
<td>OFF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Commlink switch setting (SW. 3)

<table>
<thead>
<tr>
<th>DIP SWITCH #3</th>
<th>SWITCH NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MACHINE</td>
<td>PCB SET</td>
</tr>
<tr>
<td>NO. 1</td>
<td>NO. 1</td>
</tr>
<tr>
<td>NO. 2</td>
<td>NO. 2</td>
</tr>
<tr>
<td>NO. 2</td>
<td>NO. 3</td>
</tr>
<tr>
<td>NO. 2</td>
<td>NO. 4</td>
</tr>
<tr>
<td>NOT USED - KEEP THESE 4 SWITCHES TO &quot;OFF&quot;</td>
<td>OFF</td>
</tr>
</tbody>
</table>

MACHINE NO. 2 IS NOT APPLICABLE UNLESS 2 MACHINES ARE LINKED.
5-4 TEST MODE

Running the following tests will confirm that your machine is working correctly. These tests will assure you that the wiring and switches are correctly adjusted. In addition, the monitor's screen color and the sound adjustment can be checked.

1. Test Functions

If the coin entry door is opened and the "test switch" is pressed, the following screen will be displayed which lists each type of test that can be carried out.

Press the "start" ("race alone") button to move the arrow to the desired test heading, then press the "test switch" to execute the selected test.

To return to the game mode, simply align the arrow with the "exit" heading and press the "test switch."

```
|  ROM RAM                        |
| MONITOR POSITION              |
| COLOR BAR                      |
| I/O                            |
| DIP SW                         |
| SOUND                          |
| COMMUNICATION                  |
| EXIT                           |
```

ROM/RAM.................................checks the ROMs and RAMs on the board
MONITOR POSITION.........................a test pattern display for monitor adjustment
COLOR BAR.................................a color bar display for color adjustment
I/O......................................checks the switches, lamps, potentiometers, etc.
DIP SWITCH................................shows the current DIP switch settings
SOUND....................................checks the sound ROM/RAM and the power amplifier
COMMUNICATION............................checks the link system
2. TEST MODE SCREEN HEADINGS

1) ROM/RAM CHECK

The following screen will be displayed when the ROM/RAM check is selected. If the ROM/RAM are functioning correctly, "OK" will be displayed. If there is a fault on the ROM/RAM, "NG" will be displayed.

<table>
<thead>
<tr>
<th>ROM RAM CHECK</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAIN</td>
</tr>
<tr>
<td>VRAM</td>
</tr>
<tr>
<td>SCRATCH RAM</td>
</tr>
<tr>
<td>COLOR RAM</td>
</tr>
<tr>
<td>ROAD COM. RAM</td>
</tr>
<tr>
<td>OBJECT RAM</td>
</tr>
<tr>
<td>PROGRAM ROM</td>
</tr>
<tr>
<td>ROAD</td>
</tr>
<tr>
<td>SCRATCH RAM</td>
</tr>
<tr>
<td>ATTRIBUTE RAM</td>
</tr>
<tr>
<td>ROAD COM. RAM</td>
</tr>
<tr>
<td>PROGRAM ROM</td>
</tr>
<tr>
<td>EXIT ← TEST SW.</td>
</tr>
</tbody>
</table>

2) MONITOR POSITION CHECK

This pattern will appear for monitor adjustment.

<table>
<thead>
<tr>
<th>MONITOR POSITION CHECK</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXIT → TEST SW.</td>
</tr>
</tbody>
</table>
This screen will be displayed for the color bar check.

4) I/O CHECK

Checks the switches, lamps, and potentiometers.

When the "start" ("race alone") button is pressed, the lamps will go on and "ON" will be displayed if normal.

When the "shift" is set on high, "ON" will be displayed if normal.

When the other switches are pushed, "ON" will be displayed if normal.

When the accelerator is not pressed, the normal reading is 80±10.

When the steering wheel is not touched, the normal reading is 80±2. (At 80±1 a high pitched sound will occur.)
When the "test switch" is pressed again, the screen will change to display steering wheel shock and seat motor.

Press the "start" ("race alone") button to move the arrow to the desired heading, then press the "test switch" to execute the selected test.

5) DIP SWITCH CHECK (only "ON" will be displayed)

This screen will show for the DIP switch check.
The sound ROMs, RAMs, and power amplifier are checked with this test. If a ROM or RAM is normal, then "OK" will be displayed. If there is a fault, then "NG" will be displayed.

A musical scale will sound from the front speaker, then the back speaker, and finally both speakers.

When the "start" ("race alone") button is pressed a car engine sound will play.

This display is the screen of CAR NO. 1

When the cabinets are connected, it is possible to run a COM-LINK COMMUNICATION CHECK. However, if the other cabinets do not have the "COMMUNICATION CHECK" display on the screen, this test will not run.

The following will be displayed when:
- Normal .................................................. OK
- Faulty ................................................... NG
- Not connected ....................................... NOT CONNECTED
- Power is off ......................................... NOT CONNECTED
- Not being checked ................................. WAITING

When testing from CAR NO. 2, it will check the connection with CAR NO. 1, 3, 4.

Similar checks will occur if tested from CAR NO. 3 or 4.
6. HOW TO PLAY

This is a racing game where a player has control of a car in a circuit.

Up to 4 players can race with the commlink system. Players can choose from Germany (a high speed course through a forest), Monaco (a technical course through the town), or Japan (an original course through Tokyo).

When a coin is inserted and the "start" ("race alone") button pressed, the screen will display the course choices. To choose a course, turn the steering wheel to the desired course and press "start" ("race alone"). During the entry time (10 seconds), if another player inserts a coin and presses the "start" ("race alone") button, he can participate in the same race.

In the case where each player chooses different courses, the course with the majority will be chosen. However, if there is no majority the computer will decide the course.

In the race, for each lap there are two check points. If a player fails to reach the check point within the given time, the game is over.

The goal is to complete four laps. After the forth lap there will be a commendation ceremony for the first three positions.

Controls:
1 Accelerator: Stepping on this pedal will increase the speed of the player's car.
2 Brake: Stepping on this pedal will decrease the speed of the player's car.
3 Steering wheel: Turning the wheel left or right will change the car's direction.
4 Shift: Changes the gear from high and low.
7. BASIC MAINTENANCE

7-1 POWER UNIT
The power unit can be found on the lower part of the back of the cabinet. If the fuse blows, replace it with a 6A 125V fuse.

ATTENTION: Before replacing a blown fuse, be sure to find the cause and eliminate it.

7-2 STEERING WHEEL

Dis-assembling
1. Open the maintenance door and disconnect the two cords (one for the motor and one for the potentiometer) from the steering wheel unit.
2. Remove the grounding hex nut from the maintenance door side, then remove the four button head bolts from the bottom of the steering wheel unit.
3. Remove the entire unit from the cabinet.
4. Remove the steering wheel by taking out the three hex bolts in the base.

5. Remove the "C" stop ring, and remove the wheel holder.
6. Take the drive unit out through the maintenance door, take care not to get the cords caught.
Adjusting the potentiometer (this can be done while it is still connected to the machine)

1. Run the I/O test mode so that it is displayed on the screen (see 5-4 test mode section).
2. Keep the steering wheel level.
3. Loosen screws A and move the adjuster plate up and down to adjust. The test mode screen will display "HANDLE VR." When it is settled in the 78-82 range tighten the A screws.
4. If the range cannot be reached by moving the adjuster plate, loosen screw A a little more and move the pin to another groove, then repeat step 3.

Changing the potentiometer

5. Disconnect the pot connector.
6. Remove stopping screw B and pull out the pot knob.
7. Remove the nut on the pot plate and change the pot.
8. Once the pot is replaced onto the volume plate (please be careful not to move the pin and pot terminal's direction), then reconnect the connector.
9. Check to make sure that the "Handle Vr." on the I/O test mode is in the range of 78-82 by moving the pot shaft.
10. With this completed, replace the pot knob and stopping screw B.
11. Then go back to "pot adjustment" section to reconfirm the pot value.
7-3 SHIFT UNIT

Unfasten the 4 button head bolts on the front of the unit. Then disconnect the microswitch terminal and grounder. The shift unit can now be taken out.

ATTENTION: Do not force the cord which is connected to the microswitch terminal and grounder when disconnecting or it may break.

The following diagram is the wiring for the microswitch.
Removing the accelerator/brake unit

The accelerator/brake unit can be removed by unscrewing the four button head bolts (as shown in the diagram). Taking care not to break the cord, disconnect the connector.
Adjusting the potentiometer (this is done while the pot connector is still connected)
1. Run the I/O test (refer to 5-4 test mode section)
2. Remove stopping screw A.
3. Adjust the pot using a small screwdriver, then replace screw A once the "Accele Vr." on the screen is in the 70-90 range (make sure that the accelerator is not pressed).

Changing the potentiometer
4. Disconnect the connector and the cord.
5. By removing stopping screw A and screw B, this mechanism part can be removed.
6. Then remove the nut holding the pot, and change the pot.
7. Replace the mechanism part and screw B, then follow the directions for pot adjustment.
7-5 REMOVING THE GAME PC BOARD

Removing the shielded cage (Shielded cage is used only in Japan & U.S.A.)
1. Open the maintenance door.
2. Disconnect the three connectors coming from the shielded cage.
3. Remove the four topping screws holding the case to the cabinet. The cage can now be removed.

---

*Removing the game PC board
*1. Remove the 17 small truss screws as shown in the diagram.
2. Now the shielded cage cover and game PC board can be removed.

ATTENTION: When replacing, be sure not to screw the button head bolts in too tight, otherwise the acrylic cover may break.
This differs from country to country.
This differs from country to country.
1 2 3 4 & 12 are used only in Japan & U.S.A.
SEAT Ass'y (R) は JOINT BR (A, B) の取付けがある部分となり、スイッチもスイッチは 
取り付ける。JOINT BR は分解後において本体に接続する際には詳細な方がない。
<table>
<thead>
<tr>
<th>Component</th>
<th>CN1</th>
<th>Molex</th>
<th>Order #</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>GP-9188A PCB</td>
<td>CN1</td>
<td>Molex 5198-04</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CN2</td>
<td>5102-05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GP-9189 PCB</td>
<td>CN1</td>
<td>5198-04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GP-9190A PCB</td>
<td>CN1</td>
<td>5198-06</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CN2</td>
<td>HIRSE CR7E-72DA-3 96E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GP-91103 H.D.PCB</td>
<td>CN1</td>
<td>Molex 5102-04</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CN2</td>
<td>5298-04</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CN3</td>
<td>5198-03</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CN4</td>
<td>5198-06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) HIRSE CR7E-72DA-3 96E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) Molex 5102-04</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2)</td>
<td>5102-05</td>
<td></td>
<td>22-01-1054</td>
<td></td>
</tr>
<tr>
<td>(2)</td>
<td>5198-03</td>
<td></td>
<td>10-22-1032</td>
<td></td>
</tr>
<tr>
<td>(6)</td>
<td>5198-04</td>
<td></td>
<td>10-22-1042</td>
<td></td>
</tr>
<tr>
<td>(4)</td>
<td>5198-06</td>
<td></td>
<td>10-22-1062</td>
<td></td>
</tr>
</tbody>
</table>
**5198-N**
Crimp Terminal Housing
- 3-8 circuits
- Same as 5197 but with second circuit void

![Diagram of Crimp Terminal Housing](image)

**Ordering and Dimensional Information - In. (mm)**

<table>
<thead>
<tr>
<th>Circuits</th>
<th>Order No.</th>
<th>Dim. A (mm)</th>
<th>Dim. B (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>10-22-1032</td>
<td>1.394</td>
<td>1.594</td>
</tr>
<tr>
<td>4</td>
<td>10-22-1042</td>
<td>1.398</td>
<td>1.598</td>
</tr>
<tr>
<td>5</td>
<td>10-22-1052</td>
<td>1.395</td>
<td>1.595</td>
</tr>
</tbody>
</table>

**.156" (3.96 mm) Crimp Terminal and Housing**

**5194/5225 Series**
Crimp Terminal
- 4 point contact
- Used in Molex 5195, 5196, 5197, 5198 housing series
- Wire range: #18-#24 AWG and 22-28 AWG
- Anti-fishhooking contact design
- Current rating 7 amps max.

![Diagram of Crimp Terminal and Housing](image)

**Ordering and Dimensional Information - In. (mm)**

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Terminal</th>
<th>Wire Gauge</th>
<th>Insulation Diameter</th>
<th>Contact Material</th>
<th>Automatic Tooling</th>
<th>Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>08-70-1021</td>
<td>Chain</td>
<td>AWG #18 - #24</td>
<td>1.2 mm - 3.3 mm</td>
<td>Tin Plated Brass</td>
<td>11-28-0003 11-28-0004</td>
<td>11-26-0068 11-26-0066</td>
</tr>
<tr>
<td>08-70-1030</td>
<td>Loose</td>
<td>AWG #22 - #28</td>
<td>1.2 mm - 3.3 mm</td>
<td>Tin Plated Brass</td>
<td>11-28-0003 11-28-0004</td>
<td>11-26-0068 11-26-0066</td>
</tr>
</tbody>
</table>

Recommended wire range assumes stranded wire.
5103 Series
Crimp Terminal

- Low profile
- 4 point contact
- Pre-tinned brass or phosphor bronze
- Used in Molex 5102, 5207, 5208, 5209 housing series
- Wire range: #22-#28 AWG
- Anti-fishhooking contact design

5102 Series
Crimp Terminal Housing

- 2-15 Circuits
- Low profile
- UL 94V-0 nylon 6/6
- Molded pull tab
- Friction lock
- Accepts Molex terminal 5103
- Mates with Molex 5045, 5046 header series

Ordering and Dimensional Information - In. (mm)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>22-01-1024</td>
<td>.998 (25)</td>
<td>.235 (6)</td>
<td>9</td>
<td>22-01-1094</td>
<td>.787 (20)</td>
<td>.925 (23.5)</td>
</tr>
<tr>
<td>3</td>
<td>22-01-1034</td>
<td>.197 (5)</td>
<td>.335 (8.5)</td>
<td>10</td>
<td>22-01-1104</td>
<td>.886 (22.5)</td>
<td>1.024 (26)</td>
</tr>
<tr>
<td>4</td>
<td>22-01-1044</td>
<td>.395 (10)</td>
<td>.432 (11)</td>
<td>11</td>
<td>22-01-1114</td>
<td>.984 (25)</td>
<td>1.122 (28.5)</td>
</tr>
<tr>
<td>5</td>
<td>22-01-1054</td>
<td>.584 (15)</td>
<td>.531 (13.5)</td>
<td>12</td>
<td>22-01-1124</td>
<td>1.083 (27.5)</td>
<td>1.220 (31)</td>
</tr>
<tr>
<td>6</td>
<td>22-01-1064</td>
<td>.492 (12.5)</td>
<td>.620 (15.5)</td>
<td>13</td>
<td>22-01-1134</td>
<td>1.181 (30)</td>
<td>1.319 (33.5)</td>
</tr>
<tr>
<td>7</td>
<td>22-01-1074</td>
<td>.591 (15)</td>
<td>.728 (18.5)</td>
<td>14</td>
<td>22-01-1144</td>
<td>1.280 (32.5)</td>
<td>1.417 (36.5)</td>
</tr>
<tr>
<td>8</td>
<td>22-01-1084</td>
<td>.689 (17.5)</td>
<td>.827 (21.5)</td>
<td>15</td>
<td>22-01-1154</td>
<td>1.378 (35)</td>
<td>1.516 (38.5)</td>
</tr>
</tbody>
</table>
GRAND PRIX STAR - COMMUNICATION LINK SYSTEM

TWO 2-IN-1 MACHINES CAN BE LINKED SO THAT UP TO 4 PLAYERS CAN RACE TOGETHER ON THE SAME COURSE SIMULTANEOUSLY. THE CONNECTOR FOR THE LINK SYSTEM SHOULD BE FITTED ON THE REAR SIDE OF THE CABINET - NEAR THE FLOOR AS ILLUSTRATED BELOW:

(VIEWED FROM THE REAR SIDE)

- MACHINE NO.2
  - CAR NO.4
  - CAR NO.3
  - PCB SET NO.4
  - PCB SET NO.3

- MACHINE NO.1
  - CAR NO.2
  - CAR NO.1
  - PCB SET NO.2
  - PCB SET NO.1

LINK CABLE (DIN CABLE)

POWER SOURCE UNIT

HERE IN JAPAN WE USE A 5-PIN DIN SOCKET AND A DIN CABLE FOR THE SYSTEM.

5-PIN DIN SOCKET

WHEN TWO 2-IN-1 MACHINES ARE LINKED, THE DIP SWITCHES OF ALL 4 PCB SETS SHOULD BE SET AS FOLLOWS:

DIP SWITCH #2 - SWITCHES NOS. 3 & 4 - DIFFICULTY LEVEL PLEASE SET ALL TO THE SAME DIFFICULTY LEVEL.

DIP SWITCH #2 - SWITCH NO. 7 - RACE COURSES PLEASE SET ALL TO THE SAME POSITION. ("OFF" IS RECOMMENDED.)

DIP SWITCH #3 - RACING CARS PLEASE SET UP AS FOLLOW:

<table>
<thead>
<tr>
<th>MACHINE NO.</th>
<th>PCB SET</th>
<th>CAR NO.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO. 1</td>
<td>NO.1</td>
<td>NO.1</td>
<td>ON</td>
<td>ON</td>
<td>ON</td>
<td>ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NO.2</td>
<td>NO.2</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO. 2</td>
<td>NO.3</td>
<td>NO.3</td>
<td>OFF</td>
<td>ON</td>
<td>OFF</td>
<td>ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NO.4</td>
<td>NO.4</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOT USED - KEEP THESE 4 SWITCHES TO "OFF" OFF OFF OFF
### GRAND PRIX STAR (VERSION 2.0) WITH "RACE TOGETHER" BUTTON

#### DIP SWITCH #1

<table>
<thead>
<tr>
<th>COINCHUTE #1</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 COIN 1 CREDIT</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 COIN 2 CREDITS</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 COIN 3 CREDITS</td>
<td>OFF</td>
<td>ON</td>
<td>OFF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 COIN 4 CREDITS</td>
<td>ON</td>
<td>ON</td>
<td>OFF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 COIN 5 CREDITS</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 COIN 6 CREDITS</td>
<td>ON</td>
<td>OFF</td>
<td>ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 COIN 7 CREDITS</td>
<td>OFF</td>
<td>ON</td>
<td>ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 COINS 3 CREDITS</td>
<td>ON</td>
<td>ON</td>
<td>ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### DIP SWITCH #2

<table>
<thead>
<tr>
<th>COINCHUTE #2</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 COIN 1 CREDIT</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 COIN 2 CREDITS</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 COIN 3 CREDITS</td>
<td>OFF</td>
<td>ON</td>
<td>OFF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 COIN 4 CREDITS</td>
<td>ON</td>
<td>ON</td>
<td>OFF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 COINS 1 CREDIT</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 COINS 1 CREDIT</td>
<td>ON</td>
<td>OFF</td>
<td>ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 COINS 1 CREDIT</td>
<td>OFF</td>
<td>ON</td>
<td>ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 COINS 1 CREDIT</td>
<td>ON</td>
<td>ON</td>
<td>ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**FREE PLAY**
- NO: OFF
- YES: ON

**NOT USED - KEEP SWITCH TO "OFF"**

#### DIP SWITCH #3

<table>
<thead>
<tr>
<th>MACHINE</th>
<th>PCB SET</th>
<th>CAR COLOUR</th>
<th>SWITCH NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO. 1</td>
<td>NO. 1</td>
<td>RED &amp; WHITE</td>
<td>1 2 3 4 5 6 7 8</td>
</tr>
<tr>
<td>NO. 2</td>
<td>NO. 3</td>
<td>BLUE &amp; WHITE</td>
<td>OFF ON OFF ON</td>
</tr>
</tbody>
</table>

**NOT USED - KEEP THESE 4 SWITCHES TO "OFF"**

**NOT USED - KEEP SWITCH TO "OFF"**

- ***FIXED ORDER***

**OFF**

**FREE PLAY**
- NO: OFF
- YES: ON

**NOT USED - KEEP SWITCH TO "OFF"**

**MACIlINE NO. 2 IS NOT APPLICABLE UNLESS 2 MACHINES ARE LINKED.**
GRAND PRIX STAR - RACE COURSES

WHEN DIP SWITCH #2, PIN #7 IS SET TO "ON", THE RACE COURSES ARE FIXED IN THE ORDER OF GERMANY, MONACO, AND THEN JAPAN.

WHEN THE ABOVE PIN IS SET TO "OFF" THE RACE COURSES ARE SELECTED BY THE PLAYER AS FOLLOWS:

1. WHEN THE 2-IN-1 MACHINE IS ON BY ITSELF, AND:
   A. IF BOTH PLAYERS SELECT THE SAME COURSE, THE GAME STARTS ON THAT COURSE.
   B. IF BOTH PLAYERS SELECT DIFFERENT COURSES AND IF THE "RACE TOGETHER" BUTTON IS PRESSED THE COURSE IS AS FOLLOWS:

<table>
<thead>
<tr>
<th>ONE PLAYER</th>
<th>OTHER PLAYER</th>
<th>COURSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>GERMANY</td>
<td>JAPAN</td>
<td>GERMANY</td>
</tr>
<tr>
<td>GERMANY</td>
<td>MONACO</td>
<td>GERMANY</td>
</tr>
<tr>
<td>JAPAN</td>
<td>MONACO</td>
<td>MONACO</td>
</tr>
</tbody>
</table>

(IN OTHER WORDS THERE IS A PRIORITY ORDER OF GERMANY FIRST, MONACO SECOND, AND JAPAN THIRD)

2. WHEN 2 MACHINES ARE LINKED AND 3 OR 4 PLAYERS SELECT DIFFERENT COURSES THE COURSE WILL BE CHOSEN BY THE MAJORITY. IN THE CASE OF A TIE (2 PLAYER SELECT ONE COURSE AND THE OTHER 2 PLAYERS SELECT A DIFFERENT COURSE, OR 3 PLAYERS SELECT 3 DIFFERENT COURSES), THE COURSE WILL BE CHOSEN USING THE ABOVE PRIORITY ORDER.)
GRAND PRIX STAR - DUAL FOOT PEDAL ASSEMBLY

THE FOOT PEDAL ASS'Y IS COMPOSED OF THE ACCELERATOR AND BRAKE.

THE BRAKE WORKS WITH A MICROSWITCH.

THE ACCELERATOR WORKS WITH A POTENTIOMETER (5 K-Ohm). THE DESIRABLE TURNING ANGLE OF THE POTENTIOMETER IS 60° - 90°. A LARGER ANGLE EXCEEDING 90° IS WORKABLE, TOO. HOWEVER, IF IT IS TOO LARGE, A SLIGHT STEP-ON TO THE PEDAL WOULD INSTANTANEOUSLY ACCELERATE THE CAR UP TO ITS TOP SPEED AND REDUCE THE PLAYER'S CONTROL TO A MINIMUM THUS DEPRIVING THE GAME OF PLAYABILITY.

IN THE ORIGINAL JAPANESE-MADE CABINET THE FOOT PEDALS COME UP THROUGH THE FLOOR OF THE MACHINE. IF YOU PLAN TO USE A STANDARD SPANISH TYPE OF THE ASS'Y WHICH IS TO BE FIXED TO THE CABINET SO THAT ITS PEDALS WILL COME OUT FROM THE WALL, THEY SHOULD BE ADJUSTED IN A POSITION WHERE THE PLAYER CAN COMFORTABLY USE THEM.


GRAND PRIX STAR - STEERING WHEEL

THE SAME ON-SCREEN TEST ("HANDLE VR." ON I/O CHECK) SHOULD BE USED TO TEST THE STEERING ADJUSTMENTS. AT THE CENTRAL POSITION THE READING SHOULD BE 80±2.
JALECO

GRAND PRIX STAR (2-PLAYER SITDOWN GAME)

TWO MACHINES CAN BE LINKED SO THAT UP TO 4 PLAYERS CAN COMPETE SIMULTANEOUSLY ON THE SAME TRACK.

METHOD #1 (WITH 2 MECHANICAL COIN SELECTORS)


IF A COIN IS INSERTED INTO SLOT B FIRST AND THEN ANOTHER COIN INTO SLOT A, THE B-1 BUTTON IS ILLUMINATED FIRST AND THEN TURNED OFF, AND THE C BUTTON IS TURNED ON.

THAT IS, WHEN THE LEFT AND RIGHT HAND GAMES ARE BOTH CREDITED PROPERLY, ONLY THE C BUTTON IS ILLUMINATED. WHEN THE C BUTTON IS PRESSED, THE COUNTDOWN STARTS IMMEDIATELY.

METHOD #2 (WITH ONE ELECTRONIC COIN VALIDATOR)


IT IS ADVISABLE THAT THE C BUTTON BE LARGER IN SIZE THAN ALL THE OTHER BUTTONS IN EITHER METHOD. WHEN EITHER THE A-1 OR B-1 BUTTON IS ILLUMINATED AND PRESSED, THE GAME WILL IMMEDIATELY START AS A SINGLE PLAYER GAME.
RE: GPS - STEERING WHEEL ASS'Y

WHEN STRONGER "REVERSE PULL" IS DESIRED ON THE STEERING WHEEL, ANOTHER THICK WASHER (58) SHOULD BE INSERTED INSTEAD OF THE SPRING BEING REPLACED WITH A STRONGER ONE. PLEASE REFER TO THE NEXT PAGE WHEN YOU READ THE FOLLOWING INSTRUCTIONS:

(1) LOOSEN SCREW (48) AND REMOVE POTENTIOMETER UNIT (A).
(2) UNFASTEN NUT (52) AND REMOVE SECTION (B).
(3) UNFASTEN NUT (51) AND REMOVE SECTION (C).
(4) REMOVE WASHER (9) AND ADD ONE MORE WASHER (58) BESIDE THE ORIGINAL WASHER (58).
(5) REASSEMBLE THE STEERING WHEEL ASS'Y.
GRAND PRIX STAR - PCB SET

THE PCB SET IS BROKEN DOWN INTO 3 PIECES (GP-9188, GP-9189 & GP-9190A) SO AS TO SAVE THE AIR FREIGHT CHARGES TO A MINIMUM IN YOUR BEHALF. PLEASE SET IT UP AS ILLUSTRATED BELOW:

EACH PCB SET IS ACCOMPANIED WITH:

(1) 50P FLAT CABLE ASS'Y (NOT SHOWN ABOVE) 1 PC.
(2) 34P FLAT CABLE ASS'Y (NOT SHOWN ABOVE) 1 PC.
(3) PCB SPACER (4 + 4 + 6 =) 14 PCS.
(4) M4 NUT 6 PCS.

DRIVER PCB GP-91103 IS NOT SHOWN ABOVE, EITHER.
THERE ARE MANY METHODS TO INSTALL THE PCB SET IN THE CABINET. ONE OF THE BEST ONES WOULD BE TO SETTLE THE PCB SET ON A WOODEN PIECE OF BOARD AS ILLUSTRATED ABOVE, AND PUT IT INSIDE THE CABINET. THE ATTACHED DRAWING MB90015-40873-0 MIGHT HELP YOU PREPARE THE WOODEN BOARD. THE WOODEN BOARD, AND M4X15 SCREWS WITH WASHER, AND M4 WASHERS SHOULD ALL BE PROCURED ON YOUR SIDE.
IF YOU INTEND TO MOUNT THE PCB SET ON THE WOODEN BOARD USING MOUNTING FEET (BOOT-SHAPED PLASTIC PIECES) INSTEAD, YOU SHOULD PROCURE SUCH FEET WITH AN M4 THREAD SIZE TO MATCH THE PCB SPACERS (METAL PILLARS).

THE MOUNTING FEET ARE AVAILABLE ONLY WITH AN M3 THREAD SIZE HERE IN JAPAN AND WE ARE UNABLE TO SUPPLY THE NECESSARY FEET WITH AN M4 THREAD SIZE FROM JAPAN.