



USER'S GUIDE

Thank you for purchasing PIVOT “3-DRIVE”.
Please read these instructions carefully before installing or using this device.

- If this product is given to another user, make sure to include this User's Manual. 



After installation, make sure to carry out “Initial Settings” ( Page 5) before using the product.

If the “Initial Settings” are not carried out, the unit will remain in **Normal mode** even if the mode is switched. Also, if the product is re-installed in a different model of car, make sure to carry out “Initial Settings” before using. If settings have been improperly made a **check lamp** may go on.

BEFORE USING

FEATURES

CONNECTING THE WIRES

FASTENING THE PRODUCTS

INITIAL SETTINGS

HOW TO OPERATE

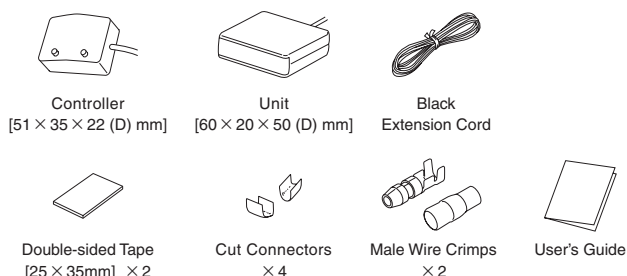
CONTROL FEATURES

TROUBLE-SHOOTING

CONTENT

BEFORE USING · CAUTION · NOTE · CONTENTS 1
 FEATURES 2
 CONNECTING THE WIRES 3 - 4
 FASTENING THE PRODUCTS · PART NAMES 4
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Please check the contents of the package



CAUTION Improper use or disregard of these warnings may result in the injury or death of people.

- When making initial settings make sure to stop the engine and place in Park or Neutral; it is dangerous to carry out these settings while the engine is running.
- When making adjustments, please begin at the lowest setting and slowly make changes while running.
- While driving it is extremely dangerous to operate switches or pay prolonged attention to the display.
- Make sure that all wiring and fastening down of the product does not interfere with driving nor be done in such a way as to cause poor connections.
- Do not work in areas where there is excessive exhaust.
Due to vehicle exhaust emission poisoning or fire may result in a damage to humans.

NOTE Improper use or disregard of these warnings may cause injury to persons, damage the product and / or other things.

- PIVOT Corporation accepts no responsibility, in any manner whatsoever, for damage and/or trouble to your vehicle or product, nor for any accidents that are the result of the misuse of this product.
- Please confirm that the type of vehicle you wish to install into is listed in the list of compatible models.
- When installing this product, we recommend that if technical knowledge becomes necessary please consult a qualified mechanic.
- If the device is improperly installed or settings have been improperly made a check lamp may go on.
- Do not use electrotape.
Wiring should be carried out using the attached “cut connector” or by soldering, make sure to securely insulate all wiring parts with insulation tape, and confirm that no wires are sticking out.
- Do not, in any manner, process, take apart, or make changes to this product.

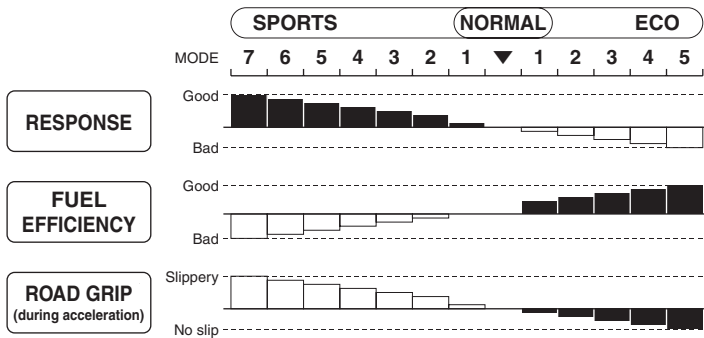
Control Acceleration and Fuel Efficiency!

Sports Mode is for higher response driving.

ECO mode is for better fuel efficiency, more comfort or when on slippery roads.

Select the kind of response to match your driving.

3-DRIVE enables changing the response for electronic throttle car models and gives you, the driver, the freedom to select the type of acceleration response you need or desire: quick acceleration for speedy driving to slower acceleration for eco-driving.

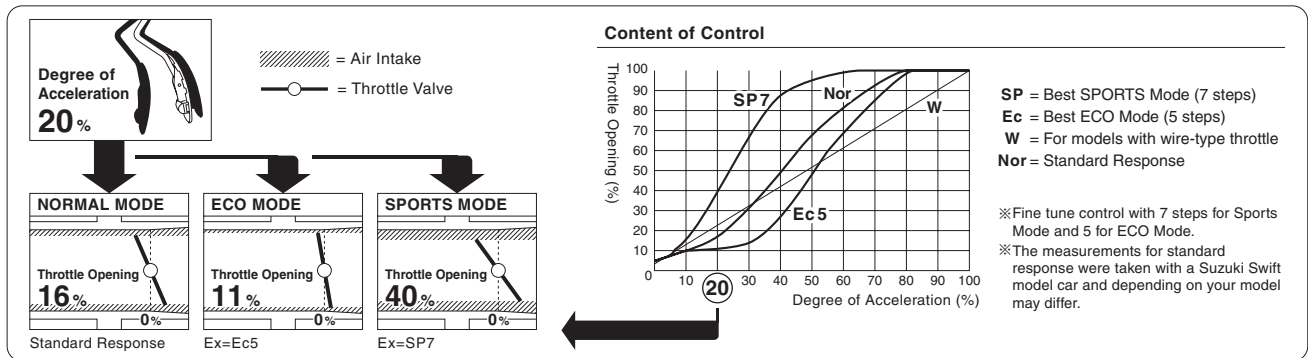


※Even in ECO mode, if rapid acceleration is carried out over and over again fuel efficiency will not increase.

Micro-computer adjustment of accelerator response into 12 steps is sure to bring the perfect drive while providing the utmost in safety.

SPORTS MODE	High response for sporty situations. (ideal for circuit, mountain driving, etc...)
ECO MODE	Low response for eco-driving situations. (perfect for city and fuel conscious driving)
NORMAL MODE	Regular response for normal conditions.
ACCELERATION MONITOR	Displays the amount of pressure on the accelerator and helps to prevent poor fuel efficiency due to over acceleration.
3 MODES 12 STEPS	One-touch selection between 3 modes and 12 steps. (SPORTS MODE = 7 steps ECO MODE = 5 steps)
Mode when key is ON	When the key is switched to ON it is possible to select the wiring method to start in normal mode or in the last used mode.
EASY INSTALLATION	Easy installation using car model specific coupling harness. (sold separately)
General-purpose Type	Initial settings can be made for each type of car making it compatible with a wide range of models.

1. Prevents sudden starts by reverting to same response as under normal setting.
2. Normal Control when in Reverse. (wiring where necessary)
3. Returns to Normal in case of faulty wiring or circuitry.
4. Discrete 2 Signal Control for Safety.



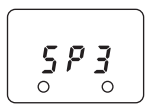
CONNECTION METHOD CHART

1 Select the mode status you wish to use when re-starting

Key ON.

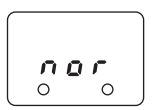


A. Upon restart use Previous Mode (usual)
 This will start up using the same settings that were used up to the previous time.



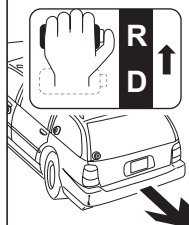
The power connection should be to the diagnostic monitoring connector.
See Point of Installation 1 on page 3

B. Upon restart use only Normal Mode
 Offering extra safety this will start up using only normal mode.



The power connection should be connected to IGN. (key ON 12V)
See Point of Installation 2 on page 3

2 Select the mode status you wish to use when using reverse



A. When using reverse use control mode as is set (usual)

SELECT

No Wiring

B. When using reverse use normal mode
 Offering extra safety when backing up this will use only normal mode.

Wire to the reverse gear.

to page 4

3 Carry out wiring

to page 3

INSTALLATION to INITIAL SETTINGS

Please make sure to follow all directions from installation to initial settings from **procedure 1** to **procedure 3** as they are written in the User's Manual.

procedure 1

CONNECTING THE WIRES

⚠ For details about connecting a specialized harness, see the explanation sheet which comes with the harness.

Preparation for Wiring

Only disconnect the accelerator connector **after having waited at least ten minutes from the time that the key was turned OFF.**

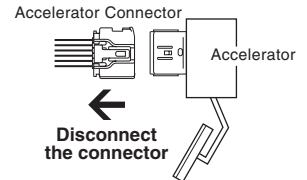


Depending on the type of vehicle, if the connector is disconnected before the ECU power is switched OFF the Check Lamp may go on. (How to Turn Off the CHECK Lamp Page 8)

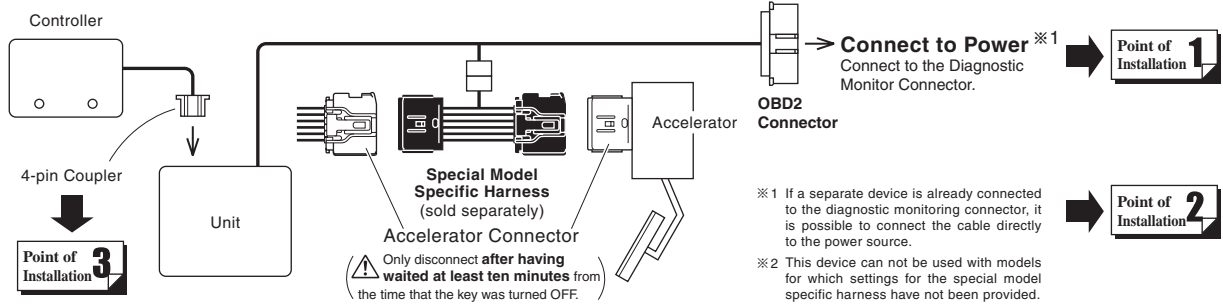
Turn the key to OFF



Passage of over **10 minutes**

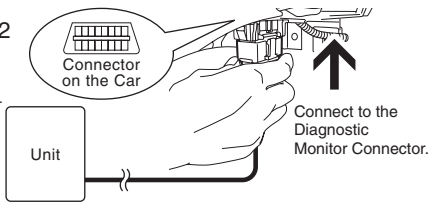


Basic Wiring

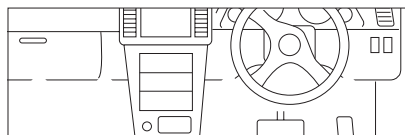


Point of Installation 1 Connect to Power

Connect the OBD2 Connector with **key switch OFF.**



[Data] Placement Diagram for Diagnostic Monitoring Connector



By the accelerator pedal
At the right foot of the driver seat (with lid)
At foot of driver seat in the center
At the left foot of the driver seat (with lid)
At the right side of the center console
At the right foot of the passenger seat
Behind right side of steering panel (with lid)
At the left foot of the passenger seat
At the left side of the center console

TOYOTA	MAZDA
NISSAN	SUBARU
HONDA	SUZUKI
MITSUBISHI	DAIHATSU

[Reference 2] Notes about using the OBD2 Connector.

Make sure to grip the distended portions when pulling it out or inserting it.

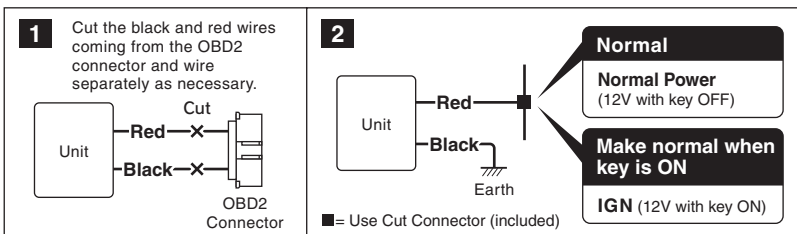
If you unable to get a grip on the distended portions.
With some car models it may be difficult to get a good grip on the connector.

In such cases, use a lock tie to push or pull the connector.

CAUTION
Do not pull on the wires when trying to remove the connector; the wires may become disconnected.

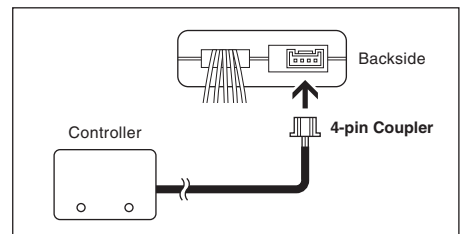
Point of Installation 2 If power comes from other source / Start normally by switching key to ON

If the diagnostic monitoring connector cannot be used for safety purposes when the key is ON under normal conditions please follow the wiring directions as written below.



Point of Installation 3 Connect to Controller

Insert the 4p coupler from the controller into the terminal at the back of the unit.



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▶ About Wiring for Reverse Gear

※ Normally this wiring is not necessary.

If this wiring procedure is used, when the vehicle is put into reverse it will automatically return to normal acceleration.

(Use this type of wiring when using an automatic transmission car and wishing to use normal acceleration when in reverse.)

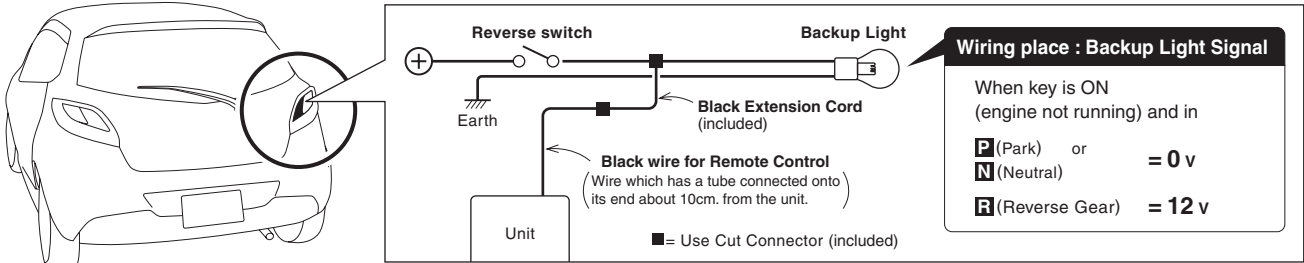
1. If this wiring procedure is performed after having already made initial settings (Page 5) please be sure to make the settings again. (Some car models will automatically learn reverse signal pressure patterns.)
2. It is also possible to wire from the coupler which connects to a GPS.
3. If the back-up lights are changed to LED there are instances when backing up where the navigation system or the rear camera will not work properly.



Check Wiring

nor

When put into reverse, if it is in normal the small dot will light up.



[Reference 1] How to use the Connectors.

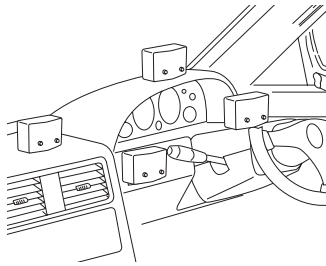
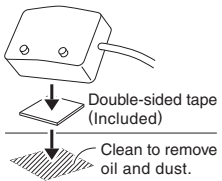
How to use the Cut Connectors.			How to use the Male Wire Crimps.			
1 Peel off about 10mm of the vinyl cover at connection.	3 Twist the uncovered wires.	※ Use a crushing tool to press the cut connector, if you do not have such a tool, use pliers or such to fold and crush the connector together for a secure contact. ※ After covering, make sure to insulate properly with vinyl tape.	1 Peel off about 10mm of vinyl covering from the tip of the wire.	2 Bend the outside wires around the core to make the wire thicker.	3 Pull the wire through the cover.	4 Place the wire onto the crimp.
2 Peel off about 10mm of the vinyl cover at the end of the product's wire.	4 Close tightly with cut connector.		5 Crush the center tabs of the crimp down to hold the center of the wire.	6 Crush down the outer tab of the crimp over the vinyl covering.	※ Securely connect the male and female crimps, making sure to twist the male cover firmly into the female cover.	

procedure 2

FASTENING THE PRODUCTS

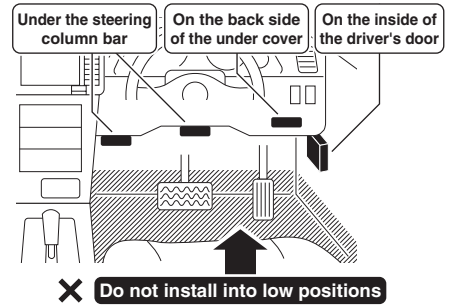
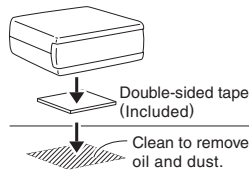
Controller

Affix with double-sided tape to a position which is easy to see and which allows for easy operation.



Unit

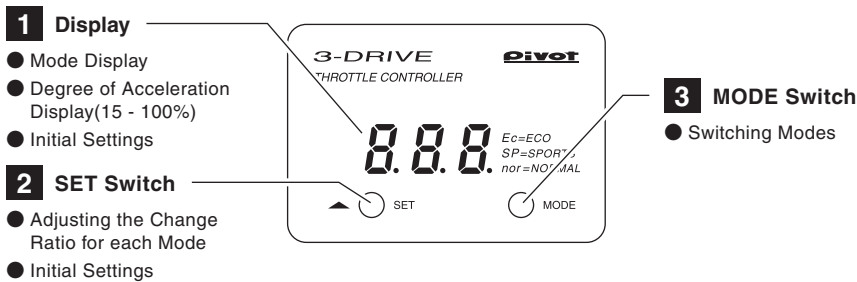
As shown in the diagram to the right, use the double-sided tape to fasten the units into positions not usually affected by water.



Please be sure to store bundle away all wires with tape, etc...

It is very dangerous to pull tangled wires by force or allow tangled wires to interfere with driving.

Part Names



Time for display turning off

※ Because the display of the controller is linked to the ECU power, depending on the type of vehicle the display may remain on for anywhere from 10 seconds to 5 minutes from the time the engine has been turned off. This will not affect the car's battery.

※ When turning off, the degree of acceleration will flash on; this is not a malfunction.

procedure 3

INITIAL SETTINGS (Degree of Acceleration Setting)
Make sure to carry out these settings.



When installing for the first time



Initial Settings

When installing into a different car



Initial Settings

※ After having made the settings, even if the connectors are pulled apart there is no need to remake the settings.




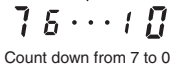
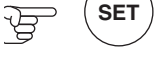

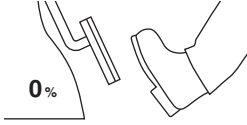



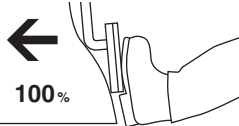

- This operation sets the car's accelerator characteristics into the controller unit.
- If the "Initial Settings" are not carried out, the unit will remain in Normal mode even if the mode is switched.

● If this settings have been improperly made a check lamp may go on.




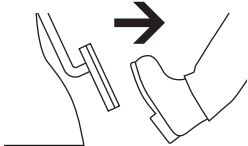

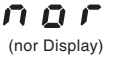

Before making the "Initial Settings"

1. Make settings only after having completed all wiring (connector installation).
2. Make settings with the **key in the ON (engine not running)** position and the gear in **P (Park)** or **N (Neutral)**.

▶ Making the Settings

Operational Procedure	Controller Display Area
1 ▶ Key ON. (engine not running) 	 (nor Display) ※Make sure to only use "Normal" mode when carrying this out.
2 ▶ Press the "SET" switch until "0" is displayed.  Press until "0" appears	 ↓ Count down from 7 to 0 after the "----"
3 ▶ When "0" appears release the "SET" switch.  Release	(Ex)※  Voltage Display (Ex = L1.5)
4 ▶ Pedal is not pressed down. (Release the accelerator to 0%) 	(Ex)※  Voltage Display (Ex = L1.5)
5 ▶ Press the "SET" switch.  Press → Set to 0%	 (SEt Display)
6 ▶ Pedal is completely pressed down. (Press in on the accelerator to 100%) 	(Ex)※  Voltage Display (Ex = H4.5)

※ The values shown in the display will vary depending on the type of car.

Operational Procedure	Controller Display Area
7 ▶ With the accelerator at 100%, press the SET switch.  Press → Set to 100%	 (SEt Display) ↓  (100 Display)
8 ▶ Once the display changes to 100 release the accelerator. 	 (100 Display) ↓  (nor Display)
9 Setting Completed  If the device is re- installed into a different vehicle, make sure to carry out these settings again.	

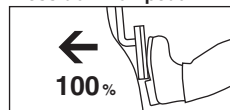
Check the Settings

※ If the display is incorrect start again from step 2 above.

Do not press in on pedal



Press down on pedal



If **Err** is displayed at **7**

If after the **Err** is shown the display returns to as shown in **3** (L 1.5 or so on), it means that the degree of acceleration settings have not been confirmed properly. Re-do the settings from step **3**.

HOW TO OPERATE

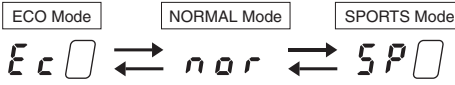
Switching Modes

Using this makes it possible to switch between Normal, Eco and Sports Mode.

1 ▶ Key ON.
(Engine Start)



2 ▶ The mode will change with each pressing of the MODE switch.



⚠ When in "Switching Modes" as in **2** above, if the SET switch is pressed while the display reads *nor*, it will take you to "Initial Settings". Please stop operations and return to the normal display.

Takes you to Initial Settings

--- → 7 6 ... 0

(Count down from 7 to 0)

※ 1 For safety, when changing modes always go through *nor* (NORMAL) one time.

※ 2 The change ratio and mode is set into the memory when the key switched to OFF and can be used as is the next time the key is switched ON. (when power connection is normal)

Switching Change Ratios

Using this makes it possible to switch the change ratios for Eco and Sports Modes.

In Sports Mode the larger the number the stronger the response will be and in ECO mode the larger the number the weaker the response (less fuel consumption) will be.

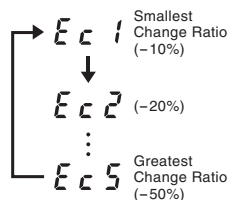
3 When Switching Modes **2** and

Eco is displayed

▶ The ratio will change with each pressing of the SET switch.



Switching the Change Ratio for ECO mode



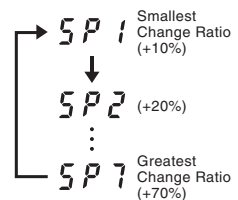
When Switching Modes **2** and

SP is displayed

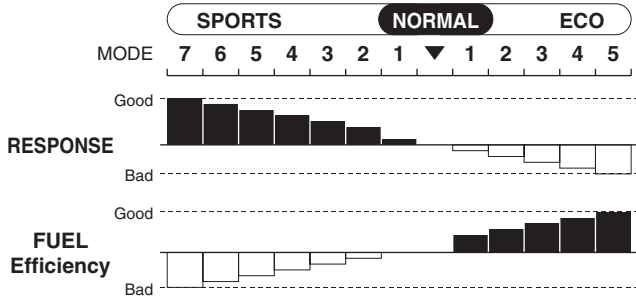
▶ The ratio will change with each pressing of the SET switch.



Switching the Change Ratio for SPORTS mode



Examples of changes in fuel consumption and response depending on change ratios



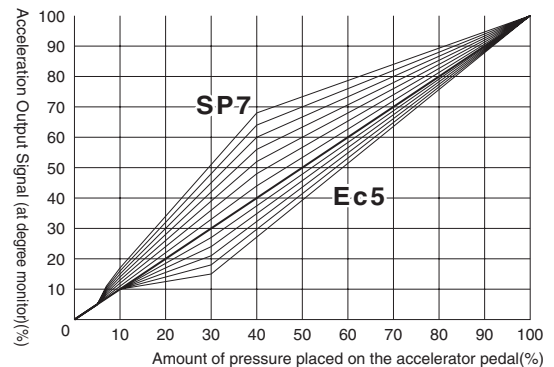
※ ECO Mode increases fuel efficiency over normal conditions by suppressing rapid acceleration; if rapid acceleration is purposefully carried out fuel efficiency will be reduced.

※ The changes in response will be greater as the vehicle's power is greater.

Basic Control Features

The changes within each mode will be controlled smoothly without perceptible steps.

Acceleration output signal based on amount of pressure placed on accelerator pedal



Degree of Acceleration Monitor

Displays the amount of pressure placed on the accelerator pedal. (output signal) [15 - 100%, 5% unit]

- Degree of Acceleration Monitor shows the rate of acceleration output to the ECU where 0 represents the pedal not being pressed in and 100 equals when the pedal is fully pressed down.
- The display will show when degree is above 15%.

Degree of Acceleration (output) (20%)



USE 1 Check acceleration during ECO driving

To ensure reduced fuel consumption during acceleration the degree of acceleration should be between 15% and 25%. To further improve results use ECO mode when wishing to save fuel.

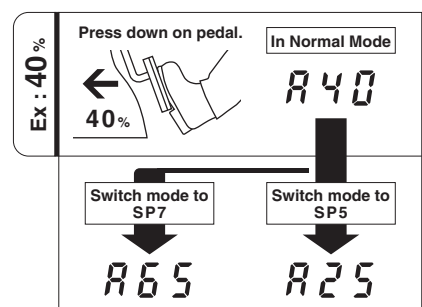


USE 3 Check control status

With the key in the ON position and under Normal Mode press in the pedal until it reaches 40% (A40), if the mode is changed to SP7 the display should read 65% (A65) and if placed in Ec5 mode the display should change to 25% (A25).

[See Graph A above]

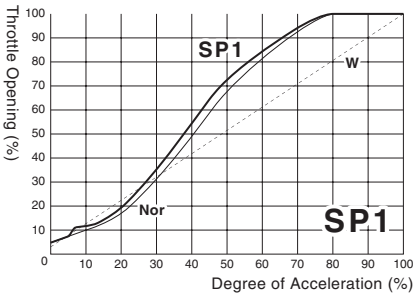
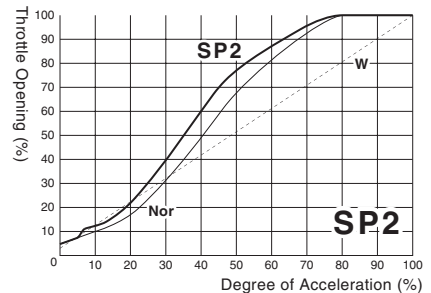
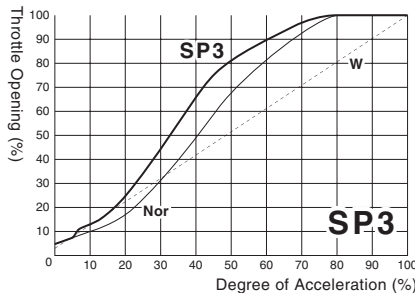
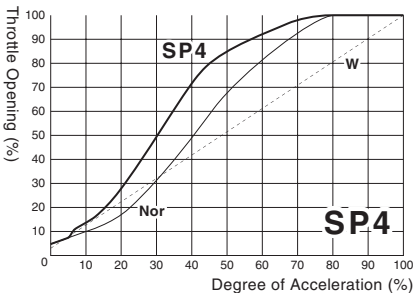
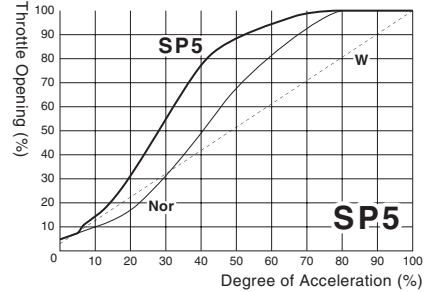
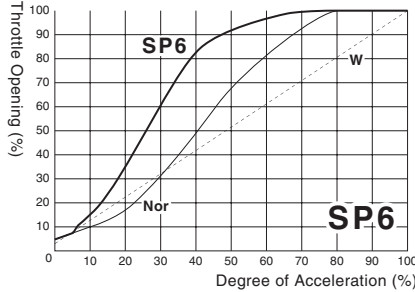
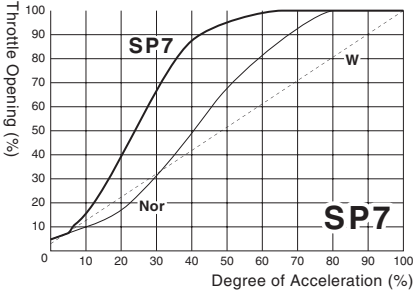
※ The actual display may differ slightly.



Overview of Change Characteristics

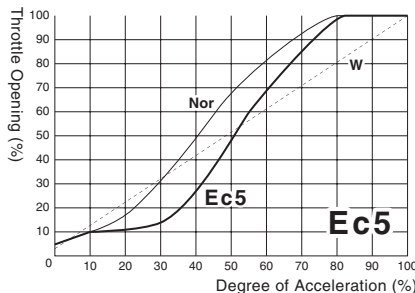
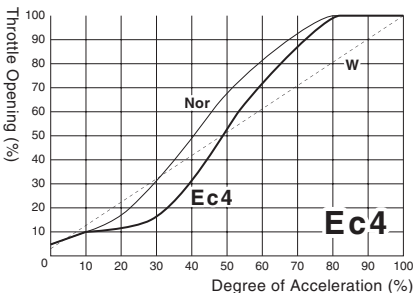
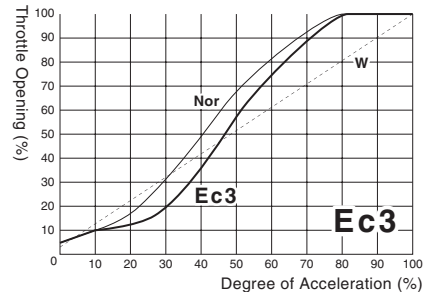
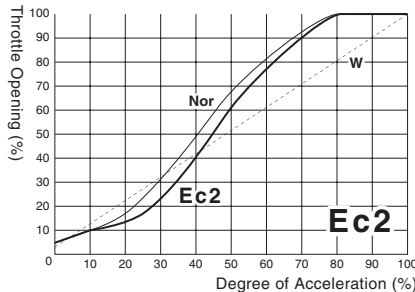
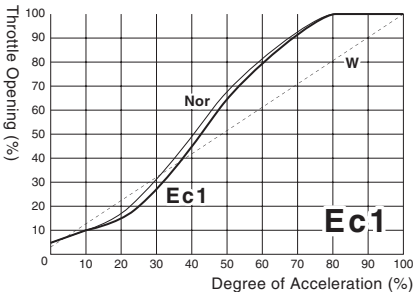
- ※ Data are actual measurements for operations using a Swift Sports engine. ※ Wire Type beginning at 3% is for when bypassing device.
- ※ Characteristics will differ slightly depending upon make and model of car.
- ※ **W** = For models with wire-type throttle **Nor** = Standard Response

Example of Changes in SPORTS MODE



SP1 - 3 = Condition similar to wire throttle (degree of acceleration at app. 10 - 35%).
SP4 - 7 = Above + high throttle (degree of acceleration at around or above 35%)




Example of Changes in ECO MODE



Ec1 - 5 = Low Acceleration (for all degrees of acceleration)

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- CONTROL FEATURES
- TROUBLE-SHOOTING

TROUBLESHOOTING

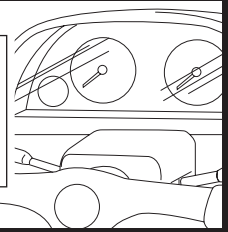
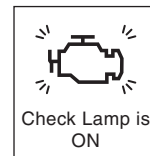
Trouble	Possible Causes	Possible Solutions
The key switch is set to ON but the display will not light up.	<ul style="list-style-type: none"> ● Poor connection of OBD coupler. ● If wiring has been direct to power the red and black wires may have been improperly wired or there is a poor connection. ● Poor connection of specialized harness. ● The specialized harness being used is incorrect. 	Please reconfirm whether wiring and connections are correct or not.
A CHECK lamp in vehicle has gone on.	With the key switch in the ON position disconnect the accelerator connector or the connector attached to the unit.	Turn off by following the directions "How to Turn Off the CHECK Lamp" as below.
	The "Initial Settings" have not been properly carried out.	Make the settings by following the directions under  "Initial Settings" found on page 5 of this manual.
While making "Initial Settings" an $E r r$ appears in the display.	The "Initial Settings" have not been properly carried out.	Make the settings by following the directions under  "Initial Settings" found on page 5 of this manual.
Even if the mode is changed, the changes cannot be felt.	The "Initial Settings" have not been properly carried out.	Make the settings by following the directions under  "Initial Settings" found on page 5 of this manual.
The engine seems to stall easily.	The change ratio under ECO mode is too great.	Set the change ratio under ECO mode to a smaller value.
Even when the display is turned off, the degree of acceleration temporarily appears.	This is normal and is not a malfunction.	

Note

How to Turn Off the CHECK Lamp.

If the CHECK lamp comes on due to some operational mistake, please follow the directions below to turn it off.

- ① Under normal conditions, start and stop the engine several times.
- ② If that does not turn off the lamp, disconnect the cable from \ominus terminal of the battery for about 10 minute.
- ③ If that does not turn off the lamp, please consult your local car dealer and have them turn it off.



- ※ Our products have already been recognized as our Industrial Property or are in the process of receiving Industrial Property status.
- ※ We plan in the near future to take all possible legal measures to protect against unfair competition from look-alike products using similar designs, regulating characteristics, circuitry and circuitry layout.
- ※ We strictly prohibit the unlicensed use of the PIVOT trademark and the unauthorized use of PIVOT User Manuals.