

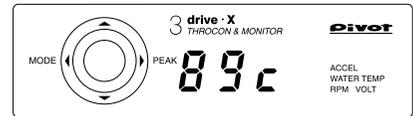
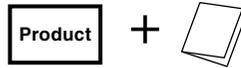
# USER'S MANUAL (Product Number: 3DX)

Throttle Controller with a Multi-Monitor

## 3 drive · X THROCON & MONITOR

Thank you for purchasing this PIVOT product. Please read this manual carefully and keep it for future reference.

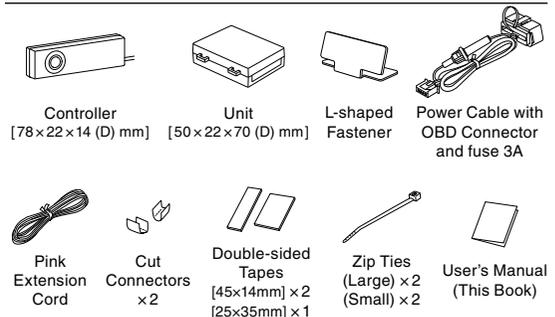
If this product is given to another user, make sure to include this User's Manual.



### Contents

- Before Using / Contents ..... 1
- Features ..... 2
- Part Names ..... 2
- WARNING / CAUTION ..... 2
- Procedure 1** Connecting The Wires ..... 3-4
- Procedure 2** Installing The Product ..... 4
- Procedure 3** Initial Settings (Degree of Acceleration Setting) ..... 5
- Operating The Multi-Monitor ..... 6
- Operating The Throttle Controller ..... 7
- Troubleshooting ..... 8

### Please check the contents of the package



### After installation, make sure to carry out “Initial Settings”.

After having installed this product, make sure to make settings for your car's special characteristics by carrying out the “Initial Settings” on page 5. If the “Initial Settings” are not carried out, a **Check Engine Light** may go on. Also, the unit will remain in **NORMAL Mode** even if the Mode is switched.

### Worried about Installation?

If you are worried about carrying out wiring or other installation procedures please consult your dealer.

### Only use 3-drive Specialized Harness.

Using another type of harness will cause troubles and failure; use only the 3-drive specialized harness.

### Cannot be used in combination with other company's products that use Diagnostic Monitoring Connectors.

For details about using in combination with other PIVOT products that use Diagnostic Monitoring Connectors please see our Web Site at <https://pivotjp.com/obd-e/>.

### Set to NORMAL Mode upon Removal of Product.

When uninstalling the product, make sure to return it to **nor** (NORMAL) Mode before carrying out any work. Reconnecting this product in a different mode may cause the Check Engine Light to come on.

### Modifying this Product is Forbidden.

Under no circumstances should modifications or changes be made to this product. Doing so may cause damage not only to the product, but to the car and the operation of the car in which it is installed.

Before Using

Features

Connecting The Wires

Installing The Product

Initial Settings

How to Operate

Trouble-Shooting

# Features

## The World's First Throttle Controller with a Multi-Monitor.

### MULTI MONITOR



Get Multi-Monitoring by simply connecting to the diagnostic monitoring connector.

**Display item** [Acceleration Monitor] [Water Temperature] [RPM] [Voltage].

**Peak Hold** Save and display peak reading. For Water Temperature and RPM the high will be shown and for Voltage the low will be displayed.

### THROTTLE CONTROLLER



**SPORTS & ECO** Accelerator response can be adjusted to one of three modes (12 steps): SPORTS (7 steps), ECO (5 steps), and NORMAL.

#### Comparison of Fuel Consumption

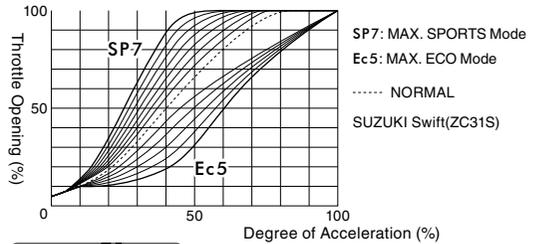


#### Comparison of Acceleration Time



SP7: MAX. SPORTS Mode / Ec5: MAX. ECO Mode  
HONDA STEP WGN (RG1) / Running distance: 0-400 m  
Degree of acceleration: 30%

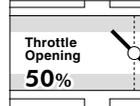
### Examples of Changes in Throttle Opening



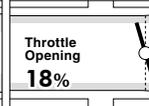
■ Air Intake

○ Throttle Valve

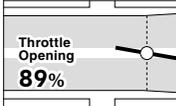
#### NORMAL Mode



#### ECO Mode (Ec5)

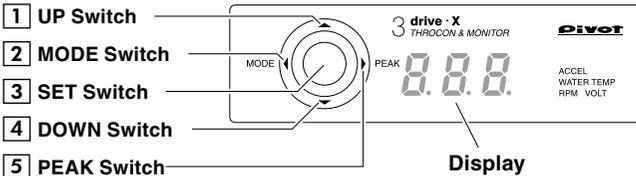


#### SPORTS Mode (SP7)



Note: In some car models with a Valvematic engine, control is carried out by the intake valve rather than the throttle valve.

## Part Names



No.	Function
1	Adjust the change ratio for each mode, For Initial Settings
2	Switch between Throttle Controller Modes
3	Switch between Monitor Displays, For Initial Settings
4	Adjust the change ratio for each mode
5	Display and Reset The Peak Value

### Turning off the Display

This product is interlocked with the ECU (engine computer) power. Depending on the model of car, the display may remain on for up to 15 minutes even after the engine has been turned off; this is normal.

## WARNING

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 Parking or Neutral. It is dangerous to carry out these settings while the engine is running.
- 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.

- Do not crush the cable. Please be careful that the cable does not get crushed by the seat rail or car door steel plate, nor cut by any sharp steel plate as this may cause a poor connection or an electric short leading to fire or other danger.

- While driving DO NOT operate switches or pay prolonged attention to the display; it is extremely dangerous.
- 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.

## CAUTION

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 "Fitting List for 3-drive · X".

- If the device is improperly installed or settings have been improperly made a Check Engine Light may go on.
- Do not install the product in any place subject to high temperature or any place where water may be splashed.
- Make sure to replace all screws and parts to their original place.

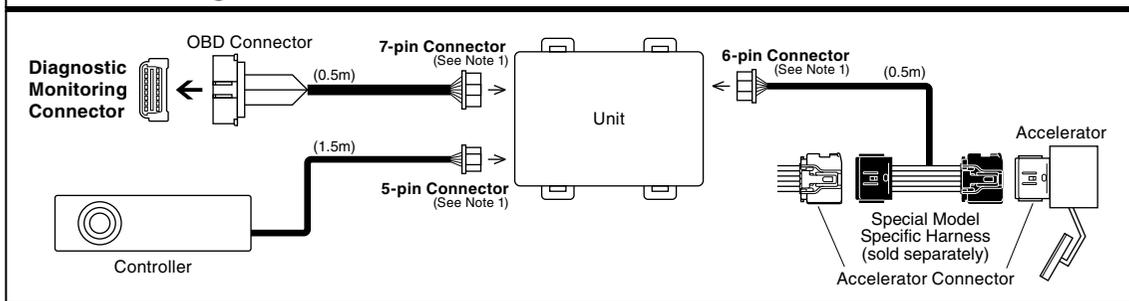
- Please wipe with a soft dry cloth (a lens cloth).
- Please do not use alcohol or benzene. This may cause damage to the painted surface or cracks in the plastic.
- Do not, in any manner, process, take apart, or make changes to this product.

# Procedure 1

## Connecting The Wires

### Basic Wiring

When installing make sure to use the correct Specialized Harness for your car model.

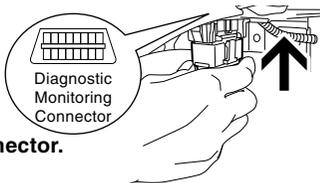


**Note 1:** After inserting the connector, pull lightly to make sure that it is securely locked.

### Power Cable

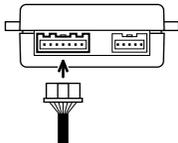
#### OBD Connector

Connect to the Diagnostic Monitoring Connector.



#### 7-pin Connector

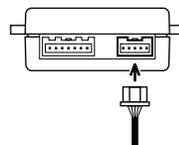
Connect to the side of the unit.



### Controller

#### 5-pin Connector

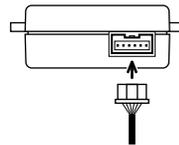
Connect to the side of the unit.



### Special Model Specific Harness (sold separately)

#### 6-pin Connector

Connect to the side of the unit.



### [Data] Placement Diagram for Diagnostic Monitoring Connector



- ① By the accelerator pedal
- ② At the right foot of the driver seat (with lid)
- ③ At foot of driver seat in the center
- ④ At the left foot of the driver seat (with lid)
- ⑤ At the right side of the center console
- ⑥ At the right foot of the passenger seat
- ⑦ Behind the panel by the steering (with lid)
- ⑧ At the left foot of the passenger seat
- ⑨ At the left side of the center console
- ⑩ Panel to right of steering wheel (upper part of small storage box)

TOYOTA	①②③④⑦
NISSAN	①②③④⑤⑦
HONDA	②④⑤⑥⑧⑨
MITSUBISHI	②③④⑤
MAZDA	②④⑩
SUBARU	②③
SUZUKI	②④
DAIHATSU	②③④⑤

### [Reference 1] Notes about using the OBD Connector



#### CAUTION

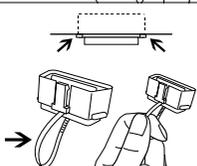
Do not pull on the wires when trying to remove the connector; the wires may become disconnected.

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 case, pull out the connector by pulling on the end of the zip tie.

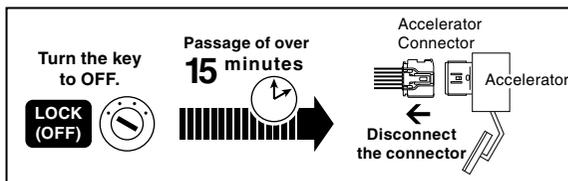


### [Reference 2] How to use the Connectors

1 10mm Peel off of the vinyl cover at connection.	2 10mm Peel off of the vinyl cover at the end of the product's wire.	3 Wrap around both wire coils.
4 Close tightly with cut connector.	5 Insulate with vinyl tape.	When crimping, please use crimpers or use pliers to bend and then solder together.

**Only disconnect the accelerator connector after having waited at least 15 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 Engine Light may go on. (If the Light comes on: Refer to page 8, "How to Turn Off the Check Engine Light")



Note: For details about connecting the specialized harness, please refer to the user's manual that came with that harness.

Before Using

Features

Connecting The Wires

Installing The Product

Initial Settings

How to Operate

Troubleshooting

# About Wiring for Reverse

By wiring to reverse, it is possible when in SPORTS Mode to automatically switch to NORMAL Mode when the gear is put into R (Reverse).

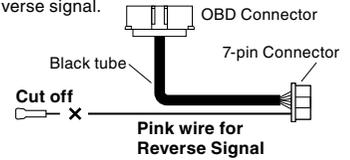
**⚠ Usually there is no need to wire to reverse.**

When put into reverse, the degree of acceleration is small and quick acceleration will not occur; it is not necessary to wire for reverse.

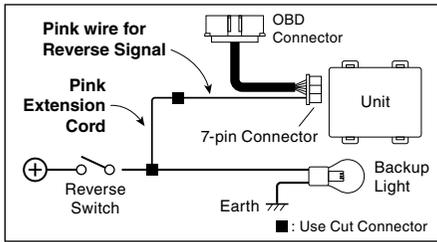
Wiring place: Reverse Signal	Check Wiring
When key is ON (engine not running) and in <b>R (Reverse) = 12V, Other Positions = 0V</b>	If in SPORTS Mode and the Multi-Monitor display at throttle controller, when the reverse signal is input the display will read "bRc".

### (Wiring Method)

Pull out the pink cable wire from the black tube that holds the wires coming from the OBD connector and cut off the insulation tube from at the tip. Connect the supplied pink extension wire and wire it to the reverse signal.

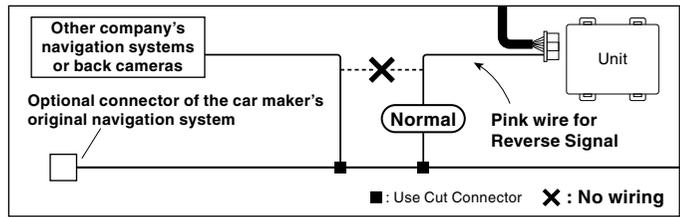


### ■ If wiring to the Reverse Signal



### ■ If wiring to the optional connector of the car maker's original navigation system

When using a different company's navigation system do not wire to the reverse cable.



## Procedure 2

# Installing The Product



**Do not use magnetic holders, such as for a smartphone, to prevent malfunction.**

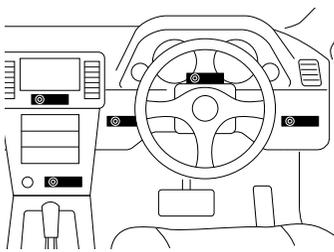


**Please be sure to bundle away all wires with tape not to get damaged by any steel plate or screws as this may cause short circuit.**

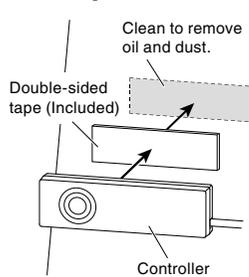
### Installing The Controller

Install the Controller to a position which is easy to see and operate.

(Example of Installation)

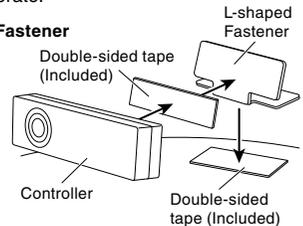


#### Fastening to a Flat Place

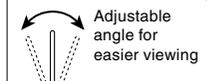


#### Using the L-shaped Fastener

By using the L-shaped Fastener that comes with this product, it is possible to install the unit on the dashboard even if it is curved or on an angle.

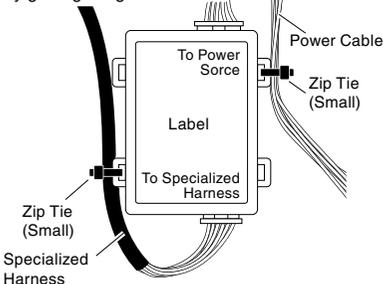


Note: It is possible to install the L-shaped Fastener in the reverse direction.



### Cable processing of the Unit

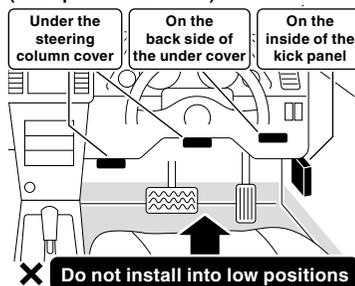
Fasten the cables not to disconnect connectors by getting caught on cables.



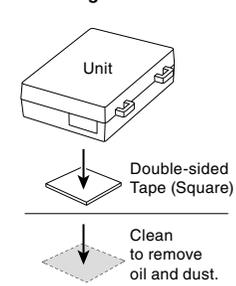
### Installing The Unit

As shown in the diagram below, fasten the unit into positions not usually affected by water.

(Example of Installation)



#### Fastening to a Flat Place



# 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

- 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 Engine Light 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 position (engine not running)** and the gear in **P (Parking)** or **N (Neutral)**.
3. Carry out settings with the **Multi-Monitor at throttle controller (degree of acceleration)** [See Page 6] and the **Throttle Control Mode in NORMAL Mode** [See Page 7]. Even when the display shows "nor", if the Multi-Monitor display is at other than throttle controller the initial settings can not be carried out. (See page 6-7 for details about switching the display)

### [Making the Settings]

■ : Controller Display Area, ( ) contains additional explanation

**1 Key switch ON.**  
(Engine not running)

• "nor" will appear.  
(See Note 1) (NORMAL Mode)

Note 1: If the display changes from "nor" to Water Temp - RPM - Voltage...press the SET switch until the display changes to the throttle control (degree of acceleration). (See page 6 part 1)

If the display shows "SP" or "Ec" ...press the MODE switch until it changes to normal mode. (See page 7 part 3)

Without braking, press down twice

**2 Press the UP switch for 10 seconds or longer to change the display to "0".**

Press until "0" appears

Count down from 5 to 0 after the "cAr" blink.)

5 - 4 - ... - 0 -

**3 When "0" appears release the UP switch.**

Release

0 -

**4 Accelerator pedal is not pressed down.**  
(Release the accelerator to 0%)  
(e.g.) 1.5

(Voltage Display: e.g., 1.5V. The values shown in the display will vary depending on the type of car.)

0%

**5 With the accelerator at 0%, press the SET switch.**

• "SEt" will appear.

Set to 0%

SEt

**6 Pedal is completely pressed down.**  
(Press in on the accelerator to 100%)  
(e.g.) 4.5

(Voltage Display: e.g., 4.5V. The values shown in the display will vary depending on the type of car.)

100%

**7 With the accelerator at 100%, press the SET switch.**

• "SEt" will appear.

Set to 100%

If Err is displayed

If after the Err is shown the display returns to as shown in 4 (1.5 or so on), it means that the degree of acceleration settings have not been confirmed properly. Re-do the settings from step 4.

SEt

**8 Press down on the accelerator pedal until "100" appears.**

SEt ⇒ nor ⇒ 100

**9 Once the display changes to "100" release the accelerator.**

100 ⇒ nor

**10 Setting Completed**

If the device is re-installed into a different vehicle, make sure to carry out these settings again.

After having finished settings and the battery or wires have been disconnected it is not necessary to carry out "Initial Settings".

### Check the Settings

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

Do not press in on pedal

0% ⇒ nor

Press down on pedal

100% ⇒ 100

(See Note 2)

Note 2: Depending on characteristics of the accelerator or on how the accelerator is stepped on the display may read "95" (95%).

Before Using

Features

Connecting The Wires

Installing The Product

Initial Settings

Make sure to carry out this operation.

How to Operate

Trouble-Shooting

# Operating The Multi-Monitor

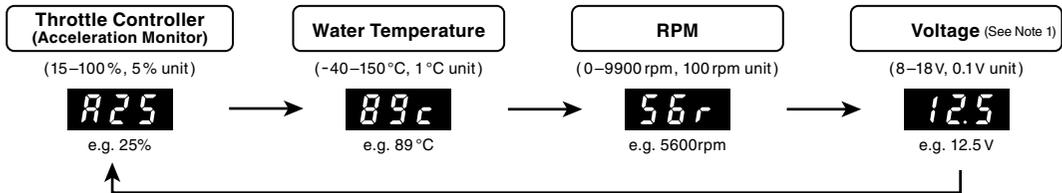
Note that only after installation the unit must communicate the car and hence it may take approximately **1 minute** for the display to come on (Except Throttle Controller display). From the second time, the display will take approximately 5 seconds to appear. Note: Same for reconnecting the OBD Connector.

## Switching The Display

Press the SET switch to change the Multi-Monitor display.



Press



### Reading the Display

<b>Acceleration Monitor</b> The first place on the left shows "R". 	<b>Water Temperature</b> -35--1°C The first place on the left shows "-" (minus). 	0-99°C The third place from the left shows "c" (Celsius). 	100-150°C Numerical Value Only. 	<b>RPM</b> The third place from the left shows "r" (rpm). 	<b>Voltage</b> The third place from the left shows the "." (decimal point). 
---	--	--	-------------------------------------	--	--

Note 1: For some car models the voltage cannot be displayed but, "---" will appear. For details, see the Fitting List.



### Saving Settings

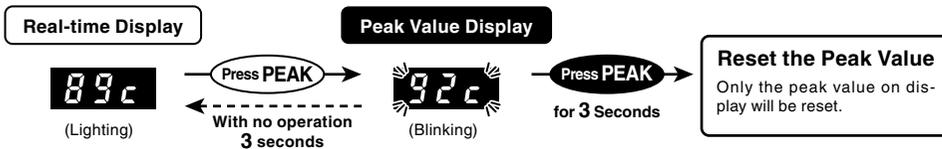
All settings are saved even after the engine has been turned off. However, if the engine is turned off in 3 seconds or less after the last setting operation was carried out, the settings will not be saved.

## Display and Reset The Peak Value

Press the PEAK switch while displaying Water Temperature, RPM, or Voltage and the peak for that item will be displayed for 5 seconds. (blinking display)



PEAK



Note: Peak readings are reset when the key is turned OFF. For Water Temperature and RPM the high will be shown and for Voltage the low will be displayed. To check the loss of voltage upon operation of the starter, turn the key to the ON position and after the monitor display comes on, operate the starter.

## 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.

Note: When in ECO Mode, even if the accelerator is stepped on a full 100% the output signal will only be 80%. Depending on characteristics of the accelerator or on how the accelerator is stepped on the display may read up to 95%. (When in SPORTS Mode and NORMAL Mode only)



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.



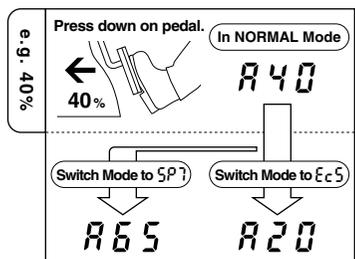
### USE 2 Check acceleration during regular driving

Please use to check the degree of acceleration for any type of driving, not just ECO Mode.

### USE 3 Check control status

With the key in the ON position and under NORMAL Mode press in the pedal until it reaches 40% (R40), if the Mode is changed to SP1 the display should read 65% (R65) and if placed in Ec5 the display should change to 20% (R20).

[See the above Graph of "Basic Control Features"] Note: The actual display may differ slightly.



# Operating The Throttle Controller

It is possible to change the throttle controller mode and response even while displaying Water Temperature, RPM or Voltage.

**1** Press the MODE switch or the UP / DOWN switch to show the current throttle controller mode.

**SP0**  
(e.g. SPORTS Mode)

**2** **Switch The Mode**

The Mode will change with each pressing of the MODE switch.

SPORTS Mode **SP0** Higher Response

↕

NORMAL Mode **nor** Normal Conditions

↕

ECO Mode **Ec0** Lower Response

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

**About the Relay sound**

When switching to **nor** for safety reasons the relay will go into operation and you will hear a clicking sound.

**Adjust the Change Ratio for each Mode**

The ratios will change with each pressing of the UP / DOWN switch

• **Switching the Change Ratio for SPORTS Mode**

**SP0** is displayed, the ratio will change with each pressing of the UP / DOWN switch.

Greatest Change Ratio (SP7 side)

Lowest Change Ratio (SP1 side)

Smallest Change Ratio

**SP1** (+10%) **SP2** (+20%) **SP3** (+30%) ... **SP6** (+60%) **SP7** (+70%)

Greatest Change Ratio

• **Switching the Change Ratio for ECO Mode**

**Ec0** is displayed, the ratio will change with each pressing of the UP / DOWN switch.

Lowest Change Ratio (Ec1 side)

Greatest Change Ratio (Ec5 side)

Greatest Change Ratio

**Ec5** (-50%) **Ec4** (-40%) **Ec3** (-30%) **Ec2** (-20%) **Ec1** (-10%)

Smallest Change Ratio

**3** If no operation is carried out for 3 seconds, the display returns to monitor mode.

**89c** (e.g. Water Temp 89 °C)

⚠️ •All settings are saved even after the engine has been turned off. However, if the engine is turned off in 3 seconds or less after the last setting operation was carried out, the settings will not be saved.

•When making adjustments to the change ratios, begin at the lowest setting and slowly make changes while continually checking acceleration.

[Reference 1] Examples of changes in fuel consumption and response depending on change ratios

Note: In ECO Mode, because response is less than the standard fuel efficiency can be improved. However, 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.

[Reference 2] Basic Control Features

The changes throughout each Mode will be controlled smoothly without perceptible steps.

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

## Basic Operation

Basic operation from engine start to stopping.

**1** Engine start START

**2** Display of Current Throttle Control Mode (2 seconds) **Ec3** (e.g. Ec3)

**3** Automatically changes to Multi-Monitor Display **20c** (e.g. Water Temp 20 °C)

**4** Engine stop OFF

**5** Display OFF

Before Using

Features

Connecting The Wires

Installing The Product

Initial Settings

How to Operate

Trouble-Shooting

# Troubleshooting

Before Using

Features

Connecting The Wires

Installing The Product

Initial Settings

How to Operate

Trouble-Shooting

Trouble	Possible Causes	Possible Solutions
The key switch is set to ON but the display of the Main Unit will not light up. OR the display goes OFF while in use.	Poor connection of <b>OBD Connector</b> . Poor connection of <b>5-pin Connector</b> , <b>6-pin Connector</b> and <b>7-pin Connector</b> . Poor connection of <b>Specialized Harness</b> . <b>Specialized Harness</b> being used is incorrect.	Please reconfirm whether wiring and connections are correct or not.
A Check Engine Light has gone on. 	<b>The accelerator connector or Specialized Harness</b> was disconnected with the key switch in the ON position or within 15 minutes after having turned the key to OFF. The "Initial Settings" have not been properly carried out. The product was in a mode other than NORMAL Mode when removed from a car and installed into a different car.	Re-connect the disconnected connector and turn off the Light (See page 8 of this manual). Make the "Initial Settings" (See page 5 of this manual) and turn off the Check Engine Light (See page 8). After returning it to NORMAL Mode, carry out the "Initial Settings" (See page 5 of this manual) and turn off the Check Engine Light (See page 8).
While making "Initial Settings" an <b>Err</b> appears in the display. 	The "Initial Settings" have not been properly carried out.	Make the "Initial Settings" (See page 5 of this manual).
Even with the engine OFF, the display stays ON.	This product is linked to the car's ECU power. Because of this, in some car models, it may take up to 15 minutes for the display to go off after turning off the engine; it is not a malfunction.	

## Concerning the Multi-Monitor

The Water Temperature, RPM and Voltage displays do not change from ---.	The unit has been installed into an incompatible car model.	Please check the "Fitting List".
The Voltage display shows ---.	Voltage cannot be displayed for some model cars.	Please check the "Fitting List".
The display item settings are not saved.	Because after changing modes, if the car's engine is turned off within 3 seconds, the new setting will not be stored, make sure to wait at least 3 seconds before turning the engine off.	

## Concerning the Throttle Controller

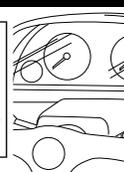
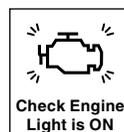
Even if the Mode is changed, the changes cannot be felt.	The "Initial Settings" have not been properly carried out.	Make the "Initial Settings" (See page 5 of this manual).
The Mode and/or the setting of change ratios can not be saved.	The key was has been turned OFF immediately after having finished the setting of change ratios or changing the Mode.	After having made settings of change ratios or changing the Mode, wait for at least 3 seconds before turning the key OFF.
While in SPORTS Mode, when put into reverse the display does not show <b>bRc</b> . 	The <b>(Pink)</b> wire may have been improperly wired or there is a poor connection. The unit is connected to the reverse wire of a navigation system from another company. The backup lights have been changed to LED lamps.	Please reconfirm whether wiring and connections are correct or not. Carry out Wiring to Reverse (See page 4 of this manual). • Replace the backup lights with the car maker's original lights. • Do not carry out wiring for Reverse Gear.

Note

### How to Turn Off the Check Engine Light

If the Check Engine Light comes on due to some operational mistake, please follow the directions below to turn it off.

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



- (Note)
- 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's Manual.