

USER'S GUIDE

Thank you for purchasing PIVOT "AT-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.



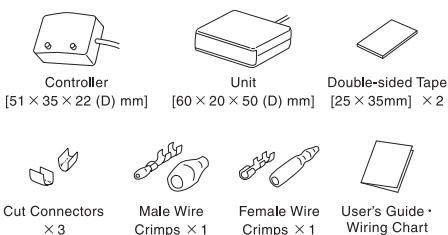
After installation, make sure to carry out
"INITIAL SETTINGS" (👉 Page 4)
before using the product.

- If the "Initial Settings" are not carried out, a **CHECK Lamp** may go on. Also, the unit will remain in **NORMAL** mode even if the Mode is switched.
- If the product is re-installed in a different car, make sure to carry out "Initial Settings" before using.

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Check the contents



Make sure to read before installing

- Before purchasing please make sure to check to that your model car is included in the list of compatible car models.
- Installing this product requires some specialized knowledge; without which trouble may be caused to the product or to your car. If you are unsure about the installation process please consult your local dealer for advice or ask a trusted mechanic to install the product.
- 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.

CAUTION

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

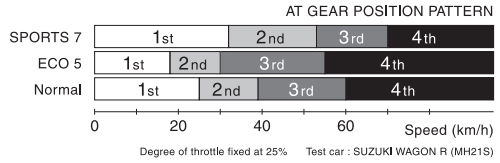
- When making initial settings make sure to stop the engine and place in Park or Neutral; it is dangerous to carry out these settings while the engine is running.
- Do not work in areas where there is excessive exhaust
Due to vehicle exhaust emission poisoning or fire may result in a damage to humans.
- Do not crush the cable
As this may cause a poor connection or an electric short leading to fire or other danger.
- 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, in any manner, process, take apart, or make changes to this product.

FEATURES

SPORTS & ECO

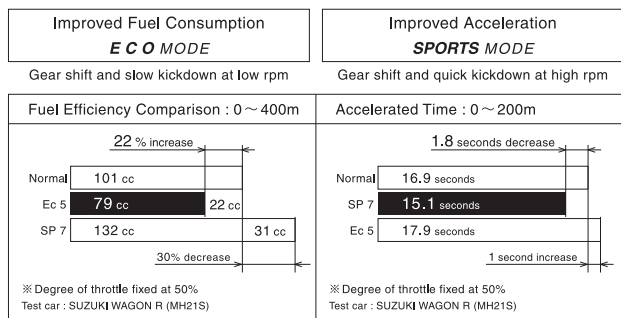
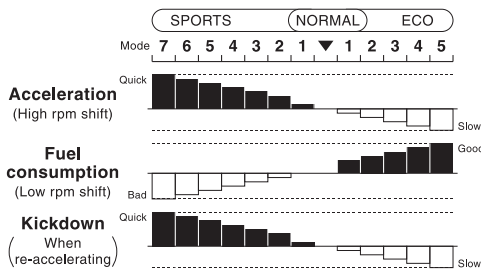
Control the Shift Point in Automatic Transmission Cars!

AT-DRIVE makes it possible to easily make changes the shifting point of the automatic transmission; thus providing the perfect drive for a variety of styles from sports driving (high rpm shift) to eco-driving (low rpm shift).



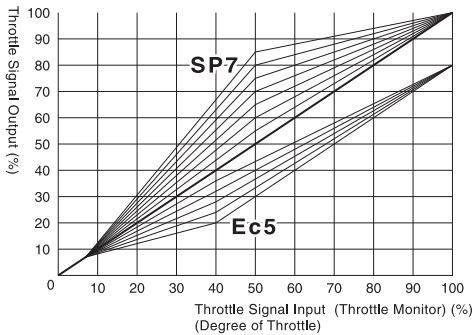
- SPORTS MODE** For better acceleration by changing the gear change point to a higher rpm
- ECO MODE** For better fuel efficiency by changing the gear change point to a lower rpm
- NORMAL MODE** Normal shifting point
- Throttle Monitor** For checking actual degree of throttle opening to help in eco-driving
 - Ideal Eco-driving** Take off ~ acceleration = below 30%, while moving = below 20%, during deceleration = 0% (mode display)

- 3 modes 12 steps** One-touch selection between 3 modes and 12 steps (Fine tune control with 7 steps for SPORTS Mode and 5 for ECO Mode)
- Mode Saved** No need for re-setting; even after the key has been turned OFF, the most recent mode will be saved and ready for use next time key is turned ON
- Initial Settings** PIVOT's unique design provides versatility and stable operation by allowing for setting to be done to match your car model's special characteristics
- Easy-to Install** With only 5 wires to connect installation has been made easier; simply connect to IGN, earth (2 types), and throttle signal (2 types)



※ Fuel consumption in Eco-mode will vary depending on driving style.

Content of Control



SP7 = Best Sports-mode (7 steps)
Ec5 = Best Eco-mode (5 steps)

※ Fine tune control with 7 steps for Sports-mode and 5 for Eco-mode.

PART NAMES

-
- 1 Display**
 - Mode Display
 - Degree of throttle display (15 - 100%)
 - Initial Settings
 - 2 SET Switch**
 - Adjusting the change ratio for each mode
 - Initial Settings
 - 3 MODE Switch**
 - Switching modes

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 Guide.

Procedure 1

WIRING METHOD

- When carrying out wiring it is necessary to follow steps ①-⑧ in that order.
- If wiring is not carried out properly, it may cause trouble to the product or to your car.
- When installing this product, we recommend that if technical knowledge becomes necessary please consult a qualified mechanic.

Do not use electrotap

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.

Basic Wiring

Legend:
 □ : Use Connector
 ■ : Use Cut Connector

Color	Wiring place	Details
Red	IGN	12V with key switch ON (Fuse box, etc)
Black	GND	Screw to gain earth, etc
Green	TH (Output)	Throttle Signal Output
White	TH (Input)	Throttle Signal Input
Blue	SE	Sensor Earth

Note: Green and White wires connect to the specified place found in the "Wiring Chart".

Each wiring

- Put the gear into P (park), put on the emergency brake, and turn off the engine.
- Insert the 4p coupler from the controller into the terminal and the back of the unit.
- Red wire** Connect to the IGN (12V with key ON).

Advice

This wiring may be made easier by taking into account the following:

- Use a fuse power source (sold in stores) from the fuse box.
- Connect to the turbo-timer harness.
- Check the wiring with a tester.

- Black wire** Fasten to a screw to gain earth.
- Advice**
- Fasten to a screw that is connected to an unpainted metal part for earth. Fastening to a screw connected to plastic will not gain earth.

- Blue wire** Connect the blue wire to the same place on the car as "SE" shown in the diagram for your car in the "Wiring Chart".

At this point make sure: If this confirmation is not necessary move on to step ⑥.

● Turn the key switch to the ON position and confirm that the light in the controller display comes on.

Flowchart:
 Display comes on → Go to step ⑥
 Display doesn't come on → The red, black or blue wire has not been wired properly. Please reconfirm whether they are correct or not.

- Find the wiring position for "TH" in the diagram for your car model in the "Wiring Chart".

At this point make sure: If this confirmation is not necessary move on to step ⑦.

● Making sure not to cut through the wire, cut a space of about 10mm from the outer cover of the "TH" wire, remove and run a test to make sure that the wiring is correct.

■ If checking with a tester (12V Measurement Range)

- Turn the key to ON, (engine not running)
- While pressing down on the accelerator fully and letting off fully check the display to make sure it is correct.

Result: Voltage rises (Correct wiring) → Go to step ⑦

■ If checking with the product

- Wrap the tip of the white wire around the "TH" wire and insulate with tape.
- Turn the key to ON, (engine not running)
The controller display reads **n o r**.
- Press the "SET" switch of controller until "0" is displayed.

Result: Voltage rises (Correct wiring) → Go to step ⑦

4. When the display reads "0" release the SET switch and the voltage will be displayed.

Result: Voltage rises (Correct wiring) → Go to step ⑦

5. While pressing down on the accelerator fully and letting off fully check the display to make sure it is correct.

Result: Voltage rises (Correct wiring) → Go to step ⑦

6. Turn the key switch to the OFF position and make sure that the unit's display lamp goes off.

Result: Voltage doesn't rise

- White wire** Cut the "TH" wire, connect it to the white wire on the car side of the place where it being cut and insulate.
- Green wire** Connect the "TH" wire to the green wire on the ECU side of the place where the wire being cut and insulate.

[REFERENCE 1] How to use the connectors

※ 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.

How to use the male wire crimps

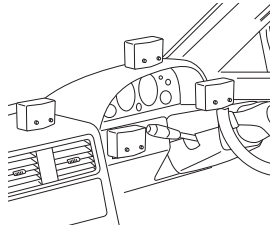
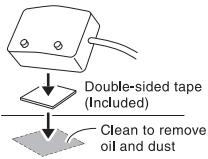
Note: Securely connect the male and female crimps, making sure to twist the male cover firmly into the female cover.

Procedure 2

FASTENING THE PRODUCTS

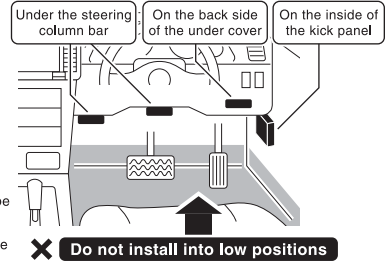
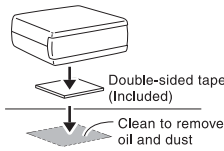
Controller

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.



※ This product is not waterproof; do not install to the engine room.



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.

Procedure 3

INITIAL SETTINGS (Degree of Throttle 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 4p coupler 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"







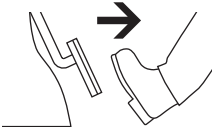



1. Make settings only after having completed all wiring.
2. Make settings with the **key in the ON (engine not running)** position and the gear in **P** (Park) or **N** (Neutral).

▶ 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 "76...10"
3 ▶ When "0" appears release the "SET" switch Release	 (Ex)※ Voltage display (Ex = L1.5)

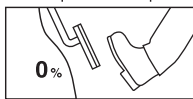

Operational Procedure	Controller Display Area
4 ▶ Pedal is not pressed down (Release the accelerator to 0%) 	 (Ex)※ Voltage display (Ex = L1.5)
5 ▶ Press the "SET" switch Press	 ("SET" display)
6 ▶ Pedal is completely pressed down (Press in on the accelerator to 100%) 	 (Ex)※ Voltage display (Ex = H4.5)

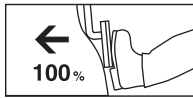

※ The values shown in the display will vary depending on the type of car.


Operational Procedure	Controller Display Area
7 ▶ With the accelerator at 100%, press the "SET" switch  Press 	 ("SET" 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**.

Do not press in on pedal
 
("nor" display)

Press down on pedal
 
("100" display)


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


If after the *Err* is shown the display returns to as shown in **3** (*L15* or so on), it means that the degree of throttle settings have not been confirmed properly. Re-do the settings from step **4**.

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
 Press

Eco-mode Normal-mode Sports-mode
Eco ↔ *nor* ↔ *SP*

 When in "Switching Modes" as in step **2**, 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)

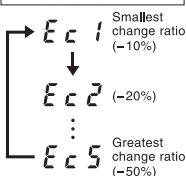
※ 1 For safety, when changing modes always go through *nor* (Normal-mode) one time.
※ 2 The change ratio and mode is set into the memory when the key switched to OFF and can be used as is the next time the key is switched ON.


Switching Change Ratios

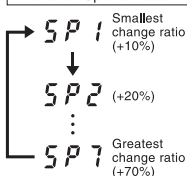
Using this makes it possible to switch the change ratios for Eco and Sports Modes.

In Sports-mode the larger the number the gear change will be at a higher rpm and in Eco-mode the larger the number the gear change will be at a lower rpm.

3 When in "Switching Modes" as in step **2** and *Eco* is displayed
▶ The ratio will change with each pressing of the "SET" switch
 Press

Switching the change ratio for Eco-mode

Smallest change ratio (-10%)
Eco1
↓
Eco2 (-20%)
⋮
Eco5 Greatest change ratio (-50%)

When in "Switching Modes" as in step **2** and *SP* is displayed
▶ The ratio will change with each pressing of the "SET" switch
 Press


Switching the change ratio for Sports-mode

Smallest change ratio (+10%)
SP1
↓
SP2 (+20%)
⋮
SP7 Greatest change ratio (+70%)


Degree of Throttle Monitor

Displays the amount of pressure placed on the accelerator pedal. (Input signal)
[15 - 70%, 5% unit / 70 - 100%, 10% unit]


● Degree of Throttle Monitor shows the rate of throttle 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%.

USE Useful for Eco-driving
When moving or when there is little acceleration (15~30%) fuel consumption will be improved to help realize Eco-driving. To further improve results use ECO mode when wishing to save fuel.


Degree of throttle (input) (20%)


R15~R30
||
ECO
20%

TROUBLESHOOTING

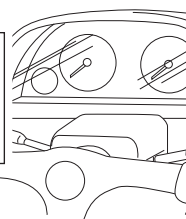
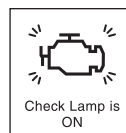
Trouble	Possible Causes	Possible Solutions
The key switch is set to ON but the display will not light up.	<ul style="list-style-type: none"> ● Poor connection of red or blue wire. ● Either the black wire is not connected properly to get earth or it is connected to a screw that does not carry earth. ● The 4p coupler on the unit is not connected properly. 	Check the wire connections or conditions.
A Check Lamp in vehicle has gone on.	Poor connection of green or white wire.	Check the wire connections or conditions.
	The "INITIAL SETTINGS" have not been properly carried out.	Make the settings by following the directions under "INITIAL SETTINGS" (☞ p 4 Procedure 3) of this User's 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" (☞ p 4 Procedure 3) of this User's Manual.
After the "INITIAL SETTINGS" have been made, when changing modes and even without pressing down on the accelerator pedal  (degree of throttle display) appears.	The white and green wires have been wired oppositely.	Re-wire after having checked "WIRING METHOD" (☞ p 3 Procedure 1) of this User's Manual.

NOTE

Note about the when the Check Lamp turns on

During use, if the throttle signal (TH) is not wired properly or becomes disconnected, the check lamp will come on and the emergency functions will become active. This may cause the car to be unable to accelerate and stay in the same gear. If this occurs pull the car over to a safe place and turn it off. Check the connection of the green wire and the white wire.

- 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 minutes.
- ③ If that does not turn of 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's Manuals.