

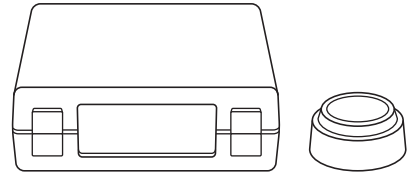
Throttle Controller with AUTO CRUISE Control

USER'S MANUAL

3 drive · AC AUTO CRUISE & THROTTLE

Thank you for purchasing PIVOT "3-drive-AC".
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.



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▶ After installation, make sure to carry out "Initial Settings" (⇒Page 7) 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.

▶ Worried about Installation?

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

▶ Do Not Use in Conjunction with Similar Products

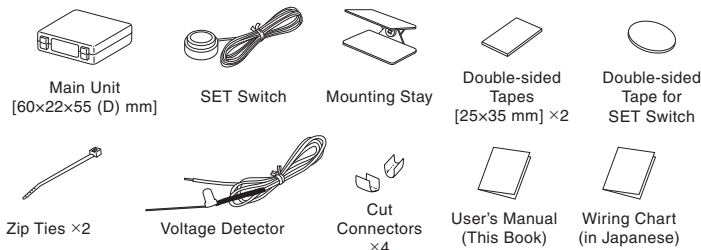
For safe use do not use PIVOT 3-drive products or specialized harnesses in conjunction with similar products manufactured by other companies. PIVOT Corporation accepts no responsibility, in any manner whatsoever, for damage and/or trouble to your vehicle or product, that are the result of the using this product in conjunction with said such products.

▶ This product can not be installed in car models which come with standard auto-cruise control.

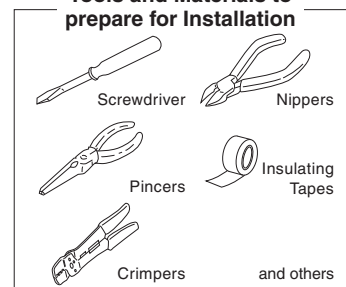
▶ This product can not be installed in cars which use the different ECU from the standard or use a sub-computer.

▶ When uninstalling the product, make sure to return it to NORMAL Mode before carrying out any work.

Please check the contents of the package



Tools and Materials to prepare for Installation



Before Using

Features

Connecting The Wires

Installing The Product

Initial Settings

Speed Pulse Settings

How to Operate

Trouble-Shooting

Features

Before Using

Features

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Speed Pulse Settings

How to Operate

Trouble-Shooting

Higher Performance Response and AUTO CRUISE Control!

3-drive · AC is our newly designed throttle controller for adjusting response in all types of driving from Sports to Eco-driving; now featuring an AUTO CRUISE function.

BASIC FEATURES

SAFE & SMART

Compact All-in-One Body This compact all-in-one body makes it possible to install in out of the way places such as storage box or near the steering wheel.

Digital Control Micro-computer control means less noise and less heat.

Initial Setting Method Stable balanced control is possible by running the "Initial Settings" program after having finished installation; this will help reduce troubles caused by voltage differences found in each car model.

Safety First System designed to give priority to safety even in times of trouble.

AUTO CRUISE

COMFORTABLE & ECO

AUTO CRUISE AUTO CRUISE allows you to set the most suitable speed to cruise at while driving; resulting in superior fuel-efficiency. (Approx. 30 ~ 140 km/h)

Stable Speed Control Our exclusively designed system lessens quick changes in speed; bringing you automatic cruise control with even more comfort.

User-Friendly Switch for Smooth Operation The separate switch allows for easy one-handed operation and installs almost anywhere with double-sided tape.

Deactivating Operation Stepping on the brake while Auto-Cruise is activated will deactivate its operation and return to normal driving mode. Auto-Cruise will also be deactivated when the "Set" switch is pressed, if the brake fuse burns out, or if the speed is much lower than the set speed.

Prevent Abnormal Acceleration Our safety design uses a microcomputer to monitor two kinds of output signal and if an abnormality is sensed will return to normal driving Mode to prevent abnormal acceleration.

Example of speed difference test **59⁺¹₋₀ km/h**

Example of fuel consumption test

AUTO CRUISE 60km/h **12.4 km/L** (121 cc)

Variable Speed Driving 55~65 km/h **9.9 km/L** (151 cc)

Variable Speed Driving 50~70 km/h **8.2 km/L** (183 cc)

These figures were obtained through a driving test and may be different from results on actual road conditions.

· WAGON R (MH23S) · Road grade: Upward slope of approx. 1.5 degrees · Running distance: 1.5 km

※Variable speed driving was obtained by accelerating up and down around the set speed.

SPECIAL MODEL SPECIFIC HARNESS

3-drive ▶ 3-drive

The car specific harness makes connection to the electronic accelerator a snap; for those already using a 3-drive Series product this can be used as is (for Japanese cars).

THROTTLE CONTROL

SPORTS & ECO

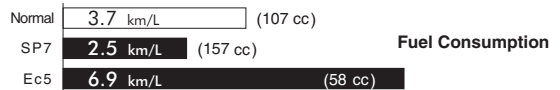
SPORTS & ECO 3-drive enables both the "raising" and "lowering" of response to acceleration in electronic throttle car models, giving the driver control over acceleration response for both sports driving and Eco-driving.

12-Step Adjustment A wide variety of possible adjustments to meet you need; 7 for Sports and 5 for Eco.

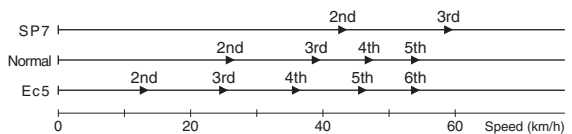
Acceleration Monitor This shows the amount of acceleration; especially useful when trying to be careful about not over accelerating as in Eco-driving.

Performance Results of Each Mode (0-400 m)

· HONDA STEP WAGON (RG1)



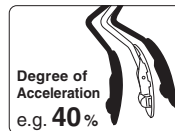
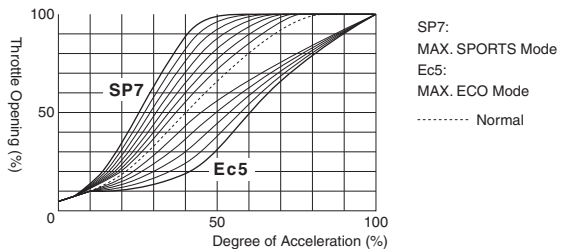
AT Gear Position Pattern · VW GOLF GTI (1KAXX)



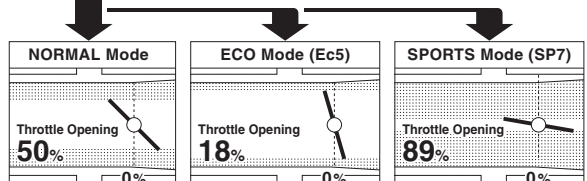
SP7: MAX. SPORTS Mode Ec5: MAX. ECO Mode Degree of acceleration: 30%

※In models with CVT or in which changes in speed bring less shock, the noticeable differences may be less.

Examples of Changes in Throttle Opening · SUZUKI SWIFT

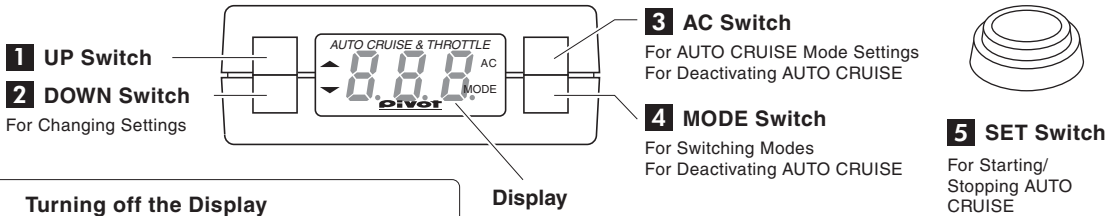


▨ Air Intake
○ Throttle Valve



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

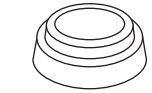
Part Names



- 1 UP Switch**
For Changing Settings
- 2 DOWN Switch**
For Changing Settings

- 3 AC Switch**
For AUTO CRUISE Mode Settings
For Deactivating AUTO CRUISE

- 4 MODE Switch**
For Switching Modes
For Deactivating AUTO CRUISE



- 5 SET Switch**
For Starting/
Stopping AUTO
CRUISE

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.

Display

Display Items

Display Items

Display	Details
<i>S P 1 ~ S P 7</i>	SPORTS Mode (higher number = higher response)
<i>E c 1 ~ E c 5</i>	ECO Mode (higher number = lower response)
<i>n o r</i>	NORMAL (Normal Conditions)
<i>R 0 0</i>	Degree of Acceleration
<i>o n .</i>	AUTO CRUISE Mode: ON
<i>o f f</i>	AUTO CRUISE Mode: OFF
<i>R c c</i>	AUTO CRUISE in Operation
<i>b R c</i>	Reverse (when in SPORTS Mode only)

Display for Settings

Display	Details
<i>c A r</i>	Initial Settings Mode
<i>L 0 0</i>	Position when accelerator is not pressed down.
<i>H 0 0</i>	Position when accelerator is fully pressed down.
<i>S E t</i>	Settings Completed
<i>P L S</i>	Speed Pulse Setting Mode
<i>P - 0</i>	Speed Pulse Number
<i>L - 0</i>	Adjust AUTO CRUISE Level

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 "list of Specialized Harnesses by Car Model for 3-drive·AC".
- 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 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.
- 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.

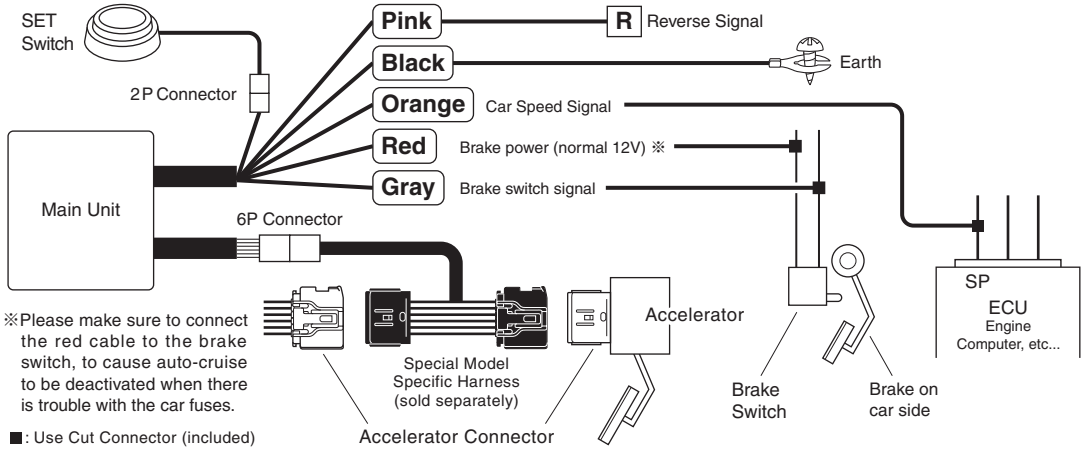
Installation to Initial Settings

Please make sure to follow all directions from installation to initial settings from **procedure 1** to **procedure 4** as they are written in this manual.

procedure 1

Connecting The Wires

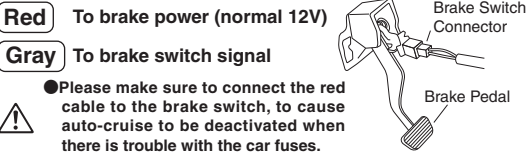
Basic Wiring When installing make sure to use the correct specialized harness for your car model.



When connecting to the car side wires, do not only use "electrotap" as this may result in a poor electrical connection. Please use the supplied "cut connectors" or solder the wires together and make sure to use insulation tape to securely insulate the wire connection.

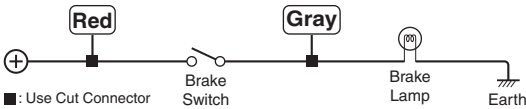
- The Brake Switch Connectors will differ depending upon the car model, grade and year, so please sure to check the design in the "Wiring Chart".
- Remove the battery cables from the minus terminals before carrying out the wiring.

Brake Switch (Brake Power and Brake Switch Signal)



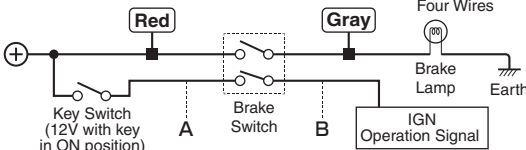
- There may be two or four wires coming from the brake switch connector. Check the wiring position in the "Wiring Chart" and after testing the voltage, carry out the wiring.
- After having completed the wiring confirm that the brake lamp is working properly.

For a Two-Wire Connector



For a Four-Wire Connector

When there are four wires, do not wire to positions A and B as shown below. (See below for how to check the voltage for each wiring position)



How to Test (⇒ Refer to Page 5, [How to use the Voltage Detector].)

1. Turn the key to OFF or Lock. Please put gear into P (Parking).
2. Check the terminal for each of the connections as designated in the separate sheet "Wiring Chart".

The Wire color of the product	Not Press Down on Brake Pedal	Press Down on Brake Pedal	
Red	☀ (12V)	☀ (12V)	Brake power
Gray	○ (0V)	☀ (12V)	Brake switch signal

☀: Voltage Tester Lamp ON ○: OFF

※If there are four wires, do not wire the remaining two (OFF 0V).

Select a Wiring Method

Select from either "Connect Directly" or "Connect using Brake Harness" and carry out directions as stated.

- ① After having tested voltage at the positions to be wired, connect as directed.
- ② In case of the car model which is blank of Wire Numbers or Brake Harness Connection Color of "Wiring Chart", please make sure to carry out a voltage test and connect as directed.

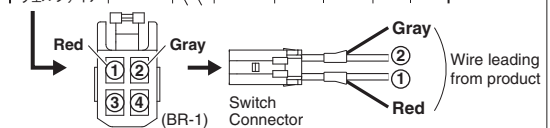
Connect Directly

Connect the red and gray wires to the corresponding wire numbers found in the "Wiring Chart".

Note that the colors listed in the chart under "Brake Harness Connection Color" are not the colors of the wires on the car side.

e.g.) TOYOTA ALPHARD (H20.5 ~)

車名	年式	ブレーキハーネス品番	直接接続接続番号		ブレーキハーネス接続色	
			赤	灰	赤	灰
アルファード・ヴェルファイア	H20.5~	BR-1	①	②	青	黄



Connect Using Brake Harness (sold separately)

Connect the red and gray wires to the corresponding wire colors found in the "Wiring List".

e.g.) TOYOTA ALPHARD (H20.5 ~)

車名	年式	ブレーキハーネス品番	直接接続接続番号		ブレーキハーネス接続色	
			赤	灰	赤	灰
アルファード・ヴェルファイア	H20.5~	BR-1	1	2	青	黄

Car Speed Signal

Orange

Confirm the positions on the "3-drive · AC Wiring Chart" and then connect.

(⇒ Refer to "[Reference 2] How to use the Connector" below.)

Wiring Chart

※ Do not wire the speed signal to the CAN-BUS adaptor.

Earth

Black

with earth terminal

Fasten to a screw of a metal part which is earthed.



※ Painted screws and screws connected to plastic parts are not earthed; make sure to connect only to a place which is earthed.

Special Model Specific Harness (sold separately)

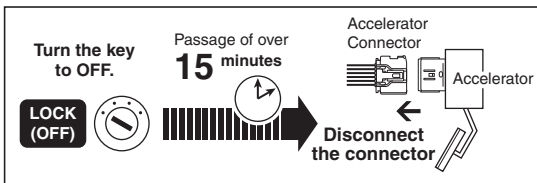
6P Connector

Connect to the 6-pin connector on the specialized harness.



⚠ 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 Lamp may go on. (If the CHECK Lamp comes on: ⇒ Refer to Page 12, "How to Turn Off the CHECK Lamp")



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

※ If the cable is not long enough, use the extension cable "THC-EC (sold separately for ¥1,500)".

SET Switch

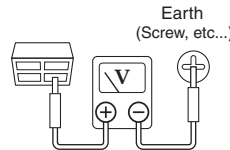
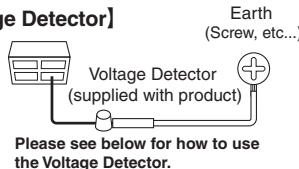
2P Connector

Connect to the 2-pin connector leading from the unit.

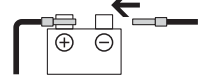


[How to use the Voltage Detector]

Please make sure to test voltage at all wiring positions.



Re-connect the battery cables to the minus terminals while testing the voltages.



[Reference 1] How to use the Voltage Detector (supplied with product)

If you do not already have a tester, please use this.

<p>1 Loosen an earthed screw, insert and fasten the wire tip (coiled wire).</p> <p>Metal part</p> <p>Wire tip</p>	<p>※ As an earthing screw, only use a screw that is fastened to a metal part. Painted screws and screws connected to plastic parts become insulated and cannot carry electricity.</p> <p>✗ Plastic part</p> <p>✗ Painted screw</p>
<p>2 Connect the tip of the LED to the place you wish to test voltage.</p> <p>Lamp on: 12V</p> <p>Lamp off: 0V</p> <p>LED lamp</p>	<p>LED lamp</p>

[Reference 2] How to use the Connectors

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

Reverse Signal

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). Also, during this time it will become impossible to set to AUTO CRUISE.

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

※ This does not operate when in ECO Mode or NORMAL Mode.

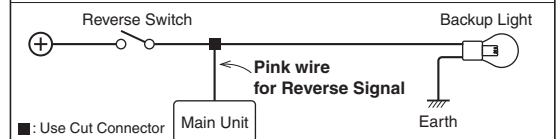
Pink

● Gear Position

When in R (Reverse) = 12V, other positions = 0V

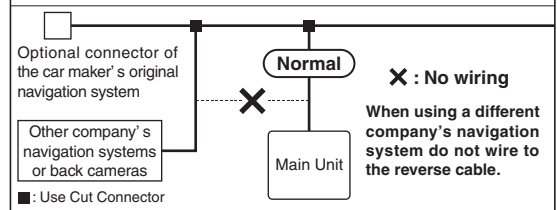
(How to Test) With Key switched to ON (engine not operating) put gear into reverse.

If wiring to the Reverse Signal



■: Use Cut Connector

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



■: Use Cut Connector

(Check Wiring)

If in SPORTS Mode, when the reverse signal is input the display will read "bAc" and the unit will switch to NORMAL Mode.

bAc

! Wiring for when you wish not use AUTO CRUISE

Red Normally 12V (OK for other than brake)

Gray Orange Do not connect to anywhere

Before Using

Features

Connecting The Wires

Installing The Product

Initial Settings

Speed Pulse Settings

How to Operate

Trouble-Shooting

procedure 2

Installing The Product



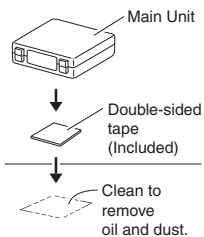
Please be sure to bundle away all wires with tape, etc...

While in use if wires become free they may interfere with driving and cause accidents. Also, wires which are smashed or crushed may result in a short and can be extremely dangerous.

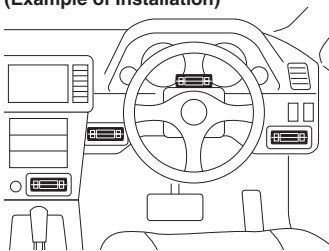
Installing The Main Unit

Install the Main Unit to a position which is easy to see.

(How to Install)

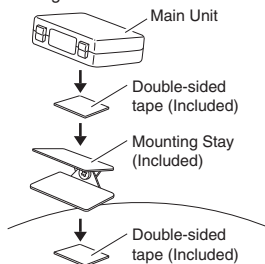


(Example of Installation)

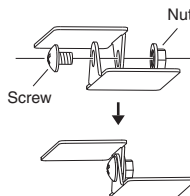


How to Use Mounting Stay

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



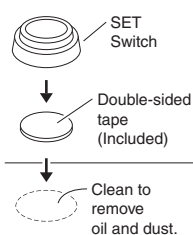
※ It is possible to install the Mounting Stay in the reverse direction.



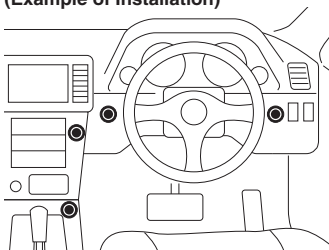
Installing The SET Switch

Install the SET switch to a position which is easy to operate.

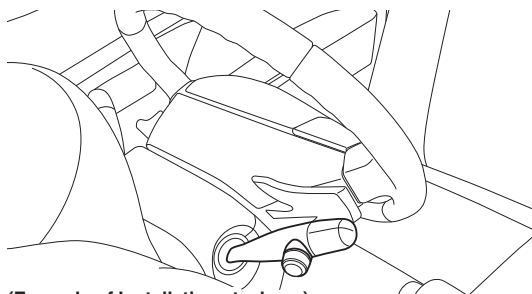
(How to Install)



(Example of Installation)



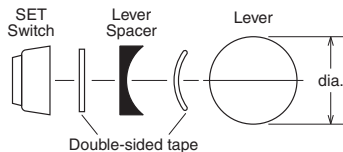
If you wish to install the switch to a round shaped lever, please purchase separately a Lever Spacer.



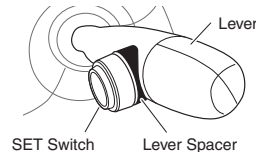
(Example of Installation at a lever)

●Lever Spacer Set (17, 26, 28, 32mm) ; Sold separately for ¥762

(How to Install)

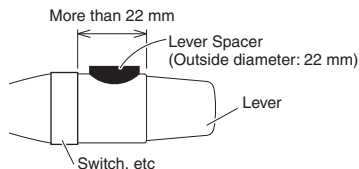


(Example of the Spacer Installation)



Shapes for which Installation is Possible

It is not possible to install to levers which have fog lamp switches or wiper switches and do not have 22 mm of space or more. (However, it is possible to install to levers which do not have 22 mm of space or more for some NISSAN or HONDA car models.)



[Lever Diameters of Major Car Models]

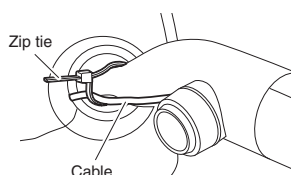
Lever Diameter	Type of Car
17 mm	STEP WGN, FREED
26 mm	WAGON R, HIACE, SWIFT
28 mm	PRIUS, VELLFIRE
32 mm	FIT, DEMIO (DE), SERENA

※ For other car models, please measure the lever diameter before purchasing.

About Fastening Wires Down

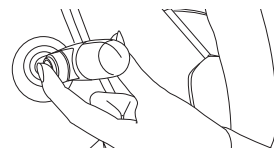
Fasten down the cable from the switch using the Zip tie which is supplied with the spacer. And cut excess Zip tie.

※ When pulling the cable into the column cover, be careful not to crush or smash it.



When Pressing In On The Switch

Use your thumb to keep the lever from moving and press in on the switch.



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 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** (Parking) or **N** (Neutral).

[Making the Settings]

Operational Procedure	Main Unit Display Area
1 Key ON. ^{※1} ON Engine not running	nor. or nor ("nor" Display) ※Make sure to only use NORMAL Mode when carrying this out. ※If either SP or Ec is shown in the display, press down on the MODE switch until nor appears.
2 Press down on the (UP) switch for 10 seconds or longer to change the display to "0". Press until "0" appears	cAr Blink ↓ - 5 - - 4 - ⋮ - 0 - Count down from 5 to 0 after the "cAr" blink.
3 When "0" appears release the (UP) switch. Release	(e.g.) ^{※2} L15 Voltage Display (e.g., L1.5)
4 Pedal is not pressed down. (Release the accelerator to 0%) 	(e.g.) ^{※2} L15 Voltage Display (e.g., L1.5)
5 Press the (UP) switch. Press Set to 0%	SEt ("SEt" Display)
6 Pedal is completely pressed down. (Press in on the accelerator to 100%) 	(e.g.) ^{※2} H45 Voltage Display (e.g., H4.5)

Operational Procedure	Main Unit Display Area
7 With the accelerator at 100%, press the (UP) switch. Press Set to 100%	SEt ("SEt" Display) ↓ nor. or nor ("nor" will be displayed for 1 second) ↓ 100 ("100" Display)
8 Once the display changes to 100 release the accelerator. 	100 ("100" Display) ↓ nor. or nor ("nor" Display)
9 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 	nor. or nor ("nor" Display)
Press down on pedal 	100 ("100" Display)
※Depending on characteristics of the accelerator or on how the accelerator is stepped on the display may read "A95" (95%).	

⚠ If Err is displayed at **7** If after the "Err" is shown the display returns to as shown in **4** ("L1.5" or so on), it means that the degree of acceleration settings have not been confirmed properly. Re-do the settings from step **4**.

※1 If the car has standard push start system, follow the User's Manual of the car to turn the Key to ON.
 ※2 The values shown in the display will vary depending on the type of car.

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⚠ Initial Settings this operation. Make sure to carry out

Speed Pulse Settings

How to Operate

Trouble-Shooting

Before Using

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Initial Settings

Speed Pulse Settings

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Trouble-Shooting

[Making the Settings]

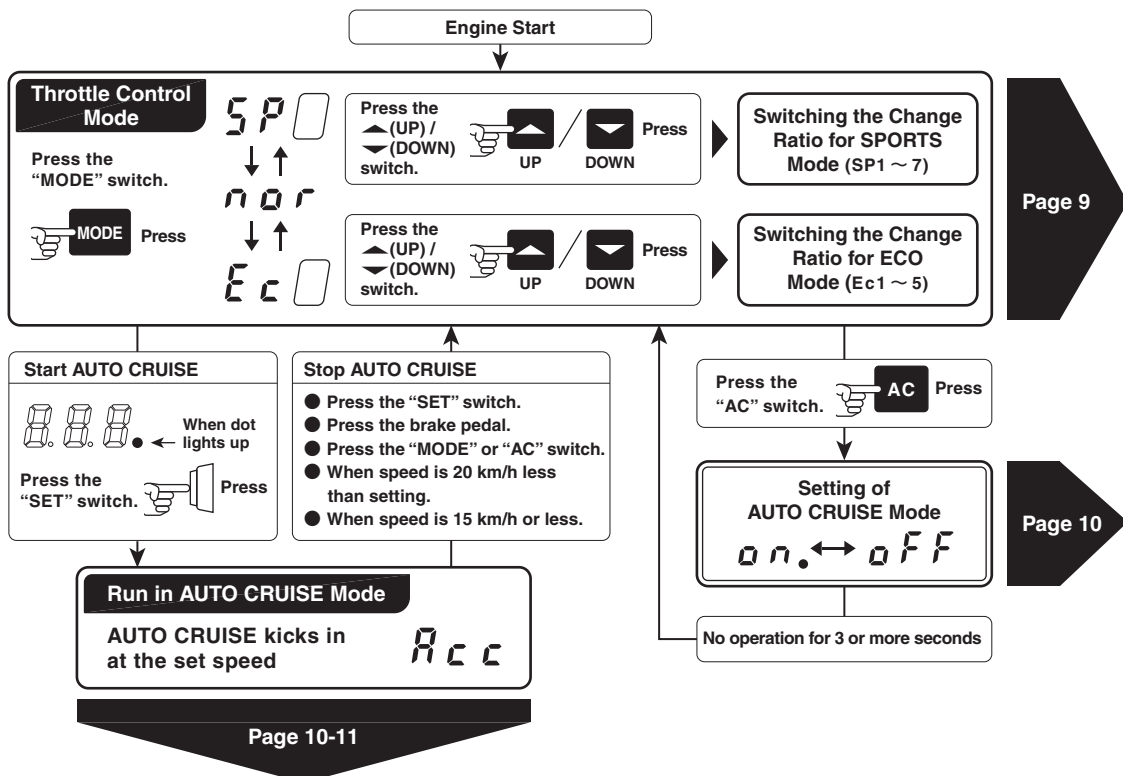
Operational Procedure	Main Unit Display Area
1 Key ON.  ON Engine not running	nor. or nor ("nor" Display) ※Use NORMAL Mode when carrying this out.
2 Press down on the (DOWN) switch for 3 seconds or longer.  Press the switch for 3 seconds	PLS ("PLS" Display)
3 Release the (DOWN) switch and the pulse setting will appear.  Release	P00 (Pulse Number Display)
4 Press the (UP) / (DOWN) switches to select the desired pulse setting.  Press UP DOWN	P-2 ↔ P-4 (Factory Setting) P16 ↔ P-8

Operational Procedure	Main Unit Display Area
5 Do not operate any switches for 10 or more seconds.	P00 (The selected pulse setting will blink) ↓ P00 (The selected pulse setting will light up) ↓ Display is Off
6 Returns to NORMAL Mode.	nor. or nor ("nor" Display)
7 Setting Completed	

⚠ If AUTO CRUISE can not be set when the speedometer reads 50 km/h or higher, or if it can be set when the speedometer is at 20km/h or lower, then the Pulse Setting is incorrect; please check and change.

※1 If the car has standard push start system, follow the User's Manual of the car to turn the Key to OFF.

Basic Operation



How to Operate

Switching Response Levels

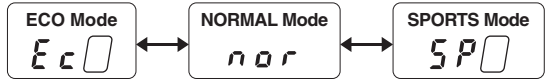
Make settings for response in each Mode.

Switching the Mode

Switch between three modes: SPORTS Mode (Higher Response), ECO Mode (Lower Response), and NORMAL Mode (Standard Response).

1 Key ON.
(Engine Start)

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



※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.

Adjusting the Change Ratio for each Mode

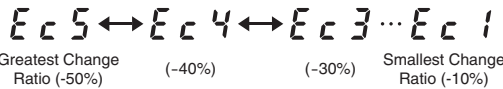
Switch the change ratios within SPORTS Mode (SP) and ECO Mode (Ec).

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

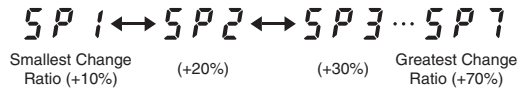
Ec is displayed, the ratio will change with each pressing of the **▲**(UP) / **▼**(DOWN) switch.

SP is displayed, the ratio will change with each pressing of the **▲**(UP) / **▼**(DOWN) switch.

Switching the Change Ratio for ECO Mode



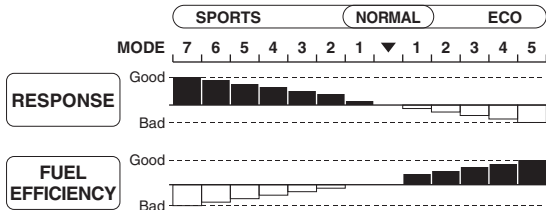
Switching the Change Ratio for SPORTS Mode



⚠ Saving Settings

All settings are saved even after the engine has been turned off. However, if the engine is turned off in 2 seconds or less after the last setting operation was carried out, the settings will not be saved.

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

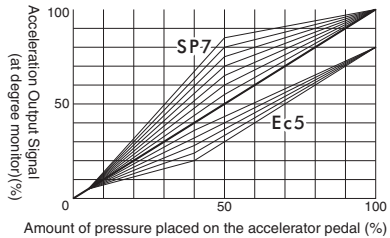


※In ECO Mode, because response is less than the standard fuel efficiency can be improved. However, if rapid acceleration is purposefully carried out fuel efficiency will be reduced.
※The changes in response will be greater as the vehicle's power is greater.

[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

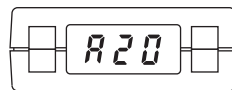


Degree of Acceleration Monitor

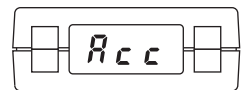
Displays the amount of pressure placed on the accelerator pedal. (output signal) [15 - 100%, 5% unit]

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.

※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%.



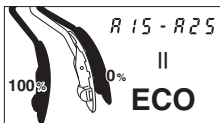
Degree of Acceleration (output) 20%



While in AUTO CRUISE (no degree display)

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

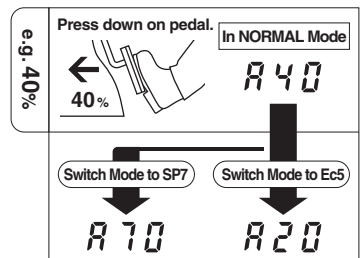
Please use to check the degree of acceleration for any type of driving, not just ECO Mode.

USE 3 Check control status

With the key in the ON position and under NORMAL Mode press in the pedal until it reaches 40% (A40), if the Mode is changed to SP7 the display should read 70% (A70) and if placed in Ec5 the display should change to 20% (A20).

[⇒ See the above Graph of "Basic Control Features"]

※The actual display may differ slightly.



Before Using

Features

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Initial Settings

Speed Pulse Settings

How to Operate

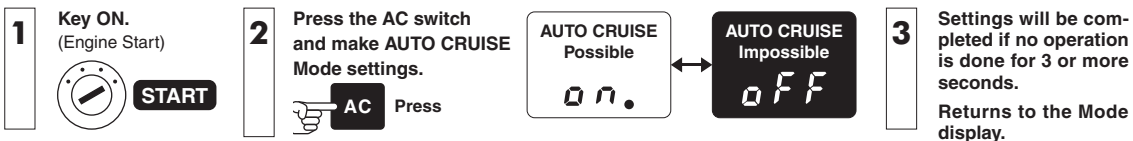
Trouble-Shooting

! If you wish not to use AUTO CRUISE, please turn the AUTO CRUISE Mode to OFF.

Setting of AUTO CRUISE Mode

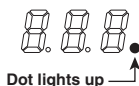
Use the SET switch to turn AUTO CRUISE to ON or OFF.
 ※All settings are saved even after the engine has been turned off.

[Making the Settings]



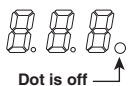
[Confirming the Setting]

When displaying Mode or degree of acceleration



AUTO CRUISE Possible

The lowest dot lamp is on



AUTO CRUISE Impossible

The lowest dot lamp is off

Run in AUTO CRUISE Mode

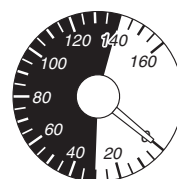
By pressing the SET switch at the desired speed, AUTO CRUISE will start when that speed is attained.

- AUTO CRUISE is nothing more than an aid to assist drivers. Please make sure to follow all speed limits and practice safe driving.
- AUTO CRUISE can be dangerous if activated in the following conditions; do not use under these conditions.
 - ① On slippery Roads (snow and ice)
 - ② In traffic jams
 - ③ Around sudden curves and/or slopes
- Upon climbing a sudden slope, it is not possible to accelerate beyond the capability of the engine. Moreover, when going down a sudden decline the engine can not force deceleration other than from the engine brake; please use the brake when necessary.
- To avoid an increase in engine revolutions, do not put the gear in N (neutral) or any other gear other than D (drive) while in AUTO CRUISE.

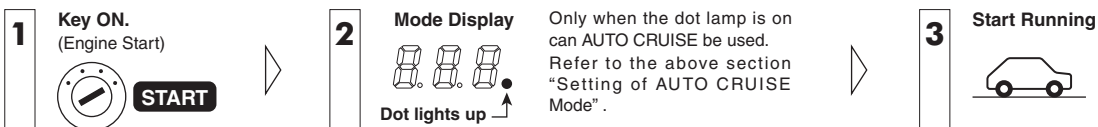
[Settable Speed]

Approximately
30 ~ 140 km/h

Due to differences in some standard meters, the setting will fall in the range of between 35 and 145 km/h.

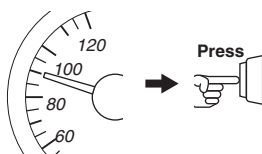


[Making the Settings]



4 When at the desired speed press in on the SET switch.

Please try to set when there is as little change in speed as possible.



When setting make sure not to quickly depress the accelerator.



- When setting during a sudden hill climb the car will run more stably after decelerating a little.

About the Relay sound (clicking noise)

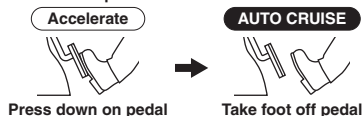
If you set under NORMAL Mode *n o r*, you will hear a noise from the relay working. If this bothers you, please set while in *S P i* or *E c t*.

5 AUTO CRUISE kicks in at the set speed
 When in Acc, do not depress the accelerator for any other reason than for acceleration.

A c c

[How to Accelerate]

- ① Press down on accelerator pedal to accelerate.
- ② Take foot off of pedal to return to AUTO CRUISE at the set speed.



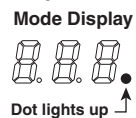
[How to Deactivate] AUTO CRUISE can be deactivated using any of the following:

- Press the "SET" switch.
- Press the brake pedal.
- Press the "MODE / AC" switch.

[Auto-Deactivation]

- When speed declines to 20 km/h or less than the set speed.
- When the speed declines to 15 km/h or less.

Returns to Step 3.



[How to Reset] After deactivation occurs, carry out as in step 4.

Adjusting AUTO CRUISE Level

Depending on the size of your car's engine the amount of time it takes to return to the set cruising speed after a hill climb or other such condition will differ. By adjusting the level it is possible to change the amount of time for returning to the set cruising speed to be faster or slower to match your car's performance and desired ride.

Level adjustments may differ depending on car model or driving conditions; please use the following as a simple guideline and adjust to fit your needs. (The factory default setting is L-3)

<p>Up to L-5 (Quick Acceleration)</p> <p>For Smaller Engines</p>	<p>In car models with smaller engines, to have the car return to the set speed faster raise the level to L-5.</p>	<p>Quicker Return</p>	<p>L-5 ↑ L-4 ↑ L-3 (Factory Setting) ↓ L-2 ↓ L-1</p>	<p>For Smaller Engines</p> <p>Quick (Lessen difference in returning to speed)</p> <p>↑ Amount of Time to Return to Set Cruise Speed</p> <p>↓ Slow (For more comfortable return to speed)</p> <p>For Larger Engines</p>	<p>[Setting Examples]</p> <table border="1"> <tr><td>L-5</td><td>ALTO</td></tr> <tr><td>L-4</td><td>MARCH, FIT, DEMIO, WAGON R</td></tr> <tr><td>L-3</td><td>VOXY, PRIUS, CARAVAN, SERENA, INSIGHT, STEP WGN, SWIFT</td></tr> <tr><td>L-2</td><td>VELLFIRE, CROWN, HIACE, ELGRAND, LAGACY, MPV</td></tr> </table>	L-5	ALTO	L-4	MARCH, FIT, DEMIO, WAGON R	L-3	VOXY, PRIUS, CARAVAN, SERENA, INSIGHT, STEP WGN, SWIFT	L-2	VELLFIRE, CROWN, HIACE, ELGRAND, LAGACY, MPV
L-5	ALTO												
L-4	MARCH, FIT, DEMIO, WAGON R												
L-3	VOXY, PRIUS, CARAVAN, SERENA, INSIGHT, STEP WGN, SWIFT												
L-2	VELLFIRE, CROWN, HIACE, ELGRAND, LAGACY, MPV												
<p>Down to L-1 (Slow Acceleration)</p> <p>For Larger Engines</p>	<p>In larger engine car models, to have the car ride more comfortably without sudden acceleration to return to the set speed, lower the level to L-1.</p>	<p>Slower Return</p>											

⚠ Operating switches or checking the display while driving may cause accidents; please use with the utmost consideration for safety.

[Making the Settings]

1 While Running in AUTO CRUISE Mode

A c c

2 Pressing the switch will display the current level and by pressing **▲ (UP) / ▼ (DOWN)** you can switch levels.

UP / DOWN Press

Change the AUTO CRUISE Level

L-1 ↔ L-2 ↔ **L-3** ↔ L-4 ↔ L-5

Low Level (Factory setting) High Level

Test Drive

After having carried out all of the necessary wiring and making settings in "Initial Settings" and "Speed Pulse Settings" please carry out a low-speed test run.

⚠ Please carry out the test drive in a safe spacious area away from pedestrians and traffic.
● Please make sure to carefully read this manual and understand how to operate the unit before taking a test run.

- 1** Key ON. (Engine Start) **START**
- 2** The Mode will change with each pressing of the "MODE" switch. Press
- 3** AUTO CRUISE Mode: ON ← Dot lights up
- 4** Start the Test Run (35 ~ 40 km/h)
- 5** Press the "SET" switch. Press
- 6** AUTO CRUISE kicks in at the set speed *A c c*

If the dot disappears

⇒Page 10
"Setting of AUTO CRUISE Mode"

Deactivating AUTO CRUISE

- Press the "SET" switch.
- Press the brake pedal.
- Press the "MODE / AC" switch.

AUTO CRUISE does not Operate

- Poor connection of Gray and Orange wires. (⇒Page 4)
- Improper wiring of Pink wires. (⇒Page 5)
- Respective settings have not been completed. (⇒Page 7-8)
- Poor connection of "SET" switch connector (⇒Page 5)


Troubleshooting

Concerning Basic Operations and Car Problems


Trouble	Possible Causes	Possible Solutions
<p>The key switch is set to ON but the display of the Main Unit will not light up.</p>	<p>Brake fuse is burned out.</p> <p>The Red and Black wires may have been improperly wired or there is a poor connection.</p> <p>Poor connection of Specialized Harness and 6P Connector.</p>	<p>Please reconfirm whether wiring and connections are correct or not.</p>
<p>A CHECK Lamp has gone on.</p>	<p>The accelerator connector was disconnected within 15 minutes after having turned the key to OFF.</p> <p>The "Initial Settings" have not been properly carried out.</p> <p>With the key switch in the ON position disconnect Specialized Harness or 6P Connector.</p>	<p>Follow the instructions in this Manual (⇒Page 4-5) to connect to Accelerator Connector, and follow the directions "How to Turn Off the CHECK Lamp" (⇒Page 12) to turn off the lamp.</p> <p>Make the settings by following the directions under procedure 3 "Initial Settings" found on Page 7 of this Manual, and follow the directions "How to Turn Off the CHECK Lamp" (⇒Page 12) to turn off the lamp.</p> <p>Re-connect the disconnected connector and follow the directions "How to Turn Off the CHECK Lamp" on Page 12 to turn off the lamp.</p>

Before Using
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 Speed Pulse Settings
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 Trouble-Shooting



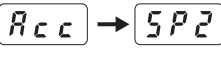
Concerning Basic Operations and Car Problems (Continuation of the previous page)

Trouble	Possible Causes	Possible Solutions
While making "Initial Settings" an Err 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 7 of this Manual. procedure 3

Concerning the Throttle Controller

Trouble	Possible Causes	Possible Solutions
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 7 of this Manual. procedure 3
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 two seconds before turning the key OFF.
While in SPORTS Mode, when put into reverse the display does not show "bac". 	The Pink wire may have been improperly wired or there is a poor connection.	Please reconfirm whether wiring and connections are correct or not.
	The unit is connected to the reverse wire of a navigation system from another company.	Follow the instructions for wiring to reverse found in this Manual (⇒ Page 5).
	The backup lights have been changed to LED lamps.	<ul style="list-style-type: none"> ● Replace the backup lights with the car maker's original lights. ● Do not carry out wiring for Reverse Gear.

Concerning AUTO CRUISE

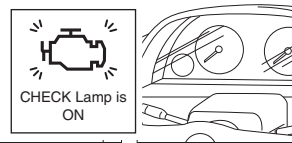
Trouble	Possible Causes	Possible Solutions
AUTO CRUISE does not Operate. 	The Gray and Orange wires may have been improperly wired or there is a poor connection.	Please reconfirm whether wiring and connections are correct or not.
	Poor connection of 2P Connector .	
	The Pink wire may have been improperly wired.	
	The setting is outside the allowable range.	Please refer to Page 10 of this manual "AUTO CRUISE Mode Settings" to turn the dot lamp ON.
	AUTO CRUISE Mode is turned OFF. (dot is off)	
	The "Initial Settings" have not been properly carried out.	
After AUTO CRUISE is deactivated the display goes off. 	Brake fuse is burned out.	Please reconfirm whether wiring and connections are correct or not.
	The Red and Black wires may have been improperly wired or there is a poor connection.	
	The Specialized Harness or the 6P Connector has become disconnected.	
AUTO CRUISE is automatically deactivated and the display switches to throttle controller. 	The Gray and Orange wires may have been improperly wired or there is a poor connection.	Please reconfirm whether wiring and connections are correct or not.
	The Pink wire may have been improperly wired.	
	The "Initial Settings" have not been properly carried out.	Make the settings by following the directions under "Initial Settings" found on Page 7 of this Manual. procedure 3
	AUTO CRUISE will be automatically deactivated if the speed declines to 20 km/h or less than the set speed or if the speed declines to 15 km/h or less.	
When climbing a hill, the speed is much slower than the set cruise speed.	The AUTO CRUISE Level has been adjusted to a lower level (lowest is L-1).	For details about adjusting see Page 11 of this manual "Adjusting AUTO CRUISE Level".
It feels like to return to the AUTO CRUISE speed is too quick and jumpy.	The AUTO CRUISE Level has been adjusted to a higher level (highest is L-5).	
Even at speeds above 30 km/h AUTO CRUISE does not kick in.	"Speed Pulse Settings" have not been properly carried out.	Make the settings by following the directions under "Speed Pulse Settings" found on Page 8 of this Manual. procedure 4

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 ⊖ terminal of the battery for about 10 minutes.
- 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's Manual.