

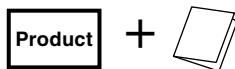
USER'S MANUAL

REV COUNTER

SHIFT LAMP & REV COUNTER for Pros

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

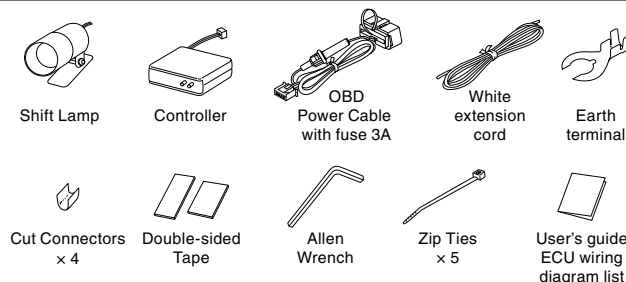
● If this product is given to another user, make sure to include this User's Manual.



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Please check the contents of the package



WARNING

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

- **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.
- **Do not operate while driving.**
Operating or checking the display during driving may cause an accident; please use with the utmost consideration for safety.
- **Please securely fasten the product to a stable place and 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.

CAUTION

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

- **This product is for DC12V cars;**
Installation cannot be carried out on cars with other voltage batteries.
- **Just after installation do not exert any strong force on the product.**
When double-sided tape is used for an installation be warned that when hot the tape temporarily loses adhesiveness.
- **Do Not Use Chemical Cleansers.**
If the unit gets dirty please wipe with a soft cloth to remove any dirt. Do not use chemical cleansers such as thinner, benzene, or alcohol.
- **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.**
- **Do not install the product in a place where it will cause distraction.**
- **Do not, in any manner, process, take apart, or make changes to this product.**

Features

■ Shift Lamp

- Shift lamp lights up when the set rpm is reached.
- Ultra bright LED is easy to see even in full daylight.
 - For night driving select auto low lighting or synchronize with parking lights.
 - High quality aluminum machined body with swivel neck.

■ Digital Tachometer

- High precision display for setting shift lamp and viewing rpm.
- High precision display of engine rpm up to 9999 in 1 rpm units.
 - Shift lamp settings can be made in units of 100 rpm.
 - View real time and peak engine rpm.
 - Compact design needs no space.

■ Alarm

Alarm sounds at shift point for 0.5 seconds.

■ Easy Installation

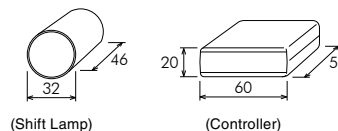
Can be easily installed in some model TOYOTA and DAIHATSU cars directly by connecting to the diagnostics connector. Other models can be connected to the ECU.

■ Compatible Vehicles

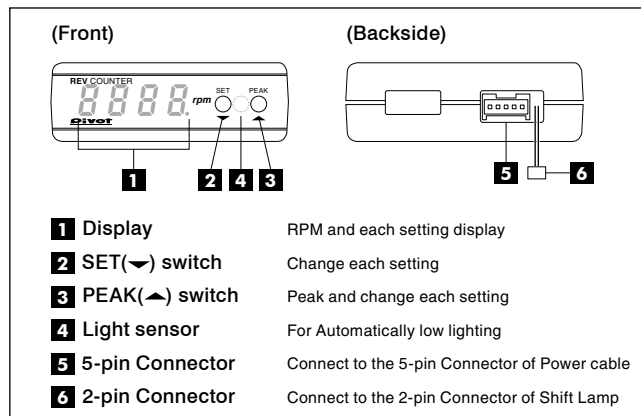
12 V Gasoline Engine Cars (some diesel engine models)
For 1 · 2 · 3 · 4 · 5 · 6 · 8 cylinder models.

■ Size

(Unit : mm)



Part Names of the Controller



Connecting the Wires

1 Connect to the Power and RPM signal

□ = Use cut connector (or solder)

Type A : Car models with a ● or ⊙ mark in the "ECU Wiring Diagram List" (Some of TOYOTA, DAIHATSU and MINI)

Backside of the controller

5-pin connector

OBD Connector

Connect to the diagnostic monitor connector

Type B : For Popular Models (other than TOYOTA, DAIHATSU and MINI)

Backside of the controller

5-pin connector

OBD Connector

ECU Engine Computer, etc. TA

Red

Black

White

White ※1

Connect to the diagnostic monitor connector

Cut off at the base Insulate the cut off part with tape

Type C : If you are not using the diagnostic monitor connector
If you are wiring directly cut off and insulate all wires at the base of the OBD connector.

1

2

Backside of the controller

5-pin connector

IGN (or Normal power)

ECU Engine Computer, etc. TA

Red

Black

White

White ※1

Earth

Cut off at the base

← To controller

※1 If the white wire is not long enough, please use the white wire provided in this package to extend the length. See [Reference 2]

Cut connector

White extension wire

Insulate the cut part with tape

Explanation of wires

Color	Wiring place	Details
Red	IGN	12V with key switch ON (or Normal power)
Black	GND	Screw to gain earth, etc
White	TA	RPM signal
Orange	Illumi	12V with parking lights ON

Orange wire

- Synchronize with parking lights
⇒ Need to make wiring
- Automatically low lighting
⇒ No need to make wiring

Backside of the controller

5-pin connector

Orange

Parking light

Cut the black tube of the wire tip and connect.

When another device is already connected to the RPM signal from the ECU

... and that device works properly keep that wiring.
... and the meter or other device stops working properly or sometimes becomes unstable disconnect from the ECU wire and get the RPM from the minus terminal of ignition coil or diagnosis. (Follow the directions as written below)

To get the RPM signal from other than the ECU

● To get the RPM signal from diagnosis (check connector)

Ex : in case of MAZDA EUNOS ROADSTER (NA6C)

Location of the RPM signal (IG-)

← To controller White wire

● To get the RPM signal from the ignition coil

White wire

← To controller

Ignition coil

When connecting the RPM signal to the ignition coil or diagnosis and the indicated rpm on the meter may be obviously lower than the actual rpm as shown on tachometer

Ex : For a 6 cylinder car, the reading should be 3000 rpm, but display shows 500 rpm.
This may be caused by the individual wiring system of that model of car. Change the cylinder setting to "1". (See page 3 "SETTINGS A" for details.)

2 Connect to the Shift Lamp

Insert the 2-pin connector from the shift lamp into the 2-pin connector at the back of the controller.

Backside of the controller

Shift Lamp

2-pin connector

[Reference 1] Notes about using the OBD Connector

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

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

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 Cut 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.

[Reference 3] How to use provided earth terminal

1. Peel off about 10mm of vinyl covering from the tip of the black wire.	<p>Crimp down</p>
2. Bend the outside wires around the core to make the wire thicker.	
3. Crimp down on the earth terminal.	
4. Connect it to a earth screw.	

Fastening the products

Installation of the Shift Lamp

(Installation Example)

On the dashboard
On the steering column cover

(Installation Method)

Hexagonal bolt
Adjust to designed angle
Double-sided tape (included)
Clean to remove oil or dust

- Fasten using the double-sided tape. (Clean the surface; removing all oil or dust.)
- After deciding the position and angle of the meter face, fasten the hexagonal bolts on both sides to secure.

Installation of the Controller

(Installation Example)

On the meter hood
Below the meter hood
On the steering column cover

(Installation Method)

Controller
Double-sided tape (included)
Clean to remove oil or dust

Fasten using the double-sided tape. (Clean the surface; removing all oil or dust.)

Settings

SETTING A Cylinder Number Setting

Set the cylinder number for the car being used.

- Press the SET switch for 5 seconds**
Press the SET switch for 5 seconds during the key switch ON (engine not running)
- Ex) **P - 4** Cylinder display
(The factory default setting is for a four-cylinder engine)
- Down Up**
Press the switch to change the pattern and set to the proper one.

Patterns for cylinder settings display

1-cylinder	2	3	4	5	6	8	Special A
P-1	P-2	P-3	P-4	P-5	P-6	P-8	P-A

- With no operation for 5 seconds**
- Display off**

※ For one and two cylinder engines, set the signal level switch to two.
⇒ See **SETTING C : Switching the signal level** for details.

- The factory default setting is for a four-cylinder engine. After setting is changed, the last setting will be displayed.
- If the engine is a two cycle engine, multiply the number of cylinder by two. (e.g., For a two-cycle three-cylinder engine the setting would be six.)

[Reference]
One-cylinder : Some models of NISSAN or MAZDA
Two-cylinder : Some models of MAZDA or SUBARU
Four-cylinder : Rotary engine (RX-7)
Special A : Some models of NISSAN, etc.

SETTING B RPM Setting

Make RPM setting for turning on the Shift Lamp.

- RPM display** **Press the SET switch**
While displaying RPM, press the SET switch once.
- Ex) **3500** Current setting display (Ex; 3500rpm)
The Shift Lamp does not lit during setting.
- Down Up**
Press the switch to change the RPM setting

Pressing button one time will decrease the RPM setting by 100 rpm; pressing button will increase the setting by 100 rpm.
※ Holding down the either button will rapidly change the setting.
- With no operation for 5 seconds**
- RPM display**

SETTING C Switching the signal level

Changes are only necessary for those car models listed below.

NISSAN (FAIRLADY Z Z33) · MAZDA (after 2002) · MITSUBISHI (COLT and others) · SUBARU (early type of PLEO and others)
※ See the "ECU Wiring Diagram List" for details.

- Press the PEAK switch for 5 seconds**
Press the PEAK switch for 3 seconds during the key switch ON (engine not running)
- Display **H**, or **L**
- Press the PEAK switch**
The display will change with each pressing of the switch.
H, If the generic car **L** If the level is small
- With no operation for 5 seconds**
- Display off**

SETTING D Alarm Setting

Make Alarm setting for the sound during light emission of Shift Lamp.

- RPM display** **Press the SET switch for 3 seconds**
While displaying RPM, press the SET switch for 3 seconds.
- Ex) **R.on** Current setting display (Ex; Alarm on)
- Press the SET switch**
The display will change with each pressing of the switch.
R.on Alarm ON **L** **R.off** Alarm OFF
- With no operation for 5 seconds**
- RPM display**

- Alarm sounds when you make each settings even if Alarm set to OFF.

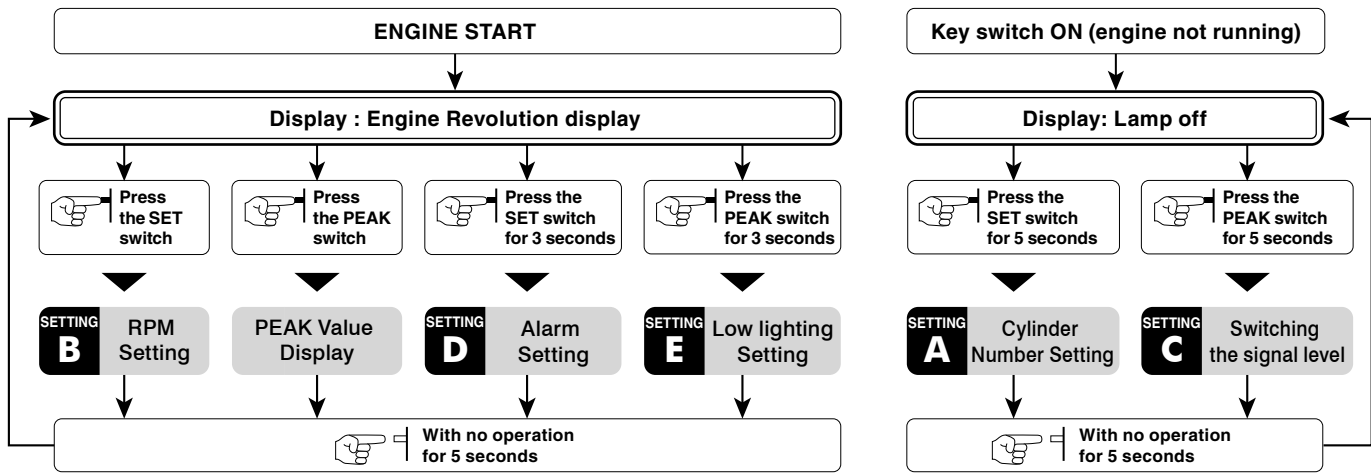
SETTING E Low lighting setting

Make setting of auto low lighting of Shift Lamp.

- RPM display** **Press the PEAK switch for 3 seconds**
While displaying RPM, press the PEAK switch for 3 seconds.
- Ex) **5.on** Current setting display (Ex; Low lighting ON)
- Press the SET switch**
The display will change with each pressing of the switch.
5.on Low lighting ON **L** **5.off** Low lighting OFF
- With no operation for 5 seconds**
- RPM display**

- This function doesn't work if the Shift Lamp synchronizes with parking lights with connecting to Orange code.
- If the controller is installed dark place and the light sensor of controller could not sense the change of lights, the Shift Lamp might keep low lighting.

Operation



*For details about settings see each [SETTINGS] on page 3.

Peak Display and Reset the Peak Value

Display the Peak value

- 1 **RPM display** Press the **PEAK** switch
While displaying RPM, press the PEAK switch once.
- 2 Ex) **6850** **Peak value display**
(Ex; Peak value= 6850rpm)
While displaying Peak value, maximum of dot will light.
- 3 **With no operation for 5 seconds**
- 4 **RPM display**

Reset the Peak value

- 1 Press the **PEAK** switch for 3 seconds
While displaying Peak value, press the PEAK switch for 3 seconds to reset the Peak value and go back to RPM display.

Troubleshooting

Trouble	Possible Causes	Possible Solutions
With the engine running the controller does not show the rpm.	Poor connection of each wire.	Please reconfirm whether wiring and connections are correct or not.
	Poor connection of OBD connector.	
	The signal detection level is not correct.	See page 3 [SETTING C] and [ECU Wiring Diagram List], make any necessary changes.
The displayed values are very different from the standard meter and others.	The cylinder setting is wrong.	Due to difference in accuracy, readings may not be the same as those on the standard tachometer. See page 3 [SETTING A] and make any necessary changes.
	The signal detection level is not correct.	See page 3 [SETTING C], make any necessary changes.
The Shift Lamp does not light up.	The engine rpm has not reached the set shift point.	See page 3 [SETTING B], make any necessary changes.
	Poor connection of 2-pin connector.	Please reconfirm whether wiring and connections are correct or not.
Even with the parking lights on, brightness of the shift lamp does not decrease.	Poor connection of orange wire.	Please reconfirm whether wiring and connections are correct or not.
	Poor wiring of orange wire.	Please reconfirm whether wiring and connections are correct or not.
The Shift Lamp keeps low lighting.	The controller is installed a dark place.	Please move the controller to where it can sense the change of lights.
The display of the controller is operating even when the engine has been stopped.	Noise from the car (door locks and so on) may cause it to temporarily operate.	If the operation is only temporary it is not a malfunction; but if it still causes worry cut the red wire in the OBD connector and connect it to IGN.
The auto-power window function and/or other electronic devices are re-set.	This is due to the minus terminal on the battery being disconnected.	Re-connect the minus terminal and follow re-setting instructions for any affected devices.

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 ※We strictly prohibit the unlicensed use of the PIVOT trademark and the unauthorized use of PIVOT User's Manual.