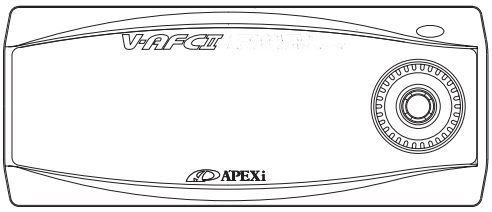
A'PEX VTEC AIRFLOW CONVERTER

V-AFC II VTEC CONTROL AIR FLOW CONVERTER

INSTRUCTION MANUAL

Thank you for purchasing the A'PEX VTEC Airflow Converter. Please read through this Instruction Manual to operate this product correctly and keep it near the product so that you may refer to it whenever necessary. If you transfer the product to another customer, be sure to attach this Instruction Manual and the warranty to the product.



Product name:	VTEC AFC Ⅱ
Product code:	401-A015
Applicable car models:	Car models mentioned in the Wiring Diagram by Model
Application:	VTEC control and pressure sensor signal adjustment

A'PEX Chasing Our Dreams - A complete line of customized car and automotive parts developed with state of the art technology and new ideas. Our company is A'PEX which means the highest in quality.

A'PEX CO., LTD.

V-AFC II

Contents

Chapter 1 Introduction

Safety Precautions ____ 4
Features of this Product ____ 6
Names and Functions of Parts ____ 8
- Parts list ... 8
- Names of parts ... 9
- Meanings of operation symbols appearing in this document ... 9

Chapter 2 Initial Setup

Procedure before Using This Product ____ 12
Table of initial setup items ____ 13
- Setting the sensor number 【Sensor No】 ... 13
- Setting the number of cylinders 【Car Select】 ... 13
- Checking the throttle sensor voltage 【Sensor chk】 ... 13
- Setting the VTEC type 【Car Select】 ... 13
- Setting the throttle sensor type 【Car Select】 ... 13
- Learning the throttle opening ... 13
- Setting the VTC monitor 【VTC Set】 ... 13

Chapter 3 Outline of Operating Method

Outline of Functions and Operating Method ____ 16
Functions and operations in the monitor mode ____ 18
Functions and operations in the setting mode ____ 19
Setting in the etc. mode ____ 19

Chapter 4 [illegible]

Selecting and displaying one of items 1 to 4 【1Channel】～【4Channel】 22
Plot display by using the RPM for the horizontal axis 【Rev.－[Y]】 ____ 27

Chapter 5 Setting Mode 【Setting Menu】

Setting the air correction factor (Throttle opening, large) 【Wide Thr】 ____ 30
Setting the air correction factor (Throttle opening, small) 【Narr. Thr】 ____ 30
Setting the VTEC changeover point 【V/T Cont】 ____ 32
Fuel correction at VTEC unmatch 【V/T Unmt】 ____ 34
Setting the load sensing type VTEC changeover 【V/T Pres】 ____ 36
Setting the throttle position 【TH-Point】 ____ 39
Setting the air correction engine RPM 【Ne-P:Hvt】 ____ 41
Setting the air correction engine RPM 【Ne-P:Lvt】 ____ 41
Setting the VTC monitor 【VTC Set】 ____ 43

Chapter 6 Electronic (etc.) mode 【[illegible]】

Setting the sensor number 【Sensor No】 ____ 46
Setting the vehicle type 【Car Select】 ____ 47
Setting the display scale 【Disp Scale】 ____ 50
Sensor check 【Sensor chk】 ____ 51
Setting the warning 【Warning Set】 ____ 52
VTEC information display 【V/T Info】 ____ 54
Setting and changing the password 【Pass Lock】 ____ 55
VFD brightness adjustment 【VFD Bright】 ____ 57
Program version check 【Program Ver.】 ____ 58
All data initialization 【Initialize】 ____ 59
Troubleshooting ? ____ 62

※ VTEC is a registered trademark of Honda Motor Co., Ltd.

Chapter 1 Introduction

Safety Precautions ____ 4
Features of this Product ____ 6
Names and Functions of Parts ____ 8
- Parts list ... 8
- Names of parts ... 9
- Meanings of operation symbols appearing in this document .. 9

Safety Precautions

Please read “Safety Precautions” carefully to operate the product with safety. Keep the Instruction Manual in custody so as to refer to it whenever you need it.
The Instruction Manual describes the items that you must observe to operate this product without giving any injury to you and other people and damage to property. The meanings of pictorial indications (signal words) are as shown on the right. Please understand their contents correctly before starting to read the text.

■ **Explanation of indications**

Indication	Meaning
⚠ **WARN-**	This indicates the existence of potential hazard that will result in death or serious injury of the operator or a third person if the product is wrongly operated in disregard of this indication.
⚠ **CAUTION**	This indicates the existence of potential hazard that will result in slight injury or medium damage to the operator or a third person, and that will result in only physical damage if the product is wrongly operated in disregard of this indication.
REQUEST	This indicates the contents of a failure in obtaining the full performance of the product, or a product failure or faulty function item if the product is wrongly operated in disregard of this indication.

⚠ WARNING

● **Do not under any circumstance use this product for any car application other than on the applicable vehicles .**
We shall disclaim the responsibility for operations in an application other than the applicable vehicles. It will result in an unexpected accident.

● **If this product gives out any abnormal noise or offensive smell, stop operating the product immediately.**
Using the product in this status will result in an electric shock, fire, or damage of electric parts. Consult the distributor for information.

●**Do not use this product and its accessories in any way other than specified by A’PEX.**
In this case, we shall disclaim all responsibility for any damage or loss to the customer and third persons.

●**Do not turn on and/or off immediately during and after operating a key.**
Set/recorded data may be lost.

⚠ WARNING

●The driver must not operate this product while driving,
It will interfere with driving operations, resulting in an accident.

●Mount this product securely. Do not install it in a place that may interrupt driving or in an unstable place,
It will interfere with driving, resulting in an accident.

●When installing the product, first remove the negative terminal of the battery.
A fire may be caused by short circuit or electric parts may be damaged or burnt out.

●When removing a coupler, be sure to hold the coupler without pulling the harness.
If the harness is pulled, a fire may be caused by short circuit or electric parts may be damaged or burnt out.

●Be sure to perform wiring in accordance with the contents described in the Wiring Diagram by Vehicle Model.
Incorrect wiring will result in a fire or other accident.

●If any adjustment must be made during actual driving, take special care not to interfere with other traffic, observing all of the traffic laws and regulations.
It will interfere with driving, resulting in an accident.

⚠ CAUTION

●Regarding the installation of this product, be sure that it is installed by an experienced professional.
Installing the product requires technical knowledge and skill.
Be sure that the installer installs the unit correctly.

●Do not work, disassemble, or modify this product,
It will cause an accident, fire, electric shock, or electric parts will be damaged or burnt out.

●Do not drop this product or expose it to strong shock.
This may cause a malfunction, thereby giving damage to the product and the vehicle.

●Do not operate this product under direct sunlight or in high-temperature vehicle interiors that are not air-conditioned in the summer season.
A malfunction will be caused, thereby giving damage to the product and the vehicle.

●Do not install the product in a high-temperature place or a place exposed to direct water.
It will cause an electric shock or fire, or electric parts will be damaged. The malfunction may damage the vehicle.

Features of this Product

In the VTEC AFC II, the VTEC changeover point of a vehicle with a VTEC engine can be adjusted at an optional engine RPM. This fuel adjustment controller can increase and decrease fuel in a wide range of +50% to –50% by 1-point increments for the specified engine rpm. RPM points can be set in 100 rpm increments and make fuel correction according to the throttle position.

■Unconventional large screen monitor using a high-brightness VFD

The futuristic front face of this unit uses the large screen, high-brightness and easy to read VFD (Vacuum Fluorescent Display)
Use of the dot-matrix large screen monitor allows the displaying several types of information simultaneously. Display variations are not limited to only numeric value display but also graph display, analog display, and other various displays are shown. This allows the driver to recognize important information precisely in an instant.

■Utilizes a thin case and a single button

A thin case of 52 mm (L) x 126 mm (W) x 18 mm (D) (Minimum) has been achieved by optimization of the circuit board and case design. Naturally, there is no other separate unit other than the main unit. Using a 4-direction switch with a center pushbutton and a rotary switch gets rid of a button-to-button distance and permits quick operations, thereby providing comfortable operation.

■Battery-less memory that can keep initial setup data in the memory even if the vehicle battery is disconnected

With the use of the EEPROM, even if the power supply is turned off or the battery is disconnected, the initial setup data is not lost unless initialization is performed. Accordingly, you do not need to perform any setting again.

■Setting the pressure signal correction point for the low cam and the high cam

An input intake pressure signal is converted into an absolute pressure value. This value is corrected with the air correction factor. While in the air correction factor setting, an adjustment value can be set for each of the 12 rpm points for Hi cam and Lo cam. (total: 24 points) Setting can be performed according to the throttle position.

■VTEC unmatch correcting function mounted

When the VTEC engagement point is changed, the engine will continue to inject stock fuel amounts because the ECU does not monitor the actual cam. In the V-AFC II, the unmatch setting can be performed to prevent this discrepancy in fuel adjustment.

※VTEC is a registered trademark of Honda Motor Co., Ltd.

⚠CAUTION

- This product cannot be used for any application other than the vehicles mentioned in the separate Vehicle Specific Application Charts.
- Note that noise interference may be caused to a radio set, TV set, etc... depending on the mounting location of this product and the routing of the signal harness.
- This product generates heat in the power ON status. This is not abnormal.

■ Working with multiple types of VTEC

There are several types of VTEC for wagons and sports cars. A single V-AFC II can work with these multiple types of VTEC.

※For the applicable types of VTEC, refer to page 49.

■VTC monitoring

The cam advance angle of the variable valve timing mechanism [VTC] for i-VTEC engines can be displayed in real time and transmitted to the driver visually.

※This function is for only i-VTEC equipped vehicles.

■Load sensing type VTEC correcting function

The load sensing VTEC system on some factory based vehicles can now be corrected on this VAFC.

※The load sensing mechanism performs VTEC changeover from Lo cam to Hi cam by measuring intake air pressure and throttle movement rates.

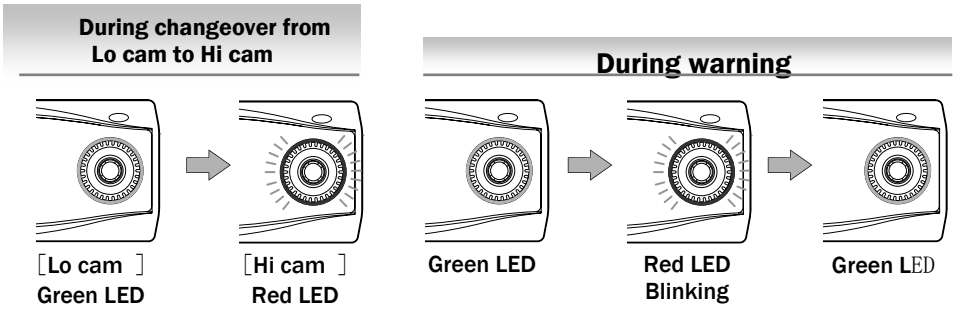
■Setting disable function by password

When the user sets an optional password, the setting data and initial setup items become inaccessible so that they may not be changed through accident or mischief.

■New LED color changing function

At Lo cam, the LED lights up in green. This LED lights up in red at Hi cam. During warning, the LED blinks.

The cam status or warning status can visually be confirmed.



⚠WARNING

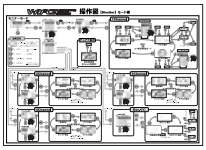
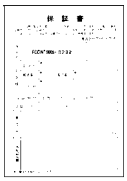
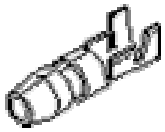
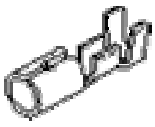
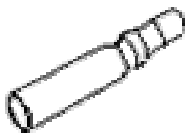
●During driving, the driver must not operate this product .
It will interfere with driving operations or result in an accident.

●On public roads, observe all of the road and traffic laws to drive the car safely and responsibly.

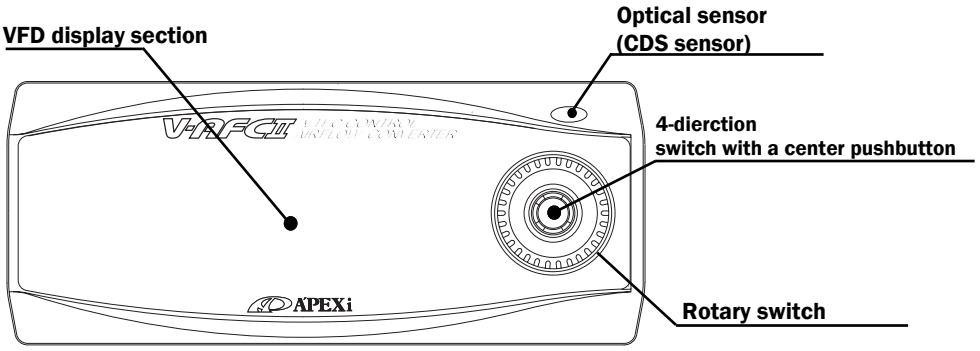
Names and Functions of Parts

■Parts list

Before installing this product, be sure to check the parts list to confirm that there are not any foreign or missing parts. If any difference is found between the actual parts and the items on the parts list, please contact the distributor.

1 . Main unit	2. Instruction manual (Operation part)	3. Wiring Diagram by Model	4.Operation transition diagram
			
1 unit	1 volume (this document)	1 volume	1 sheet
5. Warranty	6. Signal harness	7. Mounting bracket	8. Plug
			
1 sheet	1 piece	1 piece	2 pieces
9. Male sleeve	10. Plug receptacle	11. Female sleeve	12. Splice
			
2 pieces	3 pieces	3 pieces	8 pieces

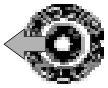
■Names of parts



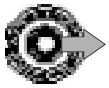
■Meanings of operation symbols appearing in this document

※Press the upper part of the center switch.

※Press the lower part of the center switch.

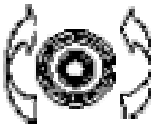


※Press the left part of the center switch.



※Press the right part of the center switch.

※ Press the center pushbutton.

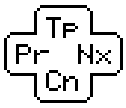


※Turn the rotary switch counterclockwise or clockwise.

When the rotary switch is turned clockwise, the numeric value is shifted in the positive direction or the cursor is moved upward.
When the rotary switch is turned counterclockwise, the numeric value is shifted in the negative direction and the cursor is moved downward. The upper/lower part of the center switch has the same function as the rotary switch.

●Popup menu

When you press the center push button, the popup menu shown on right appears. The selected portion appears as a reversing display. Make a selection by the upper/lower/left/right part of the center switch and decide the selection by pushing the center pushbutton.



Example)

Press the center pushbutton and select [Nx] in the popup menu.

The meanings of alphabetic characters are as follows:

Tp [TOP] .... Go back to the main menu.
Nx [NEXT] .. Go to the next.
Pr [PREVIOUS] Go back to the previous.
Cn [CANCEL] Cancel the popup menu.

Chapter 2 Initial Setup

Procedure before Using This Product ____ 12
Table of initial setup items ____ 13
- Setting the sensor number 13
- Setting the number of cylinders 13
- Setting the throttle sensor type 13
- Setting the VTEC type 13
- Checking the throttle sensor voltage 13
- Learning the throttle position 13
- Setting the VTC monitor 13

Procedure before using this product

Install this product.

The details of the installing procedure are described in the separate “Vehicle Specific Wiring Diagram”. Install the product securely referring to the “Vehicle Specific Wiring Diagram”.

Turn on the ignition switch.

Make sure that any abnormal noise or offensive smell is not produced from the V-AFC II and the vehicle.

Perform initial setup

Perform initial setup referring to page 13.

Turn off the ignition switch.

The setting data is stored in the memory.

Start the engine.

C A U -

- **If no display appears or any abnormal noise or offensive smell is produced from this product even though the product has been properly installed, please stop operating the product immediately and contact the distributor.**

Perform initial setup.

To operate this product, you must set several items of initial setup.
After making sure that the V-AFC II is properly installed, turn on the ignition switch and select Setting or etc. (etc. mode) in the main menu.

Table of initial setup items

1. **Setting the sensor number** （P46【etc.】→【Sensor No】）
   Select Sensor No of the etc. mode and set the sensor number.
2. **Setting the number of cylinders** （P47【etc.】→【Car Select】）
   Select Car Select and set the number of cylinders.
   You can select it in the range of 1 to 16 cylinders.
3. **Checking the throttle sensor voltage** （P51【etc.】→【Sensor chk】）
   Select Sensor chk and check the throttle sensor voltage in the accelerator fully closed status and accelerator fully open status.
4. **Setting the throttle sensor type** （P47【etc.】→【Car Select】）
   Select Car Select. When the throttle sensor voltage is 0 V to 1 V in the fully closed status in the previous item, set the arrow to the upward direction. When the same voltage is 3 V to 5 V, set the arrow to the downward direction. When the arrow is set to the mark **, no correction is performed by throttle position.
5. **Setting the VTEC type** （P49【etc.】→【Car Select】
   Set the VTEC type.
6. **Learning the throttle opening**
   Hold the accelerator fully closed for about 10 seconds while turning the ignition on. After that, hold the accelerator fully open for about 10 seconds.
7. **Setting the VTC monitor** （P43【Setting】→【Vtc Set】）
   Set the VTC monitor. ※Perform this setting only for i-VTEC equipped vehicles.
8. **Turn off the ignition switch.**
   When the ignition switch is turned off, the set items are stored in the memory. **With this, the initial setup is completed.**

⚠WARNING

● **Do not start the engine before starting the initial setup, .**
If the engine is started without initial setup, the engine may be damaged.

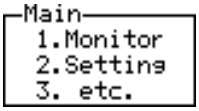
Chapter 3 Outline of Operating Method

Outline of Functions and Operating Method _____ 16
Functions and operations in the monitor mode _____ 18
Functions and operations in the setting mode _____ 19
Setting in the etc. mode _____ 19

Outline of Functions and Operating Method

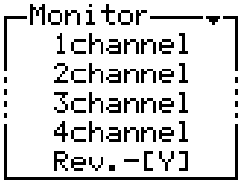
Main menu

The V-AFC II consists mainly of 3 menus.



Monitor mode

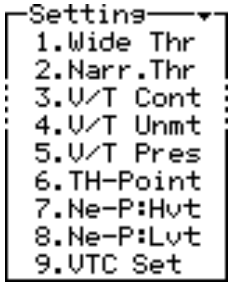
The data obtained from the sensor is displayed.



The intake pressure, throttle position, engine RPM, air correction rate, VTEC operating status, VTC cam adv angle, and battery voltage are displayed.

Setting mode

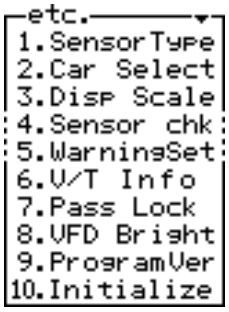
This mode is used for the user to perform settings.



The air correction factor, VTEC changeover point, VTEC unmatch fuel correction, load sensing VTEC changeover point, throttle position, air correction engine RPM, and cam angle settings are set.

etc. mode

This mode is used to perform various settings including initial setup.



The initial setup, display scale setting, warning setting, factory VTEC info, password setting/change, VFD brightness adjustment, and setting initialization are performed according to the vehicle specifications.

■ [Channel 1 to Channel 4] display items

1. Prs ..... Intake pressure
2. Thr ..... Throttle position
3. Rev ..... Engine RPM
4. Cor ..... Air correction factor
5. VTi ..... VTEC solenoid signal from the ECU
6. VTo ..... VTEC solenoid signal output by V-AFC II
7. CAi ..... VTC cam advance angle
8. Bat ..... Battery voltage

■ Rev.－[Y] display items

A plot display is made by using the engine RPM for the horizontal axis.

■ Setting items

1. Wide Thr — Air correction factor setting (throttle opening, large)
2. Narr. Thr — Air correction factor setting (throttle opening, small)
3. V/T Cont — VTEC changeover point setting
4. V/T Unmt — Fuel correction at VTEC unmatch
5. V/T Pres — Load sensing VTEC changeover setting
6. TH－Point — Throttle position setting
7. Ne－P:Hvt — Air correction engine RPM setting (Hi cam side)

■ Setup items

1. Sensor No. — Sensor number setting
1. Car Select — Number-of-cylinders, throttle type setting, and vehicle type setting
2. Disp Scale — Display scale setting
3. Sensor chk — Sensor check
4. Warning Set — Intake pressure and engine rpm warning setting
5. V/T Info — Factory VTEC info
6. Pass Lock — Password setting/change
7. VFD Bright — VFD brightness adjustment
8. Program Ver. — Program version check
9. Initialize — All data initialization

Main menu 【Ｍｏｎｉｔｏｒ】

Functions and operations in the monitor mode

【One of items 1 to 4 is selected and displayed. 】

Ｐ２２. 【Ｍｏｎｉｔｏｒ】→【１Ｃｈａｎｎｅｌ】～【４Ｃｈａｎｎｅｌ】

［**Contents of items** ］

１.Ｐｒｓ..... **Intake pressure**
２.Ｔｈｒ ..... **Throttle position**
３.Ｒｅｖ ..... **Engine RPM**
４.Ｃｏｒ ..... **Air correction factor**
５.ＶＴｉ ..... **VTEC solenoid signal from the ECU**
６.ＶＴｏ ..... **VTEC solenoid signal output by V-AFC II**
７.ＣＡｉ ..... **VTC cam advance angle**
８.Ｂａｔ ..... **Battery voltage**

［**Display method** ］

Numeric display/analog display･･･ Real-time display, peak hold display, and pause
Graphic display ･･･ Real-time display, replay display, and pause
Digital/analog display ･･･ Real-time display, peak hold display

【A plot display is made by using the engine RPM for the horizontal axis. 】

Ｐ２７. 【Ｍｏｎｉｔｏｒ】→【Ｒｅｖ.－［Ｙ］】

［**Contents of the vertical axis**］ **One of the 3 items in total is selected and displayed.**

１.Ｐｒｅｓｓｕｒｅ **Intake pressure**
２.Ｔｈｒｏｔｔｌｅ **Throttle position**
３.Ｃｏｒｒｅｃｔ **Air correction factor**

［**Display method** ］

1-point display, 10-point display, and trace display
..... Real-time display, replay display, and pause

Main menu 【Setting】

Functions and operations in the setting mode

1. Wide Thr P30
Air correction factor setting (throttle opening, large)
2. Narr. Thr P30
Air correction factor setting (throttle opening, small)
3. V/T Cont P32
VTEC changeover point setting
4. V/T Unmt P34
Fuel correction at VTEC unmatch
5. V/T Pres P36
Load based VTEC changeover point setting
6. TH－Point P39
Throttle position setting
7. Ne－P：Hvt P41
Air correction engine RPM setting (Hi cam side)
8. Ne－P：Lvt P41
Air correction engine RPM setting (Lo cam side)
9. VTC Set P43
VTC Monitor setting

Main menu 【etc.】

Setting in the etc. mode

1. Sensor No P46
Sensor number setting
2. Car Select P47
Cylinder setting, throttle sensor type, and VTEC type setting
3. Disp Scale P50
Display scale setting
4. Sensor chk P51
Sensor check
5. Warning Set P52
Intake pressure and engine rpm warning setting
6. V/T Info P54
Factory VTEC changeover point information
7. Pass Lock P55
Password setting/change
8. VFD Bright P57
VFD brightness adjustment
9. Program Ver P58
Program version check
10. Initialize P59
All data initialization

※ VTEC is a registered trademark of Honda Motor Co., Ltd.

Chapter 4 Monitor Mode

Selecting and displaying one of items 1 to 4 ____22
Plot display by using the RPM for the horizontal axis __27

【Monitor Menu】→【1Channel】～【4Channel】

Selecting and displaying one of items 1 to 4

In the data of the following 8 items, one of channels 1 to 4 is selected and displayed. A numeric display, analog display, graphic display, and digital/analog display are available as the display method. A pause is also available in each display (except the digital/analog display). In the numeric display, analog display and digital display, peak hold can be performed. In the graphic display, replay (*) can be performed.

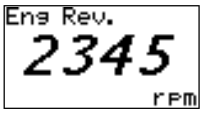
*【Note】The replay function stores the last saved display in the memory. Accordingly, even if the display item is changed, the last saved item display is replayed regardless of the display item.

■Display Items

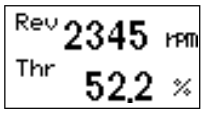
1. Prs... **Intake pressure** 2. Thr... **Throttle position** 3. Rev... **Engine RPM** 4. Cor... **Air correction factor** 5. VTi... **VTEC solenoid signal from the ECU** 6. VTo... **VTEC solenoid signal output by V-AFC II** 7. CAi... **VTC cam advance angle** 8. Bat... **Battery voltage**

● **Numeric display example**

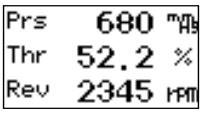
【Function】Pause and peak hold



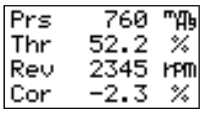
1-channel display



2-channel display



3-channel display

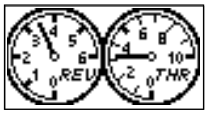


4-channel display

●**Analog display example**

【Function】Pause and peak hold

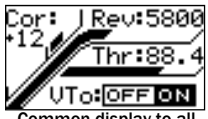
1-channel display



2-channel display

●**Digital/analog display example**

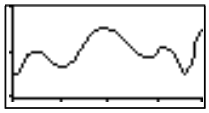
【Function】peak hold



Common display to all channels

●**Graphic display**

【Function】Pause and replay


1-channel display

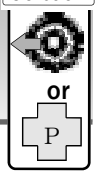
1. Select 【Monitor】in the main menu.

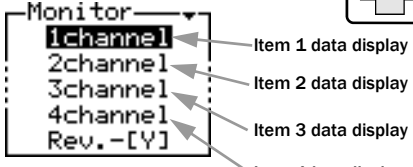
Main menu

Select Enter

2. Select 【1～4Channel】in the monitor menu

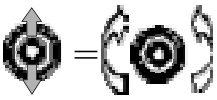
Go back





Monitor menu

Select Enter



※ When the upper part of the center switch is pressed, the operation is the same as when the rotary switch is

Continued on the following page

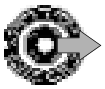
3. Select the data to be display in the item selection menu.

Go back or

■

Display item selection

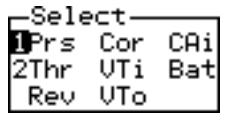
Select

Enter  or

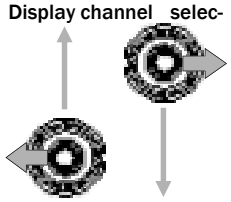
(1) **Select a display item.**
Operate the upper part or lower part of the switch in the display item selection mode to select a display item. The selected item is displayed as a reversing display.

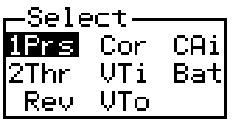
(2) **Make a display.**
Press the right part of the switch or press the center pushbutton to make a display

■When selecting 【2～4Channel】



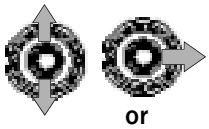
Display channel selec-





Display item selection

Select

Select Enter 

or

(1) **Select a display channel.**
Operate the upper part or lower part of the switch in the display channel selection mode to select a display channel. The number of the selected channel is displayed as a reserving display.

(2) **Select a display item.**
Select a display channel and operate the right part of the switch to set the display item selection mode. The numeric value of channel and the display item are displayed as a reversing display. In this status, operate the upper part or lower part of the switch to select a display item.

(3) **Select a display item of another channel.**
Operate the left part of the switch in the display item selection mode to go back to the display channel selection mode. Repeat steps (1) and (2) until all the display items are set.

(4) **Make a display.**
Operate the right part of the switch in the display item selection mode, or press the center pushbutton in the display channel selection mode and select [Nx] in the popup menu to make a display.

Continued from the previous page

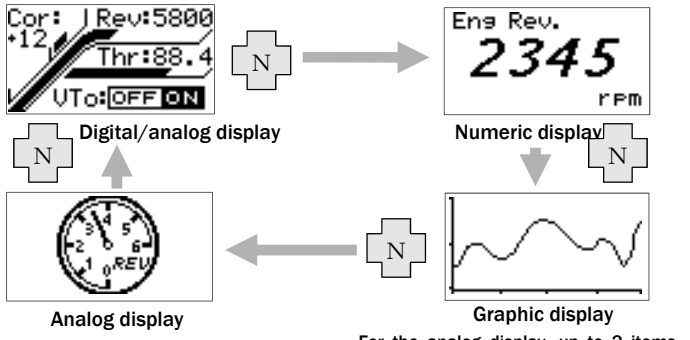
※Hold down the lower part of the center switch to display the air correction factor (P.30) setting screen. Hold down the lower part of the center switch on the air correction factor setting screen to go back to the monitor display.
However, if the air correction factor setting screen is displayed after the setting screen, it is impossible to change the current display over to the monitor display.

4. The selected item is displayed in the item selection menu.

Go back

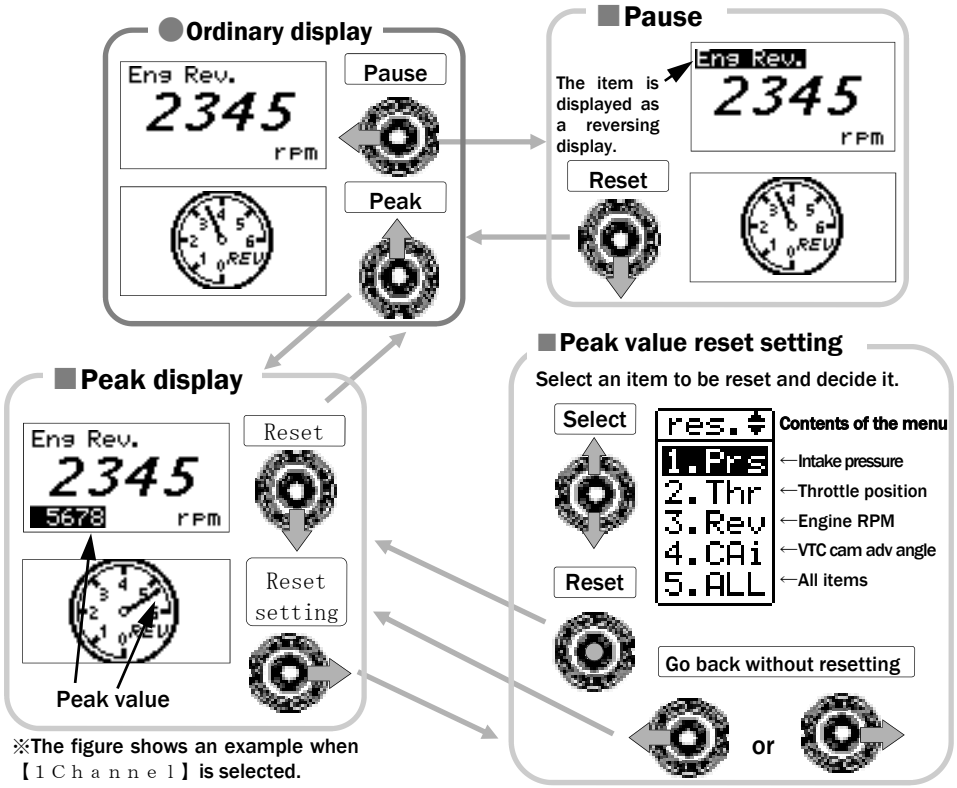
P

Each time the center pushbutton is pressed and [Nx] is pressed in the popup menu, (numeric display) → (graphic display) → (analog display) → (digital/analog display) → (numeric display) ... is selected in sequence.



For the analog display, up to 2 items are displayed. When [3 Channel] or more is selected, selection No.1 and 2 are displayed.

Function at numeric display and analog display

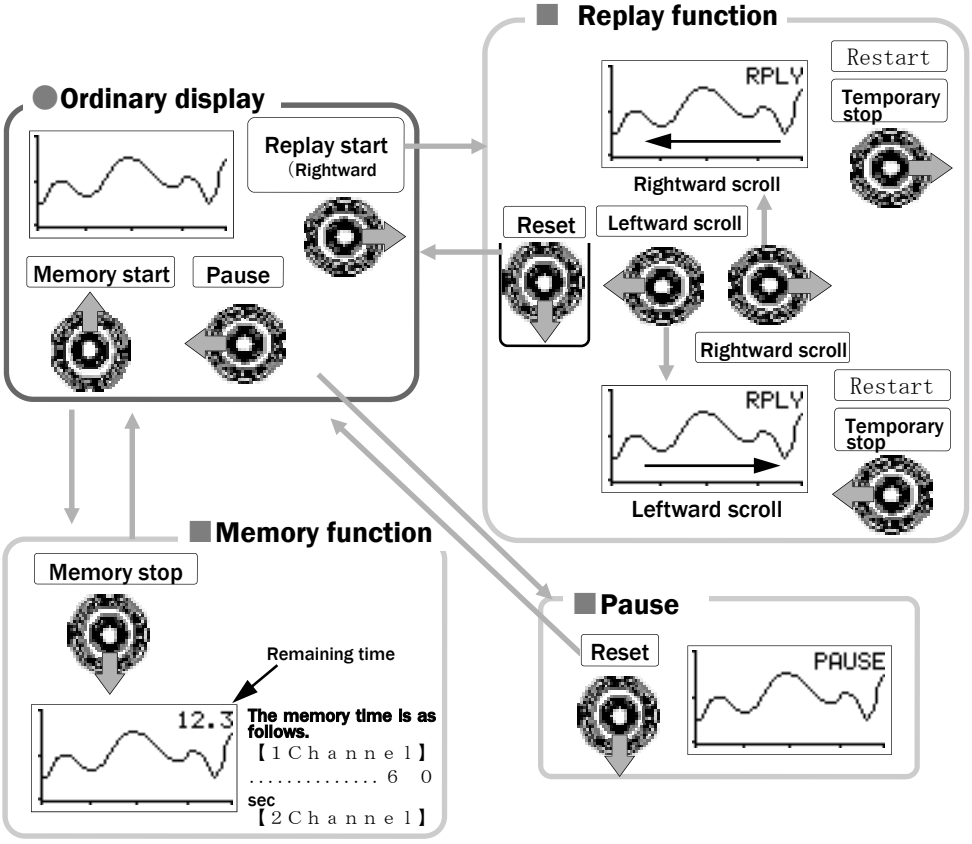


※The figure shows an example when 【1Channel】 is selected.

Continued on the following page

●Function at graphic display

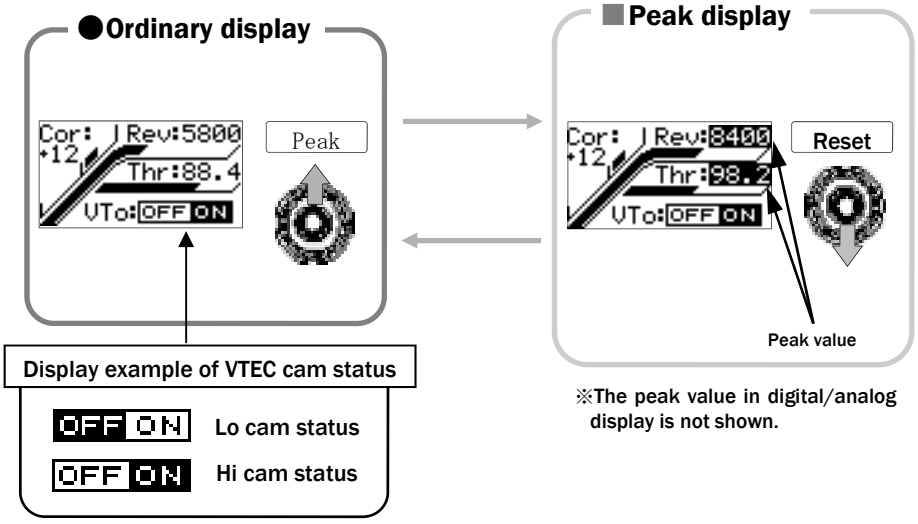
※The following figure shows an example when 【１Ｃｈａｎｎｅｌ】 is selected.



Continued from the previous page

Function at digital/analog display

※At the digital/analog display, a 4-channel display is made regardless of the selected channel. The display items are fixed to the 4 items of engine RPM, throttle position, VTEC ON/OFF, and air correction factor.



※The peak value in digital/analog display is not shown.

■**The numeric display blinks**？！

Check if Warning is set.

When Rev [engine RPM] or Prs [Intake pressure] is displayed, the numeric value blinks as a reversing display after it exceeds the preset RPM. （Ｐ５２）

■**The numeric display or analog display cannot be moved** ？！

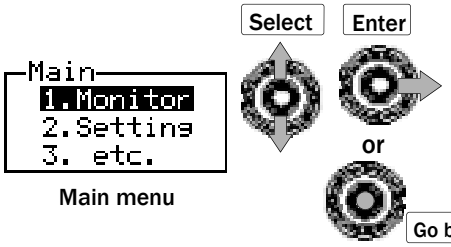
Check if Pause is set.

If Pause is set, the numeric display or analog display will not move. Operate the lower part of the center switch to reset the pause status.

【Ｍｏｎｉｔｏｒ Ｍｅｎｕ】→【Ｒｅｖ．－[Ｙ]】

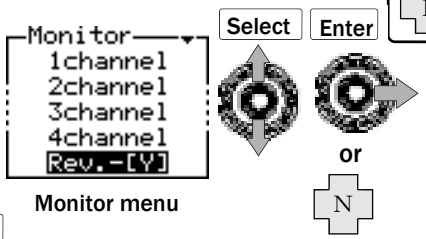
Plot display by using the RPM for the horizontal axis

1. Select【Ｍｏｎｉｔｏｒ】**in the main menu.**

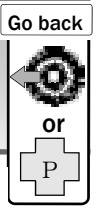


Main menu

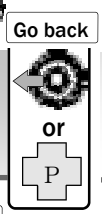
2. Select 【Ｒｅｖ．－[Ｙ]】 In the Monitor Menu

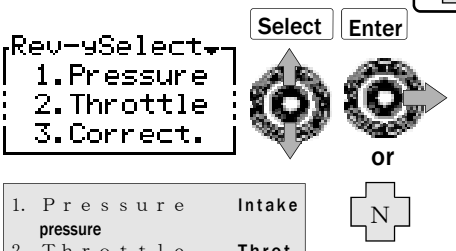


Monitor menu



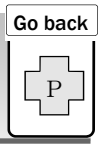
3. **Select the data to be displayed in the item selection menu.**



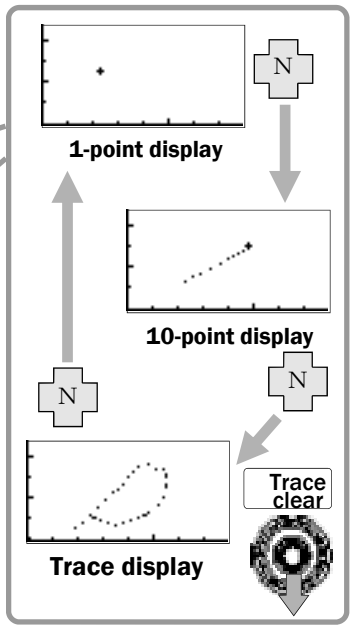


1. Ｐｒｅｓｓｕｒｅ Intake pressure
2. Ｔｈｒｏｔｔｌｅ Throttle position

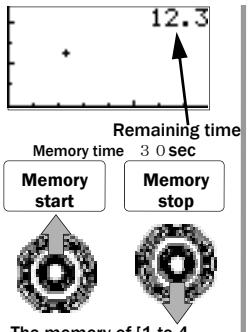
4. **The selected item is displayed in the item selection menu.**



※Press the center pushbutton. Each time [Nx] is pressed in the popup menu, (1-point display) → (10-point display) → (trace display) → (1-point display) is selected in sequence.

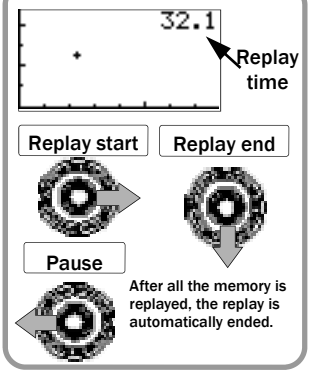


■Memory function



The memory of [1 to 4 Channel] in the graph is cleared.

■Replay function



After all the memory is replayed, the replay is automatically ended.

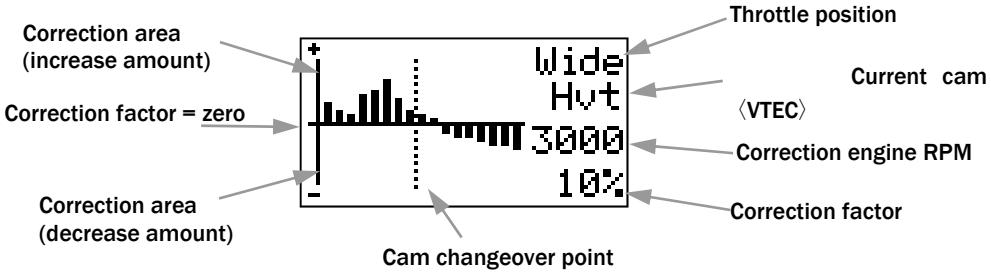
Chapter 5 Setting Mode

Setting the air correction factor (Throttle opening, large) ____ 30
Setting the air correction factor (Throttle opening, small)____ 30
Setting the VTEC changeover point _____ 32
Fuel correction at VTEC unmatch _____ 34
Setting the load sensing type VTEC changeover _____ 36
Setting the throttle position _____ 39
Setting the air correction engine RPM (Hi cam side) _____ 41
Setting the air correction engine RPM (Lo cam side)_____ 41

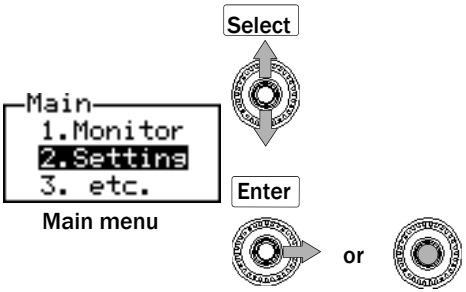
【Setting Menu】→【Wide－Thrtl】【Setting Menu】→【Narr－Thrtl】

In the V-AFC II, the input pressure signal is converted into an absolute pressure value. This value is corrected by the air correction factor. As an output signal, the corrected absolute pressure value is converted back into a pressure signal and is output to the engine control unit (ECU).
For air correction factor setting, the adjustment value can be set for each engine RPM at a total of 24 points, namely, at 12 points each for Hi cam and Lo cam.
It can also be set according to the throttle position level.

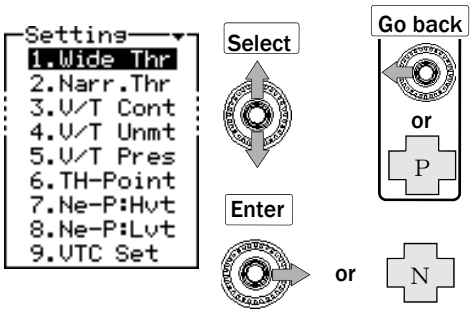
※The following figure shows an example of [Wide-Thrtl].



1. Select 【Setting】 in the main menu.



2. Select 【Wide-Thrtl】 or 【Narr-Thrtl】 in the setting menu.



⚠ WARNING

●**Never operate this product while driving.**
It will interfere with driving operations, resulting in an accident.

n u】

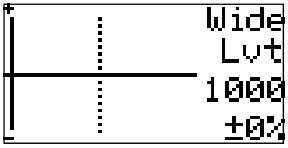
※Air correction through function

When the upper part of the center switch is held down on the air correction factor setting screen, the set correction value is put into in the flat (no correction) status. The set value is returned to the initial status by holding down the upper part of the same switch once again.

3. The air correction factor setting mode is set.

Go back

Pr



【Wide－Thr

Engine RPM selection

Correction factor increase/decrease

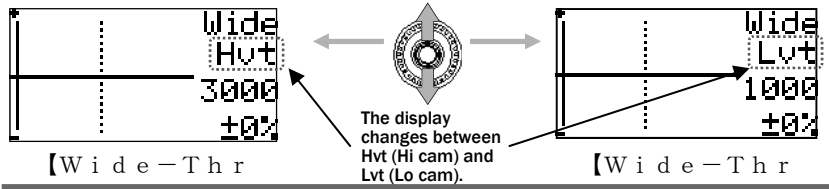
Select an engine RPM by the left or right part of the center switch and increase or decrease the correction factor by the rotary switch.
When the rotary switch is turned clockwise, the graph is shifted in the + direction (increase). When the rotary switch is turned counterclockwise, the graph is shifted in the – direction (decrease).

Changing the Hi cam mode over to the Lo cam mode

Go back

Pr

Display selection



【Wide－Thr

The display changes between Hvt (Hi cam) and Lvt (Lo cam).

【Wide－Thr

Operate the upper or lower part of the center switch to select the Hi cam mode or Lo cam mode.
※To Narr-Thrtl (throttle opening), the same operating method is applicable.

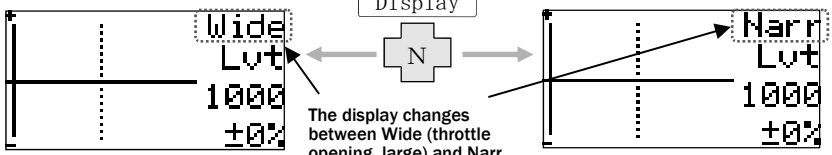
Changing 【Wide-Thrtl】 over to 【Narr-Thrtl】

Go back

Pr

Display

N



【Wide－Thr

The display changes between Wide (throttle opening, large) and Narr (throttle opening, small)

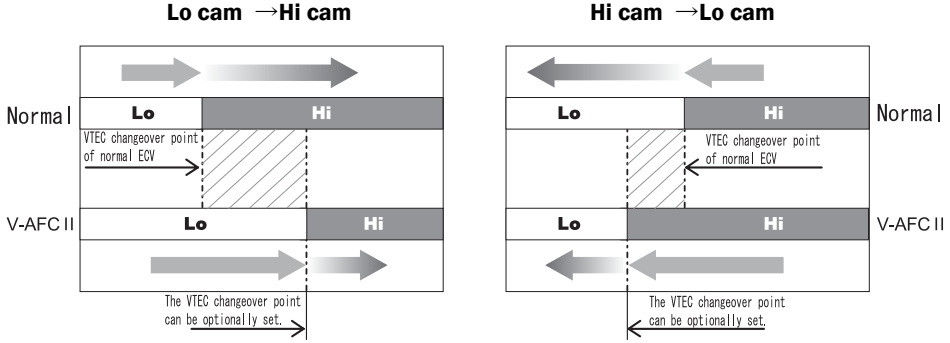
【Narr－Thr

Each time [Nx] is pressed in the popup menu after the center pushbutton is pressed, the Hi-Thrtl mode and the Lo-Thrtl mode can be switched over between each other.
※To Htv (Hi cam), the same operating method is applicable.

【Setting Menu】→【V/T Cont】

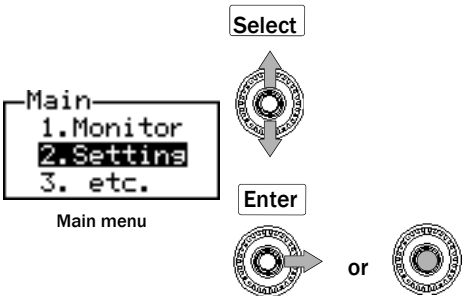
Setting the VTEC changeover point

VTEC changeover point

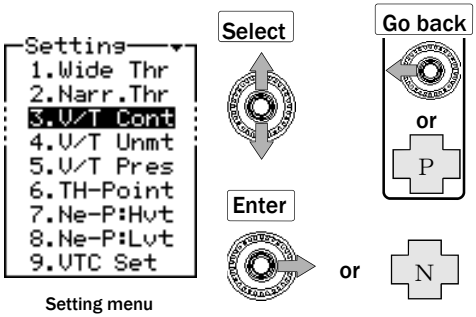


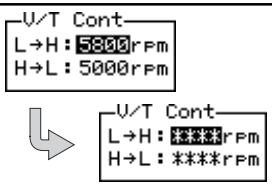
The normal VTEC changeover point can be moved forward or backward by optionally setting the VTEC changeover point with VAFC II.

1. Select 【Setting】 in the main menu.



2. Select 【V/T Cont】 in the setting menu.



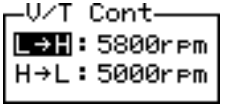


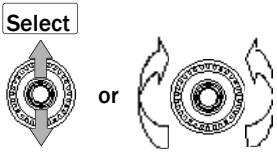
※The "**THROUGH" function of VTEC changeover point setting**

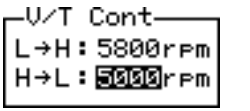
If the right part of the center switch is pressed when the cursor is at the numeric input position in the VTEC changeover point setting screen, the normal VTEC signal is sent directly to the VTEC solenoid (* is displayed for all the digits) regardless of the setting point. The "through" status is released and the set value is reset by pressing the upper or lower part of the center switch or turning the rotary

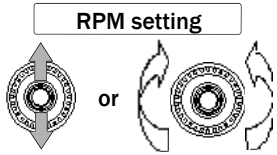
3. The VTEC changeover point setting mode is set.

Go back









(1) **Select a VTEC changeover point.**

Press the upper or lower part of the center switch or turn the rotary switch clockwise or counterclockwise to select L to H or H to L. The selected item is displayed as a reversing display.

When the rotary switch is turned clockwise, the cursor is moved upward. When the rotary switch is tuned counterclockwise, the cursor is moved downward.

L to H:
Changeover point from Lo cam to Hi cam when RPM increases.

H to L:
Changeover point from Hi cam to Lo cam when RPM decreases.

(2) **Set a numeric value.**

Select each item and press the right part of the center switch, and the Lo cam to Hi cam changeover point can be set at L to H or the Hi cam to Lo cam changeover point can be set at H to L.

Press the upper or lower part of the center switch or turn the rotary switch clockwise or counterclockwise to increase or decrease the numeric value of the cursor position. When the rotary switch is turned clockwise, the numeric value is increased. When the rotary switch is turned counterclockwise, the numeric value is decreased.

※Setting range

The setting range varies depending on the VTEC type. Refer to the separate table on page 49.

(3) **End the setting.**

Select [Pr] in the popup menu after pressing the center pushbutton or press the left part of the center switch at item (L to H or H to L) selection, and the setting menu will reappear.

NOTE

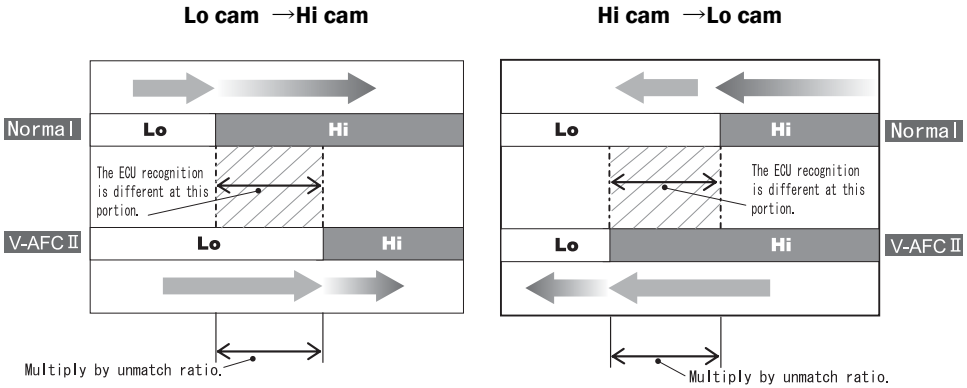
- It is impossible to set the H to L rpm higher than the L to H rpm.
  It is also impossible to set the L to H rpm lower than the H to L rpm.

【Setting Menu】→【V/T Unmt】

Fuel correction at VTEC unmatch

Fuel correction is performed when there is a difference in VTEC control between the ECU and the V-AFC II.

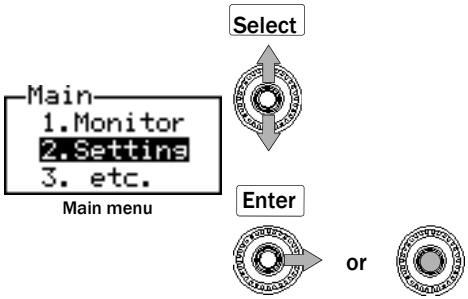
Fuel correction at VTEC unmatch



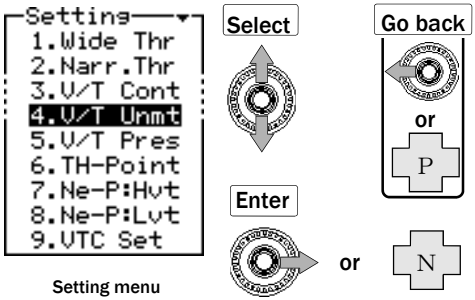
When VTEC changeover point has been changed in the V-AFC II, improper fuel injection is performed because the ECU does not recognize the actual cam status. This correction is performed so that the fuel adjustment may not be shifted at that time. This setting permits achieving higher-accuracy fuel correction.

※This correction is performed by adding on top of the fuel correction for each RPM.

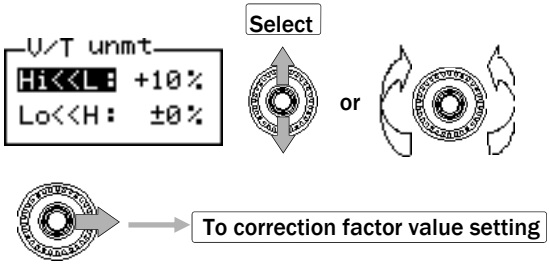
1. Select 【Setting】 in the main menu.



2. Select [V/T Unmt] in the setting menu.



3. The fuel correction factor setting mode is set.



(1) **Select a fuel correction point at VTEC unmatch.**

Press the upper or lower part of the center switch or turn the rotary switch counterclockwise or clockwise to select Hi << L or Lo << H.
The selected item is displayed as a reversing display.
Then, press the right part of the center switch to move the cursor to correction factor value setting.

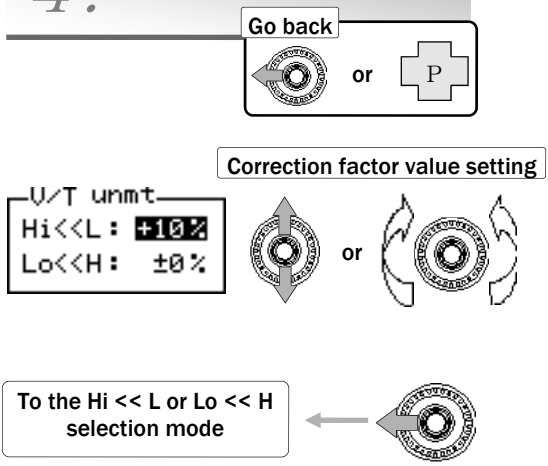
· Hi << L

The V-AFC II VTEC is at Hi cam (on), but the ECU only reads Lo cam (off). (At this time, the engine is at Hi cam.)

· Lo << H

The V-AFC II VTEC is at Lo cam (off), but the ECU only reads Hi cam (on). (At this time, the engine is at Lo cam.)

4. Set the fuel correction factor.



(2) **Set a numeric value.**

Press the upper or lower part of the center switch or turn the rotary switch counterclockwise or clockwise to increase or decrease the numeric value.
When the rotary switch is turned clockwise, the numeric value is increased. When this switch is turned counterclockwise, the numeric value is decreased.
Press the left key to return to the Hi << L or Lo << H selection mode.

■Setting range

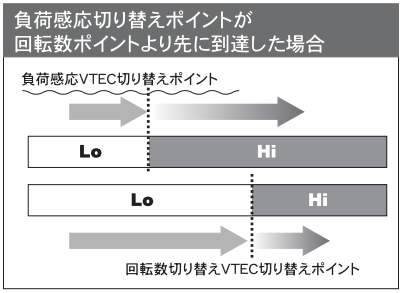
Hi<<L -50～+50 [%]
〈Settable in 1% increments.〉
Lo<<H -50～+50 [%]
〈Settable in 1% increments.〉

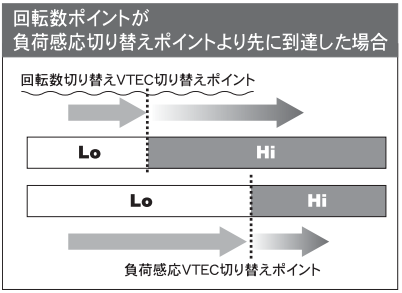
【Setting Menu】→【V/T Pres】

Setting the load sensing type VTEC changeover

Load sensing type VTEC

Load sensing VTEC is the type where cam changeover occurs not only by rpm, but also by engine load. In the V-AFC II, this function can correct a cam changeover by engine load which is used on some vehicles as a factory system.





Load sensing

VAFC II load sensing is the intake pressure and *throttle position rate of change
(*Throttle position rate of change = 100% is if the throttle position goes from 0→100% in 0.2 sec.

This is the mechanism that allows a VTEC changeover from Lo cam to Hi cam using load sensing (refer to the above description.) When the *load changeover point* or the *throttle position rate of change* comes before the RPM based changeover point, the Hi cam will be activated. If the RPM level hits the predetermined change-over point first, the original rpm point has priority and the Hi cam is activated.

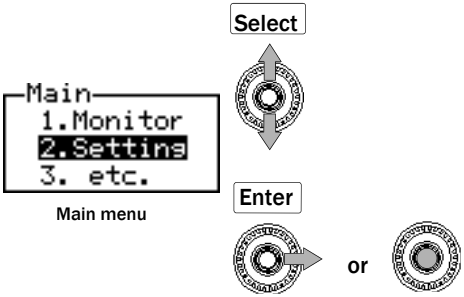
The load sensing VTEC changeover function is an auxiliary function for some vehicles using this factory system.

【Example】

- If the throttle is pressed suddenly all the way, and the PRESSURE in the engine reaches the predetermined switchover point *before* the engine RPM, VTEC will engage due to PRESSURE.
- If the throttle is gradually opened and the RPM reaches the predetermined switch-over point *before* the pressure, VTEC will engage due to RPM.

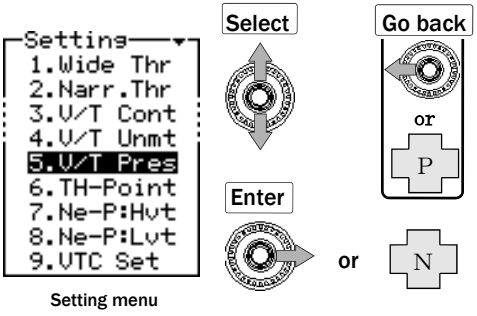
Continued on the following page

1. Select 【Setting】 in the main menu.



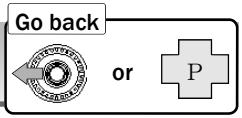
Main menu

2. Select 【V/T Pres】 in the setting menu.

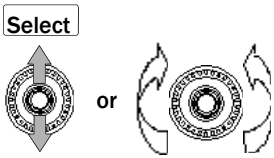


Setting menu

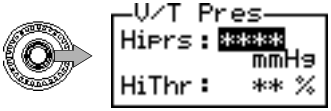
3. The load sensing VTEC changeover setting mode is set.



The screen displays the initial value.



To numeric value setting

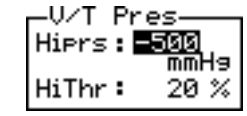


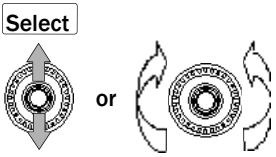
(1) **Select a load sensing VTEC changeover point.**
Press the upper or lower part of the center switch or turn the rotary switch clockwise or counterclockwise to select Hpr or HiThr. The selected item is displayed as a reversing display.
When the right part of the rotary switch is pressed, the cursor is moved upward. When the left part of the rotary switch is pressed, the cursor is moved downward.
Press the right part of the center switch to go to numeric value setting.

Hiprs:
Pressure point where the Lo cam is changed over to the Hi cam.

HiThr:
Throttle position rate of change at which the Lo cam is changed over to the Hi cam.
(Throttle position rate of change for 0.2 second)

Continued from the previous page





Setting range The value in parentheses is the initial value.

Ｐｒ：７６０～０ [mmHg] /＋１.０,＋２.０ [ｋｇ/ｃ㎡] ０,＋１００,＋２００ [kPa] （７６０mmHg） ０,＋１５.０,+３０.０ [Ｐｓｉ]

Ｈｉ【Throttle opening, large 】 １～９９（５０）[%] ＊Settable by

（２）**Set a numeric value**

Select each item and press the right part of the center switch. For Hpr, the pressure point where the Lo cam is changed over to the Hi cam can be set.

For HiThr, the throttle movement at which the Lo cam is changed over to Hi cam can be set.

Press the upper or lower part of the center switch or turn the rotary switch clockwise or counterclockwise, the numeric value is increased or decreased. When the rotary switch is turned clockwise, the numeric value is increased. When the rotary switch is turned counterclockwise, the numeric value is decreased.

（３）**End the setting**

Select 【Pr】 in the popup menu after pressing the center pushbutton or press the left part of the center switch at item selection (Hpr or HiThr), and the setting menu will reappear.

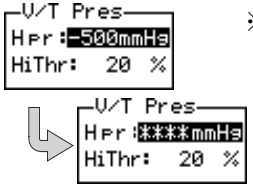
Timing for the return to the Lo cam:

The timing where the Hi cam returns to the Lo cam is when, 1) the engine rpm falls back to the specified RPM changeover point or, 2) when the rpm falls back to the specified RPM changeover point for the Load sensitive Hi cam setting.

NOTE

●**Even if the engine load reaches the specified changeover point, the function will not work if the engine rpm is below the *rpm based cam changeover point.**

*Setting the cam changeover point by rpm: Refer to the separate table of VTEC types on page 49.



※ON/OFF function for the load sensing VTEC changeover point

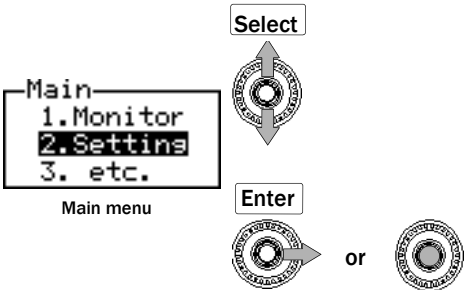
If the right part of the center switch is pressed 1)when the cursor is at the numeric value input position and 2) in the load sensing VTEC changeover setting screen, the changeover control by load is turned off and a changeover is performed by RPM only. Press the upper or lower part of the center switch or turn the rotary switch clockwise or counterclockwise to reset the set value.

※The pressure and throttle position rate of change can be turned ON or OFF individually.

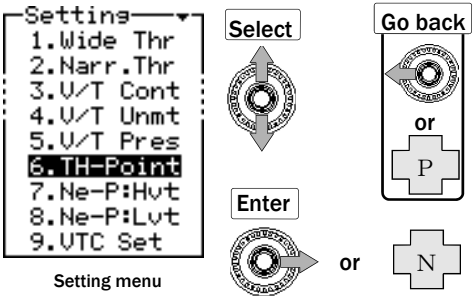
【Setting Menu】→【TH-Point】

Continued on the following page

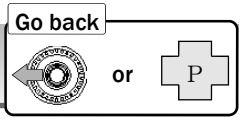
1. Select 【Setting】 in the main menu.

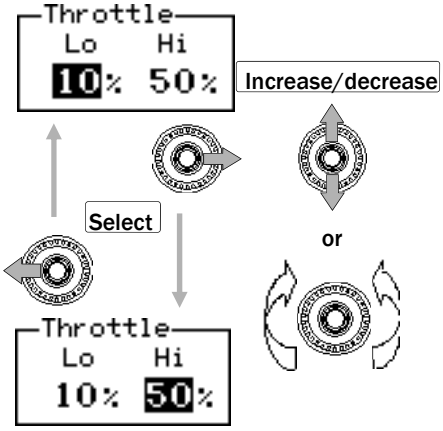


2. Select 【TH-Point】 in the setting menu.



3. The throttle opening setting mode is set.





(1) **Select the throttle opening Lo/Hi.**
Operate the left/right part of the center switch to select the throttle opening Lo or Hi. The selected numeric value is displayed as a reversing display.

(2) **Select a numeric value.**
Select a numeric value and press the upper or lower part of the center switch or turn the rotary switch counterclockwise or clockwise to increase or decrease 。

(3) **End the setting.**
Select [Pr] in the popup menu after pressing the center pushbutton or press the left part of the center switch at throttle opening Lo selection, and the setting menu will reappear.

■Setting range The value in parentheses is the initial value.

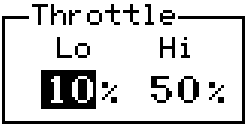
Lo【Throttle opening, small 】 0～98 (10) [%]
Hi【Throttle opening, large 】 1～99 (50) [%]

＊Settable in

Continued from the previous page

Change of correction factor according to throttle position setting

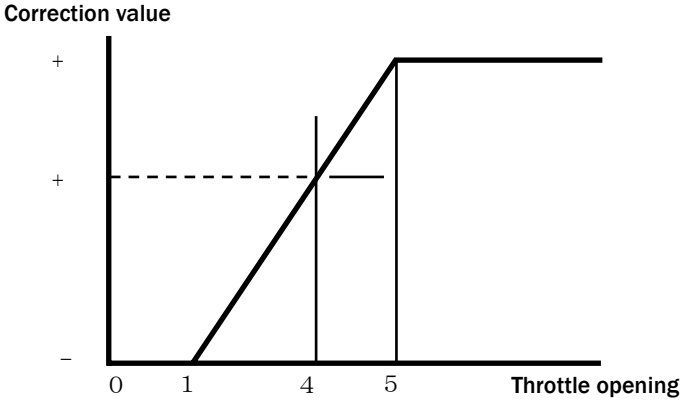
If the throttle position is set to Lo-10% and Hi-50%, the air correction factor at a throttle position 40% is as follows:



IF:

- At a throttle opening of 50% or more, the Hi-Thrt correction factor has been set to: + 3%.
- At a throttle opening of 10% or less, the Lo-Thrt correction factor has been set to: - 1%.

Air correction factor at a throttle opening of 40%



Then:

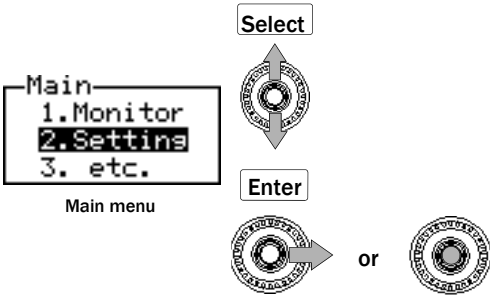
※The air correction factor at a throttle opening of 40% can be obtained by the following formula.

$$\frac{(3\%-(-1\%))\times(40\%-1}{50\%-1}+(-1\%)=$$

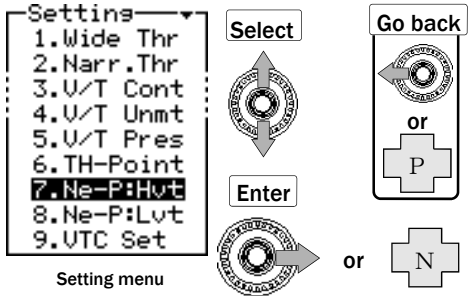
Continued on the following page

The hi cam setting point【Ne-P: Hvt】 and the lo cam setting point 【Ne-P: Lvt】 can be set. The following figure shows an example of 【Ne-P: Hvt】.

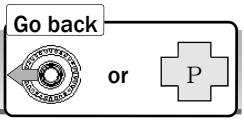
1. Select 【Setting】 in the main menu.

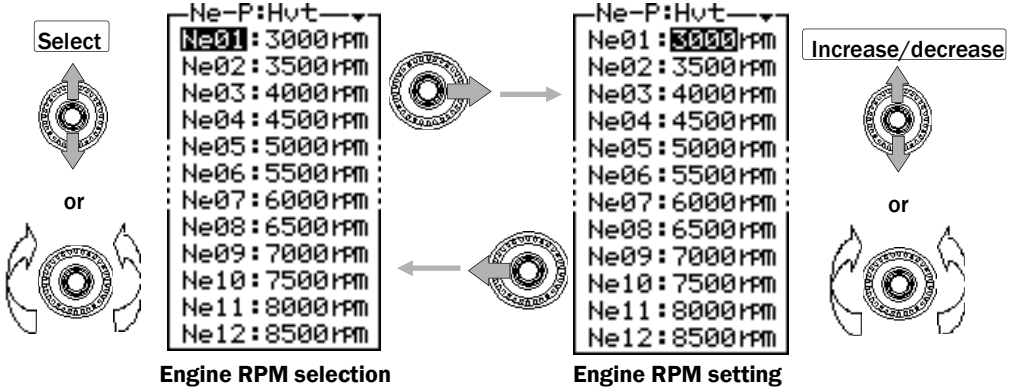


2. Select【Ne-P: Hvt】or【Ne-P: Lvt】in the setting menu.



3. The air correction engine RPM setting mode is set.





※For the Lo cam, the menu is 【Ne-P:Lvt】and the setting method is the same as【Ne-P: Hvt】

Ne= Engine RPM
Ne01 < Ne02 < Ne03 < Ne04 < Ne05 < Ne06 < Ne07 < Ne08 < Ne09 < Ne10 < Ne11 < Ne12
For Ne02, the engine RPM cannot be set to a lower value than that of Ne01. The same rule applies to the other rpm points.

※The setting range varies depending on the VTEC type. For more details, refer to the separate table of VTEC types on page 49.

Continued from the previous page

（1）**Select an engine RPM.**

Press the upper or lower part of the center switch or turn the rotary switch counterclockwise or clockwise to select an engine RPM. The selected item is displayed as a reversing display. When the rotary switch is turned clockwise, the cursor is moved upward. When this switch is turned counterclockwise, the cursor is moved downward.

（2）**Set the engine RPM.**

Select an engine RPM and press the right part of the center switch to set. When the upper or lower part of the center switch is pressed or the rotary switch is turned counterclockwise or clockwise, the numeric value is increased or decreased.
When the rotary switch is turned clockwise, the numeric value is increased.
When this switch is turned clockwise, the numeric value is decreased.

⇒**For setting another engine RPM point**

Operate the left part of the center switch and repeat steps (1) and (2).

（3）**End the setting.**

Select 【Pr】in the popup menu after pressing the center pushbutton or press the left part of the center switch at engine RPM selection (No.01 to No.12), and the setting menu will reappear.

How to make a correction by engine RPM setting and throttle position setting

※Setting example

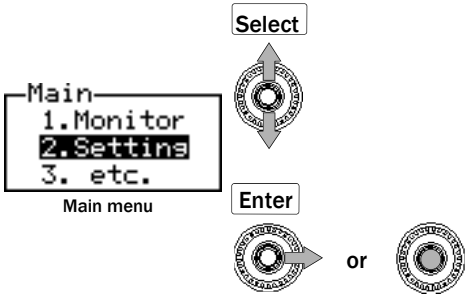
				Ne 01	Ne 02	Ne 03	Ne 04	Ne 05	Ne 06	Ne 07	Ne 08	Ne 09	Ne 10	Ne 11	Ne 12
Thr	(Hi)	80%	Ne	1000	1600	2200	2800	3400	4000	4600	5200	5800	6400	7000	7600
	(Lo)	30%	Hi	2	4	3	3	6	8	9	9	7	5	3	1
			Lo	−4	−2	0	1	2	2	1	0	−1	−2	−3	−3

Throttle Position (%)	1000	1600	2200	2800	3400	4000	4600	5200	5800	6400	7000	7600	
0	−4	−2	0	1	2	2	1	0	−1	−2	−3	−3	At a position below Lo-Thrtl, the same correction factor is applied.
10	−4	−2	0	1	2	2	1	0	−1	−2	−3	−3	
20	−4	−2	0	1	2	2	1	0	−1	−2	−3	−3	
30	−4	−2	0	1	2	2	1	0	−1	−2	−3	−3	
40	−2.8	−0.8	0.6	1.4	2.8	3.2	2.6	1.8	0.6	−0.6	−1.8	−2.2	At a position between Hi-Thrtl and Lo-Thrtl, linear interpolation is applied.
50	−1.6	0.4	1.2	1.8	3.6	4.4	4.2	3.6	2.2	0.8	−0.6	−1.4	
60	−0.4	1.6	1.8	2.2	4.4	5.6	5.8	5.4	3.8	2.2	0.6	−0.6	At a position over Hi-Thrtl, the same correction factor is applied.
70	0.8	2.8	2.4	2.6	5.2	6.8	7.4	7.2	5.4	3.6	1.8	0.2	
80	2	4	3	3	6	8	9	9	7	5	3	1	
90	2	4	3	3	6	8	9	9	7	5	3	1	

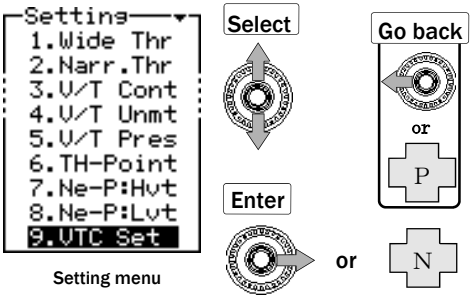
VTC monitor setting (This function is for only the i-TVEC.)

When displaying the VTC advance angle, please set the following. The VTC advance angle is corrected and displayed based on the following settings.

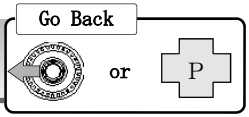
1. Select 【Setting】 in the main menu.

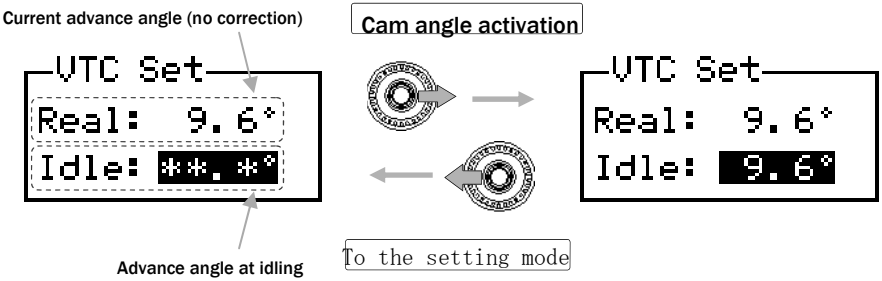


2. Select 【C/A Base】 in the setting menu.



3. The base cam angle setting mode is set.





The advance angle at idling can be activated by operating the right part of the center switch. When pressing the left part of the center switch, you can go back to the setting mode.

※When Idle is not set or reset, "**.*°" is displayed.

NOTE

●Set the base cam angle during idling. It can only be set when idling (The throttle must not be opened even slightly) . Be sure to perform the throttle position setting first (see the initial setting on page 13).

Chapter 6 Etceteras (etc.) Mode

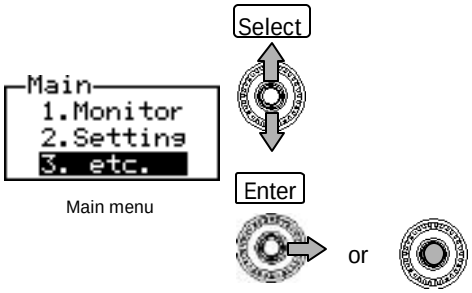
Setting the sensor number ____ 46
Setting the vehicle type ____ 47
Setting the display scale ____ 50
Sensor check ____ 51
Setting the warning ____ 52
VTEC learning information display ____ 54
Setting and changing the password ____ 55
VFD brightness adjustment ____ 57
Program version check ____ 58
All data initialization ____ 59
Troubleshooting ? ____ 62

? e t c . ? ? ? S e n s o r N o ?

Setting the sensor number

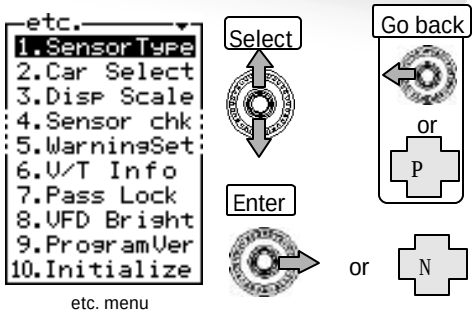
The sensor number (sensor characteristic) is set to the vehicle. This item is indispensable for initial setup.

1. Select ? etc.? in the main menu.



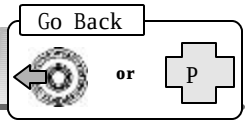
Main menu

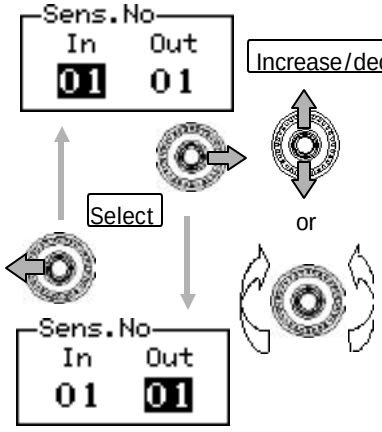
2 Select ? Sensor No? in the etc. menu.



etc. menu

3. The sensor number setting mode is set.



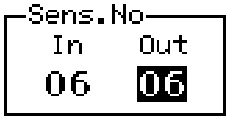


(1) Select In/Out.
Operate the left or right part of the center switch to select In or Out. The selected numeric value is displayed as a reversing display.

(2) Set the sensor number.
Select a numeric value and press the upper or lower part of the center switch or turn the rotary switch counterclockwise or clockwise to increase or decrease the numeric value. When the rotary switch is turned clockwise, the numeric value is increased. When this switch is turned counterclockwise, the numeric value is decreased.

(3) End the setting.
Select ? Pr? in the popup menu after pressing the center pushbutton or press the left part of the center switch at In selection, and the sensor type setting screen will reappear.

In the V-AFC II, set the sensor number as shown in the following display.



? This is default setting.

Setting the vehicle type

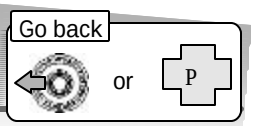
Continued on the following page

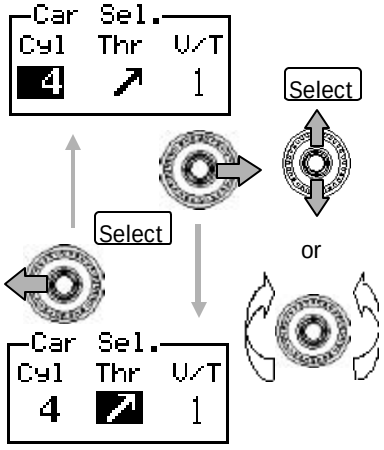
of cylinders, throttle type, and VTEC type are set according the vehicle. This initial setup.

1 • Select ? etc.? in the main menu.

2 • Select ? Car Select? in the etc. menu.

3. The number-of-cylinders, throttle sensor, and VTEC type setting mode is set.





(1) Select the number of cylinders.
Operate the left or right part of the center switch to select the number of cylinders (Cyl). The selected item is displayed as a reversing display.

(2) Set the number of cylinders.
Select an item and press the upper or lower part of the center switch or turn the rotary switch counterclockwise or clockwise to increase or decrease the numeric value. When the rotary switch is turned clockwise, the numeric value is increased. When this switch is turned counterclockwise, the numeric value is decreased.

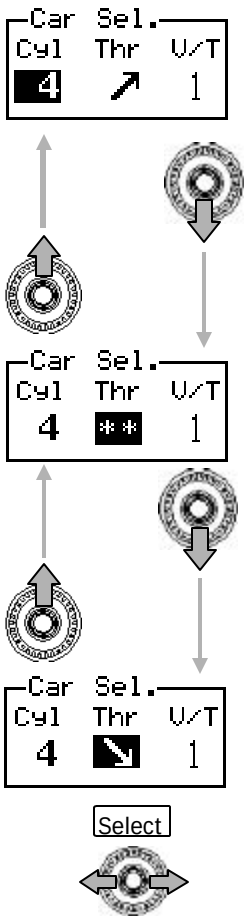
¦ Setting range The value in parentheses is the initial value.

C y l ? Number of cylinders? 1 ~ 1 6 (4)
* Number of cylinders

T h r ? Throttle sensor ? ( )

V /T ? VTEC type? 1 ~ 3 (1)

Continued from the previous page



(3) Select the throttle sensor type.

Press the upper or lower part of the center switch or turn the rotary switch counterclockwise or clockwise to select the throttle sensor type (Thr). The selected item is displayed as a reversing display.

(4) Set the throttle sensor type.

Select an item and press the upper or lower part of the center switch or turn the rotary switch counterclockwise or clockwise to change the direction of the arrow (sensor type). When the rotary switch is turned clockwise, the operation is the same as when the upper part of the center switch is pressed. When the rotary switch is turned counterclockwise, the operation is the same as when the lower part of the center switch is pressed.

? Pressing the upper part of the center switch provides the same function as turning the rotary switch clockwise, and pressing the lower part of the center switch provides the same function as turning the rotary counterclockwise.

↗ When the throttle is completely closed, the throttle sensor voltage is 0 V to 1 V.

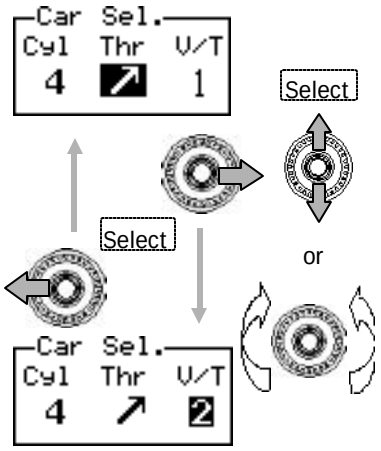
When the throttle is completely opened, the throttle sensor voltage is 3 V to 5 V.

↘ When the throttle is completely closed, the throttle sensor voltage is 3 V to 5 V.

When the throttle is completely opened, the throttle sensor voltage is 0 V to 1 V.

** No throttle signal

? Set the throttle sensor type after checking the voltage in the completely closed/opened status of the throttle in the sensor voltage check mode described on page 51.



(5) Select the VTEC type.

Press the upper or lower part of the center switch or turn the rotary switch counterclockwise or clockwise to select the VTEC type (V/T). The selected item is displayed as a reversing display.

(6) Set the VTEC type.

Select an item and press the upper or lower part of the center switch or turn the rotary switch counterclockwise or clockwise to increase or decrease the numeric value. When the rotary switch is turned clockwise, the numeric value is increased. When the rotary switch is turned counterclockwise, the numeric value is decreased.

(7) End the setting.

Select [Pr] in the popup menu after pressing the center pushbutton or press the left part of the center switch at number-of-cylinders (Cyl) selection, and the etc. menu will reappear.

Table of VTEC types

Set point (VTEC type code)		1	2	3
VTEC type		High-rpm selection	Medium rpm selection	Low rpm selection
Cam changeover range	Lower limit	3000	3000	2000
	Upper limit	7000	6000	6000
Air correction engine RPM	Lo cam	From 800 up to 7000 by 100-point steps	From 800 up to 6000 by 100-point steps	From 800 up to 6000 by 100-point steps
	Hi cam	From 3000 up to 9000 by 100-point steps	From 3000 up to 9000 by 100-point steps	From 2000 up to 8000 by 100-point steps
Default fuel correction RPM points	Lo cam	From 1000 up to 6500 by 500-point steps	From 1000 up to 5400 by 400-point steps	From 1000 up to 5400 by 400-point steps
	Hi cam	From 3000 up to 8500 by 500-point steps	From 3000 up to 7400 by 400-point steps	From 2200 up to 6800 by 400-point steps

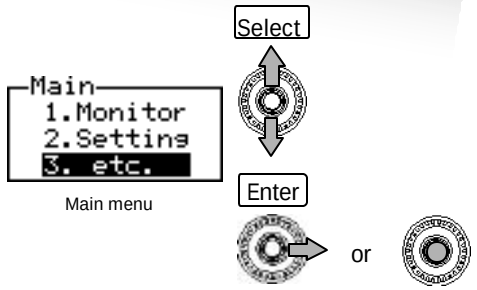
? For detailed vehicle types, refer to the separate “Wiring Diagram by Model”.

unit: rpm

Setting the display scale

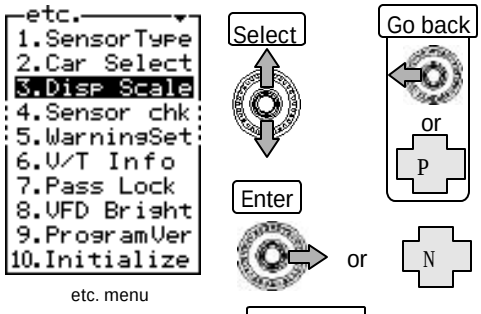
The monitor mode: graphic display, analog display, and graph scale in the two-dimensional trace mode is set. For pressure display, mmHg and kPa and Psi can be selected.

1. Select ? etc.? in the main menu.



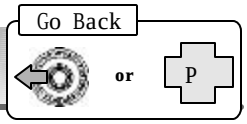
Main menu

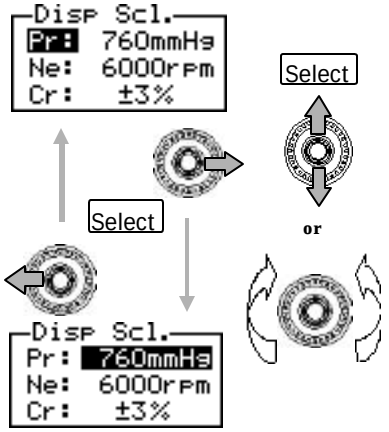
2 Select ? Disp Scale? in the etc. menu.



etc. menu

3. The display scale setting mode is set.





¦ Setting range The value in parentheses is the initial value.

Pr: 760 ~ 0 [mmHg] /+1.0 ,+2.0 [kg/c?]
0 ,+100 ,+200 [kPa] (760 mmHg)
0 ,+15.0 ,+30.0 [Psi]
Ne: 6000 ~ 10000 [rpm] (6 0

(1) Select an item.

Press the upper or lower part of the center switch and turn the rotary switch counterclockwise or clockwise to select an item to set a numeric value. The selected item is displayed as a reversing display. When the rotary switch is turned clockwise, the cursor is moved upward. When this switch is turned counterclockwise, the cursor is moved downward.

(2) Set a numeric value.

Select a numeric value and press the right part of the center to set the numeric value. Press the upper or lower part of the center switch and turn the rotary switch counterclockwise or clockwise to increase or decrease the numeric value. When the rotary switch is turned clockwise, the numeric number is increased. When this switch is turned counterclockwise, the numeric value is decreased.

? For setting another item

Operate the left part of the center switch and repeat steps (1) and (2).

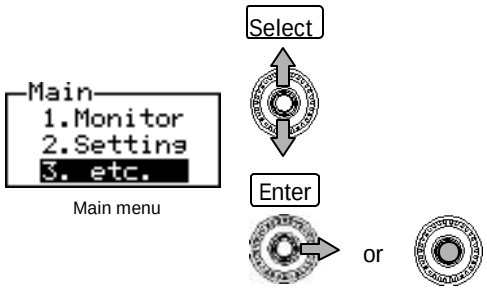
(3) End the setting.

Select [Pr] in the popup menu after pressing the center pushbutton or press the left part of the center switch at item selection (Pr, Ne or Cr), and the etc. menu will reappear.

Sensor check

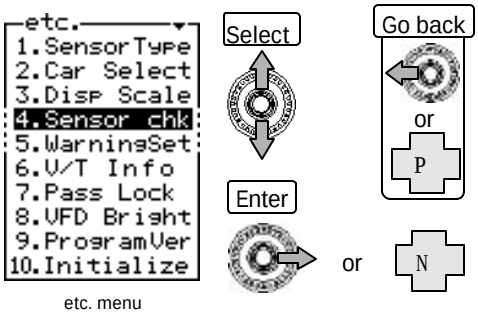
The pressure sensor voltage, throttle sensor voltage, TDC signal and VTEC cam position signal are checked.
After wiring, each connection can be checked for normality and each sensor status can be checked. When setting the throttle sensor type on page 48, it is necessary to check the throttle sensor voltage.

1. Select ? etc.? in the main menu.



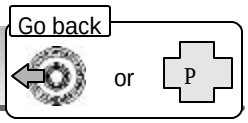
Main menu

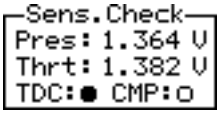
2. Select ? Sensor Chk? in the etc. menu.



etc. menu

3. The sensor check mode is set.





P r e s : Pressure sensor voltage

T h r t : Throttle sensor voltage (only for vehicles with a throttle sensor)

T D C : TDC signal

? Signal OFF

? Signal ON

C M P : VTEC cam position signal

? - - - Signal OFF

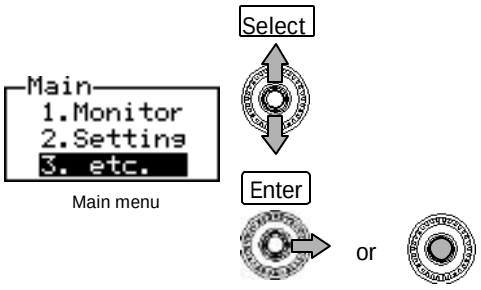
? During engine stop, the signal does not blink.
? This function can be used only for models equipped with i-VTEC.

End the check.
Select [Pr] in the popup menu after pressing the center pushbutton or press the left part of the center switch, and the etc. menu will reappear.

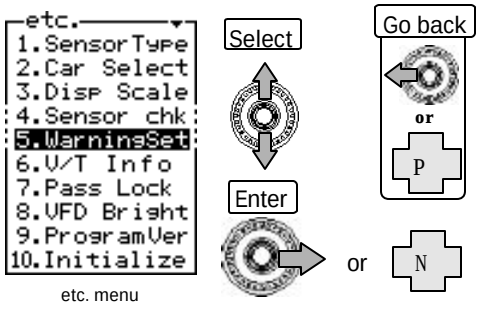
Setting the warning

When the intake pressure or engine RPM exceeds the set warning value, the indicator blinks to give a warning to the driver.

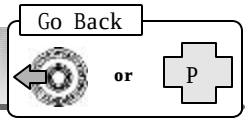
1. Select ? etc.? in the main menu.

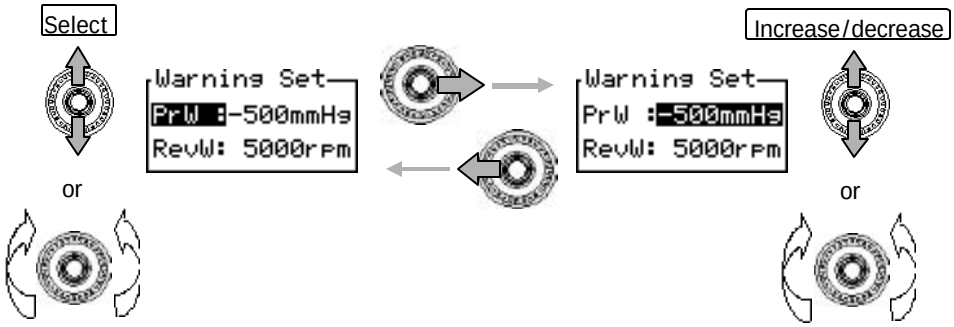


2. Select ? Warning Set? in the etc. menu.

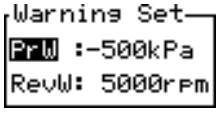


3. The warning setting mode is set.





If the display scale setting on page 50 has been set to pascal (kPa) or (*psi), this warning value will reflect those settings



psi: An abbreviation of pound per square inch. This is a pressure unit of the yard/pound system.

(1) Select an item.

Press the upper or lower part of the center switch and turn the rotary switch counterclockwise or clockwise to select an item to set a numeric value. The selected item is displayed as a reversing display. When the rotary switch is turned clockwise, the cursor is moved upward. When this switch is turned counterclockwise, the cursor is moved downward.

(2) Set a numeric value.

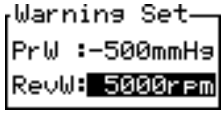
Select a numeric value and press the right part of the center to set the numeric value. Press the upper or lower part of the center switch and turn the rotary switch counterclockwise or clockwise to increase or decrease the numeric value. When the rotary switch is turned clockwise, the numeric number is increased. When this switch is turned counterclockwise, the numeric value is decreased.

? For setting another item

Operate the left part of the center switch and repeat steps (1) and (2).

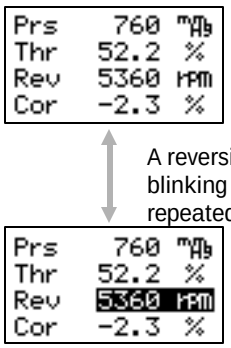
(3) End the setting.

Select ? Pr? in the popup menu after pressing the center pushbutton or press the left part of the center switch at item selection (PrW, RevW), and the etc. menu will reappear.



When the warning value for the engine RPM is set to 5000 rpm

When exceeding the set warning value, ...



A reversing/ blinking display is repeated

Monitor mode

¦ Setting range The value in parentheses is the initial value.

PrW ? Intake pressure? -500 ~ 2.0 OFF (OFF) [kg/c ?]
-100 ~ 200 OFF(OFF) [kPa]
-15.0 ~ +30.0 [Psi]

RevW ? Engine RPM ? 3000 ~ 9000 OFF(OFF) [rpm]

? Settable by 100 mmHg steps for the negative side and 0.2 kg/cm2 steps for the positive side.

? Settable by 20 kPa steps.

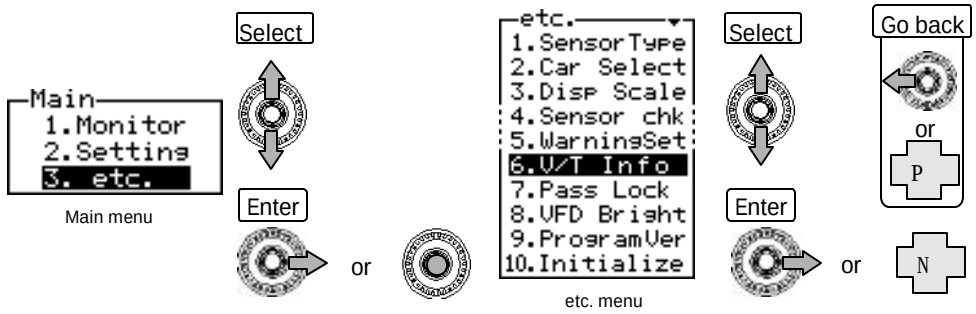
? Settable by 500 rpm steps.

VTEC learning information display

In the V-AFC II, the factory status VTEC changeover points are learned and the learning information is displayed.

1 • Select ? etc.? in the main menu.

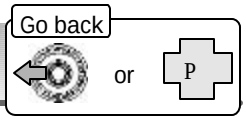
2 • Select ? V/T Info? in the etc. menu.

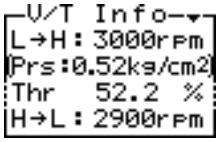


Main menu

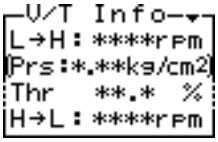
etc. menu

3. The VTEC changeover point learning mode is set.





Normal changeover point display



Display in the unlearned status

L ? H : RPM when changing from Lo cam to Hi cam
P r s : Intake pressure value when changing from Lo cam to Hi cam
Th r : Throttle increase rate when changing from Lo cam to Hi cam
H ? L : RPM when changing from Hi cam to Lo cam

? When those items are not learned, "*" is displayed.

NOTE

? These learning contents do not affect any setting.
Use them for setting reference only.

? e t c . ? ? ? P a s s L o c k ?

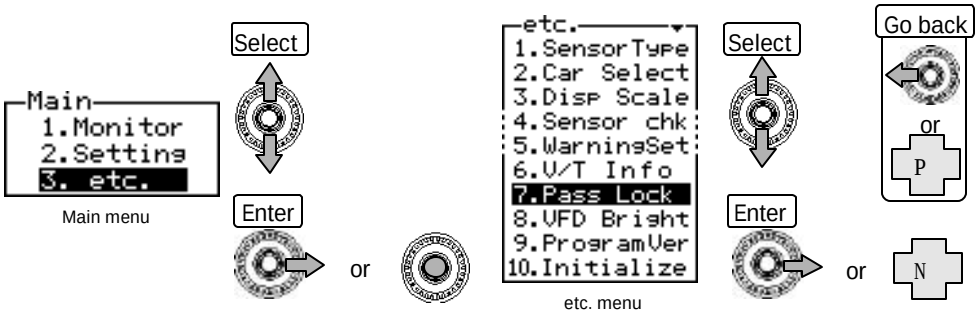
Setting and changing the password

Continued on the following page

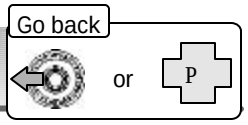
Setting a password can prevent setup data or setting data from being changed by mistake or mischief.

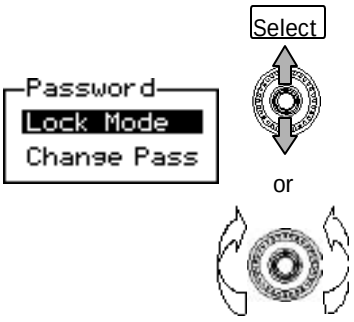
1. Select ? etc.? in the main menu.

2. Select ? Pass Lock ? in the etc. menu.



3. The password setting / change mode is set.





(1) Select an item.

Press the upper or lower part of the center switch and turn the rotary switch counterclockwise or clockwise to select an item. The selected item is displayed as a reversing display. When the rotary switch is turned clockwise, the cursor is moved upward. When this switch is turned counterclockwise, the cursor is moved downward.

(2) Set or change a password.

Select? Nx? in the popup menu after selecting an item and pressing the center pushbutton, or press the right part of the center switch to go to the password input screen.

(1) End the setting.

Select? Pr? in the popup menu after pressing the center pushbutton or press the left part of the center switch, and the etc. menu will reappear.

NOTE

? Be sure to write down the password.

? Avoid setting an easy-to-remember password such as 1111 and AAAA

? When selecting Lock Mode

(1) Input the password.

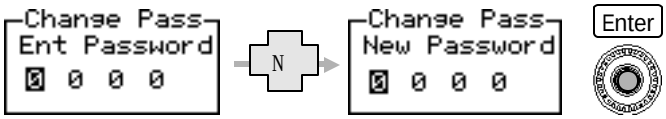
Turn the rotary switch counterclockwise or clockwise and input a password. For the password, select characters from 0 to 9 and A to Z. Operate the left or right part of the center switch to shift a digit. (In the initial status, the password is 0000.) After inputting the password, press the center pushbutton and select ? Nx? in the popup menu. To abort it, select ? Pr? or ? Tp? in the popup menu to exit from the mode.

(2) Lock the setup/setting.

Press the right part of the center switch, select [Yes], and press the center pushbutton.

If you do not lock the setup/setting, select [No] and press the center pushbutton.

? When selecting Change Pass



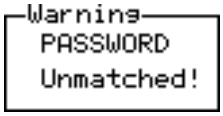
(1) Input the password.

Input the current password by performing the same procedure as that for Lock Mode. (In the initial status, the password is 0000.) After inputting the password, press the center pushbutton and select [Nx] in the popup menu. To abort it, select [Pr] or [Tp] in the popup menu to exit from the mode.

(2) Input a new password.

Input the new password by performing the same procedure as before. After inputting the password, press the center pushbutton.

? If a password is incorrectly input on the Ent Password screen, the warning screen shown on right appears. Input a correct password again.

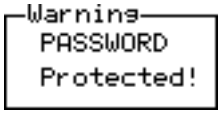


? Setting items prohibited by the Password Lock feature

Setting Menu ???All items

etc.Menu ???????Sensor No·Car Select

If an attempt to change any item shown above is made in the

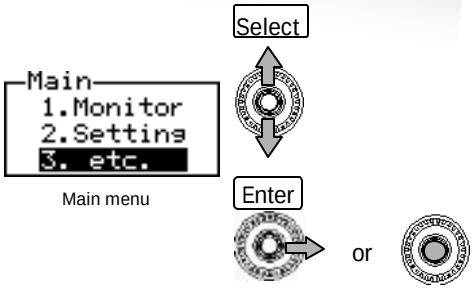


VFD brightness adjustment

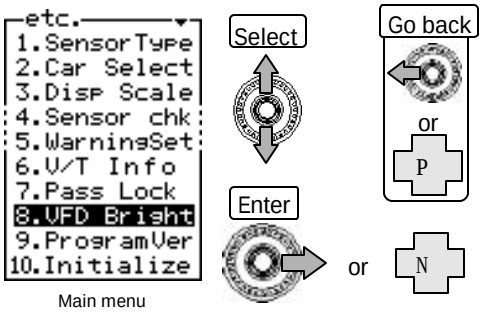
In this product, the VFD brightness is automatically adjusted according to the outside light by using a built-in optical sensor. [Day] is for the brightness of the daytime (bright time), [Dim] is for the brightness of the evening time (dim time), and [Nig] is for the brightness of the (dark time).

for example, when the light is dazzling at night. Usually, no

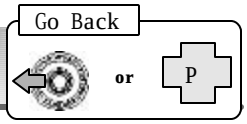
1 Select ? etc.? in the main menu.

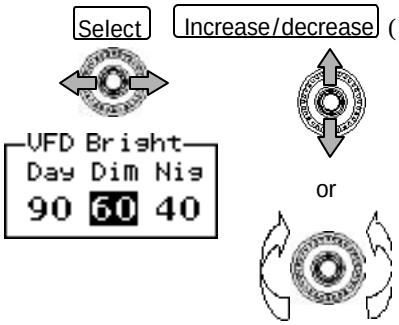


2 Select ? VFD Bright? in the etc. menu.



3. The VFD brightness adjustment mode is set.





(1) Select an item.

Press the left or right part of the center switch to select an item to set a numeric value. The selected item is displayed as a reversing display.

(2) Set a numeric value.

Select a numeric value and press the upper or lower part of the center switch or turn the rotary switch counterclockwise or clockwise to increase or decrease the numeric value. As the numeric value is increased, it becomes brighter. As the numeric value is decreased, it becomes darker. When the rotary switch is turned clockwise, the numeric number is increased. When this switch is turned counterclockwise, the numeric value is decreased.

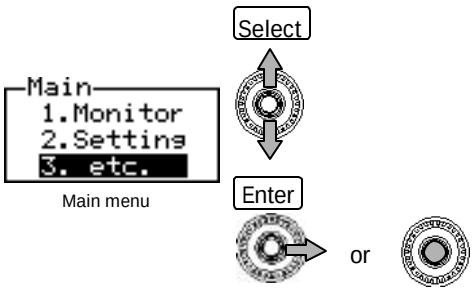
(3) End the setting.

Select ? Pr? in the popup menu after pressing the center pushbutton or press the left part of the center switch at ? Day? or press the left part of the center switch at ? Nig? , and the etc. menu will reappear.

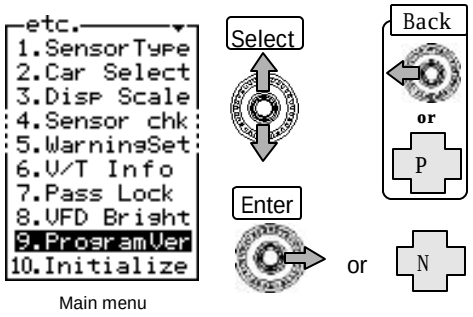
? e t c . ? ? ? P r o g r a m V e r . ?

Program version check

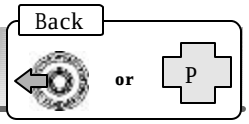
1. Select ? etc.? in the main menu.



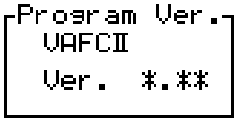
2. Select ? Program Ver. ? in the etc. menu.



3. The program version check mode is set.



? The program version information is displayed.



? The figure shows an example.

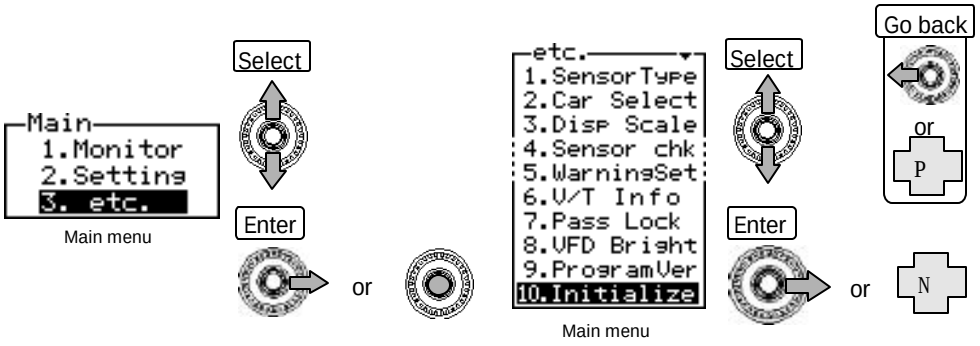
End the check.
Select [Pr] in the popup menu after pressing the center pushbutton or press the left part of the center switch, and the etc. menu will reappear.

All data initialization

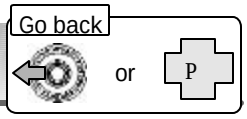
Initialize all data to return it to the original factory data status.

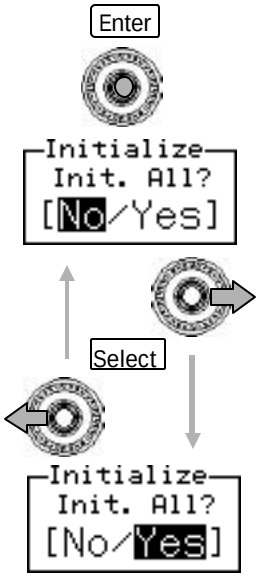
1 • Select ? etc.? in the main menu.

2 • Select ? Initialize ? in the etc. menu.



3. The all data initialization mode is set.





? Initialize all data.

In the all data initialization mode, operate the right part of the center switch, select [Yes], and press the center pushbutton. After that, turn off the ignition switch.

? Exit from the mode without initialization.

In the all data initialization mode, perform one of the following operations.

- Select [No] and press the center pushbutton.
- When [No] has been selected, operate the left part of the center switch.
- When [Yes] has been selected, operate the right part of the center switch.

Then, the etc. menu will reappear.

? M e m

? M e m

Troubleshooting

Fault related to the power supply

? Check if the battery is connected.

? Check if the vehicle ECU harness is securely connected to the signal harness.

? Check if the signal harness is connected to the connector of the V-AFC II main unit cable.
Even if the connection is properly made, the power supply may not be turned on because of a contact defect. Check the plug and splice portion once again.

? The power supply is turned off due to vibrations.
This may be due to a wiring contact defect.

The display is not normal.

? Each signal is not displayed (monitored).
Check if the harness connecting position is correct. Install the harness by referring to the "Wiring Diagram by Model" attached to this product, taking special care about the direction of the ECU, and checking the connector shape and the number of pins.

? The rpm display is not normal.
- Check if the number of cylinders is correctly is set. (P 47)
- Factory tachometers have a slight error. Even when a deviation of 200 to 300 rpm occurs at a high-speed rpm, this is normal. The numeric value of this product is the correct rpm.

? The throttle position display is not normal.
- Check if the throttle sensor type has been set.
- Check if the throttle position has been learned.

? Throttle position Hi/Lo cannot be selected.
Check if the throttle type is not set to **.
If it is set to **, correction is not made by throttle position, so the Hi/Lo map cannot be changed over.

The engine is not operating properly	? An engine stall occurs. · Check if the harness is connected to a wrong position. Install the harness by referring to the “Wiring Diagram by Model” attached to this product, taking special care about the direction of the ECU, and checking the connector shape and the number of pins. · Check if the sensor type is incorrectly set. ? Idling is unstable. · Check if the harness is securely connected. · Check if the sensor number is incorrectly set. ? The engine check lamp comes on. · Check if the harness is securely connected. · Check if the sensor number is incorrectly set. ? The engine does not rev. · Check if the harness is securely connected. · Check if the sensor number is incorrectly set. · Check if the fuel is not set to an extremely rich level by the correction factor setting. ? The engine seems to be bogging. · Check if the harness is securely connected. · Check if the sensor number is incorrectly set. · Check if the fuel is not set to an extremely rich level by the correction factor setting. ? The engine fails to start. · Check if the harness is securely connected. · Check if the sensor number is incorrectly set. ? Functions are not active. · If the air correction factor setting, VTEC changeover point setting, and the load sensing VTEC changeover setting is not active, check if the function is not in the “THROUGH” status. ? Upon delivery, the unit is in the “THROUGH” status.
The display is too dark or bright.	· Make a VFD brightness adjustment. (P 57)
The password has been forgotten.	· Initialize the main unit. (P 59)

Notes

1. The contents of this document are subject to change without previous notice.
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- VTEC is a registered trademark of Honda Motor Co., Ltd.
- The names, addresses and telephone numbers mentioned as where to contact are as of April 16, 2003. Note that this information is subject to change.

Specifications of This Product

- ? Operating voltage DC10V~16V
- ? Operating temperature -20~+60?
- ? Power consumption

Warranty

This product is warranted under the contents of the separate warranty.
Confirm the contents of the warranty and enter necessary items. Keep the warranty in your custody.

Revision record

No.	Date of issue	Part No. of instruction manual	Edition	Change of description
1	May 19, 2003	7107-0250-00	First edition	

Where to contact:

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