

Instruction Manual

Greater

1. important information

Please read this instruction manual carefully and proceed with the installation ONLY if you fully understand this manual. Make sure to pay close attention to all the "important!", "Warning!" and "Caution!" messages throughout the manual.

Importanti

- This product is legal for sale or use in California only on vehicles which may never be driven on a public highway.
- This product is only for vehicles with 12V (battery) systems.

Warning!

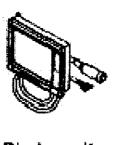
- Installation and tuning of this product should only be performed by a trained specialist who is very familiar with the automobile's mechanical, electrical and fuel management systems. If installed by an untrained person, it may cause damage to the unit as well as the vehicle.
- When mounting this product in the vehicle, be sure the unit does not interfere with the driver's view and normal operation of the vehicle.
- When using soldering iron and other tools for installation,
 be sure you read and understand the tool's user manual first.
 Misuse of these tools may cause injuries.
- When working on the electrical wires, make sure to disconnect the negative terminal side of the battery on the vehicle.
- When increasing the boost, be sure not to overboost.
 Overboosting may cause damage to the engine.
- Be sure to find out what the safe boost pressure is for your vehicle.
- GReddy Performance Products, Inc. is not responsible for any engine damage caused by overboosting (increased boost).
- Never tune the e-manage while the vehicle is moving.
- Never tune the e-Manage on public highway. This may be dangerous to you as well as others on the road.
- When tuning and operating the vehicle in a garage, be sure that the garage is equipped with a proper ventilation system.
- After installation and tuning, be sure to clean up everything that would interfere with the driver. Wires, tools and/or communication cable may interfere with the driver and may cause accidents.

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Caution!

- Improper funing of the e-Manage may cause damage to the engine.
- GReddy Performance Products, Inc. will not be responsible for any damage caused by improper installation or luning.
- Tuning should be performed only by a experienced technician
 who fully understands the vehicle's fuel management and
 ignition timing requirement for the engine being tuned.
- Always use a proper air/fuel ratio meter when tuning the e-Manage.
- Installation of this product requires modification of the vehicle's electrical system.
- When making wire connections, be sure to remove the key from the ignition, and disconnect the negative terminal of the battery.
- Never short out the system. It can damage the unit as well as the vehicle's electrical system.
- Read and fully understand the wiring diagram before making any wire connection.
- When connecting the connector, push it in all the way until you hear them click in together.
- The communication cable is not a repairable item, so please take care of it. When disconnecting from the PC (taptop), pull holding the connector. Never pull on the cord.





Display unit



Controller



Center unit



Controller holder



Display base



Display bracket



Power harness



1/4 Cap bolt



Double sided tape





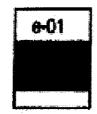
Hex wrench (3mm) Hex wrench (5mm)



M4 CAP bolt x2 M4 mut x2



SD card



Instruction Manual



Valve unit



Pressure sensor



Valve unit harness (2.5m)



Pressure harness (2.5m)



6ø Hose litting x2



Hose clamp



Three way fitting



Rubber washer



4ø Hose (1m)



6ø Hose (1m)



M4 Bolt



M6 Bolt x2



Valve bracket

Important!

The Display unit is packaged with the SD card already inserted.

Tools required for installation:

- Voltage tester
- * Pliers
- 10mm wrench
- · Wire cutters
- · Screw drivers (+,-)
- Solder and Soldering iron
- · Electrical tape · Zip ties

3. Product Features

- The Display unit features a large LCD with EL backlighting.
- Three large easy to read data can be displayed in real time;
 such as boost pressure, rpm, etc.
- Air/fuel ratio, throttle position and vehicle speed may be displayed with the use of an optional Signal harness (sold separately).
- The GReddy Warning gauge data can be displayed with the use of an optional data link cable (sold separately).
- Buitt-in Warning feature for all input signals; such as boost, rpm, etc.
- Link up to e-Manage to tune and save using Standard A/B USB cable (available through any computer supply retailer).
- Able to record up to 3 hours of data and play back on the display.
- Controls boost up to 3kg/cm² (Depending on the turbo system).
 Select from Auto and Manual boost mode to boost up to a desired pressure.
- Boost pressure may be adjusted at different rpm points to achieve consistent boost levels.
- · Uses compact high volume sciencid valve.
- · Uses high quality pressure sensor.
- Able to lower the boost pressure when the warring feature is activated.
- Boost pressure may instantly be increased by using the Over Take Boost feature. This feature can be used with the Optional Remote Switching System (sold separately).

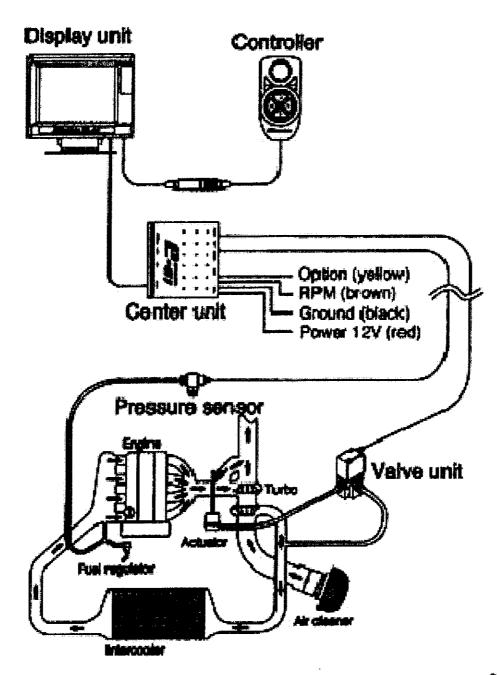
(mportant)

Standard A/B USB cable is required in order to link the e-O1 to the e-Manage unit. This is available at any computer supply retailer.

Before Installation

- Make sure the engine has cooled down before working under the hood.
- Take the key out of the ignition switch and disconnect the negative terminal of the battery.
- Before mounting the Valve unit and the Pressure sensor, be sure the supplied vacuum hose is long enough to reach them.
- Locate the actuator/wastegate, factory boost controlling solenoid valve, and fuel pressure regulator or true vacuum source before installation.

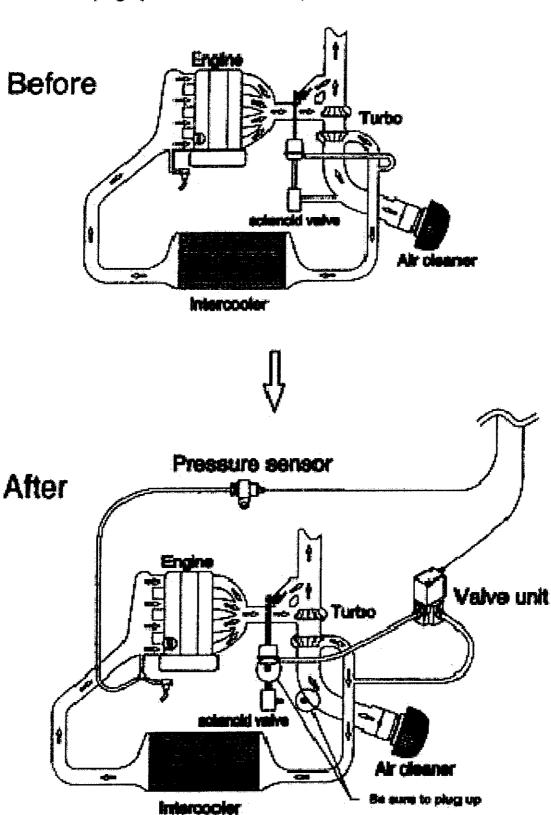
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Installation Diagrams

Diagram 1: Vehicle with factory boost controlling solenoid valve Dual Port Actuator

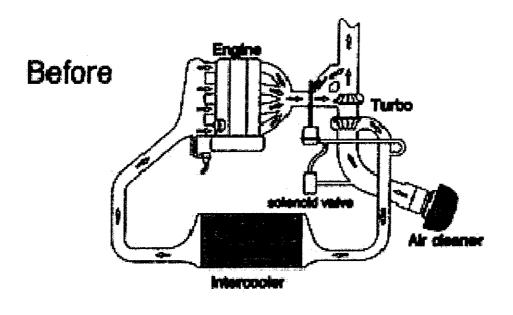
Disconnect the connector and the vacuum lines off from the solenoid valve and plug up the all the vacuum ports.

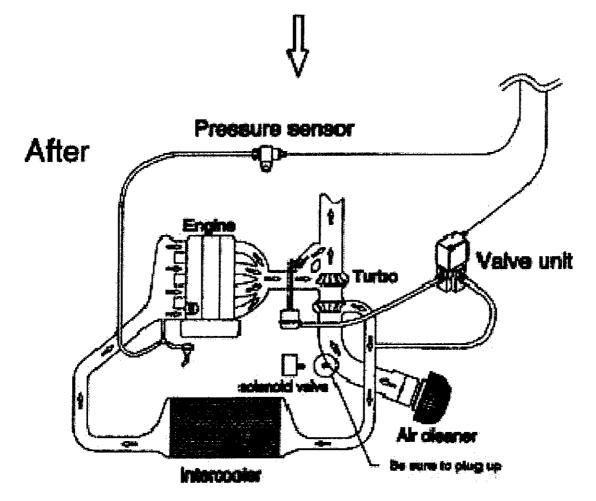


installation Diagram (....

Diagram 2: Vehicle with factory boost controlling solenoid valve Single port actuator

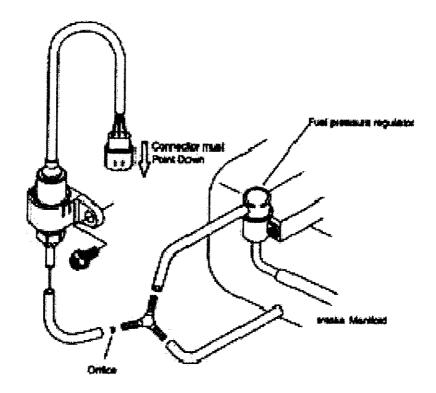
Disconnect the connector and the vacuum lines off from the solenoid valve and plug up the all the vacuum ports.





Installation Disgram

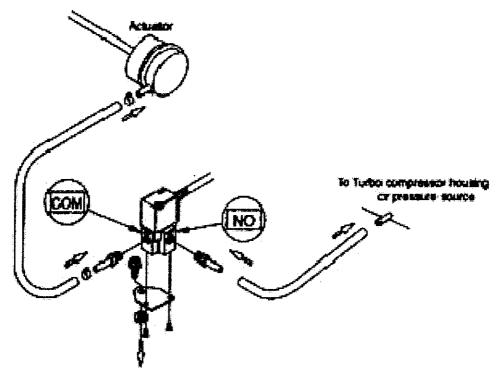
Pressure Sensor Installation



- Mount the Pressure sensor to the body near the fuel regulator using the supplied bracket and bolt.
- (2) Cut the vacuum line on the fuel regulator and install the supplied three way-fitting.
- (3) Place the supplied orifice to the side that will connect the sensor and connect the 4ø Hose from the three way fitting to the sensor.

- Make sure that the Sensor connector is pointed down as shown in the diagram above.
- Make sure that the sensor is securely mounted on the body.
- * Avoid mounting the sensor in the hot area or where it can get wet.
- Toyota's JZ engines and Mitsubishi's 4G63 engine have fuel pressure controlling solenoid valves. For these vehicles, make sure to get pressure from the line between the intake manifold and the solenoid.
- Make sure to secure the 4e Hose with zip ties.

Valve installation (Actuator type)

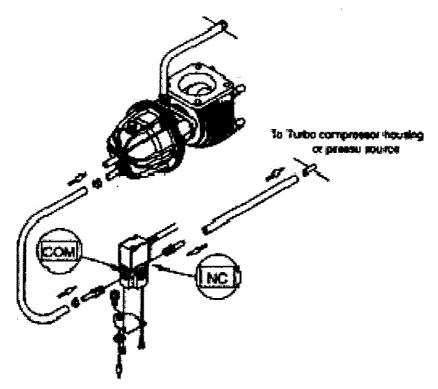


- (1) Remove all the plastic plugs from the Valve unit
- (2) Inistall the 6e Hose fitting on to "NO" and "COM" port on the Valve unit.
- (3) Install the Valve bracket using the supplied M4 botts. Then, secure the Valve assembly to the body using the supplied M6 Bolt and Rubber washer.
- (4) Disconnect the vacuum hose connecting the compressor housing of the turbo to the actuator at the actuator side and connect it to the "NO" side of the Valve unit.
- (5) Connect the "COM" port to the actuator using the supplied 6e vacuum hose.

- It is very important that the Rubber washer is used when mounting the bracket to the body.
- Mount the Valve unit in a cool area where the unit will not get hot or wet.
- · Secure all the Vacuum connections with hose clamps.
- When routing the vacuum hoses, make sure not to kink or twist the hoses.
- · Make the hoses as short as possible.
- It is normal for the Valve unit to make a clicking sound when it is operating.

Installation Diagram

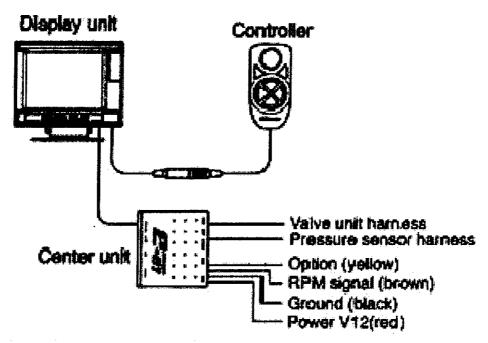
Valve installation (External wastegate type)



- (1) Install the 6e Hose litting onto "CN" and "COM" port on the Valve unit.
- (2) Install the Valve bracket using the supplied M4 Bolts. Then, secure the Valve assembly to the body using the supplied M6 Bolt and Rubber washer.
- (3) Install a 6e Hose fitting (sold separately) on the top of the wastegate.
- (4) Connect the 6ø Hose fitting that was just installed to the "COM" port of the valve unit using the supplied 6ø Vacuum hose.
- (5) Connect the "NC" port to a good pressure source such as the Compressor housing of a turbo using the supplied 69 Vacuum hose. (It is ok to tap into the same line that is going to the bottom port on the wastegate)

- It is very important that the Rubber washer is used when mounting the bracket to the body.
- Mount the Valve unit in a cool area where the unit will not get het or wel.
- It is normal for the Valve unit to make a clicking sound when it is operating.

Wirling Procedures

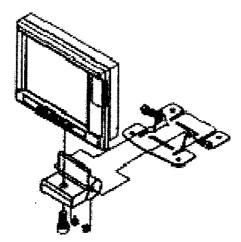


- (1) Connect the Pressure sensor harness and the Valve unit harness to the Valve unit and the Pressure sensor that was installed in the engine compartment.
- (2) Floute the Pressure sensor harness and Valve unit harness through the firewall in to the passenger compartment and connect them to the center unit.
- (3) Connect the Controller to the Display unit, then connect the Display unit to the Center unit.
- (4) Reconnect the battery and find 12V Ignition source with a tester.
- (5) Ground the black wire to the body. When grounding to the body, sand or grind off any paint or rust to ensure good contact.

[mportant]

- Connect the brown wire in the Power harness to the ECU rpm signal wire. The boost controller will still operate with out this connection, but the rpm offset feature will not work.
- Yellow wire in the Power harness is an optional output signal, used for warning light and/or buzzer. 14V-350mA

Mounting the Display Unit



- Mount the Display unit using the supplied base, bracket and double-sided tape.
- Mounting surface must be free of dirt and oil.

Cautioni

- For safety, once the mounting location is determined, secure the bracket using couple of screws so that the unit will never fall off.
- Never install the display unit in front of the airbag system.
 The unit will fly off when the air bag deploys. This can be very dangerous.

Important!

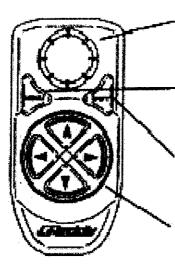
- When mounting this product in the vehicle, make sure the unit does not interfere with the driver's view and normal operation of the vehicle.
- Never remove the SD card out while the unit is turned on.
 This can damage the saved program in the card.

4. After installation inspection in

- Reinstall all the parts that were removed during the installation of this product.
- · Reconnect the negative terminal of the battery.
- Make sure that all harness and hoses are secured and properly connected and routed.
- Improper connection and routing of the harnesses and hoses can damage the unit and the sensors, which can cause engine damage.
- GReddy Performance Products, Inc. is not responsible for any engine damage caused by improper installation.

5. Display unit and Controller Functions

Controller features



SET knob

- Used to change, select and confirm settings.
- Used to change display mode

MENU button

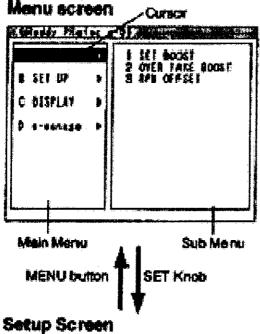
- Used to go to Menu mode from display mode.
- Used to cancel out during setup.

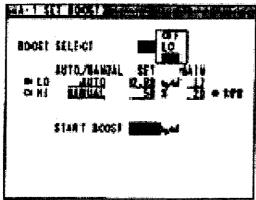
SHIFT button

- Used to turn on the Over Take Boost mode.
- Used for e-manage setup

4-Way navigation button

 Scroll through menus and lists, also set leature values





(1) Basic Boost satup

To set each feature, scroll down and select the desired Main menu and Sub-menu. and make the changes in the Setup screen.

(2) Menu screen

In the Menu screen move the cursor using the 4-way Navigation button and push the Set knob to select each feature.

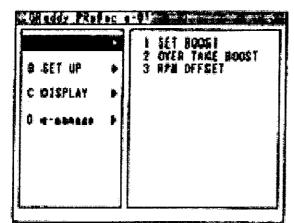
(3) Setup Screen

In the Setup screen, use the 4-way Navigation button to move the cursor. To change the value or setting. turn the SET knob to change and press the SET knob to confirm the chances.

(4) Press the MENU button to return to the Menu screen from setup screen.

5. Display unit and Controller Punctions

Controller features



A BOOST

Used to set up boost settings

8 SET UP

Used to change the initial setting, Warning and Peak Hold features.
Also used to setup the optional signal harness and Warning gauges when installed with this unit.

C DISPLAY

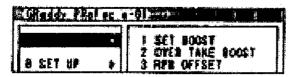
This feature can display 3 input signals at real time such as boost, rpm and Throttle position data. There are 4 different display formats to choose from, Digital, Graph, Gauge and Bargraph.

D e-manage

Used to program the e-manage settings.

*This feature is only for vehicles equipped with e-manage

Title display description

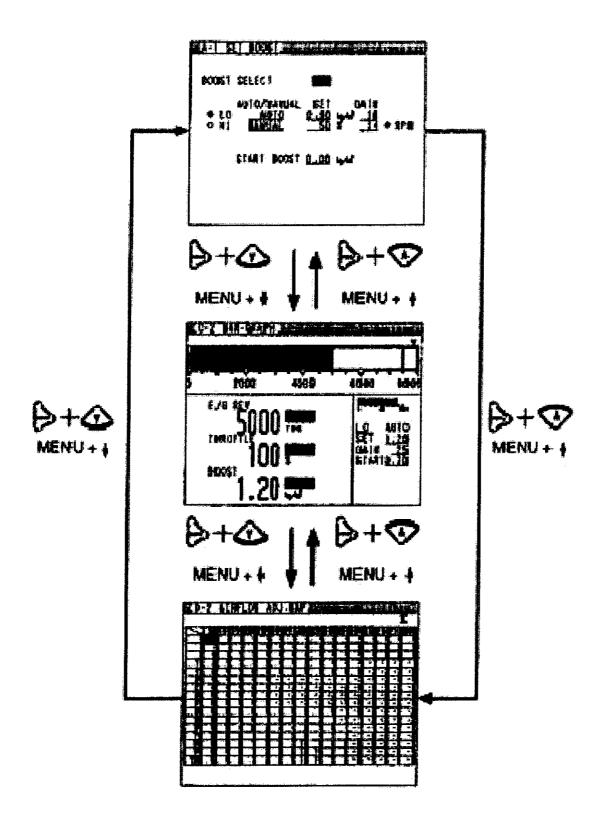


- ----displays during recording data
- ----displays during data playback
- **** flashes when the warning feature is activated
- ···· displays during Over Take Boost mode
- ···· displays during learning in the Auto Mode
- ---- displays while the unit is locked
- ---- displays when error has occurred.

5. Display unit and Controller Functions

Short cut

By pressing the MENU button with the up or down key of the 4way navigation button, you can scroll to A BOOST, B DISPLAY or C e-manage without going through the main menu screen.



6. Initial Setting

CAR SELECT (B-1)

When installed for the first time, the unit will automatically go to this Initial Setting mode. The boost controller feature will still operate without performing this setup, but without confirming the rpm, throttle position and vehicle speed signal, the RPM OFFSET feature will not operate.

NUMBER OF CYLENGERS	•
THROTTEE SENSOR TYPE	i de la la
SPEED METER PULSE	_22
DWIT SELECT	أعلنها
	OK)

- 1. NUMBER OF CYLINDERS
 Select the number of cylinders
 the vehicle is equipped with.
 For rotary engines, select 4 for
 2 rotor and 6 for 3 rotor
 engines.
 - * This setting is required to display rpm at real time or to use the RPM OFFSET feature.

2. THROTTLE SENSOR TYPE

- NORMAL --- This type increases the throttle signal voltage as the throttle opens.
- REVERSE --- This type decreases the throttle signal voltage as the throttle opens.

Select NORMAL or REVERSE sensor type

3. SPEED METER PULSE

- 16P - For Nissan Y32 Gloria/Cechic (only available in Japan)
- 8P -- For Nissan Y32 Cerna (only available in Japan)
- 2P -- For all other Nissan vehicles
- 4P -- För all other Japanese vehicles

Select the corresponding Pulse setting

4. UNIT SELECT

kPn

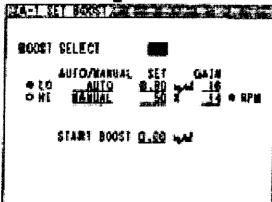
kg/cm2 (1 kg/cm2 = 98.0665kPa) mmHg (1 mmHg = 0.133322kPa) bar (1 bar = 100kPa)

psi (1 psi = 6.895kPa)

Ad SET BOOST

A-1 SET BOOST

Boost setting



Set the boost controller features.

1. BOOST SELECT
Select from 3 settings
Hi High boost mode
Lo Low boost mode
OFF Stock boost mode

2. AUTO/MANUAL & SET boost

AUTO - - - Auto learning mode. This feature will automatically program the e-01 for best boost response and consistent boost curve. See next page for the learning procedure. Select this mode and input the desired boost setting.

MANUAL - - - Manual input mode. This feature will allow the user to input a boost setting for a custom boost curve. This feature requires the user to input boost controller solenoid duty cycle value and monitor the boost in display mode to see how much boost is increased at the inputted duty cycle. 0% will be same as base boost or boost controller turned OFF, 100% will be same as disconnecting the wastegate signal line. Select this mode and input the desired solenoid duty cycle.

- To use the boost controller right away, select the AUTO mode and follow the learning procedure.
- If you select the MANUAL mode, input the SET, GAIN, START BOOST setting to achieve the similar boost control as using AUTO mode.

3. START BOOST

This feature is used to improve the turbo spool up by holding the signal to the wastegate which holds the wastegate completely closed until the boost reaches the Start Boost value. If the value is too close to the SET Boost value, the boost will over shoot (boost spike).

Set this feature 20kPa (0.2kn/cm2, 2.8psi) less that the SET boost value.

4. GAIN

This feature is used to stabilize the boost by changing the control valve's duty cycle. The larger the value, the faster the response will be and the lower it is, the response will be slower. If the value is set too high, the boost will overshool (boost spike).

Select this mode and input the desired solenoid duty cycle.

A-1 SET BOOST

Learning Procedure (only for AUTO mode)

This step will program the correction value necessary to achieve the desired boost setting.

- (1) Select AUTO mode and input the target boost value. AUTO.P will indicate phase 1 in the upper right corner of the display.
- (2) Make a full throttle run in 3rd or 4th gear to go into boost. It will run stock boost to confirm the base boost. Then it will gradually go up the the target boost value. As soon as the boost nears the target boost value, release the accelerator.
 - If the vehicle's slock boost is not stable (not holding consistant boost pressure), it is possible that this feature would not be able to confirm the base boost. In this case, use the MANUAL mode.
- (3) Once the target boost value is confirmed, the AUTO.P will start to flash indicating phase 2.
- (4) Make another full throttle run in 3rd or 4th gear to go in to boost. As soon as the boost reach consistant target boost, release the accelerator.
- (5) Once it confirms consistant target boost, AUTO.P will turn off. This completes the learning procedure.

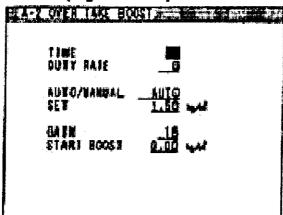
- · Always perform the learning procedure at full throttle.
- It is possible that AUTO mode might not program properly due to turbocharger size, wastegate's capacity and extreme exhaust pressure.
- Each SET boost setting will initially require learning.
- Relearning is required when the GAIN setting is changed. This
 will set the unit to phase 1 mode with AUTO.P lit.
- If the Boost select setting (HI/LO) is changed or ignition is turned off during phase 2 (AUTO.P Flashing), it will return to phase 1

A-2 OVER TAKE BOOST

Over Take Boost setting

This feature is used to boost over the SET boost setting. The kept high boost mode that can be lumed on for a set amount of time or on constantly.

*See page 35 for operation of this feature.



1.TIME

1-99 - - Input Over Take Boost operation time.

- PS ---- Select this feature to turn on the Over Take Boost mode only while holding down the SHIFT button.
- Select this feature to select between the SET Boost level or Over Take Boost level with the SHIFT button.

2. DUTY RATE

This feature can adjust the rate of the boost change when the Over Take Boost is turned on to avoid boost spike. The higher the number, the slower the change rate gets. (Standard setting should be 0. If boost spike occurs, increase the duty rate)

3. AUTO/MANUAL, SET, GAIN, START BOOST Follow the same set up procedure as the SET BOOST, see

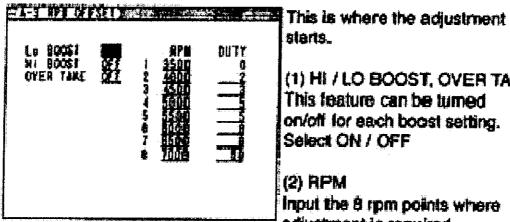
page 18.

- Learning is required if Over Take Boost is set to a value that is not learned yet.
- The optional Remote Switching System (sold separately) can be used to select the SET Boost or Over Take Boost.

A-S-RPM OFFBET

RPM OFFSET

This feature can adjust boost control rate at 8-rpm points to prevent boost falling off and achieve consistant boost pressure throughout the rom curve.



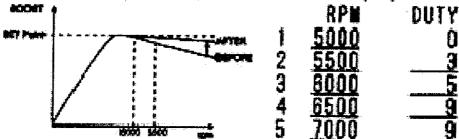
slaris_

- (1) HI / LO BOOST, OVER TAKE This feature can be turned on/off for each boost setting. Select ON / OFF
- (2) **RPM** Input the 8 rpm points where adjustment is required. Input 0-9900rpm at 100 increments.
- (3) DUTY input the adjustment rate to the 8 rpm points. Input -100~100% value.

-Example-

Boost starts to fall off after 5000 rpm.

- (1) Confirm where the boost falls off and input the rpm in the rpm point 1.
- (2) input the adjustment rate in the rest of the rpm points.



Important!

There is a limit to how much adjustment can be made due to turbocharger size, wastegate's capacity and extreme exhaust pressure.

B-T CAR Select

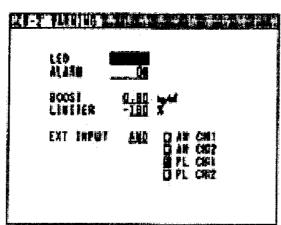
Initial setting can be changed. See Initial Setting on page 17.

8-2 WARNING

Warning setting

Input warning point for the boost and external input signal to turn on the LED and alarm.

Set the Limiter to turn down the boost when the pressure exceeds the warning point.



1. LED

Select ON, OFF, Flash1 or Flash2.

2 ALARM

Select ON, OFF, Alarm1 or Alarm2.

3. BOOST

input the boost warning point.

4. LIMITER

Input a rate to decrease the boost pressure when the boost exceeds over the warning point.

Selecting OFF will turn off the Limiter feature.

5. EXT. INPLIT

Select the external input channels to turn on the warning feature. The warning point will be set in the Ext. Input signal setup screen.

Select OFF, AND or OR.

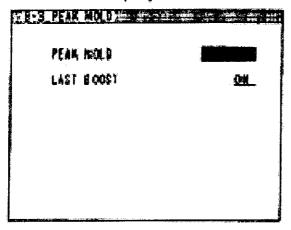
AND - - - When both Boost and Ext. input signal reaches the warning point, the LED and Alarm will turn on.

OR --- When either Boost or Ext. input signal reaches the warning point, the LED and Alarm will turn on.

8-3 PEAK HOLD ***

PEAK HOLD setting

This feature can store the highest data recorded and display the data in the Display mode. The Peak Hold type can be selected.



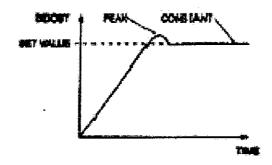
1. PEAK HOLD

The Peak Hold type can be can be selected.

PEAK ---- Display the highest boost monitored.

Constant --- Display the highest constant boost monitored.

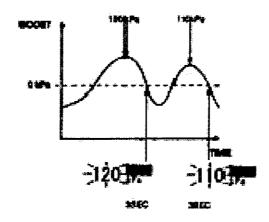
Select PEAK or CONSTANT setting.



2. LAST BOOST

This feature will display the last highest boost monitored for 3 seconds and reset to display the next run.

Select ON or OFF setting.

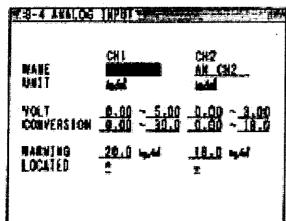


8-4 ANALOG INPUT

Analog signal input

This feature is used to monitor the analog input signal with the optional External input Signal Harness (sold separately). See page 27 for throttle input signal setup.

 Use this feature to display useful data such as Air/Fuel Ratio and throttle position.



1. NAME

Input name to label each input signal channel, input up to 8 letters.

See next page for Character input procedure.

2. UNIT

Select the unit for the input signal, Select a blank space if proper unit is not one of the options.

3. VOLT

input the range of the input signal (minimum to maximum voltage), input from 0V to 16.0V at 0.01V increments.

4. CONVERSION

Input the conversion for the input signal (minimum to maximum voltage).

-Example-

If using a Air/Fuel Ratio that reads 10 ~ 30A/F at 0 ~ 5V, input the following:

VOLT 0.00
$$\sim 5.00$$
 CONVERSION $10.0 \sim 30.0$

5. WARING

input the warning point for the input signal.

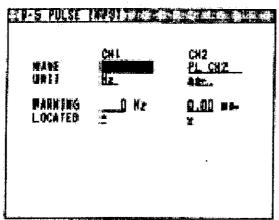
6. LOCATED

- A - Warning feature will operate when the input signal exceeds the warning setting.
- ▼- Werning feature will operate when the input signal drops below the warning setting.

Select the Warning feature condition.

B-5 PULSE INPUT

This feature is used to monitor the pulse input signal with the optional External input Signal Harness (sold separately).



1. NAME

Input name to label each input signal channel. Input up to 8 letters.

2. UNIT

Select the unit for the input signal. Select a blank space if proper unit is not one of the options.

SP None

Hz ---- Pulse frequency

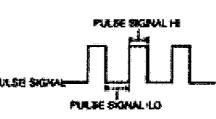
ms A - - - Pulse signal high point

ms w --- Pulse signal Low point

% A---- Pulse signal high point rate muse sowe

% V---- Pulse signal Low point rate

km/h - - Vahicle speed



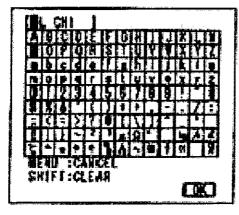
3. WARING

Input the warning point for the input signal.

4. LOCATED

- A--- Warning feature will operate when the input signal exceeds the warning setting.
- ▼--- Warning feature will operate when the input signal drops below the warning setting.

Select the Warning feature condition.



Character input screen

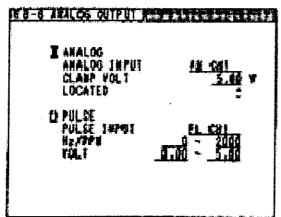
Move the cursor by turning

the SET knob and press to select. Press the SHIFT button to erase input, and MENU button to cancel. Press OK when input is complete.

B-4 ANALOG OLITPUT

B-6 ANALOG OUTPUT

This feature will allow the user to clamp the optional input signal at a minimum or maximum signal value and output these signals for different purposes. Use the optional External input Signal Harness (sold separately) and select one to use as output signal.



1. ANALOG
ANALOG INPUT
Select the channel to use for output signal.

CLAMP VOLT Input the minimum or maximum clamp voltage.

Example Set max. analog signal to 4:20V

MARALOG INPUT CLAMP VOLT LOCATED

AH CHI 4.20 V

LOCATED

This will clamp the CLAMP VOLT value as a maximum voltage and will not output any higher signal.

▼--- This will clamp the CLAMP VOLT value as a minimum voltage and will not output any lower signal.

This feature can be used for Boost Limiter Cut for some vehicles.

2. PULSE

PULSE INPUT

Select the channel to use for output signal.

Hz/RPM

Input the minimum and maximum frequency or rpm value. VOLT

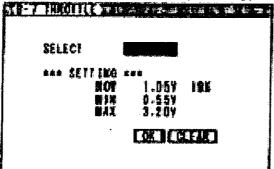
input the minimum and maximum converted voltage value.

B-7 THROTTLE WAS

THROTTLE setting

Set up this feature to display the rpm data in the Display Mode.

The rpm signal can be inputted by using the optional External Input
Signal Harness (sold separately) or through the e-manage unit.



SELECT

Select the rpm input signal source.
Select ANALOG CH1,

ANALOG CH2 or e-manage

SETTING

NOW - - - Throttle voltage signal and position will be displayed

MIN - - - - Minimum Voltage when throttle is closed. (0% throttle position)

MAX - - - Maximum voltage when throttle is fully opened. (100% throttle position)

Program the MAX setting by turning on the ignition and holding the throttle fully opened and pressing OK to confirm.

. MiN setting will be set automatically.

- If the THOTTLE SENSOR TYPE in INITIAL SETTING is not selected properly, the rpm signal will display backwards.
- This feature will not work on a vehicle with out throttle position signal