Contents

■ Installation Tips & Warnings

❶ This product is meant to be installed by professionals, if you attempt installation without the necessary qualifications you do so at your own risk to you and your vehicle.

❶ Before installation of this product, please remove the negative (-) terminal from your cars battery.

❶ The ignition switched +12v (IGN) wire on the power cable needs to be connected to a source which has a fuse which does not exceed 30A, failure to do so and if there is any kind of electrical short may damage the unit before the fuse has a chance to blow.

❶ If soldering wires, always make sure to heat shrink the connections, do not just use electrical tape as it may come off over time and cause a short.

❶ If you find the 2m supplied handset cable & gauge to control unit cables are not long enough, we sell 2m extension cables, please contact us. These extensions are better than extending the cables yourself.

❶ Do not install the control unit in the engine bay, the control unit is not water proof or dust proof.

❶ Make sure the sensor cables do not run past or close to any excessive heat sources, the EGT sensor is heat shielded, but other sensor wires are not. Use common sense when running the cables in your engine bay around your motor.

❶ Make sure any cables running past moving pullies or belts are secured and out of the way.

❶ Remember engines move under normal driving, when securing cables on the engine and then again on the body of the vehicle, allow some cable free for engine movement.

■ Installation Tips & Warnings - Continued

❶ When securing the cables so they don't fall loose or move around, make sure the method used will not lead to the cables being damaged over time from vibration. Zip ties are fine, but don't make them excessively tight as they may cut into the cables over time.

❶ Before connecting the Tacho & Speed wires to your vehicles ECU, please test that the system is functioning correctly and power wires have been installed correctly. You will want to see the gauge gets power and no fuses blow when first testing the gauge. Then you may connect the Tacho & Speed to your ECU.

❶ If you are unsure of which wires on your ECU to connect the Tacho and Speed, please do not just guess, contact us and we can try and assist with finding the correct pins on your ECU.

❶ Use thread sealant on all sensors with 1/8NPT & 3/8NPT threads to make sure there are no leaks. Check for any leaks after installation, failure to do so could lead to a damaging coolant, oil or fuel leak.

❶ We recommend with the oil pressure sensor if using a sandwich plate, that you have a 1/8NPT line made up and mount the oil pressure sensor away from the plate and run the line off to it. While many connect the oil pressure sensors directly into the sandwich plates, we think it's better practice to run a line off to them.

❶ We DO NOT recommend installing the EGT sensors before the turbo, we always recommend they are installed after the turbo, usually on the dump pipe or as close to the turbo as possible.

❶ DO NOT connect the pressure sensors up to any water sources, the pressure sensors are not designed to be used in the coolant system they are also not designed to be used in the exhaust systems either.

② Product Features

- The display screen used in this product is a high brightness OLED panel
- Fourteen different sensor & input readouts are selectable to display
- The unit can support daisy chaining of up to 7 gauges at once, a mix of OLED multi gauges or also add 52mm stepper gauges.
- Time of 0-100km/h(60MPH) and 0-200km/h(100MPH) can be measured.
- Warm-up mode is equipped to guard engine.
- Opening and ending mode can be selected from 2 variations.
- Self-diagnosis system detects a disconnection of wire, short circuit and communication error, and indicates the error condition.
- Warning value can be set. The display is highlighted and buzzer sounds during warning. (The buzzer can be set ON/OFF.)
- Data obtained during driving (including peak value and warning value) can be stored up to 5 minutes, and the data can be replayed after driving.
- When both the fuel pressure sensor & boost sensor are installed, it will enable differential pressure readout on the gauge.
- Display pattern can be selected from 4 display modes. (Maximum 6 items can be displayed all together on one GAUGE display.)

STREET display   TIME ATTACK display

GAUGE1 display   GAUGE2 display

- The display items and the layout can be changed.
- Equipped with Shiftlight indicator with 8 LEDs.
- Equipped with clock and alarm functions.
- Mounting angles are more flexible than conventional products
- Equipped with odometer and trip meter
- Oil, water, and exhaust temperatures can be displayed from 0℃ (32°F).
- Graphic animation plays during idling (Special mode).

④ Specification

Power supply voltage	10V 〜 36V DC		
Control Unit Current Draw	+B line	2A（IGN ON）	
		5mA（IGN OFF）	
	ILM line	800mA	
(Maximum value obtained when connecting 8 gauges)			
Operation temperature range	-20 〜 +60℃ , -4 〜 +140°F（Under 80% relative humidity）		
Storage temperature range	-30 〜 +80℃ , -22 〜 +176°F（Under 80% relative humidity）		
Display range	Speed	0 〜 400km/h(0 〜 240MPH)	
	Tachometer	0 〜 11,000rpm	
	Oil Pressure	0 〜 1,000kPa(0 〜 145PSI)	
	Fuel Pressure	0 〜 1,000kPa(0 〜 145PSI)	
	Oil Temperature	0 〜 150℃ (32 〜 302°F)	
	Water Temperature	0 〜 150℃ (32 〜 302°F)	
	Exhaust Temperature	0 〜 1,100℃ (32 〜 2,010°F)	
	Boost Pressure	-100 〜 700kPa(-14.5〜 101.5PSI)	
	Volt #1 & #2	8 〜 36V	
	Clock	12 hours display	
	Wideband	10 〜 20 AFR or 0.68 〜 1.36 Lambda	
	Air Intake Temp	0〜 150c	
Applicable speed pulse	2・4・8・16pulse Pulse free setting: 1,274 〜 16,562pulse/km, 2,051 〜 26,665pulse/mile（corresponds to 2 〜 26pulse）		
Applicable number of cylinders	1・2・3・4・5・6・8（4cycle）		
Dimensions	Refer to part names and dimensions section.		
Weight	1500g, 3.3lb(including box, mounting parts, wires, and accessories）		

⑤ Parts list
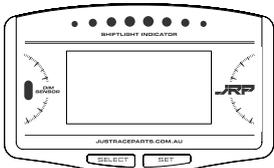
Gauge
1pc

Power Cable
1m

4pins
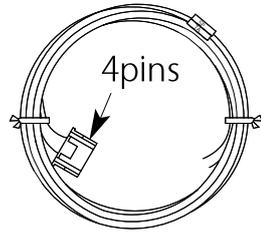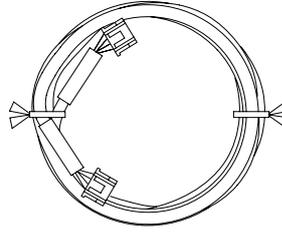
Gauge Cable
2m
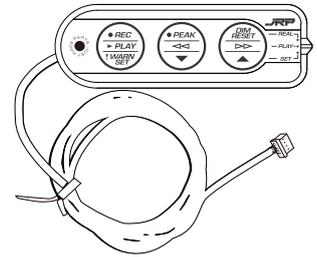
Handset
Cable 2m
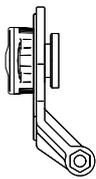
Brace set
1pc

Components of Brace set
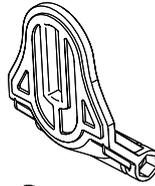
Knob   Brace   Bolt holder   Hexagon head bolt

Components are set in brace.

Accessories
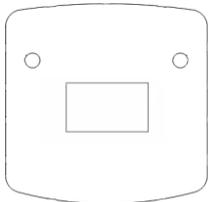
Double sided tape
1pc

M4 bolt, nut,
washer 1pc
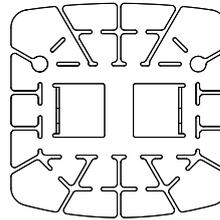
Mounting
bracket 1pc
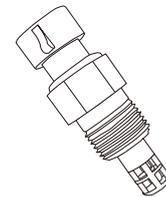
Air Intake
Temp Sensor

Control
Unit 1pc

4pins
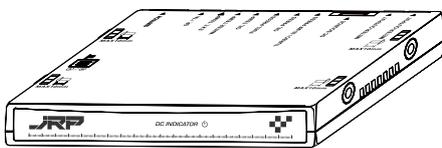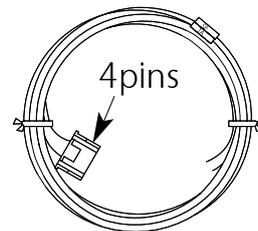
Speed, Tacho, Wideband & Volts #2
singal wire 2m(6 3/5ft) 1pc
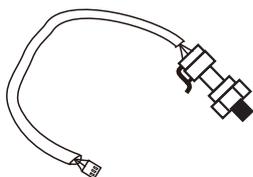
Oil/Fuel Pressure
sensor 2pcs
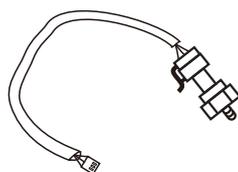
Boost Pressure
sensor 1pcs
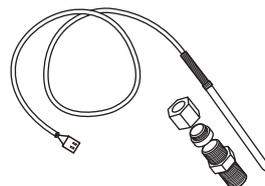
Exhaust Temperature
sensor 1pcs
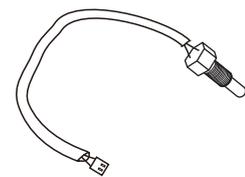
Temperature sensor
2pcs

6 -1. Part Names & Dimensions of Gauge in mm(inches)

【Front】

Shiftlight Indicator(8 LEDs)

96.4(3.8)

56.5(2.2)

61.5(2.4)

28.5(1.1)

SHIFTLIGHT INDICATOR

DIM SENSOR

OLED Display

JRP

JUSTRACEPARTS.COM.AU

SELECT   SET
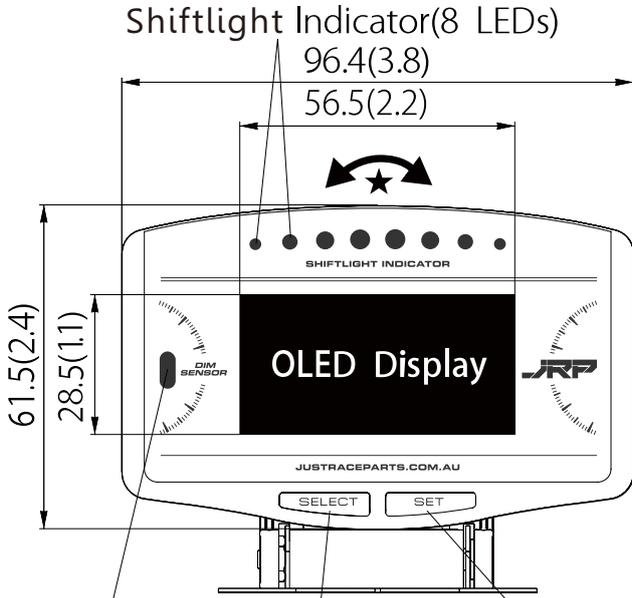
DIM Sensor   SELECT button   SET button

【Side】

42(1.7)

27.8(1.1)

17.3(0.7)

movable range★

73(2.9)★

86(3.4)(
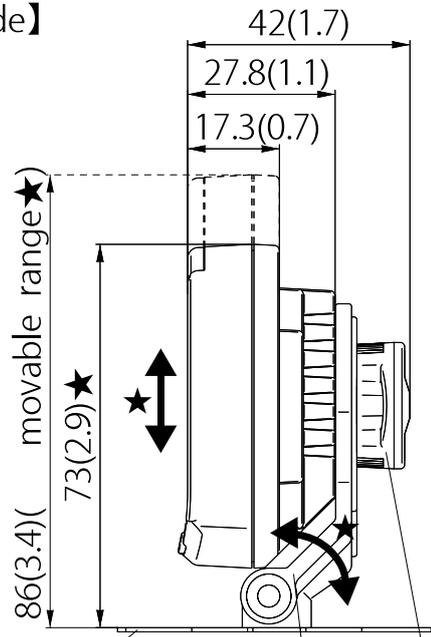
Mounting bracket   Brace   Knob

【Backside】

88.2(3.5)

45.(1.8)

METER

METER

IND

SW
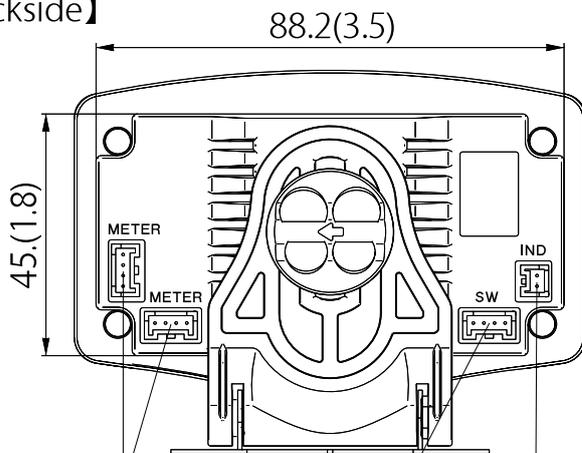
Connectors
for gauge wires

Connector for external switch(unused)

Connector for
External Warning Light
(Sold separately)

★Movable range
can be moved up and down,
and can be tilted front and back,
right and left. The movable
range is different depending on
installation way.

■ Buttons

In this manual, the SELECT button and the SET button are illustrated as follows:

L SELECT   SET   R

⑥-2. Part Names & Dimensions of Control Unit in mm(inches)

Screw holes(4 places)

22(2.05")

104(4.1")

IAT
SWITCH

SP. / TA.
EXT. TEMP
WATER TEMP
OIL TEMP
FUEL PRESS
OIL PRESS
TURBO / IN-MF PRESS
DC SOURCE
METER OUTPUT
METER OUTPUT

MAX10mm

MAX10mm

MAX10mm

MAX10mm

51(2")

26.3(1.04")

15(0.59")

153.2(6.03")

Ⓐ / Ⓑ

ON
1
2

Dip switch

Slots for screw nut (4 places)

JRP   DC INDICATOR ⏻

DC source(wiring check) LED (blue)
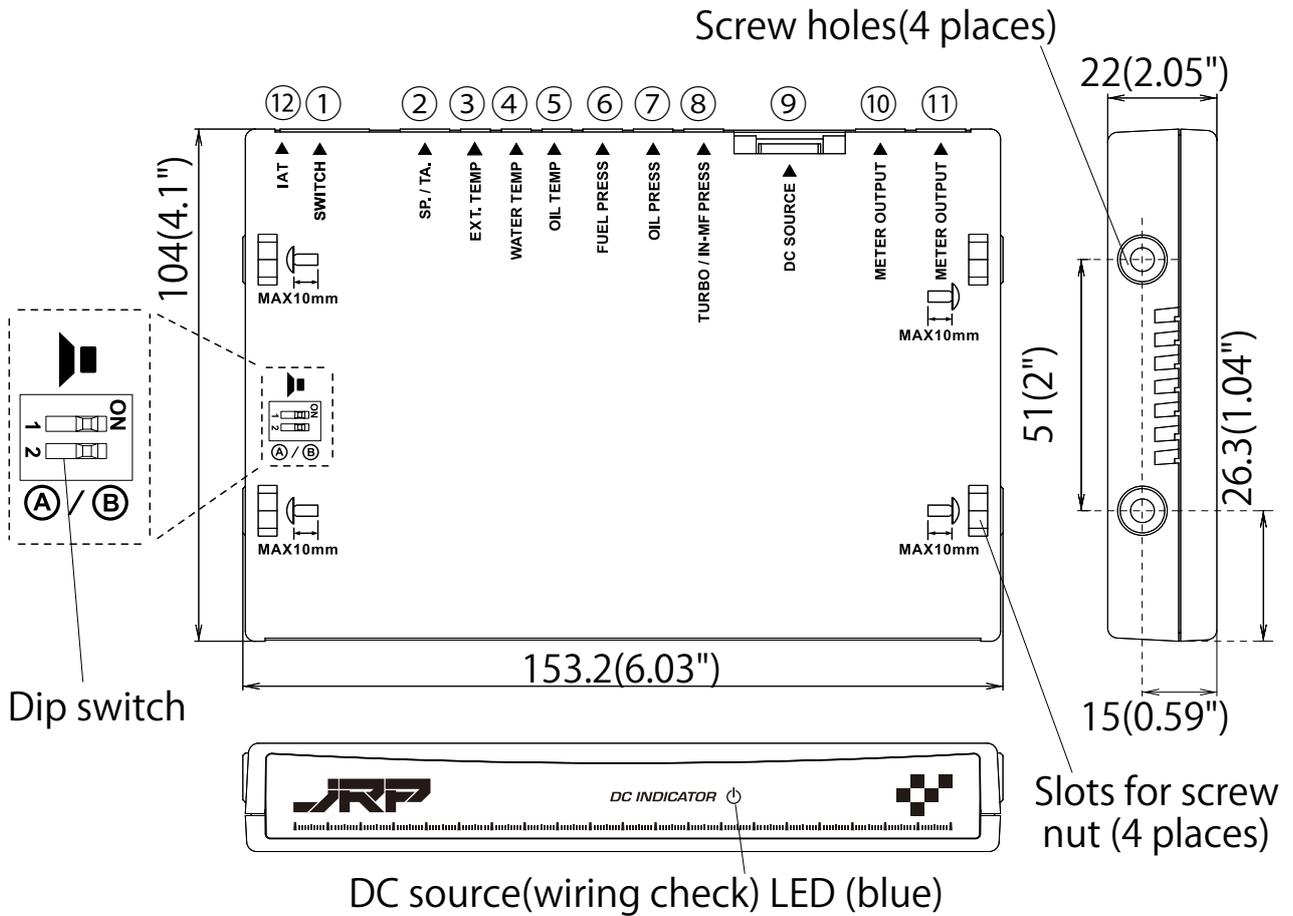
① Handset unit(white)

② Speed, Tacho, Volts #2 And Wideband (blue)

③ Exhaust temp sensor wire(black)

④ Water temp sensor wire(pink)

⑤ Oil temp sensor wire(red)

⑥ Fuel press sensor wire(red)

⑦ Oil press sensor wire(white)

⑧ Boost sensor wire(light blue)

⑨ Power source wire(beige)

⑩ Gauge Meter wire(white) ⑪ Gauge Meter wire(white)

⑫ Air intake temp sensor wire(white)

⚠ Meter wires can be connected to both ⑩ and ⑪

● Dip switch 1&2
1: Warning buzzer sounds ON/OFF change
2: Opening・Closing modes selection(A/B)

⑥ -3. Part Names & Dimensions of Handset unit in mm(inches)

Left button   Right button   Slide switch
Middle button   (REAL/PLAY/SET from the top)
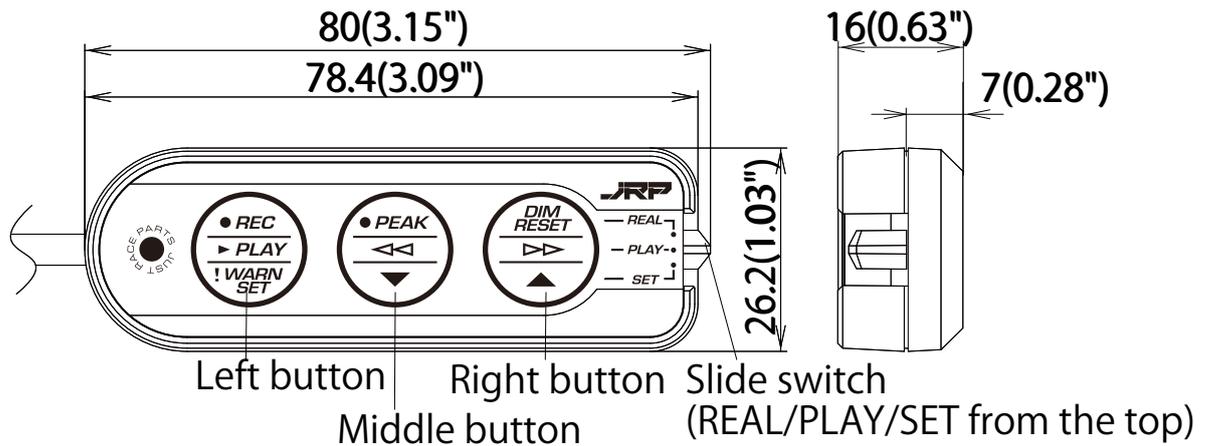
● Backside of handset unit

Applying position of double-sided tape
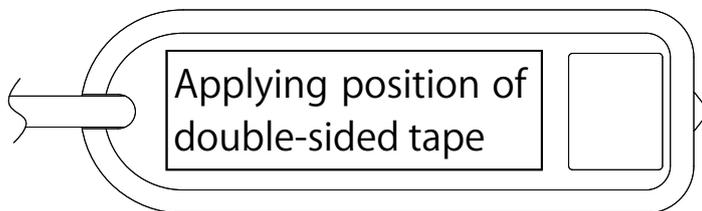
● Buttons and slide switch

Operation of gauges is handled by 3 buttons and 1 slide switch. By sliding the switch position, the functions of buttons change.

● Slide switch

In this manual, positions of the slide switch are illustrated as follows:

REAL(upper): for Real mode operation   U REAL

PLAY(middle): for operation to replay recorded data   M PLAY

SET(lower): for operation to set up   L SET

● Buttons

Each button has three marks(upper, middle, and lower position) in accordance with positions of slide switch. In this manual, each button is illustrated as follows:

Left   Middle   Right

Left button： L ●REC or L ►PLAY or L !WARN.SET from the top

Middle button： M ●PEAK or M ◄◄ or M ▼ from the top

Right button： R DIM/RESET or R ▷▷ or R ▲ from the top

⑦ Installation

Confirmation

❗ Please make sure you have read all the installation tips and warnings which can be found on page 2 of this manual.

⑦ -1. Installation diagram
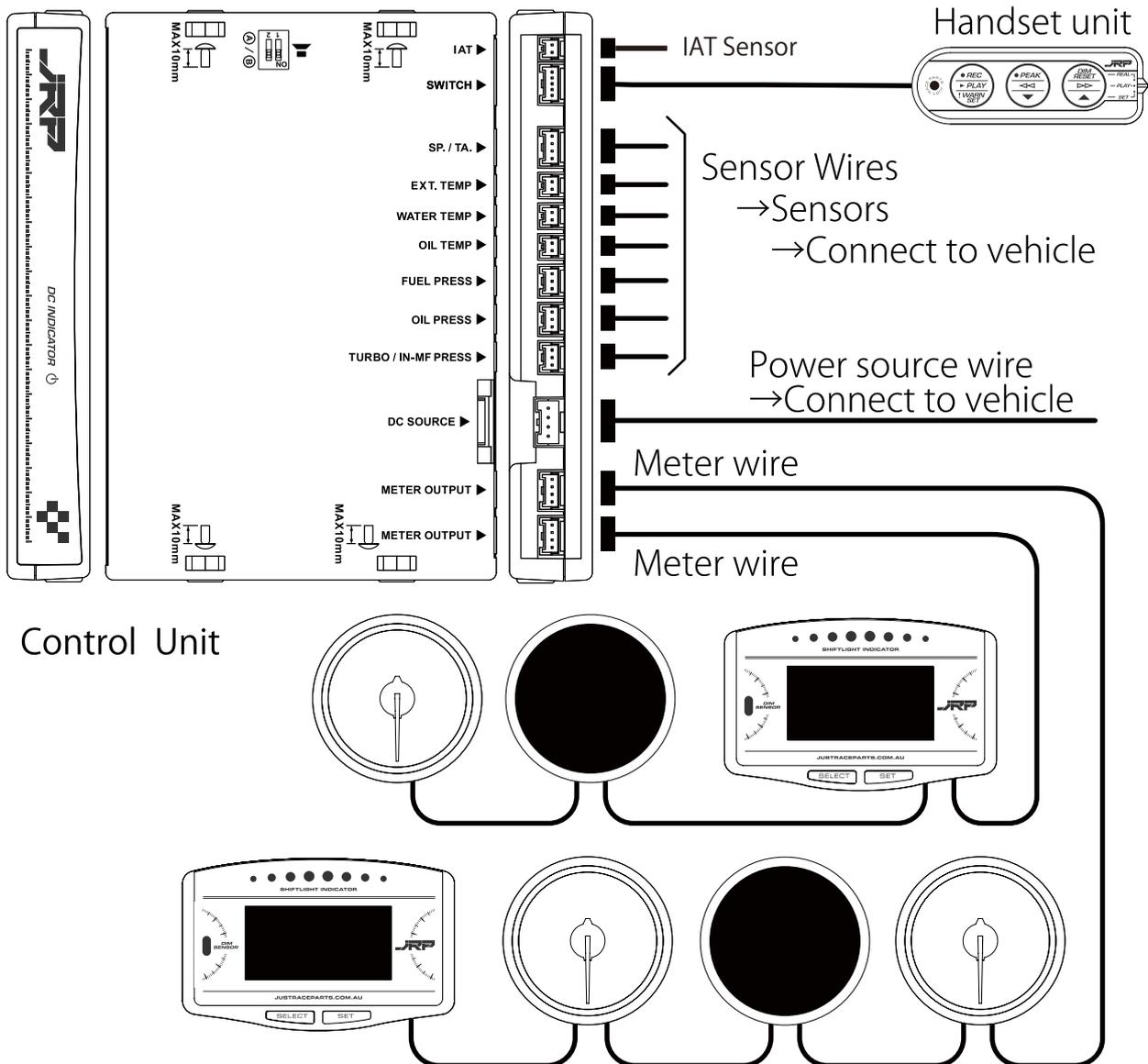
The meter wire can be connected to both two connectors of METER OUTPUT. Up to 7 gauges and displays in all can be connected to one control unit. (Ex. If 7 gauges are connected to one line, none can be connected to the other line. If three gauges are connected to one line, up to 4 gauges can be connected to the other line.)

7 -2. Procedure

1. Confirm the contents.
   ⇒ Check that all parts listed in this manual are supplied and in your box

2. Prepare the necessary parts for installation.

3. Confirm the location of the power source(+B, GND, IGN, ILM) and the sensor installation.
4. Disconnect the negative(-) battery terminal.
5. Connect the control units power supply wire to vehicle.

Fuse(4A)

Red: +B(Battery: To 12V battery wire)
Orange: IGN(Ignition: To 12V only powered while ignition on)
Black: GND(Earth: To ground, negative battery terminal)
White: +ILM(Illumination: To 12V only powered when headlight on)
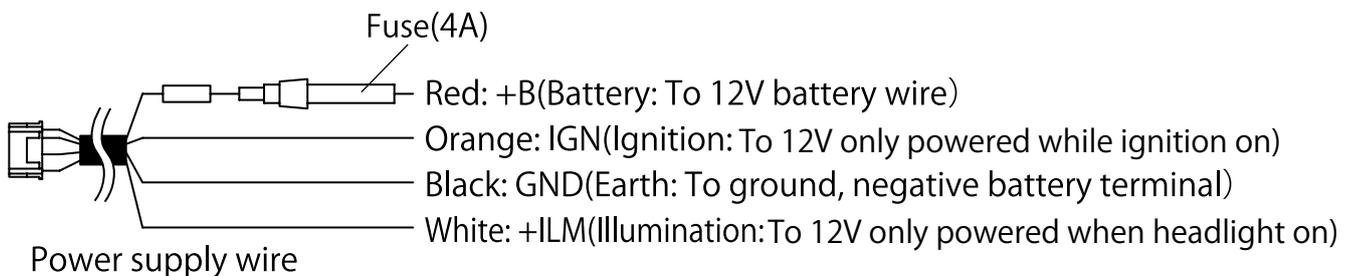
Power supply wire

⚠Warning

6. Connect the power supply wire to the control unit. Connect the negative battery terminal and turn the ignition on. Then confirm DC SOURCE LED lights up, which is on the front of the control unit.

Confirmation

⚠ If the power source wire is wired incorrectly, LED won't light. If LED doesn't light, please confirm wiring again.

7. Disconnect the negative battery terminal and install each sensor.
   ⇒ Refer to 7 -3. Sensor Installation & Signal Connection.

8. Connect the sensor and the sensor wire. Then connect to the control unit.

9. To confirm the wiring and connection, connect gauges and displays to the control unit temporarily by using meter wires. Do not fix the gauge at this stage.

10. Connect the negative battery terminal.

11. Confirm that the DC SOURCE LED is on when the ignition is on. If the power supply wire is wired correctly, the DC SOURCE LED of the control unit lights in blue.

   The DC SOURCE LED is not on: The power supply is not taken.
→ Turn the ignition off, then please confirm the wiring of the power supply wire.

● The warning LED of gauge is blinking or the warning LED and peak LED are blinking at the same time: disconnection, short circuit, or communication error is occurred.

→ Turn the ignition off, then please confirm the wiring of the sensor and the sensor wire.

⚠ Warning

❶ If the wiring defects are not found, it is probable that there is a defect in the product. Please detach the product immediately and ask for inspection. It may damage the vehicle.

12. Turn the ignition OFF.

13. Disconnect the meter wire from the gauge, and attach the gauge by using mounting bracket. Confirm it is installed firmly, then connect the meter wire again.

14. Connect the handset to the control unit and fix the handset with double sided tape. Before attaching it , make sure the surface is clean.
    ⇒ Refer to [6] -3. Part Names & Dimensions of Switch unit in mm(inches).

15. Set 2 dip switches of the control unit.

● Dip switch 1: Setting the buzzer sound ON/OFF.

● Dip switch 2: Select the opening/ending mode from A or B when the ignition is on/off.
    ⇒ Refer to [6] -2. Part Names of Control Unit in mm(inches) .

16. After setting is done, fix the control unit with attached nuts and bolts and commercial mounting bracket.

Nuts

Mounting bracket
The thickness needs to be 3mm(0.1") or less.
Purchase commercially available mounting bracket.

Bolts
Use bolts to fix unit to vehicle.

Control Unit
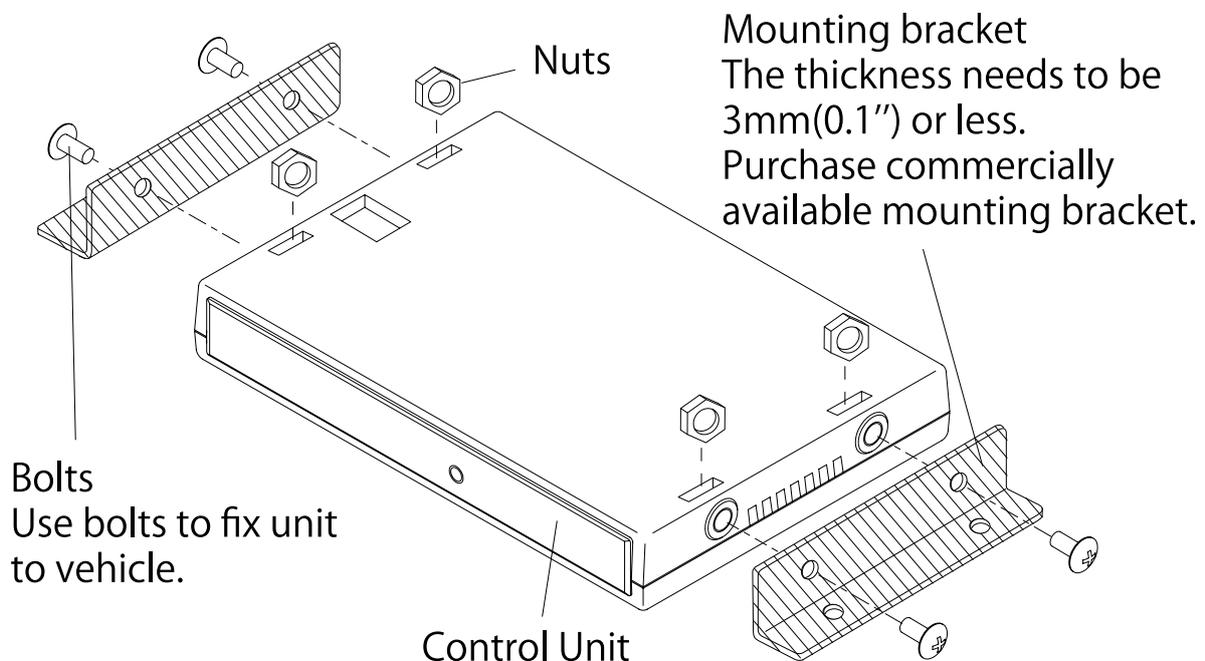
Confirmation

⃠ Gauges, including this product, are not waterproof. Please do not install gauges near the vehicle floor or in wet areas.

❶ Use mounting brackets with thickness of 3mm(0.1") and under.

⊘ Do not use other than the supplied bolts. Use of other bolts may damage the inside of the control unit.

⚠ The control unit contains buzzer. So it may difficult to hear the sounds if the control unit is installed inside the dashboard or far from driver's seat.

❶ It is possible to change the setting later. In order to change later, please fix the control unit so as to operate the dip switch.

17. Final confirmation of install completion

⚠ Warning

❶ Please be sure to check the following list; otherwise, there is a possibility that a serious accident may occur.

☐ Ensure that all hoses and tubing are permanently attached. Also ensure that there is no liquid or exhaust leakage.

☐ Check that the sensor and wires are not interfering with the engine operation.

☐ Ensure that the gauge and wires are tightly attached, so they don't come loose and hinder driving.

☐ Check that all wires disconnected from the vehicle during installation have been properly reattached.

⚠ Warning

❶ After installation, check that no materials or tools remain in the driver's seat or the engine compartment. If there are tools left at the feet of the driver's seat, this may cause a driver to lose control of brake because of tools or materials caught under the brake pedal. If there are tools in the engine compartment, the engine may break.

☐ Ensure that the negative battery terminal is tightly attached. Close the hood properly.

This concludes the installation process.

Confirmation

❶ The protection film is attached to Control Unit and the Handset unit. Please peel off before using.

7 -3. Sensor Installation & Signal Connection

7 -3-1. Disconnect the negative(-) battery terminal.

■How to attach Volt gauge

Volts #1 is sourced from main DC power, Volts #2 connect to Aux battery or alt source.

■How to attach temperature sensor for water temperature (Use a commercial sensor attachment.)

Radiator

*Cut the upper hose and connect the sensor attachment between hoses.

Upper hose

Sensor attachment
(commercially available)

Attach tightly with clamps.
(commercially available)

Wind Teflon tape.
Thread size 1/8 NPT

→ To Control Unit
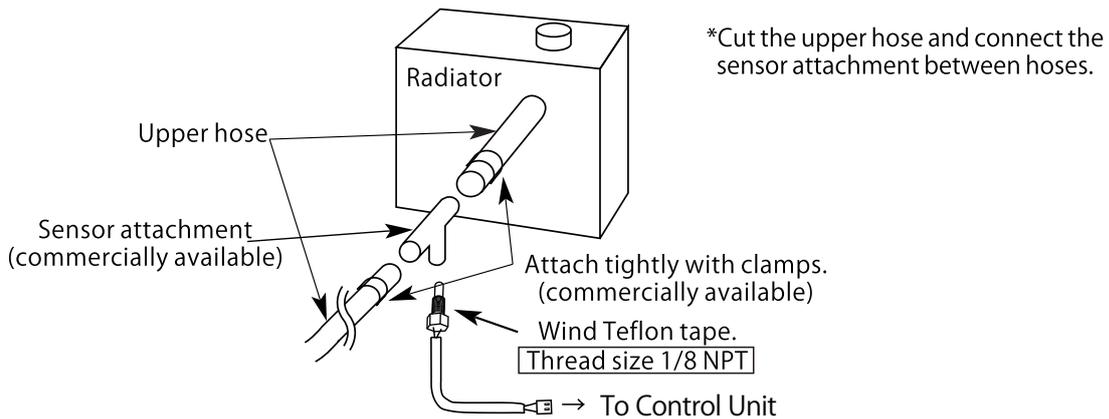
■How to attach sensors for oil pressure and oil temperature (Use a commercial sensor attachment.)

Detach the original
Oil Filter.

Sensor attachment
(commercially available)

Wind Teflon tape.
Thread size 1/8 NPT

Engine

Wind Teflon tape.
Thread size 1/8NPT

O ring
(provided with commercial parts)

To Control Unit

Engine
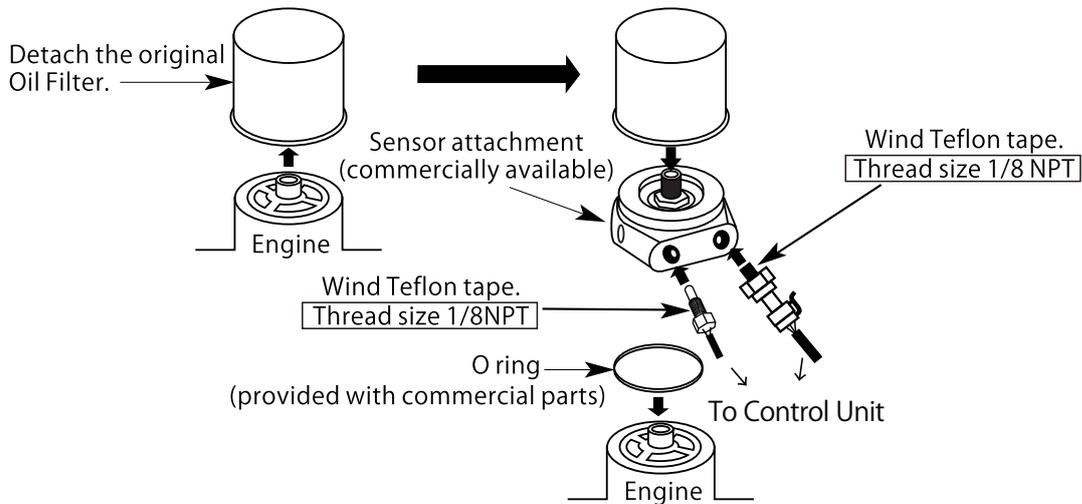
■How to attach boost sensor

Attach tightly with clamps.
(commercially available)

Three-way joint
(a)
(c)
(b)

Surge tank

Fuel regulator

Rubber hose

To Control Unit
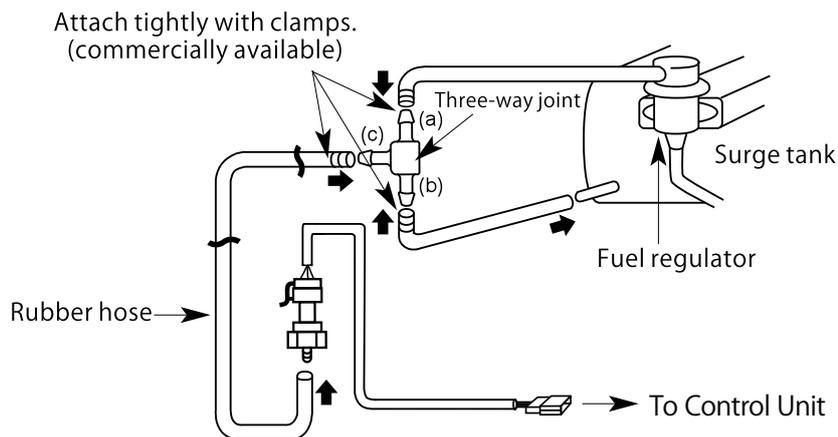
■How to attach pressure sensor for fuel pressure (Use a commercial three-way joint and hose unions.)

Fuel pressure regulator

Fix tightly with clamps.
(commercially available)

*Cut the fuel feed pipe and install hose unions.
*If the material used for the inner surface of fuel feed pipe is resin, a hose union may not be fixed. Check the material before cutting the fuel feed pipe.

Wind Teflon tape.

Fuel return pipe
(low pressure)

Be sure not to twist.

Hose union
(commercially available)

Three-way joint
(commercially available)

Thread size 1/8 NPT

To Control Unit

Fuel feed pipe (high pressure)

■How to attach exhaust temperature sensor for exhaust temperature

Make a threaded screw hole (1/8 NPT).

Fitting(a)

Fitting(b)

Exhaust temperature sensor

To Control Unit

Exhaust manifold

Thread size 1/8 NPT
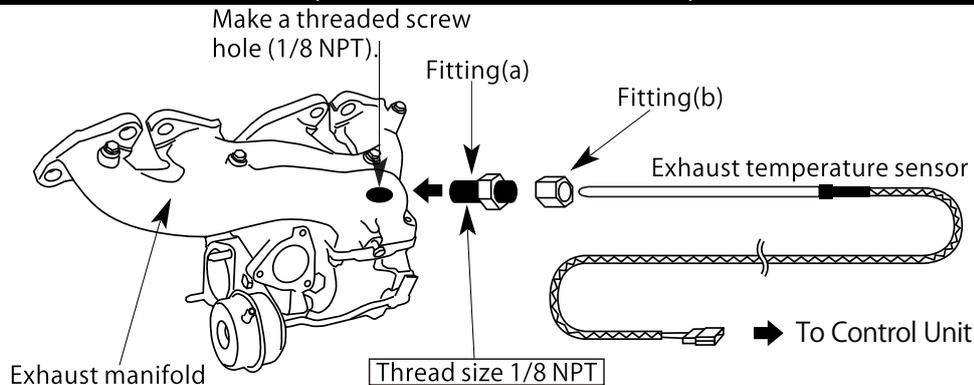
1) Make a 1/8 NPT threaded screw hole in the exhaust manifold pipe. (Weld if the pipe wall thickness is not enough)
2) Dismantle the fitting. Do not crush the bushing inside the fitting.
3) Tighten the fitting(a) to the hole of the exhaust manifold.
4) Pierce the sensor through the fitting(b) and the bushing.
5) Insert the edge of the sensor into the fitting(a) and position it at the center of the exhaust pipe.
6) Tighten the fitting(b).

■ How to wire Tacho, Wideband, Volts #2 and Speed signal wires.

1) Connect the signal wire to Tacho / RPM signal of ECU. (Blue wire)
2) Connect the signal wire to Wideband controller. (Yellow wire)
3) Connect the signal wire to Volts #2 / Aux Battery. (White wire)
4) Connect the signal wire to Speed signal of ECU. (Green wire)
5) Then connect the signal wires cable to Control Unit.

7 -3-2. Connect the negative(-) battery terminal.

7 -3-3. Set the speed pulse, number of cylinders, tachometer response value after all installation and wiring are done by referring to operation section.

※ The Tacho / RPM signal needs to be a 5v or 12v square wave pulse.

Waveform pulse

V1：4V and above
V2：1V and below

Volt

V1

V2

Time

17
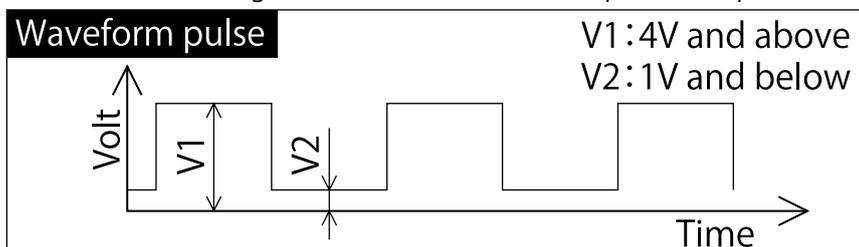
⑦ -4. Installation of **Gauge** and wiring of meter wire

1. The bolt holder and the hexagon head bolt are inserted into the slit of brace. And the knob is temporarily fastened.

2. Insert convex part of the mounting bracket over the legs of the brace. And Attach the mounting bracket to the brace with the bolt, nut and washer included in the kit as shown in the figure 1.

3. Connect the meter wire to the connector on the backside of Gauge.

4. Insert the bolt holder of brace into the groove of Gauge and then fasten the knob as shown in figure 2. If it is too tight-fitting to insert, unfasten the knob once.

5. Adjust the angle and location to attach. The mounting bracket is bendable to fit on the Place to attach.

6. Attach double sided tape on backside of the mounting bracket in figure 4.

7. Confirm the knob and bolts are fastened firmly and Gauge is fixed firmly.
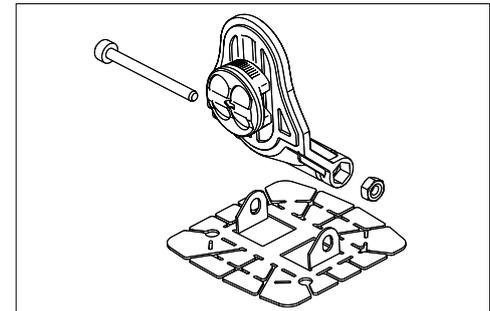
【Fig.1】Fix brace on bracket
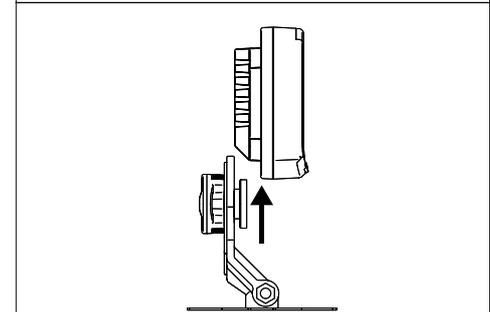
【Fig.2】Insert brace to Gauge
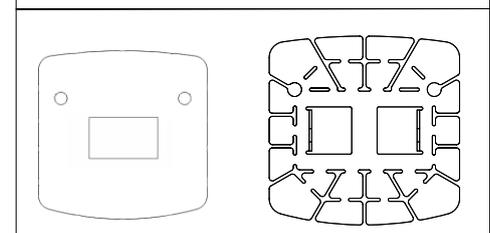
Screw holes(Φ4.4mm)
【Fig.3】Attach tape on bracket

Confirmation

❶ Use appropriate dashboard cleaning liquids (commercially available) to clean the area where the double sided tape will be attached.

⚠ If the adherence of double sided tape is not enough, use commercial tapping screws(4mm).

⑦ -5. Setting and checking of operations

Both the handset and the buttons on the gauge itself are used to setup and operate, in this manual we will refer to which of the two is used to make changes using the below:

Handset used → **HANDSET**   Gauge buttons used → **GAUGE**

1. Turn the ignition ON. Confirm DC SOURCE LED of Control unit lights up.
   ⇒ Refer to ⑦-2. Procedure .
2. Confirm the opening mode is performed (and then STREET display mode is displayed).
   ⇒ Refer to ⑧ -5. Opening mode, ⑧ -6-2. Real mode
3. Confirm short-circuit (SHORT) or disconnected (OPEN) errors are not displayed.
   ⇒ Refer to ⑧ -8. Error display
       ❶ If an error is displayed
       → Turn the ignition off immediately, and then confirm the wiring of the sensor and the sensor wire.
4. Set up the speed pulse, number of cylinders, and tachometer response in the system setup mode.
   ⇒ Refer to ⑧ -2. System setup mode
5. Set up the items displayed and warning values.
   ⇒ Refer to ⑧ -3. Display setup mode, ⑧ -7. Warning setup mode
6. Confirm functions properly.

⚠ Warning

❶ Set up while the vehicle is stopped.

8 Operation   8-1. State transition diagram

Breakdown of the config menus, selectable screens and functions.
Also shows what the handset is used to navigate, and which the gauge buttons are used to navigate.

Opening mode

▼ IGN ON

Ending mode

▲ IGN OFF

Real mode(STREET / GAUGE 1 / GAUGE 2 / TIME ATTACK)

HANDSET

System setup mode(S1)
- Units setting
- Speed pulses setting
- Number of cylinders setting
- Tachometer response setting
- Dimmer setting
- Special display setting
- Warm-up setting
- Clock setting
- Boost response setting
- ODO setting
- Base fuel pressure
- Air fuel boost limit
- Air fuel time delay
- Air fuel type

Display item change
- Display zone size change

Brightness adjustment

Real peak mode
- Real peak reset mode

Record mode
- Rec peak mode

Playback mode
- Pause
- Fast-forward・Single frame forward
- Rewind・Single frame rewind
- Play peak mode

Warning setup mode
- Sensor Calibrate

GAUGE

Display setup mode(S2)
- REV BAR scale range setting
- REV BAR maximum scale value setting
- Shift light indicator lighting pattern setting
- Shift light indicator lighting color setting
- Shift light indicator lighting step setting
- Oil pressure warning limit setting
- Fuel pressure warning limit setting
- Warning buzzer setting
- Alarm setting
- Display No.

STREET
- Trip reset
- Display mode change

↓

GAUGE1
- Display mode change

↓

GAUGE2
- Display mode change

↓

TIME ATTACK
- Time attack measuring
- Best score clearing
- Display mode change

GAUGE

Display function, etc.
- Warning display
- Warm-up display
- Special display
- Error display
- Alarm

20

If connecting more than one gauge to the system

※ Note the DISPLAY No. setup and the ACITVE display procedure is only used if you have connected more than one gauge to the system, these two pages are only required reading if you have more than one gauge connected to the system.

If you are connecting more than one multi gauge display, you will first need to set the DISPLAY No. on each gauge in the DISPLAY SETUP menu. Each additional gauge connected will need to be assigned its own unique Display No. to function correctly.

⇒ Refer to ⑧-3-11. Display number setting.

Once the display number for each gauge is selected, you need to understand how the ACTIVE gauge system works, using the handset you can select which of the gauges that are connected is the ACTIVE gauge at the time.

Setting the gauge as ACTIVE allows you to then change the screen layout on that gauge which has been set as ACTIVE.

The ACTIVE gauge will also control the brightness of all other gauges, it will also be the only gauge where the SYSTEM SETUP menu will display and changes made in this menu on the ACITVE gauge will be reflected on all other connected gauges. Also the WARNING SETUP values on the ACTIVE gauge will also be set in all other gauges connected as well.

ACTIVE display	Non-ACTIVE display

```
SYSTEM SETUP
UNIT      km/h·kPa·°C
SPEED PULSES        4
ENGINE CYLINDERS    4
```
```
SYSTEM SETUP
```

How to change the ACTIVE gauge

Below is the process how you change the ACTIVE gauge, note we recommend you first select the gauge as ACTIVE that will be your primary gauge, then setup the SYSTEM SETUP settings and WARNING SETUP settings first, and the screen layout on your primary gauge. Once you have setup your first screen, use the procedure to change the ACTIVE gauge to your second gauge, then you can setup your screen layout on that gauge, then once done, change the ACTIVE gauge back to your primary first gauge.

■ How to change the ACTIVE Gauge

HANDSET (slide switch position：**L SET** ⟩)

1. Set the slide switch to **L SET** ⟩ .
2. The ACTIVE Gauge is changed each time **M ▼** ⟩ or **R ▲** ⟩ button is pressed and **[ACTIVE]** is displayed in multi-display zone (Zone A5).

※ **[ACTIVE]** Is not displayed when only one gauge is connected.

⇒ Refer to ⑧ -4. For instructions on how to change the layout of the readouts displaying on the ACTIVE screen.

8 -2. System setup mode (S1)

Set the speed pulse, number of cylinders, tachometer response, and so on.

⚠ Caution

❶ Make sure all the setting is done correctly. The product doesn't operate properly.

❶ Set up while the vehicle is stopped.

HANDSET (slide switch position : **L SET**)

1. Set the slide switch to **L SET** .
2. By pressing **L !WARN.SET** button long, the display shifts to system setup mode, and SYSTEM SETUP menu is displayed. UNIT setup is highlighted at the start.
3. Choose the item to change by pressing **M ▼** or **R ▲** button. By pressing the **L !WARN.SET** button, the item to setup is highlighted.
4. Change the setting properly by pressing **M ▼** or **R ▲** button. By pressing **L !WARN.SET** button, the setting is framed and set.
5. Return the slide switch to **U REAL** or **M PLAY** after all the settings are done.

Setting items	On the screen	Default
Units setting	UNIT	km/h · PSI · ℃
Speed pulses setting	SPEED PULSES	4
Number of cylinders setting	ENGINE CYLINDERS	4
Tachometer response setting	TACHO RESPONSE	1 : HIGH
Dimmer setting	DIMMER	Manual
Special display setting	SPECIAL MODE	ON
Warm-up setting	WARM UP MODE	OFF
Clock setting	CLOCK	1:00(+B ON)
Boost response setting	BOOST RESPONSE	10
ODO setting	ODO SET	0
Base fuel pressure setting	BASE FUEL PRESSURE	40.0 PSI
Air fuel boost limit setting	AIR FUEL BOOST LIMIT	10.0 PSI
Air fuel time delay setting	AIR FUEL TIME DELAY	4 SEC
Air fuel type setting	AIR FUEL TYPE	AFR

⑧ -2-1. Changing display units & combinations [UNIT]

To change the combination of display units, use the process below.
It is possible to run any combination of (km/h, MPH), (kPa, PSI) or (℃ , °F)

Press the (**L !WARN.SET**) button to highlight
the UNIT selection.

Now press the (**SET R**) button to select
which UNIT you wish to change.

Once the unit set is selected you wish to
change, press the (**L SELECT**) button to
change between units, kPa or PSI for example.

Once units have been selected,
press the (**L !WARN.SET**) button to save.

❶ Note if you have more than one screen
connected, you will need to do this process
on each screen separately. After setting up
the first screen, you will need to change the
ACITVE screen to your second screen and
set the units on it as well, once done change
the ACTIVE screen back to your primary
screen.

※ Process on how to change ACTIVE screens
can be found on page 21 of this manual.

⑧ -2-2. Speed pulse setting [SPEED PULSES]

Choose [SPEED PULSES] by pressing (**M** ▼) or (**R** ▲) button, and
then press (**L** !WARN.SET) button. Choose proper speed pulse by pressing
(**M** ▼) or (**R** ▲) button, and then press (**L** !WARN.SET) button.

2 ↔ 4 ↔ 8 ↔ 16 ↔ FREE

■ Pulse free setting

1. If your vehicle is not 2, 4, 8, or 16 pulse, choose FREE and press
   (**L** !WARN.SET) button.

2. If you set the pulse now, select NEW VALUE
   by pressing (**M** ▼) or (**R** ▲)
   button and press (**L** !WARN.SET) but-
   ton. If you do not set the pulse now,
   select CURRENT VALUE. by pressing
   (**M** ▼) or (**R** ▲) button and press
   (**L** !WARN.SET) button.

```
SYSTEM SETUP
PULSE FREE
 CURRENT VALUE
 NEW VALUE
```

3. After NEW VALUE is selected, press
   (**L** !WARN.SET) button when the built-
   in speedometer of your vehicle indicates
   60km/h or 40MPH.

```
SYSTEM SETUP
PULSE FREE
Push  •REC
      ►PLAY
      !WARN.
       SET
 at 60km/h
```

4. The speed pulse is within the limits of setting, COMPLETED is displayed and buzzer sounds. Press **L !WARN.SET** button to set. When the speed pulse is NOT within the limits of setting, INCOMPLETED is displayed. Press **L !WARN.SET** button to return the system setup mode.

```
SYSTEM SETUP
PULSE FREE

Speed Pulse
Completed!
```

※ Ask fellow passengers to set up. Do not set up at the wheel.

※ It may be unable to be adapted for some models of vehicles.

⑧ -2-3. Number of cylinders setting [ENGINE CYLINDERS]

Choose [ENGINE CYLINDERS] by pressing **M ▼** or **R ▲** button, and then press **L !WARN.SET** button. Choose proper number of cylinders by pressing **M ▼** or **R ▲** button, and then press **L !WARN.SET** button.

1 ↔ 2 ↔ 3 ↔ 4 ↔ 5 ↔ 6 ↔ 8

```
SYSTEM SETUP
UNIT            km/h·kPa·°C
SPEED PULSES            4
ENGINE CYLINDERS       4
```

※ When setting the number of cylinders for a rotary engine, set it to 4 cylinders for 2 rotors(setting of RX-8 is 2 cylinders), and to 6 cylinders for 3 rotors.

⑧ -2-4 Tachometer response setting [TACHO RESPONSE]

Choose [TACHO RESPONSE] by pressing **M ▼** or **R ▲** button, and then press **L !WARN.SET** button. Choose preferred number of level by pressing **M ▼** or **R ▲** button, and then press **L !WARN.SET** button. Check the actual response and select your preferred level.

1:HIGH ↔ 2:MIDDLE ↔ 3:LOW

```
SYSTEM SETUP
SPEED PULSES            4
ENGINE CYLINDERS       4
TACHO RESPONSE  1:HIGH
```

⑧ -2-5. Dimmer setting [DIMMER]

Choose [DIMMER] by pressing **(M ▼)** or **(R ▲)** button, and then press **(L !WARN.SET)** button. Select [AUTO] or [MANUAL] by pressing **(M ▼)** or **(R ▲)** button, and then press **(L !WARN.SET)** button.

If [AUTO] is selected, the brightness of display is adjusted automatically depending on the outside light. If [MANUAL] is selected, the brightness of display is fixed. AUTO level can be selected from 4 levels (3 automatic levels and constant maximum brightness level) by pressing **(R DIM/RESET)** button in real mode or record mode. (It is easy to realize the difference between 3 levels in dark place.)

MANUAL level can be selected from 5 levels (one more constant maximum brightness level in nighttime) by pressing **(R DIM/RESET)** button in real mode or record mode.

⇒ Refer to ⑧ -6-1. Refer to brightness adjustment.

```
SYSTEM SETUP
ENGINE CYLINDERS        4
TACHO RESPONSE  1:HIGH
DIMMER          MANUAL
```

⑧ -2-6. Special display setting [SPECIAL MODE]

Choose [SPECIAL MODE] by pressing **(M ▼)** or **(R ▲)** button, and then press **(L !WARN.SET)** button. Select [ON] or [OFF] by pressing **(M ▼)** or **(R ▲)** button, and then press **(L !WARN.SET)** button.

```
SYSTEM SETUP
TACHO RESPONSE  1:HIGH
DIMMER          MANUAL
SPECIAL MODE        ON
```

If [ON] is selected, a graphic animation is played after the speed signal keeps 0km/h(0MPH) for more than 10 seconds.

8 -2-7. Warm-up setting [WARM UP MODE]

Choose [WARM UP MODE] by pressing
〔M ▼〕or 〔R ▲〕button, and then
press 〔L !WARN.SET〕button. Select [WATER
TEMP] or [OIL TEMP] by pressing 〔M ▼〕
or 〔R ▲〕button, and then press
〔L !WARN.SET〕button.

WATER TEMP ↔ OIL TEMP ↔ OFF

```
SYSTEM SETUP
DIMMER          MANUAL
SPECIAL MODE        ON
WARM UP     WATER   40°c
MODE        TEMP
```

If [WATER TEMP] or [OIL TEMP] is selected, set
the temperature which warming-up is done by
pressing 〔M ▼〕or 〔R ▲〕button. If
〔M ▼〕or 〔R ▲〕button is pressed
long, the setting value changes quickly. Then
press 〔L !WARN.SET〕button to set.

```
SYSTEM SETUP
DIMMER          MANUAL
SPECIAL MODE        ON
WARM UP     WATER   40°c
MODE        TEMP
```

8 -2-8. Clock setting [CLOCK]

Choose [CLOCK] by pressing 〔M ▼〕
or 〔R ▲〕button, and then press
〔L !WARN.SET〕button. Set the watch(hour)
by pressing 〔M ▼〕or 〔R ▲〕button,
and then press 〔L !WARN.SET〕button.

```
SYSTEM SETUP
SPECIAL MODE        ON
WARM UP     WATER   40°c
MODE        TEMP
CLOCK             1:00
```

Set the watch(minute) by pressing 〔M ▼〕
or 〔R ▲〕button, and then press
〔L !WARN.SET〕button.

```
SYSTEM SETUP
SPECIAL MODE        ON
WARM UP     WATER   40°c
MODE        TEMP
CLOCK             1:00
```

⑧ -2-10. Boost response rate setting [BOOST RESPONSE]

Choose [BOOST RESPONSE] by pressing
(M ▼) or (R ▲) button, and then
press (L !WARN.SET) button. Select response
rate by pressing (M ▼) or (R ▲)
button, and then press (L !WARN.SET) button.

```
SYSTEM SETUP
WARM UP
 MODE          OFF
CLOCK              1:00
BOOST  RESPONSE      10
```

Response Rate:

3(Fast) ⟶ 40(Slow)

⑧ -2-11. ODO setting [ODO SET]

Choose [ODO SET] by pressing (M ▼)
or (R ▲) button, and then press
(L !WARN.SET) button. Set the ODO by
pressing (M ▼) or (R ▲) button,
and then press (L !WARN.SET) button.

```
SYSTEM SETUP
CLOCK              1:00
BOOST  RESPONSE      10
ODO SET    000000 MILE
```

8 -2-12. Base Fuel Pressure [BASE FUEL PRESSURE]

This setting is used to set your base fuel pressure so you can use the differential pressure readout. If you don't know your base fuel pressure, remove the vac line to your fuel pressure reg while your engine is running and take note of the fuel pressure reading on the screen, this will be your base fuel pressure, en ter this value and re-connect the vac line.

Choose [AIR FUEL BOOST LIMIT] by pressing M ▼ or R ▲ button, and then press L !WARN.SET button. Select pressure level by pressing M ▼ or R ▲ button, and then press L !WARN.SET button.
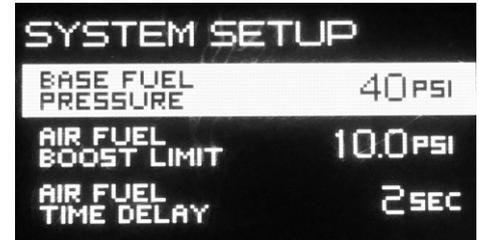
```
SYSTEM SETUP
BASE FUEL
PRESSURE          40 PSI
AIR FUEL
BOOST LIMIT       10.0 PSI
AIR FUEL
TIME DELAY         2 SEC
```

8 -2-12. Air Fuel Boost Limit [AIR FUEL BOOST LIMIT]

This setting is used in the wideband lean out warning system. You need to select what boost pressure and above you want the lean warning to be active. In most cases you set this 2psi below maximum boost pressure.

Choose [AIR FUEL BOOST LIMIT] by pressing M ▼ or R ▲ button, and then press L !WARN.SET button. Select pressure level by pressing M ▼ or R ▲ button, and then press L !WARN.SET button.
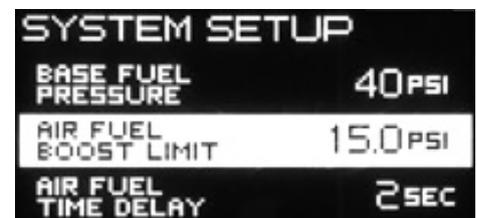
```
SYSTEM SETUP
BASE FUEL
PRESSURE          40 PSI
AIR FUEL
BOOST LIMIT       15.0 PSI
AIR FUEL
TIME DELAY         2 SEC
```

8 -2-13. Air Fuel Time Delay [AIR FUEL TIME DELAY]

This setting is used in the wideband lean out warning system as well. This setting sets a time delay before the warning will sound after the set warning values are met. This is to stop false warnings between gear changes for example. We recommend 2sec.

Choose [AIR FUEL TIME DELAY] by pressing M ▼ or R ▲ button, and then press L !WARN.SET button. Select time delay by pressing M ▼ or R ▲ button, and then press L !WARN.SET button.
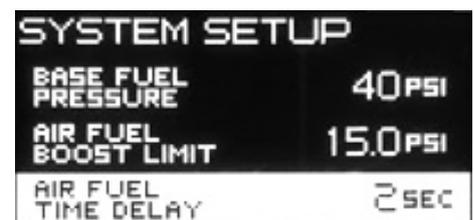
```
SYSTEM SETUP
BASE FUEL
PRESSURE          40 PSI
AIR FUEL
BOOST LIMIT       15.0 PSI
AIR FUEL
TIME DELAY         2 SEC
```

8 -2-14. Air Fuel Type AFR Or Lambda [AIR FUEL TYPE]

This setting is used in the wideband lean out warning system as well. This setting sets a time delay before the warning will sound after the set warning values are met. This is to stop false warnings between gear changes for example. We recommend 2sec.

Choose [AIR FUEL TYPE] by pressing
(M ▼) or (R ▲) button, and then
press (L !WARN.SET) button. Select time delay
by pressing   (M ▼) or (R ▲)
button, and then press (L !WARN.SET) button.

※ Note, when Air Fuel Type is changed to LAMBDA
   The settings and text for the readout on the gauge
   itself will change from Air / Fuel to LAMBDA.

SYSTEM SETUP

AIR FUEL BOOST LIMIT	10.00 PSI
AIR FUEL TIME DELAY	4 SEC
AIR FUEL TYPE	AFR

SYSTEM SETUP

AIR FUEL BOOST LIMIT	10.00 PSI
AIR FUEL TIME DELAY	4 SEC
AIR FUEL TYPE	LAMBDA

31

⑧ -3. Display setup mode (S2)

Set the rev bar display, indicator lighting, and warning buzzer, etc.

⚠ Caution

❗ Set up while the vehicle is stopped.

※ Stop the special display by pressing [L SELECT] or [SET R] button once when you set up if the graphic animation of special display is being played.

GAUGE

1. By pressing [L SELECT] and [SET R] buttons at the same time, the display shifts to display setup mode, and display setup menu is displayed. REV BAR SCALE setup is highlighted at the start.

2. Choose the item to change by pressing [SET R] button. By pressing [L SELECT] button, the setting is changed.

3. After all the display settings are done, press [L SELECT] and [SET R] buttons at the same time to return to real mode.

Setting items	On the screen	Default
REV BAR scale range setting	REV BAR RANGE	3000RPM
REV BAR maximum scale value setting	REV BAR MAX SCALE	8000RPM
Shift indicator LED pattern setting	SHIFT. IND. PATTERN	SINGLE
Shift indicator LED colour setting	SHIFT. IND. COLOR ALL	MULTI
Shift indicator LED step setting	SHIFT. IND. STEP	200RPM
Oil pressure warning limit setting	OIL PRESS WARNING LIMIT	3000RPM
Fuel pressure warning limit setting	FUEL PRESS WARNING LIMIT	10psi
Warning buzzer setting	DISPLAY WARNING BUZZER	ON
Alarm setting	ALARM	OFF
Display number setting	DISPLAY NO.	No.1

⑧ -3-1. REV BAR scale range setting [REV BAR RANGE]

The scale range of rev bar (the difference between maximum and minimum scale values) in digital display can be set.

Choose [REV BAR RANGE] by pressing [SET R] button. Select [3000RPM] or [4000RPM] by pressing [L SELECT] button.
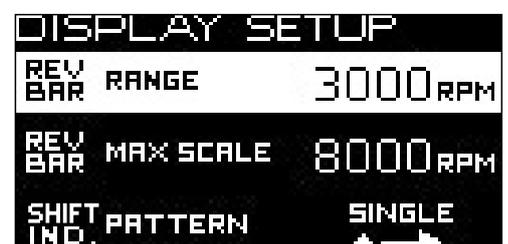
⑧ -3-2. REV BAR maximum scale value setting [REV BAR MAX SCALE]

The maximum scale value in digital display can be set. Choose [REV BAR MAX SCALE] by pressing **SET R** button. Each time **L SELECT** button is pressed, the value increases by 500RPM.

```
DISPLAY SETUP
REV
BAR  RANGE        3000 RPM

REV
BAR  MAX SCALE    8000 RPM

SEQ.
IND. PATTERN      SINGLE
```
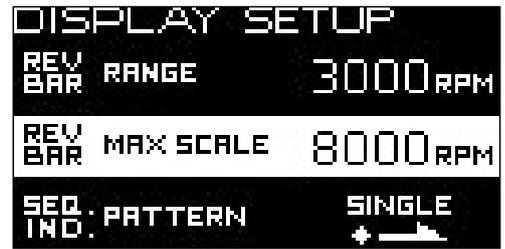
When the setting of REV BAR RANGE is 3000RPM, the lower limit of REV BAR MAX SCALE is 3000RPM. When the setting of REV BAR RANGE is 4000RPM, the lower limit of REV BAR MAX SCALE is 4000RPM.

Setting range：3000(4000)RPM ⟶ 11000RPM

REV BAR RANGE: 3000RPM
REV BAR MAX SCALE: 8000RPM
Display range: 5000RPM to 8000RPM

```
5      6      7      8

0-100km/h          0 km/h
BEST TIME     TIME
0:00.00       0:00.00
```

REV BAR RANGE: 4000RPM
REV BAR MAX SCALE: 8000RPM
Display range: 4000RPM to 8000RPM

```
4    5    6    7    8

0-100km/h          0 km/h
BEST TIME     TIME
0:00.00       0:00.00
```

⑧ -3-3. Shift indicator lighting pattern setting [SHIFT. IND. PATTERN]

Choose [SHIFT IND. PATTERN] by pressing **SET R** button. Select [SINGLE] or [DUAL] by pressing **L SELECT** button.

```
DISPLAY SETUP
REV
BAR  RANGE    3000 RPM

REV
BAR  MAX SCALE 8000 RPM

SHIFT
IND. PATTERN    SINGLE
```

```
DISPLAY SETUP
REV
BAR  RANGE    3000 RPM

REV
BAR  MAX SCALE 8000 RPM

SHIFT
IND. PATTERN    SINGLE
```

```
DISPLAY SETUP
REV
BAR  RANGE    3000 RPM

REV
BAR  MAX SCALE 8000 RPM

SHIFT
IND. PATTERN    DUAL
```
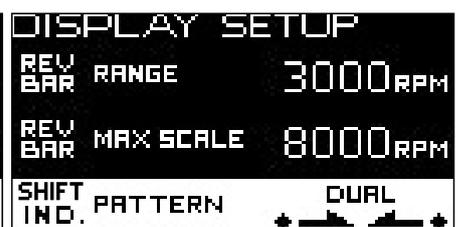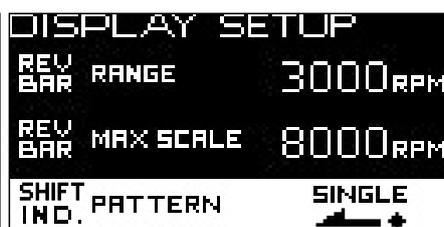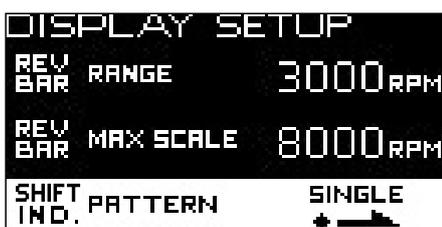
8 -3-4. Shift Indicator LED Colour Selection [SHIFT. IND. COLOUR]

The Shift Light Indicator LED's can be changed from all one colour such as all Blue or all Red for example, or you can change each LED's colour individually and have say the first 4 LED be Green and last 4 LED Red.

First you need to select if you wish to change all the LED colours at once using the COLOR ALL, or if you wish to change each LED individually using COLOR 1, COLOR 2 etc.

Choose [SEQ. IND. COLOR] pressing **SET R** button, then press **L SELECT** button to change between COLOR ALL, or COLOR 1 to 8, once you have selected which you want to change, press the **SET R** button to move to color change.

To change the colour for the selected above press the **L SELECT** button until your colour is chosen. Then press the **SET R** button to save change. Note this whole process needs to be repeated if wanting to change each LED's colour individually.

DISPLAY SETUP

REV BAR	MAX SCALE	8000 RPM
SHIFT IND.	PATTERN	SINGLE
SHIFT IND.	COLOR ALL	BLUE

DISPLAY SETUP

REV BAR	MAX SCALE	8000 RPM
SHIFT IND.	PATTERN	SINGLE
SHIFT IND.	COLOR 1	BLUE

DISPLAY SETUP

REV BAR	MAX SCALE	8000 RPM
SHIFT IND.	PATTERN	SINGLE
SHIFT IND.	COLOR ALL	MULTI

DISPLAY SETUP

REV BAR	MAX SCALE	8000 RPM
SHIFT IND.	PATTERN	SINGLE
SHIFT IND.	COLOR 1	RED

Shift Light Indicator LED Colour Numbers

34
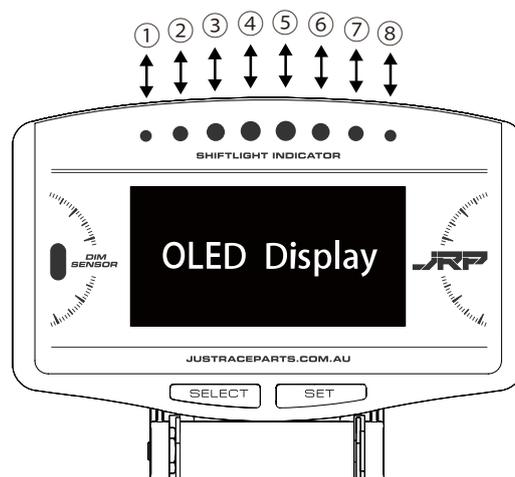
⑧ -3-5. Shift indicator lighting step setting [SHIFT. IND. STEP]

Choose [SHIFT IND. STEP] by pressing
SET R button. Select preferred step by
pressing **L SELECT** button.
Lighting step:
100RPM ⟶ 200RPM ⟶ 250RPM ⟶ 500RPM

⇒ Refer to ⑧ -9. Shift indicator

⑧ -3-7. Oil pressure warning limit setting [OIL PRESS WARNING LIMIT]

The warning function for oil pressure is only active when the engine
RPM is above this set value. RPM needs to be connected for the oil
pressure warning to function.

Choose [OIL PRESS WARNING LIMIT] by press-
ing **SET R** button. Each time **L SELECT**
button is pressed, the value increases by
500RPM.
Setting range：0RPM ⟶ 11000RPM

⑧ -3-8. Fuel pressure warning limit setting [FUEL PRESS WARNING LIMIT]

The warning function for fuel pressure is only active once manifold pressure
is above this set value.
Choose [FUEL PRESS WARNING LIMIT]
by pressing **SET R** button, and then press
L SELECT button to set the value.

8 -3-9. Warning buzzer setting [DISPLAY WARNING BUZZER]

The warning buzzer can be turned on and off.

Buzzer does not sound in playback mode independently of buzzer setting even while values exceed the warning settings. (Warning items are highlighted.)

Choose [DISPLAY WARNING BUZZER] by pressing SET R button. Select [ON] or [OFF] by pressing L SELECT button.

```
DISPLAY  SETUP
OIL PRESS
WARNING LIMIT        3000 RPM
FUEL PRESS
WARNING LIMIT        0.690 X100 kPa
DISPLAY
WARNING BUZZER            ON
```

※ Note there is a warning buzzer on the OLED Multi gauge, but also on the control unit. We recommend if using the OLED gauges only that you turn off the warning buzzer on the control unit as per this manual.

※ Warning buzzer can be turned on and off, but bleep of operation cannot be turned off.

8 -3-10. Alarm setting [ALARM]

Alarm can be activated at the set time.

(To activate the alarm, ignition key needs to be on at the set time.)

Choose [ALARM] by pressing SET R button.

To set the alarm OFF, select [OFF] by pressing L SELECT button and then press SET R button.

```
DISPLAY  SETUP
FUEL PRESS
WARNING LIMIT        0.690 X100 kPa
DISPLAY
WARNING BUZZER            ON
ALARM        OFF       1:00
```

To set the alarm ON, select [ON] by pressing L SELECT button and then press SET R button.

```
DISPLAY  SETUP
FUEL PRESS
WARNING LIMIT        0.690 X100 kPa
DISPLAY
WARNING BUZZER            ON
ALARM         ON       1:00
```

Set the watch(hour) by pressing L SELECT button and then press SET R button. If L SELECT button is pressed long, the digit changes quickly.

```
DISPLAY  SET UP
FUEL PRESS
WARNING LIMIT        0.690 X100 kPa
DISPLAY
WARNING BUZZER            ON
ALARM         ON       1:00
```

To set the alarm ON, select [ON] by pressing
L SELECT button and then press SET R
button.
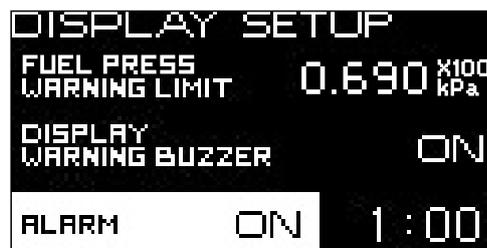
```
DISPLAY SETUP
FUEL PRESS              0.690 X100
WARNING LIMIT                 kPa
DISPLAY                        ON
WARNING BUZZER
ALARM        ON      1:00
```

Set the watch(hour) by pressing L SELECT
button and then press SET R button. If
L SELECT button is pressed long, the digit
changes quickly.

```
DISPLAY SET UP
FUEL PRESS              0.690 X100
WARNING LIMIT                 kPa
DISPLAY                        ON
WARNING BUZZER
ALARM        ON      1:00
```

Set the watch(minute) by pressing L SELECT
button and then press SET R button. If
L SELECT button is pressed long, the digit
changes quickly.

```
DISPLAY SET UP
FUEL PRESS              0.690 X100
WARNING LIMIT                 kPa
DISPLAY                        ON
WARNING BUZZER
ALARM        ON      1:00
```
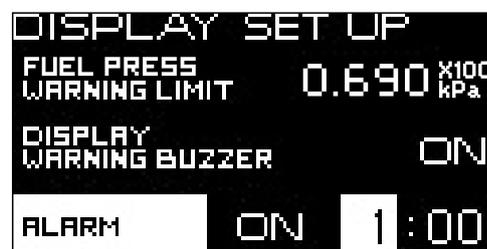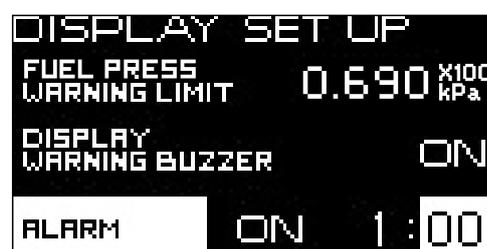
8 -3-11. Display number setting [DISPLAY NO.]

Choose [DISPLAY NO.] by pressing SET R
button. Select proper display number by
pressing L SELECT button.

```
DISPLAY SET UP
DISPLAY                       OFF
WARNING BUZZER
ALARM        OFF     1:00
DISPLAY NO.          NO.1
```

※If you are only using 1x OLED multi gauge screen with the kit, there is
no need to change the display number. But if you are going to use
more than one OLED gauge, you need to first set the display number
for each gauge. Eg, OLED gauge 1 will be set to Display No.1, and OLED
gauge 2 will be set to Display No.2. If you do not setup the display
numbers like this, the gauges will not operate correctly.

Turn the ignition key off once and turn on again if the display numbers are
changed.

37

⑧ -4. How to change what sensors / inputs are displayed on the screen

There are 4 display modes (STREET, GAUGE1, GAUGE2, and TIME ATTACK). The sizes and positions of display items can be changed in each display mode.
(The default display mode is STREET after the opening mode is performed.)
⇒ Refer to ⑧ -6-2. Real mode for display modes
Changes in positions (zones) and sizes are limited differently in each display mode.
⇒ Refer to ⑧ -6-2-5, ⑧ -6-2-6, and ⑧ -6-2-7. for changeable zone.

Display is divided into 6 zones (Zone A), and the size of each zone can be changed as following figure (Zone B and C):

Zone A1	Zone A2
Zone A3	Zone A4
Zone A5	Zone A6

Zone B1	
Zone B2	
Zone A5	Zone A6

Zone C1	Zone C2
Zone A5	Zone A6

Items which can be selected

Zone A：Basic style

SPEED ↔ OIL PRESS ↔ FUEL PRESS ↔ DIFF PRESS ↔ BOOST ↔ AIR/FUEL ↔ OIL TEMP
↕ ↕
NO DISPLAY ↔ CLOCK ↔ VOLTAGE #2 ↔ VOLTAGE #1 ↔ EGT ↔ IAT ↔ WATER TEMP

Zone B：Expanded style and REV BAR

SPEED ↔ TACHO-(DIGITAL) ↔ TACHO-(BAR) ↔ OIL PRESS ↔ FUEL PRESS ↔ DIFF PRESS ↔ BOOST
↕ ↕
NO DISPLAY AIR/FUEL
↕ ↕
CLOCK ↔ VOLTAGE #2 ↔ VOLTAGE #1 ↔ EGT ↔ IAT ↔ WATER TEMP ↔ OIL TEMP

Zone C：Graph style
(Graph showing −15 to +5℃ (°F) of warning value & basic display & warning set value)
Oil Temp ↔ Water Temp ↔ IAT

HANDSET (slide switch position：⬛ **SET** ⟩)

1. Set the slide switch to ⬛ **SET** ⟩.
2. Press **(M** ▼ **)** and **(R** ▲ **)** buttons at the same time. Zone1 changes to check.
3. Choose a zone to change by pressing **(M** ▼ **)** button.
4. Choose zone A, B, or C by pressing **(R** ▲ **)** buttons.

   Zone A1 → B1 → C1   Zone A3 → B2   Zone A2 → C2
       ↑_____| ↑_____| ↑_____|

   ⇒ Refer to ⑧ -6-2-5, ⑧ -6-2-6, and ⑧ -6-2-7. for changeable zone.

   By pressing **(L ! WARN.SET)** button, the zone is highlighted.

5. Press **(M** ▼ **)** or **(R** ▲ **)** button to select an item to display in the zone. Then press **(L ! WARN.SET)** button to set.

6. Return the slide switch to ⬛ **REAL** ⟩ or ⬛ **PLAY** ⟩ after all the settings are done.

※ Zone A5 is a multi-display zone. When the dimmer level is changed, etc., the message is displayed in the multi-display zone for a moment even while the set item is displayed. When values exceed the warning settings, etc., the warning message is also displayed in the multi-display zone automatically. Do not set an item you want to check all the time in the multi-display zone.

8 -5. Opening mode, Ending mode

When ignition is turned on, the OLED multi gauge will perform an opening animation. When the ignition is turned off, the gauge will also perform a ending closing animation.

Confirmation

⚠ Depending on vehicles, the ignition is not turned off immediately after the key is turned off. In this case, ending mode doesn't start until the ignition is turned off.

■ Change of Opening mode/Ending mode

Opening and ending modes can be selected from A and B types by sliding the dip switch 2 on the Control unit.
Change the type when the ignition is off.
Both types consist of digital displays and lighting of sequential indicators. Try both types!

8 -6. Operation mode

⚠ Warning

❶ In order to ensure safe driving, check the information on the gauge only for a short period of time. Looking at the display for a long period of time could distract attention from the road and result in an accident.

⊘ Do not operate while driving.

8 -6-1.Brightness adjustment

HANDSET (slide switch position：**U REAL**〉)

The brightness can be adjusted by pressing **R DIM/RESET** button in real mode and record mode. AUTO and MANUAL can be selected in the setting of dimmer control in system setup mode.

⇒8 -2-5. Refer to Dimmer setting [DIMMER]

AUTO：3 automatic levels and constant maximum brightness level
(AUTO is not interlocked with vehicle dimmer switch on/off.)
MANUAL：5 constant levels each in daytime and nighttime being interlocked with ve-

hicle dimmer switch (and one more constant maximum brightness level in nighttime)
Defaults are as follows: MANUAL⋯ILM. LEVEL5
AUTO⋯ILM. LEVEL3

	AUTO	MANUAL
OLED Display	controlled automatically	interlocked with vehicle dimmer (5 levels each in day & nighttime)
Shift light indicator	changed automatically (one level each in day & nighttime)	interlocked with vehicle dimmer (one level each in day & nighttime)
Handset illumination	changed automatically (light up/light off)	interlocked with vehicle dimmer (light up/light off)
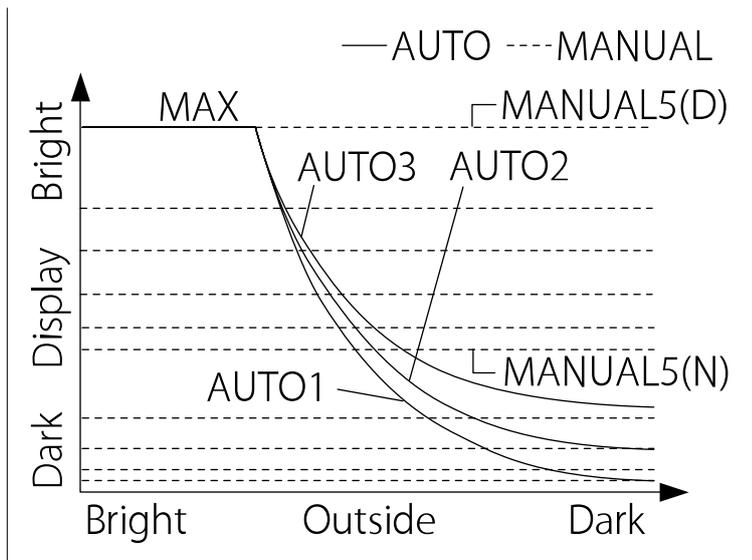
The illumination level is displayed for 0.5 second in multi-display zone (Zone A5) when the brightness is adjusted.

⑧ -6-2. Real mode

After the opening animation ends, the gauge will shift to real mode. The gauge is now displaying real time readings of your connected sensors and inputs.

GAUGE

There are 4 display modes. The display modes can be changed each time ⌐L SELECT⌐ button is pressed. The default is STREET display mode.

STREET ⟶ GAUGE1 ⟶ GAUGE2 ⟶ TIME ATTACK

STREET

GAUGE1

GAUGE2

TIME ATTACK

⑧ -6-2-1. Warning display

While a value exceeds the warning setting, the zone that the warning item is displayed is highlighted. (The warning setting value is highlighted in Zone C.) The warning display continues for 5 seconds at shortest even when the warning condition is for less than 5 seconds. Oil pressure and fuel pressure warnings are displayed when dipping from the warning settings.
 While warnings are displayed, buzzer sounds if the buzzer sounds is set on.
Tachometer (digital and bar) is not highlighted even while the value exceeds the warning setting.
Warning buzzers on Control unit and Gauge can be turned on/off separately.
⇒ Refer to ⑧ -7. Warning setup mode for how to set warnings.

⑧ -6-2-3. Warm-up display

Setting the water temperature or oil pressure in system setup mode runs warm-up display. While the actual temperature is lower than the set value, the name of item (oil press or water temp) blinks once a second.
Blinking stops when the actual temperature exceeds the setting value.

※ Special display is not performed independently of setting of special display during warm-up display.

⑧ -6-2-4. Special display

A graphic animation is played after the speed signal keeps 0km/h(0MPH) for more than 10 seconds by setting the special mode on.
Sensoring information, clock, and idling time are displayed during the special display. Idling time is not counted when the vehicle engine is stopped even when the ignition is on.

Special display is stopped when
- speed signal is input
- [L SELECT] or [SET R] button is pressed
- the mode is changed with the switch unit of Control unit

※ Unless the speed signal is not input, even if special display is stopped the idling time keeps being counted. And the cumulative idling time is displayed after the speed signal keeps 0km/h(0MPH) for more than 10 seconds again.

Special display is not played during
- warm-up
- warning
- short-circuit or wire disconnection
- alarm
- time attack mode
- measuring time attack

⑧ -6-2-5. STREET

STREET display mode displays speed, odometer, and tripmeter all the time.

※ The speed, odometer, and tripmeter are just for reference. If there is a margin of error in speed pulses setting, the margin of error is accumulated not only on the speed but also on the odometer and tripmeter.

■ Default display setting

Clock	Water Temp
Speed	
ODO	TRIP

× is displayed on the item zone that sensors are not connected.

■ Zones which the display item can be changed

Zone A1	Zone A2
Speed	
ODO	TRIP

Zones that the display item can be changed are A1 and A2.

⇒ Refer to ⑧ -4. Display item change.

■ Reset of tripmeter

GAUGE

The tripmeter can be reset by pressing **SET R** button long during STREET display mode.

※ The odometer cannot be reset.

⑧ -6-2-6. GAUGE1, GAUGE2

Display items can be changed in all the zones in GAUGE display modes. 2 layouts can be set in GAUGE1 and GAUGE2. (Odometer and tripmeter cannot be displayed.)

■ Default display setting

GAUGE1

REV(Digital)	
Water Temp	Oil Temp
Speed	Oil Press

GAUGE2

Oil Temp	Water Temp
Clock	Speed

✕ is displayed on the item zone that sensors are not connected.

■ Zones which the display item can be changed

Zone A1	Zone A2
Zone A3	Zone A4
Zone A5	Zone A6

Zones that the display item can be changed are A1 through A6.

⇒ Refer to ⑧ -4. Display item change.

⑧ -6-2-7. TIME ATTACK

Clockings of 0-100km/h and 0-200km/h are available in real mode. While using MPH setting not km/h, clockings of 0-60MPH and 0-100MPH are available instead.

※ Please read the part of 0-100km/h and 0-200km/h in a different way as 0-60MPH and 0-100MPH if you use MPH setting.

⚠ Warning

⊘ Do not use the TIME ATTACK function in open roads. It is only for closed courses.

■ Default display setting

REV(Bar)	
Speed	
BEST TIME	TIME

✕ is displayed on the item zone that sensors are not connected.

■ Zones which the display item can be changed

Zone A1	Zone A2
Speed	
BEST TIME	TIME

Zones that the display item can be changed are A1 and A2.

⇒ Refer to ⑧ -4. Display item change.

■ Time attack setting (Switchover of 0-100km/h and 0-200km/h)

GAUGE

1. Time attack menu appears by pressing
   `SET R` button.
2. Highlight [SET UP] by pressing `L SELECT`
   button, and then press `SET R` button.

3. Highlight [SELECT 0-100 km/h] or
   [SELECT 0-200 km/h] by pressing
   `SET R` button.
4. Press `L SELECT` button to set.
5. Highlight [RETURN] by pressing `L SELECT`
   button, and then return to the time attack
   menu by pressing `SET R` button.
6. Highlight [RETURN] by pressing `L SELECT` button, and then return to the
   time attack display by pressing `SET R` button.

■ Measuring time attack

GAUGE

1. Time attack menu appears by pressing `SET R` button.
2. Highlight [START] (by pressing `L SELECT` button), and then press
   `SET R` button. [0-100km/h] or [0-200km/h] blinks with 0:00:00 on the
   display and is ready to measure.   If `SET R` button is pressed (mea-
   suring is started) while driving, measuring is not started up until the speed
   gets to 0 km/h (0MPH) and then speed signal is input again. Buzzer sounds
   when measuring starts.
3. Measuring is terminated when the vehicle speed gets to 100km/h under
   0-100 km/h setting or 200km/h under 0-200 km/h setting. Best time part
   blinks and buzzer sounds when a new record is set. Time part blinks when
   a new record is not set.
※ Press `SET R` button to cancel measuring while measuring.
※ While measuring 0-200km/h, the best time record for 0-100km/h will be
   renewed when a new record of 0-100km/h is set.

■ Clearing the best score

GAUGE

1. Time attack menu appears by pressing ▬**SET** **R** button.
2. Highlight [SET UP] by pressing **L** **SELECT** button., and then press ▬**SET** **R** button.
3. Highlight the score to delete by pressing **L** **SELECT** button.
4. Press ▬**SET** **R** button. The score is cleared and the best time display indicate 0:00:00.
5. Highlight [RETURN] by pressing **L** **SELECT** button., and then press ▬**SET** **R** button to return to the time attack menu.
6. Highlight [RETURN] by pressing **L** **SELECT** button, and then return to the time attack display by pressing ▬**SET** **R** button.

8 -6-3. Real peak mode

The peak values recorded while driving and idling are displayed during real mode. The maximum and minimum values are displayed in order as for oil pressure and fuel pressure. The peak values can be reset.

The peak value of fuel pressure is displayed in the fuel pressure zone even while displaying differential pressure.

▲ **PEAK** is displayed in multi-display zone (Zone A5) during peak mode.

HANDSET (slide switch position : **U** **REAL**)

IF NEITHER OIL PRESSURE NOR FUEL PRESSURE SENSOR IS CONNECTED:

1. Set the slide switch to **U** **REAL** .
2. Press **M●PEAK** button to change the display to real peak mode.
3. By pressing **M●PEAK** button, the display shifts to real mode.

IF EITHER OIL PRESSURE OR FUEL PRESSURE SENSOR IS CONNECTED:

1. Set the slide switch to **U** **REAL** .
2. Press **M●PEAK** button to change the display to real peak mode (maximum value).

48

3. Press **(M●PEAK)** button again to change the display to real peak mode (minimum value of oil pressure and fuel pressure).

4. By pressing **(M●PEAK)** button, the display shifts to real mode.

8 -6-4. Real peak reset mode

Peak values can be reset. Regarding oil pressure and fuel pressure, both the maximum value and the minimum value are reset. **PEAK RESET** is displayed for one second in multi-display zone (Zone A5) during peak reset mode.

HANDSET (slide switch position : **U REAL⟩**)

1. Set the slide switch to **U REAL⟩** .
2. Press **(M●PEAK)** button to change the display to real peak mode.
3. By pressing **(R DIM/RESET)** button, the peak values are reset and he display shifts to real mode.

8 -6-5. Record mode

Driving data can be recorded up to 5 minutes. **● REC** and recording time are displayed in multi-display zone (Zone A5) during record mode.

HANDSET (slide switch position : **U REAL⟩**)

1. Set the slide switch to **U REAL⟩** .
2. Press **(L●REC)** button to change the display to record mode.
3. Recording is terminated by pressing **(L●REC)** button again or after 3 minutes go by from start of recording. And then the display shifts to real mode.

8 -6-6. Rec peak mode

The peak values recorded while recording are displayed during record mode. The maximum and minimum values are displayed for oil pressure and fuel pressure. The peak value of fuel pressure is displayed in the fuel pressure zone

49

even while displaying differential pressure.
●▲ REC PEAK is displayed in multi-display zone (Zone A5) during rec peak mode.

> **CLOCK** 10:24 **WATER T.** 62℃
> 98 km/h
> ● ▲ **REC PEAK** **TRIP**
> 0:03.54 123.4 km

HANDSET (slide switch position ： **U** **REAL** ⟩)

IF NEITHER OIL PRESSURE NOR FUEL PRESSURE SENSOR IS CONNECTED:

1. By pressing **M●PEAK** button in rec mode, the display shifts to rec peak mode.
2. Press **M●PEAK** button to shifts to record mode. Or press **L●REC** button to shift to real mode. Recording is terminated after 5 minutes go by from start of recording, and then the display shifts to real mode.

IF EITHER OIL PRESSURE OR FUEL PRESSURE SENSOR IS CONNECTED:

1. By pressing **M●PEAK** button in rec mode, the display shifts to rec peak mode (maximum value).
3. Press **M●PEAK** button again to change the display to rec peak mode (minimum value of oil pressure and fuel pressure).
3. Press **M●PEAK** button to shifts to record mode. Or press **L●REC** button to shift to real mode. Recording is terminated after 5 minutes go by from start of recording, and then the display shifts to real mode.

8 -6-7. Playback mode

Recorded data is replayed. Pausing, fast- forwarding, rewinding, single frame forwarding, and single frame rewinding for data are possible.
▶ **PLAY** and the playback time are displayed in multi-display zone (Zone A5) during playback mode.

> **CLOCK** 10:24 **WATER T.** 62℃
> 98 km/h
> ▶ **PLAY** **TRIP**
> 0:01.34 113.4 km

HANDSET (slide switch position ： **M** **PLAY** ⟩)

1. Set the slide switch to **M** **PLAY** ⟩ .
2. The recorded data is replayed by pressing **L▶PLAY** button.
3. Playback is stopped by pressing **L▶PLAY** button or when the data is replayed to the end. And then the display shifts to real mode.

8 -6-7-1. How to operate recording data

■ Pause

To stop replaying, press (M ◁◁) button or (R ▷▷) button during payback.   Data is replayed again by pressing (L ▶PLAY) button. **II PAUSE** is displayed in multi-display zone (Zone A5) during pause.
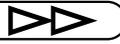
```
CLOCK          WATER T.
10:24          62℃
          98 km/h
II [PAUSE]      TRIP
0:02.30        113.4 km
```

■ Fast-forward, single frame forward

To fast-forward single frames, press (R ▷▷) button. To fast-forward, press (R ▷▷) button long. **II PAUSE** is displayed in multi-display zone (Zone A5) during fast-forward of single frames.

▶▶ **PLAY** is displayed in multi-display zone (Zone A5) during fast-forward.

```
CLOCK          WATER T.
10:24          61℃
          88 km/h
▶▶ [PLAY]       TRIP
0:02.00        113.4 km
```

■ Rewind, single frame rewind

To rewind single frames, press (M ◁◁) button. To rewind, press (M ◁◁) button long. **II PAUSE** is displayed in multi-display zone (Zone A5) during rewind of single frames.

◀◀ **PLAY** is displayed in multi-display zone (Zone A5) during rewind.

※ The single frame is 0.02 seconds.

```
CLOCK          WATER T.
10:24          61℃
          84 km/h
◀◀ [PLAY]       TRIP
0:01.30        113.4 km
```

8 -6-8.   Play peak mode

The peak values recorded while recording are displayed during playback mode. The maximum and minimum values are displayed in order as for oil pressure and fuel pressure.

```
CLOCK          WATER T.
10:24          62℃
          94 km/h
▶▲ [PLAY PEAK]  TRIP
0:01.30        113.4 km
```

▶▲ **PLAY PEAK** is displayed in multi-display zone (Zone A5) during play peak mode.

51

HANDSET (slide switch position：**M** PLAY⟩ → **U** REAL⟩)

IF NEITHER OIL PRESSURE NOR FUEL PRESSURE SENSOR IS CONNECTED:
1. Set the slide switch to **M** PLAY⟩ .
2. The recorded data is replayed by pressing **L** ►PLAY button.
3. Set the slide switch to **U** REAL⟩ during playback (or during pause).
4. The peak values are displayed by pressing **M**●PEAK button.
5. The recorded data is displayed again by pressing **M**●PEAK button again. Or set the slide switch to **M** PLAY⟩ and press **L** ►PLAY button long to shift to real mode. Playback is not stopped during play peak mode.

IF EITHER OIL PRESSURE OR FUEL PRESSURE SENSOR IS CONNECTED:
1. Set the slide switch to **M** PLAY⟩ .
2. The recorded data is replayed by pressing **L** ►PLAY button.
3. Set the slide switch to **U** REAL⟩ during playback (or during pause).
4. The peak (maximum) values are displayed by pressing **M**●PEAK button.
5. By pressing **M**●PEAK button again, The peak values (minimum values of oil pressure and fuel pressure) are displayed .
5. The recorded data is displayed again by pressing **M**●PEAK button again. Or set the slide switch to **M** PLAY⟩ and press **L** ►PLAY button long to shift to real mode. Playback is not stopped during play peak mode.

■ Difference between real peak, rec peak, and play peak

	Real peak	Rec peak	Play peak
Displayed during	Real mode	Record mode	Playback mode
Displayed values	Peak values in all modes	Peak value recorded in record mode	
Update	In all modes	During record mode	
Peak reset	Operatable in real peak mode	Being reset automatically when recording is started	

52

⑧-7. Warning setup mode

Warning values can be set.

■ Factory default settings of warning values

Gauge	Default setting	Unit	Setting range		Warning condition	Warning output
			Minimum	Maximum		
Speed	240	km/h	0	400	Set value and above	ON
	150	MPH	0	240		
Boost	100	kPa	-100	700	Set value and above	ON
	14.5	PSI	-14.5	101.5		
IAT	65	℃	30	120	Set value and above	ON
	149	°F	86	248		
Tachometer	7000	RPM	300	11000	Set value and above	ON
Volt #1 & #2	10	V	8	36	Set value and below	ON
Differential Press	2.76	PSI	0	10	Set value and above	OFF
Air/Fuel Ratio Wideband	11.5	AFR	10.5	14.0	Set value and above	ON
	0.78	λ	0.72	0.96		
Oil press	120	kPa	0	1000	Set value and below	ON
	17.5	PSI	0	145		
Fuel press	150	kPa	0	600	Set value and below	ON
	21.8	PSI	0	87		
Oil temp	125	℃	0	150	Set value and above	ON
	257	°F	32	302		
Water temp	105	℃	0	150	Set value and above	ON
	221	°F	32	302		
Exhaust temp	850	℃	0	1100	Set value and above	ON
	1562	°F	32	2010		

※ Depending on vehicle type and/or condition, vehicle may be damaged even if the value is under the factory default setting value of warning (over the factory default setting value of warning in case of oil pressure and fuel pressure). Be sure to consult store professional to set warning values.

⑧ -7-1. How to change the warning setting values

HANDSET (slide switch position : **L** SET⟩)

1. Set the slide switch to **L** SET⟩ .
2. Press (**L** !WARN.SET) button to shift to warning setup mode.
3. Select the item to set up by pressing (**L** !WARN.SET) button. The selected item is highlighted and setting value is displayed. Unconnected items (sensors) cannot be selected. The order is as follows:
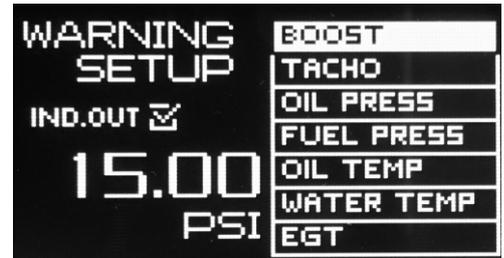
BOOST ⟶ TACHO ⟶ OIL PRESS ⟶ FUEL PRESS ⟶ OIL TEMP ⟶ WATER TEMP ⟶ EGT
⬆   ⬇
SPEED ⟵ IAT ⟵ VOLTAGE #2 ⟵ VOLTAGE #1 ⟵ DIFF PRESS ⟵ AIR / FUEL

4. Press (**M** ▼) button to lower the setting value. Press (**R** ▲) button to raise the setting value. Press each button long to change fast.
5. Return the slide switch to **U** REAL⟩ or **M** PLAY⟩ after all the settings are done.

⑧ -7-2. How to calibrate boost & pressure sensors

The boost and pressure sensors can be calibrated to zero them if they are reading more than 0psi at atmospheric pressure. Example the boost sensor is reading 0.4psi before you start the vehicle. Use this calibration procedure to correct this. Please note that the sensors must not have any pressure applied to them while doing a calibration.

HANDSET (slide switch position : **L** SET⟩)

1. Set the slide switch to **L** SET⟩ .
2. Press (**L** !WARN.SET) button to shift to warning setup mode.
3. Select sensor to calibrate by pressing (**L** !WARN.SET) button.
4. To calibrate press and hold the (**L** !WARN.SET) button until you hear the gauge make a single beep, the sensor is now calibrated.

⑧ -7-3. How to set external warning light on/off

If the external warning light (sold separately) is connected to the multi gauge, you can enable or disable it on each warning. So the light only functions on the warnings you wish the light to alert you. Note this setting is only to enable or disable the warning light, not the warning itself.

HANDSET (slide switch position：**L** **SET**)

1. Set the slide switch to **L** **SET** .
2. Press **L** **!WARN.SET** button to shift to warning setup mode.
3. Select the item to change ON/OFF by pressing **L** **!WARN.SET** button.

GAUGE

4. Each time **SET** **R** button is pressed, the check of **IND. OUT** ☐ is switched over. If the check is on, the warning signal is output while the item is under the condition of warning.

HANDSET (slide switch position：**L** **SET**)

5. Return the slide switch to **U** **REAL** or **M** **PLAY** after all the settings are done.

⑧ -8. Error display

When the sensor wiring is disconnected or short-circuit, the item zone is high-lighted and OPEN or SHORT is displayed. Once OPEN or SHORT is displayed, the sign keeps being displayed until ignition is turned off. The short-circuit error displays for oil pressure and fuel pressure are displayed only during short-circuiting.

If there is a wiring problem with a sensor that is not currently displayed on the screen, the error will display in the multi-zone A5.
If there are more than two errors at once, each error will display for 2sec then change to next error.

When there is a communication error between the gauge and the control unit, "Serial line error!!" is displayed on the screen.

❶ Turn the ignition off immediately, and then confirm the wiring of the sensor and the sensor wire. If any defects are not found, please ask the shop for inspection.

⑧ -9. Siftlight Indicator

8 LEDs (red) light up or blink depending on the engine revolutions. The lighting pattern can be selected from [SINGLE] and [DUAL]. The lighting pattern and step is set in display setup mode.

⇒ Refer to ⑧ -3. Display setup mode (S2).

■ Engine revolutions that LED is lighted up
[SINGLE] ＝ (warning setting value of engine revolutions) － (lighting step) × 8
[DUAL] ＝ (warning setting value of engine revolutions) － (lighting step) × 4

■ Engine revolutions that all LEDs are lighted up
[SINGLE] ＝ [DUAL] ＝ (warning setting value of engine revolutions) － (lighting step)

■ Engine revolutions that all LEDs blink
At higher than or equal to warning setting value of engine revolutions

If the dimmer setting is AUTO, the brightness of LEDs is decreased one level automatically depending on the outside brightness. If the dimmer setting is MANUAL, the brightness of LEDs is decreased one level being interlocked with the illumination switch of the vehicle.

<Lighting example> warning setting value：8000RPM lighting step：100RPM
[SINGLE]

LEDs (from left)	1	2	3	4	5	6	7	8	Blink
Lighting revolutions(RPM)	7200	7300	7400	7500	7600	7700	7800	7900	8000

[DUAL]

LED (from left)	1	2	3	4	5	6	7	8	Blink
Lighting revolutions(RPM)	7600	7700	7800	7900	7900	7800	7700	7600	8000

8 -10. Alarm function

If the alarm is set, buzzer sounds and sequential indicator blinks at the setting time. Buzzer sounds for a minute. Sequential indicator (all the LEDs) blinks at the same time.

※ The alarm does not function unless the ignition is on at the set time.

GAUGE

Press L SELECT or SET R button to stop the alarm during the alarm.

⇒ Refer to 8 -3-10. Alarm setting [ALARM] for how to set up.

※ The clock is semidiurnal. Alarm can be set within only 12 hours. This function alarms only one time after setting. The alarm needs to be set again after using the function once.

⑨ Troubleshooting

⚠ Warning

❗ Below are some basic troubleshooting steps you can follow for common errors found from incorrect installation or setting up of the gauges. If you experiance any of the below issues, follow the steps and if the problem persists, please contact the store for support.

Or if the problem you are experiencing is not listed in the troubleshooting steps, please also contact the store for support.

Condition	Possible Cause	Corrective Action
○ Does not operate. ○ Power is not supplied. ○ DC Source LED of the unit doesn't light.	○ Wiring of the power supply wire is improper. ○ The fuse of the power supply wire is blown out.	○ Check wiring of +B, IGN, GND as per instructions in this manual. ○ Check wiring and replace the fuse. ○ Contact store for support.
○ DC Source LED of the unit is blinking.	○ There is a wire short circuit or disconnected wire somewhere.	○ Double check all wiring is correct, if problem remains, disconnect meter wire, if problem is fixed, contact store for support.
○ Does not carry out the ending mode.	○ The battery wiring is improper.	○ Check wiring of +B as per instructions in this manual.
○Two or more gauges are connected at once and there are erratic readings and open errors.	○Multiple gauges using the same display number.	○When more than one gauge is connected, the display number needs to be set for each gauge, example Display 1, Display 2. Please check this manual for how to set the display number on each gauge.

Condition	Possible Cause	Corrective Action
○ Error (SHORT or OPEN) is displayed.	○ There has been a short on the sensor cable or the cable has become disconnected.	○ Disconnect and reconnect cable at both sensor end and control box. If open or short remains, contact store for assistance.
○ Serial line error is displayed.	○ Communication error between screen and control unit	○ Disconnect and reconnect meter cable at control box and screen box. If Serial Line error remains, contact store for assistance.
○ The RPM is not displayed cor-rectly.	○ Setting of the number of cylinders is wrong.	○ Check the number of cylinders as per instructions in this manual.
○ RPM does not display, even after being connected to the cars ECU.	○ Incorrect pin on ECU used ○ Signal output from ECU is not 5v-12v square wave ○ Incorrect wire used to connect RPM signal.	○ Double check your ECU pin out diagram. ○ Contact store for assistance ○ Confirm that you have used the Blue wire to connect to you ECU
○ The speed is not displayed correctly.	○ Wiring of the speed signal wire is wrong. ○ The speed pulse setting is wrong.	○ Check wiring as per instructions in this manual. ○ Check the speed pulse as per instructions in this manual.
○ Cannot set up the System setup.	○ Multiple gauges using the same display number.	○ Change the display number as per instructions in this manual.
○ System setup menu is not displayed.	○ Active display is not set.	○ Set an active display as per instruc-tions in this manual.
○ Serial error is displayed and the clock re-turns to 1:00 at starting engine.	○ The battery is weakening and power-supply voltage is lowering.	○ Change the battery.