



**This product functions with Defi-Link Advance Control unit. This product alone does not function. Please refer to Defi-Link Advance Control unit operation manual as well.**

This product is an additional gauge for providing information to automobile users about engine conditions and other important factors. When installing and operating this product, be sure to read the cautionary items of this operation manual as well as those given in the operation manual for the vehicle in which this product will be installed. Please obtain a full understanding of the cautionary items and use the product accordingly. In the event that this product (or the vehicle in which it is installed) is lent to or transferred to another person, please be sure this operation manual accompanies the product.

<http://www.defi-shop.com/>

'09.11-1

**For safety handling (for customer and installation personnel)**

In this manual, the degree of hazard arising from actions such as improper operation is separated into the 3 levels "Danger," "Warning," and "Caution." In addition, instructions that must be followed for safe and proper use of this product as well as practices that must be maintained are marked with a "Confirmation" heading. Please read and become familiar with these sections.

<b>Danger</b>	Indicates the imminent dangerous situation of death or serious injury if the product is mishandled.
<b>Warning</b>	Indicates the possibility of death or serious injury if the product is mishandled.
<b>Caution</b>	Indicates a conceivable source of personal injury or damage to equipment if the product is improperly operated.
<b>Confirmation</b>	Indicates an instruction that must be performed or practice that must be maintained.

**Danger**

- Ensure that the vehicle will remain stationary and turn off the engine before installing this product. Failure to do so could result in a fire, and could make the vehicle move during installation.
- Remove the key from the ignition and disconnect the negative (-) battery terminal prior to installation of this product. Failure to do so could result in a fire caused by an electrical short circuit.
- Take care not to install this product in a way that interferes with safety equipment such as seat belts and air bag systems or vehicle operation equipment such as engine controls, steering wheel or brake systems. Interference with normal operation of the vehicle can result in an accident or fire.
- Solder or use a solderless connector for wiring connections and make sure connections are insulated. In areas where there could be tension or sudden impacts on the wiring, safeguard the wiring with corrugated tubing or other shock absorbent material. Accidental shorts can cause fires.
- Wiring power supply wire, to avoid the risk of electrical shock or fire, be sure to confirm that there is no disconnection or breakage of wire. Poor connection can result in short-circuit, electrical shock, fire, or other hazards.
- The ignition-switched +12V(IGN) line must be connected to the vehicle's ignition-switched wire with a fuse of 30A or less. High-capacity fuse(more than 30A) will not blowout even with an abnormal current flow and may cause fire.
- Use the fuse of regulated capacity when the fuse of the power wire is changed. Using a fuse that exceeds regulated capacity may cause fire.
- Do not install the product at the wet places. It may result in a fire caused by an electrical short circuit.

**Warning**

- Carefully consider the installation location and driver's operation of the product before installation. Do not install the product where it interrupts driving and the safety devices of vehicle such as the airbag system. Be sure not to install the unit where it could fall. Improper installation or operation could cause the product to fall and damage the vehicle or cause serious danger by impeding driving.
- Do not disassemble or modify this product. Such actions can not only damage or destroy the product but will also void the warranty.
- Do not perform installation of this product immediately after the engine has been switched off. The engine and exhaust system are extremely hot at this time and can cause burns if touched.
- Ensure that the wiring of this product does not have an adverse impact on the other wiring of the vehicle. Before tapping engine rev or speed signal from the ECU, please make sure that you have connected the power supply wire of the advance control unit. And then confirm that the DC Source LED of the advance control unit is lighted with ignition on. If it is functioning normally, remove negative terminal connector from battery and go ahead with wiring procedure. Incorrect wiring may destroy your ECU, ignition system and other engine management devices.
- Discontinue use of this product if the product doesn't operate or operates improperly. Continued use while the condition exists could result in an accident or fire.
- Please keep children and infants away from the installation area. Children may swallow small parts or be injured in other ways.
- Take care not to install this product in the area where safety equipment such as airbags are mounted. This may cause more injuries in the event of an accident.

**Caution**

- This product is designed for use on 12V vehicles. Do not install this product on vehicles with 24V systems.
- Insulate any unused wires. If any wires or connectors loosen during installation, please make sure they are correctly reattached.
- Dropping any of the components of this product will result in damage to the product.
- Excessive force on switches/terminals may result in damage to the product.
- Use only the wires provided. If additional wires are required, use the same of quality and gauge wire as is provided with the kit.
- Do not attach wires on the body of the vehicle or engine parts as this may result in damage to the gauges.
- Install wires away from ignition and also radio signal frequency interference as this could cause the gauges to malfunction.
- Please set it up so that the equipment such as the wireless machines and cellular phones that emits electric waves should not touch the advance control unit. It may result in incorrect operation.
- Do not place wires near the engine, exhaust pipe or turbine. It may result in damage or fusion of wires.
- Make sure the waterproof processing is done when diverging wires in the engine compartment.
- Do not lay the gauge face down due to oil leakage. Angle "A" must be more than 90 degrees.
- When installing the sensor, do not bend the wire near the sensor body.
- Wear gloves to avoid burns when soldering and cuts when installing wires, sharp edges of parts.
- Do not expose the advance control unit to moisture, dust or direct sunlight, or place product directly in front of heat vents.
- Install sensors away from hot or wet places.
- When using sunshade, put sunshade between products and windshield to avoid direct sun exposure.
- Use the dried soft cloth for cleanup. Do not use the cleaner except for the neutral detergent. It result in the trouble.
- Do not pull the wires out of connectors forcefully. The connectors may be broken and the wires may be cut. When pulling out the wires, press the lock firmly and unclip the locks of connectors.
- Do not install gauges into the passenger side or center of the dashboard. It doesn't meet vehicle safety standards.

**Confirmation**

- Be sure to follow all instructions in this manual to ensure safe installation and operation of the product.
- When the negative (-) battery terminal is disconnected, equipment such as clocks and audio components having internal memory may lose their memory data. Follow the operation manual of each component to reset data after installation of this product.
- After installation is complete, return this operation manual, warranty card, and the package to the customer along with the warranty.
- The gauge pointer may not be in the proper position when you purchase the product. Normal function will resume when power is connected.
- Please confirm with the maintenance book on the car that the manufacturer issued when installing and detaching genuine parts.
- Before tapping wires, check the voltage of the existing wire. After tapping the wire, check the voltage of the tapped wire again to confirm whether you have tapped into the proper place.
- If car navigation system or car television is installed in vehicle, gauges and wires of this product need to be kept as far away as possible from the wiring and installing positions of car navigation system or car television. Failure to do so may result in interference of television display(VHF).

**About Installation and Operation(for customer and installation personnel)**

**Warning**

- Please have this product installed by the retail store or dealer where it was purchased. Installation by the customer will void the warranty.
- Do not disassemble or modify this product. Such actions can not only damage or destroy the product but will also void the warranty.
- In order to ensure safe driving, check the information on the gauge only for short periods of time. Looking at the display for long periods of time could distract adequate attention from the road and result in an accident.
- Discontinue use of this product if the gauge doesn't operate, water gets into the unit, or smoke or a strange odor comes from the unit. If such a condition occurs, contact the sales outlet or installation personnel as soon as possible. Continued use while the condition exists could result in an accident or fire.
- Do not operate during driving.
- Fix the switch unit and other parts tightly to the vehicle to avoid that children swallow those.

**Caution**

- On no event will Nippon Seiki Co., Ltd. be liable to you for any damages arising out of the use or inability to use the product, even if Nippon Seiki Co., Ltd. has been advised of the possibility of such damage.
- Do not pull the wires out of connectors forcefully. The connectors may be broken and the wires may be cut. When pulling out the wires, press the lock firmly and unclip the locks of connectors.

**Confirmation**

- This product cannot be linked to the Defi-Link System.
- Do not connect more than one gauge of each particular gauge to this product(ex. you can have one turbo for this product).
- The information displayed on this product are for reference purposes only. Please drive according to the indication of vehicle's originally equipped instruments.
- This product can be used only on 1, 2, 3, 4, 5, 6, and 8 cylinder vehicles with 4 cycle engine. Engine revolution signal of diesel vehicles cannot be displayed.

**Lineup (for customer)**

Product Name	Product No.
Defi-Link Advance Control unit	DF07701

This product needs to be used with the advance control unit. One advance control unit can control up to 7 gauges. \*Do not connect more than one gauge of each particular gauge to this product (ex. you can have one turbo for this product). \*In-Mani Press is an abbreviation of Intake Manifold Pressure.

**CR gauges Φ 52 series**

Product name	Display range	White Dial	Black Dial
Turbo2.0	-100 ~ +200kPa	DF07801	DF07802
Turbo1.2	-100 ~ +120kPa	DF07901	DF07902
In-Mani Press *	-100 ~ +20kPa	DF08001	DF08002
Oil Press	0 ~ 1000kPa	DF08101	DF08102
Fuel Press	0 ~ 600kPa	DF08201	DF08202
Oil Temp	50 ~ 150°C	DF08301	DF08302
Water Temp	20 ~ 120°C	DF08401	DF08402
Exhaust Temp	200 ~ 1100°C	DF08501	DF08502

**CR gauges Φ 60 series**

Product name	Display range	White Dial	Black Dial
Turbo2.0	-100 ~ +200kPa	DF08601	DF08602
Turbo1.2	-100 ~ +120kPa	DF08701	DF08702
In-Mani Press *	-100 ~ +20kPa	DF08801	DF08802
Oil Press	0 ~ 1000kPa	DF08901	DF08902
Fuel Press	0 ~ 600kPa	DF09001	DF09002
Oil Temp	50 ~ 150°C	DF09101	DF09102
Water Temp	20 ~ 120°C	DF09201	DF09202
Exhaust Temp	200 ~ 1100°C	DF09301	DF09302
Tacho	0 ~ 9000rpm	DF09401	DF09402

**BF gauges Φ 60 series**

Product name	Display range	White Model	Amber Red Model	Blue Model
Turbo2.0	-100 ~ +200kPa	DF09901	DF09902	DF09903
Turbo1.2	-100 ~ +120kPa	DF10001	DF10002	DF10003
In-Mani Press *	-100 ~ +20kPa	DF10101	DF10102	DF10103
Oil Press	0 ~ 1000kPa	DF10201	DF10202	DF10203
Fuel Press	0 ~ 600kPa	DF10301	DF10302	DF10303
Oil Temp	50 ~ 150°C	DF10401	DF10402	DF10403
Water Temp	20 ~ 120°C	DF10501	DF10502	DF10503
Exhaust Temp	200 ~ 1100°C	DF10601	DF10602	DF10603
Tacho	0 ~ 9000rpm	DF10701	DF10702	DF10703

**Common Features of ADVANCE CR and ADVANCE BF**

- The advanced system (interactive communication) is implemented.
- Operation from distance is enabled using a remote control switch unit.
- Flat glass, high-definition scale and long, narrow pointer provides accurate indication and high visibility.
- The opening mode and ending mode can be selected from two variations.
- To install additional gauges, you can just make connection between gauges and attach the wire from the sensor to the advance control unit. \*Do not connect more than one gauge of each particular gauge to this product (ex. you can have one turbo for this product).
- Our original stepping motor is used to enable a smooth, instantaneous response to high performance sport driving.
- The microcontroller calibrates up to 270° of deflection angle in 3072 to 4600 segments (0.088° to 0.059°) and provides accurate vehicle information.
- Self-diagnosis function detects a disconnection of wire, short circuit and communication error, and indicates the error condition with the warning LED.
- A warning value (arbitrary) can be set. Buzzer sounds when the warning LED (red) is turned on (buzzer sound can be turned on/off).
- Data obtained during driving (peak value and warning value) can be stored up to three minutes, and the data can be replayed after driving.
- A dedicated mounting bracket and meter cup are provided as standard equipment.
- With both fuel pressure gauge and turbo installed, differential pressure can be displayed on the fuel pressure gauge.

**Features of ADVANCE CR**

- The opening mode and ending mode can be selected from two variations designed for ADVANCE CR.
- The illumination at night can be switched between two different colors (white dial: amber red/blue, black dial: white/amber red)
- The outer edge of the glass is illuminated in red in a ring shape at night.
- A regular position bezel is included as standard equipment.

**Features of ADVANCE BF**

- The opening mode and ending mode can be selected from two variations designed for ADVANCE BF.
- The light-emitting gauge always provides clear visibility with high contrast.
- Brightness can be adjusted by selecting from five levels for daytime and nighttime separately (nighttime dimming cancellation function is available).

**Product Specifications of ADVANCE CR and ADVANCE BF**

- Power-supply voltage: 10V to 16V DC (12V vehicles only)
- Consumption current: the maximum value obtained when connecting seven gauges  
+B wire: 2A (IGN ON)  
5mA (IGN OFF)  
ILM wire: 800mA
- Number of cylinders supporting tachometer: 1, 2, 3, 4, 5, 6, 8 (4-cycle)
- Temperature range (humidity is assumed to be 80% or lower) Unit: °C(°F)  
CR/BF gauge Temperature range for storage Temperature range for operation  
Advance Control unit -40 (-40) ~ +80(176) -20(-4) ~ +60(140)  
Switch unit -40 (-40) ~ +80(176) -20(-4) ~ +60(140)  
Boost sensor -40 (-40) ~ +100(212)  
Pressure sensor -40 (-40) ~ +130(266)  
Temperature sensor -40 (-40) ~ +150(302)  
Exhaust temperature sensor -40 (-40) ~ +130(266) (sensing part excluded)

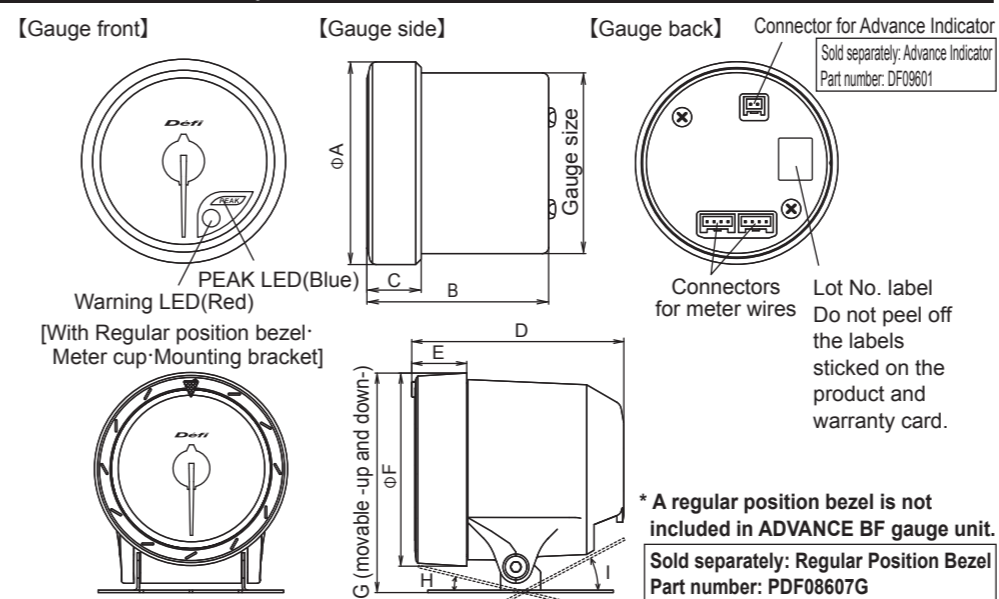
Illumination color at night for CR gauge		Illumination color for light-emitting BF gauge
Dial	White dial: amber red and blue Black dial: white and amber red Switchable between two different colors	White/amber red/blue *The outer edge of the glass is not illuminated and the change of illumination color is not available on ADVANCE BF gauge.
Ring	Red	

**\*How to operate ADVANCE BF (Please refer to Defi-Link Advance Control unit operation manual for common operations of ADVANCE CR and ADVANCE BF.)**

- Changing the opening/ending mode  
For the opening mode and ending mode, you can select either A type (Simple) or B type (HA-NA-BI) by sliding the DIP switch 2 attached to the advance control unit. Before changing the opening/ending mode, make sure that the ignition is off. Please check both A type and B type operations for their performances.  
\*The outer edge of the glass is not illuminated and the change of illumination color is not available on ADVANCE BF gauge.
- Real mode  
Adjusting brightness manually  
You can adjust the brightness by pressing the right **[DIM/RESET]** in the Real mode, Rec mode or Play mode.  
Five levels of brightness are provided for daytime and nighttime separately.  
Day mode is changed to night mode as illumination switch turns on.  
Also, an illumination cancellation function is available which enables to set the highest level of brightness for daytime in night mode. This can be done by pressing the right **[DIM/RESET]** several times.
- Setting mode  
Setting the warning value  
Regardless of the illumination status (ON/OFF), the dial illumination of selected gauge lights up with high brightness and the warning LED flashes, whereas the dial illumination of unselected gauge lights up with low brightness and the warning LED turns off.

Please refer to Def-Link Advance Control unit operation manual for common operations of ADVANCE CR and ADVANCE BF.

**Dimensions and part names**

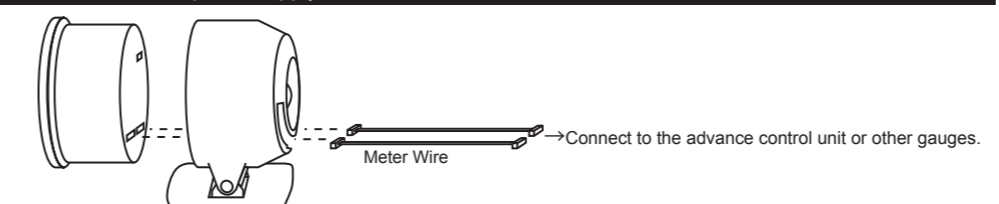


	Gauge size			Unit : mm(inches)
	CR Φ52(2 1/16")	CR Φ60(2 3/8")	BF Φ60(2 3/8")	
A	58.3(2.3")	66.3(2.3")	66.3(2.3")	
B	52.2(2.06")	52.2(2.06")	52.2(2.06")	
C	15.5(0.6")	15.5(0.6")	15.5(0.6")	
D	68.6(2.7")	68.6(2.7")	68.6(2.7")	
E	17.8(0.8")	17.8(0.8")	17.8(0.8")	
F	62.5(2.46")	70.5(2.77")	70.5(2.77")	
G	69.6(2.74") ~ 71.1(2.8")	77.6(3.05") ~ 79.1(3.1")	77.6(3.05") ~ 79.1(3.1")	
H	15°	15°	15°*	
I	28°	32°	32°*	

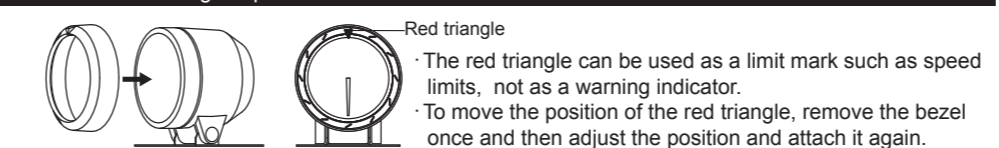
**Installation (for customer and installation personnel)**

\*Please refer to Advance Control unit operation manual when installing gauges.

**How to wire the power supply wire**



**How to use the regular position bezel**



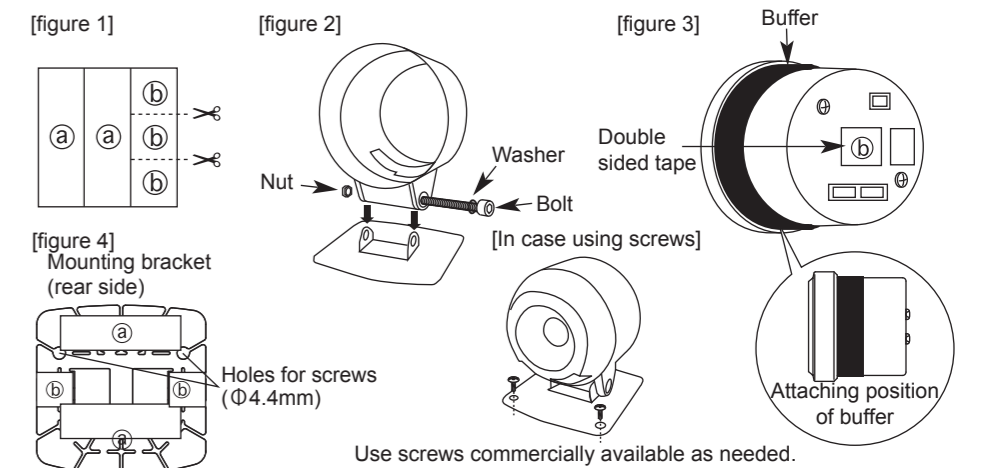
\*A regular position bezel is not included in ADVANCE BF gauge unit. (Sold separately: PDF08607G)

**How to attach Mounting bracket set**

- Cut the double sided tape as shown in figure 1.
- Insert convex part of the mounting bracket over the legs of the meter cup. Attach the mounting bracket to the meter cup with the bolt, nut, and washer included in the kit as shown in figure 2.
- Attach one piece of double sided tape and the buffer on the gauge as shown in figure 3. (Cut the buffer into 16cm(6.3") when installing Φ52(2 1/16") series.)
- Pass the power supply wire and the sensor wire through the hole of the meter cup and connect them to the gauge.
- Place the gauge in the meter cup making sure that the wires are not sandwiched.
- Attach double sided tape on the back of the mounting bracket as shown in figure 4. Bend the mounting bracket to conform to the structure of the location where you intend to attach it.

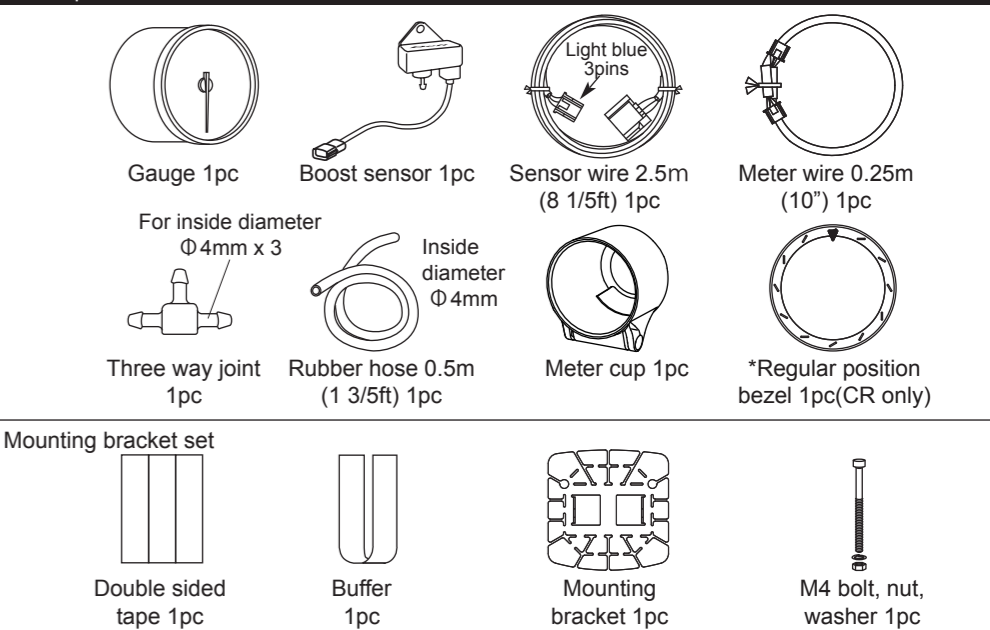
**Confirmation**

- Use appropriate dashboard cleaning liquids (commercially available) to clean the area where the double sided tape will be attached.
- Do not lay the gauge face down due to oil leakage. Angle "A" must be more than 90 degrees.
- If the adherence of double sided tape is not enough, use commercial tapping screws.



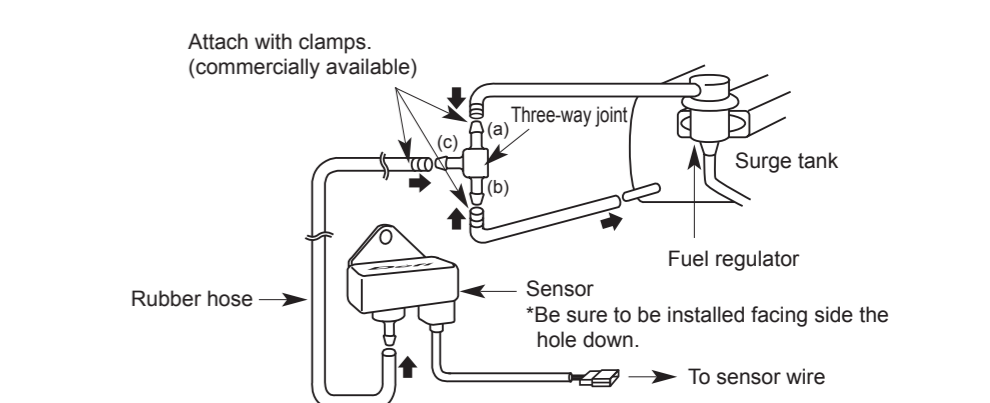
**Turbo/In-Mani (DF078, 079, 080, 086, 087, 088, 099, 100, 101 series)**

**Components**



Operation manual (this sheet) and warranty card are included other than the parts listed above. Keep them at hand. \*A regular position bezel is not included in ADVANCE BF gauge unit. (Sold separately: PDF08607G)

**How to attach boost sensor**



- The rubber hose attached to the sensor should be as short as possible. Attach the sensor with bolts (M6) in the engine compartment in an area where it will not be subject to excess heat or vibration.
- Access to the air pressure intake may be obtained between the surge tank and the fuel regulator. (A) Detach the vacuum hose from the surge tank side that has less pressure oscillations and connect it to the point (a) or (b) of the three way joint. (B) In order to connect the surge tank with three way joint, cut the required length of the hose from the included rubber hose. (C) Use the remaining rubber hose to connect the sensor to the three way joint.

**Warning**

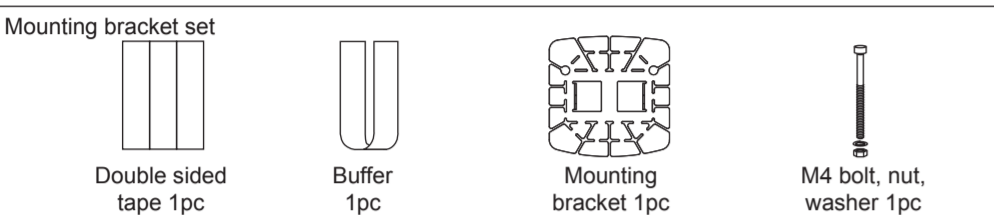
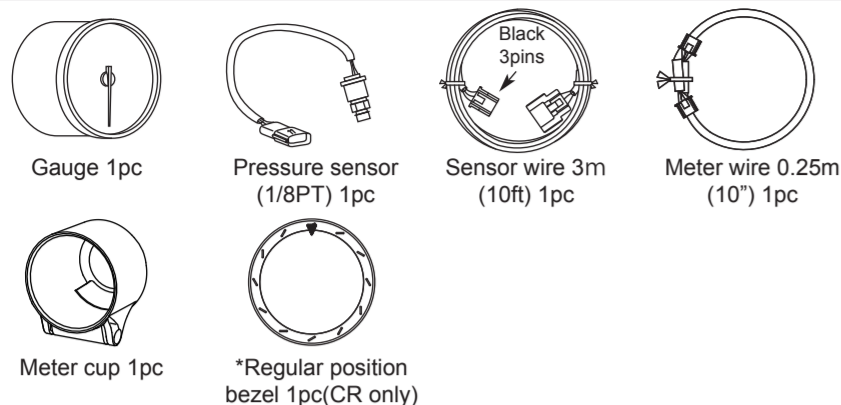
- To avoid disconnection of rubber hose and air leak, attach hose clamps or use tie-wraps to secure the adjacent hose in the engine compartment. Disconnected hose or air leak could cause damage to the engine.

**Confirmation**

- The length of the included rubber hose is 0.5m. Please adjust appropriately.
- The included three-way joint can be used only for the piping inner diameter of Φ4 between the surge tank and fuel pressure regulator. In case of other than Φ4, use another joint that fits properly.
- The sensor must be installed being the rubber hose connection side faced down.
- For vehicles which have a solenoid valve between the surge tank and the fuel pressure regulator, place a three-way joint closer to the surge tank side than to the solenoid side.

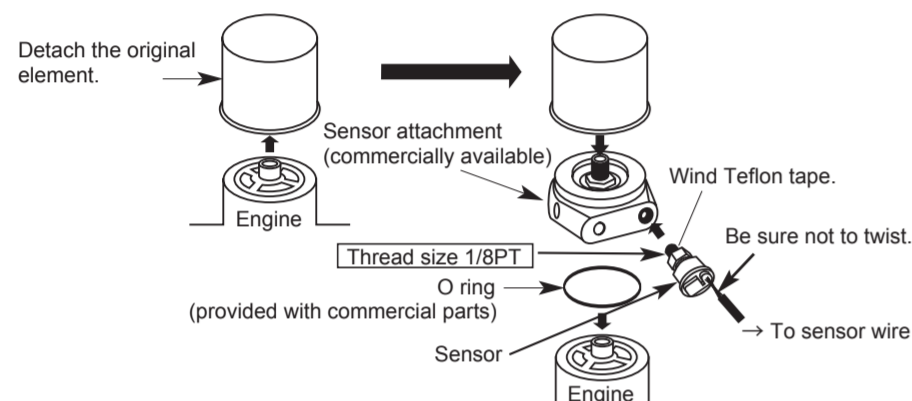
## OIL PRESS. (DF081, 089, 102 series)

### Components



Operation manual (this sheet) and warranty card are included other than the parts listed above. Keep them at hand.  
\*A regular position bezel is not included in ADVANCE BF gauge unit. (Sold separately: PDF08607G)

### How to attach pressure sensor (Use a commercial sensor attachment.)



### Warning

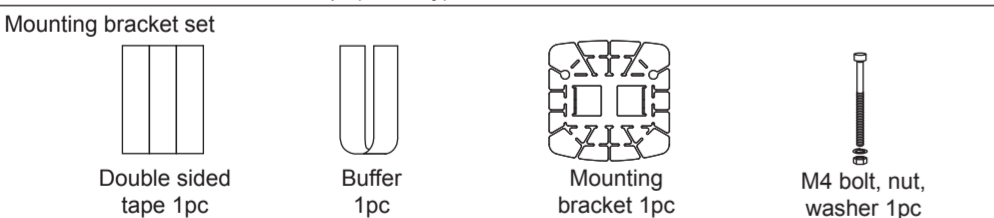
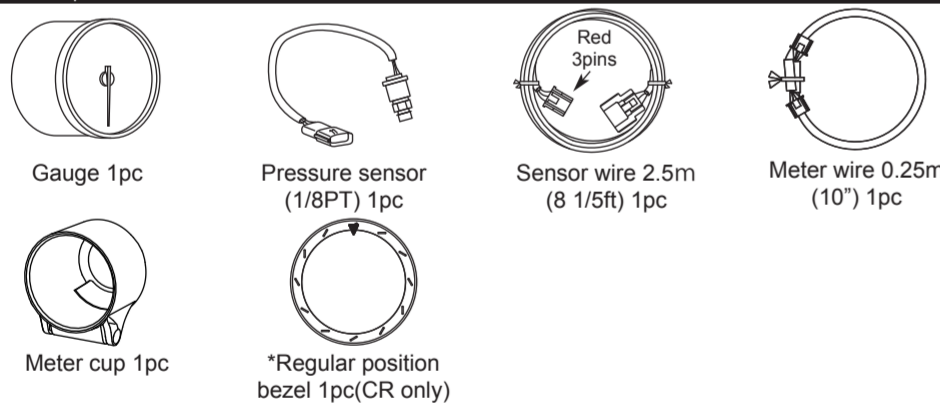
- Be sure the sensor wire is not twisted when installing the sensor. The sensor wire will be cut.
- Oil spills by the installation work. Please replenish the engine with oil. The engine might overheat when oil is too little.
- To avoid oil leaks by installing of the sensors, use Teflon tape. Before driving, inspect oil blocks for leaks. Leaks could cause a fire or damage the engine.
- Do not install the sensor near oil pump. Do not install the sensor to pressure switch directly. Failure to do so could damage the sensor because the pressure pulsation is too big and exceed three times full-scale momentarily.
- To avoid the damage of the sensor wire, please fix the waterproof connector on the vehicle body and do not bend the sensor wire near the sensor.

### Confirmation

- The thread size of the pressure sensor is 1/8PT. Use a sensor attachment of 1/8PT.
- Tighten the sensor into the sensor attachment and then connect it to the sensor wire.**

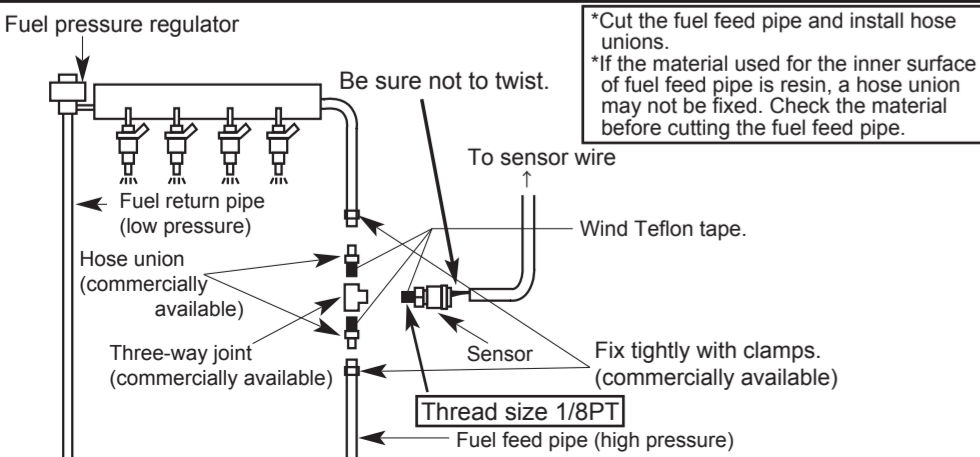
## FUEL PRESS. (DF082, 090, 103 series)

### Components



Operation manual (this sheet) and warranty card are included other than the parts listed above. Keep them at hand.  
\*A regular position bezel is not included in ADVANCE BF gauge unit. (Sold separately: PDF08607G)

### How to attach pressure sensor (Use a commercial three-way joint and hose unions.)



\*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.

### Confirmation

- The thread size of the fitting is 1/8PT. Make a threaded screw hole of 1/8PT.
- Tighten the sensor into the sensor attachment and then connect it to the sensor wire.**

### Warning

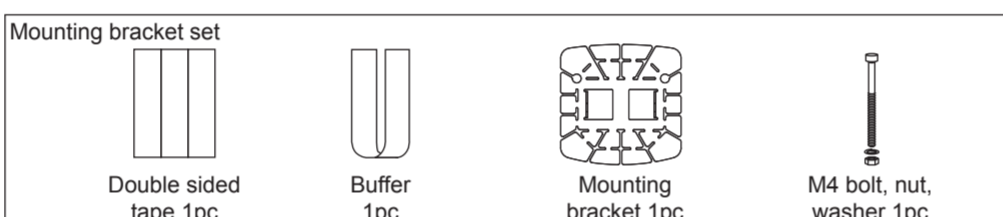
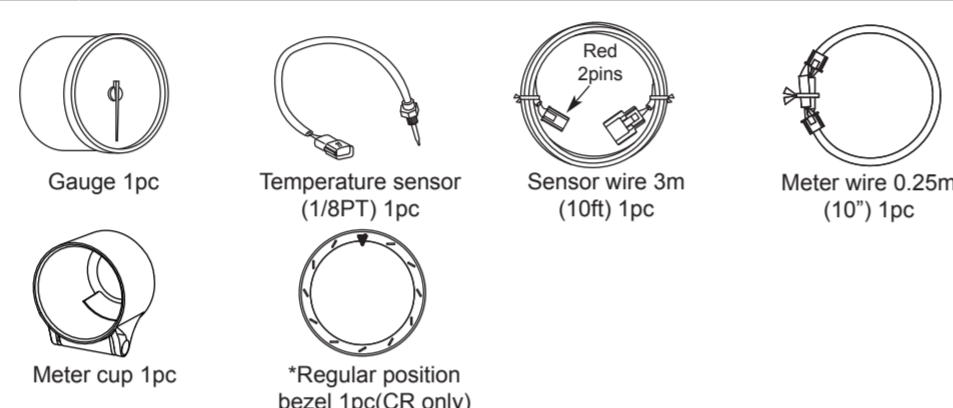
- Be sure the sensor wire is not twisted when installing the sensor. The sensor wire will be cut.
- Before cutting the fuel feed pipe, be certain to remove the gas cap to relieve any pressure built up in the fuel tank.
- When cutting the fuel feed pipe, be certain to discharge static electricity. Otherwise, there is a possibility of the ignition in gasoline.
- Wear glasses to protect eyes when cutting the fuel filter pipe.
- To avoid fuel leaks during installation of the sensor, use Teflon tape. Attach hose connection and fuel feed tubing with clamps. Inspect pipes and hose connections for leaks before driving.
- To avoid the damage of the sensor wire, please fix the waterproof connector on the vehicle body and do not bend the sensor wire near the sensor.

### Confirmation

- The sensor must be installed on the feed (high pressure) pipe side between the fuel tank and the fuel pressure regulator.
- \*It is not possible to obtain accurate fuel pressure from the return (low pressure) side at the rear of the fuel pressure regulator.
- The thread size of hose unions and the three-way joint need to be 1/8PT. Use hose unions and a three-way joint of 1/8PT.
- Tighten the sensor into the sensor attachment and then connect it to the sensor wire.**

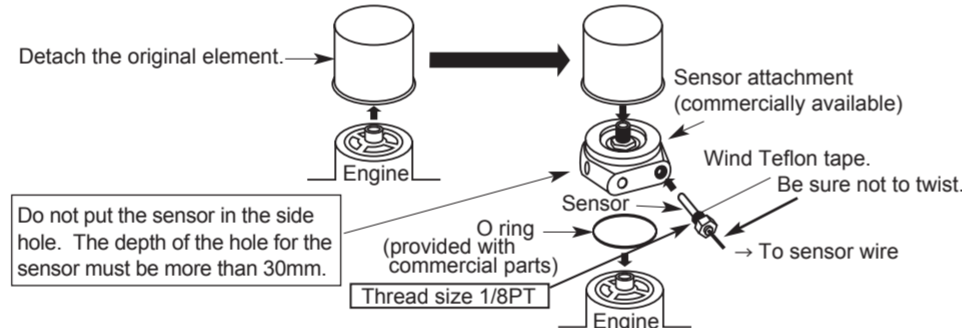
## OIL TEMP. (DF083, 091, 104 series)

### Components



Operation manual (this sheet) and warranty card are included other than the parts listed above. Keep them at hand.  
\*A regular position bezel is not included in ADVANCE BF gauge unit. (Sold separately: PDF08607G)

### How to attach temperature sensor (Use a commercial sensor attachment.)



Do not put the sensor in the side hole. The depth of the hole for the sensor must be more than 30mm.

### Warning

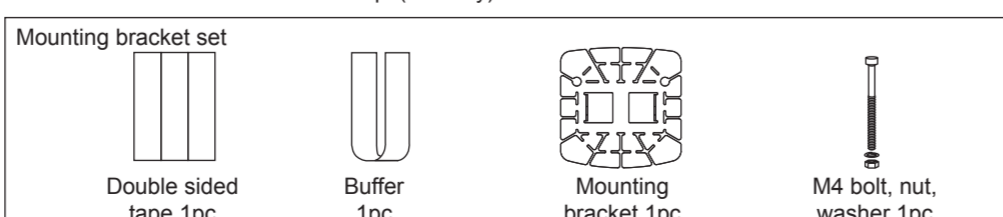
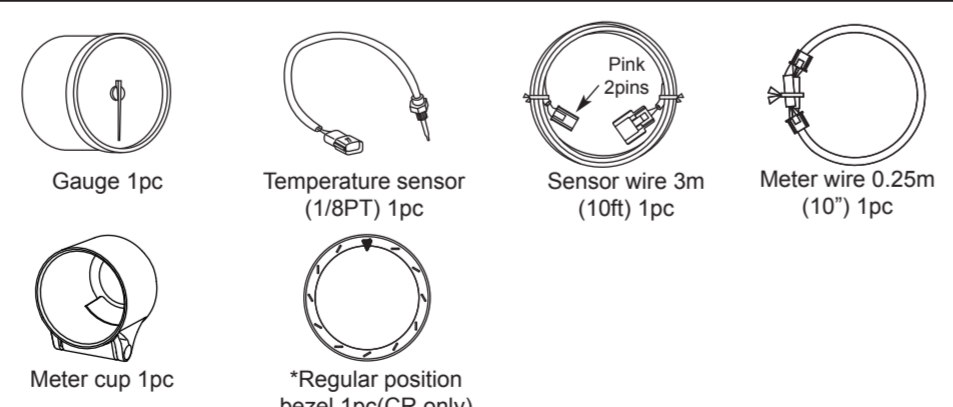
- Be sure the sensor wire is not twisted when installing the sensor. The sensor wire will be cut.
- Oil spills by the installation work. Please replenish the engine with oil. The engine might overheat when oil is too little.
- To avoid oil leaks by installing of the sensors, use Teflon tape. Before driving, inspect oil blocks for leaks. Leaks could cause a fire or damage the engine.
- To avoid the damage of the sensor wire, please fix the waterproof connector on the vehicle body and do not bend the sensor wire near the sensor.

### Confirmation

- The thread size of the temperature sensor is 1/8PT. Use a sensor attachment of 1/8PT.
- The depth of the hole for the sensor must be more than 30mm.
- Tighten the sensor into the sensor attachment and then connect it to the sensor wire.**

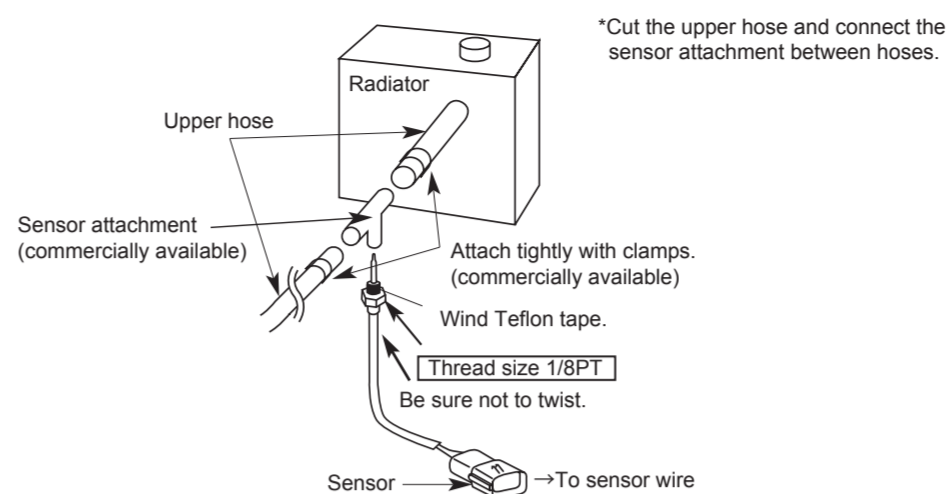
## WATER TEMP. (DF084, 092, 105 series)

### Components



Operation manual (this sheet) and warranty card are included other than the parts listed above. Keep them at hand.  
\*A regular position bezel is not included in ADVANCE BF gauge unit. (Sold separately: PDF08607G)

### How to attach temperature sensor (Use a commercial attachment.)



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

### Warning

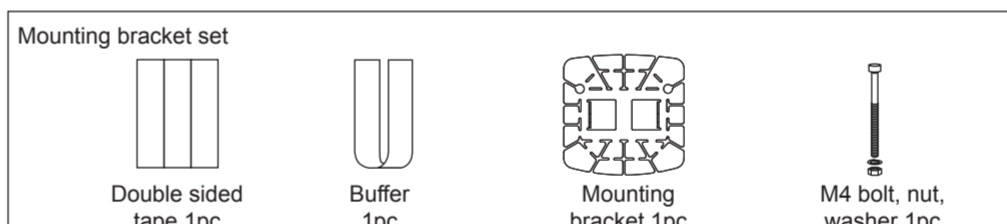
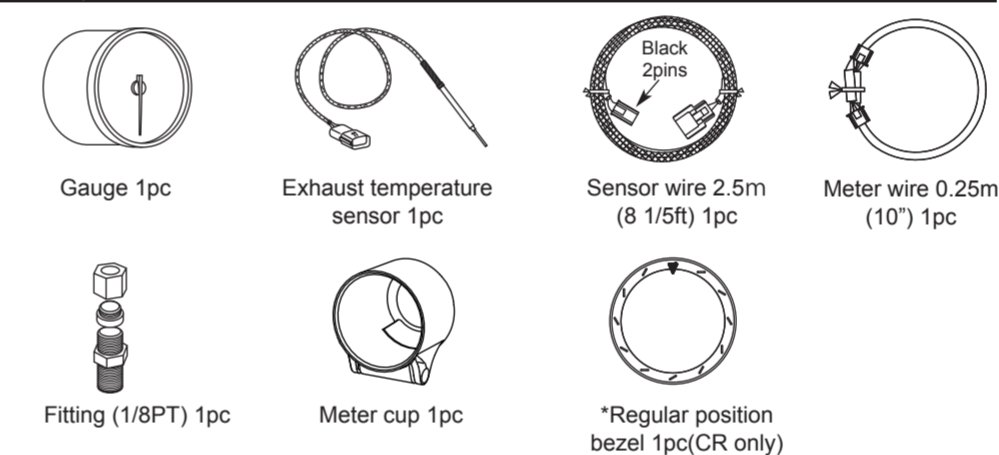
- Be sure the sensor wire is not twisted when installing the sensor. The sensor wire will be cut.
- Coolant spills by the installation work. Please replenish the engine with coolant and bleed the air from the system, or the engine might overheat.
- To avoid water leaks during installation of the sensors, use Teflon tape. Attach the sensor attachment and upper hose with clamps. Inspect hose connections for leaks before driving.
- To avoid the damage of the sensor wire, please fix the waterproof connector on the vehicle body and do not bend the sensor wire near the sensor.

### Confirmation

- The thread size of the temperature sensor is 1/8PT. Use a sensor attachment of 1/8PT.
- Tighten the sensor into the sensor attachment and then connect it to the sensor wire.**

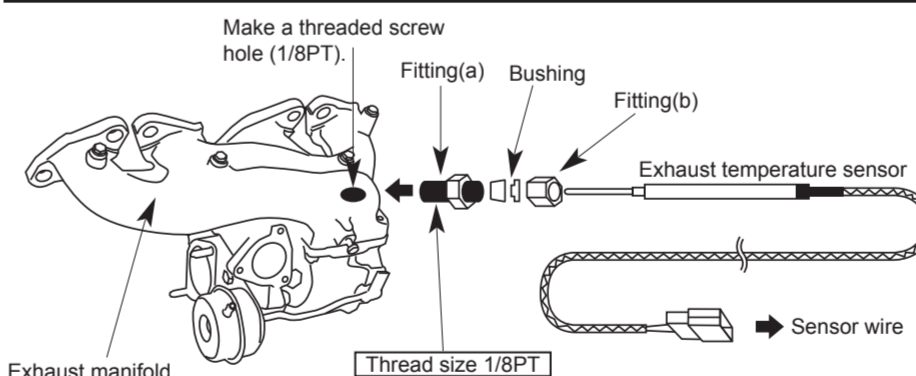
## EXHAUST TEMP. (DF085, 093, 106 series)

### Components



Operation manual (this sheet) and warranty card are included other than the parts listed above. Keep them at hand.  
\*A regular position bezel is not included in ADVANCE BF gauge unit. (Sold separately: PDF08607G)

### How to attach exhaust temperature sensor for exhaust temperature



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

### Warning

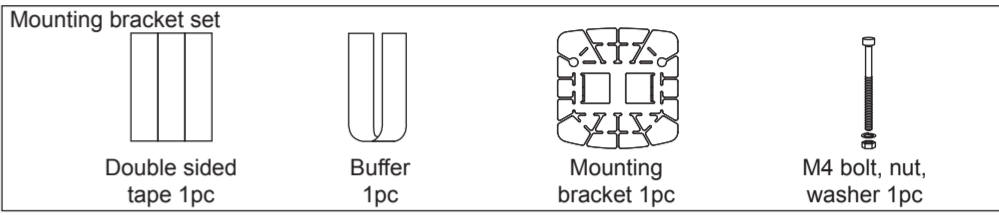
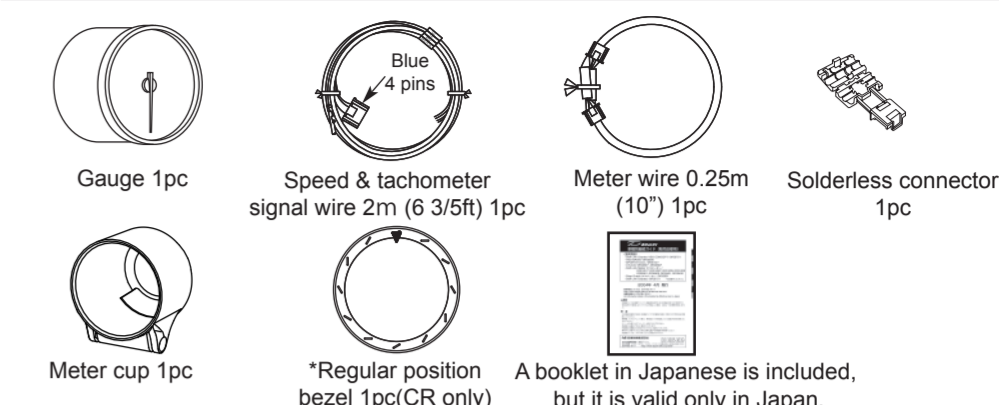
- To avoid personal injury, do not install the exhaust temperature sensor while the engine is hot.
- When making a hole, make sure no chip remains in the exhaust pipe or turbine. It may result in damage to the engine, exhaust pipe, or turbine.

### Confirmation

- The thread size of the fitting is 1/8PT. Make a threaded screw hole of 1/8PT.
- Tighten the sensor into the sensor attachment and then connect it to the sensor wire.**

## Tachometer (DF094, 107 series)

### Components



Operation manual (this sheet) and warranty card are included other than the parts listed above. Keep them at hand.  
\*A regular position bezel is not included in ADVANCE BF gauge unit. (Sold separately: PDF08607G)

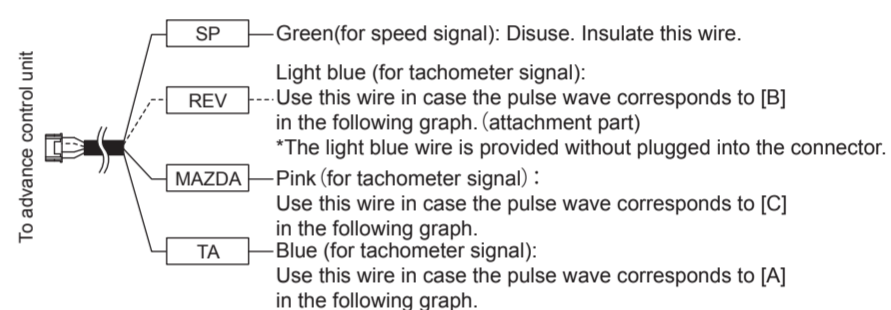
### How to wire speed and tachometer signal wire

[Warning for wiring of speed & tachometer signal wire]

The package of tachometer includes speed & tachometer signal wire. The connector has 4 pins and 3 pins are connected with 3 wires (blue, green, pink). And light blue wire is included as an attachment part.

The green wire is for speed signal, so it is disuse this time. The blue, pink and light blue wires are for tachometer signal wire. Please choose one wire according to your vehicle. Be sure to use 1 wire out of 3 wires correctly as the following procedure. Otherwise it may result in damage to the vehicle.

### Please be sure to insulate the unconnected wires.

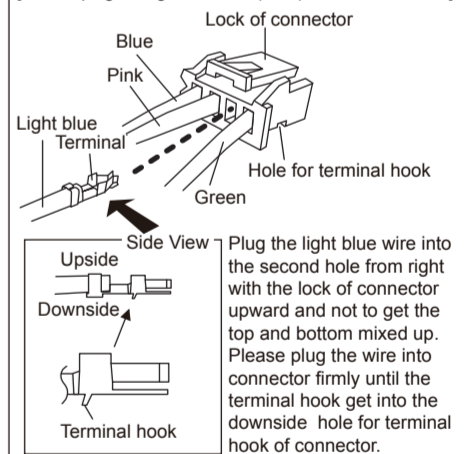


[How to choose the proper wire]  
Please confirm that which one of the tachometer signal waveform V1/V2 corresponds to [A], [B] or [C] on the right hand graph of pulse waveform. Then please wire the proper one. The low voltage Mazda vehicles correspond to [C], so please use the pink(MAZDA) wire only. And other low voltage vehicles correspond to [B], so please use the light blue(REV) wire.

In case of using light blue wire, it is necessary to plug the adapter into the connector. Please do as shown in a right figure not to get the top and bottom mixed up. When using other wire, don't plug the adapter into the connector.

	V1	V2
[A] Blue (TA)	4V and above	1V and below
[B] Light blue (REV)	1.5 ~ 4V	0 ~ 0.5V
[C] Pink (MAZDA)	2.4 ~ 4V	0 ~ 0.8V

### How to plug the light blue wire (REV) into the connector



- Connect one of the blue(TA), pink(MAZDA) or light blue(REV) wire to TA signal of ECU referring =>Refer to "How to solder and use the solderless connectors" in Defi-Link Advance Control unit operation manual.
- Insulate the unconnected wires.
- Set the cylinder number and response according to Defi-Link Advance Control unit operation manual.

\* Please contact Defi Business Division if you cannot find the target type of vehicle in the connection guide, have removed the original tachometer, or use a full computer ignition system which is commercially available.

Please refer to Defi-Link Advance Control unit operation manual for how to install, troubleshooting, repair parts, optional parts, maintenance, check/warranty and servicing.

### Warranty card - Terms and conditions

This product includes the warranty card besides this booklet. Please read terms and conditions in this manual thoroughly and keep the warranty card importantly. The warranty on this product is void without showing warranty card even if it is during warranty period.

### Warranty period

For a period of one year from the original date of purchase of the product. Please confirm the shop information is filled in on the warranty card. Ask for the retail store information if it is not provided on the warranty card. Please refer to Limited Warranty for the detail.

### Lot No. label

Do not peel Lot No. label off this product. It contains important information on this product

### Defi-Link Meter Advance Operation Manual

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