

# B3 INTAKE SYSTEM

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## 1KR

### 1 AIR CLEANER

#### 1-1 REMOVAL AND INSTALLATION

##### 1-1-1 ARTICLES TO BE PREPARED

Instrument

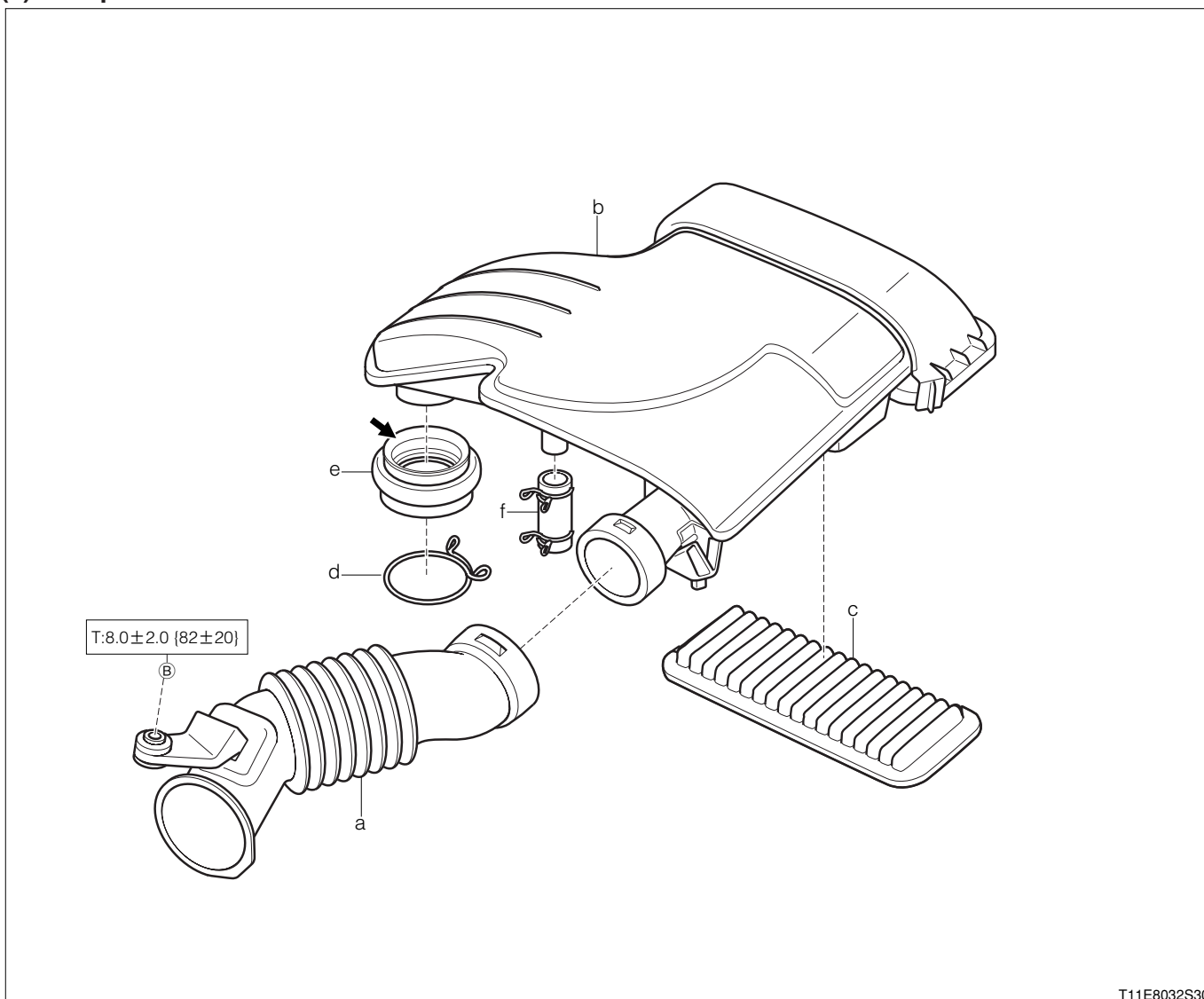
Torque wrench

Lubricant, adhesive, others

Engine oil

##### 1-1-2 REMOVAL AND INSTALLATION PROCEDURES

###### (1) Components



→: Engine oil

Unit: N·m{kgf·cm}

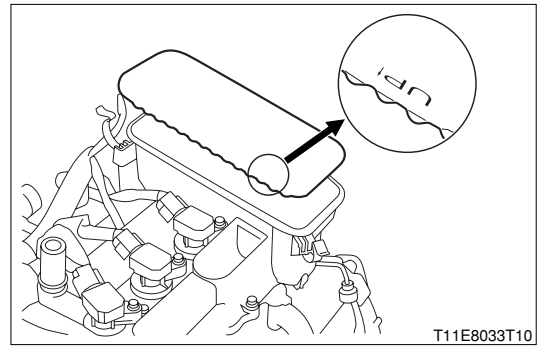
###### (2) Removal and installation procedures

- ▲ 1 a Hose, air cleaner No.1
- ▲ 2 b Cap S/A, air cleaner
- ▲ 3 c Element S/A, air cleaner filter
- 4 d Clamp
- 5 e Support air cleaner cap
- 6 f Hose, ventilation No.2

**1-1-3 POINTS OF INSTALLATION**

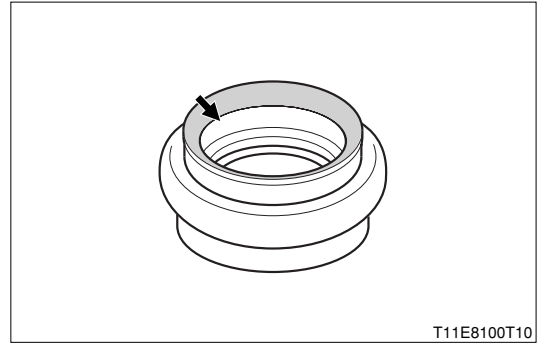
**(1) Element S/A, air cleaner filter**

1. Install the element S/A to the cylinder head cover Ay in the direction shown in the figure.

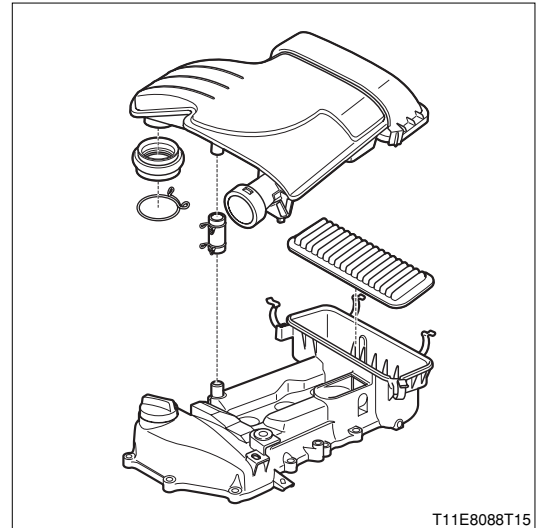


**(2) Support, air cleaner cap**

1. Apply engine oil to the air support.  
LUBRICANT: Engine oil

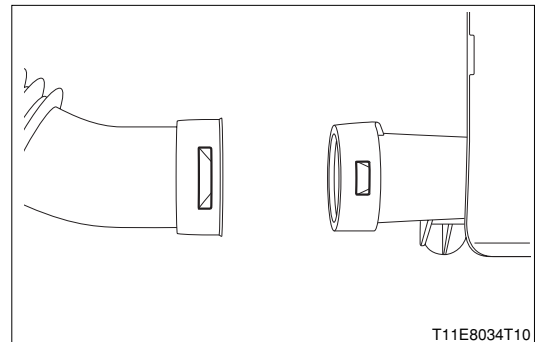


2. Assemble the clip to the ventilation No.2 hose in such a way that the clip faces toward the right side of the vehicle.
3. Assemble the ventilation hose No.2, to which the clip has been installed, to the cylinder head cover Ay.
4. Press in the air cleaner cap support to the ventilation hose No.2 and the cap S/A to the grommet of the cylinder head cover Ay.
5. Assemble the clip to the support in such a way that the clamp faces toward the left side of the vehicle.



**(3) Hose, air cleaner No.1**

1. Fit the protruding section of the air cleaner inlet seal to the recessed section of the hose.
2. Install the radiator support S/A with bolts.



## 2 THROTTLE BODY

### 2-1 REMOVAL AND INSTALLATION

#### WARNING

- Make sure that no foreign matter is admitted into the throttle body Ay and intake manifold Ay during the operation.

#### 2-1-1 ARTICLES TO BE PREPARED

Instrument

Torque wrench
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#### 2-1-2 OPERATION BEFORE REMOVAL

1.Remove the air cleaner hose No.1.

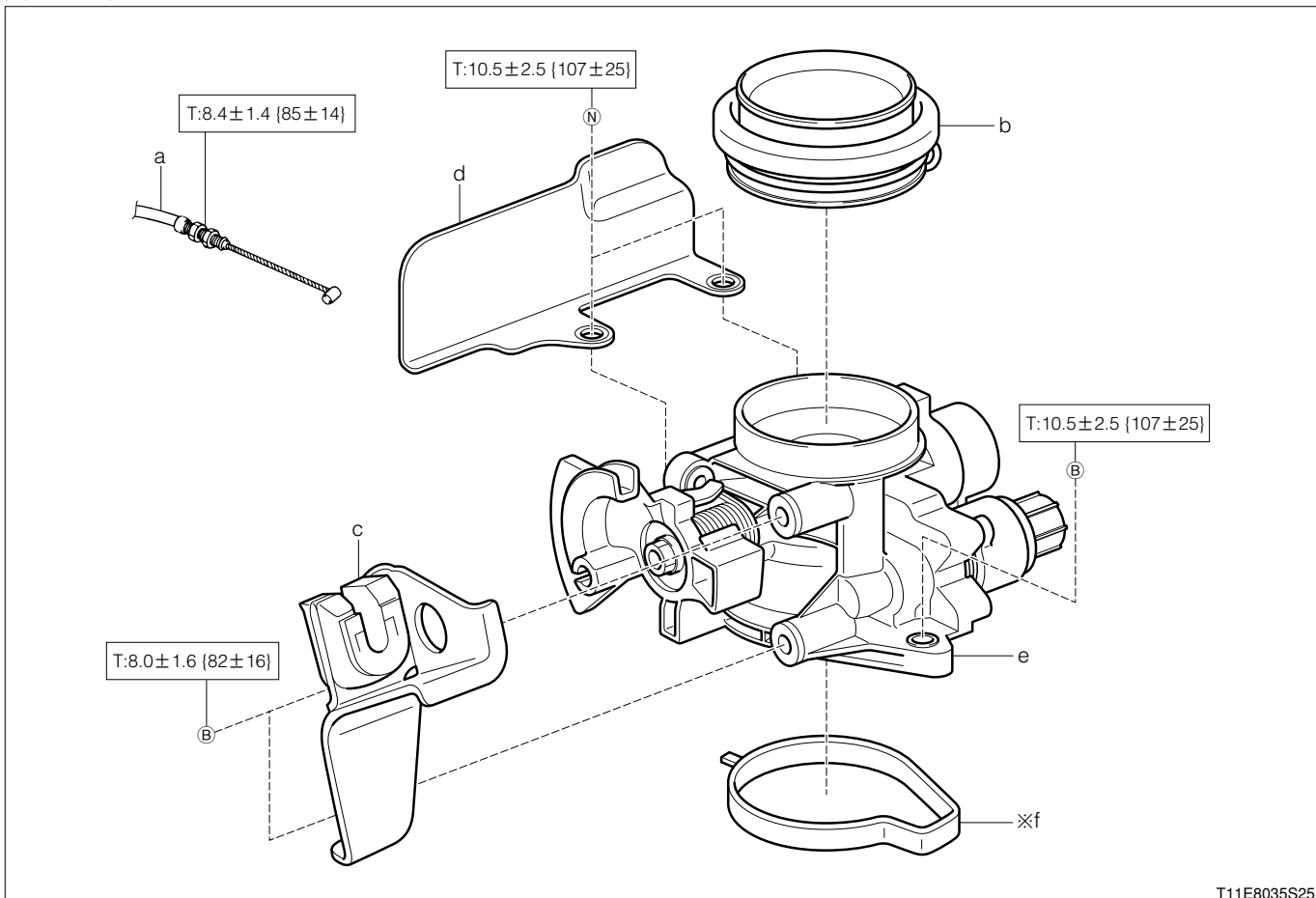
Refer to Page B3-1.

2.Remove the air cleaner filter element S/A and air cleaner cap S/A.

Refer to Page B3-1.

#### 2-1-3 REMOVAL AND INSTALLATION PROCEDURES

##### (1) Components



T11E8035S25

※:Non - reusable parts

Unit:N·m{kgf·cm}



## 3 INTAKE MANIFOLD GASKET

### 3-1 REMOVAL AND INSTALLATION

#### 3-1-1 ARTICLES TO BE PREPARED

Instrument

Torque wrench
---------------

#### 3-1-2 OPERATION BEFORE REMOVAL

##### WARNING

- Do not remove the radiator cap or drain plug, water hose when the coolant is hot.

1. Drain the coolant.

2. Remove the air cleaner hose No.1.

Refer to Page B3-1.

3. Remove the air cleaner filter element S/A and air cleaner cap S/A.

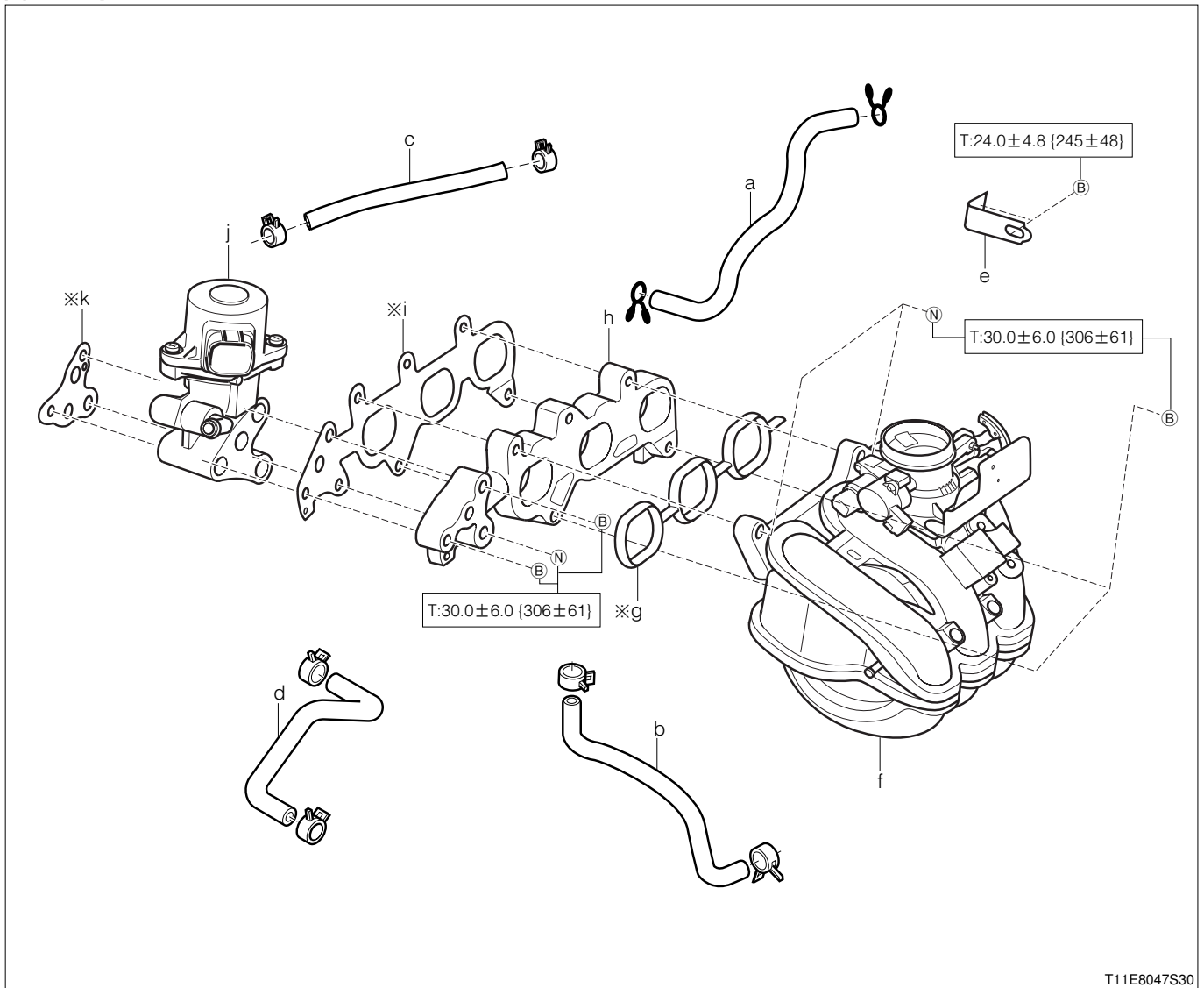
Refer to Page B3-1.

4. Remove the throttle body Ay.

Refer to Page B3-3.

3-1-3 REMOVAL AND INSTALLATION PROCEDURES

(1) Components



T11E8047S30

※:Non - reusable parts

Unit:N·m{kgf·cm}

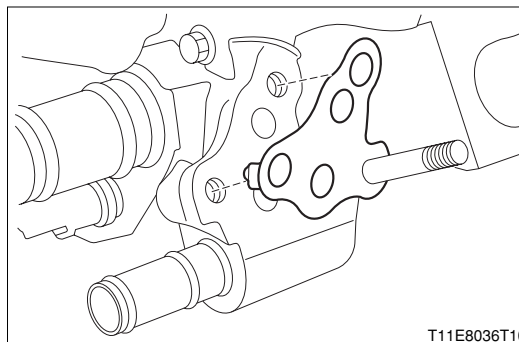
(2) Removal and installation procedures

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>1 a Hose, ventilation No.1 (For intake manifold - head cover/PCV)</li> <li>▲ 2 b Hose, fuel evaporative feed No.2</li> <li>3 c Hose, water (For EGR valve)</li> <li>4 d Hose Ay, vacuum (For brake booster)</li> <li>5 e Stay, intake manifold</li> <li>▲ 6 f Manifold Ay, intake</li> </ul> | <ul style="list-style-type: none"> <li>7 g Gasket, intake manifold to head</li> <li>▲ 8 h Insulator, intake manifold No.1</li> <li>▲ 9 i Gasket, intake manifold to head No.2</li> <li>▲ 10 j Valve Ay, EGR No.1</li> <li>▲ 11 k Gasket, EGR valve</li> </ul> |
|---|---|

## 3-1-4 POINTS OF INSTALLATION

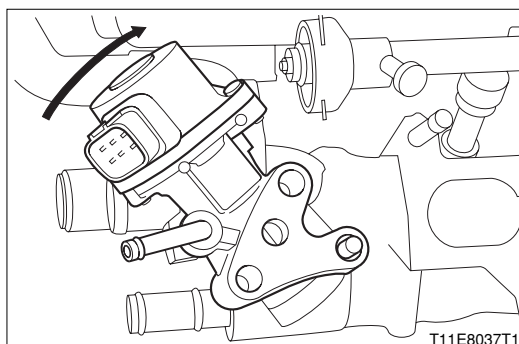
### (1) Gasket, EGR valve

1. Clean the installation surface of the No.1 EGR valve Ay and cylinder head Ay.
2. Install the gasket to the cylinder head Ay.



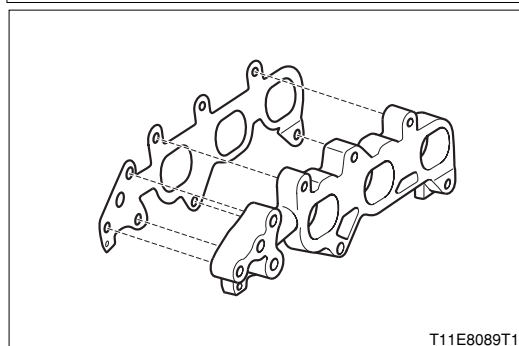
### (2) Valve Ay, EGR No.1

1. Insert the valve Ay, while turning it in the arrow direction, being very careful not to allow it to interfere with the cylinder head cover Ay. Then, temporarily install the valve Ay to the cylinder head Ay.



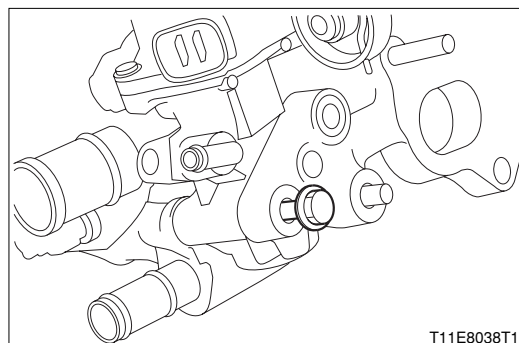
### (3) Intake manifold-to-head No.2 gasket, intake manifold No.1 insulator

1. Clean the gasket installation surface of the cylinder head Ay and intake manifold Ay.
2. Install the intake manifold No.1 to the cylinder head Ay with an insulator interposed.

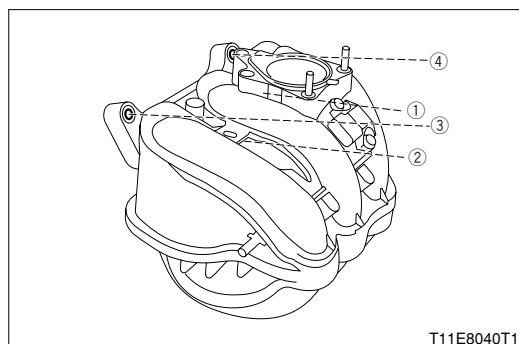


### (4) Manifold Ay, intake

1. Temporarily tighten the No.1 EGR valve Ay with the bolts shown in the figure.

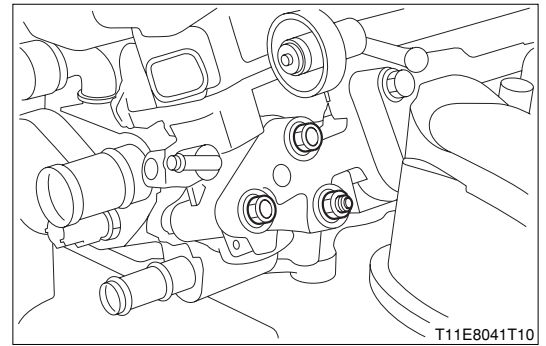


2. Install the manifold Ay and tighten the bolts and nuts in the sequence shown in the right figure.



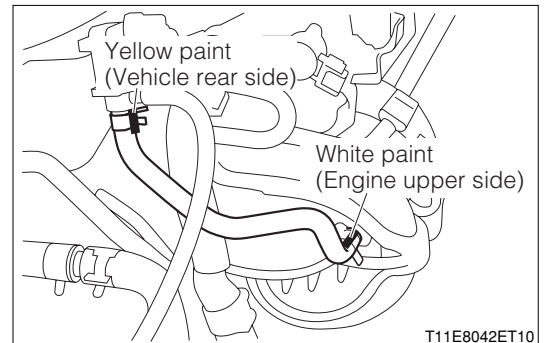


3.Tighten the EGR valve Ay No.1 .



**(5) Hose, fuel evaporative feed No.2**

- 1.Assemble the hose as shown in the figure.
- 2.Perform the assembling in such a way that the clamp on the VSV side faces the rear of the vehicle and the clamp on the manifold side faces the lower side of the vehicle.



**3-1-5 OPERATION AFTER INSTALLATION**

- 1.Install the throttle body Ay.  
Refer to Page B3-3.
- 2.Install the air cleaner filter element S/A and air cleaner cap S/A.  
Refer to Page B3-1.
- 3.Install the air cleaner hose No.1.  
Refer to Page B3-1.
- 4.Replenish coolant and perform water leakage check.  
Refer to Page B1-2.

## ■ K3

### 1 AIR CLEANER

#### 1-1 REMOVAL AND INSTALLATION

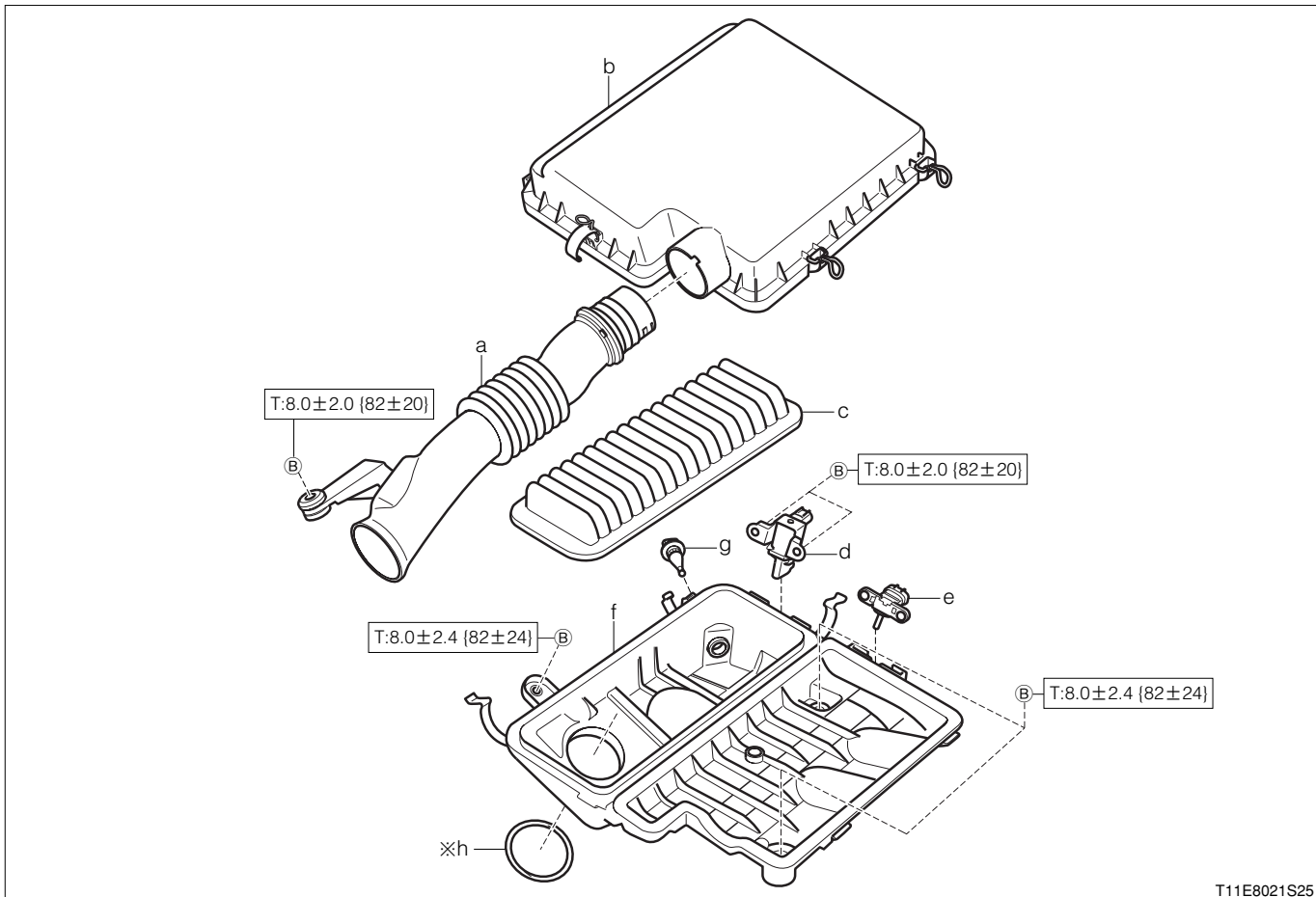
##### 1-1-1 ARTICLES TO BE PREPARED

Instrument

Torque wrench

##### 1-1-2 REMOVAL AND INSTALLATION PROCEDURES

###### (1) Components



T11E8021S25

※:Non - reusable parts

Unit:N·m{kgf·cm}

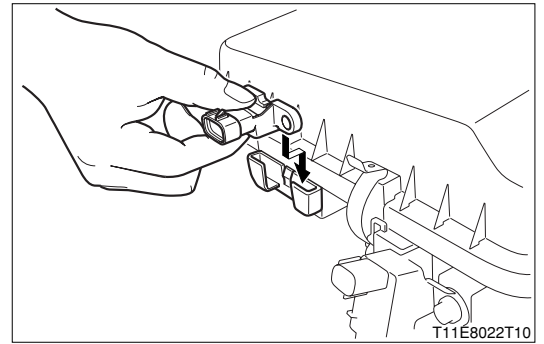
###### (2) Removal and installation procedures

- |     |   |   |                         |
|-----|---|---|-------------------------|
| ▲ 1 | a Hose, air cleaner No.1                  | 6 | f Case S/A, air cleaner |
| 2   | b Cap S/A, air cleaner                    | 7 | g Sensor, thermo        |
| ▲ 3 | c Element S/A, air cleaner filter         | 8 | h Ring, O               |
| ▲ 4 | d Vacuum switching valve Ay (for purging) |   |                         |
| ▲ 5 | e Sensor, vacuum                          |   |                         |

### 1-1-3 POINTS OF INSTALLATION

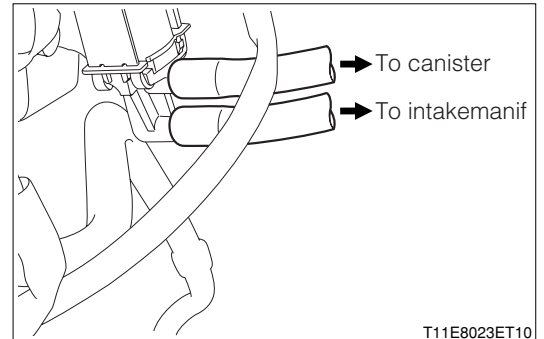
#### (1) Sensor, vacuum

1. Insert the sensor Ay to the installation section of the air cleaner case S/A from above.



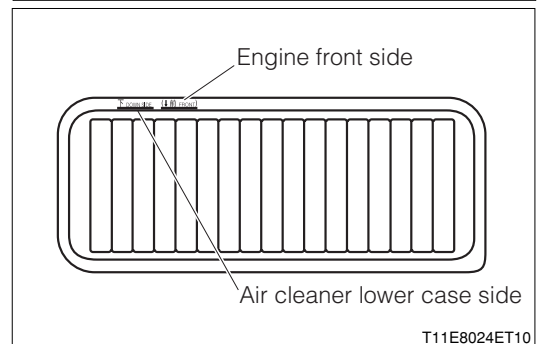
#### (2) Vacuum switching valve Ay (for purging)

1. Install the valve Ay.
2. Assemble the charcoal canister No.1 hose and charcoal canister No.2 hose to the vacuum switching valve Ay (For purging), as shown in the figure.



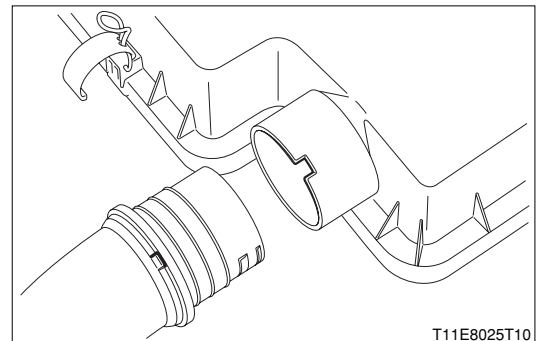
#### (3) Element S/A, air cleaner filter

1. Install the element S/A to the air cleaner case S/A in the direction shown in the figure.



#### (4) Hose, air cleaner No.1

1. Insert the protrusion of the hose into the inside while aligning it with the cut-out section at the inlet of the air cleaner cap S/A.
2. Perform the insertion securely, until the stopper is engaged.
3. Install the radiator support S/A with bolts.



## 2 THROTTLE BODY

### 2-1 REMOVAL AND INSTALLATION

#### WARNING

- Do not remove the water hose when the coolant is hot.
- Make sure that no foreign matter is admitted into the throttle body Ay and intake manifold Ay during the operation.

#### 2-1-1 ARTICLES TO BE PREPARED

Instrument

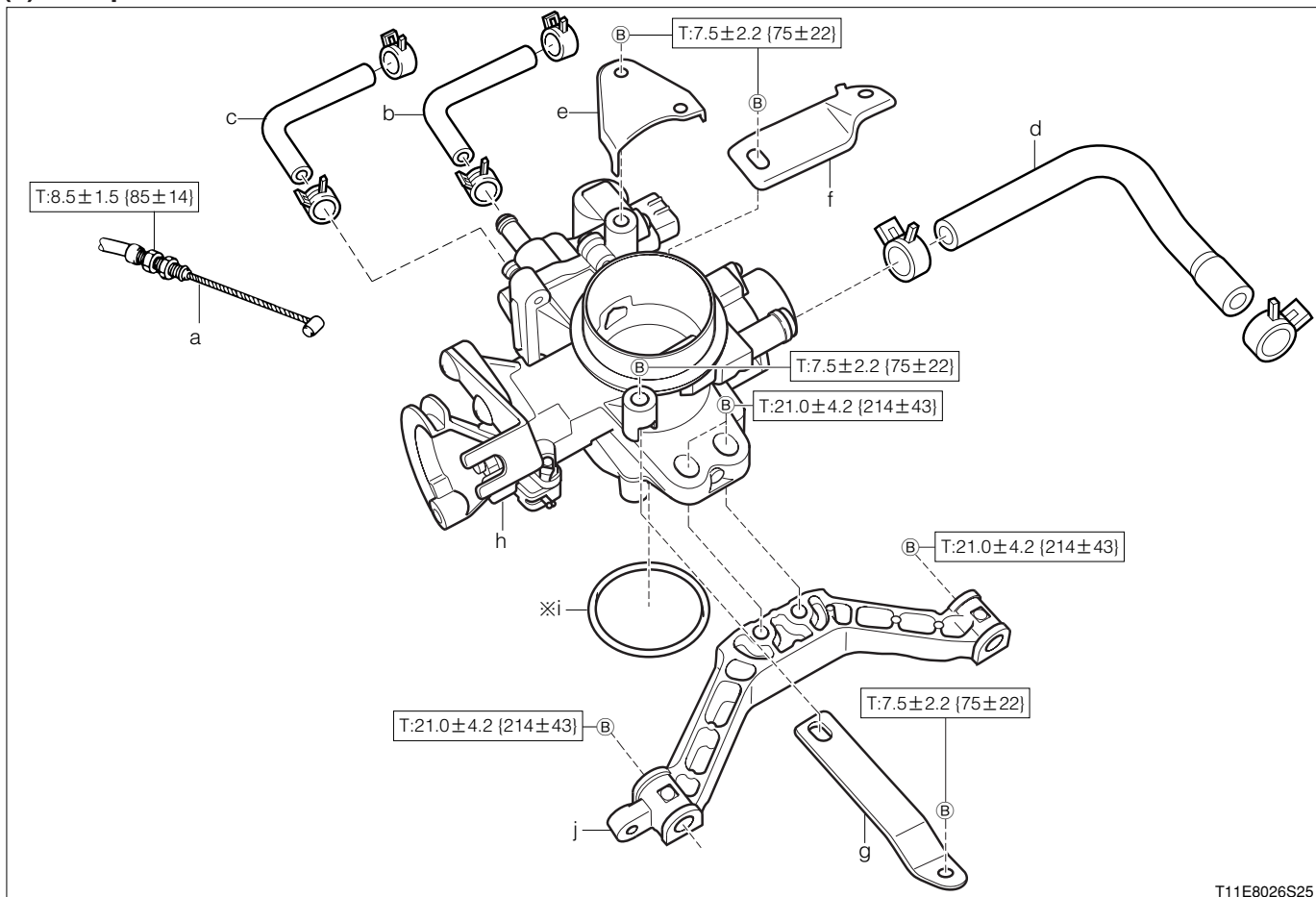
Torque wrench

#### 2-1-2 OPERATION BEFORE REMOVAL

1. Drain the coolant.
2. Remove the air cleaner hose No.1.  
Refer to Page B3-9.
3. Remove the cleaner Ay, air W/element  
Refer to Page B3-9.

#### 2-1-3 REMOVAL AND INSTALLATION PROCEDURES

##### (1) Components



T11E8026S25

※:Non - reusable parts  
Unit:N·m{kgf·cm}

## (2) Removal and installation procedures

- |     |  |     |                               |
|-----|--|-----|-------------------------------|
| ▲ 1 | a Cable Ay, accelerator control (Throttle body side) | 6   | f Stay, throttle body         |
| 2   | b Hose, water  | ▲ 7 | g Barcket, throttle body No.2 |
| ▲ 3 | c Hose, water by-pass, No.1                          | ▲ 8 | h Body Ay, throttle           |
| ▲ 4 | d Hose, ventilation No.2                             | 9   | i Ring, O                     |
| 5   | e Bracket, air cleaner                               | 10  | j Bracket, throttle body      |

### 2-1-4 INSPECTION

#### (1) Body Ay, throttle

1. Perform the following checks for the throttle body Ay.
  - (1) There should be no excessive play in the throttle shaft.
  - (2) Each port should not be clogged.
  - (3) The throttle valve should open or close smoothly.
  - (4) There should be no gap between the stop screw and the lever when the throttle valve is located at the fully-opened position.

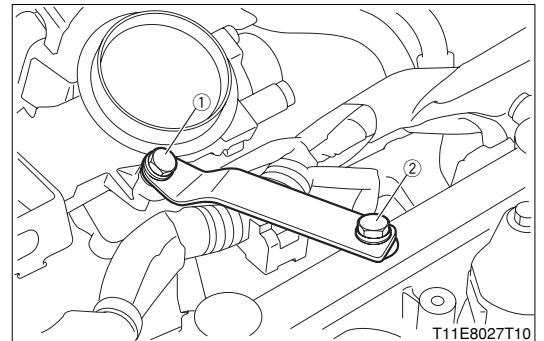
### 2-1-5 POINTS OF INSTALLATION

#### (1) Body Ay, throttle

1. Clean the installation surface of the body Ay and intake manifold Ay and install an O-ring.

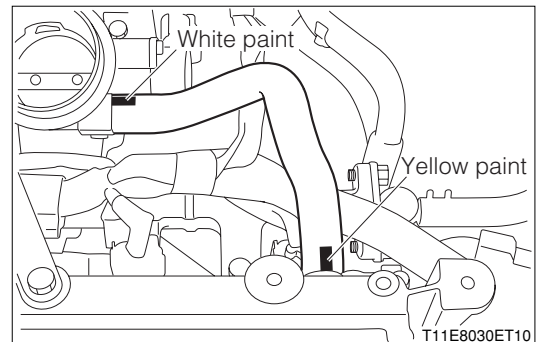
#### (2) Barcket, throttle body No.2

1. Temporarily tighten the bolt ①.
2. Fully tighten in the sequence of the bolt ② and bolt ①.



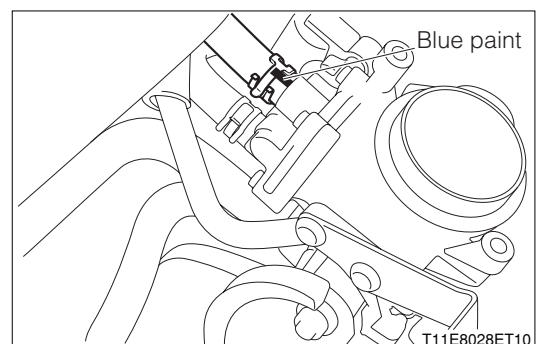
#### (3) Hose, ventilation No.2

1. Perform the installation so that the paint on the hose would come to the top position.



#### (4) Hose, water by-pass, No.1

1. Perform the installation so that the paint on the hose would come to the top position.



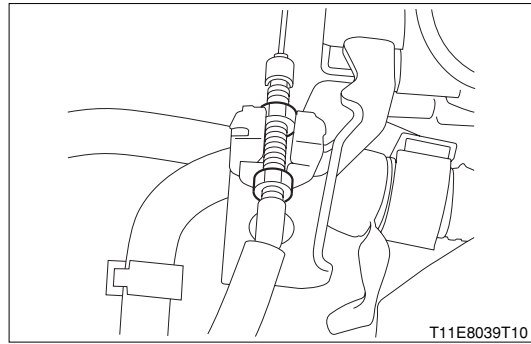
# B3-13

## (5) Cable Ay, accelerator control (Throttle body side)

1. Install the cable Ay. After adjusting the play of the accelerator pedal, tighten the nuts to the specified torque.

SPECIFIED VALUE: 1 - 5mm(Play of accelerator pedal:  
Depressing surface)

TIGHTENING TORQUE:  $8.5 \pm 1.5 \text{ N} \cdot \text{m}$   
{ $85 \pm 14 \text{ kgf} \cdot \text{cm}$ }



## 2-1-6 OPERATION AFTER INSTALLATION

1. Install the air cleaner Ay W/element.

Refer to Page B3-9.

2. Install the hose, air cleaner No. 1.

Refer to Page B3-9.

3. Replenish coolant and perform water leakage check.

Refer to Page B3-15.

## 3 INTAKE MANIFOLD GASKET

### 3-1 REMOVAL AND INSTALLATION

#### 3-1-1 ARTICLES TO BE PREPARED

Instrument

Torque wrench
---------------

#### 3-1-2 OPERATION BEFORE REMOVAL

##### WARNING

- Do not remove the radiator cap or drain plug, water hose when the coolant is hot.

1.Remove the air cleaner hose No.1.

Refer to Page B3-9.

2.Remove the cleaner Ay, air W/element

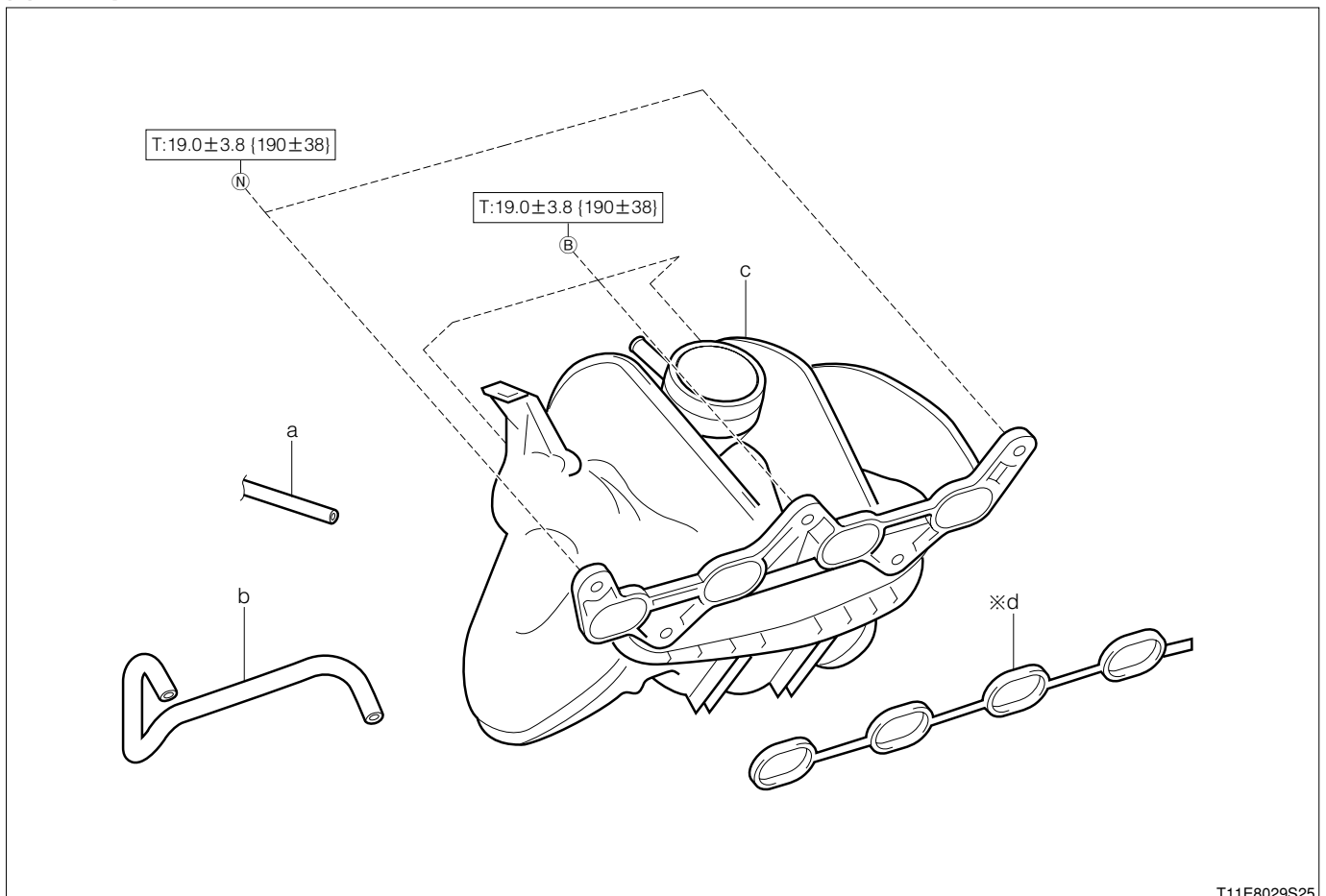
Refer to Page B3-9.

3.Remove the throttle body Ay.

Refer to Page B3-11.

#### 3-1-3 REMOVAL AND INSTALLATION PROCEDURES

##### (1) Components



T11E8029S25

※:Non - reusable parts

Unit:N·m{kgf·cm}

# B3-15

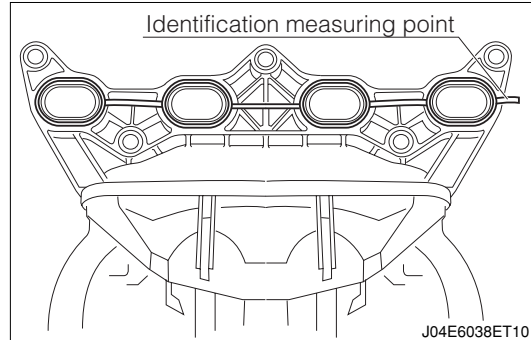
## (2) Removal and installation procedures

- ▲ 1 a Ventilation hose (For intake manifold - head cover/PCV)
- 2 b Vacuum hose S/A (Intake manifold - vacuum sensor)
- ▲ 3 c Manifold Ay, intake
- ▲ 4 d Gasket, intake manifold to head

### 3-1-4 POINTS OF INSTALLATION

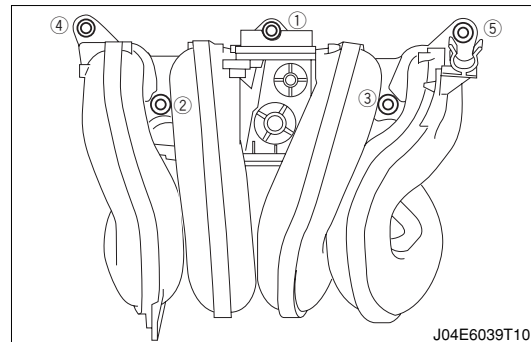
#### (1) Gasket, intake manifold to head

1. Clean the gasket installation surface of the cylinder head Ay and intake manifold Ay.
2. Install the gasket to the intake manifold Ay so that the identification section of the gasket would come to the position shown in the figure.



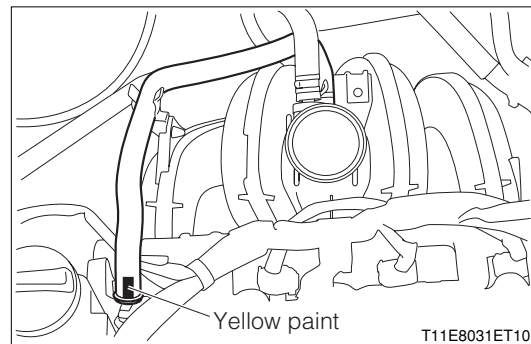
#### (2) Manifold Ay, intake

1. Install the manifold Ay and tighten the bolts and nuts in the sequence shown in the right figure.



#### (3) Hose, ventilation

1. Perform the installation so that the paint on the hose would come to the top position.



### 3-1-5 OPERATION AFTER INSTALLATION

1. Install the throttle body Ay.  
Refer to Page B3-11.
2. Install the air cleaner Ay W/element.  
Refer to Page B3-9.
3. Install the air cleaner hose No.1.  
Refer to Page B3-9.