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# SECTION EX

## EXHAUST SYSTEM

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## PRECAUTION

### PRECAUTIONS

#### Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:000000004784389

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SRS and SB section of this Service Manual.

**WARNING:**

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SRS section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.
- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

#### Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

INFOID:000000004784391

**NOTE:**

- This Procedure is applied only to models with Intelligent Key system and NATS (NISSAN ANTI-THEFT SYSTEM).
- Remove and install all control units after disconnecting both battery cables with the ignition knob in the "LOCK" position.
- Always use CONSULT-III to perform self-diagnosis as a part of each function inspection after finishing work. If DTC is detected, perform trouble diagnosis according to self-diagnostic results.

For models equipped with the Intelligent Key system and NATS, an electrically controlled steering lock mechanism is adopted on the key cylinder.

For this reason, if the battery is disconnected or if the battery is discharged, the steering wheel will lock and steering wheel rotation will become impossible.

If steering wheel rotation is required when battery power is interrupted, follow the procedure below before starting the repair operation.

**OPERATION PROCEDURE**

1. Connect both battery cables.

**NOTE:**

Supply power using jumper cables if battery is discharged.

2. Use the Intelligent Key or mechanical key to turn the ignition switch to the "ACC" position. At this time, the steering lock will be released.
3. Disconnect both battery cables. The steering lock will remain released and the steering wheel can be rotated.
4. Perform the necessary repair operation.
5. When the repair work is completed, return the ignition switch to the "LOCK" position before connecting the battery cables. (At this time, the steering lock mechanism will engage.)
6. Perform a self-diagnosis check of all control units using CONSULT-III.

# PREPARATION

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[HR16DE]

## PREPARATION

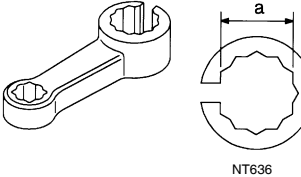
### PREPARATION

#### Special Service Tool

INFOID:000000004784375

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Tool number Tool name	Description
KV10114400 (J-38365) Heated oxygen sensor wrench  	Loosening or tightening heated oxygen sensor <b>a: 22 mm (0.87 in)</b>

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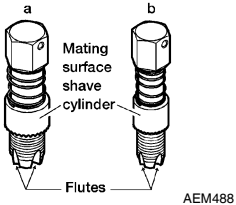

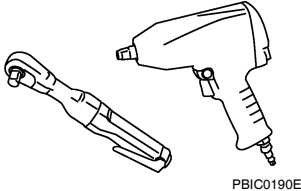
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#### Commercial Service Tool

INFOID:000000004784394

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(Kent-Moore No.) Tool name	Description
(J-43897-18) (J-43897-12) Heated oxygen sensor thread cleaner  	Reconditioning the exhaust system threads before installing new heated oxygen and Air fuel ratio sensors (Use with anti-seize lubricant shown below.) <b>a: 18 mm (0.71 in) dia. for zirconia heated oxygen sensor</b> <b>b: 12 mm (0.47 in) dia. for titania heated oxygen sensor</b>
Anti-seize lubricant (Permatex 133AR or equivalent meeting MIL specification MIL-A-907)  	Lubricating heated oxygen sensor thread cleaner when reconditioning exhaust system threads
Power tool  	Loosening bolts and nuts

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## ON-VEHICLE MAINTENANCE

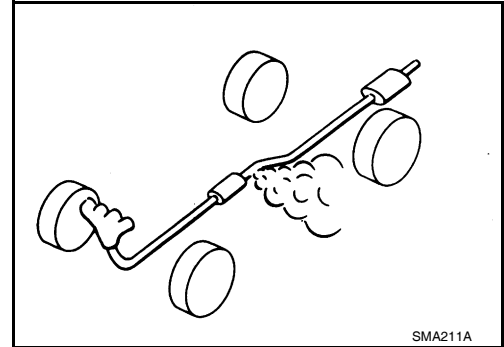
### EXHAUST SYSTEM

#### Checking Exhaust System

INFOID:000000004784377

Check exhaust pipes, muffler and mounting for improper attachment, leaks, cracks, damage or deterioration.

- If necessary, repair or replace damaged parts.



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# EXHAUST SYSTEM

< ON-VEHICLE REPAIR >

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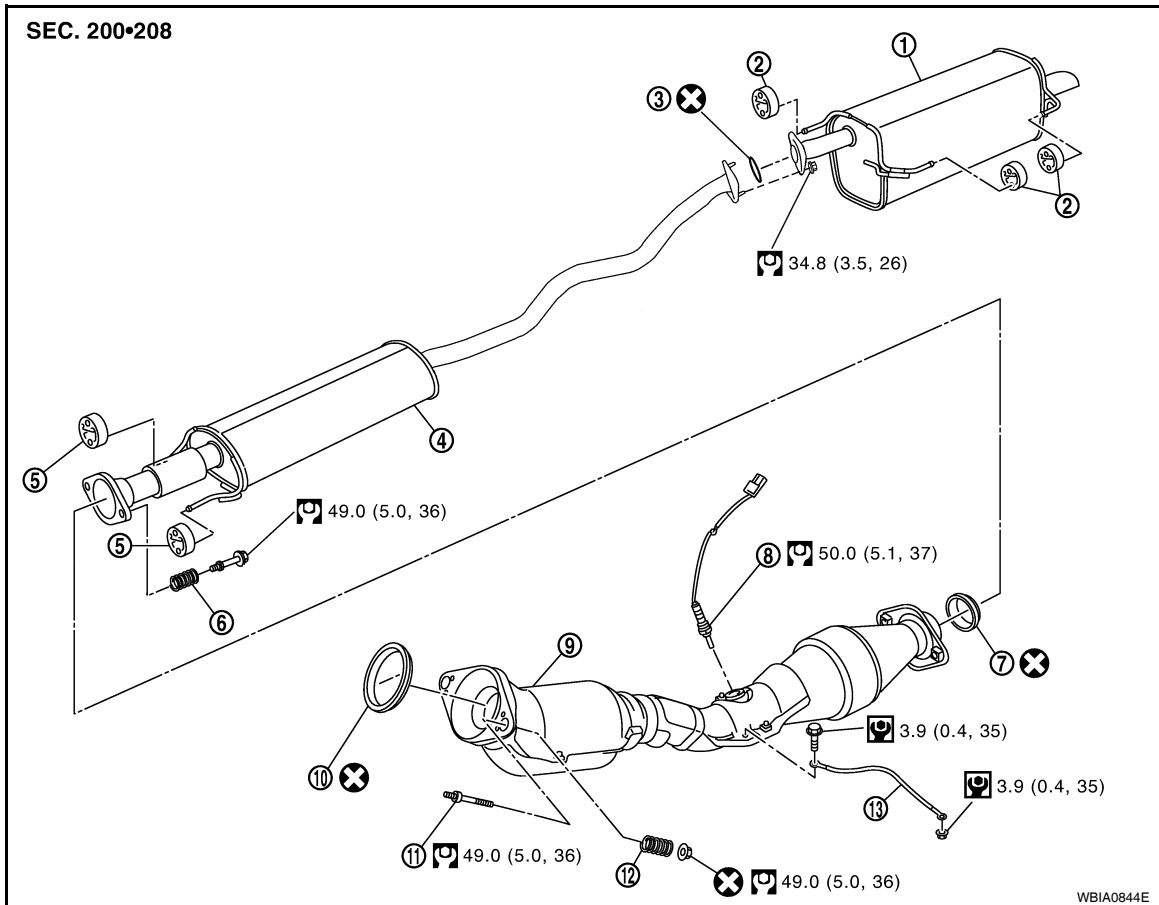
## ON-VEHICLE REPAIR

### EXHAUST SYSTEM

Component

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| 1. Main muffler   | 2. Mounting rubber        | 3. Ring gasket        |
| 4. Center muffler | 5. Mounting rubber        | 6. Spring             |
| 7. Seal bearing   | 8. Heated oxygen sensor 2 | 9. Exhaust front tube |
| 10. Seal bearing  | 11. Stud bolt             | 12. Spring            |
| 13. Ground cable  |                           |                       |

### Removal and Installation

INFOID:000000004784393

#### WARNING:

- Perform the procedure with the exhaust system fully cooled down because the system will be hot just after the engine is turned off.
- Be careful not to cut your hand on heat insulator edges.

#### CAUTION:

- Use genuine NISSAN exhaust system parts or equivalent, which are specially designed for heat resistance, corrosion resistance and shape.

#### REMOVAL

Remove exhaust system components using power tools.

- Remove heated oxygen sensor using Tool as needed.

Tool number : KV10114400 (J-38365)

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CAUTION:

# EXHAUST SYSTEM

< ON-VEHICLE REPAIR >

[HR16DE]

**Be careful not to damage heated oxygen sensor.**

## INSTALLATION

Installation is in the reverse order of removal.

### CAUTION:

- Always replace exhaust gaskets and seal bearings with new ones when installing.
- Before installing a new heated oxygen sensor, clean and apply anti-seize lubricant to exhaust system threads using suitable tool.

Oxygen sensor thread cleaner : — (J-43897-18)

Oxygen sensor thread cleaner : — (J-43897-12)

- Discard any heated oxygen sensor which has been dropped from a height of more than 0.5 m (19.7 in) onto a hard surface such as a concrete floor; install a new one.
- Do not over-tighten the heated oxygen sensor. Doing so may damage the heated oxygen sensor, resulting in the MIL coming on.
- Remove deposits from the sealing surface of each connection. Connect them securely to avoid exhaust leakage.
- Temporarily tighten nuts on the exhaust manifold side and bolts on the vehicle side. Check each part for unusual interference, and then tighten them to the specified torque.
- When installing each mounting rubber, avoid twisting or unusual extension in up/down and right/left directions.

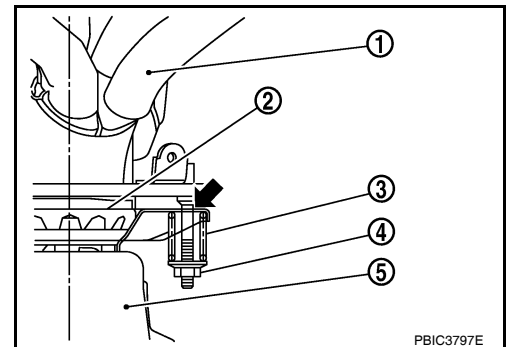
### Exhaust Manifold to Exhaust Front Tube

1. Securely insert seal bearing (2) into exhaust manifold (1) side in the direction shown.
  - Exhaust front tube (5)

### CAUTION:

**Be careful not to damage seal bearing surface when installing.**

2. Install spring (3), tighten nut (4).
  - Be careful that the stud bolt nut does not interfere with the flanged area (■).
  - Make sure the spring (3) sits properly on the flange surface by aligning it to the locator dimples.



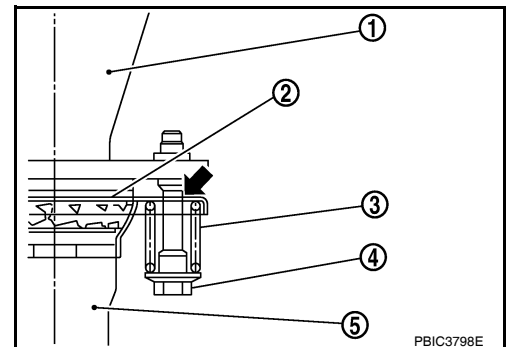
### Exhaust Front Tube to Center Muffler

1. Securely insert seal bearing (2) into exhaust front tube (1) side in the direction shown.
  - Center muffler (5)

### CAUTION:

**Be careful not to damage seal bearing surface when installing.**

2. Install spring (3), tighten bolt (4).
  - Be careful that the stud bolt does not interfere with the flanged area (■).
  - Make sure the spring (3) sits properly on the flange surface by aligning it to the locator dimples.



## INSPECTION AFTER INSTALLATION

- With the engine running, check exhaust tube joints for exhaust leakage and unusual noise.
- Check to ensure that brackets and mounting rubbers are installed properly and free from undue stress. Improper installation could result in excessive noise and vibration.

## SERVICE INFORMATION

### PRECAUTIONS

#### Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:000000004784390

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SRS and SB section of this Service Manual.

#### WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SRS section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.
- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

#### Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

INFOID:000000004675325

#### NOTE:

- This Procedure is applied only to models with Intelligent Key system and NATS (NISSAN ANTI-THEFT SYSTEM).
- Remove and install all control units after disconnecting both battery cables with the ignition knob in the "LOCK" position.
- Always use CONSULT-III to perform self-diagnosis as a part of each function inspection after finishing work. If DTC is detected, perform trouble diagnosis according to self-diagnostic results.

For models equipped with the Intelligent Key system and NATS, an electrically controlled steering lock mechanism is adopted on the key cylinder.

For this reason, if the battery is disconnected or if the battery is discharged, the steering wheel will lock and steering wheel rotation will become impossible.

If steering wheel rotation is required when battery power is interrupted, follow the procedure below before starting the repair operation.

#### OPERATION PROCEDURE

1. Connect both battery cables.
  - NOTE:**  
Supply power using jumper cables if battery is discharged.
2. Use the Intelligent Key or mechanical key to turn the ignition switch to the "ACC" position. At this time, the steering lock will be released.
3. Disconnect both battery cables. The steering lock will remain released and the steering wheel can be rotated.
4. Perform the necessary repair operation.
5. When the repair work is completed, return the ignition switch to the "LOCK" position before connecting the battery cables. (At this time, the steering lock mechanism will engage.)
6. Perform a self-diagnosis check of all control units using CONSULT-III.

# PREPARATION

< SERVICE INFORMATION >

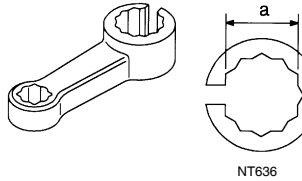
[MR18DE]

## PREPARATION

### Special Service Tool

INFOID:000000004306676

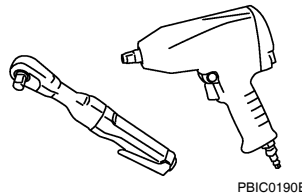
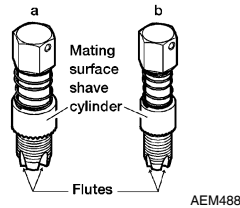
Tool number Tool name	Description
KV10114400 (J-38365) Heated oxygen sensor wrench	Loosening or tightening heated oxygen sensor <b>a: 22 mm (0.87 in)</b>



### Commercial Service Tool

INFOID:000000004675326

(Kent-Moore No.) Tool name	Description
(J-43897-18) (J-43897-12) Heated oxygen sensor thread cleaner	Reconditioning the exhaust system threads before installing new heated oxygen and Air fuel ratio sensors (Use with anti-seize lubricant shown below.) <b>a: 18 mm (0.71 in) dia. for zirconia heated oxygen sensor</b> <b>b: 12 mm (0.47 in) dia. for titania heated oxygen sensor</b>
Anti-seize lubricant (Permatex 133AR or equivalent meeting MIL specification MIL-A-907)	Lubricating heated oxygen sensor thread cleaner when reconditioning exhaust system threads
Power tool	Loosening bolts and nuts





# EXHAUST SYSTEM

< SERVICE INFORMATION >

[MR18DE]

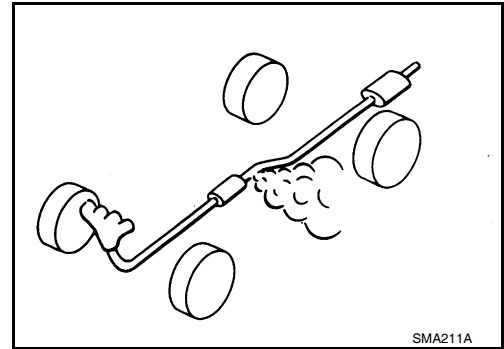
## EXHAUST SYSTEM

### Checking Exhaust System

INFOID:000000004306678

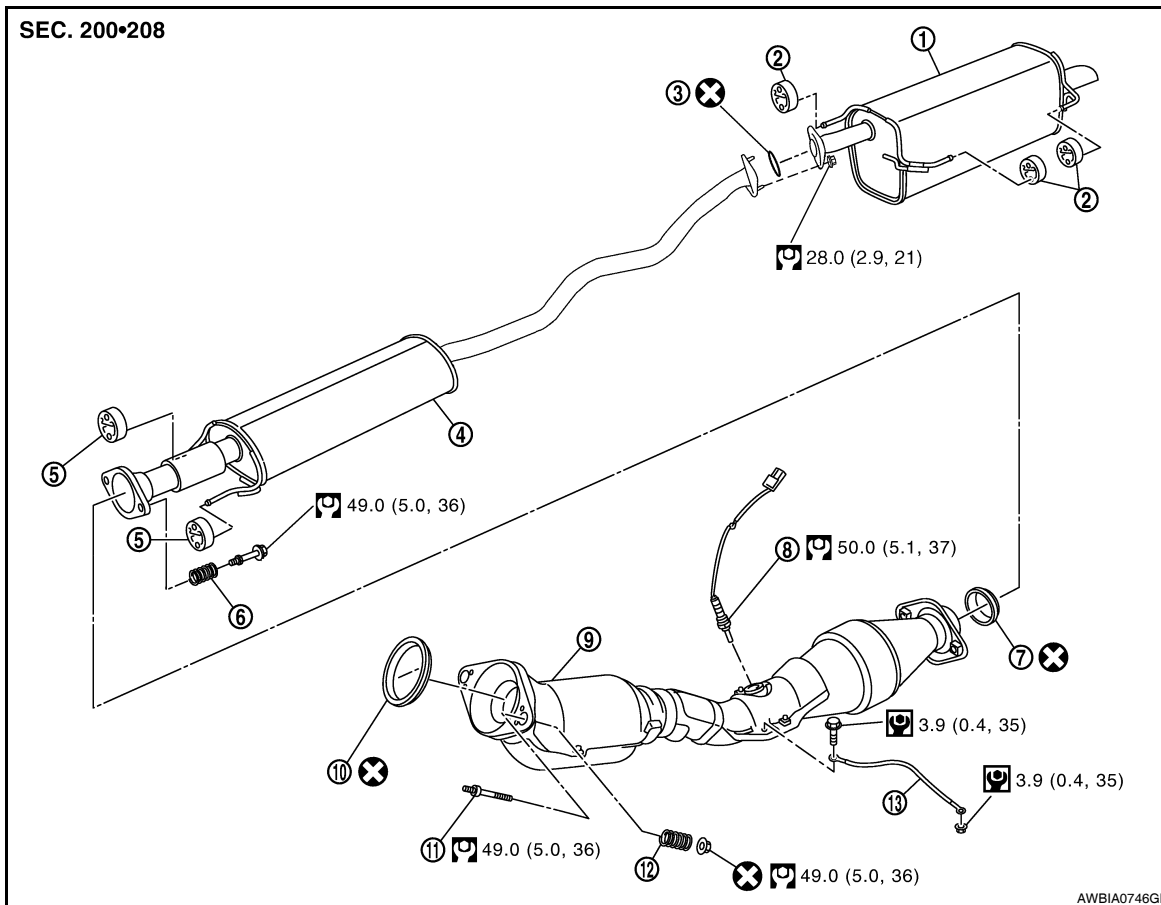
Check exhaust pipes, muffler and mounting for improper attachment, leaks, cracks, damage or deterioration.

- If necessary, repair or replace damaged parts.



### Component

INFOID:000000004675327



- |                   |                           |                       |
|-------------------|---------------------------|-----------------------|
| 1. Main muffler   | 2. Mounting rubber        | 3. Ring gasket        |
| 4. Center muffler | 5. Mounting rubber        | 6. Spring             |
| 7. Seal bearing   | 8. Heated oxygen sensor 2 | 9. Exhaust front tube |
| 10. Seal bearing  | 11. Stud bolt             | 12. Spring            |
| 13. Ground cable  |                           |                       |

### Removal and Installation

INFOID:000000004675328

#### WARNING:

- Perform the procedure with the exhaust system fully cooled down because the system will be hot just after the engine is turned off.

# EXHAUST SYSTEM

[MR18DE]

## < SERVICE INFORMATION >

- Be careful not to cut your hand on heat insulator edges.

### CAUTION:

- Use genuine NISSAN exhaust system parts or equivalent, which are specially designed for heat resistance, corrosion resistance and shape.

## REMOVAL

Remove exhaust system components using power tools.

- Remove heated oxygen sensor using Tool as needed.

Tool number : KV10114400 (J-38365)

### CAUTION:

Be careful not to damage heated oxygen sensor.

## INSTALLATION

Installation is in the reverse order of removal.

### CAUTION:

- Always replace exhaust gaskets and seal bearings with new ones when installing.
- Before installing a new heated oxygen sensor, clean and apply anti-seize lubricant to exhaust system threads using suitable tool.

Oxygen sensor thread cleaner : — (J-43897-18)

Oxygen sensor thread cleaner : — (J-43897-12)

- Discard any heated oxygen sensor which has been dropped from a height of more than 0.5 m (19.7 in) onto a hard surface such as a concrete floor; install a new one.
- Do not over-tighten the heated oxygen sensor. Doing so may damage the heated oxygen sensor, resulting in the MIL coming on.
- Remove deposits from the sealing surface of each connection. Connect them securely to avoid exhaust leakage.
- Temporarily tighten nuts on the exhaust manifold side and bolts on the vehicle side. Check each part for unusual interference, and then tighten them to the specified torque.
- When installing each mounting rubber, avoid twisting or unusual extension in up/down and right/left directions.

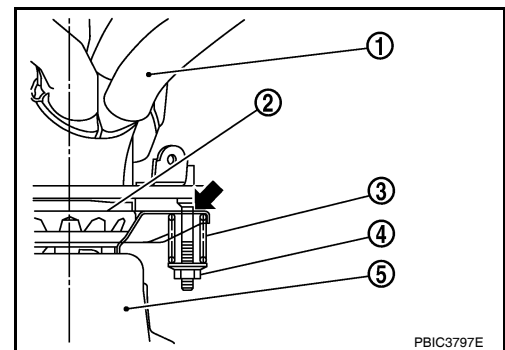
### Exhaust Manifold to Exhaust Front Tube

1. Securely insert seal bearing (2) into exhaust manifold (1) side in the direction shown.
  - Exhaust front tube (5)

### CAUTION:

Be careful not to damage seal bearing surface when installing.

2. Install spring (3), tighten nut (4).
  - Be careful that the stud bolt nut does not interfere with the flanged area (■).
  - Make sure the spring (3) sits properly on the flange surface by aligning it to the locator dimples.



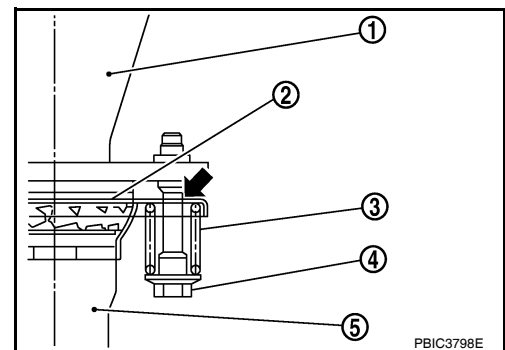
### Exhaust Front Tube to Center Muffler

1. Securely insert seal bearing (2) into exhaust front tube (1) side in the direction shown.
  - Center muffler (5)

### CAUTION:

Be careful not to damage seal bearing surface when installing.

2. Install spring (3), tighten bolt (4).
  - Be careful that the stud bolt does not interfere with the flanged area (■).
  - Make sure the spring (3) sits properly on the flange surface by aligning it to the locator dimples.



## INSPECTION AFTER INSTALLATION

# EXHAUST SYSTEM

< SERVICE INFORMATION >

[MR18DE]

- With the engine running, check exhaust tube joints for exhaust leakage and unusual noise.
- Check to ensure that brackets and mounting rubbers are installed properly and free from undue stress. Improper installation could result in excessive noise and vibration.

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