

SECTION

EX

EX

EXHAUST SYSTEM

CONTENTS

PREPARATION	2	Checking Exhaust System	3	
Special Service Tool	2	Removal and Installation	3	
EXHAUST SYSTEM	3	QG16DE ENGINE MODELS	3	
		QG18DE ENGINE MODELS	4	
		QR ENGINE MODELS	5	
		YD ENGINE MODELS	6	
		REMOVAL	6	
		INSTALLATION	6	
		INSPECTION AFTER INSTALLATION	7	
		SERVICE DATA AND SPECIFICATIONS (SDS)	8	
		Tightening Torque	8	

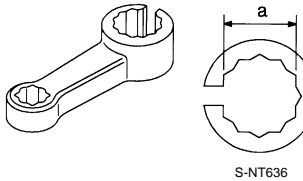
PREPARATION

PREPARATION

PFP:00002

Special Service Tool

EBS00GQ0

Tool number Tool name	Description
<p>KV10117200 Heated oxygen sensor wrench</p>  <p>S-NT636</p>	<p>Loosening or tightening heated oxygen sensors a: 22 mm (0.87 in)</p>

EXHAUST SYSTEM

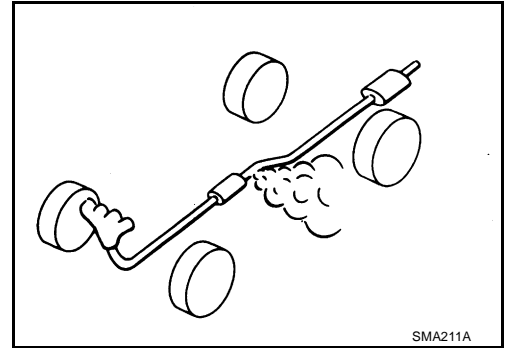
EXHAUST SYSTEM

PFP:20100

Checking Exhaust System

EBS00GQQ

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



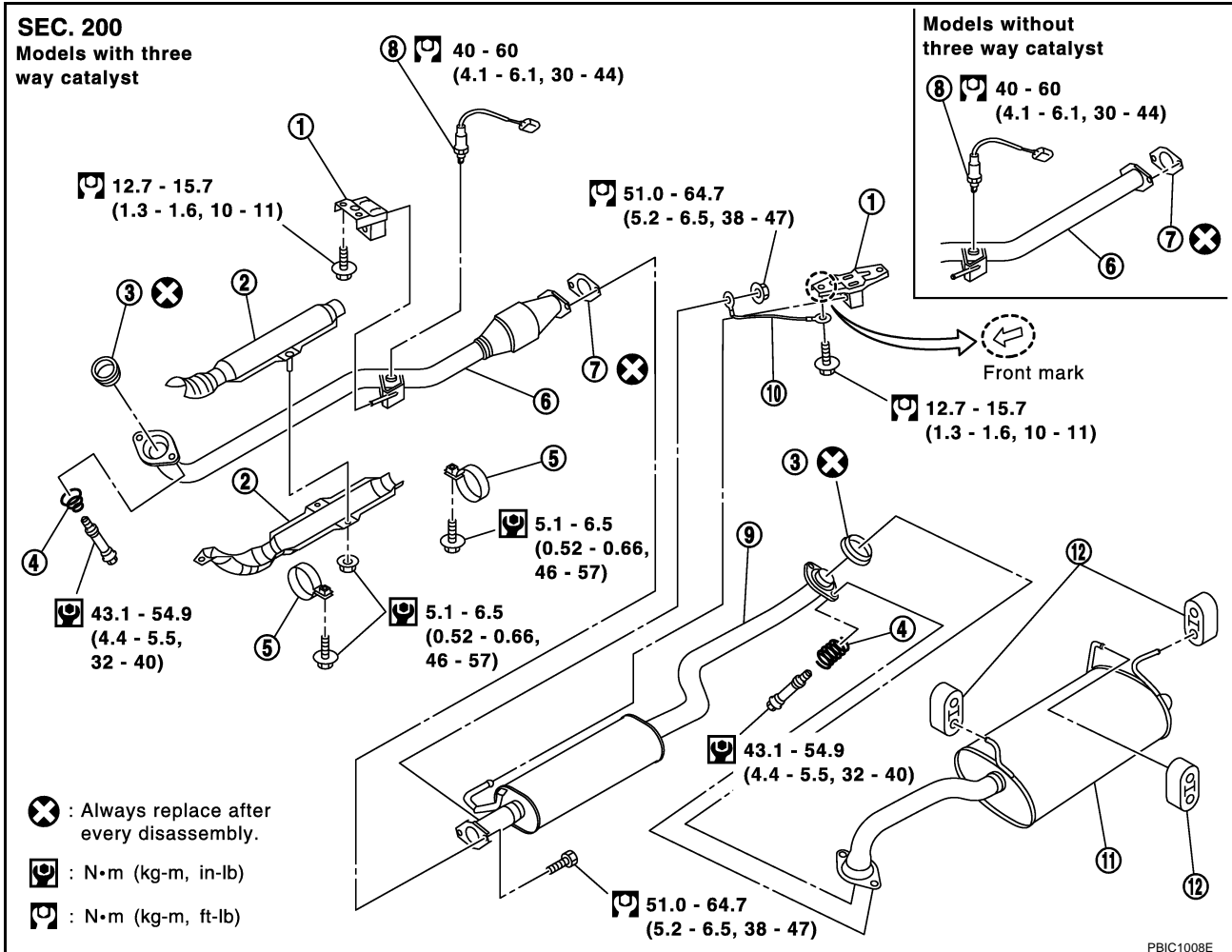
EBS00GQR

Removal and Installation

CAUTION:

- Be sure to use genuine exhaust system parts or equivalents which are specially designed for heat resistance, corrosion resistance and shape.
- Perform the operation with the exhaust system fully cooled down because the system is still hot just after the engine stops.
- Be careful not to cut your hand on the insulator edge.

QG16DE ENGINE MODELS

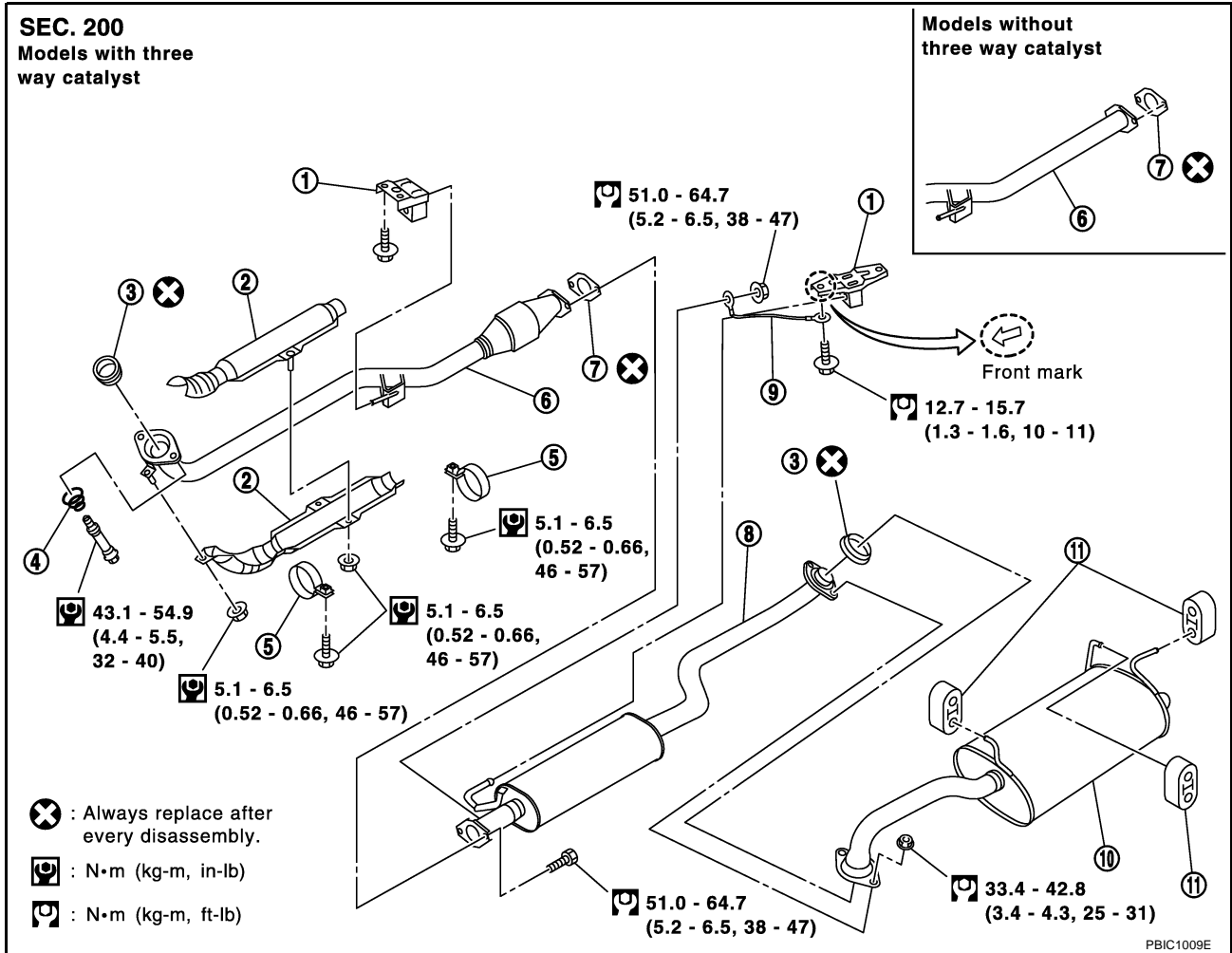


- | | | |
|---------------------|--------------|-------------------------------|
| 1. Mounting bracket | 2. Insulator | 3. Seal bearing / Ring gasket |
| 4. Spring | 5. Clamp | 6. Exhaust front tube |

EXHAUST SYSTEM

- | | | |
|------------------|---------------------------|------------------------|
| 7. Gasket | 8. Heated oxygen sensor 2 | 9. Exhaust center tube |
| 10. Ground cable | 11. Main muffler | 12. Mounting rubber |

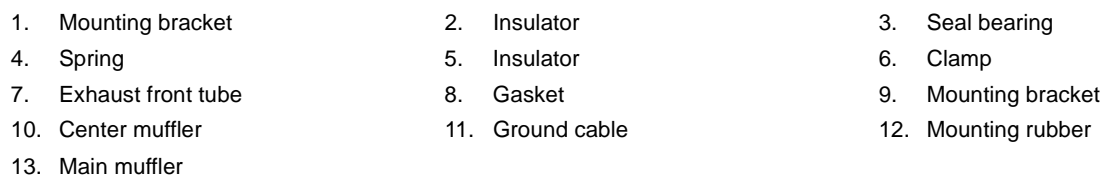
QG18DE ENGINE MODELS



- | | | |
|---------------------|------------------------|-----------------------|
| 1. Mounting bracket | 2. Insulator | 3. Seal bearing |
| 4. Spring | 5. Clamp | 6. Exhaust front tube |
| 7. Gasket | 8. Exhaust center tube | 9. Ground cable |
| 10. Main muffler | 11. Mounting rubber | |

EX

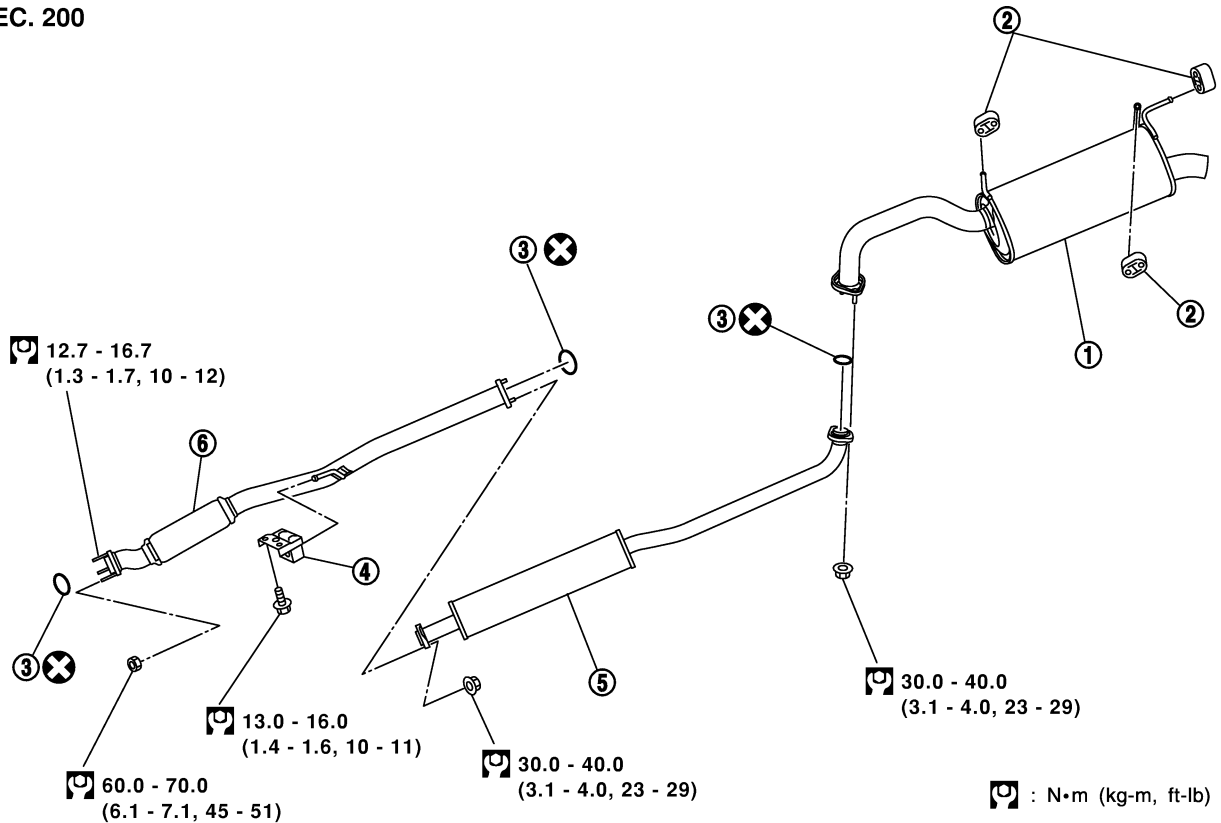
M



EXHAUST SYSTEM

YD ENGINE MODELS

SEC. 200



PBIC0704E

- | | | |
|----------------------------|--------------------|-----------------------|
| 1. Main muffler | 2. Mounting rubber | 3. Ring gasket |
| 4. Mounting rubber bracket | 5. Center tube | 6. Exhaust front tube |

REMOVAL

- Disconnect each joint and mounting.

Heated Oxygen Sensor 2 (QG18DE Engine Models)

- When removing heated oxygen sensor on vehicle, perform following procedure.
1. Disconnect harness connector.
 2. Use a wrench for removal and installation of heated oxygen sensor (special service tool), remove heated oxygen sensor 2.

CAUTION:

- Do not apply impact while handling.
 - Do not use heated oxygen sensor 2 after being dropped on a solid concrete floor, from a height of 0.5 m (1.6 ft) or higher. Replace it with a new one.
 - Do not tighten heated oxygen sensor 2 to a torque larger than specified. Excess tightening may result in damage of heated oxygen sensor 2, causing MI to turn ON.
- When removing heated oxygen sensor 2 after disconnecting exhaust front tube, use a wrench for removal and installation of heated oxygen sensor 2 (special service tool).

INSTALLATION

Install in the reverse order of removal paying attention to the following.

- If the insulator is badly deformed, repair or replace it. If deposits such as mud pile up on the insulator, remove them.
- When installing the insulator avoid large gaps or interference between the insulator and each exhaust tube.
- Remove deposits and left over gasket material from the sealing surface of each connection. Connect them securely to avoid gas leakage.

EXHAUST SYSTEM

- Temporarily tighten the exhaust manifold side mounting nuts and the vehicle side mounting bolts. 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.
- Install the seal bearings at front exhaust tube and main muffler as follows.

CAUTION:

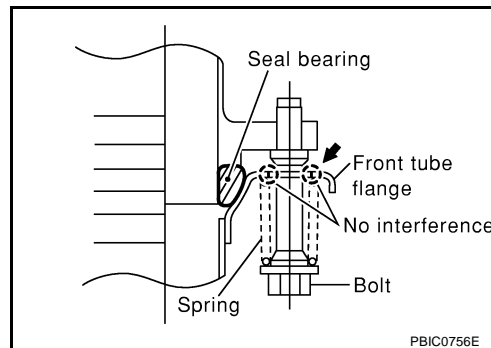
Do not mix the bolt and spring for seal bearing as the dimension is different for each seal bearing.

Front Exhaust Side (QG and QR Engine Models):

- Insert the seal bearing in the direction shown in the figure.

CAUTION:

Tighten the mounting bolt without causing interference with the flange.

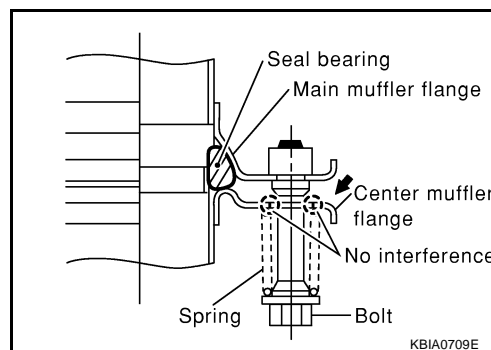


Main Muffler Side (QG16DE and QR Engine Models):

1. Insert the seal bearing in the direction shown in the figure.
2. Tighten the mounting bolt with the big end of the spring facing the flange.

CAUTION:

Tighten the mounting bolt without causing interference with the flange.



INSPECTION AFTER INSTALLATION

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

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

PFP:00030

Tightening Torque

EBS00GQS

Unit: N·m (kg-m, ft-lb)

Exhaust manifold to exhaust front tube (QG and QR engine models)	43.1 - 54.9 (4.4 - 5.5, 32 - 40)
Exhaust manifold to exhaust front tube (YD engine models)	60.0 - 70.0 (6.1 - 7.1, 45 - 51)
Exhaust front tube to center muffler (QG and QR engine models)	51.0 - 64.7 (5.2 - 6.5, 38 - 47)
Exhaust front tube to center tube (YD engine models)	30.0 - 40.0 (3.1 - 4.0, 23 - 29)
Center muffler to main muffler (QG and QR engine models)	43.1 - 54.9 (4.4 - 5.5, 32 - 40)
Center tube to main muffler (YD engine models)	30.0 - 40.0 (3.1 - 4.0, 23 - 29)
Heated oxygen sensor 2 (QG18DE engine models)	40 - 60 (4.1 - 6.1, 30 - 44)