

A
EX
SECTION EXHAUST SYSTEM
C
D
E
F
G
H
I
J
K
L
M

CONTENTS

APPLICATION NOTICE	2	K9K ENGINE (EURO 4 56KW/63KW MODELS)....	8
How to Check Vehicle Type	2	REMOVAL	8
PREPARATION	3	INSTALLATION (CR, HR ENGINE)	9
Special Service Tool	3	INSTALLATION (K9K ENGINE)	10
EXHAUST SYSTEM	4	Inspection After Installation	10
Checking Exhaust System	4	SERVICE DATA AND SPECIFICATIONS (SDS)	11
Removal and Installation	4	Tightening Torque	11
CR ENGINE	4	CR ENGINE	11
HR ENGINE (HATCHBACK MODELS)	5	HR ENGINE	11
HR ENGINE (C+C MODELS)	6	K9K ENGINE	11
K9K ENGINE (EURO 3 48KW/60KW MODELS)....	7		

APPLICATION NOTICE

APPLICATION NOTICE

PFP:00000

How to Check Vehicle Type

EBS01LRJ

Confirm K9K engine type with Model written on identification plate (refer to [GI-44, "IDENTIFICATION INFORMATION"](#)), then refer to service information in EM section.

Vehicle type	Engine type
xTKxxxxK12Vxx	Euro3 48kW
xTKxxxxK12Yxx	Euro3 60kW
xTKxxxxK12Txx	Euro4 50kW
xTKxxxxK12Uxx	Euro4 63kW

PREPARATION

PREPARATION

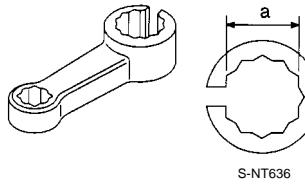
Special Service Tool

PFP:00002

EBS000JC

A

Tool number Tool name	Description	EX
KV10117200 Heated oxygen sensor wrench	Loosening or tightening heated oxygen sensors a: 22 mm (0.87 in)	C D E F G H I J K L M



EXHAUST SYSTEM

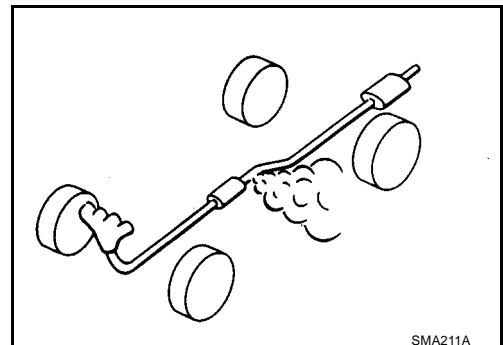
EXHAUST SYSTEM

PFP:20100

Checking Exhaust System

EBS000JQ

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



SMA211A

Removal and Installation

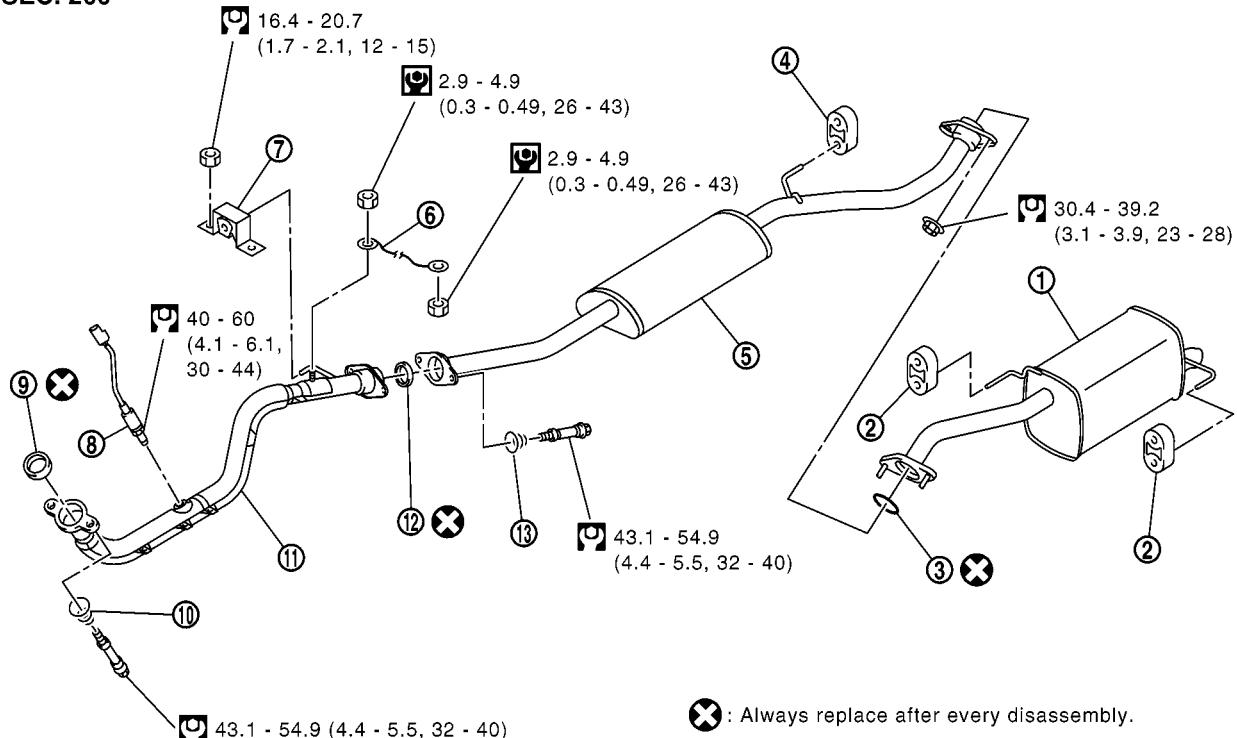
EBS000JD

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.

CR ENGINE

SEC. 200



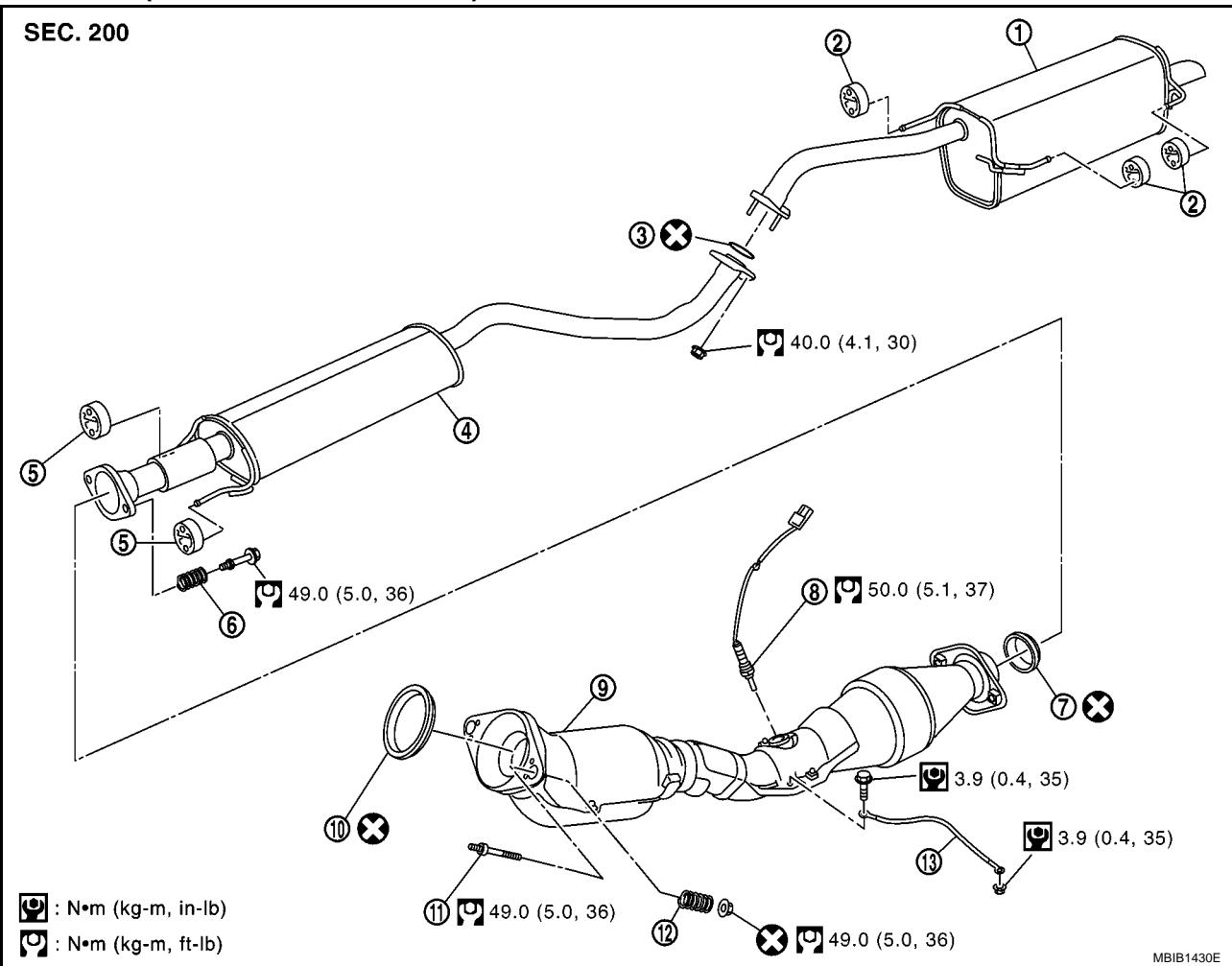
MBIB1268E

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

EXHAUST SYSTEM

HR ENGINE (HATCHBACK MODELS)

SEC. 200

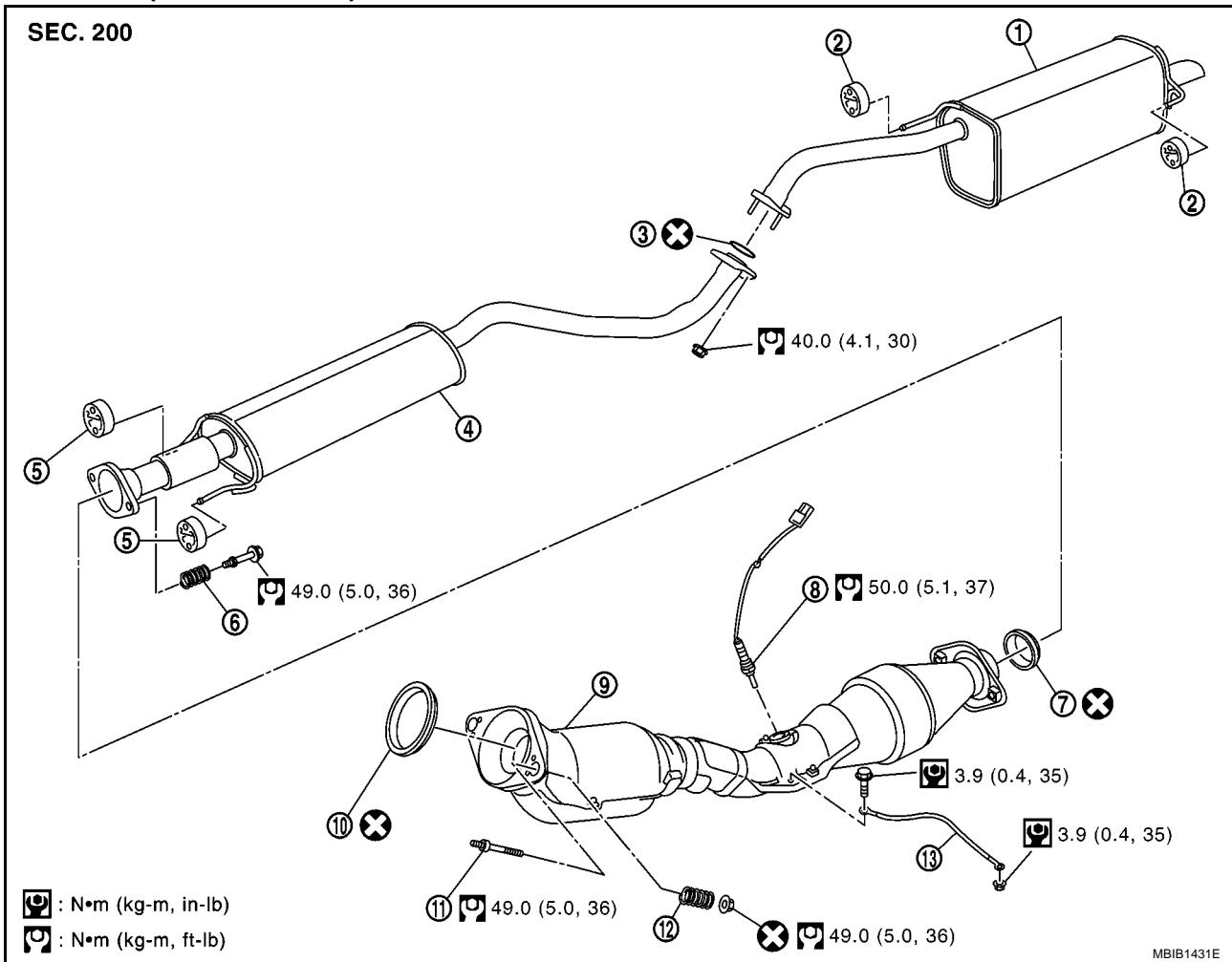


- 1. Main muffler
- 2. Mounting rubber
- 3. Ring gasket
- 4. Center muffler
- 5. Mounting rubber
- 6. Spring
- 7. Seal bearing
- 8. Heated oxygen sensor 2
- 9. Exhaust front tube
- 10. Seal bearing
- 11. Stud bolt
- 12. Spring
- 13. Ground cable

EXHAUST SYSTEM

HR ENGINE (C+C MODELS)

SEC. 200



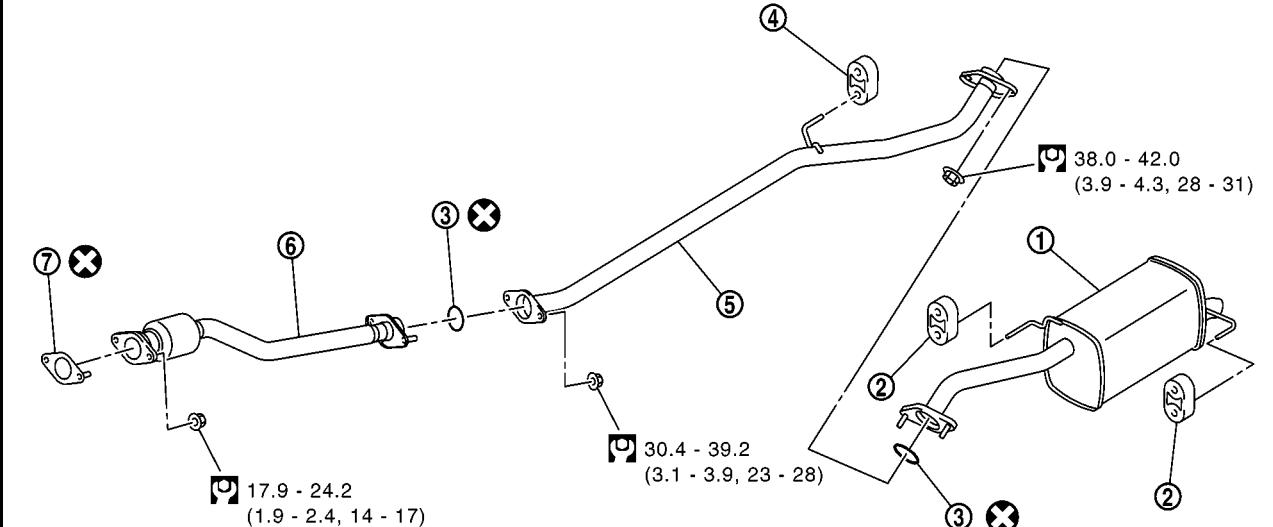
MBIB1431E

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

EXHAUST SYSTEM

K9K ENGINE (EURO 3 48KW/60KW MODELS)

SEC. 200



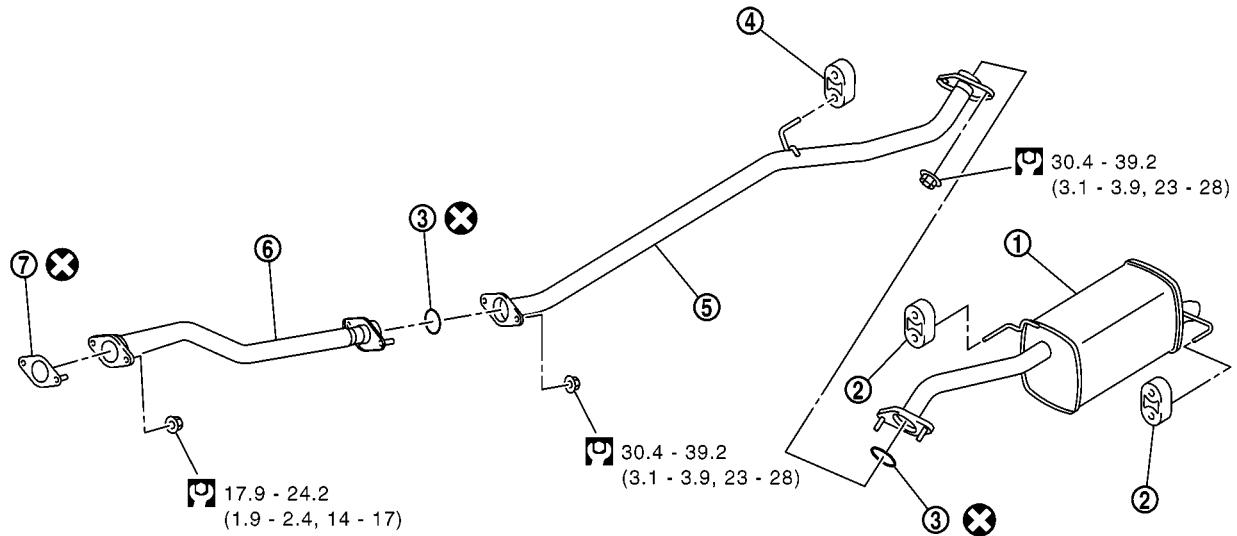
MBIB1432E

1. Main muffler	2. Mounting rubber	3. Ring gasket
4. Mounting rubber	5. Exhaust center tube	6. Exhaust front tube
7. Gasket		

EXHAUST SYSTEM

K9K ENGINE (EURO 4 56KW/63KW MODELS)

SEC. 200



✖ : Always replace after every disassembly.

▣ : N·m (kg·m, ft·lb)

MBIB1425E

1. Main muffler	2. Mounting rubber	3. Ring gasket
4. Mounting rubber	5. Exhaust center tube	6. Exhaust front tube
7. Gasket		

REMOVAL

- Disconnect each joint and mounting.

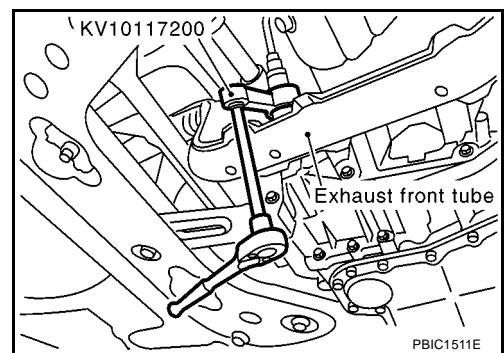
Heated Oxygen Sensor 2 (CR, HR Engine)

- When removing heated oxygen sensor 2 on vehicle, perform following procedure.

1. Disconnect harness connector.
2. Use a heated oxygen sensor wrench (special service tool) for removal of heated oxygen sensor 2.

CAUTION:

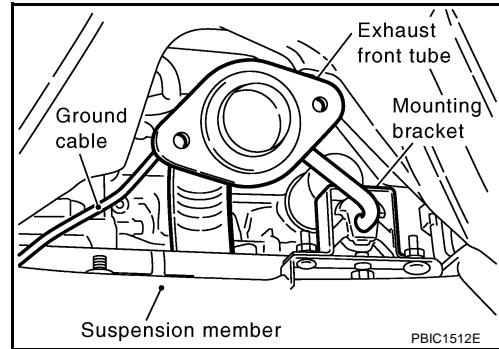
- Do not apply impact while handling.



EXHAUST SYSTEM

Exhaust Front Tube (CR, HR Engine)

1. Disconnect center muffler connecting points.
2. Remove the ground cable on vehicle.
3. Remove mount bracket mounting nuts on suspension member.
4. Disconnect three way catalyst connecting points to remove exhaust front tube.



PBIC1512E

INSTALLATION (CR, HR ENGINE)

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

- Remove all deposits, such as old gasket, from the sealing surfaces of each connection. Connect firmly without any leaks.
- When installing exhaust pipe assembly, temporarily tighten nuts on the exhaust manifold side mounting bolts and vehicle side mounting nuts. After making sure there is no unusual tension on each part, tighten nuts and bolts to the specified torque.
- Be careful not to twist or apply excess tension in any direction when installing mounting rubbers.
- Because thickness is different between center muffler rear side mounting rubber and main muffler side mounting rubbers, install thick mount rubber at main muffler side.
- Install seal bearing unit in the following procedures.
- When installing heated oxygen sensor 2, use heated oxygen sensor wrench (special service tool: KV10117200).

CAUTION:

- Do not apply impact while handing.
- 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 using heated oxygen sensor wrench (special service tool: KV10117200), tighten to the middle of specified torque because length of tool may induce slight indication increase. Do not tighten to the maximum specified torque.

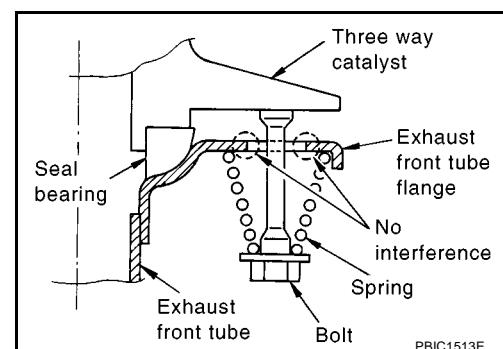
Three Way Catalyst to Exhaust Front Tube

1. Securely insert seal bearing into three way catalyst side in the direction shown in figure.

CAUTION:

Be careful not to damage seal bearing surface when installing.

2. With spring large diameter side facing to exhaust front tube flange, tighten mounting bolt.
 - Be careful that mounting bolt does not interfere with flanged area, and tighten it.



PBIC1513E

EXHAUST SYSTEM

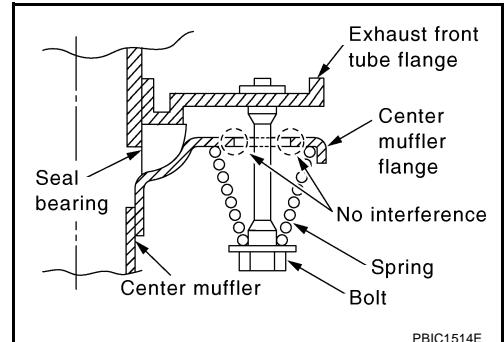
Exhaust Front Tube to Center Muffler

- Securely insert seal bearing into exhaust front tube side in the direction shown in figure.

CAUTION:

Be careful not to damage seal bearing surface when installing.

- With spring large diameter side facing to center muffler flange, tighten mounting bolt.
 - Be careful that mounting bolt does not interfere with flanged area, and tighten it.



PBIC1514E

INSTALLATION (K9K ENGINE)

- Install in the reverse order of removal.

CAUTION:

- Always replace exhaust gaskets with new ones when reassembling.
- 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 pipe.
- Remove deposits from the sealing surface of each connection. Connect them securely to avoid gas leakage.
- Temporarily tighten mounting nuts on the exhaust manifold side and mounting 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.

Inspection After Installation

EBS01C86

- 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 CR ENGINE

EBS000JE

A

Unit: N·m (kg·m, ft-lb)
Unit: N·m (kg·m, in-lb)*

EX

Exhaust system connecting parts	
Three way catalyst to Exhaust front tube	43.1 - 54.9 (4.4 - 5.6, 32 - 40)
Exhaust front tube to Center muffler	43.1 - 54.9 (4.4 - 5.6, 32 - 40)
Center muffler to Main muffler	30.4 - 39.2 (3.1 - 3.9, 23 - 28)
Heated oxygen sensor 2	40 - 60 (4.1 - 6.1, 30 - 44)
Exhaust front tube mounting bracket	16.4 - 20.7 (1.7 - 2.1, 12 - 15)
Ground cable	2.9 - 4.9 (0.3 - 0.49, 26 - 43)*

C

D

E

HR ENGINE

Unit: N·m (kg·m, ft-lb)
Unit: N·m (kg·m, in-lb)*

F

G

H

Exhaust system connecting parts	
Three way catalyst to Exhaust front tube	49.0 (5.0, 36)
Exhaust front tube to Center muffler	49.0 (5.0, 36)
Center muffler to Main muffler	34.8 (3.5, 26)
Heated oxygen sensor 2	50 (5.1, 37)
Ground cable	3.9 (0.4, 35)*

I

J

K

L

M

K9K ENGINE

Unit: N·m (kg·m, ft-lb)

Exhaust system connecting parts	
Catalyst to Exhaust front tube	17.9 - 24.2 (1.9 - 2.4, 14 - 17)
Exhaust front tube to Exhaust center tube	30.4 - 39.2 (3.1 - 3.9, 23 - 28)
Exhaust center tube to Main muffler	30.4 - 39.2 (3.1 - 3.9, 23 - 28)

SERVICE DATA AND SPECIFICATIONS (SDS)
