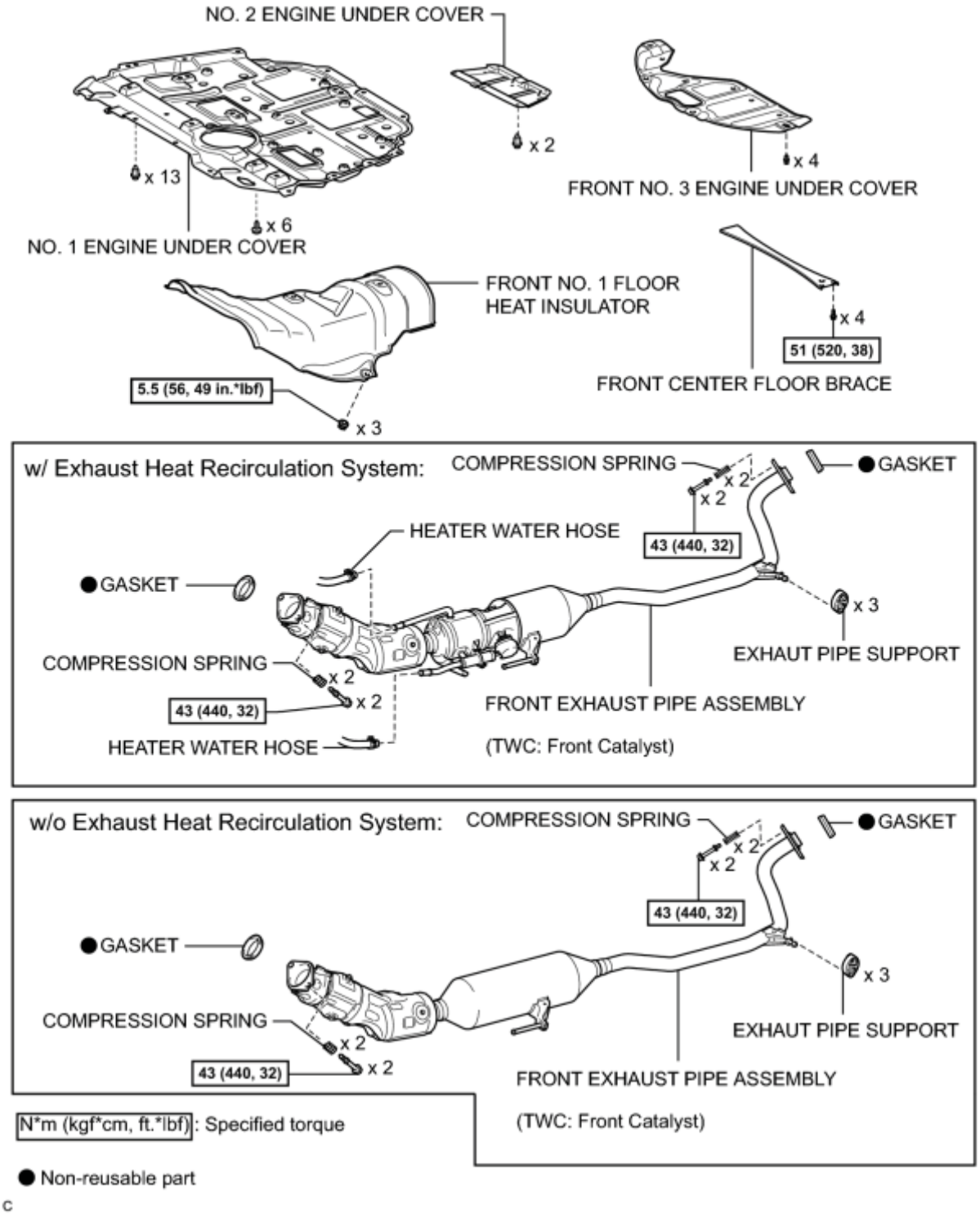
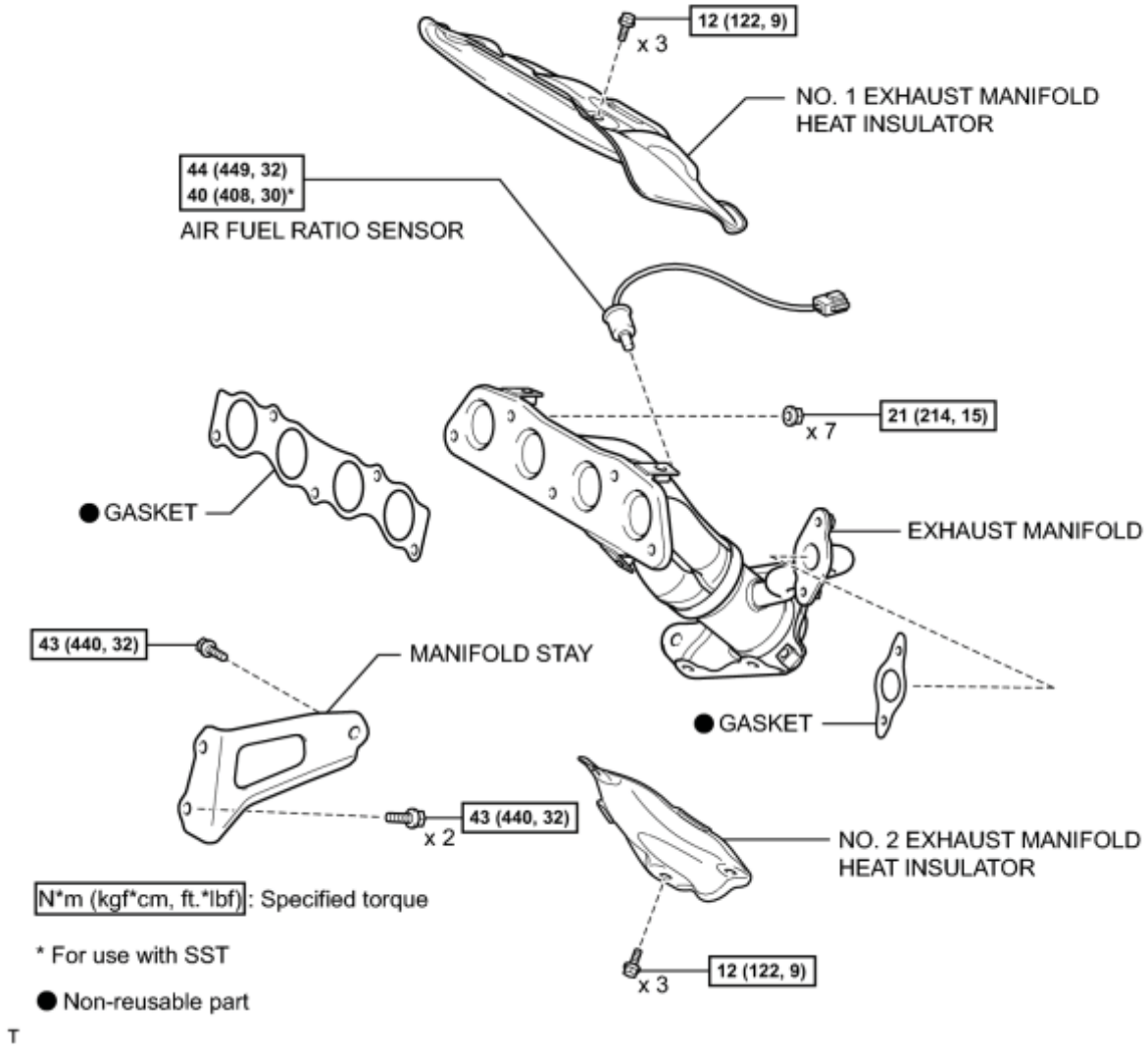
COMPONENTS

ILLUSTRATION



c

ILLUSTRATION


12 (122, 9)
x 3
NO. 1 EXHAUST MANIFOLD HEAT INSULATOR
44 (449, 32)
40 (408, 30)*
AIR FUEL RATIO SENSOR
21 (214, 15)
x 7
GASKET
EXHAUST MANIFOLD
43 (440, 32)
MANIFOLD STAY
GASKET
43 (440, 32)
x 2
NO. 2 EXHAUST MANIFOLD HEAT INSULATOR
12 (122, 9)
x 3
N*m (kgf*cm, ft.*lbf): Specified torque
* For use with SST
Non-reusable part

T

REMOVAL

1. REMOVE NO. 1 ENGINE UNDER COVER

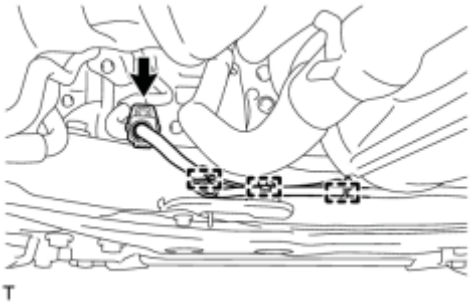
2. REMOVE NO. 2 ENGINE UNDER COVER

3. REMOVE FRONT NO. 3 ENGINE UNDER COVER INFO

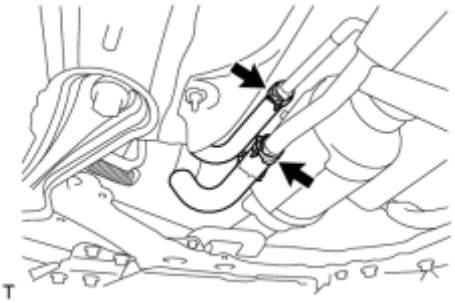
4. REMOVE FRONT CENTER FLOOR BRACE INFO

5. DRAIN COOLANT (for Engine with Exhaust Heat Recirculation System) INFO

6. REMOVE FRONT EXHAUST PIPE ASSEMBLY (w/ Exhaust Heat Recirculation System)

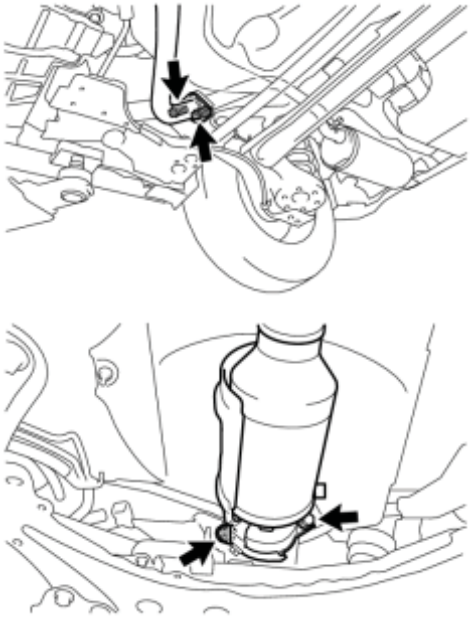


(a) Disconnect the 3 clamps and oxygen sensor connector.



(b) Disconnect the 2 heater water hoses.

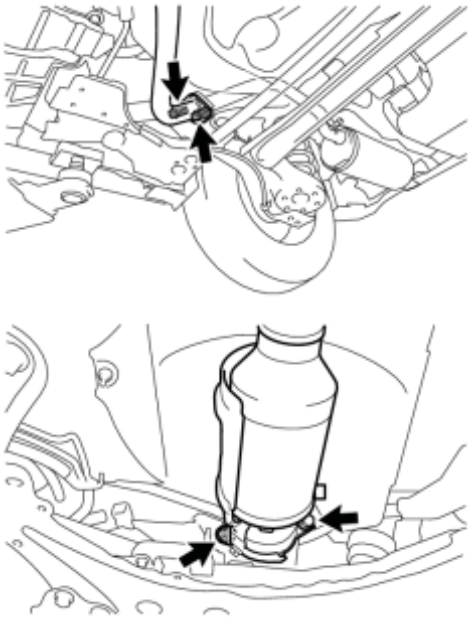
(c) Remove the 4 bolts and 4 compression springs.



(d) Remove the front exhaust pipe assembly from the 3 exhaust pipe supports.

(e) Remove the 2 gaskets from the front exhaust pipe assembly and exhaust manifold.

7. REMOVE FRONT EXHAUST PIPE ASSEMBLY (w/o Exhaust Heat Recirculation System)

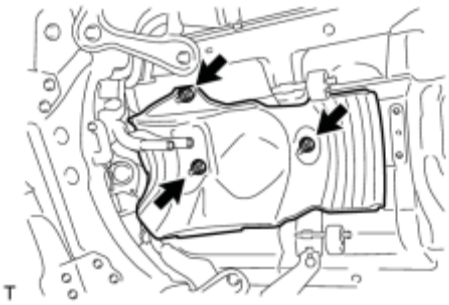


(a) Remove the 4 bolts and 4 compression springs.

(b) Remove the front exhaust pipe assembly from the 3 exhaust pipe supports.

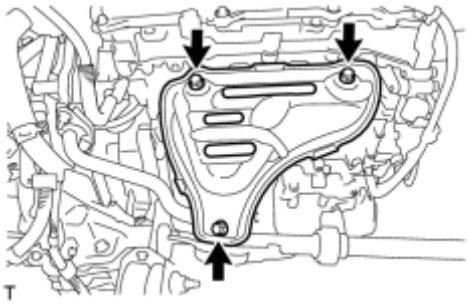
(c) Remove the 2 gaskets from the front exhaust pipe assembly and exhaust manifold.

8. REMOVE FRONT NO. 1 FLOOR HEAT INSULATOR



(a) Remove the 3 nuts and No. 1 floor heat insulator.

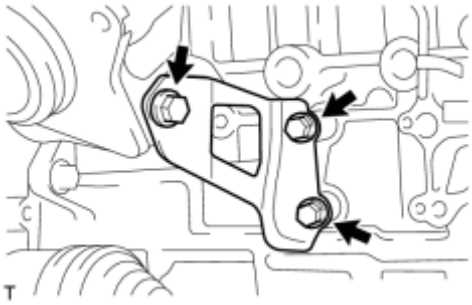
9. REMOVE NO. 1 EXHAUST MANIFOLD HEAT INSULATOR



(a) Remove the 3 bolts and No. 1 exhaust manifold heat insulator.

10. REMOVE AIR FUEL RATIO SENSOR INFO

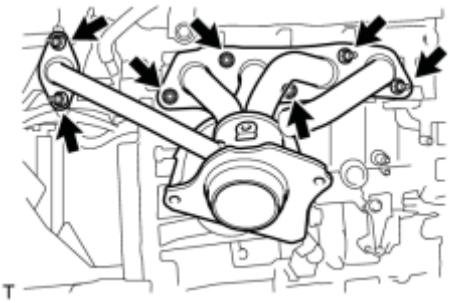
11. REMOVE MANIFOLD STAY



(a) Remove the 3 bolts and manifold stay.

12. REMOVE EXHAUST MANIFOLD

(a) Remove the 7 nuts, exhaust manifold and 2 gaskets.



13. REMOVE NO. 2 EXHAUST MANIFOLD HEAT INSULATOR

(a) Remove the 3 bolts and No. 2 exhaust manifold heat insulator.

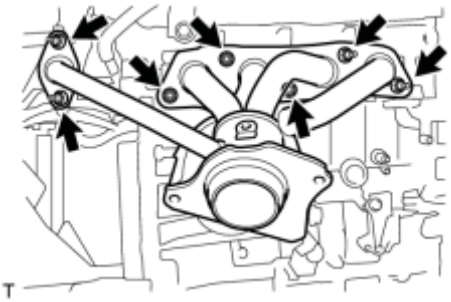
INSTALLATION

1. INSTALL NO. 2 EXHAUST MANIFOLD HEAT INSULATOR

(a) Install the No. 2 exhaust manifold heat insulator with the 3 bolts.

Torque: **12 N·m (122 kgf·cm, 9ft·lbf)**

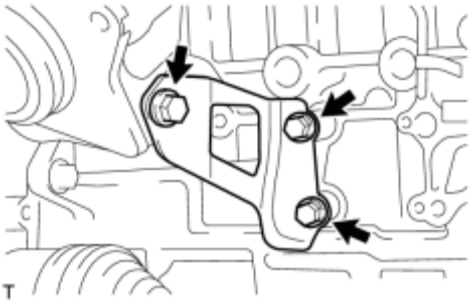
2. INSTALL EXHAUST MANIFOLD



(a) Install 2 new gaskets and the exhaust manifold with the 7 nuts.

Torque: **21 N·m (214 kgf·cm, 15ft·lbf)**

3. INSTALL MANIFOLD STAY



(a) Install the manifold stay with the 3 bolts.

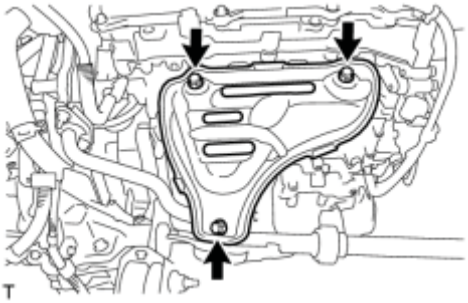
Torque: **43 N·m (440 kgf·cm, 32ft·lbf)**

4. INSTALL AIR FUEL RATIO SENSOR INFO

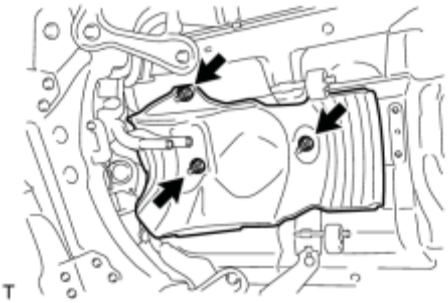
5. INSTALL NO. 1 EXHAUST MANIFOLD HEAT INSULATOR

(a) Install the No. 1 exhaust manifold heat insulator with the 3 bolts.

Torque: **12 N·m (122 kgf·cm, 9ft·lbf)**



6. INSTALL FRONT NO. 1 FLOOR HEAT INSULATOR



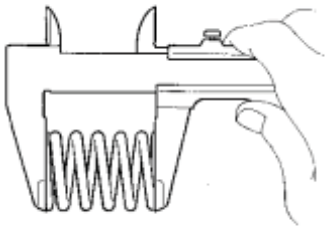
(a) Install the No. 1 floor heat insulator with the 3 nuts.

Torque: **5.5 N·m (56 kgf·cm, 49in·lbf)**

7. INSTALL FRONT EXHAUST PIPE ASSEMBLY (w/ Exhaust Heat Recirculation System)

NOTICE:

When installing the water hose, ensure that the exhaust heat recirculation system is filled with coolant. Otherwise, the electric water pump may be damaged.



A77867

(a) Using a vernier caliper, measure the free length of the compression springs.

Minimum (front)	41.5 mm (1.64 in.)
Minimum (rear)	38.5 mm (1.52 in.)

HINT:

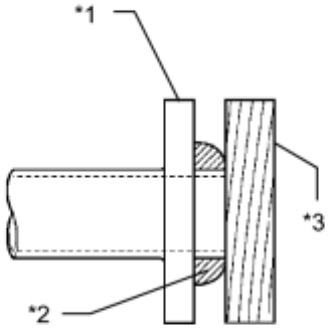
If the free length is less than minimum, replace the compression spring.

(b) Fully insert 2 new gaskets to the exhaust manifold and front exhaust pipe assembly.

(c) Using a plastic hammer and wooden block, tap in the new gaskets until its surface is flush with the exhaust manifold and front exhaust pipe assembly.

Text in Illustration

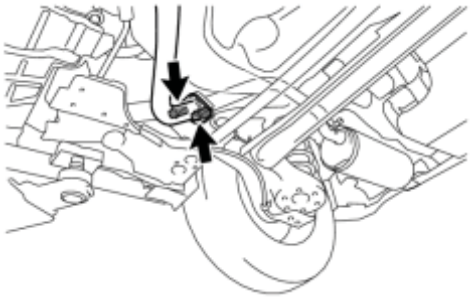
*1	Exhaust Manifold and Front Exhaust Pipe Assembly



*2	Gasket
*3	Wooden Block

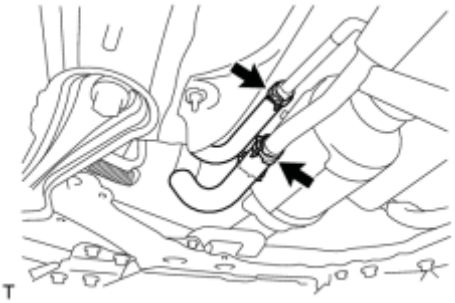
- Be careful with the installation direction of the gaskets.
- Do not reuse the gaskets.
- Do not damage the gaskets.
- Do not push in the gasket by using the exhaust pipe when connecting it.

(d) Connect the front exhaust pipe assembly to the 3 exhaust pipe supports.



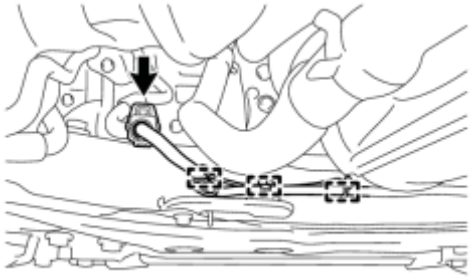
(e) Install the front exhaust pipe assembly with the 4 bolts and 4 compression springs.

Torque: **43 N·m (440 kgf·cm, 32ft·lbf)**



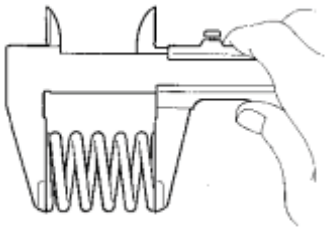
(f) Connect the 2 heater water hoses.

(g) Connect the 3 clamps and oxygen sensor connector.



T

8. INSTALL FRONT EXHAUST PIPE ASSEMBLY (w/o Exhaust Heat Recirculation System)



A77867

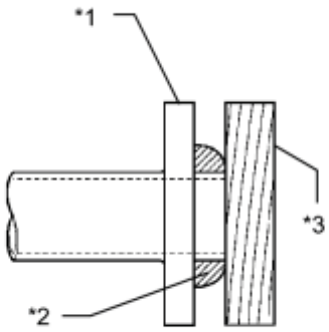
(a) Using a vernier caliper, measure the free length of the compression springs.

Minimum (front)	41.5 mm (1.64 in.)
Minimum (rear)	38.5 mm (1.52 in.)

HINT:

If the free length is less than minimum, replace the compression spring.

(b) Fully insert 2 new gaskets to the exhaust manifold and front exhaust pipe assembly.



(c) Using a plastic hammer and wooden block, tap in the new gaskets until its surface is flush with the exhaust manifold and front exhaust pipe assembly.

Text in Illustration

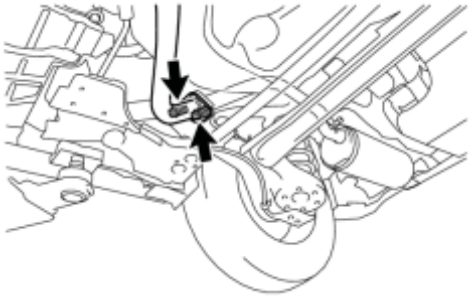
*1	Exhaust Manifold and Front Exhaust Pipe Assembly
*2	Gasket
*3	Wooden Block

- Be careful with the installation direction of the gaskets.
- Do not reuse the gaskets.
- Do not damage the gaskets.
- Do not push in the gasket by using the exhaust pipe when connecting it.

(d) Connect the front exhaust pipe assembly to the 3 exhaust pipe supports.

(e) Install the front exhaust pipe assembly with the 4 bolts and 4 compression springs.

Torque: **43 N·m (440 kgf·cm, 32ft·lbf)**



9. ADD COOLANT (for Engine with Exhaust Heat Recirculation System) INFO

10. INSPECT FOR COOLANT LEAK (for Engine with Exhaust Heat Recirculation System) INFO

11. INSTALL FRONT CENTER FLOOR BRACE INFO

12. INSTALL FRONT NO. 3 ENGINE UNDER COVER INFO

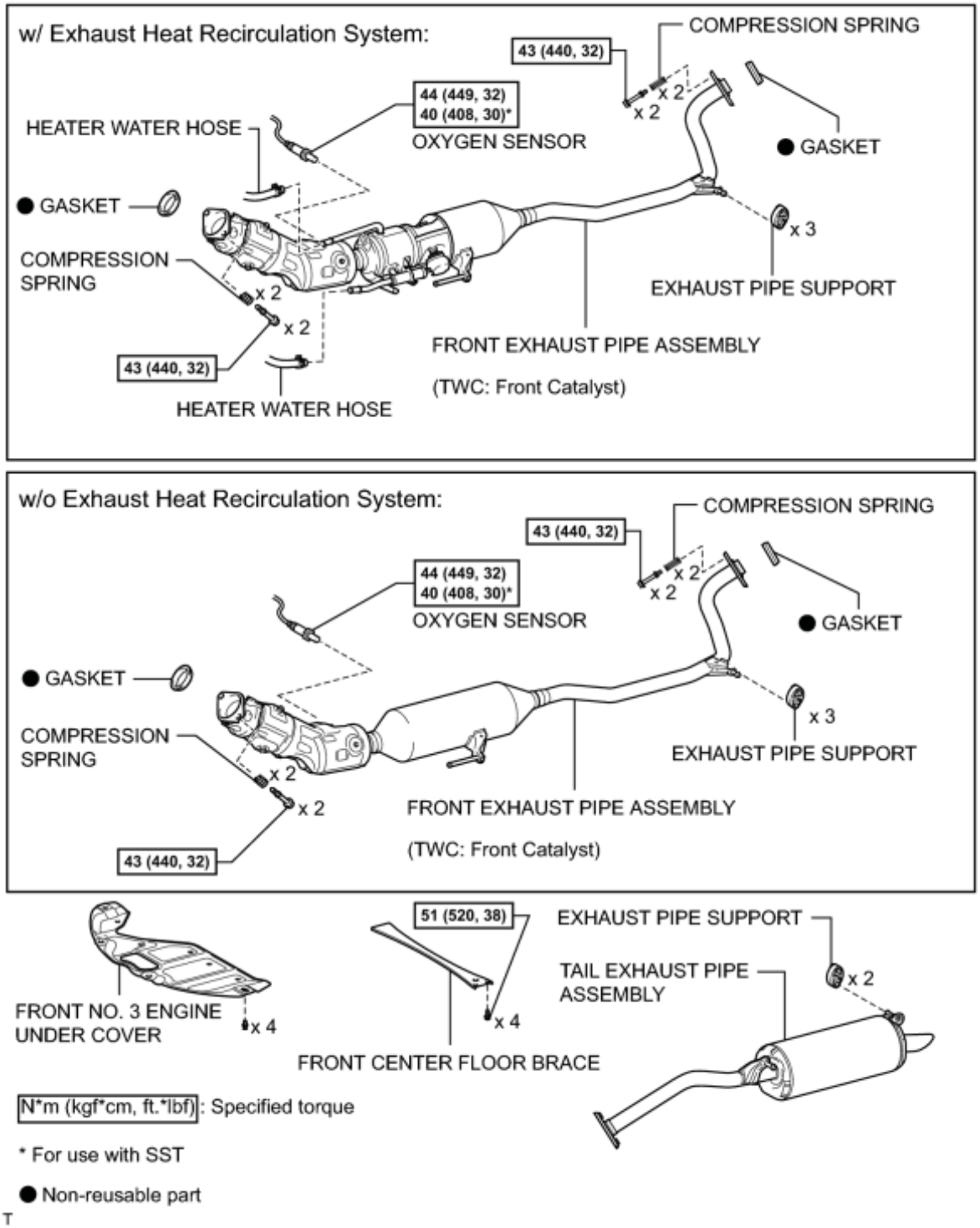
13. INSTALL NO. 2 ENGINE UNDER COVER

14. INSTALL NO. 1 ENGINE UNDER COVER

15. INSPECT FOR EXHAUST GAS LEAK

COMPONENTS

ILLUSTRATION

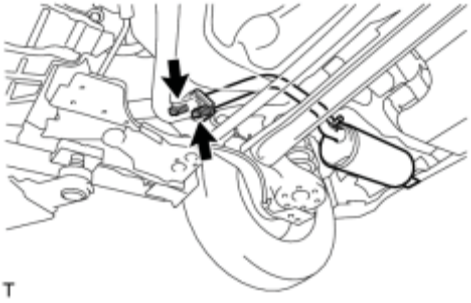


T

REMOVAL

1. DRAIN COOLANT (for Engine with Exhaust Heat Recirculation System) INFO

2. REMOVE TAIL EXHAUST PIPE ASSEMBLY

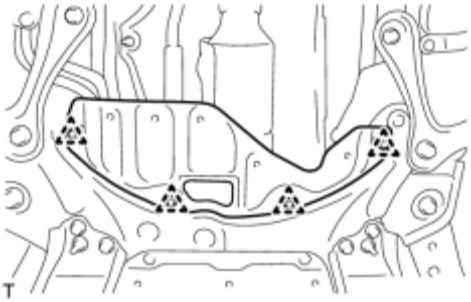


(a) Remove the 2 bolts and 2 compression springs.

(b) Remove the tail exhaust pipe assembly from the 2 exhaust pipe supports.

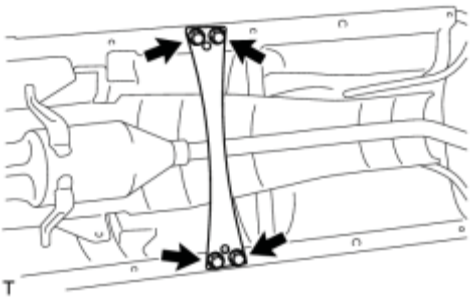
(c) Remove the gasket from the front exhaust pipe assembly.

3. REMOVE FRONT NO. 3 ENGINE UNDER COVER



(a) Remove the 4 clips and front No. 3 engine under cover.

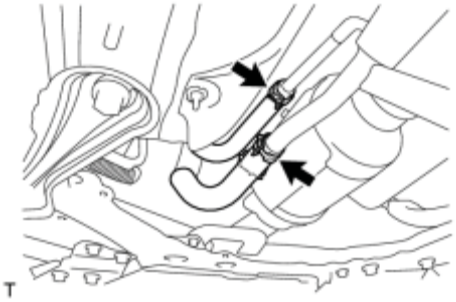
4. REMOVE FRONT CENTER FLOOR BRACE



(a) Remove the 4 bolts and front center floor brace.

5. REMOVE OXYGEN SENSOR INFO

6. REMOVE FRONT EXHAUST PIPE ASSEMBLY (w/ Exhaust Heat Recirculation System)



(a) Disconnect the 2 heater water hoses.

(b) Remove the 2 bolts and 2 compression springs.

(c) Remove the front exhaust pipe assembly from the 3 exhaust pipe supports.

(d) Remove the gasket from the exhaust manifold.

7. REMOVE FRONT EXHAUST PIPE ASSEMBLY (w/o Exhaust Heat Recirculation System)

(a) Remove the 2 bolts and 2 compression springs.

(b) Remove the front exhaust pipe assembly from the 3 exhaust pipe supports.

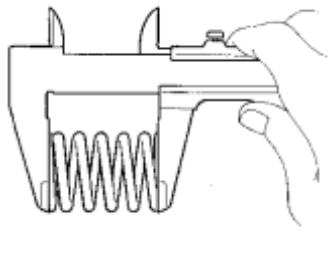
(c) Remove the gasket from the exhaust manifold.

INSTALLATION

1. INSTALL FRONT EXHAUST PIPE ASSEMBLY (w/ Exhaust Heat Recirculation System)

NOTICE:

When installing the water hose, ensure that the exhaust heat recirculation system is filled with coolant. Otherwise, the electric water pump may be damaged.


A77867

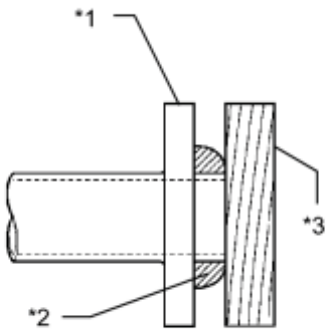
(a) Using a vernier caliper, measure the free length of the compression springs.

Minimum	41.5 mm (1.64 in.)

HINT:

If the free length is less than minimum, replace the compression spring.

(b) Fully insert a new gasket to the exhaust manifold.



(c) Using a plastic hammer and wooden block, tap in the new gasket until its surface is flush with the exhaust manifold.

Text in Illustration

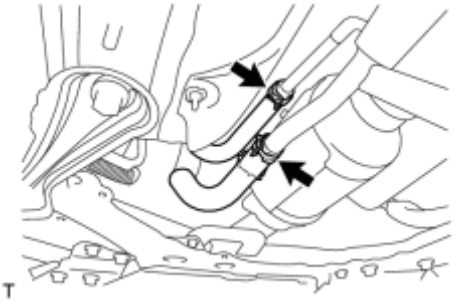
*1	Exhaust Manifold
*2	Gasket
*3	Wooden Block

- Be careful with the installation direction of the gasket.
- Do not reuse the gasket.
- Do not damage the gasket.
- Do not push in the gasket by using the exhaust pipe when connecting it.

(d) Connect the front exhaust pipe assembly to the 3 exhaust pipe supports.

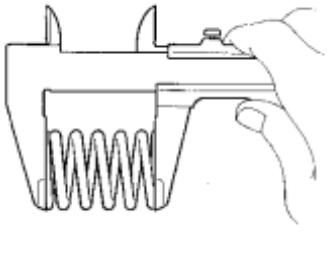
(e) Install the front exhaust pipe assembly with the 2 bolts and 2 compression springs.

Torque: **43 N·m (440 kgf·cm, 32ft·lbf)**



(f) Connect the 2 heater water hoses.

2. INSTALL FRONT EXHAUST PIPE ASSEMBLY (w/o Exhaust Heat Recirculation System)



A77867

(a) Using a vernier caliper, measure the free length of the compression springs.

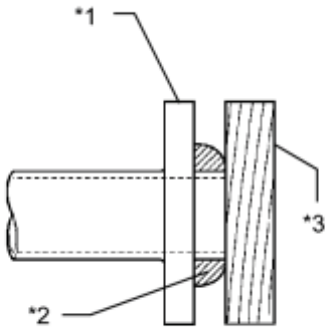
Minimum	41.5 mm (1.64 in.)

HINT:

If the free length is less than minimum, replace the compression spring.

(b) Fully insert a new gasket to the exhaust manifold.

(c) Using a plastic hammer and wooden block, tap in the new gasket until its surface is flush with the exhaust manifold.



Text in Illustration

*1	Exhaust Manifold
*2	Gasket
*3	Wooden Block

- Be careful with the installation direction of the gasket.
- Do not reuse the gasket.
- Do not damage the gasket.
- Do not push in the gasket by using the exhaust pipe when connecting it.

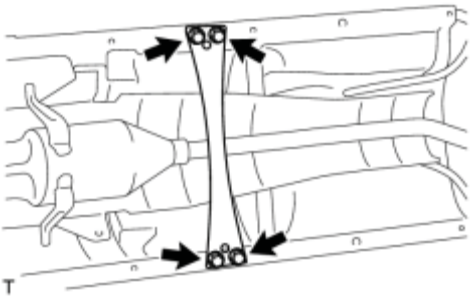
(d) Connect the front exhaust pipe assembly to the 3 exhaust pipe supports.

(e) Install the front exhaust pipe assembly with the 2 bolts and 2 compression springs.

Torque: **43 N·m (440 kgf·cm, 32ft·lbf)**

3. INSTALL OXYGEN SENSOR INFO

4. INSTALL FRONT CENTER FLOOR BRACE



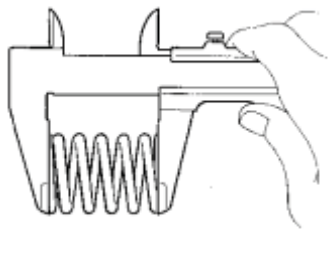
(a) Install the front center floor brace with the 4 bolts.

Torque: **51 N·m (520 kgf·cm, 38ft·lbf)**

5. INSTALL FRONT NO. 3 ENGINE UNDER COVER

(a) Install the front No. 3 engine under cover with the 4 clips.

6. INSTALL TAIL EXHAUST PIPE ASSEMBLY



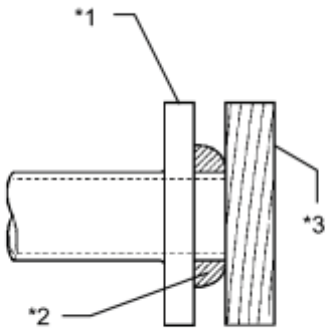
(a) Using a vernier caliper, measure the free length of the compression springs.

Minimum	38.5 mm (1.52 in.)

HINT:

If the free length is less than minimum, replace the compression spring.

(b) Fully insert a new gasket to the front exhaust pipe assembly.



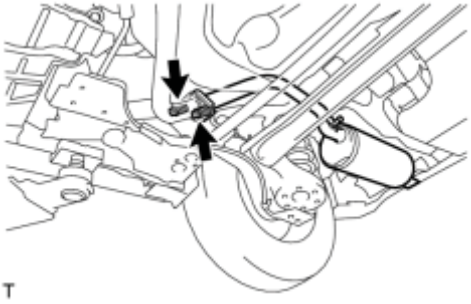
(c) Using a plastic hammer and wooden block, tap in the new gasket until its surface is flush with the front exhaust pipe assembly.

Text in Illustration

*1	Front Exhaust Pipe Assembly
*2	Gasket
*3	Wooden Block

- Be careful with the installation direction of the gasket.
- Do not reuse the gasket.
- Do not damage the gasket.
- Do not push in the gasket by using the exhaust pipe when connecting it.

(d) Connect the tail exhaust pipe assembly to the 2 exhaust pipe supports.



(e) Install the tail exhaust pipe assembly with the 2 bolts and 2 compression springs.

Torque: **43 N·m (440 kgf·cm, 32ft·lbf)**

7. ADD COOLANT (for Engine with Exhaust Heat Recirculation System) INFO

8. INSPECT FOR COOLANT LEAK (for Engine with Exhaust Heat Recirculation System) INFO

9. INSPECT FOR EXHAUST GAS LEAK