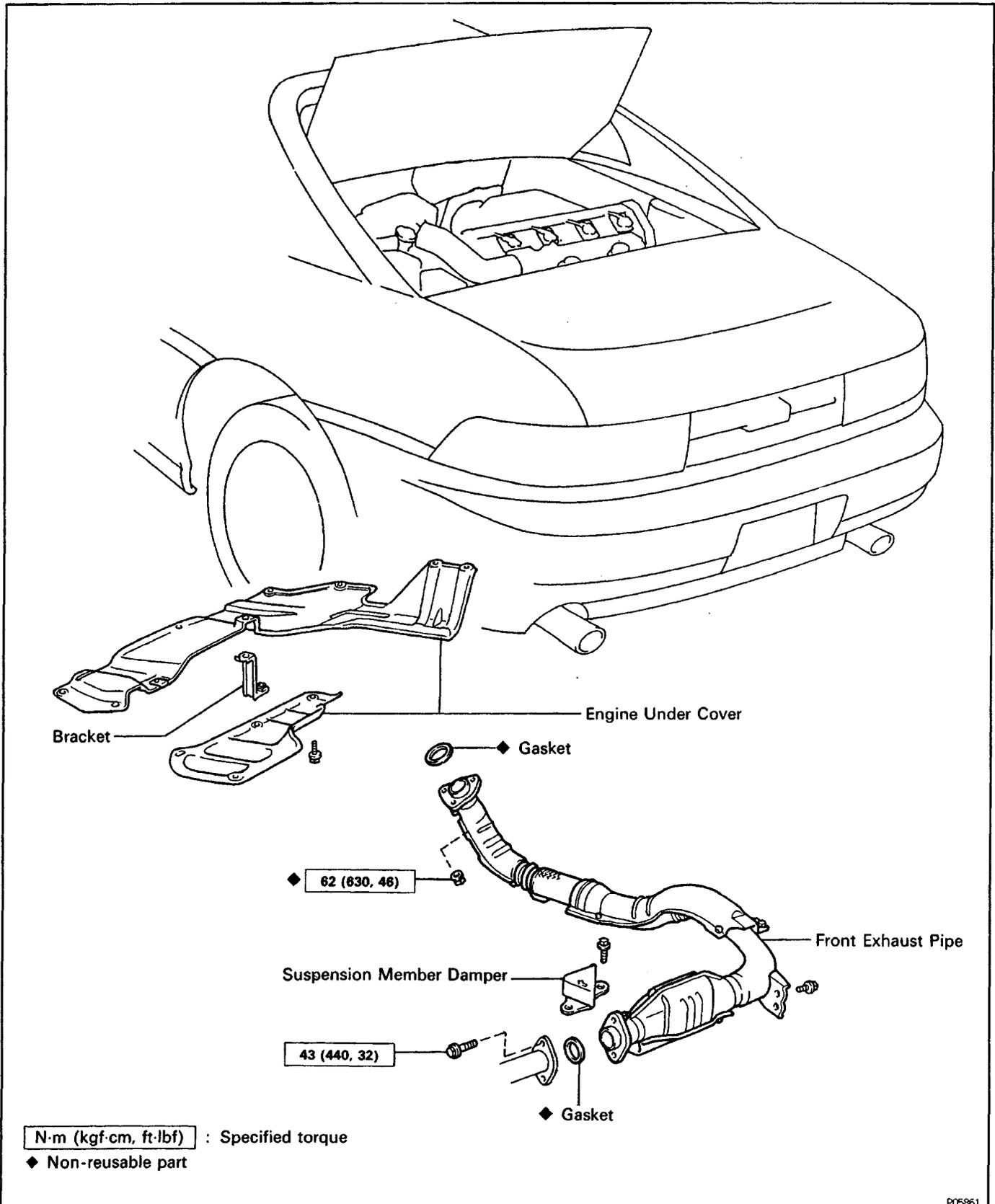
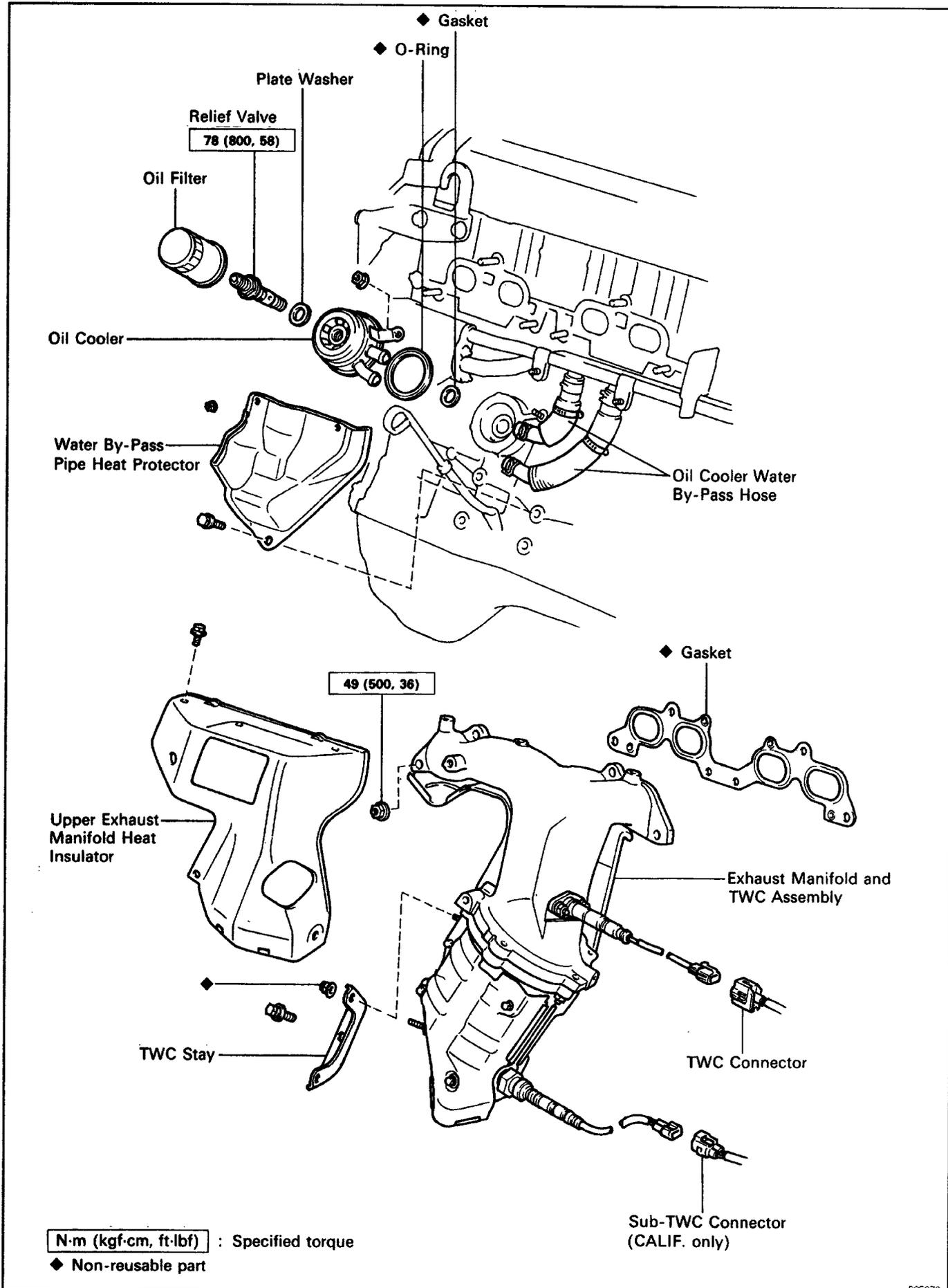
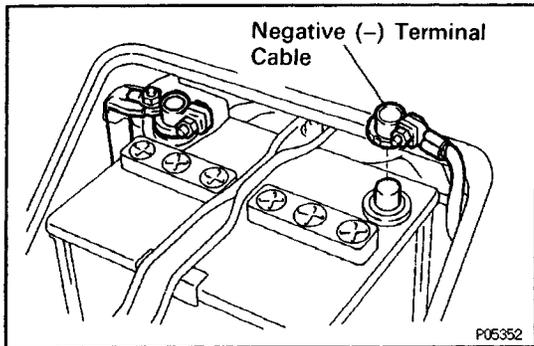


OIL COOLER COMPONENTS FOR REMOVAL AND INSTALLATION

EG19E-01







OIL COOLER REMOVAL

(See Components for Removal and Installation)

1. DISCONNECT CABLE FROM NEGATIVE TERMINAL OF BATTERY

CAUTION: Turn the ignition switch to "LOCK". Disconnect the negative terminal from the battery. Wait at least 20 seconds before proceeding with work.

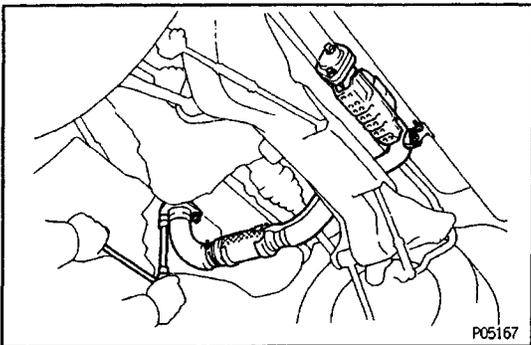
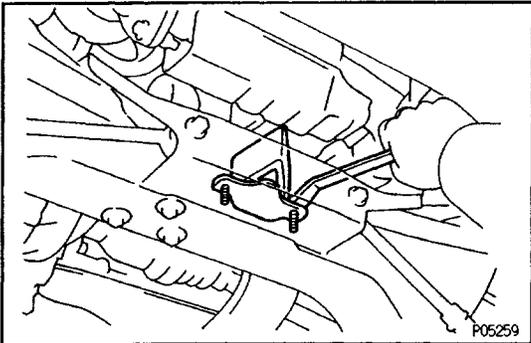
2. REMOVE ENGINE UNDER COVERS

3. DRAIN ENGINE COOLANT

4. REMOVE FRONT EXHAUST PIPE

(a) (CALIF. only)

Remove the two bolts and damper.



(b) Remove the two bolts holding the front exhaust pipe bracket to the tailpipe bracket.

(c) Remove the two bolts holding the front exhaust pipe to the tailpipe.

(d) Using a 14 mm deep socket wrench, remove the three nuts holding the front exhaust pipe to the TWC.

(e) Remove the front exhaust pipe.

(f) Remove the two gaskets.

5. REMOVE EXHAUST MANIFOLD AND TWC ASSEMBLY

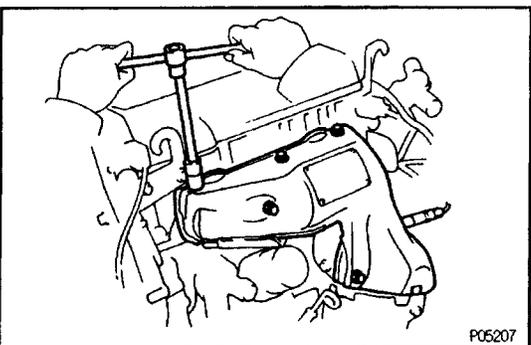
(a) Disconnect the following connectors:

Oxygen sensor (main) connector

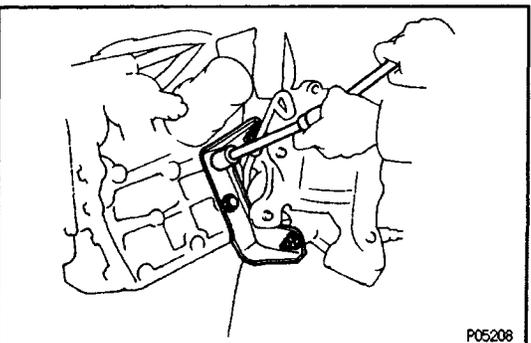
(CALIF. only)

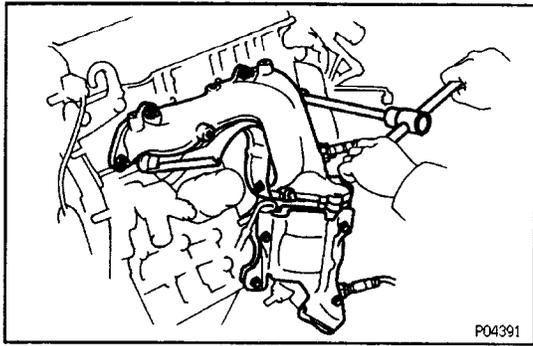
Sub-oxygen sensor connector

(b) Remove the six bolts and manifold upper heat insulator.

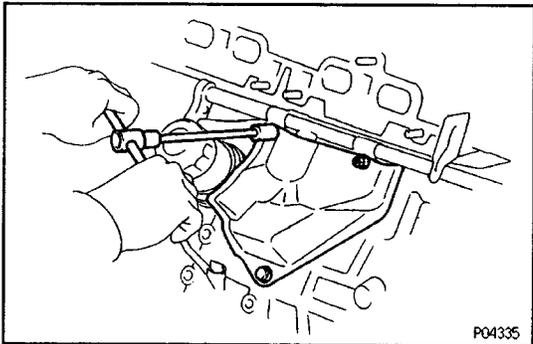


(c) Remove the two bolts, two nuts and TWC stay.



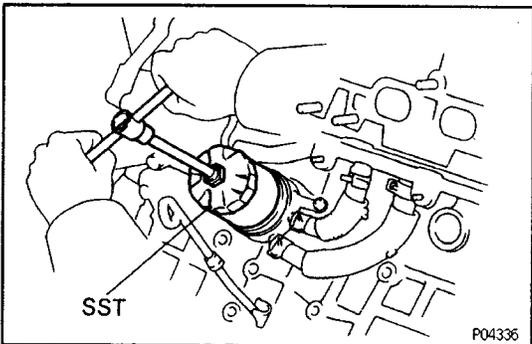


- (d) Remove the six nuts, the exhaust manifold and TWC assembly.



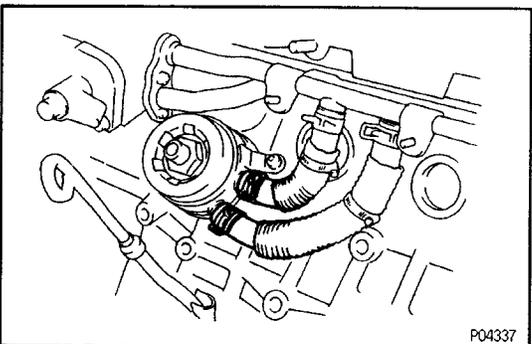
6. REMOVE WATER BY-PASS PIPE HEAT PROTECTOR

Remove the bolt, two nut and heat protector.



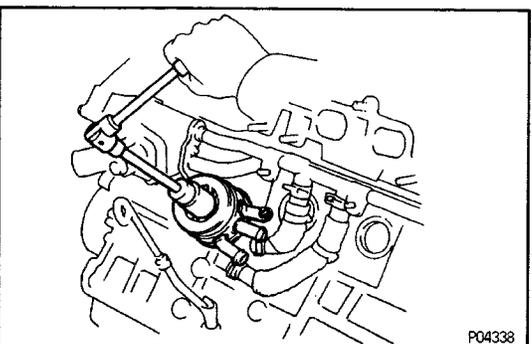
7. REMOVE OIL FILTER

Using SST, remove the oil filter.
SST 09228-06500



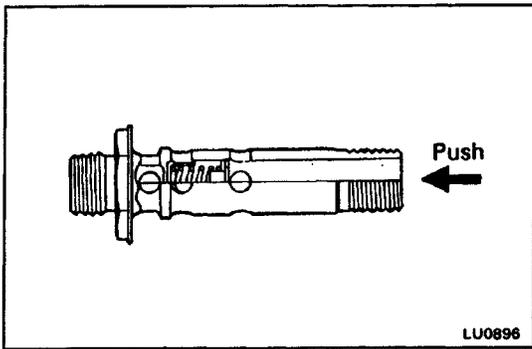
8. REMOVE OIL COOLER

- (a) Disconnect the two water by-pass hoses from the oil cooler.



- (b) Remove the relief valve and plate washer.
(c) Remove the nut and oil cooler.
(d) Remove the O-ring and gasket from the oil cooler.

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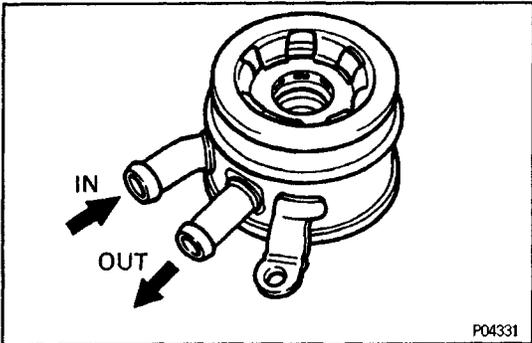


OIL COOLER INSPECTION

1. INSPECT RELIEF VALVE

Push the valve with a wooden stick to check if it is stuck.

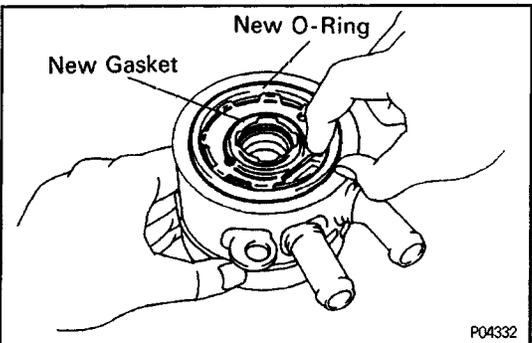
If stuck, replace the relief valve.



2. INSPECT OIL COOLER

Check the oil cooler for damage or clogging.

If necessary, replace the oil cooler.



OIL COOLER INSTALLATION

(See Components for Removal and installation)

1. INSTALL OIL COOLER

(a) Install new O-ring and gasket to the oil cooler.

(b) Temporarily install the oil cooler with the nut.

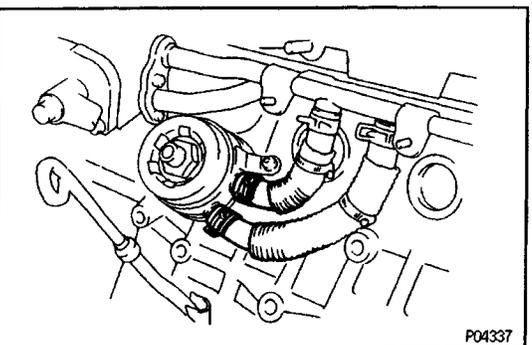
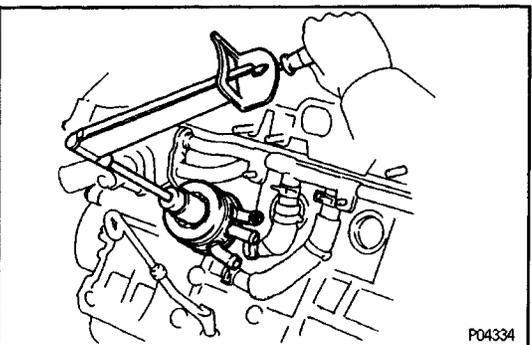
(c) Apply a light coat of engine oil on the threads and under the head of the relief valve.

(d) Install the plate washer and relief valve.

Torque: 78 N-m (800 kgf-cm, 58 ft-lbf)

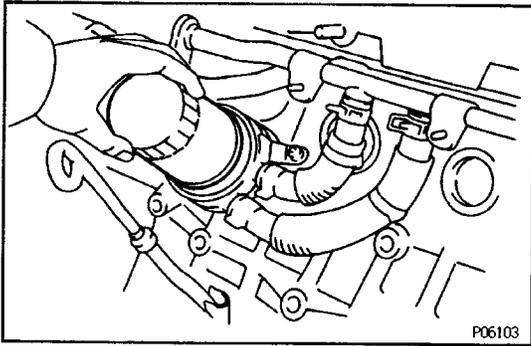
(e) Tighten the nut.

Torque: 7.8 N-m (80 kgf-cm, 69 in-lbf)

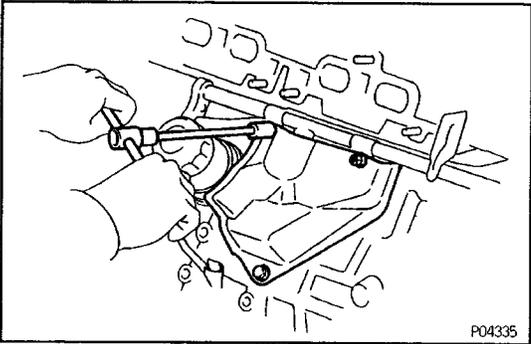


(f) Connect the two water by-pass hoses to the oil cooler.

EG150-01

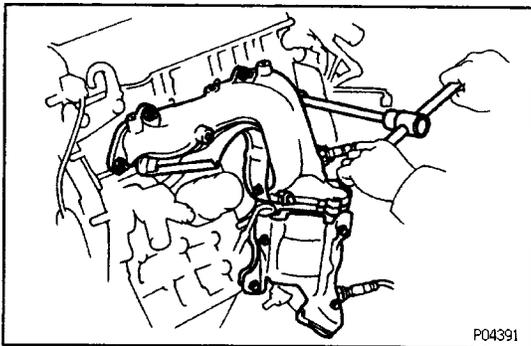


2. INSTALL OIL FILTER (See Replacement of Oil and Oil Filter)



3. INSTALL WATER BY-PASS HOSE HEAT PROTECTOR

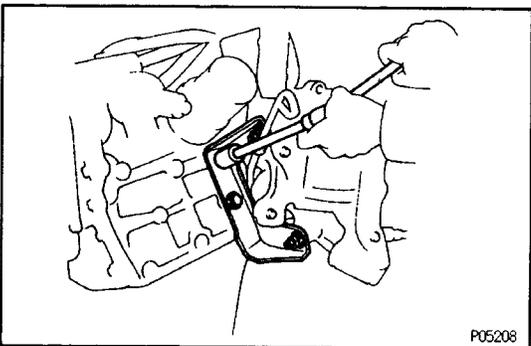
Install the heat protector with the bolt and two nuts.



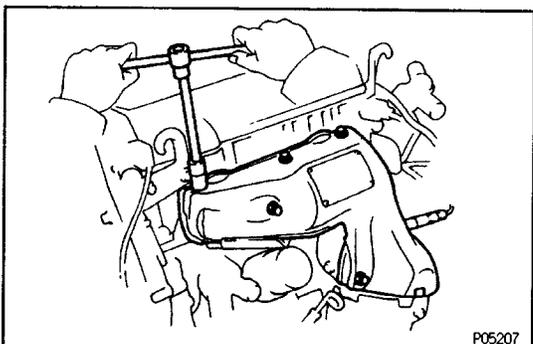
4. INSTALL EXHAUST MANIFOLD AND TWC ASSEMBLY

- (a) Install a new gasket, the exhaust manifold and TWC assembly with the six nuts. Uniformly tighten the nuts in several passes.

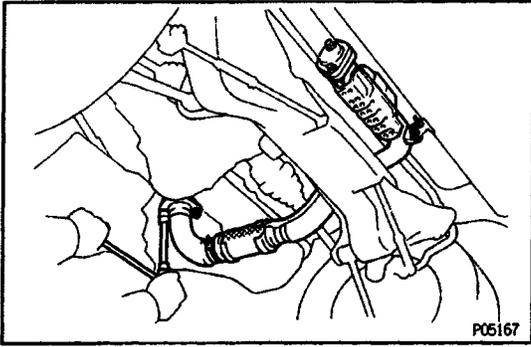
Torque: 49 N-m (500 kgf-cm, 36 ft-lbf)



- (b) Install the TWC stay with the two bolts and two nuts.
Torque: 42 N-m (425 kgf-cm, 31 ft-lbf)



- (c) Install the upper manifold heat insulator with the six bolts.
- (d) Connect the following connectors:
- Oxygen sensor (main) connector
 - (CALIF. only)
 - Sub-oxygen sensor connector



5. INSTALL FRONT EXHAUST PIPE

- (a) Place two new gaskets to the front and rear of the front exhaust pipe.
- (b) Using a 14 mm deep socket wrench, install the front exhaust pipe with three new nuts.

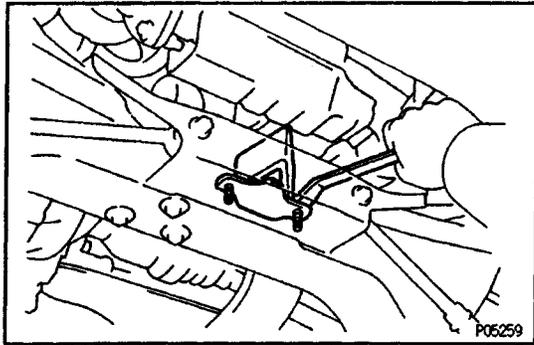
Torque: 62 N-m (630 kgf-cm, 46 ft-lbf)

- (c) Install the two bolts holding the front exhaust pipe to the tailpipe.

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

- (d) Install the two bolts holding the front exhaust pipe bracket to the tailpipe bracket.

Torque: 19 N-m (190 kgf-cm, 14 ft-lbf)



- (e) Install the damper with the two bolts.

Torque: 21 N-m (210 kgf-cm, 15 ft-lbf)

6. CONNECT CABLE TO NEGATIVE TERMINAL OF BATTERY

7. FILL WITH ENGINE COOLANT

8. START ENGINE AND CHECK FOR LEAKS

9. CHECK ENGINE OIL LEVEL

10. INSTALL ENGINE UNDER COVERS