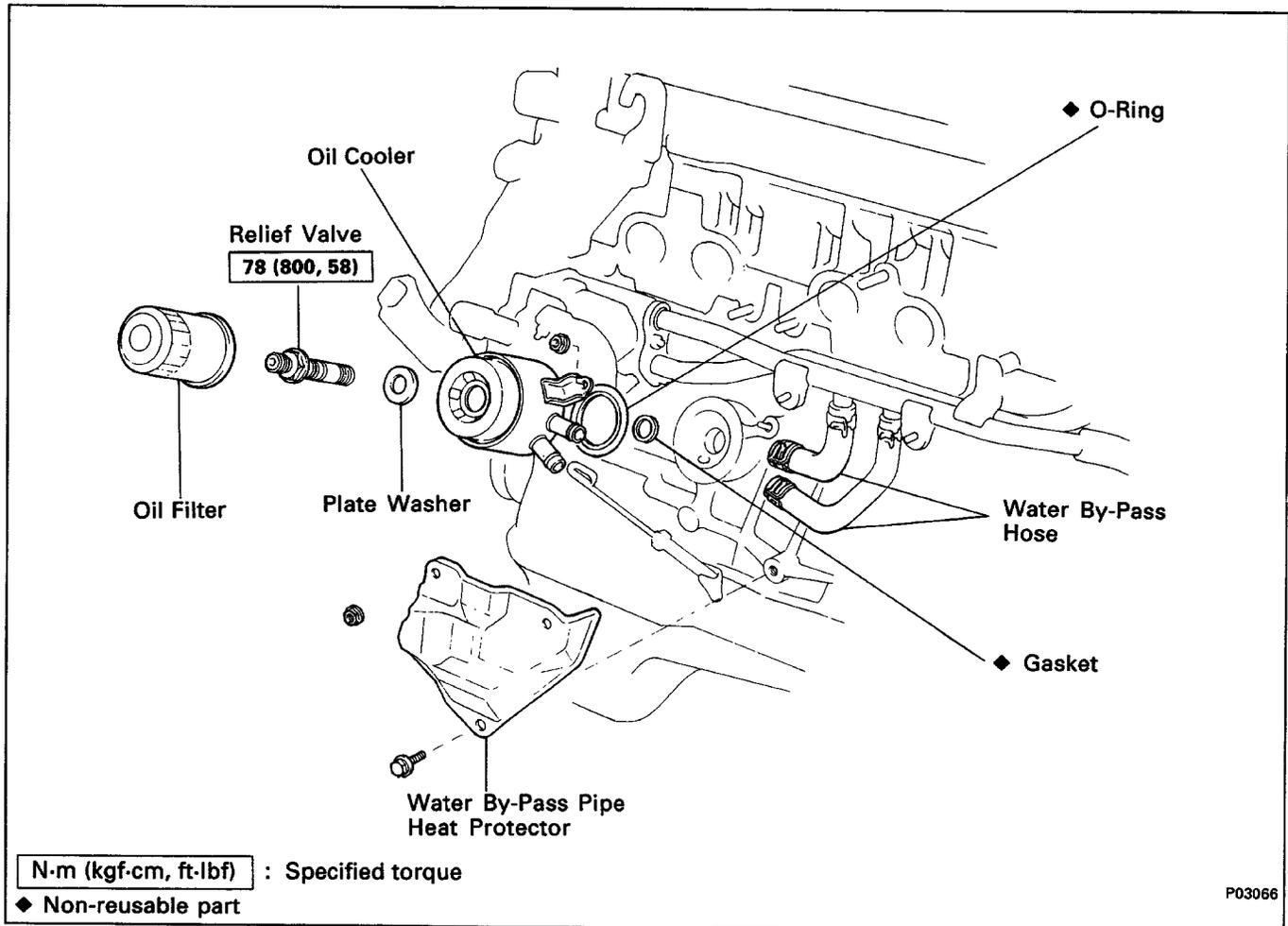


## OIL COOLER (5S-FE) COMPONENTS



### REMOVAL OF OIL COOLER

#### 1. DISCONNECT CABLE FROM NEGATIVE TERMINAL OF BATTERY

**CAUTION:** Work must be started after approx. 20 seconds or longer from the time the ignition switch is turned to the "LOCK" position and the negative (-) terminal cable is disconnected from the battery.

#### 2. REMOVE RH ENGINE UNDER COVER

#### 3. DRAIN ENGINE COOLANT (See page [CO-6](#))

#### 4. REMOVE FRONT EXHAUST PIPE

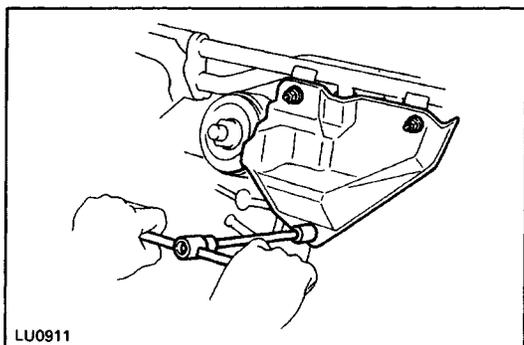
(See step 30 on page [EM-274](#))

#### 5. REMOVE GENERATOR (See page [CH-9](#))

#### 6. REMOVE EXHAUST MANIFOLD AND THREE-WAY CATALYTIC CONVERTER ASSEMBLY

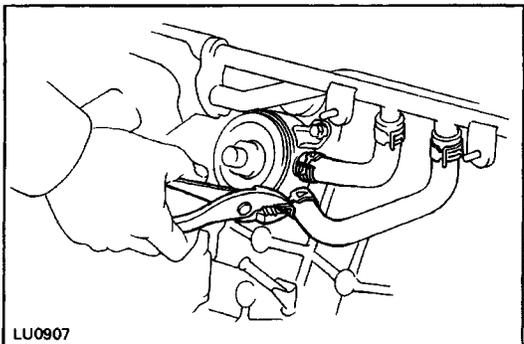
(See step 14 on pages [EM-151](#) and 152)

#### 7. REMOVE OIL FILTER (See page [LU-7](#))



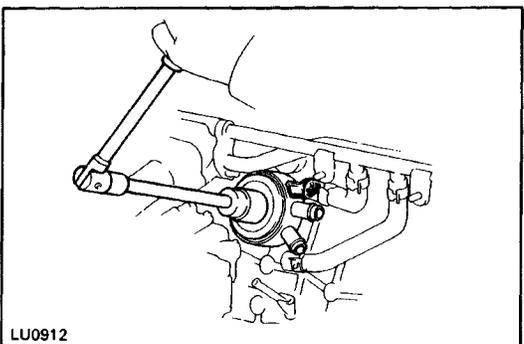
**8. REMOVE WATER BY-PASS HOSE HEAT PROTECTOR**

Remove the bolt, two nuts and heat protector.



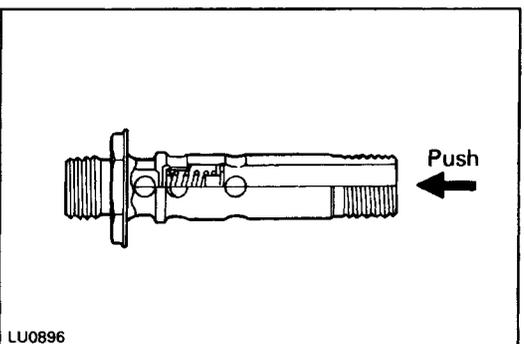
**9. DISCONNECT WATER BY-PASS HOSES FROM OIL COOLER**

Disconnect the two water by-pass hoses.



**10. REMOVE OIL COOLER**

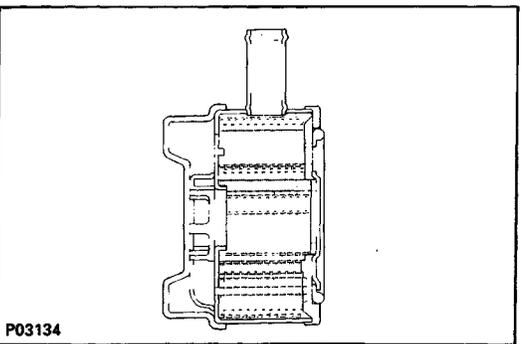
- (a) Remove the relief valve and plate washer.
- (b) Remove the nut and oil cooler.
- (c) Remove the O-ring and gasket from the oil cooler.



**INSPECTION OF OIL COOLER**

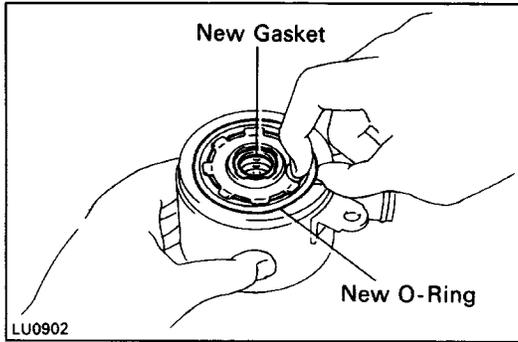
**1. INSPECT RELIEF VALVE**

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.

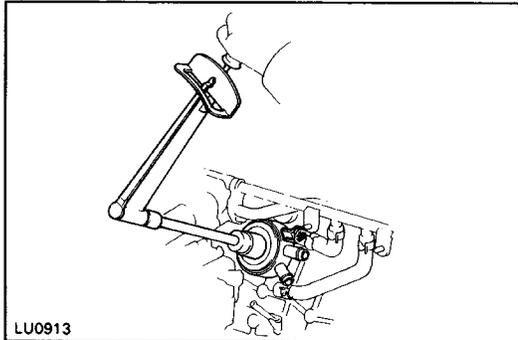


## INSTALLATION OF OIL COOLER

(See page [LU-28](#))

### 1. INSTALL OIL COOLER

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



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

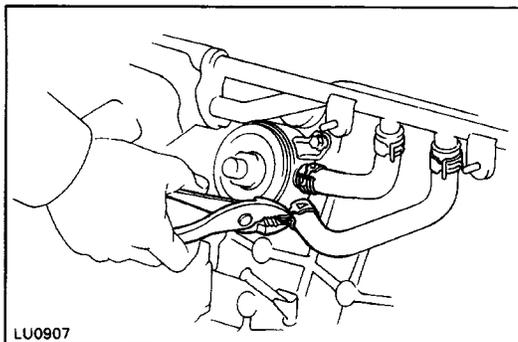
(c) Temporarily install the oil cooler with the nut.

(d) Install the plate washer and relief valve.

**Torque: 800 kg-cm (58 ft-lb, 78 N-m)**

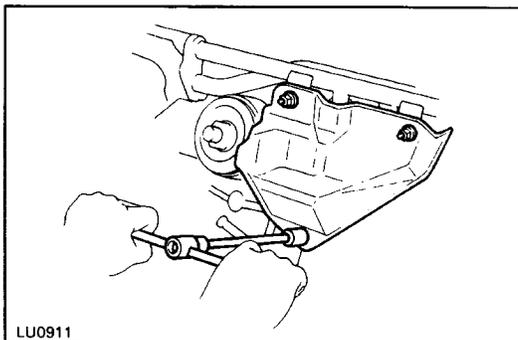
(e) Tighten the nut.

**Torque: 80 kg-cm (69 in.-lb, 7.8 N-m)**



### 2. CONNECT WATER BY-PASS HOSES

Connect the two water by-pass hoses.



### 3. INSTALL WATER BY-PASS HOSE HEAT PROTECTOR

Install the heat protector with the bolt and two nuts.

### 4. INSTALL OIL FILTER (See page [LU-7](#))

### 5. INSTALL EXHAUST MANIFOLD AND CATALYTIC CONVERTER ASSEMBLY

(See step 27 on page [EM-182](#))

### 6. INSTALL GENERATOR (See page [CH-25](#))

### 7. INSTALL FRONT EXHAUST PIPE

(See step 15 on page [EM-305](#))

### 8. CONNECT CABLE TO NEGATIVE TERMINAL OF BATTERY

### 9. FILL WITH ENGINE COOLANT (See page [CO-6](#))

### 10. START ENGINE AND CHECK FOR LEAKS

### 11. CHECK ENGINE OIL LEVEL (See page [LU-5](#))

### 12. INSTALL RH ENGINE UNDER COVER