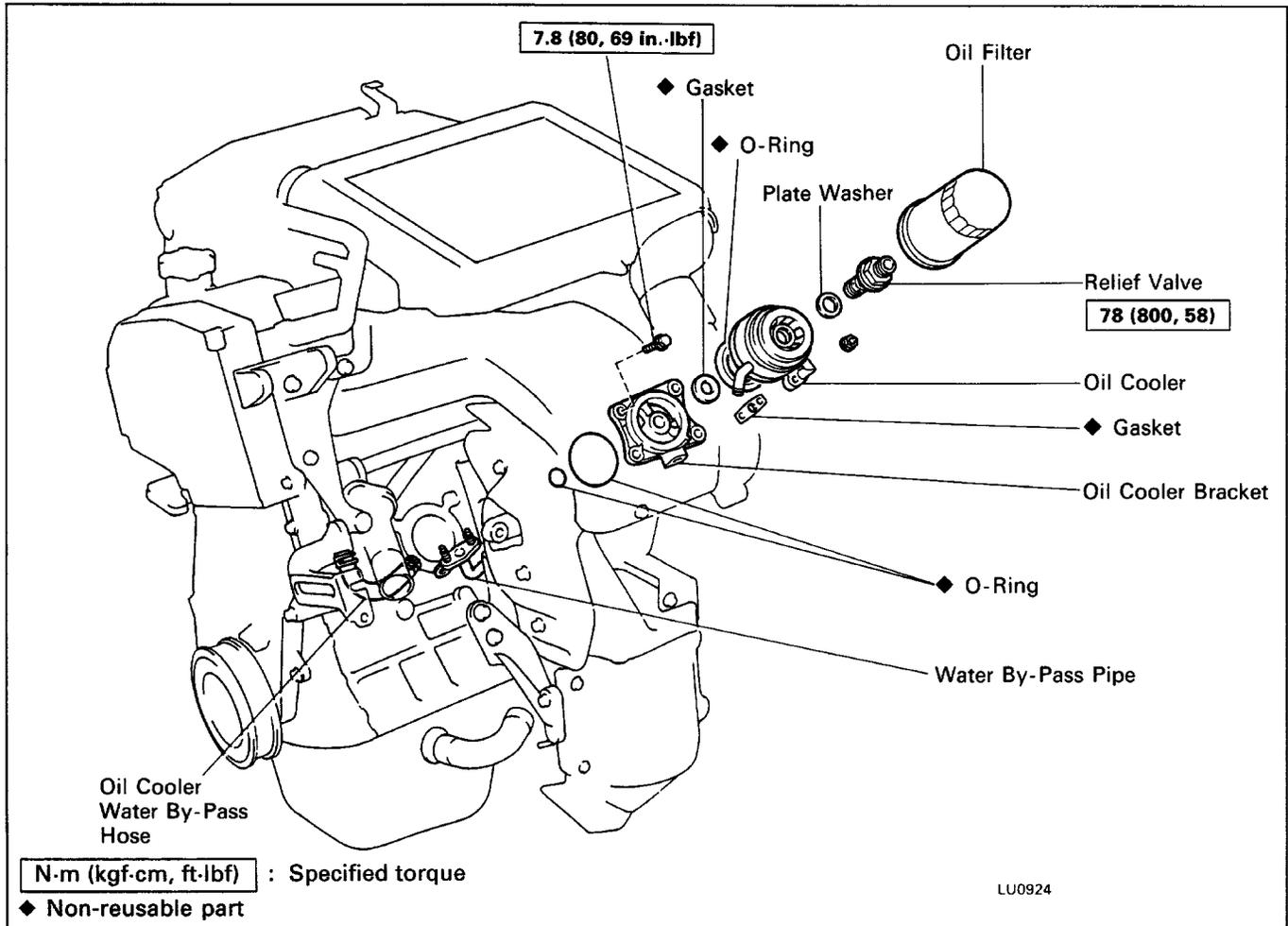


OIL COOLER (3S-GTE) COMPONENTS



REMOVAL OF OIL COOLER

1. DISCONNECT CABLE FROM NEGATIVE TERMINAL OF BATTERY

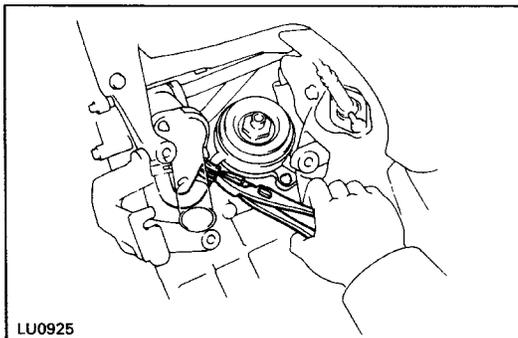
CAUTION: Work must be started after approx. 20 seconds or longer from the time the ignition switch is turned to the "LOCK" position and the negative (-) terminal cable is disconnected from the battery.

2. DRAIN ENGINE COOLANT (See page CO-6)

3. REMOVE GENERATOR (See page CH-7)

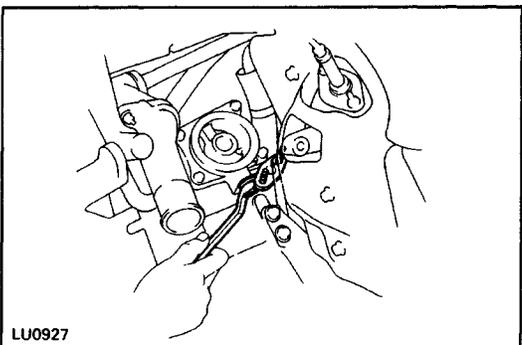
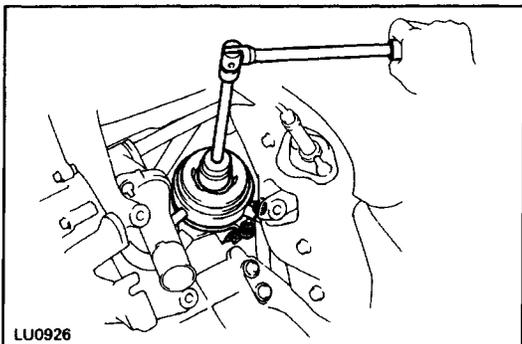
4. REMOVE OIL FILTER (See page LU-7)

5. DISCONNECT WATER BY-PASS HOSE FROM OIL COOLER

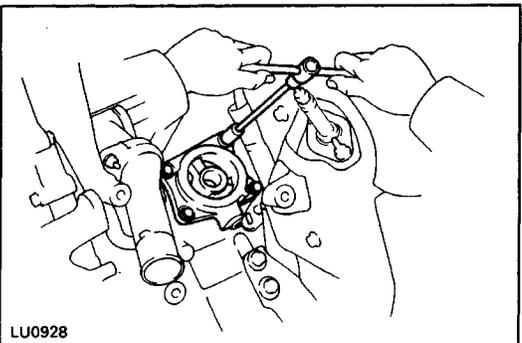


6. REMOVE OIL COOLER

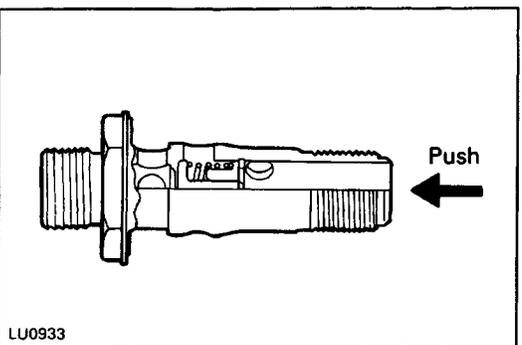
- (a) Remove the relief valve and plate washer.
- (b) Remove the two nuts, oil cooler and two gaskets.
- (c) Remove the O-ring from the oil cooler.



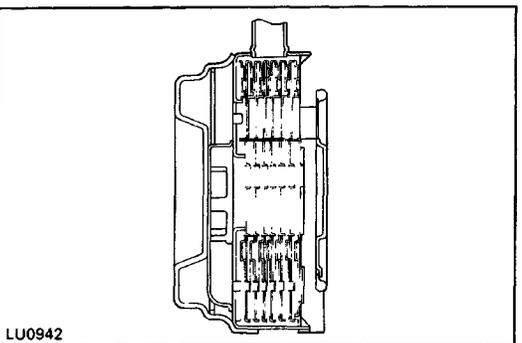
- (d) Remove the bolt, and disconnect the water by-pass pipe from the oil cooler bracket.

**7. REMOVE OIL COOLER BRACKET**

- (a) Remove the four bolts and oil cooler bracket.
- (b) Remove the two O-rings 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**

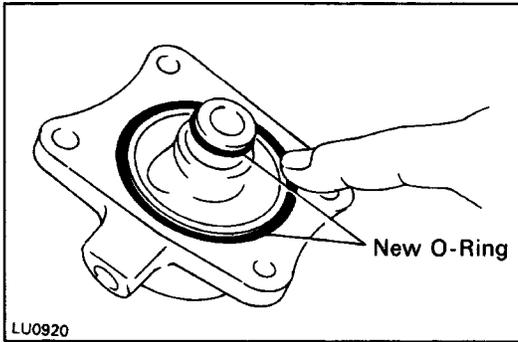
Check the oil cooler for damage or clogging. If necessary, replace the oil cooler.

INSTALLATION OF OIL COOLER

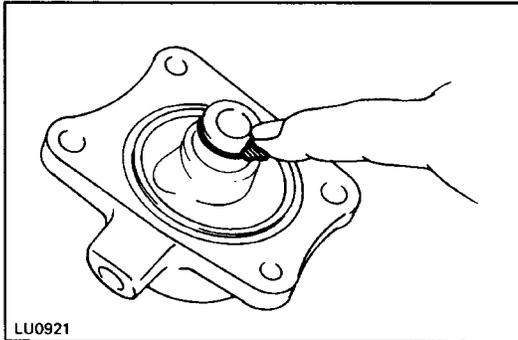
(See page [LU-24](#))

1. INSTALL OIL COOLER BRACKET

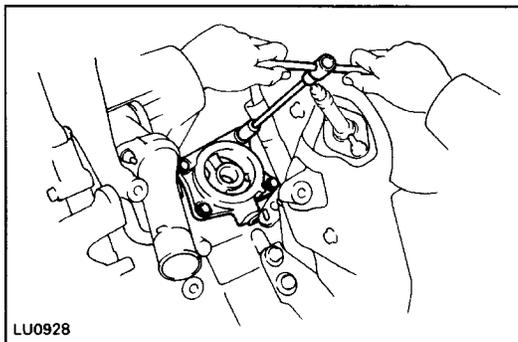
(a) Install two new O-rings to the oil cooler bracket.



(b) Apply a light coat of engine oil on the small O-ring.

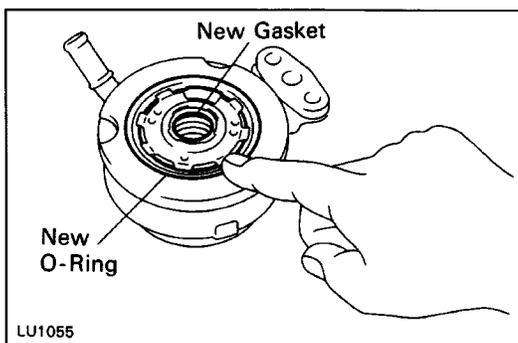


(c) Install the oil cooler bracket with the four bolts.
Torque: 7.8 N-m (80 kgf-cm, 69 in.-lbf)

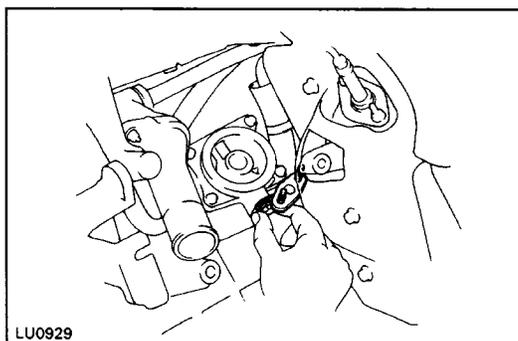


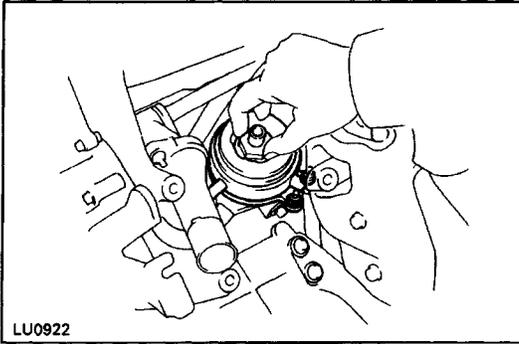
2. INSTALL OIL COOLER

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

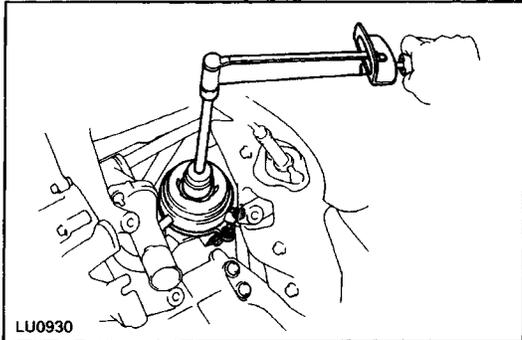


(b) Temporarily install the water by-pass pipe with the bolt.

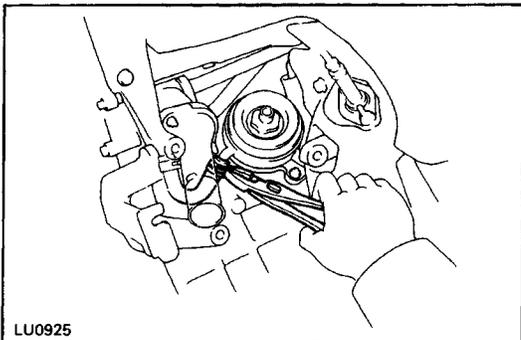




- (c) Apply a light coat of engine oil on the threads and under the head of the relief valve.
- (d) Temporarily install two new gaskets and the oil cooler with the plate washer, relief valve and two nuts.



- (e) Tighten the relief valve.
Torque: 78 N-m (800 kgf-cm, 58 ft-lbf)
- (f) Tighten the two nuts holding the oil cooler to the water by-pass pipe..
Torque: 12 N-m (120 kgf-cm, 9 ft-lbf)
- (g) Tighten the bolt holding the water by-pass pipe to oil cooler bracket.
Torque: 18 N-m (180 kgf-cm, 13 ft-lbf)



3. CONNECT WATER BY-PASS HOSE TO OIL COOLER

4. INSTALL OIL FILTER (See page [LU-7](#))
5. INSTALL GENERATOR (See page [CH-23](#))
6. CONNECT CABLE TO NEGATIVE TERMINAL OF BATTERY
7. FILL WITH ENGINE COOLANT (See page [CO-6](#))
8. START ENGINE AND CHECK FOR LEAKS
9. CHECK ENGINE OIL LEVEL (See page [LU-5](#))