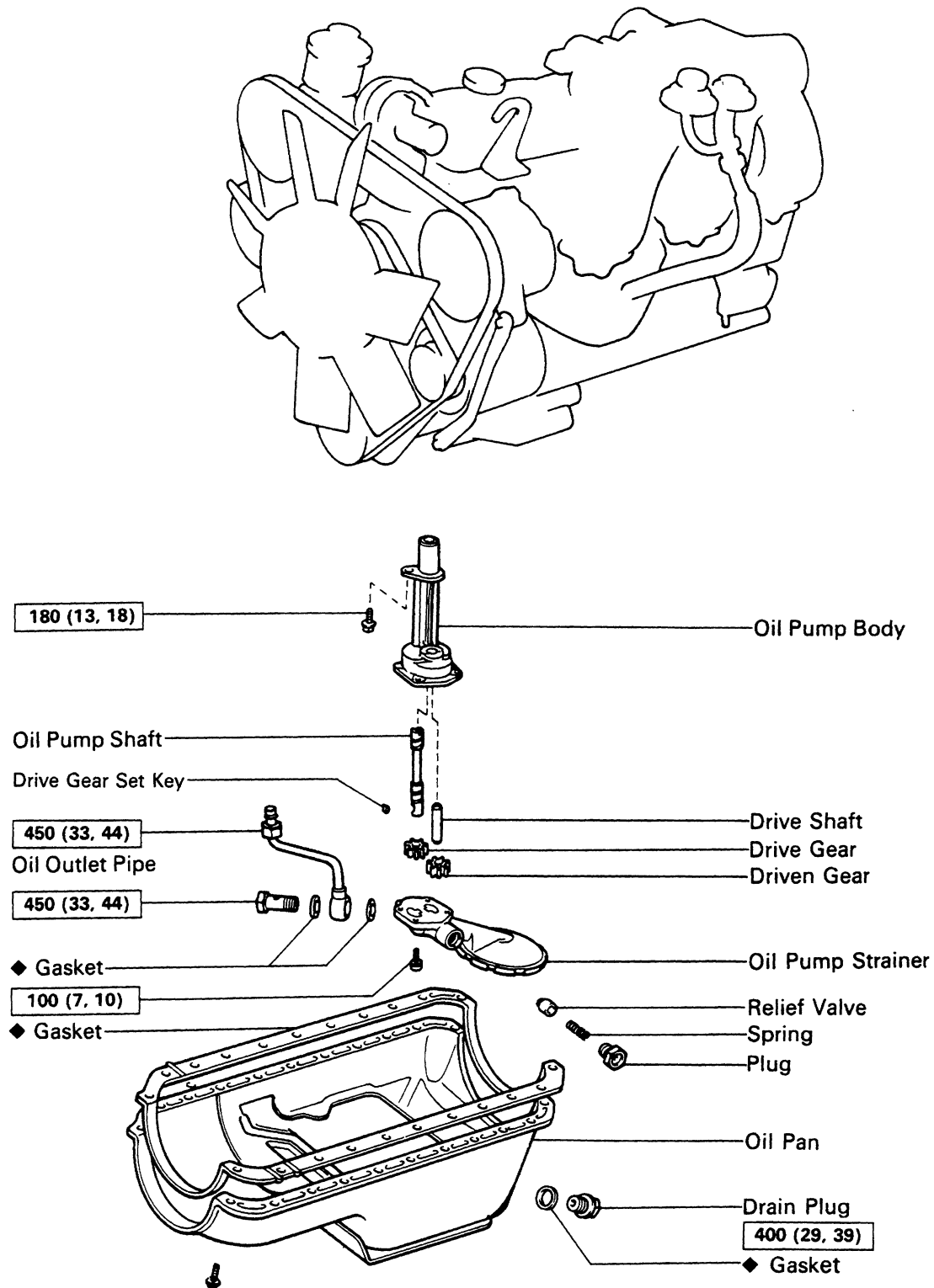
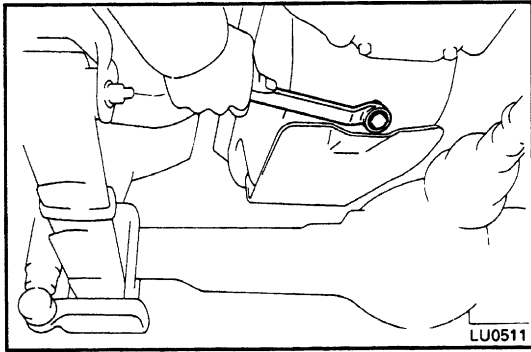


OIL PUMP COMPONENTS



Kg-cm (ft-lb, N·m) : Specified torque

◆ Non-reusable part



REMOVAL OF OIL PUMP

(See page [LU-7](#))

1. RAISE VEHICLE

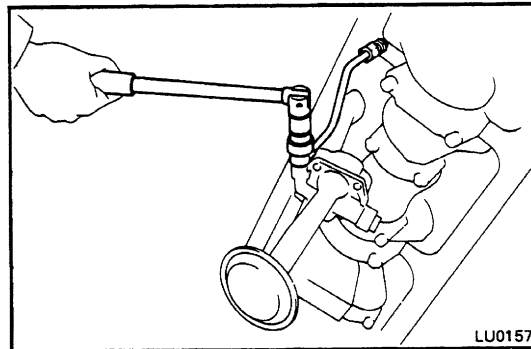
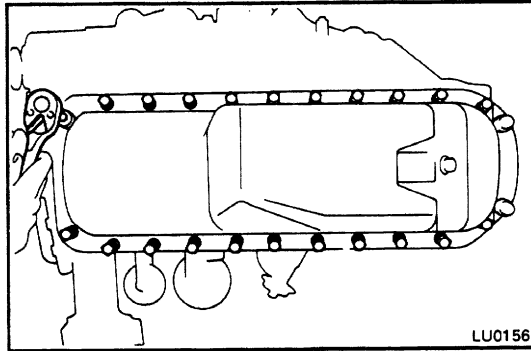
NOTICE: Be sure the vehicle is securely supported.

2. DRAIN ENGINE OIL

- (a) Remove the oil filler cap.
- (b) Remove the oil drain plug and drain the oil into a container.

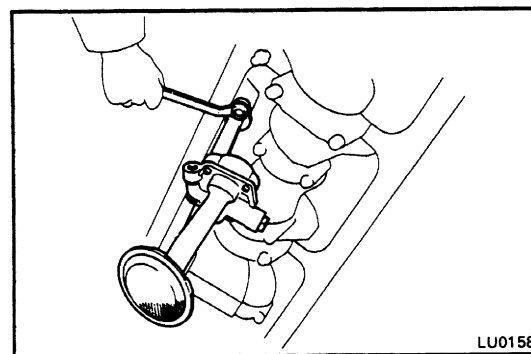
3. REMOVE OIL PAN

Remove the twenty-two bolts, oil pan and gasket.



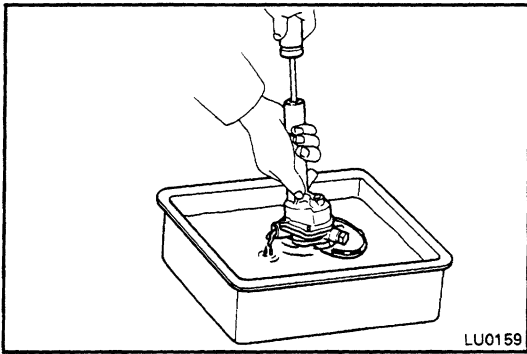
4. REMOVE OIL OUTLET PIPE

Remove the union nut, bolt, two gaskets and outlet pipe.



5. REMOVE OIL PUMP

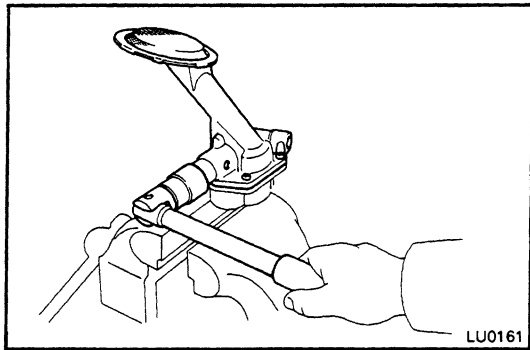
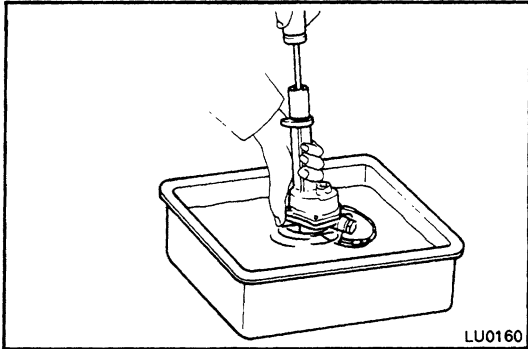
Remove the bolt and oil pump.



OPERATION CHECK OF OIL PUMP

CHECK PUMP OPERATION

- (a) Using a screwdriver, immerse the oil strainer into clean engine oil and turn the oil pump shaft clockwise. Oil should come out of the oil outlet hole.
- (b) Close the oil outlet hole with your thumb, and turn the shaft as before. The shaft should be difficult to turn.



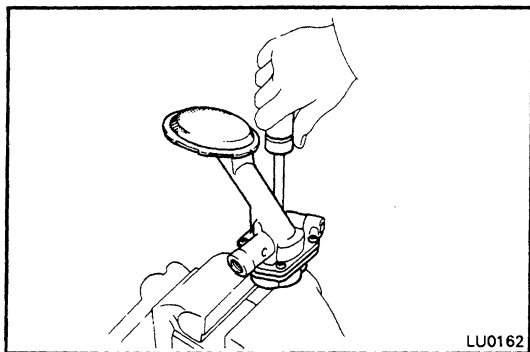
DISASSEMBLY OF OIL PUMP

(See page [LU-7](#))

1. MOUNT OIL PUMP IN VISE

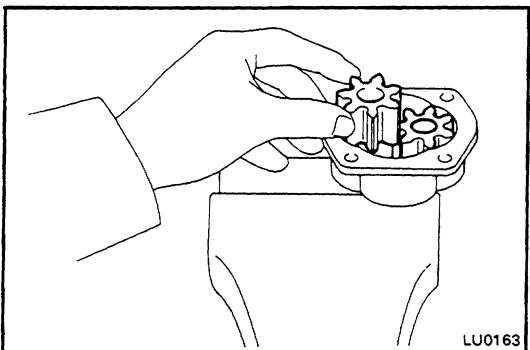
2. REMOVE RELIEF VALVE

Remove the plug, spring and relief valve.



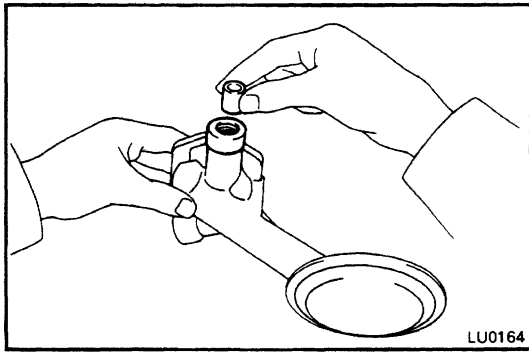
3. REMOVE OIL PUMP STRAINER

Remove the four screws and oil pump strainer.



4. REMOVE DRIVEN GEAR

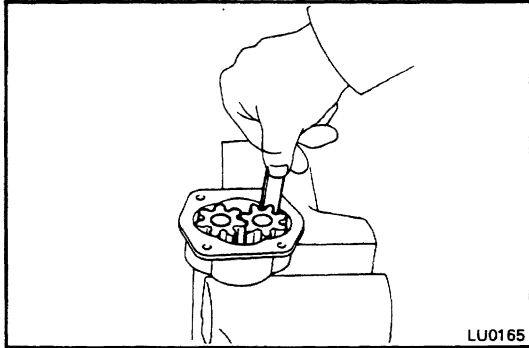
5. REMOVE DRIVE GEAR AND 41L PUMP SHAFT ASSEMBLY



INSPECTION OF OIL PUMP

1. INSPECT RELIEF VALVE

Coat the valve with engine oil and check that it falls smoothly into the valve hole by its own weight. If it does not, replace the relief valve. If necessary, replace the oil pump assembly.



2. INSPECT DRIVE AND DRIVEN GEARS

A. Inspect gear body clearance

Using a thickness gauge, measure the clearance between the gear and pump body.

Standard body clearance: 0.095 – 0.175 mm
(0–0037 – 0.0069 in.)

Maximum body clearance: 0.20 mm (0.0079 in.)

If the clearance is greater than maximum, replace the gears or oil pump assembly.

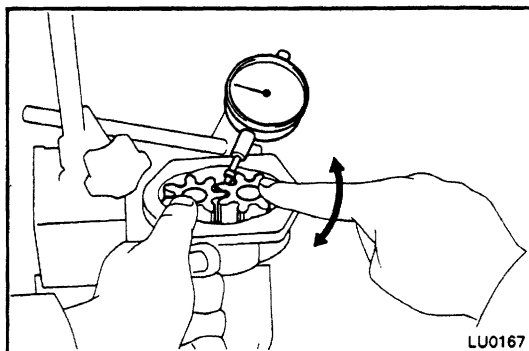
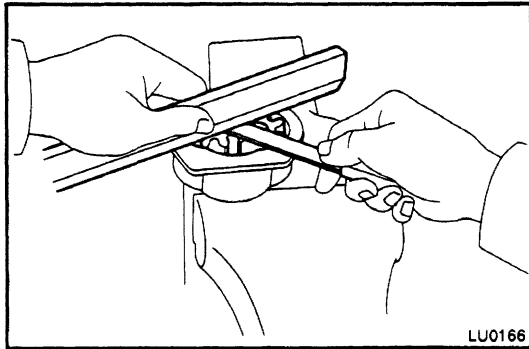
B. Inspect gear side clearance

Using a thickness gauge and precision straight edge, measure the clearance between the gear and precision straight edge.

Standard side clearance: 0.030 – 0.090 mm
(0 .0012 – 0.0035 in.)

Maximum side clearance: 0.15 mm (0.0059 in.)

If the clearance is greater than maximum, replace the gears. If necessary, the oil pump assembly.



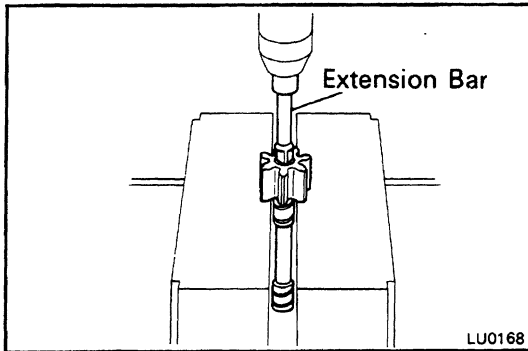
C. Inspect gear backlash

Using a dial indicator, measure the backlash while turning the driven gear clockwise and counterclockwise in several places.

Standard backlash: 0.500 – 0.600 mm
(0. 0197 – 0.0236 in.)

Maximum backlash: 0.95 mm (0.0374 in.)

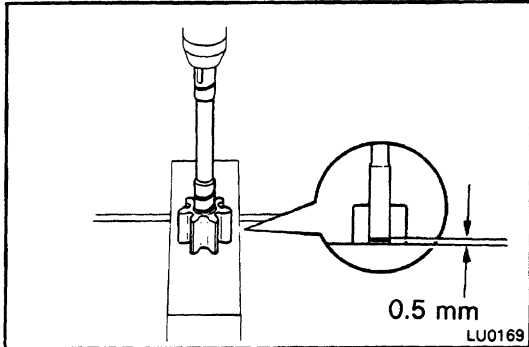
If the backlash is greater than maximum, replace the gears. If necessary, replace the shaft.



REPLACEMENT OF OIL PUMP COMPONENTS

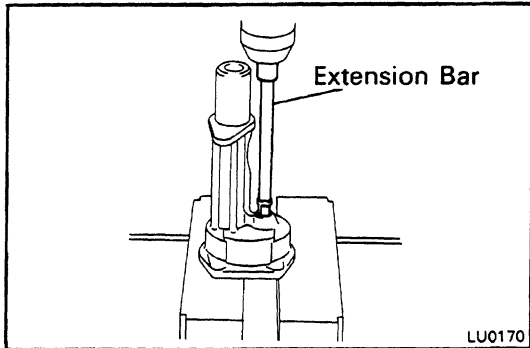
1. REPLACE DRIVE GEAR (OR OIL PUMP SHAFT)

- (a) Using an extension bar and press, press out the oil pump shaft from the drive gear.



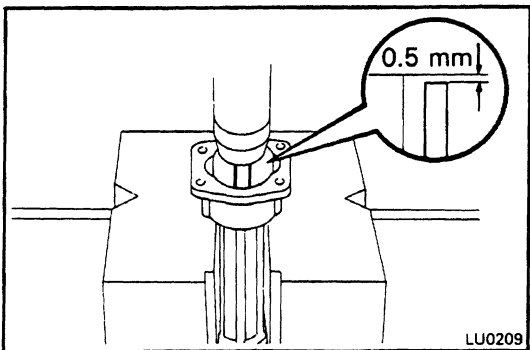
- (b) Align the drive gear set key with the key groove of a new drive gear.

- (c) Using a press, press in the oil pump shaft until it is 0.5 mm (0.020 in.) from the drive gear edge.

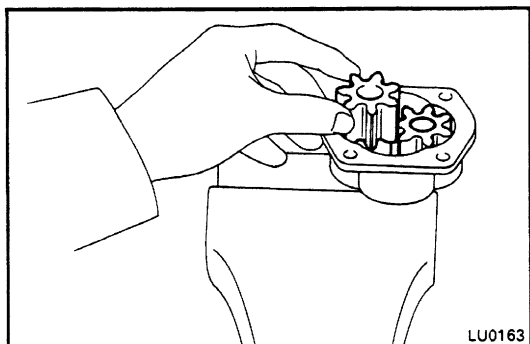


2. REPLACE DRIVEN SHAFT

- (a) Using an extension bar and press, press out the driven shaft from the oil pump body.



- (b) Using a press, press in a new driven shaft until it is 0.5 mm (0.020 in.) from the oil pump body edge.

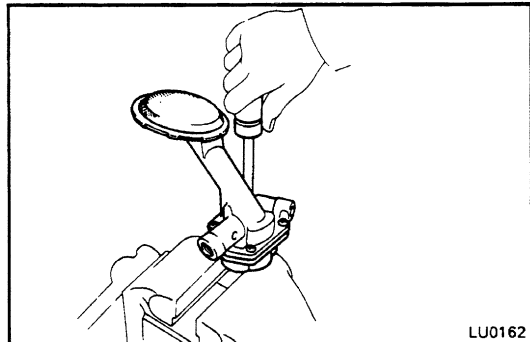


LU0163

ASSEMBLY OF OIL PUMP

(See page [LU-7](#))

1. MOUNT OIL PUMP BODY IN VISE
2. INSTALL DRIVE GEAR AND OIL PUMP SHAFT ASSEMBLY
3. INSTALL DRIVEN GEAR

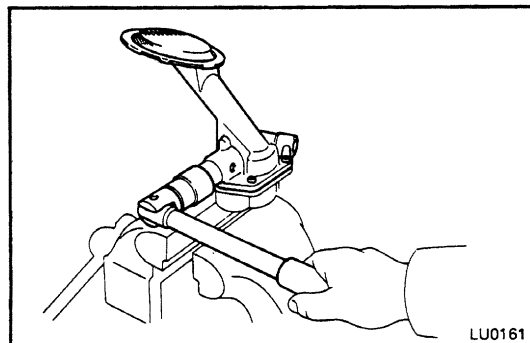


LU0162

4. INSTALL OIL PUMP STRAINER

Install the oil pump strainer with the four screws.
Torque the screws.

Torque: 100 kg-cm (7 ft-lb, 10 N-m)



LU0161

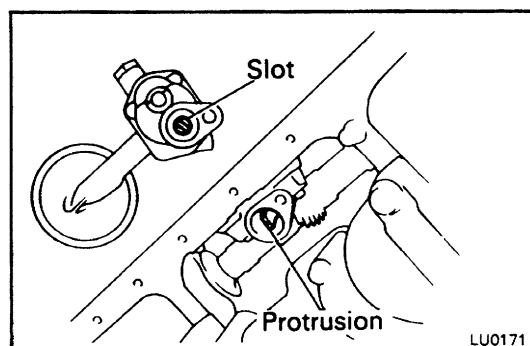
5. INSTALL RELIEF VALVE

Install the relief valve and spring with the relief valve plug. Torque the plug.

Torque: 375 kg-cm (27 ft-lb, 37 N-m)

6. CHECK OIL PUMP OPERATION

(See page [LU-9](#))



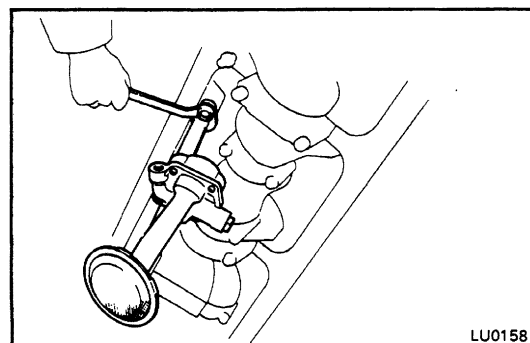
LU0171

INSTALLATION OF OIL PUMP

(See page [LU-7](#))

1. INSTALL OIL PUMP

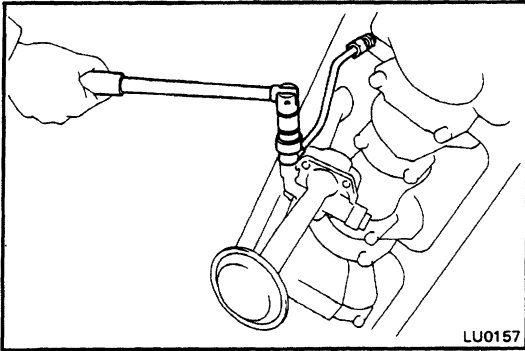
- (a) Align the oil pump shaft slot of the oil pump with the governor shaft protrusion of the distributor.



LU0158

- (b) Install the oil pump with the bolt. Torque the bolt.

Torque: 180 kg-cm (13 ft-lb, 18 N-m)

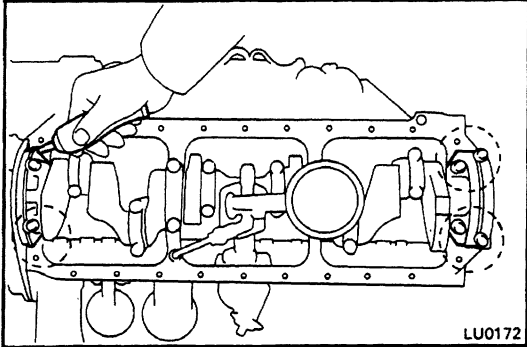
**2. INSTALL OIL OUTLET PIPE**

- (a) Place the outlet pipe in position.
- (b) Install and torque the union bolt with new two gaskets.

Torque: 450 kg-cm (33 ft-lb, 44 N-m)

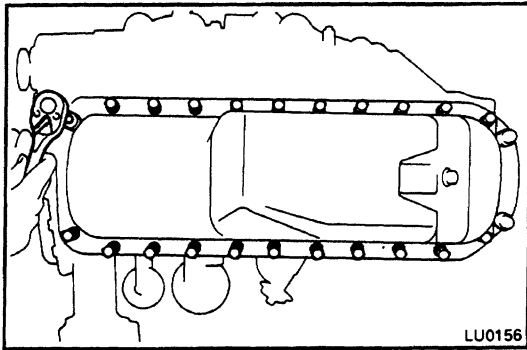
- (c) Install and torque the union nut.

Torque: 450 kg-cm (33 ft-lb, 44 N-m)

**3. INSTALL OIL PAN**

- (a) Apply seal packing to the cylinder block, the No. 1 and No. 4 main bearing caps as shown.

Seal packing: Part No. 08826-00080 or equivalent



- (b) Install anew gasket and the oil pan with the twenty two bolts.

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

4. FILL WITH ENGINE OIL (See step 3 on page [LU-6](#))**5. START ENGINE AND CHECK FOR LEAKS****6. RECHECK OIL LEVEL**

Recheck the engine oil level and refill if necessary.