

LUBRICATION SYSTEM

REFER TO 1988 CELICA REPAIR MANUAL (Pub. No. RM071U)

NOTE: The following pages contain only the points which differ from the above listed manual.

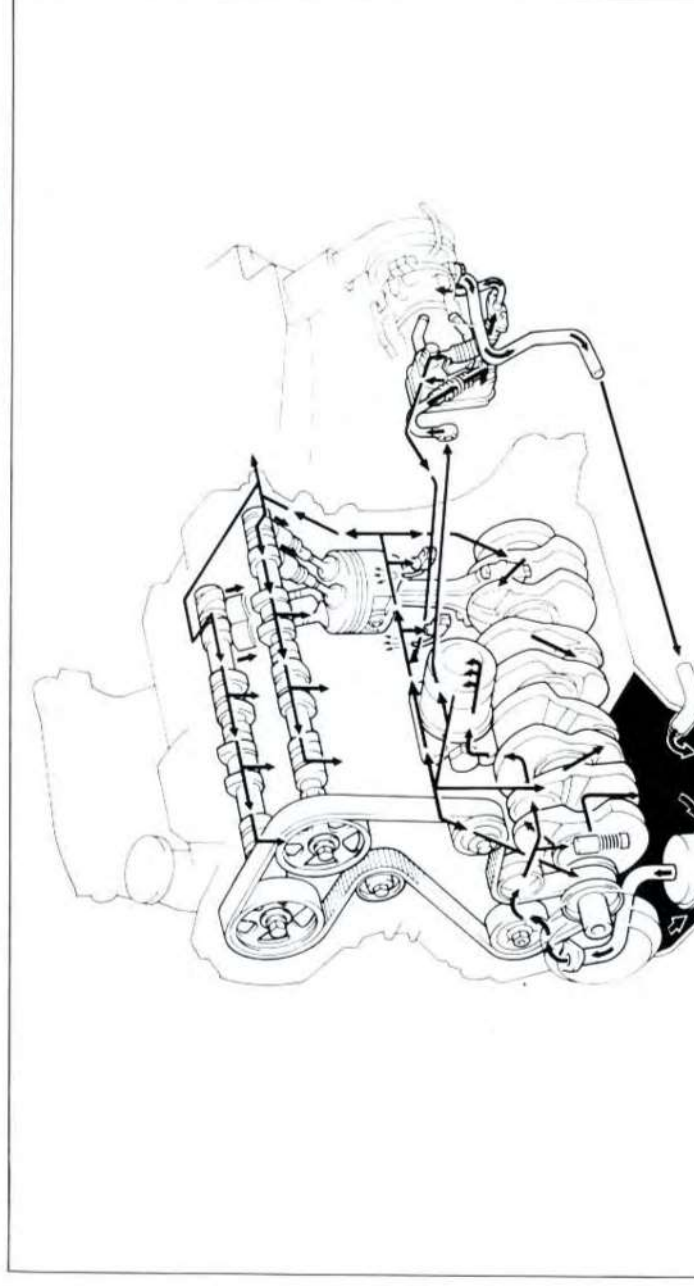
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LU-2

LUBRICATION SYSTEM — Description

DESCRIPTION

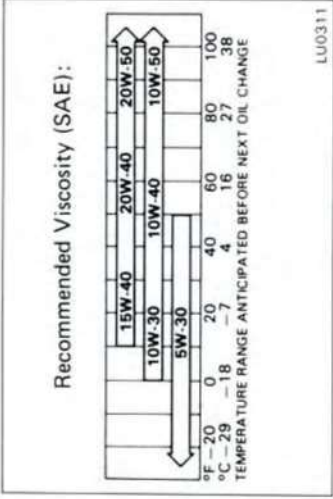
A fully pressurized, fully filtered lubrication system has been adopted for this engine.



LUBRICATION SYSTEM	Description	LU-3
A pressure feeding lubrication system has been adopted to supply oil to the moving parts of this engine. The lubrication system consists of an oil pan, oil pump, oil filter and other external parts which supply oil to the moving parts in the engine block. The oil circuit is shown in the illustration at the top of the previous page. Oil from the oil pan is pumped up by the oil pump. After it passes through the oil filter, it is fed through the various oil holes in the crankshaft and cylinder block. After passing through the cylinder block and performing its lubricating function, the oil is returned by gravity to the oil pan. A dipstick on the center left side of the cylinder block is provided to check the oil level.		
OIL PUMP The oil pump pumps up oil from the oil pan and sends it under pressure to the various parts of the engine. An oil strainer is mounted in front of the inlet to the oil pump. The oil pump itself is a trochoid type pump, inside of which is a drive rotor and a driven rotor. When the drive rotor rotates, the driven rotor rotates in the same direction, and since the axis of the driven rotor shaft is different from the center of the driven rotor, the space between the two rotors is changed as they rotate. Oil is drawn		

LU-4

LUBRICATION SYSTEM – Oil Pressure Check



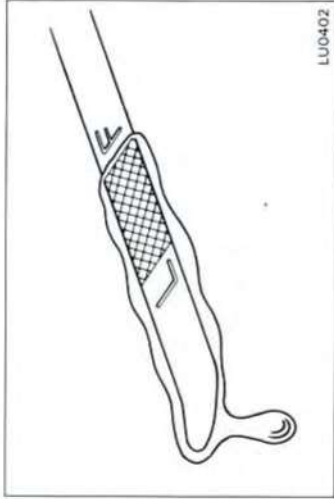
OIL PRESSURE CHECK

1. CHECK ENGINE OIL QUALITY

Check the oil for deterioration, entry of water, discoloring or thinning.
If the quality is poor, replace the oil.
Use API grade SF or SF/CC, multigrade, fuel-efficient and recommended viscosity oil.

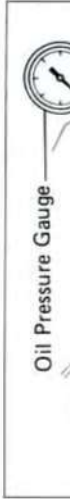
2. CHECK ENGINE OIL LEVEL

The oil level should be between the "L" and "F" marks on the dipstick.
If low, check the for leakage and add oil up to "F" mark.



3. REMOVE OIL PRESSURE SWITCH

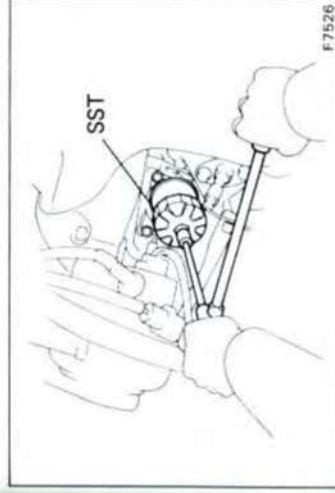
4. INSTALL OIL PRESSURE GAUGE



REPLACEMENT OF ENGINE OIL AND OIL FILTER

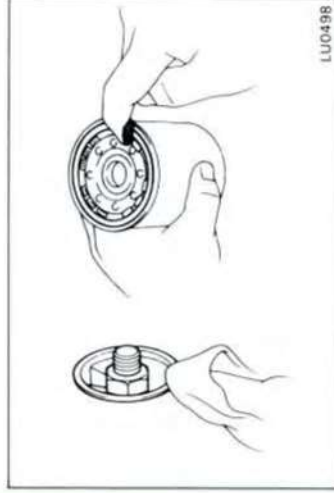
1. DRAIN ENGINE OIL

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



2. REPLACE OIL FILTER

- (a) Remove the alternator air duct.
 - (b) Using SST, remove the oil filter.
- SST 09228-07500
- (c) Check and clean the oil filter installation surface.
 - (d) Apply clean engine oil to the gasket of a new oil filter.



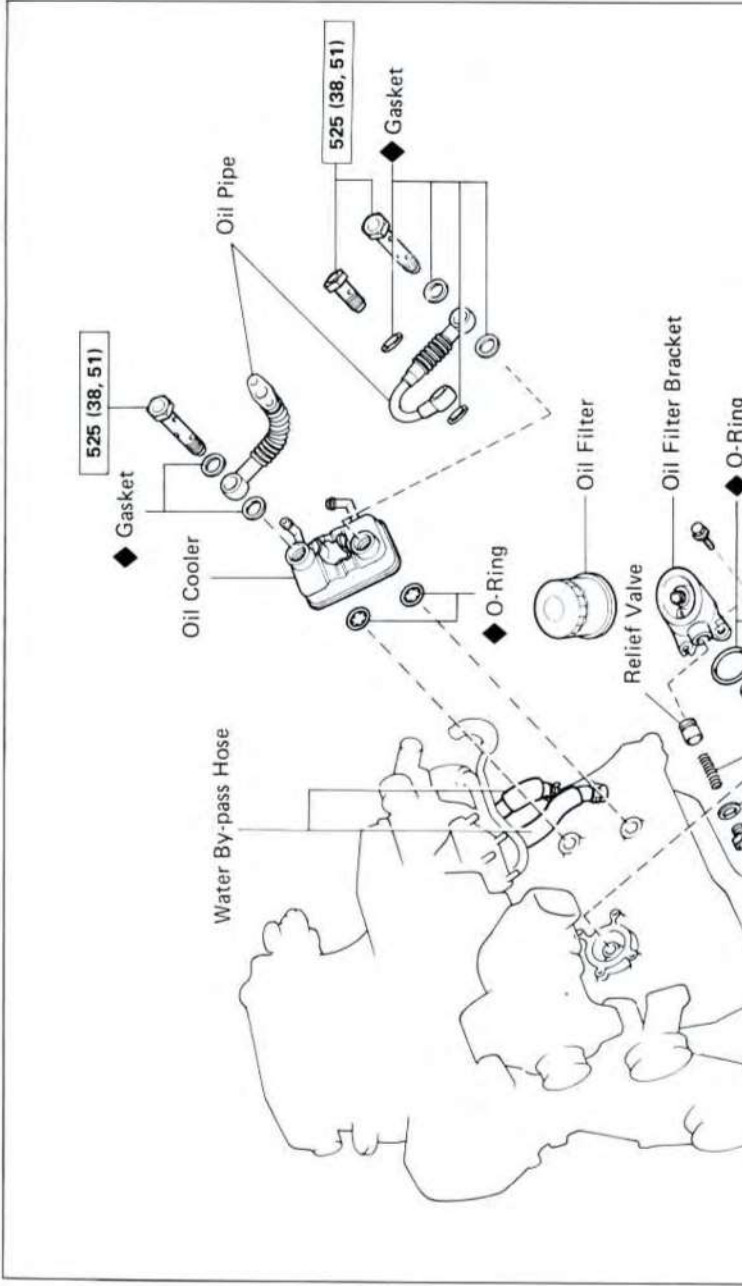
- (e) Lightly screw the oil filter into place, and tighten it until the gasket contacts the seat.

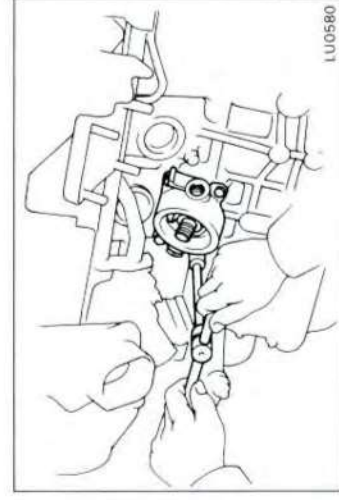


LU-6

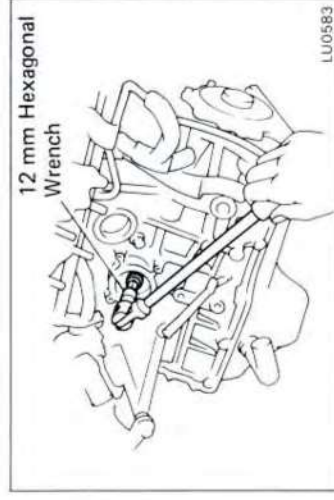
LUBRICATION SYSTEM — Oil Cooler and Relief Valve

OIL COOLER AND RELIEF VALVE



LUBRICATION SYSTEM — Oil Cooler and Relief Valve LU-7**5. REMOVE OIL FILTER BRACKET**

- (a) Remove the four bolts, filter bracket and O-ring.



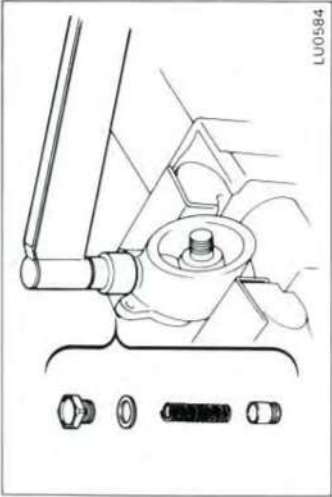
- (b) Using a 12 mm hexagonal wrench, remove the union and O-ring.

6. REMOVE RELIEF VALVE FROM OIL FILTER BRACKET

- (a) Mount the filter bracket in a soft jaw vise.

LU-8

LUBRICATION SYSTEM — Oil Cooler and Relief Valve



LU0584



12 mm Hexagonal Wrench

LU0590



INSTALLATION OF OIL COOLER AND RELIEF VALVE
(See page LU-6)

1. INSTALL RELIEF VALVE TO OIL FILTER BRACKET
(a) Mount the oil filter bracket in a soft jaw vise.
(b) Install the relief valve and spring with a new gasket and the plug. Torque the plug.
Torque: 375 kg-cm (27 ft-lb, 37 N·m)

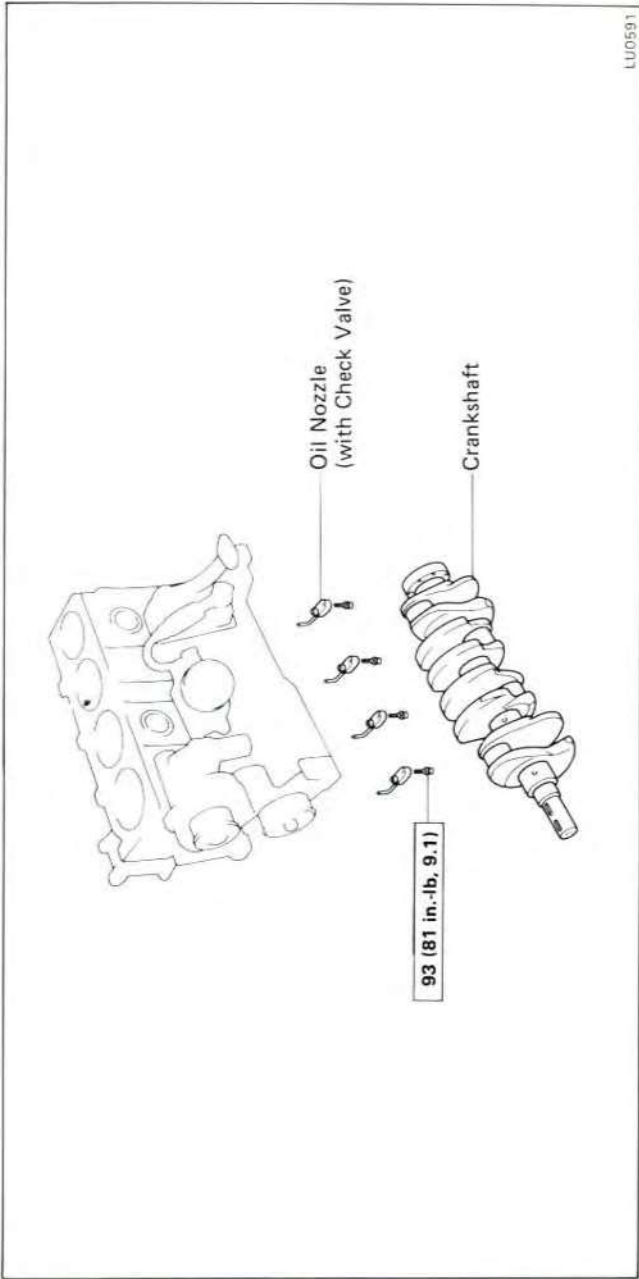
2. INSTALL OIL FILTER BRACKET
(a) Using a 12 mm hexagonal wrench, install and torque the union.
Torque: 300 kg-cm (22 ft-lb, 29 N·m)
(b) Install a new O-ring to the union, and apply small amount of engine oil to the O-ring.

(c) Install a new O-ring and the oil filter bracket with the four bolts.

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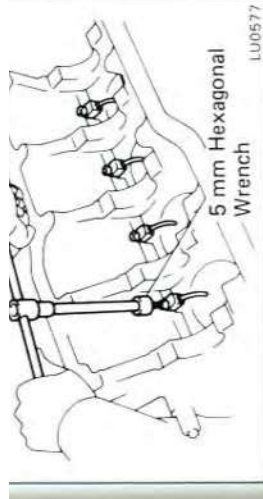
OIL NOZZLES AND CHECK VALVES



REMOVAL OF OIL NOZZLES AND CHECK VALVES

1. REMOVE CRANKSHAFT (See pages EM-43 to 47)





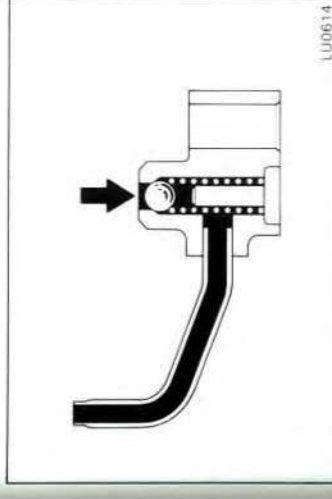
2. **REMOVE OIL NOZZLES (WITH CHECK VALVES)**
Using 5 mm hexagonal wrench, remove the four bolts and oil nozzles.

INSPECTION OF OIL NOZZLES AND CHECK VALVES

INSPECT OIL NOZZLES (WITH CHECK VALVES)

- (a) Check the oil nozzles for clogging.
- (b) Push the steel ball with a wooden stick to check if it is struck.

If abnormal, replace the oil nozzles.

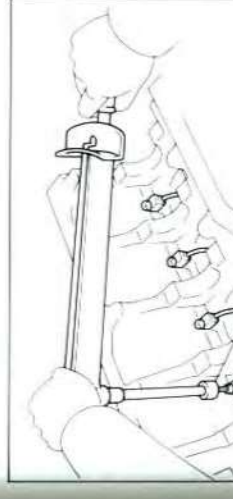


INSTALLATION OF OIL NOZZLES AND CHECK VALVES

1. INSTALL OIL NOZZLES (WITH CHECK VALVES)

Using 5 mm hexagonal wrench, install the nozzle with the bolt. Install the four oil nozzles. Torque the bolts.

Torque: 93 kg-cm (81 in.-lb, 9.1 N·m)





2. INSTALL CRANKSHAFT (See pages EM-48 to 52)