LUBRICATION SYSTEM

ON-VEHICLE INSPECTION

1. **CHECK ENGINE OIL LEVEL**
   (a) Warm up the engine, then stop the engine and wait for 5 minutes. Check that the engine oil level is between the low and full marks on the oil level gauge.
   If the engine oil is low, check for oil leaks and add engine oil up to the full mark.
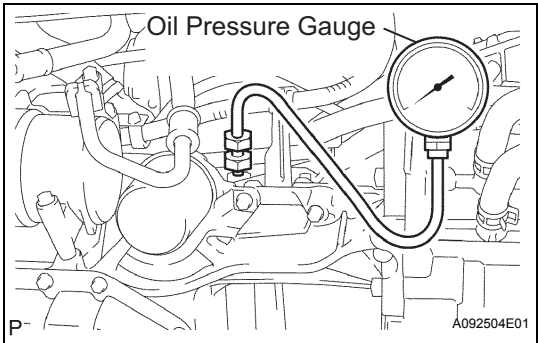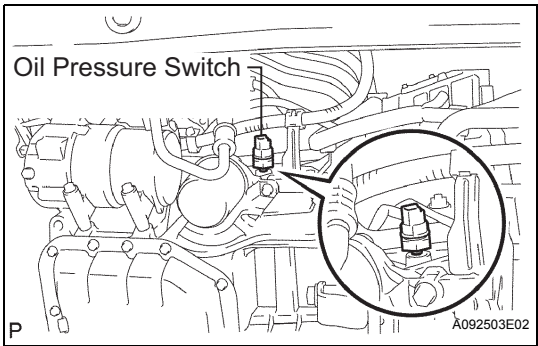   **NOTICE:**
   Do not add engine oil above the full mark.

2. **CHECK ENGINE OIL QUALITY**
   (a) Check the oil for deterioration, water intrusion, discoloring or thinning.
   If the oil quality is visibly poor, replace the oil.

3. **CHECK OIL PRESSURE**

   (a) Remove the engine oil pressure switch assembly.
   (1) Disconnect the oil pressure switch connector.
   (2) Using a 24 mm deep socket wrench, remove the oil pressure switch.

   (b) Install an oil pressure gauge.
   (1) Install the adaptor, then install an oil pressure gauge.
   (c) Set the vehicle to inspection mode (see page IN-35).
   (d) Warm up the engine.
   (e) Check the oil pressure. If the oil pressure is not specified, check the oil pump (LU-17).
   Standard oil pressure

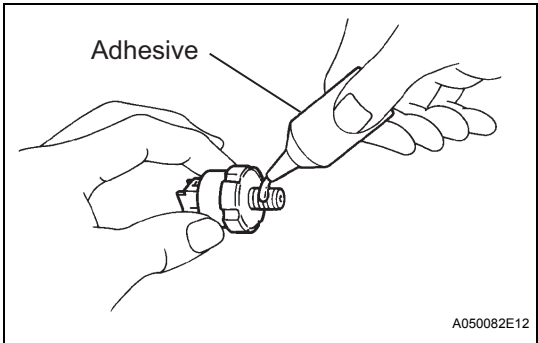| Condition	Specified Condition
Idle	**59 kPa (0.6 kgf/cm^2, 4.2 psi) or more**
2,500 rpm	**150 to 550 kPa (1.5 to 5.6 kgf/cm^2, 22 to 80 psi)**

   (f) Remove the oil pressure gauge.
   (g) Install the engine oil pressure switch.

   (1) Apply adhesive to the threads.
   Adhesive:
   Toyota Genuine Adhesive 1324, Three Bond 1324 or Equivalent
   (2) Using a 24 mm deep socket wrench, install the oil pressure switch.
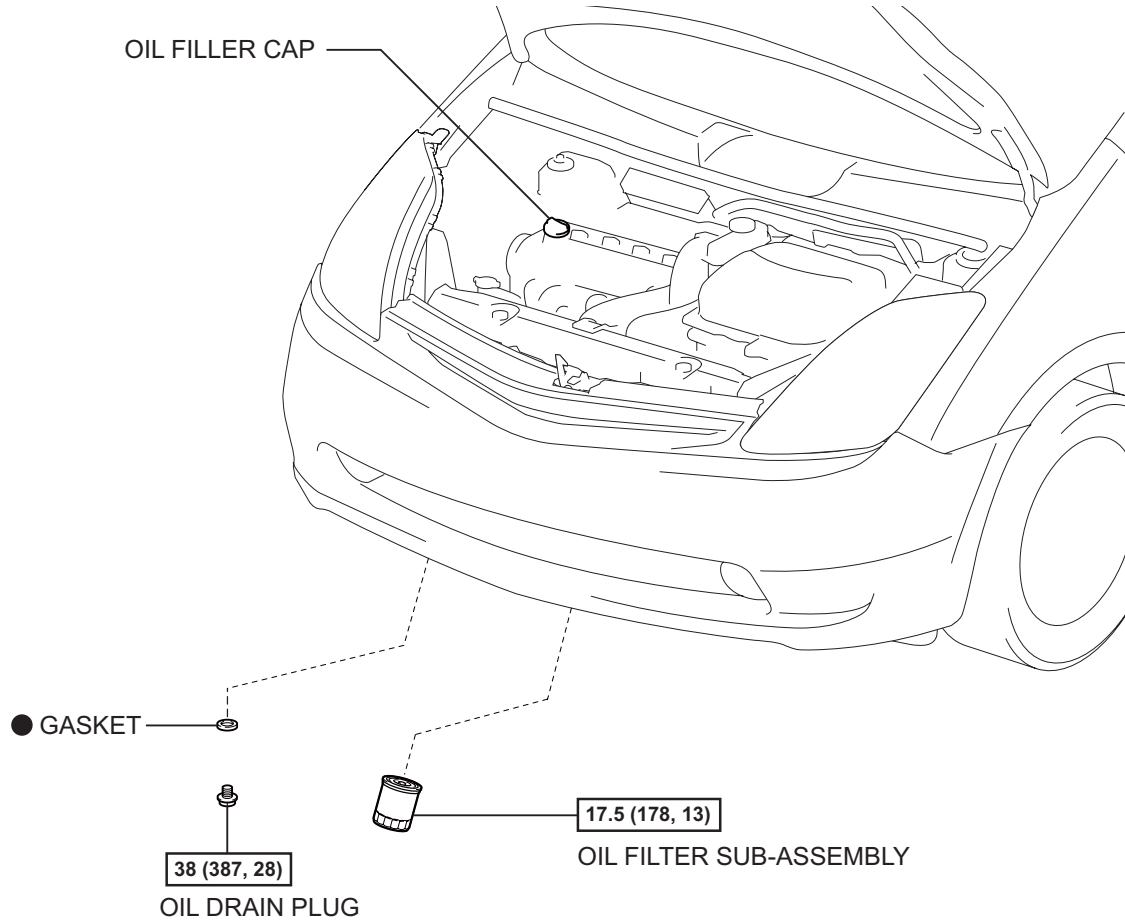   **Torque: 15 N*m (153 kgf*cm, 11 ft.*lbf)**

NOTICE:
Do not start the engine within 1 hour of installation.

(3) Connect the oil pressure switch connector.

4.   INSPECT FOR OIL LEAK

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OIL AND OIL FILTER

COMPONENTS

OIL FILLER CAP

● GASKET

17.5 (178, 13)
OIL FILTER SUB-ASSEMBLY

38 (387, 28)
OIL DRAIN PLUG

N*m (kgf*cm, ft.*lbf) : Specified torque

● Non-reusable part

A155883E01

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REPLACEMENT

CAUTION:
- **Prolonged and repeated contact with engine oil will cause removal of natural oils from the skin, leading to dryness, irritation and dermatitis. In addition, used engine oil contains potentially harmful contaminants which may cause skin cancer.**
- **Precautions should be taken when replacing engine oil to minimize the risk of your skin making contact with used engine oil. Wear protective clothing and gloves. Wash your skin thoroughly with soap and water, or use a water-less hand cleaner to remove any used engine oil. Do not use gasoline, thinners or solvents.**
- **For environmental protection, used oil and used oil filter must be disposed of at designated disposal sites.**

1. **DRAIN ENGINE OIL**
    (a) Remove the oil filler cap.
    (b) Remove the oil drain plug, then drain the oil into a container.
    (c) Clean the oil drain plug and install it with a new gasket.
    Torque: 38 N*m (387 kgf*cm, 28 ft.*lbf)

2. **REMOVE OIL FILTER SUB-ASSEMBLY**
    (a) Using SST, remove the oil filter.
    SST　09228-06501

3. **INSTALL OIL FILTER SUB-ASSEMBLY**
    (a) Check and clean the oil filter installation surface.
    (b) Apply clean engine oil to the gasket of a new oil filter.
    (c) Lightly screw the oil filter into place, and tighten it until the gasket contacts the seat.
    (d) Using SST, tighten the oil filter.
    SST　09228-06501
        (1) Depending on the work space available, choose from the following.
            - If enough space is available, use SST to tighten the oil filter.
            Torque: 17.5 N*m (178 kgf*cm, 13 ft.*lbf)
            - If not enough space is available to use SST, tighten the oil filter a 3/4 turn by hand.

4. **ADD ENGINE OIL**
    (a) Add fresh engine oil and install the oil filler cap.

Engine oil

Oil Grade	Oil Viscosity (SAE)
ILSAC multigrade engine oil	- **5W-30** - **10W-30** **(SAE 5W-30 is the best choice for fuel economy and good starting in cold weather.)**

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Capacity

Item	Fill amount
Drain and refill with oil filter change	3.7 liters (3.9 US qts, 3.3 Imp. qts)
Drain and refill without oil filter change	3.4 liters (3.6 US qts, 3.0 Imp. qts)
Dry fill	4.1 liters (4.3 US qts, 3.6 Imp. qts)

5.   **CHECK ENGINE OIL LEVEL (See page LU-1)**

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