Modern Automotive Technology
Chapter 41

Lubrication System Fundamentals
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Lubrication System Fundamentals

Learning Objectives

1. List the basic parts of an engine lubrication system
2. Describe the operation of an engine lubrication system
3. Explain the characteristics and ratings of engine oil
4. Describe safety procedures that should be followed when working with the lubrication system
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Lubrication (oil system) problems
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Lubrication System Fundamentals

1. An ANTIFRICTION BEARING uses balls or rollers to avoid a sliding action between surfaces.

2. An OIL FILTER is used to strain out impurities in motor oil.
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Diagram showing the components of a lubrication system, including stationary parts, bearing clearance, oil film, and rotating shaft.
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Inlet Holes
Threaded Outlet Hole
By-Pass Element
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3. A spring-loaded, bypass valve in the oil pump, engine block, or oil filter housing is known as the PRESSURE RELIEF VALVE.

4. The POSITIVE CRANKCASE VENTILATION SYSTEM (PCV) helps prevent engine sludging, which could restrict oil circulation.
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5. MOTOR OIL lubricates moving parts in the engine.

6. Oil passages through the engine are called OIL GALLERIES.
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7. Oil is forced through the inside of the engine by an OIL PUMP.

8. A FRICTION BEARING has two smooth surfaces sliding on each other.
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Oil Pump Types
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9. The OIL PAN is the storage area for motor oil.

10. OIL VISCOSITY is the thickness or fluidity of motor oil.
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SAE oil viscosity rating is affected by temperature. Note how thicker oil (higher SAE number) is specified for higher outside temperatures.
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Engine Oil – lubricant for moving parts

Oil Pan – storage area for engine oil

Oil Pump – forces oil through the inside of the engine

Pressure Relief Valve - limits maximum oil pump pressure

Oil Filter – strains out impurities in the oil

Oil Galleries – oil passages through out the engine
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