

LUBRICATING SYSTEM

Page

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| OIL PUMP | 5-3 |
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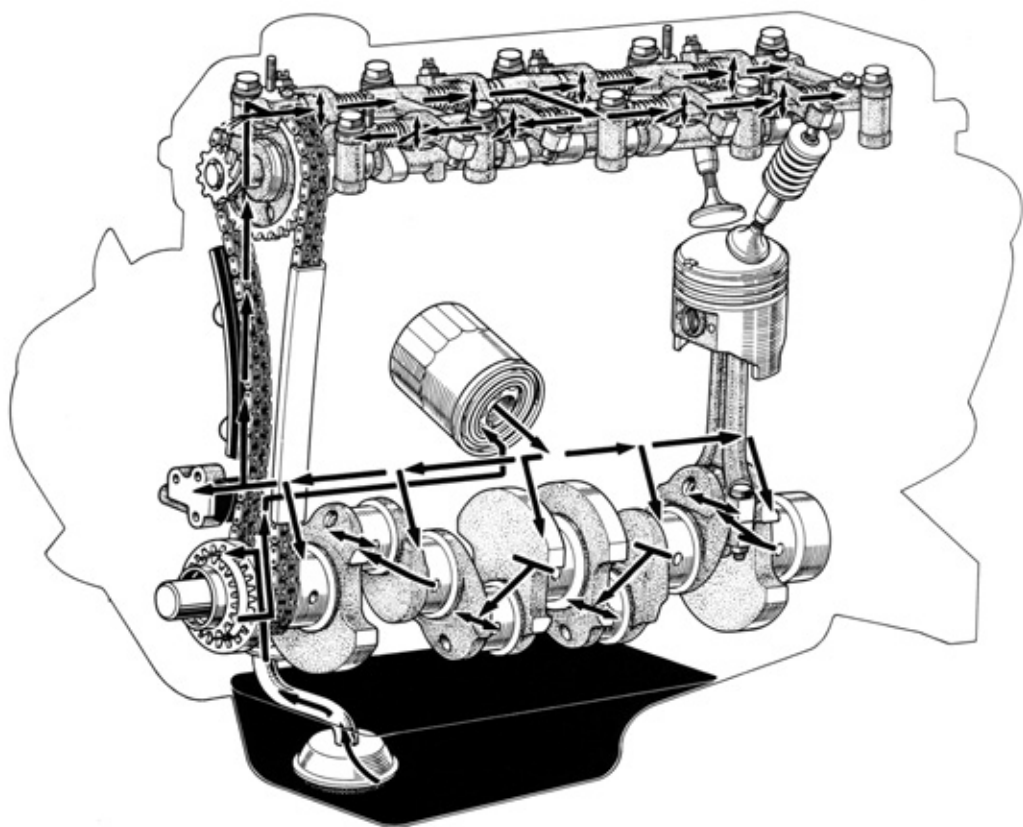
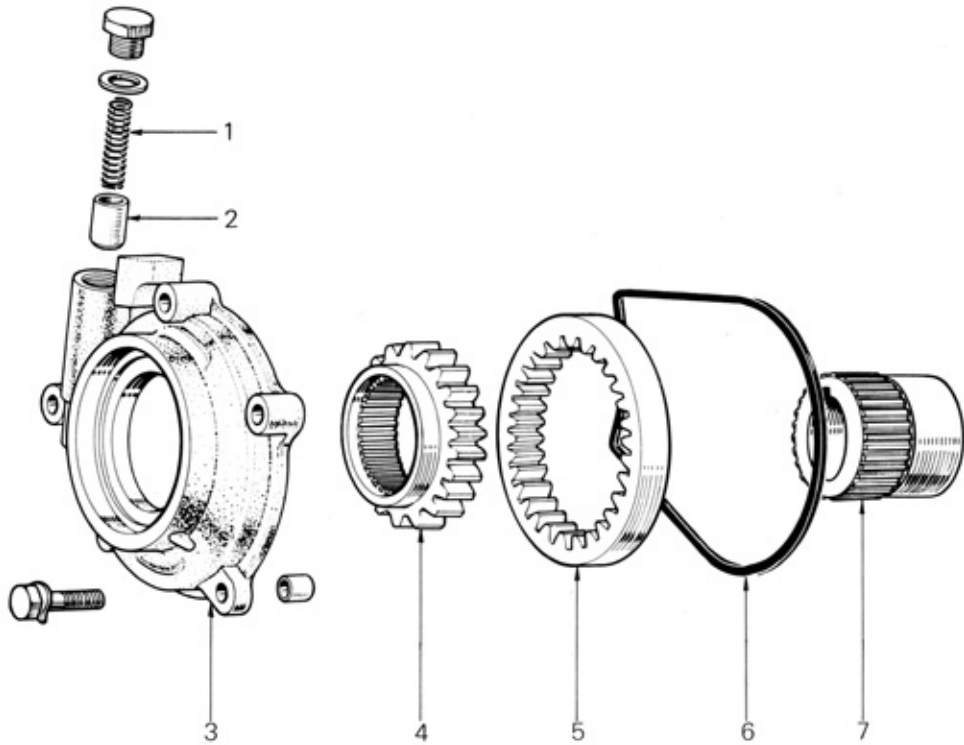


Fig. 5-1 Lubricating System Circuit

OIL PUMP

1. Relief valve spring
2. Relief valve
3. Oil pump body
4. Drive gear
5. Driven gear
6. O ring
7. Drive spline

Fig. 5-2 Component Parts

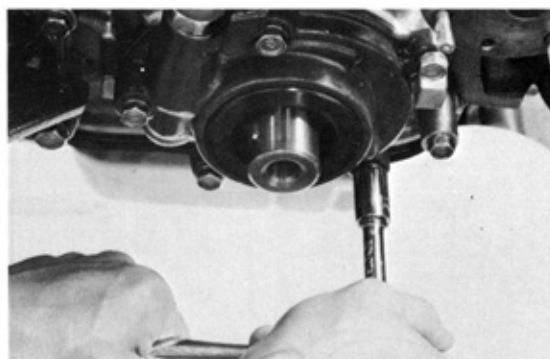


Fig. 5-3 Remove Oil Pump

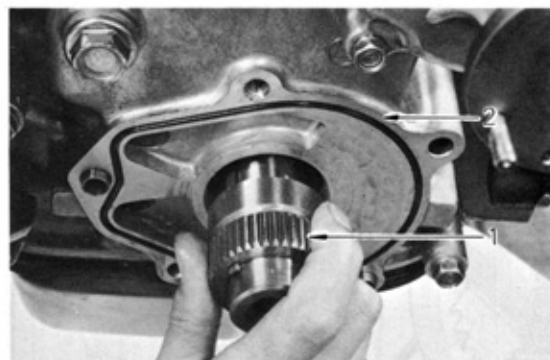


Fig. 5-4 Remove Drive Spline

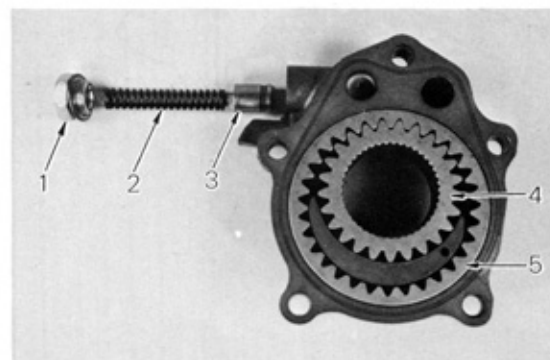


Fig. 5-5 Disassemble Oil Pump

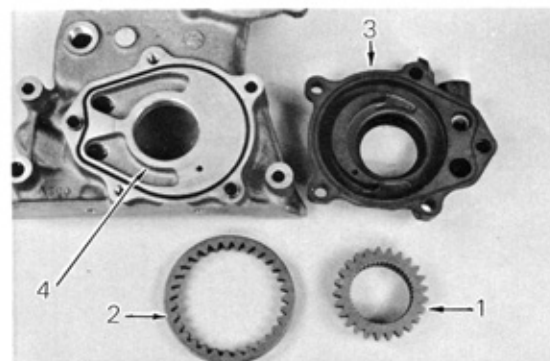


Fig. 5-6 Inspect Oil Pump Parts

DISASSEMBLY

1. Remove oil pan and oil strainer.
2. Remove drive belts from pulley.
3. Remove the crankshaft bolt and pulley.
4. Remove the oil pump assembly.
5. Remove the oil pump drive spline (1) and O ring (2).
6. Remove the relief valve plug (1) from the oil pump body, then take out the spring (2) and relief valve piston (3).
7. Remove the drive (4) and driven (5) gear.

INSPECTION

1. Inspect the drive spline, drive (1), driven gear (2), pump body (3) and timing chain cover (4), for excessive wear or damage.
If necessary, replace the gears or body and cover.

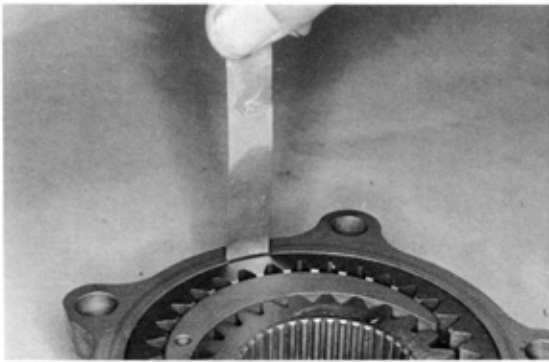


Fig. 5-7 Measure Body Clearance

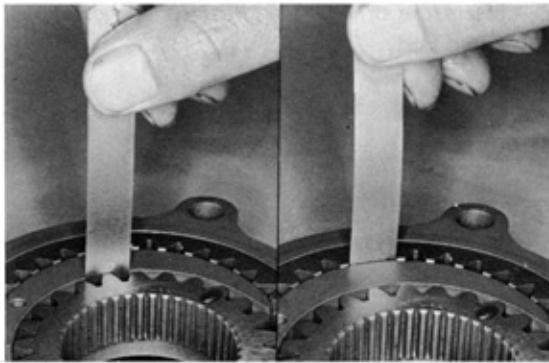


Fig. 5-8 Measure Tip Clearances



Fig. 5-9 Measure Side Clearance

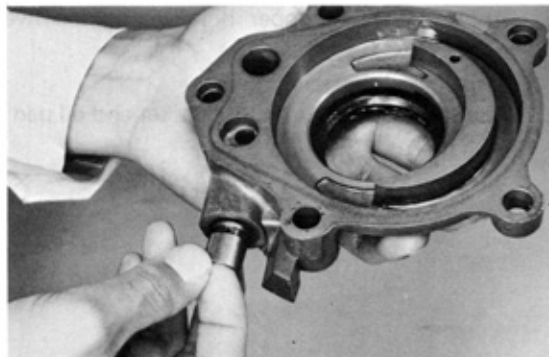


Fig. 5-10 Check Relief Valve

2. Measure body clearance.

| | |
|-----------------|---|
| Limit | 0.2mm (0.008 in) |
| Standard | 0.06 to 0.15mm (0.0024 to 0.0059 in) |

3. Measure tip clearances.

| | |
|-----------------|--|
| Limit | 0.3mm (0.012 in) |
| Standard | Driven gear-crescent 0.15 to 0.21mm (0.0059 to 0.0083 in) |
| | Drive gear-crescent 0.22 to 0.25mm (0.0087 to 0.0098 in) |

4. Measure side clearance.

| | |
|-----------------|---|
| Limit | 0.15mm (0.0059 in) |
| Standard | 0.03 to 0.09mm (0.0012 to 0.0034 in) |

5. Check relief valve piston, oil passages and sliding surfaces for burrs or scoring.
6. Inspect crankshaft front oil seal and replace if the lips are worn, damaged or cracked. (See page 3-54)

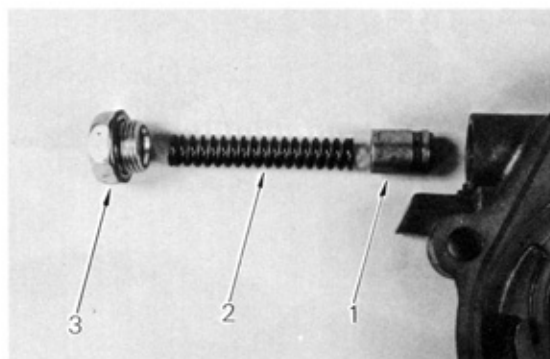


Fig. 5-11 Install Relief Valve

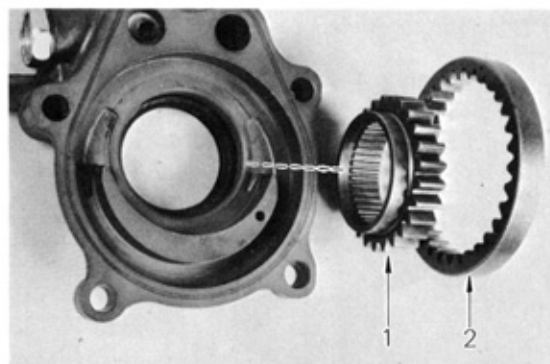


Fig. 5-12 Install Gears

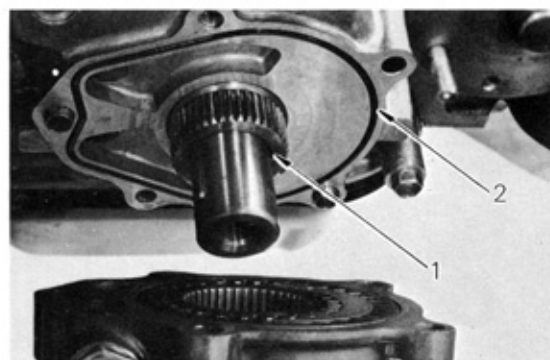


Fig. 5-13 Install Oil Pump

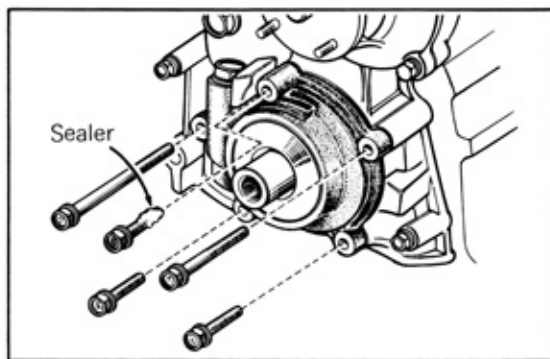


Fig. 5-14 Location of Sealed Bolt

ASSEMBLY

1. Assemble the relief valve piston (1), spring (2) and plug (3) over gasket.

2. Insert the drive (1) and driven (2) gears into pump body.

3. Slide the pump drive spline (1) onto crankshaft.
4. Set O ring (2) into groove and install the oil pump assembly.

5. Apply sealer to upper bolt and tighten five bolts.
6. Install crankshaft pulley.
7. Install oil strainer with new gasket and oil pan with gasket.