

Component Procedures: Oil Pump

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Component Procedures: Oil Pump

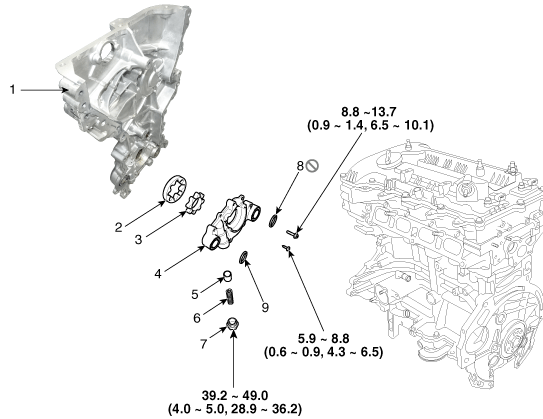
Parts and Labor (itype_189)

Labor

Operation	Qualifier Path	Skill	Std Hrs	Wty Hrs
Remove & Replace	Oil Pump > Oil Pump, R&R	B	6.6	0.0

Oil Pump - Components and Components Location (Article 45386)

- Components



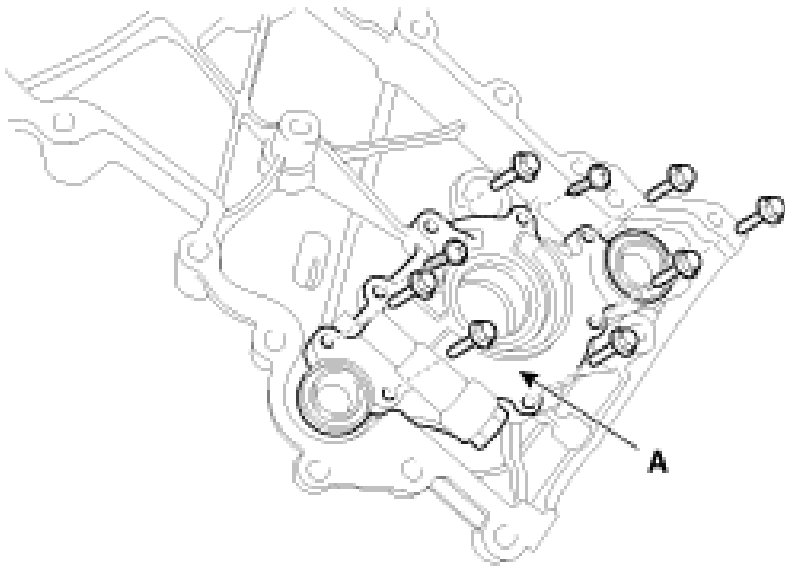
Tightening torque : N.m (kgf.m, lb-ft)

1. Timing chain cover 2. Outer rotor 3. Inner rotor 4. Oil pump cover 5. Relief plunger 6. Relief spring 7. Relief plug 8. O-ring (suction side) 9. O-ring (discharge side)

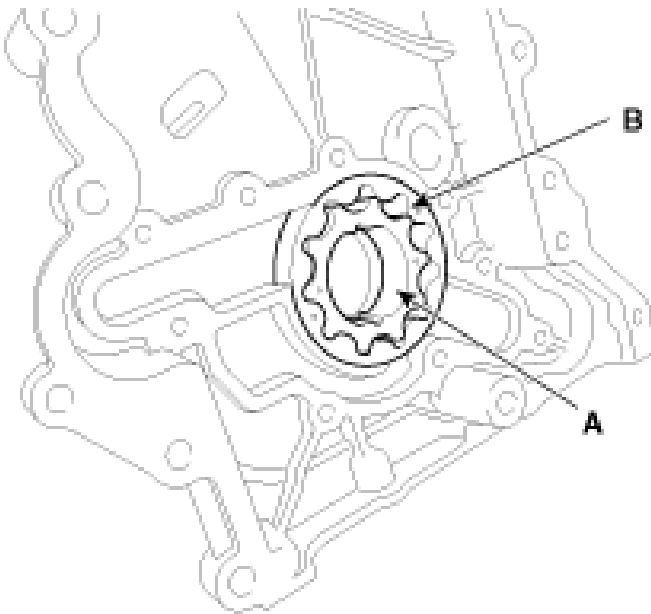
Oil Pump - Repair Procedures (Article 45387)

- Removal and Installation

- Remove the timing chain cover . (Refer to Timing System - "Timing Chain Cover")
- Remove the oil pump cover (A). Tightening torque Screws : 5.9 - 8.8 N.m (0.6 - 0.9 kgf.m, 4.3 - 6.5 lb-ft)
- Bolts : 8.8 - 13.7 N.m (0.9 - 1.4 kgf.m, 6.5 - 10.1 lb-ft)



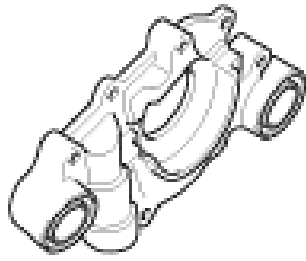
- Remove the inner rotor (A) and outer rotor (B).



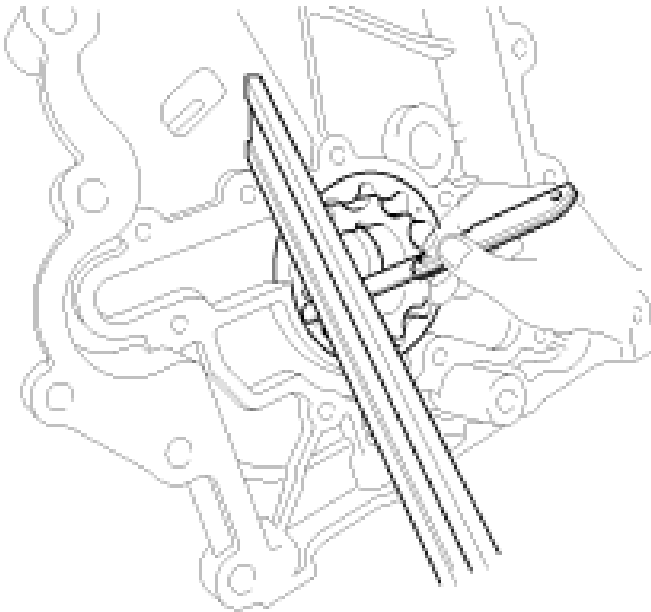
- Install in the reverse order of removal.

- Inspection

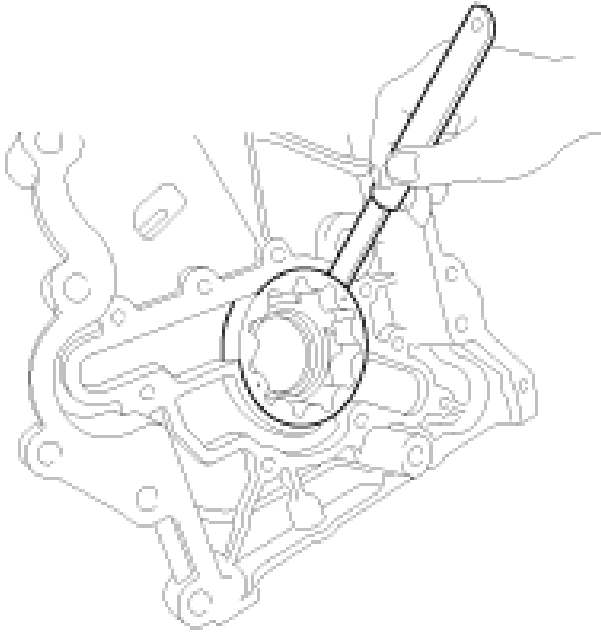
- Remove the relief plunger. Remove the plug (A), spring (B) and relief plunger (C). Tightening torque Plug (A) : 39.2 - 49.0 N.m (4.0 - 5.0 kgf.m, 28.9 - 36.2 lb-ft)



- Inspect the relief plunger. Coat the plunger with engine oil and check that it falls smoothly into the plunger hole by its own weight. If necessary, replace timing chain cover.
- Inspect the relief valve spring. Inspect for distortion or breakdown of the relief valve spring .
- Inspect the rotor side clearance. Using a feeler gauge and precision straight edge, measure the clearance between the inner rotors and precision straight edge. If the side clearance is greater than maximum, replace the rotors as a set. If necessary, replace the timing chain cover. Side clearance : 0.040 - 0.090 mm (0.00157 - 0.00354 in.)



- Inspect the rotor body clearance. Using a feeler gauge, measure the clearance between the outer rotor and body. If the body clearance is greater than maximum, replace the rotors as a set. If necessary, replace the timing chain cover. Body clearance : 0.200 - 0.292 mm (0.00787 - 0.01150 in.)



- Inspect the rotor guide clearance. Measure the outer diameter of the inner rotor guide. Inner rotor diameter : 41.550 - 41.570 mm (1.63582 - 1.63661 in.) Measure the inner diameter of the timing chain cover hole. Timing chain cover hole diameter : 41.600 - 41.625 mm (1.63779 - 1.63878 in.) Check the clearance between the timing chain cover hole inner diameter and the inner rotor guide outer diameter. Guide clearance : 0.030 - 0.075 mm (0.00118 - 0.00295 in.)
- Measure the outer diameter of the inner rotor guide. Inner rotor diameter : 41.550 - 41.570 mm (1.63582 - 1.63661 in.)
- Measure the inner diameter of the timing chain cover hole. Timing chain cover hole diameter : 41.600 - 41.625 mm (1.63779 - 1.63878 in.)
- Check the clearance between the timing chain cover hole inner diameter and the inner rotor guide outer diameter.

