



Fig. 61 Detach the connector for the CMP sensor and . . .

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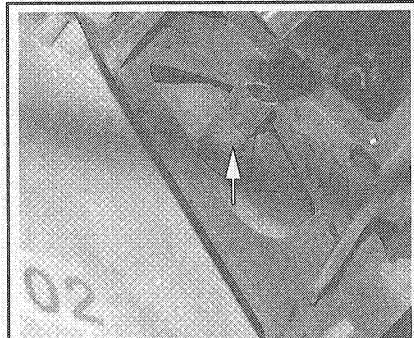


Fig. 62 . . . remove the bolt retaining the CMP sensor to the front cover and . . .

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Fig. 63 . . . remove the sensor

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### Crankshaft Position Sensor

#### OPERATION

♦ See Figure 64

The Crankshaft Position (CKP) sensor is a variable reluctance sensor that uses a trigger wheel to induce voltage. The CKP sensor is a fixed magnetic sensor mounted to the engine block and monitors the trigger or "pulse" wheel that is attached to the crank pulley/damper. As the pulse wheel rotates by the CKP sensor, teeth on the pulse wheel induce voltage inside the sensor through magnetism. The pulse wheel has a missing tooth that changes the reading of the sensor. This is used for the Cylinder Identification (CID) function to properly monitor and adjust engine timing by locating the number 1 cylinder.

der. The voltage created by the CKP sensor is alternating current (A/C). This voltage reading is sent to the PCM, it is used to determine engine RPM, engine timing, and is used to fire the ignition coils.

#### TESTING

1. Measure the voltage between the sensor CKP sensor terminals by backprobing the sensor connector.

⚡ If the connector cannot be backprobed, fabricate or purchase a test harness.

2. Sensor voltage should be more than 0.1 volt AC with the engine running and should vary with engine RPM.

3. If voltage is not within specification, the sensor may be faulty.

#### REMOVAL & INSTALLATION

♦ See Figure 65

1. Disconnect the negative battery cable.
  2. Remove the accessory drive belt from the engine.
  3. Raise and safely support the vehicle.
  4. Remove the A/C compressor mounting bolts, but do not disconnect the A/C lines. Remove and support the compressor out of the way.
  5. Detach the electrical connector for the CKP sensor.
  6. Remove the CKP sensor retaining bolts and remove the CKP sensor.
- To install:**
7. Installation is the reverse of removal.

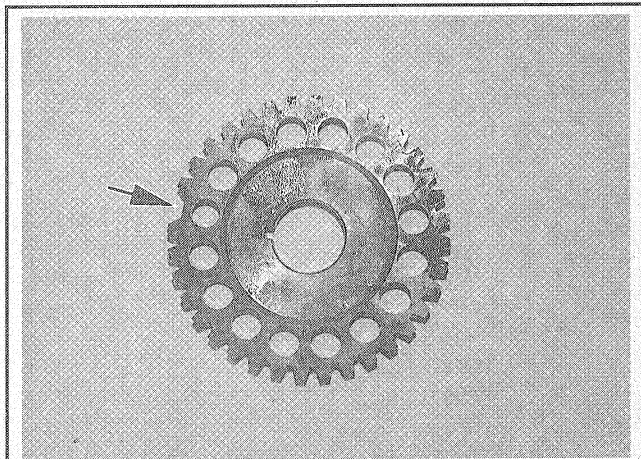


Fig. 64 The CKP sensor trigger wheel rides on the front of the crankshaft. The missing tooth creates a fluctuation of voltage in the sensor

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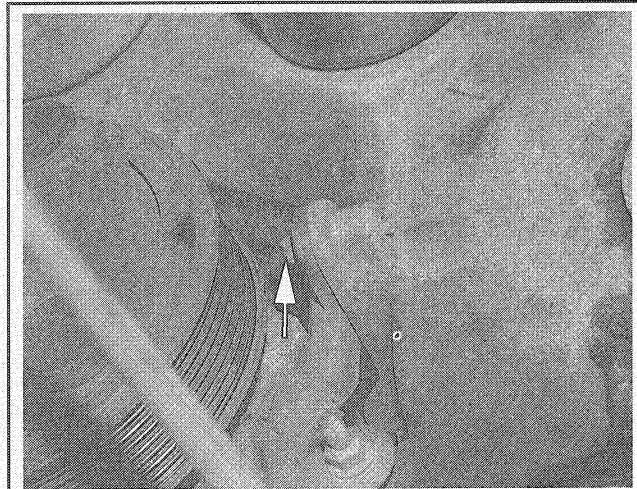


Fig. 65 Remove the retaining bolt for the CKP sensor and remove the sensor from the front cover

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