# CHRYSLER LH VEHICLES

42LE CODE 1391 INTERMITTENT LOSS OF CRANK OR CAM

COMPLAINT: LH vehicles such as LHS, Concorde, Intrepid, New Yorker and Vision with a 3.5 L engine may experience a code 1391 "Intermittent Loss of Crank or Cam Signal" after the transmission has been replaced. This will be accompanied with a rough running engine which cannot remain at idle for more than 4 to 6 seconds. The vehicle ran smoothly before the needed transmission work was performed. The Crank Shaft and Cam Shaft Speed Sensor were replaced without any success. The Crank Shaft Speed Sensor located in the converter housing (See Figure 1), is not adjustable with 3.5L applications so the sensor exciter ring on the flywheel (See Figure 2) may be suspect. But after an inspection it proves to be good.

CAUSE: One such known cause has been that during the removal or installation process of the transmission, while turning the torque converter, the crankshaft kicked back from compression in the engine causing the timing belt to skip one cog, or the crankshaft was turned opposite to normal engine rotation causing the skip (See Figure 3). This incident had occurred with a vehicle that had 80,000 plus miles. So the belt was worn.
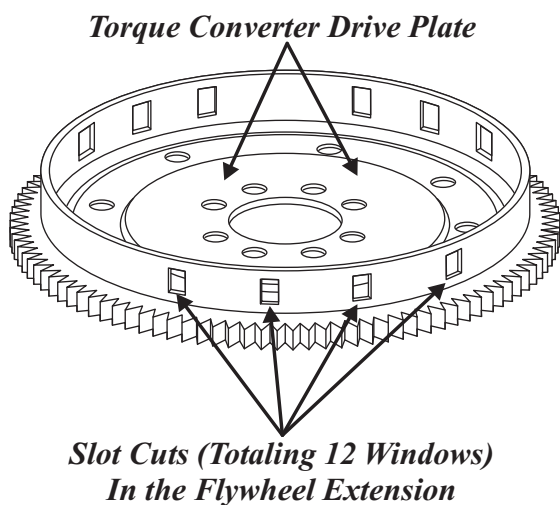
CORRECTION: Re-position or replace the timing belt. .

CRANK SHAFT SPEED SENSOR
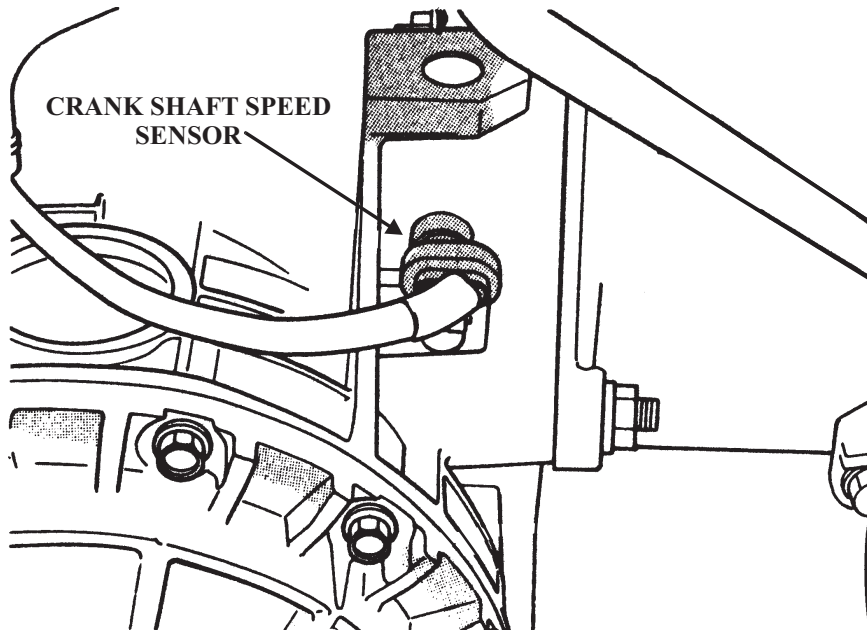
Special Thanks to:
Mike and Dave McRoberts
from Suburban Transmissions

Figure 1

CODE 1391 INTERMITTENT LOSS OF CRANK OR CAM

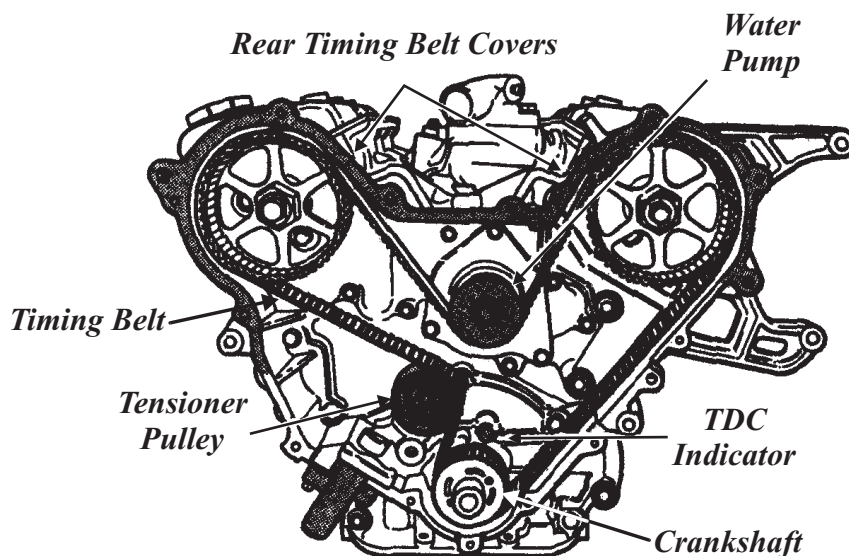**Torque Converter Drive Plate**

The crankshaft position sensor detects slots cut into the transmission drive plate (flywheel) extension. There are 3 sets of slots with 4 cuts (windows) in each set totaling 12 windows. Basic timing is set by the position of the last slot in each group. Once the PCM senses that last slot, it determines crankshaft position (which piston will be next at TDC) from the camshaft position sensor input. The 4 pulses generated by the crankshaft position sensor represents the 69º, 49º, 29º and 9º BTDC marks. It may take the PCM one engine revolution to determine crankshaft position.

**Slot Cuts (Totaling 12 Windows)
In the Flywheel Extension**

Figure 2

Rear Timing Belt Covers

Water Pump

Timing Belt

Tensioner Pulley

TDC Indicator

Crankshaft

3.5L LH Body

Figure 3