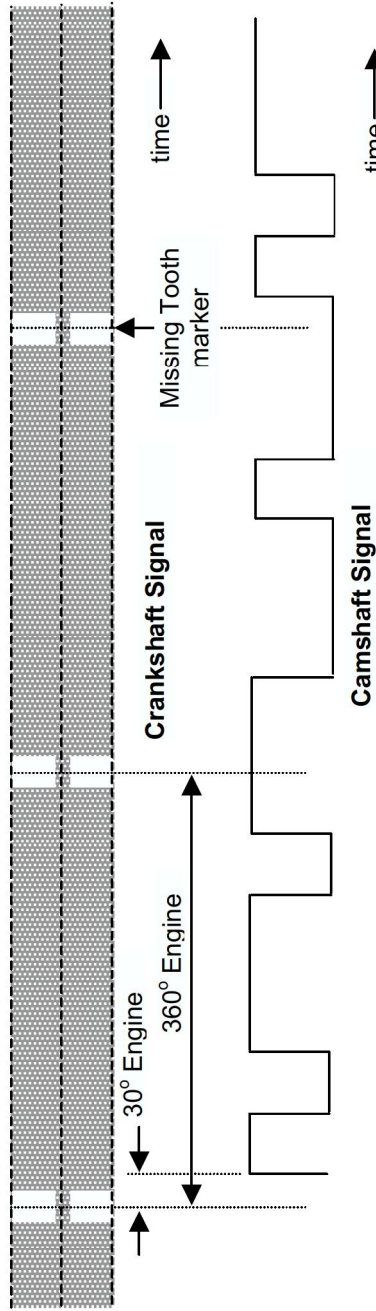




## 4.10 Camshaft Position Sensor

### 4.10.1 Description

This is a Hall effect sensor producing four pulses for every two engine revolutions. The sensing element is positioned between 0 and 2mm from the side of the cam gear wheel. The sensor is, in effect, a magnetically operated electrical switch, switching a battery supply level voltage on or off dependent on the position of the cam gear wheel with respect to the sensor.



The cam gear wheel has four slots machined in it enabling cylinder identification every 90°. The signal is used for cylinder recognition; enabling sequential fuel injection, knock control and cylinder identification for diagnostic purposes.

The system checks the camshaft position sensor signal at every software reference mark i.e., 54° before top dead centre (2 teeth after the reluctor 2nd missing tooth). A fault condition is recognised if the signal does not change state (high to low or low to high voltage) every crankshaft revolution.

Camshaft Position Sensor								
Component/System	Fault Codes	Monitoring Strategy Description	Malfuction Criteria	Threshold value	Secondary Parameter	Enable Conditions	Time Required	MIL Illumination
Camshaft Position Sensor	P0340	rationality check	signal sequence	incorrect signal	crankshaft revolutions	> 100 revolutions	0.500 sec/continuous	two driving cycles

If the above table does not include details of the following enabling conditions: - IAT, ECT, vehicle speed range, and time after engine start-up then the state of these parameters has no influence upon the execution of the monitor.