

SYSTEM. TO PREVENT INJURY, BE CAREFUL TO KEEP FINGERS AWAY FROM LEVER MECHANISMS WHEN ACTUATED. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY.

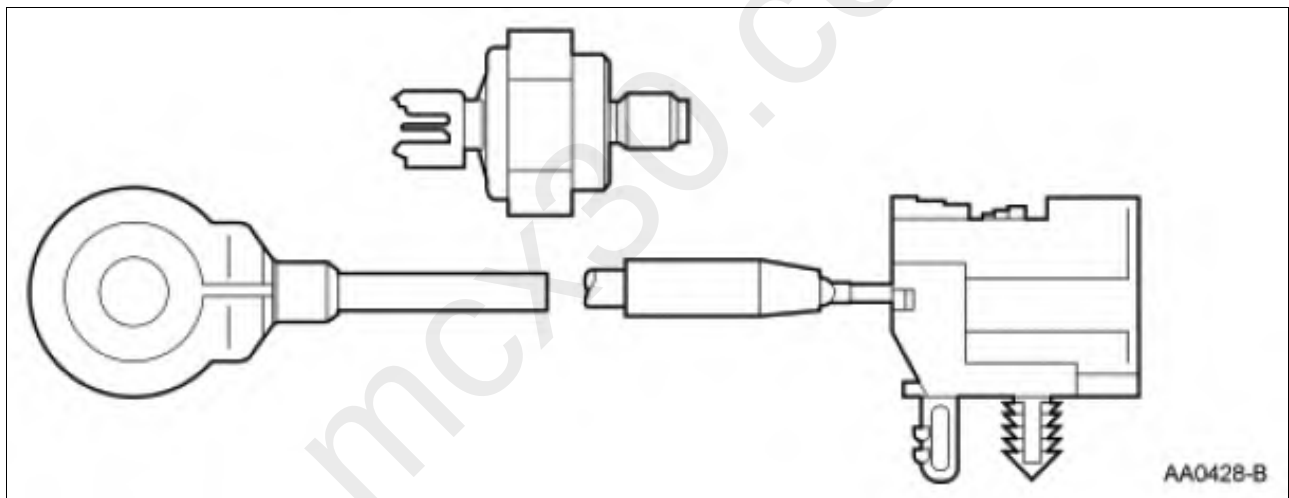
The IMTV is a motorized actuated unit mounted directly to the intake manifold. The IMTV actuator controls a shutter device attached to the actuator shaft. There is no monitor input to the PCM with this system to indicate shutter position.

The motorized IMTV unit is not energized below a calibrated RPM. The shutter is in the closed position to prevent airflow blend from occurring in the intake manifold. The motorized unit is energized above a calibrated RPM. The motorized unit is commanded ON by the PCM initially at a 100 percent duty cycle to move the shutter to the open position, and then falling to approximately 50 percent to continue to hold the shutter open.

ENGINE CONTROL COMPONENTS > KNOCK SENSOR (KS)

The KS is a tuned accelerometer on the engine which converts engine vibration to an electrical signal. The PCM uses this signal to determine the presence of engine knock and to retard spark timing.

Fig 1: Identifying Knock Sensor (KS)



Courtesy of FORD MOTOR CO.

ENGINE CONTROL COMPONENTS > MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR

The MAP sensor is located on the intake manifold and measures the intake manifold pressure. The PCM uses this information to determine the air charge and to provide the input for various engine control functions. The MAP sensor may be integrated with an intake air temperature (IAT) sensor.