



Subject:	<b>Toyota vehicles where the A/C switch lamp “blinks” continuously and the A/C is not functioning. The Toyota Camry in particular.</b>					TSB #:	<b>27 2-10</b>
						Date:	3/2/10
Initial Once Read:							

The blinking of the A/C switch ON green lamp indicates a problem within the A/C system exists. There are two (2) most common causes for this issue happening:

- A. Faulty compressor speed sensor.
- B. Compressor clutch relay (MGCLT).

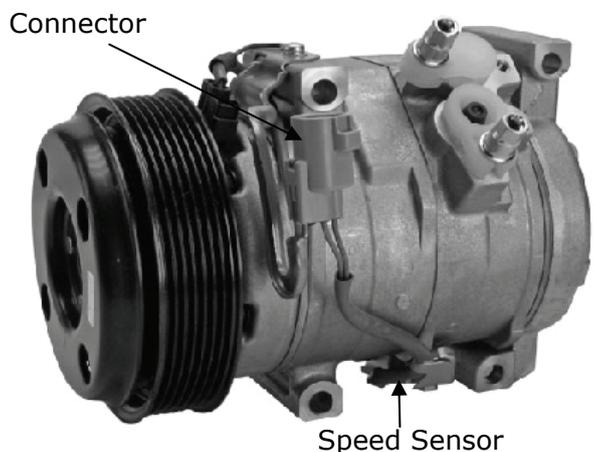
**CAUSE A.**

The reason for using this sensor is due to the single serpentine drive belt. If the A/C compressor “locks” up the belt will be thrown off or damaged and the water pump, alternator, power steering will no longer operate. This sensor reports to the A/C amplifier module attached to the evaporator case. The engine RPM is signaled into the A/C amplifier and when the A/C amplifier calculates a difference in speeds between the engine and the compressor of approx 30% the compressor is disengaged (no voltage supplied to the field coil) thus still allowing the other ancillaries to operate independent of the compressor.

The difference in speeds could also be due to the fact that of the high side pressure being too high or the compressor internals “locking up” both create issues where the compressor will turn slower.

The speed sensor on Toyota vehicles is located in 2 positions on the compressor body either at the rear head or underneath, the sensor wiring is attached to the clutch field coil wiring connector. The connector normally has four (4) terminals, two (2) to the clutch field coil and two (2) to the speed sensor.

Testing: Disconnect the negative battery lead, then the compressor electrical connector. Using a multimeter check the sensor resistance between the connector terminals attached to the sensor wires (you may have to slide back the insulation to see the wire colours)



The electrical connector contains four (4) male terminals. Two are for the clutch field coil, two are for the speed sensor.

4 Cylinder engine 2.2 / 2.4ltr = 165 - 205Ω

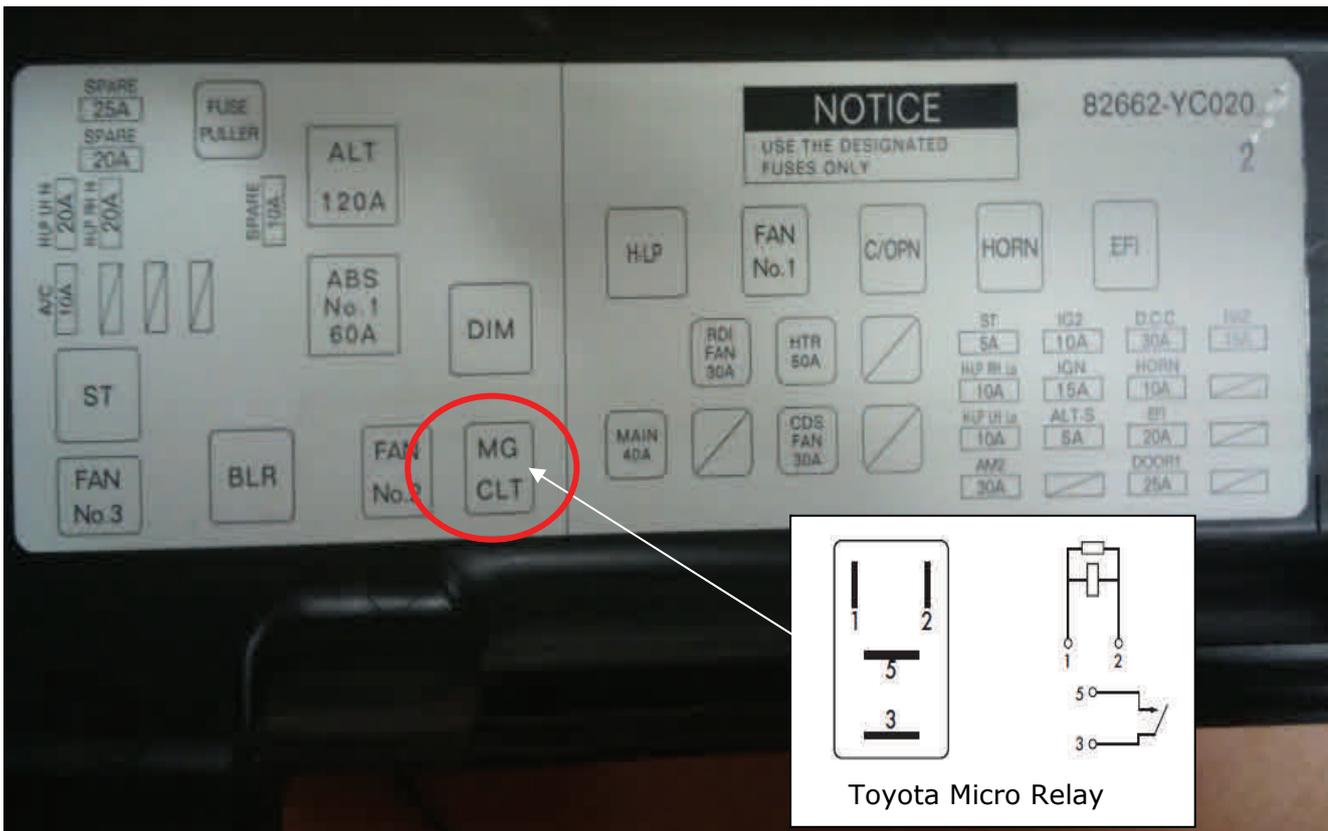
6 Cylinder engine 3.0ltr V6 = 65 - 125Ω

If the Ω value obtained is under or over replace the speed sensor or if the compressor is hard to turn replace the compressor assembly.



## CAUSE B.

Check for voltage at the electrical connector of the compressor with the ignition ON and A/C ON. If there is 0 volts check for a blown A/C fuse, faulty pressure switch (cause 2) faulty wiring or connector also check the “MGCLT” magnetic clutch relay located in the fuse / relay box in the engine bay. The MGCLT relay is a micro design, Four (4) male terminals and the plastic case –white, Toyota part number 98987-82022 / 156700-2470. Location of relay is in the fuse / relay box in the engine bay area (see relay box cover picture below)



There are also other possibilities that should be taken into account when investigating this issue:

- Electrical wiring, connector or terminal issue.
- Compressor internal fault.
- Compressor clutch field coil fault.
- Lower or higher refrigerant charge than specification.
- Too much lubrication oil – higher pressure.
- Faulty pressure switch (open circuit)
- Faulty thermistor or amplifier.

Incorrect engine RPM signal.