

P06A0: VARIABLE A/C COMPRESSOR CONTROL CIRCUIT

OVERVIEW

Severity	:	Medium
DIY Difficulty Level	:	Intermediate
Repair Cost	:	\$800-\$2800
Can I Still Drive?	:	Yes (Short-term only)

What Does The P06A0 Code Mean?

OBD-II trouble codes [P06A0](#), [P06A1](#), and [P06A2](#) are associated with the variable air conditioning (A/C) compressor control circuit.

The purpose of the variable A/C compressor control circuit is to engage and disengage the compressor at the appropriate time to maintain the desired temperature within the vehicle cabin. The ECU receives voltage signals from various components to detect possible malfunctions within the system.

The variable A/C compressor control circuit incorporates several components to accomplish this process. Most newer automobiles are equipped with climate control that is an essential component for this circuit to function properly.

When the Engine Control Unit (ECU) detects improper signals within the variable A/C compressor control circuit code P06A0 will be set and the check engine light will be activated.

What Are The Symptoms Of The P06A0 Code?

Symptoms of a P06A0 trouble code may include:

- Air conditioner will not operate properly

- Check engine light illuminated

What Are The Potential Causes Of The P06A0 Code?

Causes for this P06A0 code may include:

- Defective A/C compressor
- Defective A/C solenoid (if applicable)
- Low or overcharged system
- Clogged orifice tube or dryer
- Malfunctioning climate control
- Defective A/C relay
- Blown fuse or fuse-able link (if applicable)
- Corroded or damaged connector
- Faulty or damaged wiring
- Defective ECU

How Can You Fix The P06A0 Code?

The first step in the troubleshooting process for any malfunction is to research the Technical Service Bulletins (TSB's) for the specific vehicle by year, model and power plant. In some circumstances this can save a lot of time in the long run by pointing you in the right direction.

The second step is to locate all components within this circuit and perform a thorough visual inspection to check the associated wiring for obvious defects such as scraping, rubbing, bare wires, or burn spots. Next is to check the connectors for security, corrosion and damaged pins. This process must include the A/C compressor, associated sensors, relays and the ECU.

Advanced Steps

The advanced steps become very vehicle specific and require the appropriate advanced equipment to perform accurately. These procedures require a digital multi meter and the specific technical references for the vehicle. The ideal tool for this troubleshooting process is an A/C diagnostic machine, if available.

This specialized equipment is essential to pinpoint the source of the malfunction by identifying leaks and verifying appropriate pressures within the system. High and low side gauges will also validate the integrity of the A/C compressor and associated components. Restrictions within the system such as a clogged orifice tube or dryer will also be identified. The appropriate amount of refrigerant in the system plays a key role in the operation of this circuit as well. Safety switches, fuses and fuse-able links are often incorporated to prevent damage to the A/C compressor.

Voltage Checks

Specific troubleshooting guidelines must be referenced to determine the voltage ranges required for various A/C components. Based on the configuration, several components are incorporated including the A/C compressor, relays and solenoids for some applications. Climate control on newer automobiles can make the troubleshooting process extremely complicated in some cases. Voltage requirements will vary based on the specific year and model of the vehicle.

If this process identifies the absence of a power source or ground, continuity testing may be required to check the integrity of the wiring, connectors and other components. Continuity tests should always be performed with the power removed from the circuit and the normal readings for wiring and connections should be 0 ohms of resistance. Resistance or no continuity is an indication of faulty wiring that is open or shorted and must be repaired or replaced.

Severity Description

The severity of this code is moderate to severe based on the specific nature of the problem. Although it is a user convenience feature, A/C malfunctions may progress leading to extensive repair requirements when not corrected in a timely manner.

Reference Sources

[P06A0 Variable A/C Compressor Control Circuit](#), OBD-Codes.