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Will (Mark) Author:

Less Info

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Title: Air Conditioning APADS codes

Applies To: 5000 and 9000 models with APADS

CHANGE LOG

90

Please refer to the change log text box below for recent changes to this article:

07/14/2015 - Fixed link to Manual s16022y and updated Author for feedback purposes.

DESCRIPTION

Diagnostic codes for APADS air conditioning protection and diagnostic system.

BLINK CODE TROUBLESHOOTING

| CONDITION | DEFINITION | POSSIBLE CAUSE | ACTION |
|---|---|---|--|
| Slow flashing green light | Two seconds ON. 1/2 second OFF. | Unit is functioning properly. | No action needed. |
| Rapid flashing green light | Low system voltage, indicates low supply voltage condition. Voltage has dropped below 11.0 volts. | Possibly caused by a defective alternator, discharged batteries, poor ground, or an excessive electrical load. | Check voltage at the control harness by probing pins 4 (ground) and 2 (power). If voltage is less than 11.0 volts, start checking for voltage drop or a poor ground. |
| Ignition ON, LEDs not flashing on | Control module not receiving battery voltage. | Fuse or circuit breaker blown. | Replace fuse or reset circuit breaker. |

| CONDITION | DEFINITION | POSSIBLE CAUSE | ACTION | |
|---|---|--|---|--|
| control module or no lights on module. | | | | |
| Ignition ON, LEDs not flashing on control module or no lights on module. | Control module not receiving battery voltage. | Broken power or ground wire to control module. | Repair wiring. | |
| Ignition ON, LEDs not flashing on control module or no lights on module. | Control module not receiving battery voltage. | Defective control module. | Replace control module. | |
| Red light flashing one blink in sequence. | Low pressure fault. This is detected by monitoring the ambient temperature and switching activity of the low pressure switch. | Partial or total loss of refrigerant. | Install service gauges and check system for leaks. Verify low pressure is greater than 40 psi with compressor OFF. | |
| Red light flashing one blink in sequence. | Low pressure fault. This is detected by monitoring the ambient temperature and switching activity of the low pressure switch. | A defective low pressure switch. | Disconnect the low side pressure switch connector and measure the resistance value of the switch. If the resistance shows 2.49k ohms, switch is operating properly. If resistance shows less than 5 ohms, replace switch. Note: This check must be done with the switch installed on the vehicle, the ignition switch in the OFF position, and proper charge. | |
| Red light flashing two blinks in sequence. | High pressure fault. The system is exhibiting abnormal high pressure activity. | Overcharge of refrigerant in system. | Reclaim refrigerant and charge. | |
| Red light flashing two blinks in sequence. | High pressure fault. The system is exhibiting abnormal high pressure activity. | Fan drive failure. | Inspect proper operation of solenoid valve, relay, and related components. | |
| | | | | |

| CONDITION | DEFINITION | POSSIBLE CAUSE | ACTION | |
|--|---|---|---|--|
| Red light flashing two blinks in sequence. | High pressure fault. The system is exhibiting abnormal high pressure activity. | Blocked air flow through condenser. | Remove restriction from condenser. | |
| Red light flashing three blinks in sequence. | Open wire to A/C clutch. Detected by low current through the compressor clutch. If no current when the A/C drive is turned ON, an open connector to the clutch coil is indicated. | A break in the wiring between the control module and the A/C compressor clutch or a break in the clutch coil. | Using an ohm meter, check the resistance of the clutch coil. If the resistance is less than 2.8 ohms, replace the clutch. | |
| Red light flashing three blinks in sequence. | Shorted wire or A/C clutch. Detected by excessive current through the compressor clutch. | This is indicative of either a shorted clutch coil or shorted wiring to the clutch. | Locate and repair shorted or frayed wiring between the control module and A/C clutch. | |
| Red light flashing three blinks in sequence. | Fluctuating battery voltage. | Fluctuation greater than one volt, caused by a defective voltage regulator. | Replace alternator. | |
| Red light flashing four blinks in sequence. | Opening in wiring harness to high or low pressure switches. | Unseated connector. | Check connectors at the module and the pressure switch for loose pins. | |
| Red light flashing four blinks in sequence. | Opening in wiring harness to high or low pressure switches. | Break between wiring harness and pressure switch. | Using an ohm meter, probe the yellow and yellow/black pins of the module harness. Resistance should be less than 5 ohms. | |
| Red light flashing four blinks in sequence. | Opening in wiring harness to high or low pressure switches. | Moisture intrusion into the connectors or switch. | Check seals and inspect wires for continuity. | |
| Red light flashing four blinks in sequence. | Opening in wiring harness to high or low pressure switches. | The use of a non -Index pressure switch. | Install the correct pressure switch. | |
| A/C clutch not engaging during the first 15 seconds after | | Unit is functioning properly. Regardless of | | |

| CONDITION | DEFINITION | POSSIBLE CAUSE | ACTION |
|---|--|--|--|
| ignition is turned ON. | | A/C system state at start up, the A/C clutch is disengaged for the first 15 seconds. | |
| At ignition, turn ON, with A/C controls set to the ON position, compressor is OFF for 15 seconds, ON for 15 seconds, then remains OFF indefinitely. | No voltage going to A/C compressor clutch. | Defective A/C input signal. | Check for a break in the wiring between A/C clutch and the A/C controls. Check for a bad A/C ON/OFF control switch. Check for a bad A/C relay. |
| At start up, after 15 seconds, compressor clutch doesn't engage but engine fan engages. | Control module sensing an opening in the high pressure switch circuit. | High side pressure switch failure. | Using an ohm meter, check the resistance across the switch leads. If the resistance is less than 1k ohms, switch is functioning properly. If resistance is greater than 100k ohms, replace switch. |
| Slow flashing green light, compressor ON for a short period of time, OFF 15 seconds in a repetitive sequence. | Indicates that the system is exhibiting abnormal high or low pressure activity. | Blockage in the high side of the system or in the condenser. | Repair restriction. |
| Slow flashing green light, compressor ON for a short period of time, OFF 15 seconds in a repetitive sequence. | Indicates that the system is exhibiting abnormal high or low pressure activity. | Partial loss of refrigerant. | Check system for loss of refrigerant. |
| Slow flashing green light, compressor not engaging in defrost mode or in cold weather. | | Unit is more than likely functioning correctly. If the ambient temperature is too low, the compressor clutch is not allowed to engage, because of low system pressure. | |

| CONDITION | DEFINITION | POSSIBLE CAUSE | ACTION |
|--|------------|-----------------------------------|--|
| Slow flashing green light, clutch is engaged, A/C not cooling. | | Inoperative blower motor. | Check for proper operation of the blower motors. |
| Slow flashing green light, clutch is engaged, A/C not cooling. | | Loose or broken compressor belts. | Tighten or replace compressor belts. |

TO CLEAR FAULT CODES: clear the error code by cycling ignition switch four times (one second ON and one second OFF) and the green light will re-appear.

For further diagnostics refer to: Manual s16022Y

APADS Complete Diagnostic Manual

| ☆ Hide Details | Feedback Information | | |
|-------------------|----------------------|--|--|
| | Viewed: 8943 | | |
| | Helpful: 1228 | | |
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