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Coding Information

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Title: No-Idle HVAC Operational Check - STARTING POINT

Applies To: ProStar® and LoneStar®

CHANGE LOG

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

11/24/2015 - Added two pre diagnostic notes that need to be reviewed prior to beginning diagnostics.
 3/16/2015 - Updated Title
 3/6/2015 - Added SRT and Warranty Information
 11/07/2014 - Initial Article Release

DESCRIPTION

This document will guide the user through the operational check of the No-Idle HVAC.

SYMPTOM(s)

- Cools but operates incorrectly
- No-Idle A/C related fault codes
- No-Idle inoperative
- No-Idle digital display inoperative
- No-Idle blows warm air

Diagnostic Trouble Code(s) & Dashboard Indicator Light(s):

Not Applicable

DTC/Light	Description
Not Applicable	

Customer Observations or Concerns:

- Park brake switch defective or wrong logic
- Discharged batteries
- Loose connections
- Fault code
- Blown fuse
- Defective control panel switch
- Broken wire or defective wire harness
- Failed digital control panel
- Failed system controller
- Failed Linear Power Module (LPM)
- Failed blower motor
- Failed blend door actuator
- Blend door to housing obstruction
- Failed condenser fan
- Failed compressor
- Refrigerant leak

SPECIAL TOOL(s) / SOFTWARE

Not Applicable

Tool Description	Tool Number	Comments	Instructions
Not Applicable			

[Tools Resource Center](#)

SERVICE PARTS INFORMATION

Not Applicable

Kit Description	Part Number	Quantity Required	Notes
Not Applicable			

DIAGNOSTIC STEP(s)

WARNING:

To prevent property damage, personal injury, and / or death, park vehicle on a hard, flat surface, turn engine off, set parking brake, and install wheel chocks to prevent vehicle from moving in either direction.

WARNING:

To prevent personal injury and / or death, always wear safe eye protection when performing vehicle maintenance.

CAUTION:

To prevent damage to components, do not attempt to connect battery voltage to evaporator blower motor, condenser fan motor, or A/C compressor. Electronic components within the motors are sensitive to arcing and reverse polarity.

NOTE:

Perform all of the following steps Key-OFF and Park Brake set unless otherwise directed.

NOTE:

When disconnecting harness connectors, check for pushed-back and damaged terminals.

NOTE:

After any step where a problem is detected, repair as needed and retest for original concern.

NOTE:

If operator uses No-Idle A/C with ignition switch in ACCESSORY position, verify park brake input logic to system controller is correct.

NOTE:

Vehicles built with or updated to 150A compressor relays do not use fuse (F2); circuit protection is provided by cube fuse located in battery box.

NOTE:

When 12V No-Idle system controller senses battery voltage drop below 11.8V for 10 seconds, system will shut down.

NOTE:

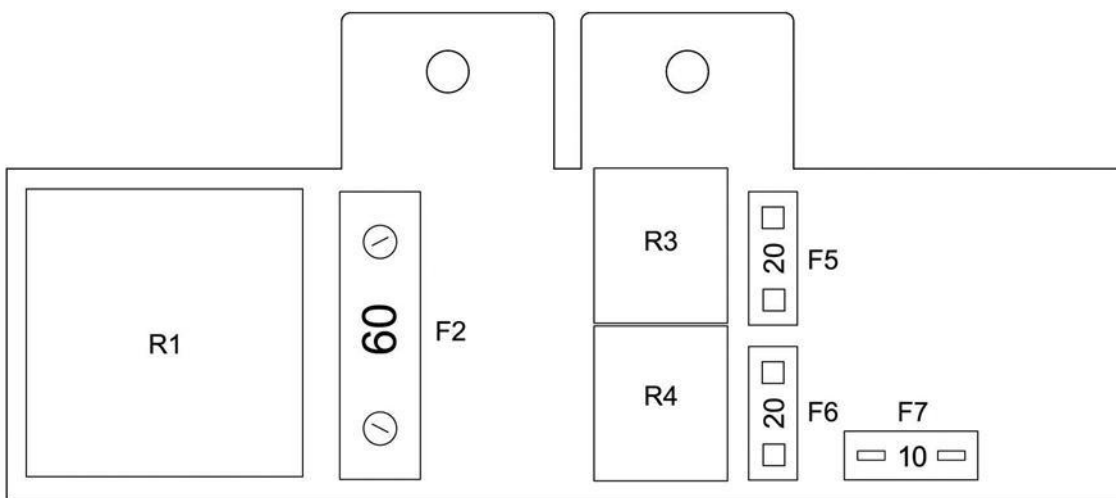
No-Idle A/C faults are transferred to Body Controller (BC) at Key-ON handshake between BC and No-Idle system controller. Inactive faults are not stored in the system controller. Only those faults that are active at handshake are transferred.

NOTE:

If batteries have recently replaced or serviced recently and the unit has not since been used. Reset the unit by disconnecting and reconnecting the main harness prior to beginning diagnostics 30 Pin No Idle HVAC Connector (see Figure 2: callout 7).

NOTE:

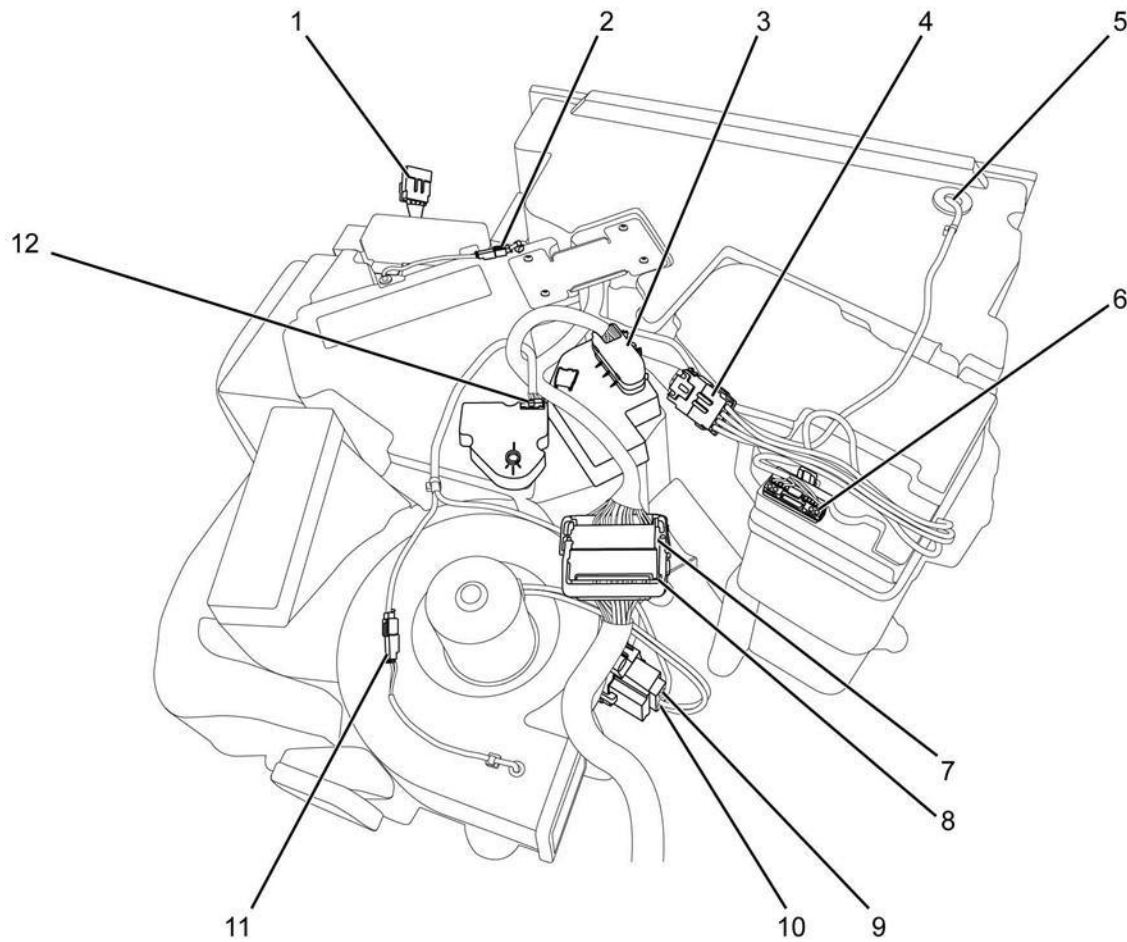
Prior to beginning diagnostics be sure to verify that Safety Recall 14516 : No Idle HVAC Module Harness Replacement.



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Figure 1. No-Idle Fuse Panel.

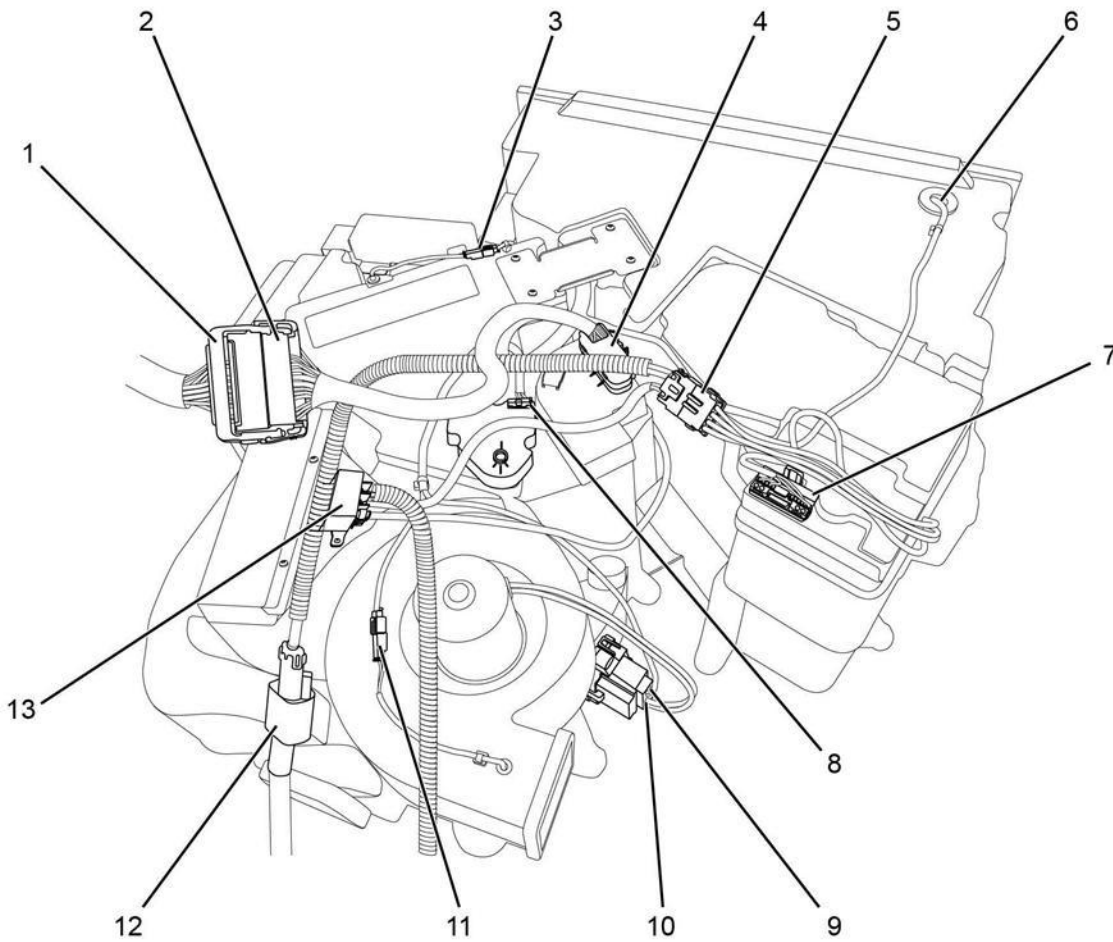
Step	Action	Decision
1	<p>BATTERY and FUSE INSPECTION:</p> <p>NOTE:</p> <p>MaxxPro No-Idle draws 40 - 75 amps from the combination of vehicle batteries and No-Idle Absorbed Glass Mat (AGM) batteries. Both sets of batteries must be fully charged and in good condition. If batteries are discharged, fully charge batteries and check charging system before diagnosing short run time.</p> <p>a. Check condition of vehicle batteries and No-Idle battery set. b. Check battery power (PWR) and ground (GND) connections. c. Check chassis cube fuses and chassis inline fuse in battery box. d. On No-Idle fuse panel (Figure 1), check compressor fuse (F2*), blower fuse (F5), condenser fuse (F6), and controller fuse (F7).</p> <p>Are all of the above items in good working order?</p> <p>* Vehicles built with, or updated to, 150A compressor relays do not use fuse (F2); circuit protection is provided by cube fuse located in battery box. The 150A relay is relocated to the heater core area of the No-Idle housing.</p>	<p>Yes. Go to Step 2.</p>
	<p>No. Repair as needed.</p>	



0000340001

Figure 2. 60A Relay Connector Locations.

- Item 1: No-Idle harness power / ground 4-way connector
- Item 2: Inlet temperature sensor 2-way connector
- Item 3: System controller 32-way connector
- Item 4: Compressor controller power / ground 4-way connector
- Item 5: No-Idle harness to condenser fan 3-way connector
- Item 6: Compressor controller 32-way connector
- Item 7: No-Idle 30-way connector
- Item 8: Chassis 30-way connector (5205)
- Item 9: Linear Power Module (LPM) 6-way connector
- Item 10: LPM 2-way connector
- Item 11: Discharge temperature sensor 2-way connector
- Item 12: Blend door actuator 6-way connector



0000340021

Figure 3. 150A Relay Connector Locations.

- Item 1: Chassis 30-way connector (5205)
- Item 2: No-Idle 30-way connector
- Item 3: Inlet temperature sensor 2-way connector
- Item 4: System controller 32-way connector
- Item 5: Compressor controller power / ground 4-way connector
- Item 6: No-Idle harness to condenser fan 3-way connector
- Item 7: Compressor controller 32-way connector
- Item 8: Blend door actuator 6-way connector
- Item 9: LPM 6-way connector
- Item 10: LPM 2-way connector
- Item 11: Discharge temperature sensor 2-way connector
- Item 12: Compressor controller 1-way ground connector
- Item 13: 150A relay

Step	Action	Decision
2	<p>CONNECTOR INSPECTION:</p> <p>a. Verify following connectors are tight and undamaged (Figures 2 and 3). Verify all terminals are fully seated and locked in their connectors. Verify following connectors lock together properly:</p> <ul style="list-style-type: none"> • 32-way system controller • 32-way compressor controller • 6-way LPM • 2-way blower motor • 6-way blend door actuator • 2-way discharge temp sensor • 2-way inlet temp sensor • 30-way chassis / No-Idle connector • 2-way 150A* compressor relay connector • 4-way compressor PWR / GND connectors <p>Are any of the connections loose or damaged?</p>	<p>Yes. Repair as needed.</p> <p>No. Go to Step 3.</p>

* Only vehicles built with, or updated to, 150A compressor relays have the 2-way compressor relay connector.

Step	Action	Decision
3	REPAIR ORDER CHECK: a. Review repair order. Does the operator concern match one of the following? • Excessive vibration • Noisy operation • Short run time • Excessively cycling on / off • Low air flow at discharge vent	Yes. Go to Symptom 1: No-Idle HVAC Cools but Operates Incorrectly.
		No. Go to Step 4.

Step	Action	Decision
4	FAULT CODE CHECK: a. Use Information Center or DLB to check for No-Idle A/C related Diagnostic Trouble Codes (DTCs). Are there No-Idle A/C related DTCs?	Yes. Go to Symptom 2: No-Idle A/C Related Fault Codes.
		No. Go to Step 5.

Step	Action	Decision
5	START-UP CHECK: a. Turn ignition Key-Off and depress rear HVAC control panel COOL switch to start No-Idle system. Does blower operate?	Yes. Leave No-Idle system running and go to Step 6.
		No. Blower does not run: Go to Symptom 3: No-Idle HVAC Inoperative.

Step	Action	Decision
6	CONTROL PANEL CHECK: a. Depress blower speed-up switch on digital display multiple times to raise blower speed to highest setting. b. Depress Temp-down switch on digital display multiple times to lower desired temperature to coldest setting. Does No-Idle A/C respond to blower speed switch inputs and digital display LCD screen change accordingly for both temperature and blower speed?	Yes. Leave No-Idle system running and go to Step 7.
		No. Blower operates but speed switch does not raise or lower blower speed, or LCD screen does not respond to speed and Temp switch changes: Go to Symptom 4: No-Idle HVAC Digital Display Inoperative.

Step	Action	Decision
7	AIR TEMPERATURE CHECK:	Yes. No-Idle A/C operates correctly; verify operator concern.
	a. Check air flow at discharge ducts after unit has run with highest blower speed and lowest desired Temp setting for several minutes. Is discharge air cold?	No. Air from discharge duct is warm: Go to Symptom 5: No-Idle HVAC No-Idle Blows Warm Air.

REPAIR STEP(S)

Not Applicable

REMOVAL PROCEDURE:

Not Applicable

INSTALLATION PROCEDURE:

Not Applicable

WARRANTY INFORMATION

Warranty Claim Coding:

Group:	19030 - Auxiliary No-Idle HVAC
Noun:	638 - Electric HVAC Module

- [Link to the Coding Manual: Click Here](#)

Standard Repair Time(s) - ProStar:

Step	Description	Chassis	Engine	SRT	Hours
1	Battery and Fuse Inspection	ProStar	N/A	R20-1006A	0.1 Hr
2	Connector Inspection	ProStar	N/A	R20-1006A-20	0.1 Hr
3	Repair Order Check	ProStar	N/A	N/A	No SRT
4	Fault Code Check	ProStar	N/A	R20-1006A-22	0.1 Hr
5	Start-Up Check	ProStar	N/A	R20-1006A-23	0.1 Hr
6	Control Panel Check	ProStar	N/A	R20-1006A-24	0.1 Hr
7	Air Temperature Check	ProStar	N/A	R20-1006A-25	0.1 Hr

Standard Repair Time(s) - LoneStar:

Step	Description	Chassis	Engine	SRT	Hours
1	Battery and Fuse Inspection	LoneStar	N/A	S20-1006A	0.1 Hr
2	Connector Inspection	LoneStar	N/A	S20-1006A-20	0.1 Hr

3	Repair Order Check	LoneStar	N/A	N/A	No SRT
4	Fault Code Check	LoneStar	N/A	S20-1006A-22	0.1 Hr
5	Start-Up Check	LoneStar	N/A	S20-1006A-23	0.1 Hr
6	Control Panel Check	LoneStar	N/A	S20-1006A-24	0.1 Hr
7	Air Temperature Check	LoneStar	N/A	S20-1006A-25	0.1 Hr

- Link to the Standard Repair Time Manual: [Click Here](#)

Claim SRT Example:
Not Applicable


Claim Comment Suggestion:
Not Applicable

Special Requirement(s):
Not Applicable

OTHER RESOURCES

Circuit Diagrams By Unit Build Date		
MaxxPower No-Idle System Circuit Diagram (PDF)	Units Prior to November 11, 2013	Click Here
MaxxPower No-Idle System Circuit Diagram (PDF)	Units from November 11, 2013 to June 23, 2014	Click Here
MaxxPower No-Idle System Circuit Diagram (PDF)	Units from June 24, 2014 through Current	Click Here

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