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Availability: ISIS, Bus ISIS, FleetISIS, Body Builder

Major System: COOLING

Current Language: English

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Coding Information

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Title: MaxxPower Condenser Fan Diagnostics

Applies To: ProStars and LoneStars with the MaxxPower No-idle System (16UZL) built between May of 2014 and June of 2015

CHANGE LOG

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

<p>9/14/15 - Initial Article Release</p> <p>9/15/15 - Formatting change; added build dates and feature code</p> <p>9/16/15 - Changed instructions to include using test lead kit, changed test voltage from 12 to 9.2V, and added link to IK1900235</p>

DESCRIPTION

Various conditions can cause a system to operate intermittently and have little or no cooling capability. When servicing a unit for operation or performance, it is necessary to make sure the condenser fan is operating properly. The condenser fan motor may exhibit "dead spots" prohibiting start-up when the HVAC unit is turned on. This motor is made-up of 24 cog positions 2.5 degrees (roughly 1½ inches) apart at the end of the condenser blade.

This document will guide the user through diagnosing condenser fan operation.

SYMPTOM(S)

Customer Observations or Concerns:

- MaxxPower no-idle system is not operating continuously or not cooling properly. There will be no DTCs when a fault is present.

SPECIAL TOOL(S) / SOFTWARE

Tool Description	Tool Number	Notes
Navistar Test Lead Kit	NAV-7706	

SERVICE PARTS INFORMATION

Kit Description	Part Number	Notes
FAN, CONDENSER	3685807C1	

DIAGNOSTIC STEP(S)

Step	Action	Decision
1	<p>DIAGNOSTIC:</p> <p>Start the MaxxPower no-idle system by adjusting to full cold and high blower speed. Visually check condenser fan to verify proper operation. If the condenser fan is not operating, verify for 9.2 volts across the red and black wires at the condenser fan plug.</p> <p>The connector must be plugged in and voltage should be checked by back probing the connector at the red and black wires using Navistar Test Lead Kit (NAV-7706) while the condenser fan is being engaged. When the system is set to full cold and maximum blower speed, it will take a minute or two for the condenser fan to be engaged.</p> <p>Does the condenser have 9.2 volts of power across the red and black wires but is not working properly?</p>	<p>Yes. Replace condenser fan.</p> <p>No. Proceed to step 2.</p>

Step	Action	Decision
2	<p>DIAGNOSTIC:</p> <p>Verify engine off, key off, parking brakes set, and MaxxPower no-idle system is turned off. Remove the condenser grill on the passenger side of the truck.</p> <p>1. Disconnect power to the condenser fan before advancing through the diagnostic procedure. Failure to follow this step may cause bodily injuries to yourself and/or others as well as damages to the HVAC unit. This warning is for your protection and information.</p> <p>2. Mark fan blade with silver permanent marker as shown in Figure 1. This will be the home location. Mark "A" as the first test location as shown in Figure 2.</p> <p>3. Rotate clockwise 1 cogging torque position and mark on the fan shroud second test location "B" as shown in Figure 3.</p> <p>4. Rotate clockwise 1 more cogging torque position and mark the third test location "C" as shown in Figure 4.</p> <p>5. Return fan blade to the home location ("A") and reconnect power to the condenser fan.</p> <p>6. Start the MaxxPower no-idle system by adjusting to full cold and high blower speed. Visually check condenser fan to verify rotation.</p> <p>7. If the condenser fan is not operating, verify for 9.2 volts across the red and black wires at the condenser fan plug in the same way as in step 1 (by back probing the connector).</p> <p>Does the condenser have 9.2 volts but is not working properly?</p>	<p>Yes. Replace condenser fan.</p> <p>No. Shut down the MaxxPower no-idle system and disconnect power to the condenser fan. Wait until the fan completely stops running. Proceed to step 3.</p>



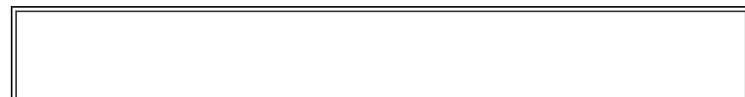
Figure 1: Location 1 (Home Location)



Figure #2: Mark "A" as the first location



Figure 3: Mark "B" as the second location



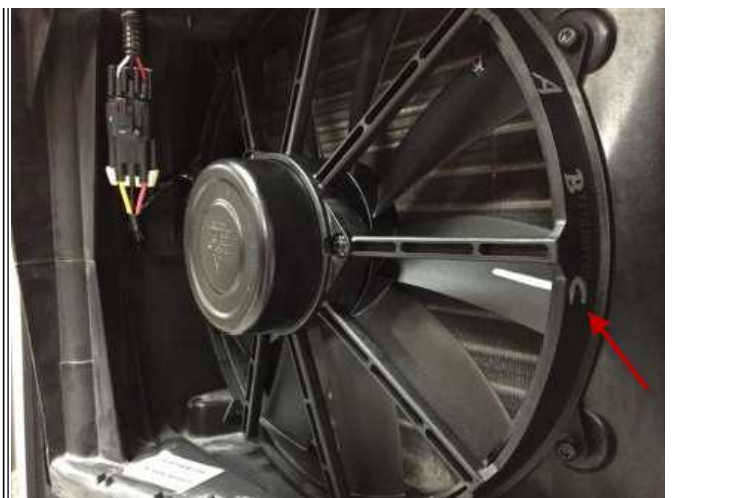


Figure 4: Mark "C" as the third location

Step	Action	Decision
3	DIAGNOSTIC: Repeat step 2 for test location B. Does the condenser have 12 volts and signal voltage but is not working properly?	Yes. Replace condenser fan.
		No. Proceed to step 4.

Step	Action	Decision
4	DIAGNOSTIC: Repeat step 2 for test location C. Does the condenser have 12 volts and signal voltage but is not working properly?	Yes. Replace condenser fan.
		No. The diagnostic procedure is complete. No further testing is required. Reconnect the condenser fan and reinstall the condenser grill. Perform normal troubleshooting for other potential causes.

REPAIR STEP(s)

1. Verify the MaxxPower no-idle system is turned off and the condenser fan power harness has been disconnected.
2. Remove all the condenser fan mounting hardware and remove the fan from the assembly.
3. Mount the new condenser fan assembly and install the fasteners at 20 in/lbs torque. Do not over tighten.
4. Reconnect the condenser fan and reinstall the OEM condenser grill.
5. Retest MaxxPower unit – Start the MaxxPower no-idle system by adjusting to full cold and high blower speed. Visually check condenser fan to verify rotation. If the condenser fan is not operating, verify for 12 volts across the red and black wires at the condenser fan plug. Also, verify signal voltage is present at the connector.

WARRANTY INFORMATION

Warranty Claim Coding:

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

Standard Repair Time(s):

Description	Chassis	Engine	SRT	Hours
Condenser Fan Diagnostics	All	All	A19-T1	0.3
Condenser Fan Remove and Replace	ProStar	All	R19-8638A-21	
	LoneStar	All	S19-8638A-21	

OTHER RESOURCES

[Master Service Information Site](#)

[IK1900235: No-Idle HVAC Operational Check - STARTING POINT](#)

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