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Title: Intake Air Heater Test, DTC 626-11, 626-18, 3061-31

Applies To: MaxxForce 11, 13, N13 SCR (2010-14)

CHANGE LOG

If this iKNow Article is being revised, please type in the text box what has changed in the article. The change log is meant for Dealers to be able to see what has updated/changed in the article.

Example: The Parts table was updated with Part #XXXXX - 01/30/2014
Added SRT T-times. Ron Lezotte 03/26/2014

DESCRIPTION

The Intake Air Heater Igniter current draw specification has changed with new calibrations.

NOTE: The Intake Air Heater System DOES NOT help start a cold engine. This system is used to help eliminate white smoke after starting a cold engine. (Below 50 degrees F)

SYMPTOM(s)

Malfunction Indicator Lamp (MIL) comes on after cold engine start up. Ambient Air Temperature, below 50 degree F.

SPN	FMI	Description
626	11	Inlet Air Heater fault: Lack of Heat in the Intake Manifold
626	18	Inlet Air Heater fault: Lack of Heat in the Intake Manifold
3061	31	Inlet Air Heater system warm-up fault during IAHER

SPECIAL TOOL(s) or SOFTWARE

Tool Description	Tool Number	Comments
ServiceMaxx software		Inlet Air Heater Test

Digital Multimeter (DMM)	ZTSE4357	Measure voltage to the Injecter
EXP-1000 HD by Midtronics	EXP-1000	Measure current to Igniter
Fuel Pressure Gauge	ZTSE4681	Measure fuel to the Igniter
Inlet Air Heater Solenoid Test Adapter kit	ZTSE6059	Measure fuel to the Igniter

INSPECTION STEP(s)

Inspect the engine block for coolant heater. A coolant heater could falsely set a 626-11, 626-18 or 3061-31

DIAGNOSTIC STEP(s)

Step 1: Check for other DTCs	
Check for any of the following fault codes: • FDP: SPN 94 FMI 0, 3, 4 • IMT: SPN 105 FMI 2, 3, 4, 18 • AAT: SPN 171 FMI 2, 3, 4 • IAHFS: SPN 626 FMI 3, 4, 5 • IAHFI: SPN 5548 FMI 3, 4, 5, 7 **Are any of the listed DTCs present?**	**Yes:** Repair any listed faults before diagnosing 626-11, 626-18, or 3061-31. **No:** Continue to Step 2.
Step 2: Check Calibration	
Check 6th digit of ECM Calibration ID. *Example: 2010 + EGR Engine, Should be OEBXA**S**AD or later.* *Example: 2013 + SCR Engine, Should be OKFAD**D**AD or later.* **Is Calibration up-to-date?**	**Yes:** Continue to Step 3. **No:** Update the Calibration, then Continue to Step 3
Step 3: Intake Air Heater Test (Figure 1 and 2)	
Pre-Setup: - Engine Temperature below 100 degrees F - Connect Current Clamp to Intake Air Heater Fuel Igniter. Using ServiceMaxx, Run Intake Air Heater Test. **Is or does IAHFI current drop below 15 amps during the test?**	**Yes:** Replace IAH Fuel Igniter **No:** Continue to Step 4.
Step 4: Check Fuel Delivery to IAH Fuel Solenoid (Figure 3)	
Pre-Setup: - Assemble Fuel Pressure Gauge to Intake Air Heater Fuel Solenoid Test Adapter Kit. - Connect tool setup between IAH Fuel Solenoid fuel supply and IAH fuel Solenoid. Start engine and monitor fuel pressure. **Is fuel pressure above 8 psi?**	**Yes:** Continue to Step 5 **No:** Replace damaged, leaking or restricted fuel line to IAH Fuel Solenoid.
Step 5: Check Fuel Delivery to IAH Fuel Igniter (Figure 4)	
Pre-Setup: - Restore fuel line connection to IAH Fuel Solenoid.	**Yes:** Replace IAH Fuel Igniter

- Connect the Fuel Gauge with IAH Fuel Solenoid test kit to the Igniter fuel supply line. - Leave line disconnected from Igniter and routed to fuel drain container. Using ServiceMaxx, Run Intake Air Heater Test. **Does fuel flow through line after the engine has started and solenoid is commanded on?**	**No:** Continue to Step 6
Step 6: Check Fuel Line Restriction	
Check fuel lines and connections going to IAHFI for damage, leaks or restrictions. Shop air can be used to check for restricted fuel lines. **Are fuel lines and connections in good condition and not damaged, leaking or restricted?**	**Yes:** Replace IAH Fuel Solenoid **No:** Replace damage, leaking or restricted line or connections.

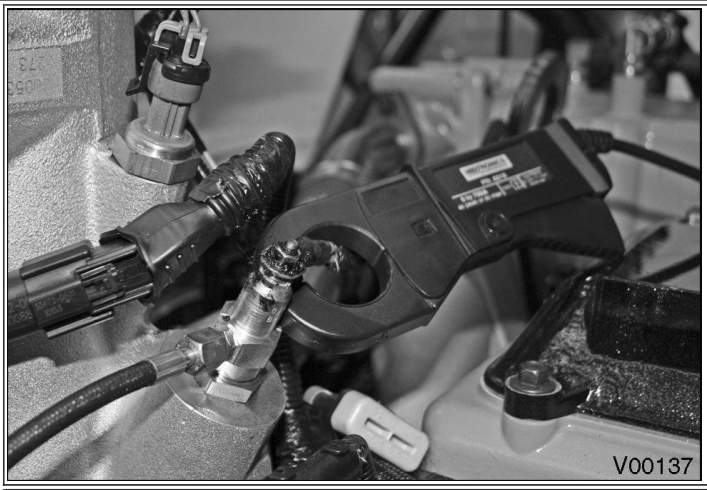

Figure 1: **Measure Current to IAH Igniter**

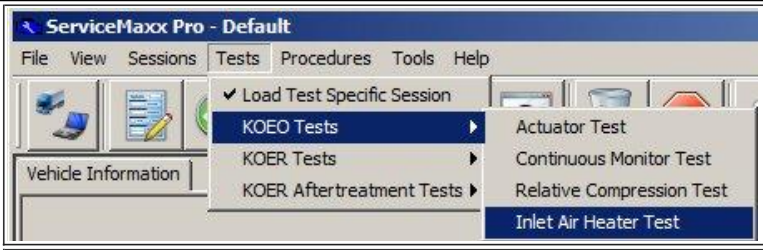

Figure 2: ServiceMaxx Iatake Air Heater Test

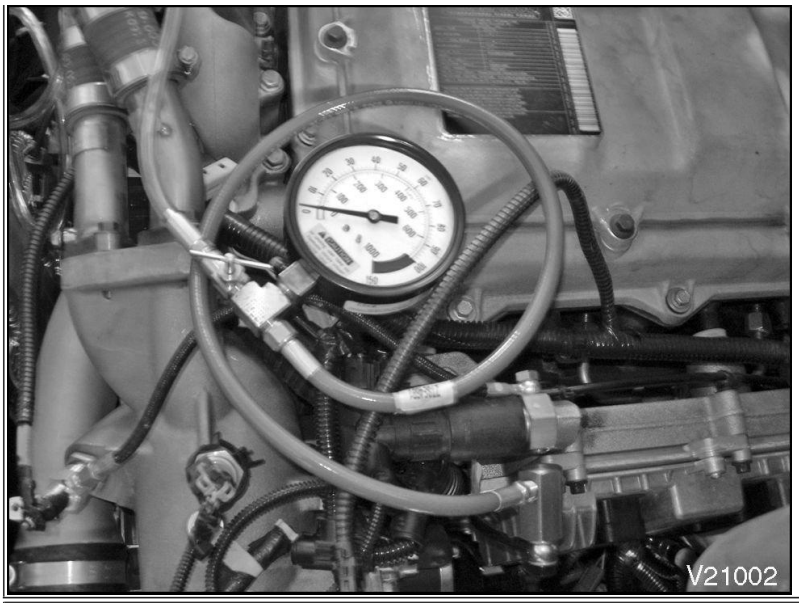

Figure 3: Measure Pressure to IAH Fuel Solenoid

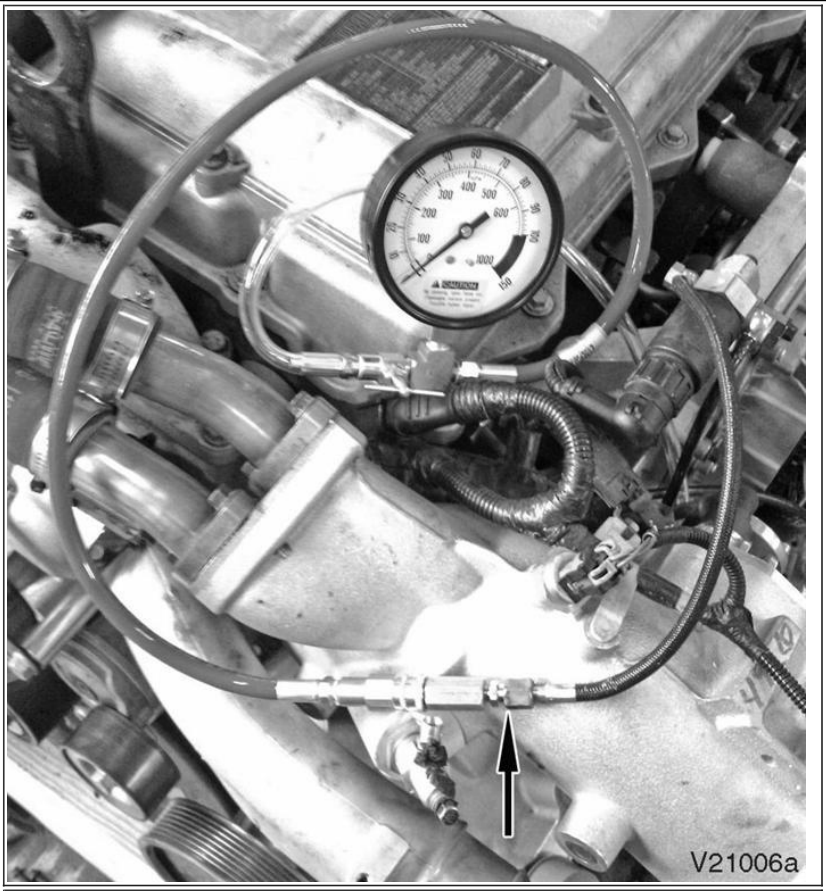

Figure 4: Check Fuel supply to Igniter

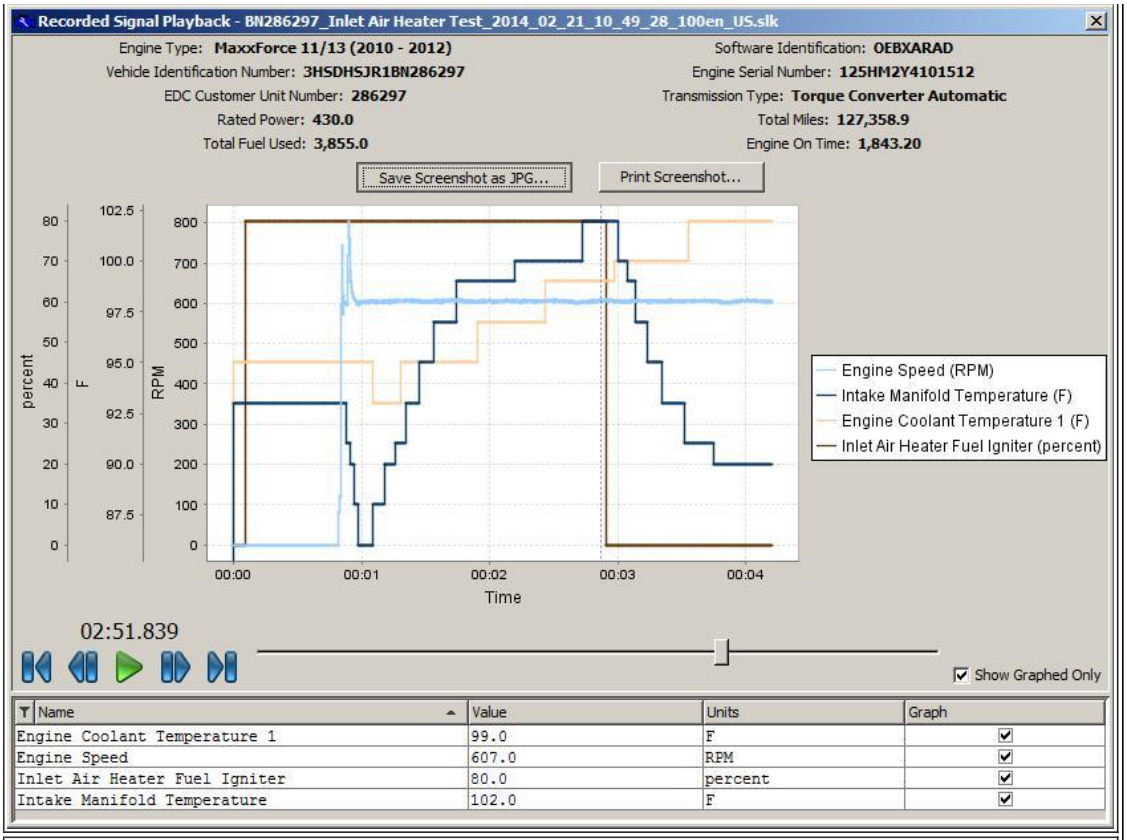

Figure 5: Intake Air Heater Test - Intake Manifold Temperature should raise at lest 5 degrees

Standard Repair Time(s):

Step	Description	Hours
Steps 1-3	T-Time	0.2 hr
Steps 1-4	T-Time	0.3 hr
Steps 1-5	T-Time	0.4 hr
Steps 1-6	T-Time	0.4 hr

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