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WARRANTY INFORMATION LETTER	
No.	WI19-022
Release	12/23/2019
Effective	12/23/2019
Subject	Detroit NOx Sensor Circuit Improvements for GHG17 After Treatment Systems

❖ Overview To increase repair efficiency and customer throughput, DTNA reviewed troubleshooting and repair procedures for Detroit NOx sensor circuit fault codes in GHG17 after treatment systems. As a result:

- Diagnostic routines and repair procedures were simplified
 - Diagnostics shortened to a single step
 - Multiple troubleshooting steps and repair validations eliminated
- Technical documentation and Standard Repair Time (SRT) updates were published
 - A new SRT created for replacing both sensors simultaneously

SRT and NOx sensor circuit fault code updates are in the tables below. Page 2 of this letter contains a NOx sensor circuit fault code sample with guidelines and screenshots so that after repairs are finished, claims can be created for maximum recovery.

SRT Updates

Code	Description	Summary	Current Hours	New Hours
246-6172E	ATS - OUTLET NOX SENSOR, ONE BOX, R&R	Removing and replacing the outlet NOx sensor. Includes removing and installing the after treatment control module (ACM) cover when needed, as well as removing the fairing or steps for access.	0.9 - 1.2 ¹	0.6
246-6177E	ATS - INLET NOX SENSOR, ONE BOX, R&R	Removing and replacing the inlet NOx sensor. Includes removing and installing the fairing or steps for access.	0.6 - 0.9 ¹	0.5
246-6189E	ATS - NOX SENSORS, BOTH, ONE BOX, R&R	Removing and replacing both the inlet and outlet NOx sensors simultaneously. Includes removing and installing the ACM cover when needed, as well as removing the fairing or steps for access.	N/A	0.7

¹ Varies by engine series and chassis service model.

Updated NOx Sensor Circuit Fault Code Troubleshooting

Inlet Sensor		Outlet Sensor	
SPN 3217/ FMI 3 - ACM	SPN 520364/ FMI 3 - ACM	SPN 3227/ FMI 3 - ACM	SPN 520366/ FMI 3 - ACM
SPN 3217/ FMI 5 - ACM	SPN 520364/ FMI 5 - ACM	SPN 3227/ FMI 5 - ACM	SPN 520366/ FMI 5 - ACM
SPN 520363/ FMI 3 - ACM ²	SPN 520367/ FMI 3 - ACM	SPN 520365/ FMI 3 - ACM ²	SPN 520368/ FMI 14 - ACM
SPN 520363/ FMI 5 - ACM ²	SPN 520367/ FMI 5 - ACM	SPN 520365/ FMI 5 - ACM ²	SPN 520368/ FMI 31 - ACM

² Fault code that may result in replacing both NOx sensors, dependent on mileage. If both sensors replaced, use SRT 246-6189E.

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SAMPLE: NOx Sensor Circuit Fault Code With Customer Complaint, Troubleshooting, and OWL Labor

Troubleshooting for circuit faults have been updated to improve repair efficiency and increase customer uptime. In this sample, a NOx sensor circuit fault code sets a malfunction indicator lamp (MIL).

- **Claim Narrative Contains Customer Complaint, Technician’s Diagnostic Steps, and Repair Validation:**

COMPLAINT: MIL ILLUMINATED.
CAUSE: FAILED INLET NOX SENSOR.
CORRECTION: RETRIEVED FAULT CODE SPN 520363 / FMI 5. REPLACED SENSOR AND CLEARED FAULT CODE.

- **Electronic Troubleshooting for the Fault Code Retrieved**

SPN 520363/FMI 5 - GHG17

Selective Catalyst Reduction Inlet NOx Sensor Heater Circuit Failed Open

SPN 520363/FMI 5

Description	This Code Sets When There is an Open on the SCR Inlet NOx Circuit Between the NOx Sensor and the NOx ECU
Monitored Parameter	SCR Inlet NOx Sensor
Typical Enabling Conditions	Dewpoint Enabled
Monitor Sequence	None
Execution Frequency	Continuous When Enabling Conditions Met
Typical Duration	Two Seconds
Dash Lamps	MIL
Engine Reaction	None
	Turn the ignition ON (key ON, engine OFF).
Verification	Use DiagnosticLink® to clear the fault code. The fault status should change to "Permanent."
	Release the vehicle.

Check as follows:

NOTE: If either the NOx inlet sensor and/or NOx outlet sensor have accumulated 250,000 miles since being installed, replace both the NOx inlet and NOx outlet sensors for this repair.

- Replace the SCR Inlet NOx sensor.
For 1-Box™, Refer to section "Removal of the Selective Catalytic Reduction Inlet NOx Sensor" .
For 2-Box, Refer to section "Removal of the Selective Catalytic Reduction Inlet NOx Sensor" .

Adding Labor

- **SDT Steps Match the Technician’s Diagnostic Path**

		Included or Not Required Procedures
SRT Number:	939-6225D	
SRT Description:	COMPUTER HOOKUP USED IN VEHICLE DIAGNOSTICS	
Comments:	INCLUDES TIME TO PERFORM INITIAL DIAGNOSTIC STEPS, INCLUDING: CONNECTING AND DISCONNECTING DIAGNOSTICLINK REVIEWING/CLEARING FAULT CODES VIEWING PARAMETERS UTILIZING INPUT AND OUTPUT (I/O) CONTROL MONITORING INSTRUMENTATION AT KEY ON ENGINE OFF (KOEO) THIS SDT MAY ONLY BE USED ONCE PER CLAIM, WHERE APPLICABLE.	

- **Labor on Claim Corresponds to Technician’s Narrative**

Labor Type	SRT	SRT Description	Add Ops	SRT Hours	Claimed	Hours Processed
STANDARD DIAGNOSTIC	939-6225D Includes	COMPUTER HOOKUP USED IN VEHICLE DIAGNOSTICS	N	0.2	0.2	0.2
STANDARD	246-6177E Includes	ATS - INLET NOX SENSOR, ONE BOX, R&R	N	0.5	0.5	0.5
ADMIN	939-6010A Includes	Admin SRT	N	0.3	0.3	0.3
Actual Tech Time: 1.0						

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