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**WARRANTY INFORMATION LETTER**

<b>No.</b>	<b>WI21-006</b>
<b>Release</b>	02/15/2021
<b>Effective</b>	02/15/2021
<b>Subject</b>	Detroit NOx Sensor Circuit Fault Codes - Claim Guidelines

❖ <b>Overview</b>	<p>In 2019, to increase repair efficiency and customer throughput, DTNA modified troubleshooting, repair procedures, and Standard Repair Times (SRTs) for Detroit NOx sensor circuit fault codes in GHG17 after treatment systems. However, recent claim data indicates that a high number of NOx sensor claims, especially those for circuit fault codes, get returned for corrections or modified for labor-related reasons.</p> <p>Please review the fault codes and claim guidelines in this letter to ensure any internal tools (e.g., templates, cheat sheets, guides, etc.) that a service location uses are up to date. In addition, page 2 contains a NOx sensor circuit fault code sample with notes and screenshots so that after repairs are finished, claims can be created for maximum recovery.</p>																					
❖ <b>Fault Codes</b>	<p>Guidelines in this letter apply to these after treatment control module (ACM) fault codes:</p> <table border="0"> <tr> <td>• SPN 3216/FMI 20</td> <td>• SPN 520355/FMI 20</td> <td>• SPN 520365/FMI 5</td> </tr> <tr> <td>• SPN 3216/FMI 21</td> <td>• SPN 520355/FMI 21</td> <td>• SPN 520366/FMI 3</td> </tr> <tr> <td>• SPN 3217/FMI 3</td> <td>• SPN 520363/FMI 3</td> <td>• SPN 520366/FMI 5</td> </tr> <tr> <td>• SPN 3217/FMI 5</td> <td>• SPN 520363/FMI 5</td> <td>• SPN 520367/FMI 3</td> </tr> <tr> <td>• SPN 3226/FMI 20</td> <td>• SPN 520364/FMI 3</td> <td>• SPN 520367/FMI 5</td> </tr> <tr> <td>• SPN 3226/FMI 21</td> <td>• SPN 520364/FMI 5</td> <td>• SPN 520368/FMI 14</td> </tr> <tr> <td>• SPN 3227/FMI 5</td> <td>• SPN 520365/FMI 3</td> <td>• SPN 520368/FMI 31</td> </tr> </table> <p>Technicians are responsible for following troubleshooting and workshop manuals. Verification of fault codes occurs by cycling the ignition and no extra verification time is necessary for these repairs. If other fault codes are present that require validation, the applicable SRT(s) will be accepted on associated claims. Time required for diagnostic issues outside DTNA's documentation should be submitted as <i>Diagnostic</i>, as applicable.</p>	• SPN 3216/FMI 20	• SPN 520355/FMI 20	• SPN 520365/FMI 5	• SPN 3216/FMI 21	• SPN 520355/FMI 21	• SPN 520366/FMI 3	• SPN 3217/FMI 3	• SPN 520363/FMI 3	• SPN 520366/FMI 5	• SPN 3217/FMI 5	• SPN 520363/FMI 5	• SPN 520367/FMI 3	• SPN 3226/FMI 20	• SPN 520364/FMI 3	• SPN 520367/FMI 5	• SPN 3226/FMI 21	• SPN 520364/FMI 5	• SPN 520368/FMI 14	• SPN 3227/FMI 5	• SPN 520365/FMI 3	• SPN 520368/FMI 31
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❖ <b>Labor on Claims</b>	<p>For the fault codes in this letter, labor on circuit claims should generally be:</p> <ul style="list-style-type: none"> <li>• Computer Hookup Used in Vehicle Diagnostics (939-6010A)</li> <li>• One (1) of these SRTs:             <ul style="list-style-type: none"> <li>○ ATS – Inlet NOx Sensor, One Box, R&amp;R (246-6177E)</li> <li>○ ATS – Outlet NOx Sensor, One Box, R&amp;R (246-6172E)</li> <li>○ ATS – NOx Sensors, Both, One Box, R&amp;R (246-6189E)</li> </ul> </li> <li>• Admin SRT (939-6010A)</li> </ul> <p>The Computer Hook-Up Standard Diagnostic Time (SDT) with the applicable NOx sensor R&amp;R SRT include all necessary diagnostic and repair tasks. Therefore, additional SDTs, such as those listed below, are not accepted on circuit fault code claims:</p> <ul style="list-style-type: none"> <li>• ATS – NOx Sensor Diagnostics – Moderate (246-062CE)</li> <li>• ATS – NOx Sensor Diagnostics – Difficult (246-062EE)</li> </ul>																					

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**DISCLAIMER:** The information contained in this letter supersedes and supplements any related policies and procedures in the Warranty Manual and/or previously released letters. Failure to read or distribute this letter will not exempt addressees from compliance with the information contained herein.

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

- **Scenario:** 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: CEL,MIL,SEL ON. UNIT IS DERATED. ACTIVE EGR AND AFTERTREATMENT FAULTS.  
 CAUSE: INLET NOX SENSOR SHORTED  
 CORRECTION: PULLED UNIT IN SHOP. CONNECTED LAPTOP TO UNIT. UNIT HAS ACTIVE 3216/20 . PERFORMED TROUBLESHOOTING ON FAULT CONFIRMED INLET NOX SENSOR FAILED. REMOVE AND REPLACED INLET NOX SENSOR. PERFORMED VERIFICATION. CODE INACTIVE JOB COMPLETE.

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

**238.8 SPN 3216/FMI 20 - GHG17**

NOx Raw Sensor Diagnosis Oxygen Pump Capacity High

**SPN 3216/FMI 20**

Description	This fault code sets when the Aftertreatment Control Module (ACM) detects that the oxygen level reported from the NOx sensor is out of a calibrated range.
Monitored Parameter	Inlet NOx Sensor Reading
Typical Enabling Conditions	Key ON, Engine OFF
Monitor Sequence	None
Execution Frequency	Always Enabled
Typical Duration	Five Seconds
Dash Lamps	MIL
Engine Reaction	None
Verification	Ignition Cycle (key ON, engine OFF)

Check as follows:

- Connect DiagnosticLink®.
- Turn the ignition ON (key ON, engine OFF).
- Check for other fault codes. Are there any NOx sensor circuit, or any battery voltage fault codes present?
  - Yes; diagnose the other fault codes first.
  - No; Go to step 4.
- Disconnect and inspect the inlet NOx sensor electrical connector. Refer to section "Electrical Connector Inspection". Are there any corroded or damaged pins?
  - Yes; Refer to section "Electrical Connector Repair" and repair as necessary.
  - No; replace the inlet NOx sensor. Refer to section "Removal of the Selective Catalytic Reduction Inlet NOx Sensor". Verify repair.

**Adding Labor**

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

	Included or Not Required Procedures
<b>SRT Number:</b>	<b>939-6225D</b>
<b>SRT Description:</b>	COMPUTER HOOKUP USED IN VEHICLE DIAGNOSTICS
<b>Comments:</b>	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 (KOE0) 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
<b>Actual Tech Time: 1.0</b>						

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