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**Major System:** ENGINES **Created:** 10/15/2014  
**Current Language:** English **Last Modified:** 5/20/2015  
**Other Languages:** NONE **Author:** Steven Bell  
**Viewed:** 349

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Coding Information

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**Title:** N13 SCR Aftertreatment Wiring Repair Plan

**Applies To:** N13 Engines

## Change Log

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

02/27/2015- Initial Article Release
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## Description

This document will guide the user through properly and quickly deciding the repair action required for the aftertreatment harness on SCR aftertreatment vehicles.

## Symptom(s)

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

SPN	FMI	Description
1761	1	DEFTLT Signal Out of range High
1761	19	DEFTL not detected on J1939
3031	2	DEFTT signal erratic, intermittent or incorrect
3031	9	DEFTT signal erratic, intermittent or incorrect
3216	19	NOx IN not detected on J1939
3218	2	NOx IN power supply signal erratic, intermittent or incorrect
3226	19	NOx OUT not detected on J1939
3228	2	NOx OUT power supply signal erratic, intermittent or incorrect
3242	2	DPFIT signal erratic, intermittent, or incorrect
3242	3	DPFIT Signal Out of Range HIGH
3242	4	DPFIT signal Out of Range LOW
3246	2	DPFOT signal erratic, intermittent, or incorrect
3246	3	DPFOT signal Out of Range HIGH
3246	4	DPFOT signal Out of Range LOW
3251	2	DPFDP signal erratic, intermittent, or incorrect
3251	4	DPFDP signal Out of Range LOW
3361	2	DEFSP signal erratic, intermittent or incorrect
3361	3	DEFSP signal Out of Range HIGH
3363	16	DEFTHC stuck on fault
3556	2	AFT Fuel Injector signal erratic, intermittent or incorrect
3556	5	AFT Fuel Injector open load/circuit
3610	2	DPFOP signal erratic, intermittent or incorrect
3610	3	DPFOP signal Out of Range HIGH
3610	4	DPFOP signal Out of Range LOW
3696	19	DPF Park Regen Switch status not detected on J1939
4334	2	DEFPLP signal erratic, intermittent or incorrect

4334	4	DEFLP signal Out of Range LOW
4337	2	DEF Supply Module Temperature erratic, intermittent or incorrect
4340	5	DEFL3HC open load/circuit
4342	5	DEFL2HC open load/circuit
4344	5	DEFL1HC open load/circuit
4360	2	SCRIT signal erratic, intermittent or incorrect
4360	3	SCRIT signal Out of Range HIGH
4360	4	SCRIT signal Out of Range LOW
4363	19	SCROT signal not detected on J1939
4363	3	SCROT signal Out of Range HIGH
4377	19	NH3 signal not detected on J1939
4380	2	Outlet NH3 signal Out of Range LOW
4380	2	NH3 signal erratic, intermittent, or incorrect
4765	2	DOCIT signal erratic, intermittent, or incorrect
4765	3	DOCIT signal Out of Range HIGH
4765	4	DOCIT signal Out of Range LOW
5394	5	DEFDC open load/circuit
5742	11	DPF Thermocouple Controller signal erratic, intermittent or incorrect
5742	19	DPF Thermocouple Controller signal not detect on J1939
5743	11	SCR Thermocouple Controller signal erratic, intermittent, or incorrect
5743	19	SCR Thermocouple Controller signal not detect on J1939
5743	4	SCR Thermocouple Controller Out of Range LOW
5798	2	DEF Dosing Unit Heater Temperature erratic, intermittent, or incorrect
609	19	ACM not detected on J1939

**Customer Observations or Concerns:**

- MIL
- AWL
- Frequent or improper regens

**SPECIAL TOOL(s) / SOFTWARE**

Tool Description	Tool Number	Comments
DVOM		
DEF Suction Line Heater Breakout Harness	18-045-01	
DEF Return Line Heater Breakout Harness	18-046-01	
DEF Pressure Line Heater Breakout Harness	18-047-01	
20 Way DEF Harness Interconnect Breakout Harness	18-050-01	
DEF Tank Level and Temperature Sensor Breakout Harness	18-124-01	
12 Way SCR Jumper Breakout Harness	18-250-01	
12 Way AFT Interconnect Breakout Harness	18-500-01	
NOx In Sensor Module and SCR Temperature Sensor Module Breakout Harness	18-648-01	
NOx Out and DOC/DPF Temperature Sensor Module Breakout Harness	18-649-01	
Ammonia (NH3) Sensor Breakout Harness	18-650-01	
Ammonia (NH3) Sensor Module Breakout Harness	18-801-01	
DEF Supply Module 12 Way Breakout Harness	18-909-01	
SCR ACM Breakout Harness	18-537-01	

**Service Parts Information**

Parts are color coded to show relation to the wiring schematic below:

Truck Model	Harness Type	Kit Description	Part Number
ProStar 122/113/TranStar ICT + 60 Way	Aftertreatment	Aftertreatment Harness	3991597C93
ProStar ICT+ 18-Way	Aftertreatment	Aftertreatment Harness	3991597C93
WorkStar ICT + 18 Way	Aftertreatment		4021579C91

		AT Harness with Horizontal_Vertical Exhaust	
WorkStar ICT + 18 Way	Aftertreatment	AT Harness with Horizontal_Horizontal Exhaust	4025546C91
WorkStar ICT + 18 Way	Aftertreatment	AT Harness with Vertical_Vertical Exhaust	4026930C91
PayStar ICT+ ICT 18-Way	Aftertreatment	Aftertreatment Harness	4021169C91
WorkStar ICT + 18 Way	DEF Harness	DEF- Under Cab Harness	4021604C92
WorkStar ICT + 18 Way	DEF Harness	DEF- Back Of Cab Harness	4021615C92
WorkStar ICT + 18 Way	DEF Harness	DEF- Under Cab Vertical_Vertical Harness	4028876C92
ProStar 122/113/TranStar ICT + 60 Way	DEF Harness	DEF 16 and 23 Gal Harness	3998517C92
PayStar ICT+ ICT 18-Way	DEF Harness	DEF- Under Cab Harness	4021168C94
PayStar ICT+ ICT 18-Way	DEF Harness	DEF- Back Of Cab Harness	4024489C93
PayStar ICT+ ICT 18-Way	DEF Harness	DEF- Under Cab Vertical_Vertical Harness	4028040C93
ProStar/TranStar	Chassis Harness	Chassis Harness Overlay	3999180F94
All Models	DOC/DPF Jumper	Cummins Part	5293749
All Models	SCR Jumper	Cummins Part	5301985

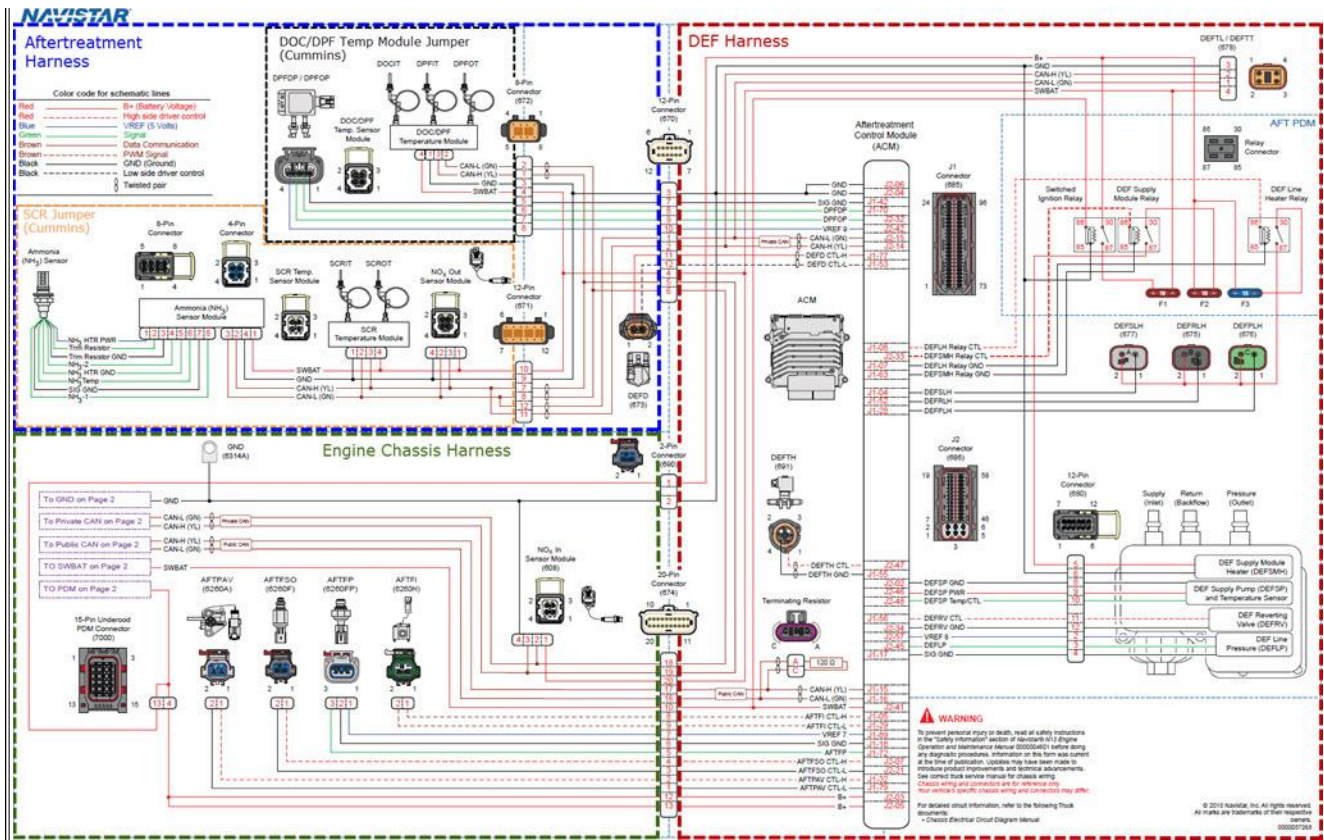
**Diagnostic Step(s)**

The following diagnostic steps should be followed for intermittent or return problems with SCR / Aftertreatment faults and with components that pass all tests per the manuals and Fault Code Action Plan.

Step	Action	Decision
#1	<b>DIAGNOSTIC: Verify there is an active/inactive code with ServiceMaxx.</b>	<b>Yes:</b> Continue to Step 2
	<b>Are there codes present?</b>	<b>No:</b> Release the Unit

Step	Action	Decision
#2	<b>DIAGNOSTIC: Check the affected component depending on what codes you have present. Use the correct Fault Code Action Plan to diagnose the code.</b>	<b>Yes:</b> Continue to Step 3
	<b>Does the code still exist after following the Fault Code Action Plan?</b>	<b>No:</b> Release the Unit

Step	Action	Decision
#3	<b>DIAGNOSTIC: Perform a basic harness check. Look for pinches, crimps, rubs in the harness that could affect the wiring.</b>	<b>Yes:</b> Repair the harness as needed.
	<b>Were any issues found in the harness?</b>	<b>No:</b> Replace the affected harness that relates to the codes present on ServiceMaxx. Use the Harness Identifier below to make sure you are ordering the correct harness.



**Figure #1: Harness Identifier**

- Item 1: Blue Section- Aftertreatment Harness
- Item 2: Green Section- Chassis Harness (Overlay available, complete harness is built to VIN and takes 4-6 weeks to get.)
- Item 3: Red Section- DEF Harness

## Repair Step(s)

Replace the affected harness per the service manual

## Warranty Information

Warranty Claim Coding:

<b>Group:</b>	18100
<b>Noun:</b>	906

Standard Repair Time(s):

**Claim under standard T-time using the appropriate SRT's below to account for time on this portion of the repair. All punch times must be submitted with the claim.**

Description	SRT Link	Hours	Requirement
Wiring Repair, Perform	<a href="#">A08-2001A</a>	0.2	Requires Documented Punch Times
Wiring Repair, Perform	<a href="#">A08-2002A</a>	0.4	Requires Documented Punch Times
Wiring Repair, Perform	<a href="#">A08-2003A</a>	0.6	Requires Documented Punch Times
Wiring Repair, Perform	<a href="#">A08-2004A</a>	0.8	Requires Documented Punch Times
Wiring Repair, Perform	<a href="#">A08-2005A</a>	1.0	Requires Documented Punch Times

Special Requirement(s): Not Applicable

## Other Resources

[Master Service Information Site](#)

[Harness Identifier Schematic](#)

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