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Author: Charles Schroeder

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Coding Information

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Title: Using Vehicle Health Report Faults

Applies To: Service Managers, Service Writers, Service Technicians, Warranty Administrators

Change Log

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

11/20/2017: Updated diagnostic software to Navistar Engine Diagnostics™.
 03/17/2016: Revised step 3 to show fault priority is established using the Fault Ranker.
 03/15/2016: Corrected Pending vs. Healing faults to be diagnosed in specific order.
 09/11/2015: If fault code status is not displayed properly in the Health Report, use Navistar Engine Diagnostics™ to obtain fault code status.
 07/24/2015: Updated information for ECM Calibration information, based on dealer feedback. See item 5 under description, Figure 7 and Figure 8.
 06/24/2015: Added "Synthetic Fault" information to Navigating to the Correct Repair.

Description

Follow the guidelines below to utilize the Health Report system most effectively. This will also allow technicians to diagnose the codes properly by priority.

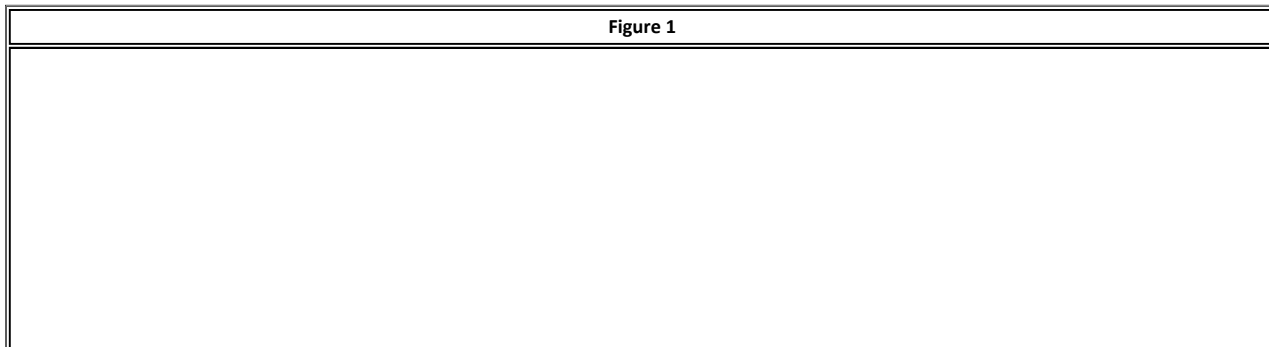
1. Use Dealer generated Health Report
2. If customer complaint/concern is not identified in Dealer Health Report, review Telematics Health Reports to verify presence of any related fault code.
3. Take appropriate action on faults that are present. Faults should be diagnosed by priority using the Fault Ranker.
4. Use the Fault Code Reference & Action Plan by clicking the fault in the Health Report.
 - 1) This will direct you to the appropriate document for troubleshooting:
 - a) Repair Plan
 - b) iKNOW Article
 - c) Diagnostic Manual
5. Module Calibration Information.

Reviewing the Health Report information can be very useful for several reasons:

- Review the history of the vehicle faults to help determine if this has been an ongoing issue
- Review the previous scan history
 - 1) Determine if the unit has been into other dealerships with the same fault
 - 2) Determine the frequency of the fault occurring on the road (if equipped with OnCommand Connection)
- Review the previous 5 case files regardless of which dealership opened the case file

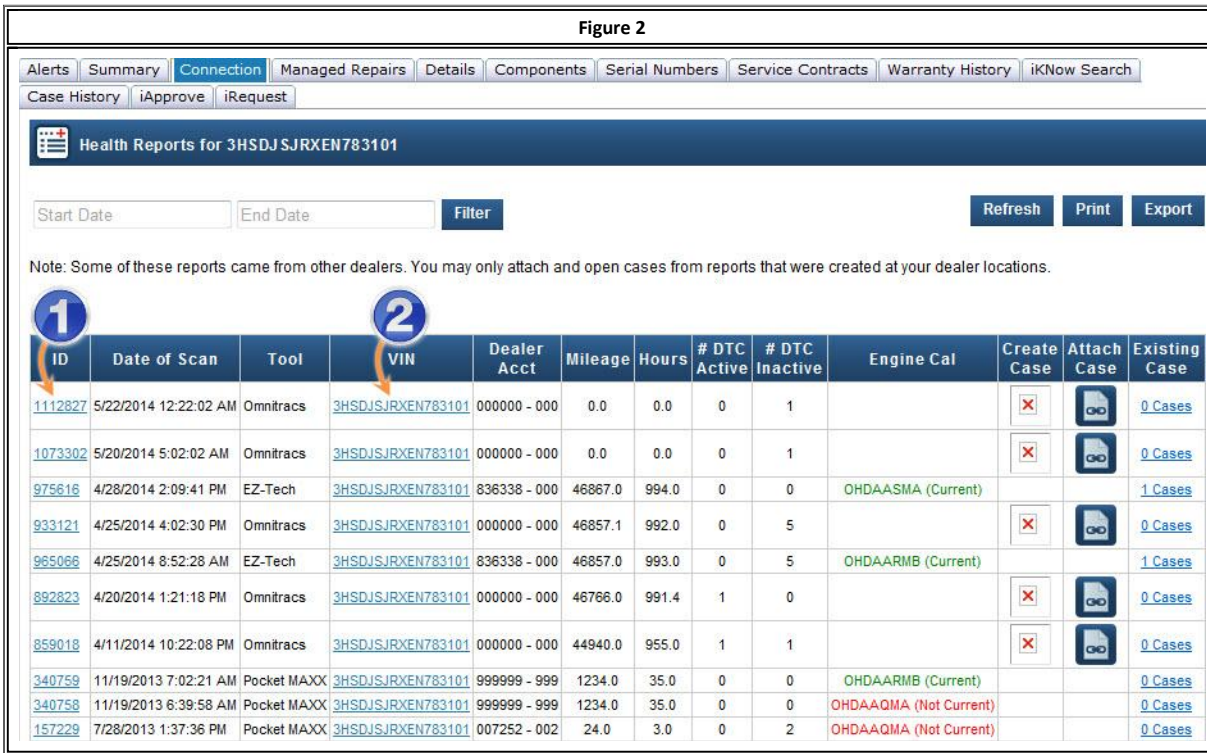
Service Portal Resources

- Use the [Vehicle Information Page](#) to view Health Report history
- Enter the Chassis or VIN number.
- Navigate to the Health Report / Connection Tab (Figure 1)





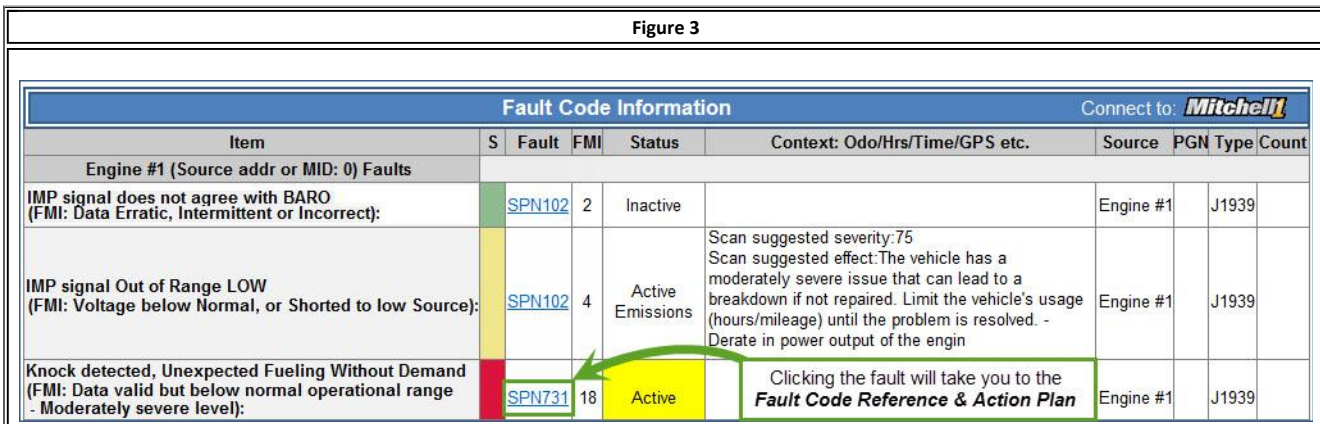
- Once you have selected this tab, you can view the Health Reports that are available (Figure 2)
- Clicking the "ID" (Figure 2, Item 1) will give you an individual health report (Refer to Additional Resources for more detailed information)
- Clicking the "VIN"(Figure 2, Item 2) will give you a time-aggregated report which can help to show the history of the faults occurring (Refer to Additional Resources for more detailed information)



Navigating to the Correct Repair

Single Fault with Hyperlink

- The screen shot (Figure 3) shows the fault code portion of an individual health report
- The most current troubleshooting information can be accessed by following the link for the fault code as shown



Synthetic Faults

- The screen shot (Figure 4) shows Synthetic Faults
- These faults are generated by the OnCommand Connection system and are used for the following:
 - a. Fault Code Combinations (e.g. EGR Valve with EGR Flow codes)
 - b. Groups of faults with the same diagnostics (i.e. J1939 communication faults on a ProStar) are now under one FCAP
 - c. Campaigns
 - d. Unique Data Characteristics (i.e. service tools with old firmware are required to be updated)
 - e. Troubleshooting for complaint or condition that does not set a fault code
- The Synthetic Fault will grey out the related faults reported from the specific module(s) from the truck
 - There will be no hyperlink on fault codes that are part of a Synthetic Fault
- The Fault Code Action & Reference Plan should be followed for any Synthetic Faults that are present in a Health Report

Figure 4

#	Item	S	Fault-FMI	Status	Context: Odo/Hrs/Time/GPS etc.	Source	PGN	Type	Count
Engine #1 (Virtual Controller: 5000) Faults									
1	If the vehicle has a No Start Condition then follow this OCC FCAP for ISB Starter Diagnostics (Synthetic FMI: 0)	<input type="checkbox"/>	OCC FCAP	Synthetic	Fault: 5000-SYN747-0 Detected: 2015-06-24 08:39	Engine #1 (5000)		SYNTH	
Communication Bus (Virtual Controller: 70001) Faults									
2	J1939 Fault Code Combination Occurred (Synthetic FMI: 0)		OCC FCAP	Synthetic	Fault: 70001-GEN100-0 Detected: 2015-06-24 08:39	Communication Bus (70001)		SYNTH	

- The Health Report will take you to the Fault Code Reference & Action Plan (Figure 5)

Figure 5

OnCommand Connection **FAULT CODE REFERENCE & ACTION PLAN**

Fault Code Summary:

Basic Fault Description	Fuel knock detected			
Formal Fault Description	Engine knock detected: Cylinder Acceleration Above Normal			1
Fault Severity	Service immediately			
SPN - FMI	731-18	DTC	OBD-HD Fault	2013-OBD 2
Electronic Control Module	Engine ECM			
Possible Symptoms	Check engine light on, low power and misfiring.			
Driver Diagnostic Questions	Has there been any change in the performance of the engine (low power, stumbling, misfire,etc)? Is the oil level correct? Has the engine RPM increased on its own?			3
Recommended Driver Actions	Stop Engine, do not attempt to restart unless absolutely necessary. Tow to nearest dealer. 4			
O.E.M.	Navistar			
EPA Emissions Level covered	2010 2013-OBD	O.E.M. Engine Model	MX13B 5	
O.E.M. Engine Technical Service Information				
Technical Service Bulletin, Fault Notes, Special Instructions	**Special diagnostics are required. Please follow Iknow article IK1201012 MaxxForce 13 DTC 731-16/18 Knock Detected (Click here)			
Disclaimer				
**The provided information is based on SAE standards. Always refer to the vehicles O.E.M policies and procedures for diagnostic and repair information. A subscription to Navistar Service Portal is required to view O.E.M. fault code policies and procedures for troubleshooting fault codes. To subscribe, click here .				


For suggestions, updates or corrections, please send feedback to: CSOsupport@navistar.com
*Please reference Document Number: MX13B-SPN731-18

1. Fault description and severity
2. Fault code (SPN - FMI) / Module that set the fault
3. Possible symptoms / Driver diagnostic questions
 - Driver should be questioned to see if any of the possible symptoms exist
 - This may help determine which fault code should be diagnosed when multiple faults are present
4. Recommended driver actions
 - Stop Engine (Tow unit to repair facility)
 - Take vehicle for service immediately
 - Take vehicle for service soon
 - Take vehicle for service at your convenience
5. OEM Engine Technical Service Information
 - This will direct you to the appropriate troubleshooting
 - iKnow article, Diagnostic or Repair manual, Circuit diagrams

- Following the **OEM Engine Technical Service Information** will take you to the appropriate document (Figure 6)



Figure 6



Countries: CANADA, COLOMBIA, UNITED STATES, PUERTO RICO Document ID: IK1201012

Availability: ISIS Revision: 3

Major System: ENGINES Created: 11/11/2013

Current Language: English Last Modified: 4/3/2014

Other Languages: NONE

Viewed: 5441

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Title: 731-16/18 Knock Detected

Applies To: Big Bore Engines with the latest 3.15 Software Level (Calibration ID xxxxARxx or higher)

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.

4/2/14 Split FMI's into known failure modes, added in tooling reference, added reference for Misfire diagnostics. Updated information for new calibration release

SPN	FMI	Description
731	18	Knock detected: Unexpected Fueling Without Demand
731	16	Knock detected: Cylinder Acceleration Above Normal

What the Driver will see when fault code sets:

- Stop Engine Lamp illuminated
- Audible alarm sounding due to Stop Engine Lamp
- Engine Shut Down without turning the ignition key off
- The ability to restart the engine may be lost. NOTE Do not restart the engine until the diagnostics for Step 1 have been completed

NOTE: This procedure needs to be followed anytime the 731 faults are logged. If cleared without a key cycle it will clear the fault display but the monitor in the ECM can still be active allowing for faults reappearance of the fault, stop engine lamp, and shut down.

*******Clearing 731 Fault Codes*******

- Hook up to the truck using an Engine Service Tool (EST) through the 9 Pin diagnostic port
- Turn Key switch to the on position
- Connect EST to the engine
- Clear fault codes
- Turn Key Switch off shutting of power to the ECM
- Wait 30 sec. allowing the ECM to reach housekeeping (no engine communication on j1939)

Calibration Information

Dealer health reports will display calibration information for various modules.

- Data is listed from each module reporting

You must look in the Calibration Data section of the health report to ensure the information is accurate. The ECU field at the top of the health report shows the Software for Cummins, not the Calibration.

Figure 7

Health Report (GN068095)			
NAVISTAR		3HSDJAPRXGN068095	
Vehicle		Scanner/Vehicle	
Item	Value	Item	Value
Dealer Scans:	Pull all dealer scans for this VIN	Report Print Date:	2015-07-24 07:49:02
Telematic Scans:	Pull all telemetry scans for this VIN	Date of Scan:	2015-07-24 08:58:37
Make / Mfg:		Scanner:	Pkt-MAXX (1)
Model / Model Year:		Dealer Account:	685982-004
Customer(s):	(CS) 215 - 415 Star Build (CS) (Navistar Engineering) (unit: GN068095); 3 MIS Star Series (CS) (Navistar Engineering) (unit: GN068095)	Dealer Name:	CAROLINA INTERNATIONAL TRUCKS INC. (FLORENCE - SC)
Unit:	GN068095	Scanner Tool ID:	426 (v1.5.8)
Odometry:	33,062 M (53,208 K)	Scan ID:	5285277
Cummins Engine ECU is not Calibration ID	4,152 G (15,717 L)	Active Faults:	Overall: 0 Engine: 0
	7.96 M/G (3.39 K/L)	Inactive Faults:	Overall: 12 Engine: 3
Engine Hours:	694	Has Emission Data:	No
Engine SN:	79811891	Cases:	None (or check iKNow)
Engine:	CUMMINS ISX 15 450 ST2, 450 HP/1800 GOV CM15X	Estimates:	None (or check Repair Management)
Warranty start date:	2015-04-13	Build date:	2015-02-18
ECU:	05317106	Ship date:	2015-02-23
Cal ref date:	9999-12-31	DTU date:	2015-04-13 (actual) 2015-04-13 (recv)
		Weather:	

Figure 8

Calibration Data			
Item	Value	Units	Scanner Mfg Code
Engine #1 (Source addr or MID: 0) Data			
Correct ECM Calibration	Calibration ID: EF10112.04		22
	Calibration Verification Number: 6D3F56A4		21
	ECM #2 Software ID: NOx-SAE14a AT11		24
	ECM #3 Software ID: NOx-SAE14a ATO1		25
	ECM #4 Software ID: 0229050142		
	Software Identification: 05317106		
Transmission #1 (Source addr or MID: 3) Data			
	Software Identification: 5569937		20
Brakes - System Controller (Source addr or MID: 11) Data			
	Software Identification: AAAI000031		20
Instrument Cluster #1 (Source addr or MID: 23) Data			
	Module Description: Navistar Body & Chassis - Instrument Cluster		1
	Software Identification: .1		20
Body (Source addr or MID: 33) Data			
	Module Description: Navistar Body & Chassis - Body Controller		1
	Software Identification: 196 ;,1;241;		
Transmission (Source addr or MID: 130) Data			
Transmission reported on the J1939 and J108	Module Description: FAOM-xx810		1
	Software Identification: 5569937		20
	Source Address: 130		109

Additional Resources

Viewing a Single Health Report	Click Here
Viewing a Time Aggregated Health Report	Click Here

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