



Countries: CANADA, TAIWAN, UNITED STATES, GUAM, KOREA, SOUTH KOREA
Availability: ISIS, Bus ISIS, Fleet!ISIS, Body Builder
Major System: ENGINES
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Coding Information

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Title: Diagnostics for SPN 3251 FMI 21 DPFDP excessively LOW (Sensor/circuit fault or missing DPF)

Applies To: 2013 HD-OBD V-8 Engine

CHANGE LOG

03/30/2015 - Fixed link to IK1201085
 03/18/2015 - Updated Step 7 with the link to the V-8 DPF & DOC Catastrophic Failure Performance Assessment
 02/23/2015 - Revised formatting
 01/20/2015 - Fixed link to IK1201142
 12/22/2014 - Author updated for feedback purposes.
 12/17/2014 - Calibration level clarified, pressure test changed to follow IK1201142.
 10/30/2014 - Added instruction to cap off BCS inlet & Breather inlet ports on the ITV.
 10/21/2014 - Snap Throttle note added.

DESCRIPTION

This document will guide the user through necessary steps to properly diagnose active SPN 3251 FMI 21.

SYMPTOMS

Diagnostic Trouble Codes:

DTC/Light	Description	Status
SPN 3251 FMI 21	DPFDP excessively low	ANY

Customer Observations or Concerns:

- Check engine light - SPN 3251 FMI 21
- Black Smoke
- Exhaust Fumes in Cab

SPECIAL TOOLS / SOFTWARE

Tool Description	Tool Number	Comments	Instructions
ServiceMaxx			
Navistar® LeakLocator	19-700-01		

SERVICE PARTS INFORMATION

Kit Description	Part Number	Qty	Notes
GASKET TAPE EXHAUST 3/4"X36YDS	2604051C91	1	Heat resistant exhaust flange tape
GASKET,EXH PIPE FLANGE	1891515C1	1 - 2	Turbo outlet and down pipe extension gaskets

GASKET V-BAND TURBO	1883660C1	1 - 2	Exhaust Up-Pipe to X-Pipe O-Gaskets
GASKET, EXHAUST SINGLE LAYER	1875808C1	1 - 2	Exhaust Manifold to Up-Pipe Gaskets
GASKET TURBO INLET	1878460C1	2	Turbo/EGR Cooler Inlet Gaskets
GASKET DUAL PORT	1877824C1	1	Center Exhaust Manifold Gasket (1 of 3)
GASKET SINGLE PORT	1877823C1	2	Outside Exhaust Manifold Gasket (2&3 of 3)
DPF ASSEMBLY	2510963C1	1	Terrastar DPF Assembly (Verify Specific Application Before Ordering)
DPF KIT REPLACEMENT 11.25X12	1892211C91	1	DPF Replacement Kit (4300) (Verify Specific Application Before Ordering)
GASKET, FLANGE OFFSET 3 HOLE	2593986C1	1	DPF Outlet Gasket (4300)
GASKET, FLANGE 3 BOLT	2593998C1	1	DPF Inlet Gasket (4300)

DIAGNOSTIC STEPS

Step	Action	Decision
1	Vehicle Health Report Generate Vehicle Health Report and Upload to Navistar's System	STEP 2
2	Perform Visual Inspections per the Diagnostic Manual and Performance Diagnostic Sheet 1. Inspect Fuel System to Verify Fuel Level 2. Inspect Engine Oil Level (If severely over full see IK1201259) 3. Inspect Coolant Recovery Bottle for Coolant Level 4. Inspect Electrical Group for Poor or Loose Connections 5. Inspect Air Filter Minder and AMS for Leaks 6. Inspect Exhaust System Were any issues found?	Repair as required; STEP 3
3	Verify ECM Calibration Level Is the engine calibration current (PRS24LR2 or older)? See IK1201085 if required.	If required, update the ECM calibration; STEP 4
4	Snap Throttle Test Perform the Aftertreatment Snap Throttle Test detailed in IK0700032 . Did the aftertreatment pass the Snap Throttle Test?	Yes. STEP 5 No. iApproval: Record a video or take a picture of the black smoke. Remove the DOC and DPF take pictures of the inlet and outlet of both. Open an iApproval case file and attach all relative documents and pictures. If approval for the DPF is given, please continue with the rest of this article.
5	DPFDP Sensor Inspection Remove the DPFDP inlet tube blow through it to clear it out. Resecure the tube and inspect the rubber hoses for cracks. Any defects or issues found?	Repair any noted issues and continue to STEP 6

	If the threads strip please see TL2900091	
Step	Action	Decision
6	Leak Locator Test Leak check the system using the procedure detailed in IK1201142 Leak Locator Diagnostic Procedures .	Repair leaks if required; STEP 7
Step	Action	Decision
7	On Board Filter Cleanliness Evaluation Perform an On Board Filter Cleanliness Test in ServiceMaxx and monitor the MAF, DOCIT, DPFIT, and DPFOF sensor readings. Review the V-8 DPF & DOC Catastrophic Failure Performance Assessment Sheet located in IK1201251 and compare to the OBFCT result. Does the system operate as required?	Yes. STEP 8 No. Rerun Test - If the results are the same, open a Case File with Navistar's Technical Support Team and submit findings, work performed and recordings for review. Await further instruction.
Step	Action	Decision
8	Vehicle Repair Evaluation Reset the fuel pressure adaptives, Recalibrate the MAF and clear the DTCs. Road test and record, did SPN 3251 FMI 21 become Pending/Active?	Yes. Open Case File and submit findings, work performed and recordings for review. Await further instruction. No. Complete any other necessary work and release to the customer

WARRANTY INFORMATION

Warranty Claim Coding:

Group:	1200 Engine
Noun:	575 - Sensor, DPF Differential Pressure
	577 - Tube DPF Differential Pressure Sensor
	235 - Diesel Particulate Filter (DPF)
	561 - Gasket DPF / DOC
	358 - Gasket Exhaust Manifold

Use appropriate noun, relative to the actual repair made.

Standard Repair Times:

Due to the number of engine/vehicle combinations and possibilities for repairs, see appropriate SRT manual section, linked below.

Description	Manual Section
ECM Calibration	ELECTRONIC CONTROL MODULE (ECM OR ECM/IDM) - ENGINE PROGRAM
Visual Inspections	ELECTRONIC ENGINE PERFORMANCE, DIAGNOSE
Check for DTCs & Reset Adaptives	ELECTRONIC ENGINE PERFORMANCE, DIAGNOSE
DPFDLP Sensor Replace	DPF DIFFERENTIAL PRESSURE SENSOR, REPLACE
DPF/DOC Thread Repair, Perform	DPF/DOC THREAD REPAIR PERFORM
DOC R&R	DIESEL OXIDATION CATALYST (DOC) REPLACE
DPF R&R	DIESEL PARTICULATE FILTER (DPF) R & R AND/OR REPLACE
Stationary Recording	STATIONARY SNAPSHOT, PERFORM
Road Test	ELECTRONIC ENGINE PERFORMANCE, DIAGNOSE
Exhaust Manifold Gasket Replacement	EXHAUST MANIFOLD AND/OR GASKET, REPLACE
Exhaust Clamp Replacement	PIPE CLAMP/ REPLACE
Exhaust Up-Pipe Gasket Replacement	MANIFOLD TO TURBO EXHAUST INLET PIPE(S) AND/OR SEAL, REPLACE
Turbo/EGR Cooler Inlet Gasket Replacement	TURBOCHARGER AIR CROSSOVER DUCT, REPLACE
On Board Filter Cleanliness Test	AFTERTREATMENT, MANUAL REGENERATION, PERFORM

OTHER RESOURCES

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