# SB-10055654-6213

# **Service Information Bulletin**

SUBJECT	DATE				
SPN 3251/FMI 0, 1, and 16	April 2014				

### Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change					
		SPN 3251 FMI 0 - EPA07						
		SPN 3251 FMI 0 - EPA10						
		SPN 3251 FMI 0 - GHG14						
	DD Platform	DD Platform	SPN 3251 FMI 1 - EPA07					
DDC-SVC-MAN-0084			DD Platform	DD Platform SPN 3251 FMI 1 - EPA10 The diagnostics have been correct	The diagnostics have been corrected and are all new.			
							SPN 3251 FMI 1 - GHG14	
		SPN 3251 FMI 16 - EPA10						
		SPN 3251 FMI 16 - GHG14						



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# 2 SPN 3251/FMI 0 - EPA07

This diagnostic is typically Diesel Particulate Filter (DPF) Pressure Out of Range Very High.

This fault code sets when the DPF outlet pressure is greater than 35 kPa (5 psi) for more than 10 seconds.

### Table 1.

SPN 3251/FMI 0							
Description	Diesel Particulate Filter (DPF) Pressure Out of Range Very High						
Monitored Parameter	Exhaust Pressure						
Typical Enabling Conditions	Always On						
Monitor Sequence	None						
Execution Frequency	Continuous When Enabling Conditions Met						
Typical Duration	2 Seconds						
Dash Lamps	MIL, CEL, SEL						
Engine Reaction	Derate 25%						
Verification	Run Engine Between 1200 to 1800 rpm With a Load Less Than 10%						

Check as follows:

- 1. Connect DiagnosticLink<sup>™</sup>. Go to step 2.
- 2. Turn the ignition ON (key ON, engine OFF). Go to step 3.
- 3. Using DiagnosticLink go to Service Routines > Voltages. Go to step 4.

All Services	Cylinder Cutout (Manual)	DPF Pr	oduction	DPF System	FIS Low Pressure Leak Test	Fuel System Integrity Check	Idle Speed Balance
Intake	e Throttle Valve		Lamps and S	witches	On Board Diagnost	ics J1939	Voltages
DPF Outlet Pressure (F	Pin 30)	V	Coolant Outl	et Temp (Pin 110)	V Tu	rbo Compressor Inlet Temp (Pin 86)	1
		0.00			3.00		3.00
DPF Inlet Pressure (Pir	n 118)	V	Coolant Inlet	Temp (Pin 80)	v		
		0.00			3.00		
DPF Outlet Temp (Pin	115)	v	Engine Oil Te	mp (Pin 108)	v		
		3.00			3.00		
DOC Outlet Temp (Pin	29)	v	Engine Oil Pr	essure (Pin 54)	v		
		3.00			4.91		
DOC Inlet Temp (Pin 8	(9)	V	Intake Air Ter	mp (Pin 119)	v		
		3.00			3.00		
Supply Fuel Temp (Pir	177)	V	Intake Thrott	le (Pin 90)	v		
		3.00			0.00		
Water in Fuel (Pin 57)		v	Intake Manife	old Air Temp (Pin 106)	٧		
		4.71			3.00		
uel Compensation Pr	ressure (Pin 84)	v	Intake Manife	old Pressure (Pin 87)	V		
		4.71			4.71		
Fuel Line Pressure (Pir	n 111)	v	EGR Delta Pre	essure (Pin 109)	v		
		4.71			0.00		

- 4. Click the "start acquiring" tab and monitor the DPF outlet pressure (pin 30) parameter. Is the DPF outlet pressure sensor voltage between 0.44 to 0.56 volts?
  - a. Yes; disconnect the exhaust behind the DPF and repair the restriction. Verify repair.

b. No; replace the DPF outlet pressure sensor. Refer to section "Removal of the EPA07 Pressure Sensors". Verify repair.

# 3 SPN 3251/FMI 0 - EPA10

This diagnostic is typically Diesel Particulate Filter (DPF) Pressure Out of Range Very High.

This fault code sets when the DPF outlet pressure is greater than 35 kPa (5 psi) for more than 10 seconds.

### Table 2.

SPN 3251/FMI 0							
Description	DPF Pressure Out of Range Very High						
Monitored Parameter	DPF Outlet Pressure Sensor						
Typical Enabling Conditions	Always On						
Monitor Sequence	None						
Execution Frequency	Continuous When Enabling Conditions Met						
Typical Duration	2 Seconds						
Dash Lamps	MIL, CEL, SEL						
Engine Reaction	Derate 25%						
Verification	Run Engine Between 1200 to 1800 rpm With a Load Less Than 10%						

Check as follows:

- 1. Connect DiagnosticLink<sup>™</sup>. Go to step 2.
- 2. Turn the ignition ON (key ON, engine OFF). Go to step 3.
- **3**. Using DiagnosticLink, go to Service Routines > SCR and DPF voltages. Go to step 4.

All Services	Cylinde	r Cutout (Manual)		DPF Product	ion	DPF Syster	m	FIS Fuel Filter	FIS	Fuel Quantit	y Control Valve	FIS L	ow Pressure Leak Test
SCR Syste	m	Tilt S	ensor	8.2	Tra	ansmission Shift	Abort Cou	Inter	Va	riable Speed	Fan Control		Voltages
FIS Water in Fuel	Fuel System	Integrity Check	Idle Sp	beed Balance	Intake	Throttle Valve	Lamps	and Switches	On Board Dia	ignostics	On Board Diagnos	tics J1939	SCR and DPF Voltage
DEF Tank Temperatur	re Sensor Volta	ge					V DOC	Inlet Temp (Pin 1	107)				
						1.14	4						0.50
DEF Tank Level Senso	or Voltage						V DOC	Outlet Temp (Pir	27)				
						1.6	7						0.50
SCR Inlet Temperatur	e Sensor Voltag	ge					V DPF	Outlet Temp (Pin	97)				
						0.5	0						0.50
SCR Oulet Temperatu	re Sensor Volta	age					V DOC	Inlet Pressure (Pr	in 87)				
						0.5	0						0.48
DEF Temperature Sen	sor Voltage						V DPF	Outlet Pressure (	Pin 72)				
						3.0	0						0.45
DEF Pressure Sensor	Voltage						V Star	ted acquiring ser	nsor voltage sig	nals			
						0.4	8						
Start Acquiring													Stop Acquiring

- 4. Click the "start acquiring" tab and Monitor the DPF outlet pressure (pin 72) parameter. Is the DPF outlet pressure sensor voltage between 0.44 and 0.56 volts?
  - a. Yes; remove the Selective Catalyst Reduction (SCR) system as necessary and repair the restriction. Verify repair.
  - b. No; replace the DPF outlet pressure sensor. Refer to section "Removal of the EPA10 Diesel Particulate Filter Outlet Pressure Sensor". Verify repairs.

# 4 SPN 3251/FMI 0 – GHG14

This diagnostic is typically Diesel Particulate Filter (DPF) Pressure Out of Range Very High.

This fault code sets when the DPF outlet pressure is greater than 35 kPa (5 psi) for more than 10 seconds.

### Table 3.

SPN 3251/FMI 0							
Description	DPF Pressure Out of Range Very High						
Monitored Parameter	DPF Outlet Pressure Sensor						
Typical Enabling Conditions	Always On						
Monitor Sequence	None						
Execution Frequency	Continuous When Enabling Conditions Met						
Typical Duration	2 Seconds						
Dash Lamps	MIL, CEL, SEL						
Engine Reaction	Derate 25%						
Verification	Run Engine Between 1200 to 1800 rpm With a Load Less Than 10%						

Check as follows:

- 1. Connect DiagnosticLink<sup>™</sup>. Go to step 2.
- 2. Turn the ignition ON (key ON, engine OFF). Go to step 3.
- 3. Using DiagnosticLink go to Service Routines > SCR and DPF voltages. Go to step 4.

All Services	Cylinder	Cutout (Manual)	D	PF Production	DPF System	FIS Fuel Filte	r FIS Fuel Quant	ity Control Valve FIS	Low Pressure Leak Test		
SCR System	SCR System Tilt Sensor Transmission Shift A						Variable Spee	d Fan Control	Voltages		
FIS Water in Fuel	Fuel System	Integrity Check	Idle Speed	Balance In	take Throttle Valve	Lamps and Switches	On Board Diagnostics	On Board Diagnostics J1939	SCR and DPF Voltages		
DEF Tank Temperature	e Sensor Voltag	ge				V DOC Inlet Temp (Pin	107)		A		
					1.14	ł			0.50		
DEF Tank Level Sensor	r Voltage					V DOC Outlet Temp (P	in 27)				
					1.67	7			0.50		
SCR Inlet Temperature	Sensor Voltag	je				V DPF Outlet Temp (Pin 97)					
					0.50	)	0.50				
SCR Oulet Temperatur	e Sensor Volta	ige				V DOC Inlet Pressure (	Pin 87)				
					0.50	)			0.48		
DEF Temperature Sens	sor Voltage					V DPF Outlet Pressure	(Pin 72)		1		
					3.00	)			0.45		
DEF Pressure Sensor V	/oltage					V Started acquiring se	ensor voltage signals				
					0.48	3					
Start Acquiring									Stop Acquiring		

- 4. Monitor the DPF outlet pressure (pin 72) parameter. Is the DPF outlet pressure sensor voltage between 0.44 and 0.56 volts?
  - a. Yes; remove the Selective Catalyst Reduction (SCR) system as necessary and repair the restriction. Verify repair.

b. No; replace the DPF outlet pressure sensor. Refer to section "Removal of the GHG14 Diesel Particulate Filter Outlet Pressure Sensor". Verify repairs.

# 5 SPN 3251/FMI 1 - EPA07

This diagnostic is typically Diesel Particulate Filter (DPF) Pressure Out of Range Low.

This fault code sets when the pressure across the DPF is less than 1.5 kPa (0.2 psi) for more than 10 seconds.

### Table 4.

SPN 3251/FMI 1							
Description	DPF Pressure Out of Range Low						
Monitored Parameter	DPF Inlet Pressure Sensor, DPF Outlet Pressure Sensor						
Typical Enabling Conditions	Always On						
Monitor Sequence	None						
Execution Frequency	Continuous When Enabling Conditions Met						
Typical Duration	2 Seconds						
Dash Lamps	MIL, CEL, SEL						
Engine Reaction	Derate 25%						
Verification	Run Engine Between 1500 to 1900 rpm With a Load Less Than 80%						

Check as follows:

- 1. Connect DiagnosticLink<sup>™</sup>. Go to step 2.
- 2. Turn the ignition ON (key ON, engine OFF). Go to step 3.
- 3. Using DiagnosticLink go to Service Routines > Voltages. Go to step 4.

All Services	Cylinder Cutout (Manual)	(Manual) DPF Pro		DPF System	FIS Low Pressure Leak Test	Fuel System Integrity Che	
Intaki	e Throttle Valve		Lamps and S	witches	On Board Diagnosti	cs /1939	Voltages
DPF Outlet Pressure (I	Pin 30)	V	Coolant Out	et Temp (Pin 110)	V Tur	rbo Compressor Inlet Temp (Pin	86)
		0.00			3.00		3.00
DPF Inlet Pressure (Pin	n 118)	V	Coolant Inlet	Temp (Pin 80)	V		
		0.00			3.00		
DPF Outlet Temp (Pin	115)	V	Engine Oil Te	mp (Pin 108)	V		
		3.00			3.00		
DOC Outlet Temp (Pir	n 29)	v	Engine Oil Pr	essure (Pin 54)	V		
		3.00			4.91		
DOC Inlet Temp (Pin 8	39)	V	Intake Air Ter	mp (Pin 119)	v		
		3.00			3.00		
Supply Fuel Temp (Pir	n 77)	V	Intake Thrott	e (Pin 90)	v		
		3.00			0.00		
Water in Fuel (Pin 57)		v	Intake Manife	old Air Temp (Pin 106)	v		
		4.71			3.00		
Fuel Compensation Pr	ressure (Pin 84)	v	Intake Manife	old Pressure (Pin 87)	V		
		4.71			4.71		
Fuel Line Pressure (Pir	n 111)	v	EGR Delta Pre	essure (Pin 109)	v		
		4.71			0.00		

- 4. Click the "start acquiring" tab and monitor the DPF inlet pressure (pin 118) parameter. Is the DPF inlet pressure sensor voltage between 0.44 to 0.56 volts?
  - a. Yes; Go to step 5.

- b. No; replace the DPF inlet pressure sensor. Refer to section "Removal of the EPA07 Temperature Sensors". Verify repair.
- 5. Monitor the DPF outlet pressure (pin 30) parameter. Is the DPF outlet pressure sensor voltage between 0.44 and 0.56 volts?
  - a. Yes; Go to step 6.
  - b. No; replace the DPF outlet pressure sensor. Refer to section "Removal of the EPA07 Temperature Sensors". Verify repair.
- 6. Remove the DPF inlet pressure sensor tube, hose and elbow. Go to step 7.
- 7. Inspect the DPF inlet pressure sensor port on the DPF, the port on the DPF inlet pressure sensor, the DPF inlet pressure sensor tube, hose and elbow. Are there any restrictions present?
  - **a**. Yes, repair as necessary. Verify repair.
  - b. No; Go to step 8.
- 8. Remove the DPF outlet pressure sensor tube, hose and elbow. Go to step 9.
- **9**. Inspect the DPF outlet pressure sensor port on the DPF, the port on the DPF outlet pressure sensor, DPF outlet pressure sensor tube, hose and elbow. Are there any restrictions present?
  - a. Yes; repair as necessary. Verify repair.
  - b. No; replace the DPF. Refer to section "Removal of the EPA07 Aftertreatment Device from the Vehicle". Verify repair.

# 6 SPN 3251/FMI 1 - EPA10

This diagnostic is typically Diesel Particulate Filter (DPF) Pressure Out of Range Low.

This fault code sets when the pressure across the DPF is less than 1.5 kPa (0.2 psi) for more than 10 seconds.

### Table 5.

SPN 3251/FMI 1							
Description	DPF Pressure Out of Range Low						
Monitored Parameter	DPF Inlet Pressure Sensor, DPF Outlet Pressure Sensor						
Typical Enabling Conditions	Always On						
Monitor Sequence	None						
Execution Frequency	Continuous When Enabling Conditions Met						
Typical Duration	2 Seconds						
Dash Lamps	MIL, CEL, SEL						
Engine Reaction	Derate 25%						
Verification	Run Engine Between 1500 to 1900 rpm With a Load Less Than 80%						

Check as follows:

- 1. Connect DiagnosticLink<sup>™</sup>. Go to step 2.
- 2. Turn the ignition ON (key ON, engine OFF). Go to step 3.
- 3. Using DiagnosticLink go to Service Routines > SCR and DPF Voltages. Go to step 4.

All Services	Cylinder	r Cutout (Manual)	DPF Prod	uction	DPF System	n	FIS Fuel Filter	FIS Fuel Quan	tity Control Valve	FIS L	ow Pressure Leak Test
SCR Syste	em	Tilt Se	nsor	T	ransmission Shift	Abort Co	ounter	Variable Spe	ed Fan Control		Voltages
FIS Water in Fuel	Fuel System	Integrity Check	Idle Speed Balance	e Intak	e Throttle Valve	Lamp	s and Switches	On Board Diagnostics	On Board Diagnosti	cs J1939	SCR and DPF Voltage
DEF Tank Temperatur	re Sensor Volta	ge				V DO	C Inlet Temp (Pin 1	07)			
					1.14	4					0.50
DEF Tank Level Sense	or Voltage					V DO	C Outlet Temp (Pin	27)			
					1.67	7					0.50
SCR Inlet Temperatur	e Sensor Voltag	ge				V DP	F Outlet Temp (Pin	97)			
					0.50	0					0.50
SCR Oulet Temperatu	ure Sensor Volta	age				V DO	C Inlet Pressure (Pir	n 87)			
					0.50	)					0.48
DEF Temperature Sen	nsor Voltage					V DP	FOutlet Pressure (P	Pin 72)			
					3.00	)	C				
DEF Pressure Sensor Voltage						V Started acquiring sensor voltage signals					
					0.48						
Start Acquiring											Stop Acquiring

- 4. Click the "start acquiring" tab and monitor the Diesel Oxidation Catalyst (DOC) inlet pressure (pin 87) parameter. Is the DOC inlet pressure sensor voltage between 0.44 to 0.56 volts?
  - **a**. Yes; Go to step 5.
  - b. No; replace the DOC inlet pressure sensor. Refer to section "Removal of the EPA10 Diesel Oxidation Catalyst Inlet Pressure Sensor". Verify repair.

All Services		Cutout (Manual)	DPF Pro		DPF Syste			d Fan Control	IS Low Pressure Leak Test
SCR Syster		Tilt Se			Transmission Shift		Voltages		
FIS Water in Fuel		Integrity Check	Idle Speed Balan	ce Intak	ke Throttle Valve	Lamps and Switches	On Board Diagnostics	On Board Diagnostics J19	9 SCR and DPF Voltages
DEF Tank Temperature	Sensor Voltag	3e				V DOC Inlet Temp (Pin	107)		
					1.14	4			0.50
DEF Tank Level Sensor	Voltage					V DOC Outlet Temp (P	in 27)		
					1.6	7			0.50
SCR Inlet Temperature	Sensor Voltag	e				V DPF Outlet Temp (Pi	in 97)		
					0.5	0			0.50
SCR Oulet Temperatur	e Sensor Volta	ge				V DOC Inlet Pressure (	Pin 87)		
					0.5	0			0.48
DEF Temperature Sens	or Voltage					V DPF Outlet Pressure	(Pin 72)		
					3.0	0			0.45
DEF Pressure Sensor V	oltage					V Started acquiring se	ensor voltage signals		-
					0.4	8			
Start Acquiring									Stop Acquiring

- 5. Monitor the DPF outlet pressure (pin 72) parameter. Is the DPF outlet pressure sensor voltage between 0.44 and 0.56 volts?
  - a. Yes; Go to step 6.
  - b. No; replace the DPF outlet pressure sensor. Refer to section "Removal of the EPA10 Diesel Oxidation Catalyst Inlet Pressure Sensor". Verify repair.
- 6. Remove the DOC inlet pressure sensor tube, hose and elbow. Refer to section "Removal of the EPA10 Diesel Oxidation Catalyst Inlet Pressure Sensor Tube and Elbow". Go to step 7.
- 7. Inspect the DOC inlet pressure port on the DOC, the port on the DOC inlet pressure sensor, the DOC inlet pressure tube, hose and elbow. Are there any restrictions present?
  - a. Yes, repair as necessary. Verify repair.
  - b. No, Go to step 8.
- 8. Remove the DPF outlet pressure sensor tube, hose and elbow. Refer to section "Removal of the EPA10 Diesel Oxidation Catalyst Inlet Pressure Sensor". Go to step 9.
- **9**. Inspect the DPF outlet pressure sensor port on the DPF, the port on the DPF outlet pressure sensor, the DPF outlet pressure sensor tube, hose and elbow. Are there any restrictions present?
  - a. Yes; repair as necessary. Verify repair.
  - b. No; Go to step 10.
- 10. Inspect the front face of the DOC. Is there a restriction present?
  - a. Yes; replace the DOC. Verify repair.
  - b. No; replace the DPF. Verify repair.

# 7 SPN 3251/FMI 1 - GHG14

This diagnostic is typically Diesel Particulate Filter (DPF) Pressure Out of Range Low.

This fault code sets when the pressure across the DPF is less than 1.5 kPa (0.2 psi) for more than 10 seconds.

### Table 6.

SPN 3251/FMI 1						
Description	DPF Pressure Out of Range Low					
Monitored Parameter	DOC Inlet Pressure Sensor, DPF Outlet Pressure Sensor					
Typical Enabling Conditions	Always On					
Monitor Sequence	None					
Execution Frequency	Continuous When Enabling Conditions Met					
Typical Duration	2 Seconds					
Dash Lamps	MIL, CEL, SEL					
Engine Reaction	Derate 25%					
Verification	Run Engine Between 1500 to 1900 rpm With a Load Less Than 80%					

Check as follows:

- 1. Connect DiagnosticLink<sup>™</sup>. Go to step 2.
- 2. Turn the ignition ON (key ON, engine OFF). Go to step 3.
- 3. Using DiagnosticLink go to Service Routines > SCR and DPF Voltages. Go to step 4.

All Services	Cylinder	r Cutout (Manual)	DPF Produ	iction	DPF System	n FIS Fu	uel Filter	FIS Fuel Quant	ty Control Valve	FIS L	ow Pressure Leak Test
SCR Syste	SCR System Tilt Sensor Transmission Shift Abort Counter							Variable Spee	d Fan Control		Voltages
FIS Water in Fuel	Fuel System	Integrity Check	Idle Speed Balance	Intake	Throttle Valve	Lamps and Swit	tches	On Board Diagnostics	On Board Diagnostic	s J1939	SCR and DPF Voltage
DEF Tank Temperatur	re Sensor Volta	ge				V DOC Inlet Ten	mp (Pin 10	07)		1	
					1.14	1					0.50
DEF Tank Level Sense	or Voltage					V DOC Outlet To	emp (Pin	27)			
					1.67	7					0.50
SCR Inlet Temperatur	e Sensor Voltag	ge				V DPF Outlet Te	emp (Pin 9	97)			
					0.50	)					0.50
SCR Oulet Temperatu	ure Sensor Volta	age				V DOC Inlet Pre	ssure (Pin	87)			
					0.50	)					0.48
DEF Temperature Sen	nsor Voltage					V DPF Outlet Pr	ressure (P	in 72)			
					3.00	)					0.45
DEF Pressure Sensor	Voltage					V Started acqu	ining sens	sor voltage signals			
					0.48						
Start Acquiring											Stop Acquiring

- 4. Click the "start acquiring" tab and monitor the Diesel Oxidations Catalyst (DOC) inlet pressure (pin 87) parameter. Is the DOC inlet pressure sensor voltage between 0.44 to 0.56 volts?
  - **a**. Yes; Go to step 5.
  - b. No; replace the DOC inlet pressure sensor. Refer to section "Installation of the GHG14 Diesel Oxidation Catalyst Inlet Pressure Sensor". Verify repair.

All Services	Cylinder	Cutout (Manual)	DPF Prod	uction	DPF System	n FIS Fuel Filte	er FIS Fuel Quanti	ty Control Valve	FIS L	ow Pressure Leak Test	
SCR Syste	m	Tilt Se	nsor	Т	ransmission Shift	Abort Counter					
FIS Water in Fuel	Fuel System	Integrity Check	Idle Speed Balance	e Intak	e Throttle Valve	Lamps and Switches	On Board Diagnostics	On Board Diagnostic	s J1939	SCR and DPF Voltages	
DEF Tank Temperatur	e Sensor Voltag	3e				V DOC Inlet Temp (Pin	107)				
					1.14	1				0.50	
DEF Tank Level Senso	or Voltage					V DOC Outlet Temp (P	Pin 27)			1	
					1.67	7				0.50	
SCR Inlet Temperatur	e Sensor Voltag	e				V DPF Outlet Temp (P	in 97)				
					0.50	)				0.50	
SCR Oulet Temperatu	re Sensor Volta	ge				V DOC Inlet Pressure (	Pin 87)				
					0.50	0			-	0.48	
DEF Temperature Sen	sor Voltage					V DPF Outlet Pressure	(Pin 72)				
					3.00	D				0.45	
DEF Pressure Sensor	Voltage					V Started acquiring s	ensor voltage signals				
					0.48	3					
Start Acquiring										Stop Acquiring	

- 5. Monitor the DPF outlet pressure (pin 72) parameter. Is the DPF outlet pressure sensor voltage between 0.44 and 0.56 volts?
  - a. Yes; Go to step 6.
  - b. No; replace the DPF outlet pressure sensor. Refer to section "Removal of the GHG14 Diesel Particulate Filter Outlet Pressure Sensor". Verify repair.
- 6. Remove the DOC inlet pressure sensor tube and hose. Refer to section "Removal of the GHG14 Diesel Oxidation Catalyst Inlet Pressure Sensor Tube". Go to step 7.
- 7. Inspect the DOC inlet pressure port on the DOC, the port on the DOC inlet pressure sensor, the DOC inlet pressure sensor tube and hose. Are there any restrictions present?
  - a. Yes, repair as necessary. Verify repair.
  - b. No, Go to step 8.
- 8. Remove the DPF outlet pressure sensor tube and hose. Refer to section "Removal of the GHG14 Diesel Particulate Filter Outlet Pressure Sensor Tube ". Go to step 9.
- **9**. Inspect the DPF outlet pressure sensor port on the DPF, the port on the DPF outlet pressure sensor, the DPF outlet pressure sensor tube and hose. Are there any restrictions present?
  - a. Yes; repair as necessary. Verify repair.
  - b. No; Go to step 10.
- 10. Inspect the front face of the DOC. Is there a restriction present?
  - a. Yes; replace the DOC. Verify repair.
  - b. No; replace the DPF. Verify repair.

# 8 SPN 3251/FMI 16 - EPA07

This diagnostic is typically Diesel Particulate Filter (DPF) Pressure Out of Range High.

This fault code sets when the DPF outlet pressure is greater than 30 kPa (4.2 psi) for more than 10 seconds.

### Table 7.

SPN 3251/FMI 16						
Description	DPF Pressure Out of Range High					
Monitored Parameter	DPF Outlet Pressure Sensor					
Typical Enabling Conditions	Always On					
Monitor Sequence	None					
Execution Frequency	Continuous When Enabling Conditions Met					
Typical Duration	2 Seconds					
Dash Lamps	MIL, CEL, SEL					
Engine Reaction	Derate 25%					
Verification	Run Engine Between 1200 to 1800 rpm With a Load Less Than 10%					

Check as follows:

- 1. Connect DiagnosticLink<sup>™</sup>. Go to step 2.
- 2. Turn the ignition ON (key ON, engine OFF). Go to step 3.
- 3. Using DiagnosticLink go to Service Routines > Voltages. Go to step 4.

All Services	Cylinder Cutout (Manual)	DPF Pr	oduction	DPF System	FIS Low Pressure Leak Test	Fuel System Integrity Check	
Intake	e Throttle Valve		Lamps and S	witches	On Board Diagnosti	and the second	Voltages
DPF Outlet Pressure (F	Pin 30)	V	Coolant Out	et Temp (Pin 110)	V Tu	rbo Compressor Inlet Temp (Pin 8)	6) \
		0.00			3.00		3.00
DPF Inlet Pressure (Pir	n 118)	V	Coolant Inlet	Temp (Pin 80)	V		
		0.00			3.00		
DPF Outlet Temp (Pin	115)	V	Engine Oil Te	mp (Pin 108)	V		
		3.00			3.00		
DOC Outlet Temp (Pin	29)	v	Engine Oil Pr	essure (Pin 54)	v		
		3.00			4.91		
DOC Inlet Temp (Pin 8	(9)	V	Intake Air Ter	mp (Pin 119)	v		
		3.00			3.00		
Supply Fuel Temp (Pir	177)	V	Intake Thrott	le (Pin 90)	v		
		3.00			0.00		
Water in Fuel (Pin 57)		v	Intake Manife	old Air Temp (Pin 106)	v		
		4.71			3.00		
Fuel Compensation Pr	ressure (Pin 84)	v	Intake Manife	old Pressure (Pin 87)	V		
		4.71			4.71		
Fuel Line Pressure (Pir	n 111)	v	EGR Delta Pre	essure (Pin 109)	v		
		4.71			0.00		

- 4. Click the "start acquiring" tab and monitor the DPF outlet pressure (pin 30) parameter. Is the DPF outlet pressure sensor voltage between 0.44 to 0.56 volts?
  - a. Yes; disconnect the exhaust behind the DPF and repair the restriction. Verify repair.

b. No; replace the DPF outlet pressure sensor. Refer to section "Removal of the EPA07 Pressure Sensors". Verify repair.

# 9 SPN 3251/FMI 16 - EPA10

This diagnostic is typically Diesel Particulate Filter (DPF) Pressure Out of Range High.

This fault code sets when the DPF outlet pressure is greater than 30 kPa (4.2 psi) for more than 10 seconds.

### Table 8.

SPN 3251/FMI 16						
Description	DPF Pressure Out of Range High					
Monitored Parameter	DPF Outlet Pressure Sensor					
Typical Enabling Conditions	Always On					
Monitor Sequence	None					
Execution Frequency	Continuous When Enabling Conditions Met					
Typical Duration	2 Seconds					
Dash Lamps	MIL, CEL, SEL					
Engine Reaction	Derate 25%					
Verification	Run Engine Between 1200 to 1800 rpm With a Load Less Than 10%					

Check as follows:

- 1. Connect DiagnosticLink<sup>™</sup>. Go to step 2.
- 2. Turn the ignition ON (key ON, engine OFF). Go to step 3.
- 3. Using DiagnosticLink go to Service Routines > SCR and DPF Voltages. Go to step 4.

All Services	Cylinde	r Cutout (Manual)		DPF Product	ion	DPF System	FIS F	uel Filter	FIS Fuel Quar	ntity Control Valve	FIS L	ow Pressure Leak Test
SCR Syste	SCR System Tilt Sensor Transmission Shift Abor								Variable Spe	eed Fan Control		Voltages
FIS Water in Fuel	Fuel System	Integrity Check	Idle Sp	eed Balance	Intake 1	Throttle Valve	Lamps and Swi	tches	<b>On Board Diagnostics</b>	On Board Diagnost	ics J1939	SCR and DPF Voltages
DEF Tank Temperatur	re Sensor Volta	ige					V DOC Inlet Ter	mp (Pin 10	07)			
						1.14	1					0.50
DEF Tank Level Senso	or Voltage						V DOC Outlet 1	emp (Pin	27)			
						1.67	7					0.50
SCR Inlet Temperatur	e Sensor Volta	ge					V DPF Outlet T	emp (Pin S	97)			
						0.50	)					0.50
SCR Oulet Temperatu	ure Sensor Volt	age					V DOC Inlet Pre	essure (Pin	n 87)			
						0.50	)					0.48
DEF Temperature Sen	nsor Voltage						V DPF Outlet P	ressure (Pi	in 72)			
						3.00	)					0.45
DEF Pressure Sensor	Voltage						V Started acqu	uiring sens	sor voltage signals			
						0.48	3	-				
Start Acquiring												Stop Acquiring

- 4. Click the "start acquiring" tab and monitor the DPF outlet pressure (pin 72) parameter. Is the DPF outlet pressure sensor voltage between 0.44 to 0.56 volts?
  - a. Yes; remove the Selective Catalyst Reduction (SCR) system as necessary and repair the restriction. Verify repair.
  - b. No; replace the DPF outlet pressure sensor. Refer to section "Removal of the EPA10 Diesel Particulate Filter Outlet Pressure Sensor". Verify repair.

## 10 SPN 3251/FMI 16 - GHG14

This diagnostic is typically Diesel Particulate Filter (DPF) Pressure Out of Range High.

This fault code sets when the DPF outlet pressure is greater than 30 kPa (4.2 psi) for more than 10 seconds.

### Table 9.

SPN 3251/FMI 16						
Description	DPF Pressure Out of Range High					
Monitored Parameter	DPF Outlet Pressure Sensor					
Typical Enabling Conditions	Always On					
Monitor Sequence	None					
Execution Frequency	Continuous When Enabling Conditions Met					
Typical Duration	2 Seconds					
Dash Lamps	MIL, CEL, SEL					
Engine Reaction	Derate 25%					
Verification	Run Engine Between 1200 to 1800 rpm With a Load Less Than 10%					

Check as follows:

- 1. Connect DiagnosticLink<sup>™</sup>. Go to step 2.
- 2. Turn the ignition ON (key ON, Engine OFF). Go to step 3.
- 3. Using DiagnosticLink go to Service Routines > SCR and DPF Voltages. Go to step 4.

All Services	Cylinder	Cutout (Manual)	DPF Produc	tion	DPF System	FIS Fuel Filter	FIS Fuel Quanti	ity Control Valve FIS	Low Pressure Leak Test
SCR Syster	n	Tilt Ser	sor	Tra	nsmission Shift Abo	ort Counter	Variable Spee		Voltages
FIS Water in Fuel	Fuel System	Integrity Check	Idle Speed Balance	Intake	Throttle Valve	amps and Switches	On Board Diagnostics	On Board Diagnostics J1939	SCR and DPF Voltages
DEF Tank Temperature	Sensor Voltag	ge			v	DOC Inlet Temp (Pin 1	.07)		A
					1.14				0.50
DEF Tank Level Sensor	Voltage				V	DOC Outlet Temp (Pin	27)		
					1.67				0.50
SCR Inlet Temperature	Sensor Voltag	je			V	DPF Outlet Temp (Pin	97)		
					0.50				0.50
SCR Oulet Temperatur	e Sensor Volta	ge			V	DOC Inlet Pressure (Pi	n 87)		
					0.50				0.48
DEF Temperature Sens	or Voltage				V	DPF Outlet Pressure (F	Pin 72)		
					3.00				0.45
DEF Pressure Sensor V	oltage				V	Started acquiring sen	sor voltage signals		-
					0.48				
Start Acquiring									Stop Acquiring

- 4. Click the "start acquiring" tab and monitor the DPF outlet pressure (pin 72) parameter. Is the DPF outlet pressure sensor voltage between 0.44 to 0.56 volts?
  - a. Yes; disconnect the exhaust behind the DPF and repair the restriction. Verify repair.

b. No; replace the DPF outlet pressure sensor. Refer to section "Removal of the GHG14 Diesel Particulate Filter Outlet Pressure Sensor". Verify repair.