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Coding Information

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Title: SPN 190 FMI 0 Engine Over-speed most severe level
Applies To: 2010 Emissions MaxxForce 11,13 & 15 and 2013 OBD Emissions MaxxForce 13
SPN 190 - FMI 0 - Engine Overspeed Most Severe level

Condition / Description	Setting Criteria	Enable Conditions / Values	Time Required
Engine speed reaches most severe level with APS, and VSS at 0% or 0	Engine speed exceeds 2600 rpm with no fuel being requested	Vehicle Speed: < 0.14 MPH APP: < 0.1 % RAPP: < 0.1 % Engine Speed: > 2600 RPM	1 Event

CAUTION :

Do not attempt to start the engine; a complete full engine analysis needs to be completed to assess damage due from excessive engine speed.

CAUTION :

Do not attempt to start engine until entire intake system has been inspected and cleaned

Fault Overview

Fault sets when a vehicle is stationary (VSS < 0.14 MPH) and engine speed reaches 2600 rpm with no fuel being requested (APP and RAPP < 0.1%).

Fault Reaction

When the conditions for this fault are detected the engine initiates a protection strategy.

The ETV and EGRV will be closed and the injectors disabled immediately to starve the engine of fuel and air. The FPCV will open relieving pressure in the rail in case of injector tip damage. The fault will set and the MIL lamp will illuminate immediately followed by the Red Stop Lamp 10 seconds after fault is detected.

Before beginning diagnosis:

- Take pictures of all damage / failure evidence
- Do not replace any parts till complete inspection has been done

Step	Action	Decision
1	Interview driver. Determine if engine was exposed to ether, an external fuel source, or an environment saturated with combustible gases. Was the engine free of exposure to ether, an external fuel source, and an environment saturated with combustible gases?	Yes: Go to step 2. No: Replace air filter after engine analysis is complete Go to step 2.

Step	Action	Decision
2	Determine if oil pressure was within specifications during overspeed event. Using Electronic Service Tool (EST) with ServiceMaxx™ software, review freeze frame data for SPN 190 FMI 0.	Yes: Go to step 3. No: If under warranty start a case file. If not under warranty, evaluate damage from overspeed event and low oil

	Was oil pressure within specifications during overspeed event?	pressure to determine necessary repairs.
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Step	Action	Decision
3	Determine if engine speed exceeded 3,000 RPM during overspeed event. Using Electronic Service Tool (EST) with ServiceMaxx™ Software, review freeze frame data for SPN 190 FMI 0.	Yes: Go to step 4.
	Was engine speed within specifications during overspeed event?	No: If under warranty start a case file. If not under warranty, evaluate damage from overspeed event to determine necessary repairs.

Step	Action	Decision
4	Visual checks – coolant level and quality, fuel quality, oil exiting the exhaust tail pipe, large oil leaks/damage to the block?	If there is damage to the block and engine replacement is required
		If there is fuel contamination the fuel system will need to be cleaned. See service portal for Overspeed Inspection procedure.
		If there is no visual damage got to step 5

Step	Action	Decision
5	Inspect for residual oil at the ITV.	Yes: Failed turbo will need to be replacing after full engine analysis, See service portal for overspeed Inspection procedure.
	Is there residual oil at the ITV?	No:

Step	Action	Decision
6	Remove and inspect injectors for damaged tips	Yes: the damaged injectors will need to be replaced when engine analysis is complete
	Are any injectors damaged?	No: If under warranty start a case file. If not under warranty, evaluate damage from overspeed event to determine necessary repairs.

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