



Technical Service Bulletin

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Early Life Turbocharger Malfunction Following Aftertreatment Diesel Particulate Filter (DPF) Regeneration	

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Warranty Statement

The information in this document has no effect on present warranty coverage or repair practices, nor does it authorize TRP or Campaign actions.

Contents

Product Affected

- ISB6.7 CM2350 B103

Issue

Symptom:

- Early life service turbocharger failures have been reported from the field after a new service turbocharger has been installed, the vehicle is moved outside and put into a DPF regeneration state. During, or after the DPF regeneration, turbocharger related fault code(s) come active. Troubleshooting the fault codes finds that the turbocharger sector gear is seized. Fault codes may include, but are **not** limited to: FC2787, FC2636, FC1898, FC1894.

Root Cause:

- It has been determined that residual oil, from the turbocharger assembly process, behind the turbine wheel and shroud plate mixes with unburned fuel introduced into the exhaust stream during the regen and causes the oil to form into shellac. The shellac build-up then causes the shroud plate to seize and the actuator is no longer able to move the sector gear shaft.

Resolution

- The turbocharger assembly process was changed on December 1st, 2019, to help reduce the amount of residual oil in the turbocharger. However, there are multiple service turbochargers stocked at Parts Distribution Centers (PDCs) as well as dealers and distributors that may have been built prior to the manufacturing line improvement.

- As a best service practice, to prevent shellac build-up after a turbocharger replacement, if a DPF Regeneration is needed to complete the repair, the engine should be brought up to operating temperature by running the engine at high-idle or by taking the vehicle on a road test prior to initiating a DPF regeneration.

Service Instructions

- To prevent shellac build-up after a turbocharger replacement, if a DPF Regeneration is needed to complete the repair, the engine should be brought up to operating temperature by running the engine at high-idle or by taking the vehicle on a road test prior to initiating a DPF regeneration.
- The engine should not be run at low idle for an extended period during the warm-up period as the engine may go into SCR warm-up mode, which would introduce unburned fuel into the exhaust system and increase the possibility of shellac build-up.
- The ISB6.7 CM2350 B103 service manual turbocharger service procedure has been updated with the following statement: "Note : If a stationary aftertreatment regeneration is needed to complete repair, make sure that the engine is brought up to operating temperature before the regeneration is started."

Publications Affected

Table 1, Publications Affected					
Manual Type	Engine	Bulletin Number	Procedure Title	Procedure	Section
Service Manual	ISB6.7 CM2350 B103	4332641	Turbocharger	Refer to Procedure 010-033 (/qs3/pubsys 2/xml/en/proc edures/194/1 94-010- 033.html)	10

Document History

Date	Details
2020-2-7	Module Created

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