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SUBJECT:

Engine Off-Idle Speed Limit Feature To Protect Turbocharger When Vehicle Is Not Moving

OVERVIEW:

This bulletin involves a discussion regarding an engine control feature that limits engine off-idle speeds when the vehicle is not moving.

MODELS:

2004 - 2007 (DR/DH/D1/DC) Ram Truck (2500/3500)

NOTE: This bulletin applies to vehicles equipped with a 5.9L or a 6.7L Cummins turbo-diesel engine (sale codes: ETC, ETH, or ETJ).

DISCUSSION:

Dependent upon engine coolant temperature, the Engine Control Module (ECM) will temporarily delay (limit) the maximum engine speed when the vehicle is not moving. For automatic transmission equipped vehicles, the maximum engine speed is temporarily delayed when the vehicle speed is less than one mph, and when the transmission selector is in either the neutral or park position. For manual transmission equipped vehicles, the maximum engine speed is temporarily delayed when the vehicle speed is less than one mph. This ECM feature is used to protect the engine turbocharger.

By temporarily limiting the vehicle engine speed, the shaft speed of the engine turbocharger is controlled to a low speed. This delay in maximum engine and turbo-charger shaft speed allows for sufficient oil lubrication to the turbocharger shaft bearings. Satisfactory oil lubrication of the turbocharger shaft bearings is important for long term turbocharger durability.

The maximum engine speed for the 5.9L engine is temporarily limited to 1,600 RPM's when the above conditions are met. The 6.7L engine speed is temporarily limited to 1,200 RPM's when the above conditions are met. The length of time that the maximum engine speed is temporarily limited is dependent upon engine coolant temperature. Refer to the table to determine the amount of Time Delay.

NOTE: The time delay values supplied in the table are an approximation and may vary per application.



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ENGINE TEMPERATURE	TIME DELAY
- 35° F	45.2 secs.
- 20° F	34.6 secs.
- 10° F	28.8 secs.
- 0° F	24.2 secs.
+ 10° F	20.2 secs.
+ 20° F	17.0 secs.
+ 35° F	13.0 secs.
+ 45° F	10.8 secs.
+ 55° F	9.0 secs.
+ 70° F	7.0 secs.

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