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Technical Information Bulletin

The Intake Throttle Valve Is Causing Regeneration Issues on Certain On-Highway Truck Engines {1000, 1087, 7000}

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The Intake Throttle Valve Is Causing Regeneration Issues on Certain On-Highway Truck Engines {1000, 1087, 7000}

SMCS - 1000; 1087; 7000

On Highway Truck

CT660S (S/N: TGA1-UP; TGD1-UP; TRK1-UP; TKL1-UP; TGR1-UP; TGS1-UP; TJS1-UP; TGT1-UP; TGW1-UP; TSW1-UP; TSY1-UP; TGZ1-UP)

Introduction

The problem that is identified below does not have a known permanent solution. Until a permanent solution is known, use the solution that is identified below.

Problem

Some intake throttle valves are causing frequent regeneration issues and can be hard to detect through normal test procedures. Often there may not be any diagnostic troubleshooting codes, which may cause extended downtime for diagnosing. Customers may experience frequent regenerations, low power, and unit unable to complete a regeneration or soot load accumulation issues.

Possible Diagnostic Troubleshooting Codes and Dashboard Indicator Lights

The unit may have one or more or none of the following codes.

Table 1

Troubleshooting Codes/Dash Light	Description
SPN 51 FMI 7/MIL	ETP Does Not Agree with Commanded Position
SPN 3719 FMI 0/MIL	DPF Soot Load-Highest
SPN 3719 FMI 15/MIL	DPF Soot Load-Lowest
SPN 3719 FMI 16/MIL	DPF Soot Load-Moderate
SPN 4766 FMI 10/MIL	DPF Regen Feedback Fault

Solution

1. Inspect the ITV connector for any issues like backed out pins, corrosion, or looseness.

Diagnostic Procedure

1. Form a connection with Engine Diagnostics and run an OBFCT.

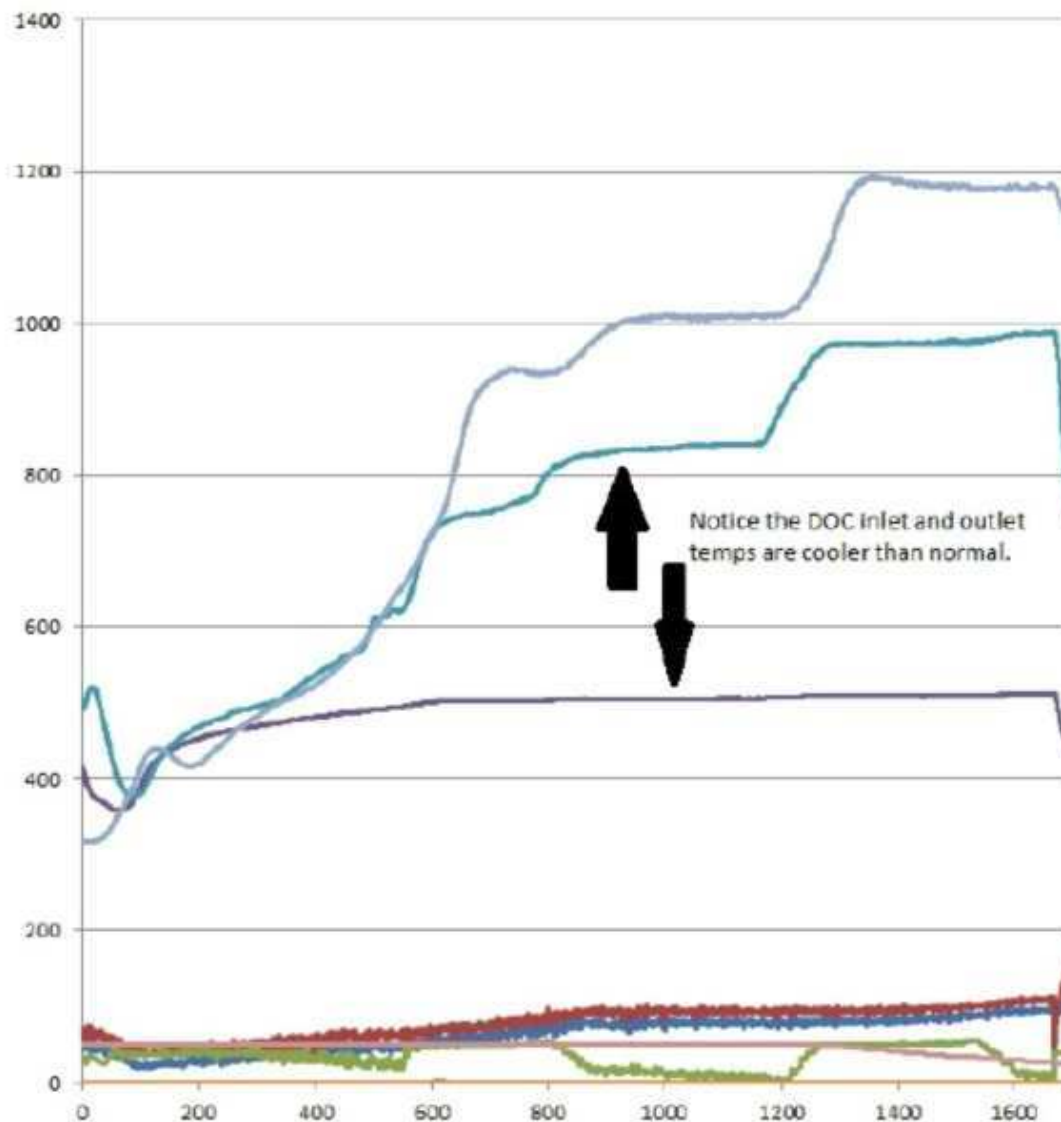


Illustration 1

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OBFCT with a Bad ETV

Item 1: Notice that the DOC inlet and outlet temperatures are cooler than normal regeneration should be. The DOC inlet should be in the 288° C (550° F) to 371° (700° F) range. This is due to the ITV not working properly to produce enough heat in the exhaust system.

Item 2: Notice the length of time it takes for the temps to start rising.

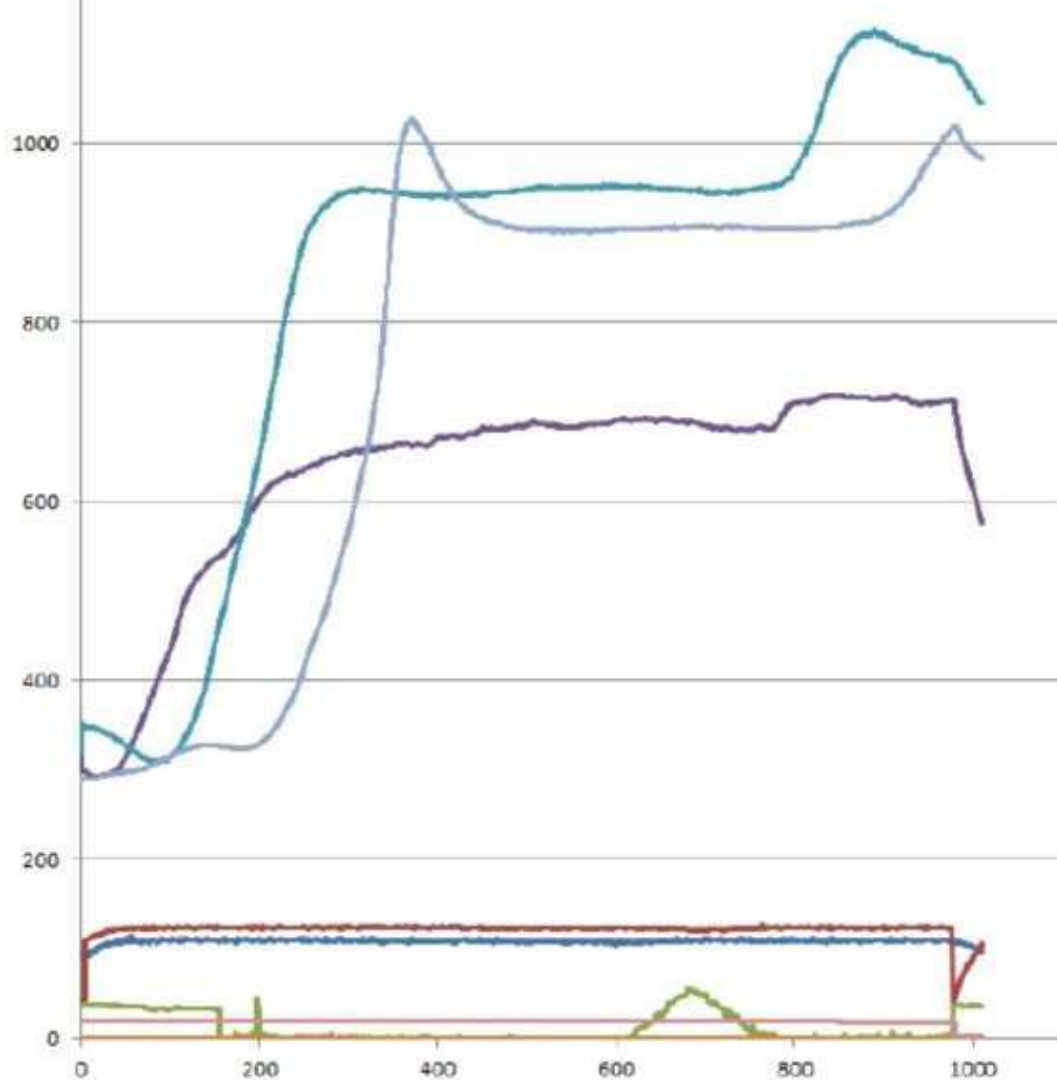


Illustration 2

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Good Regeneration Chart

Item 1: Notice the temperatures rise much quicker than the bad regeneration shows.

Item 2: DOC inlet temperature is in a good range.

2. Review the OBFCT and compare to the graph as shown in Illustration 1. As stated in items 1 and 2 of Illustration 1 look for a slow to build temp and a DOC inlet temperature that stays too cold. You generally should see DOC IT around 288° C (550° F) to 371° (700° F) as shown in Illustration 2.
3. If your OBFCT looks similar to Illustration 1 and all aftertreatment components are testing good, then replace the ETV and retest. If it does not exhibit a similar failure, refer to the UENR5801 Aftertreatment System Diagnostics and Service Manual for further diagnostics of any regeneration concerns.

Required Parts

Table 2

Qty	Part Number	Description
1	376-2757	Intake Throttle Valve (Vertical)
1	376-2618	Intake Throttle Valve (Horizontal)
1	423-8712	Gasket
1	376-2498	Bolt M8 x 50

Repair Procedure

1. Replace the ITV and rerun the OBFCT to verify the repair.

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