Department: Service
Section: Engine
Model(s): GH7
Model Year(s): 2011, 2012 & 2013
Effective Date: June 15, 2016
Form #: TB EN-55 Rev
Rev #: A
Supersedes: 1/15/2015

SUBJECT: Additional Causes for High Soot and Regeneration Frequency

Purpose: To advise technicians of the following facts which impact the soot and regeneration frequency.

Engine oil maintenance - If the engine oil change is not according to the maintenance interval (15,000 miles/450 hours or 24,000 miles/700 hours with UDXtra oil) the regeneration frequency will increase. Verify the oil level is not overfull and the oil quality as this effects regeneration.

Fuel filter replacement at 15,000 miles or 350 hours whichever comes first or this may hinder regeneration. Filter replacement may be required sooner depending on the fuel quality.

CCV filter maintenance - The CCV filter must be changed as needed. If the filter is not replaced when saturated the oil will bypass the filter and the turbocharger will get oil fouling, which will decrease the boost and cause lower power.

Valve lash adjustment - Requirement for the GH7 engine is that the valve lash be adjusted every 50,000 miles. For extended idle time applications perform this maintenance at 1200 hours.

Charge Air Sensor clogging - Remove and verify clogging of the **Charge Air Sensor** located on intake manifold. This sensor supplies EECM with intake pressure and EGR gas/intake air mixture and regulates EGR valve function and VGT

EGR system clogging - EGR cooler, intake manifold, as well as the intake channels of the cylinder head may have heavy soot. Clogged EGR system will cause high soot generation. Update to the larger venturi if not already performed. Inspect EGR pressure sensor adapter for clogging.

Check for oil discharging from the turbo into the charge air cooler. Pull hoses off and look for puddles of oil discharged from the turbo. Further inspect the air inlet side to inspect for oil entering the turbo from the CCV or air compressor.

Check DPF with depth gauge and for blockage. Also check DOC and SCR with a bore gauge for blockage. Refer to TB EN-47 and EN-50.

Software updates. Verify software is the current version. Always update the software in the preferred order MID233, MID128, MID144 and perform the fuel supply pump re-learn.

Check EGR cooler pipe for cracks or leakage. Reference TB EN-54.

Check entire Exhaust and Intake system for leaks.

Verify Sensor Readings.
1. DPF pressure sensor - key on, engine off is 0 < 0.14 psi (0.0 kPa< +1.0 kPa)
2. EGR pressure sensor - key on, engine off is -0.14 psi < +0.14 psi (-1kPa < +1.0 kPa)

VGT Actuator Fault Codes. MID128 / SID27 / FMI7, 13 & 14. INACTIVE. The turbo is the suspected cause due to frozen vanes or twisted internal vane crank. Follow GD for this INACTIVE code.

ALL Fault Codes. Follow GD. If there are no fault codes follow Symptom Based Diagnostics in GD.

The Information contained in this bulletin should not be interpreted as the basis for a warranty claim