Service Information

Caterpillar Motoren GmbH & Co. KG product support information for medium-speed engines

Engine platform: All
Engine assembly: Electrical Equipment
Type of engine: All
Validity: Until revoked
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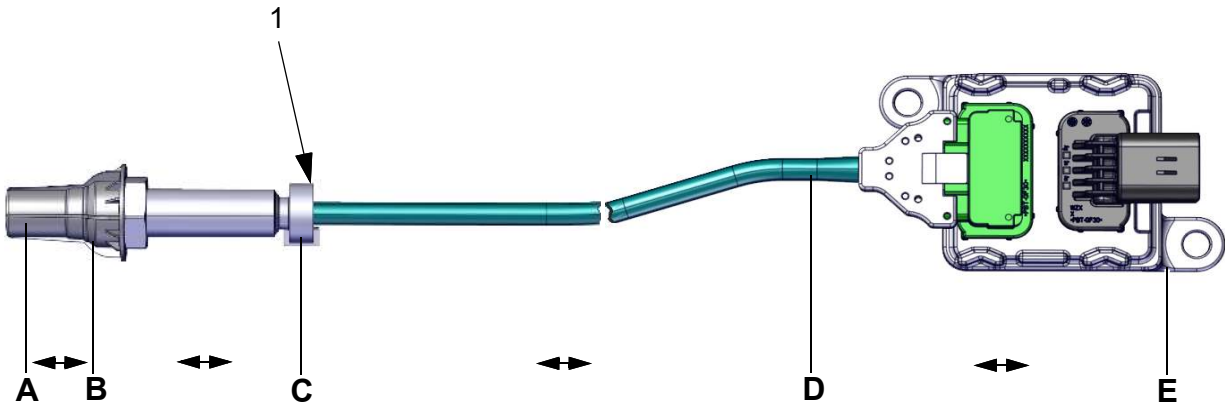
Action: At next opportunity!

NOx Sensor Failures

We would like to inform you about potential issues related to NOx sensor failures, particularly those caused by excessive temperatures at the junction (1) between the sensor and the cable. The maximum permissible temperature at this connection point is 200°C. Lower temperatures can increase the performance and significantly extend the service life of the sensor.



Zone	Temp Range (C°)
A - B	-40 to +800
B - C	-40 to +620
C - D	-40 to +200
D - E	-40 to +110

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Key Causes of NOx Sensor Failures:

1. Leaks in exhaust insulation:
   - Any leaks can result in higher temperatures reaching the sensor.
2. Aging insulation:
   - Over time, the insulation may degrade, leading to inadequate heat protection of the exhaust pipe and, consequently, higher temperatures at the sensor.
3. Excessive temperature at the sensor-cable junction:
   - Temperatures above the specified limit can cause damage to the sensor and its components.
   - If components are covered with insulation, this can lead to a considerable increase in temperature in the affected areas.

Recommended Actions:

1. Seal leaks in exhaust insulation:
   - Ensure that all insulation is intact and free of leaks, as these can significantly affect temperature levels at the sensor.
2. Check for aging insulation:
   - If the insulation has aged or degraded, replace it to restore proper heat protection.
3. Improve ventilation:
   - Tests have shown that providing active ventilation around the sensor-cable junction can significantly reduce the temperature and prevent sensor damage.
   - Do not cover the components with insulation to ensure adequate ventilation.

Conclusion:

We recommend ensuring that the insulation around the exhaust system is intact and in good condition. Additionally, providing adequate ventilation to the sensor connection area will help maintain safe temperature levels and extend the lifespan of your NOx sensor. If you have any questions or need assistance in resolving these issues, please do not hesitate to reach out to your authorized **Caterpillar Motoren** dealer.

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