



Additional Checklist for Nox Failures

1. **Engine out measurement with vehicle in fuel control (no EGR)**
 - 2000 – 4000 PPM (Pre-catalyst)
2. **Engine out measurement with vehicle in fuel control (with EGR)**
 - 1100 – 1200 PPM (Pre-catalyst)
 - 40% to 60% reduction
3. **Post catalyst measurement with vehicle in fuel control (with EGR)**
 - Less than 1000 PPM (well under 500 PPM on good running engines)

NOx will peak when lambda equals 1.05 to 1.10, all good running engines will produce Nox. A good baseline approach for testing Nox is stated below:

1. Always start your analysis by addressing HC and CO first, Nox second
2. Baseline the vehicle. Use a gas analyzer on a road test to simulate an IM 93 test to measure Nox. At the very least, load the engine in the service bay while measuring NOx. NOTE: The IM 93 test peaks at 35 MPH.
3. Verify fuel control. Check gas analyzer lambda and test the and test the oxygen sensor for proper operation.
4. Observe fuel trims. Improper fuel trim can indicate an error with airflow measurement (load). Timing and EGR control can be affected by an inaccurate load measurement.
5. Test the EGR system for COMPLETE flow.
6. Test the catalytic converter's ability to reduce NOx.
7. Perform a fuel injection cleaning and/or engine decarbon treatment if intake valve or combustion chamber deposits are suspected.