

AFTERTREATMENT MAINTENANCE

Your aftertreatment system helps control emissions and keep your truck compliant. Key components include the DOC, DPF, SCR and DEF systems, as well as sensors. Good operating habits and timely diagnosis help keep your truck's systems working efficiently.

KNOW THE COMMON PROBLEMS

DPF Clogging / Regeneration: The diesel particulate filter (DPF) traps soot and burns it off through regeneration. Frequent short trips, excessive idling, and low-load work can prevent the exhaust from reaching the temperatures needed for effective regeneration.

DOC or Sensor Faults: The diesel oxidation catalyst (DOC) converts carbon monoxide and unburned hydrocarbons into less harmful compounds, then generates the heat the DPF needs for regeneration. A damaged DOC can make regeneration more difficult. Failed NOx, temperature, or pressure sensors may trigger warnings, even when the DPF is not clogged.

DEF Quality Issues: Contaminated or off-spec diesel exhaust fluid (DEF) can cause selective catalytic reduction (SCR) system and emissions faults. Use DEF that meets ISO 22241 or API-certified DEF standards.

EGR Problems: Carbon buildup or a faulty exhaust gas recirculation (EGR) system valve can affect emissions and engine performance. Follow the engine manufacturer's service recommendations.

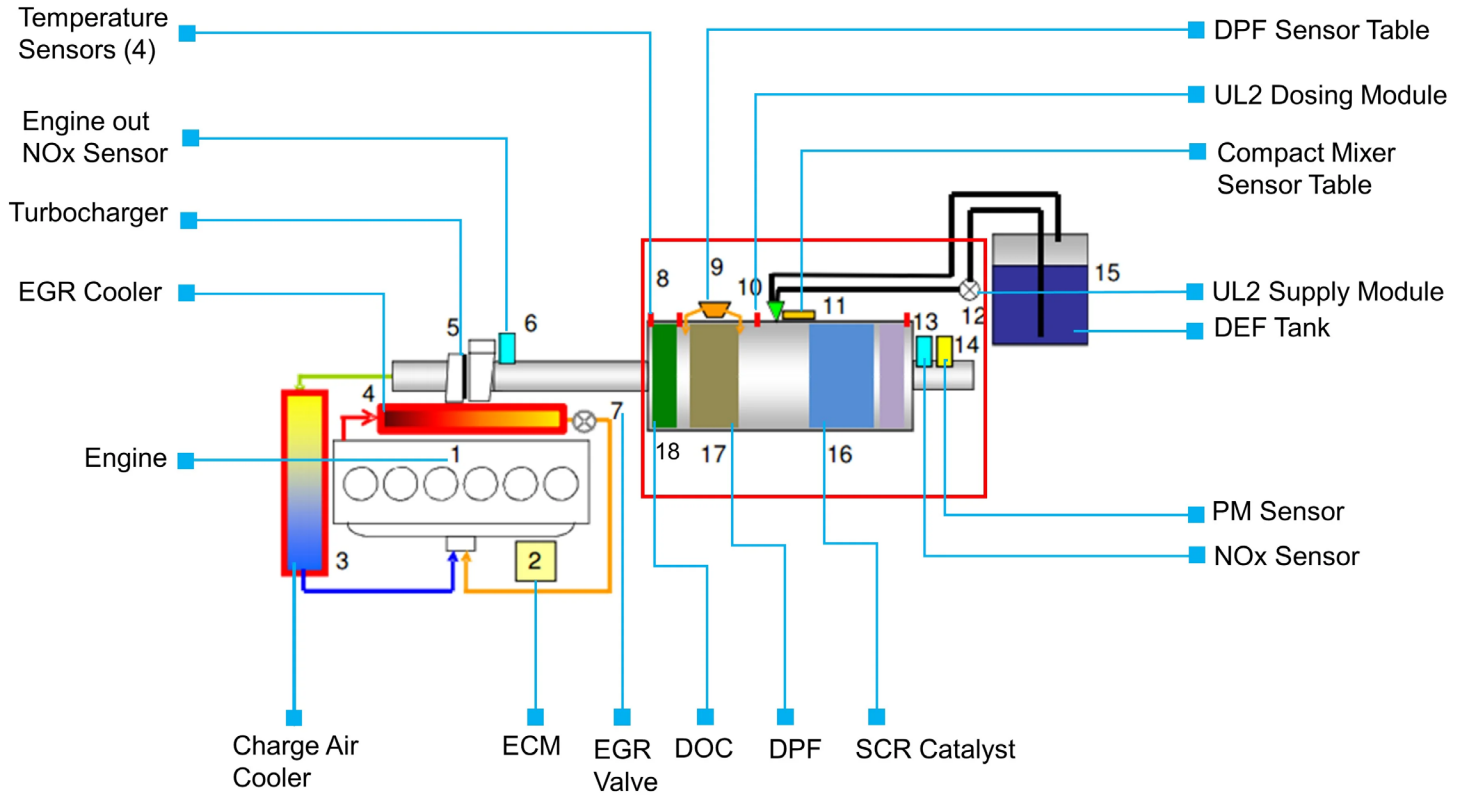
WHAT YOU SHOULD DO

- Follow the dashboard prompts and OEM instructions for automatic or parked regeneration. Allow regeneration to complete only when it is safe to do so.
- Don't repeatedly interrupt regeneration or ignore DPF / aftertreatment warnings.
- Limit excessive idling and avoid repeated short trips when possible.
- Always use the specified engine oil and maintenance fluids.
- Store DEF in a cool, dry place away from sunlight and excessive heat. Check for cloudiness, discoloration, or visible contamination before use.
- Never clear fault codes without finding the cause. Have recurring or worsening warnings diagnosed by a technician.

SEASONAL MAINTENANCE CHECK

- Have the DPF inspected and cleaned only as recommended by the engine manufacturer. Check regeneration operation and DOC condition.
- Check DEF quality and inspect the filter, heaters, lines, and other related components.
- Have NOx, exhaust-temperature, and differential-pressure sensors checked if warnings or regeneration problems occur.

AFTERTREATMENT SYSTEM DIAGRAM



1 - Engine	7 - EGR Valve	13 - NOx Sensor
2 - ECM	8 - Temperature Sensors (4)	14 - PM Sensor
3 - Charge Air Cooler	9 - DPF Sensor Table	15 - DEF Tank
4 - EGR Cooler	10 - UL2 Dosing Module	16 - SCR Catalyst
5 - Turbocharger	11 - Compact Mixer Sensor Table	17 - DPF
6 - Engine Out NOx Sensor	12 - UL2 Supply Module	18 - DOC

Diagram provided by Cummins ®