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CITROËN / FIAT / FORD / MAZDA / MINI / PEUGEOT / VOLVO

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1.6 D / DE / HDI / MZR CD / MZ CD / TDCI / JTD - VARIOUS PSA DV6 ENGINES

MAIN ISSUE

COMMON TURBOCHARGER FAILURE CAUSED BY IMPROPER LUBRICATION OIL DEGRADATION, OIL FLOW RESTRICTIONS

Improper and impaired lubrication can lead to severe damage of critical turbo components - namely the shaft and the bearing system - and are common reasons for the very high rate of turbo breakdowns of the popular PSA DV6 (1.6 diesel) engines. The root causes of these lubrication issues are mainly external factors, such as improper service procedures or the specific design of the engine and its equipment. Failure to eliminate the root causes of the lubrication issues will cause the newly installed turbo to break down quickly. The lubrication issues common for the PSA DV6 engines can be classified as follows:

A. ENGINE OIL DEGRADATION

FAILURE

POSSIBLE ROOT CAUSE

Excessive oil wear
Impaired lubrication ability

- Exceeding the recommended oil change intervals
- Improper oil viscosity applied, too low > oil cannot withstand high temperatures
- Too high combustion temperatures > impair the oil characteristics

Oil contamination
Carbon, soot, sludge built up in the oil

- Recommended oil change procedures not observed carefully
- Too low viscosity oil > causes oil carbonizing in high temperatures
- Damaged fuel injectors seals in the cylinder head > Engine oil contaminated by exhaust gases > sludge formation (models produced before 2010)
- Diesel fuel leaks/improper injection > oil degradation and contamination formation
- Oil sump design > residues of worn oil, sludge and particles formed cannot be removed effectively by standard oil change procedure

B. OIL FLOW RESTRICTIONS

Oil distribution channels clogged
Carbon, soot, sludge built up in the oil

- Feed/return oil lines placed close to excessive heat source, improper/lack of heat protection > oil coking and carbonizing inside the lines, causing restrictions
- Mesh filter in the oil sump pickup/strainer clogged > improper oil circulation, no oil feed to the turbo
- Engine breather/PCV valve malfunction due to excessive contamination > crankcase overpressure > oil return limited flow > turbo shaft seals blown by excessive oil pressure

OTHER ISSUES

THERE ARE OTHER REASONS FOR FREQUENT TURBO FAILURES ON THE DV6 ENGINES:

- Failed DPF regeneration > Excessive backpressure builds up, caused by restrictions in the filter
- Foreign objects in the air intake/exhaust system > compressor/turbine wheel and shaft damage
- Air intake system leaks > turbo overspeeding > premature wear of the shaft and the compressor wheel

RECOMMENDED SOLUTION

To avoid critical failures of the new turbo we highly recommend the following actions:

- Eliminate any other system-related issues and their root causes
- Follow a separate fitting instruction for the DV6 engines' turbo – issued by Nissens and complementary instructions issued by the car manufacturer
- Perform an effective engine flushing
- Besides standard and recommended parts, replace all other parts required specifically for the proper DV6 engine turbo installation – e.g. **Nissens kit no. 9300906** including: turbo oil feed + return lines, fittings, connectors and seals, the oil sump pickup/strainer.



NB! When installing new turbo from Nissens, always comply with the installation instructions included in the product box. Disregarding any of the above instructions may lead to serious, irreversible failure of the newly installed turbocharger and/or of the engine.



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