

# CRITICAL INSTRUCTIONS

PREFACE TO DS089

Application: **PSA 1.6HDi Turbochargers 2004+**

Part Number:

**753420-5005S**

**762328-5002S**

**49173-07507**

**49173-07508**

## CAUTION

### PLEASE READ THIS BEFORE BUYING THESE TURBOCHARGERS:

The PSA 1.6HDi, DV6TED4 engine is a highly sophisticated low emission, high power diesel unit. It is used in many different applications; Citroen, Ford, Mazda, Mini, Peugeot and Volvo.

Due to the engine being clean and powerful, it is designed to operate at high temperatures, which demands the very best lubricants. These lubricants must be maintained in peak condition and PSA have fitted an in-line oil filter to the turbocharger and an integral oil cooler/oil filter to this engine to ensure this. However there is a drawback to this; reports in the field indicate that if the engine has been operated with the oil level below normal limits, this may potentially cause a high concentration of carbon in the oil. This may then lead to blockage of the in-line filter, oil cooler and main oil filter, which will eventually bring on premature turbocharger failure. The vacuum pump may also suffer from this same type of contamination.

However, due to its high operating speeds (230,000 revs per minute) the turbocharger will usually be the first to show signs of damage. This can happen from 30,000 miles onwards if the oil level and correct oil change intervals/procedure have not been adhered to.

Experience to date suggests that the carbon build up in this application is particularly difficult to remove. To try to eliminate the potential for further turbocharger failure, the following **MUST** be undertaken by the garage, in addition to the normal recommended turbocharger fitting instructions:

- Turbocharger oil feed pipe & banjo bolts **must be changed**
- Oil pump should be **removed and checked**
- Sump must be **removed** and cleaned
- Check that engine has latest specification sump and dipstick
- Oil strainer (pick up) **must be removed and replaced** due to residual carbon/sludge build up
- Oil cooler and filter assembly should be **removed and cleaned**
- Charge air cooler to be **removed, cleaned** thoroughly and any oil inside drained off
- Inlet and outlet hoses to be **checked** for damage and **cleaned**
- Exhaust system to be checked for contamination/blockage (catalyst, dpf etc.)
- Vehicles with dpf: carry out static regeneration according to manufacturers guidelines.
- Brake vacuum pump to be **removed and checked** for debris/carbon - **clean** as necessary
- New oil filter and oil to be **fitted**
- Fuel injector gaskets to be **checked** as not burnt or compromised - **replace** as necessary
- Oil drain pipe **checked** for blockage/restrictions and **cleaned** as necessary

continued...



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- Oil flow must be **checked**:
  - Fit turbocharger to engine leaving oil return pipe off
  - Install a longer oil return line and feed into suitable container
  - Start engine and idle for 60 seconds, then switch off engine
  - Measure volume of oil in container - 60 seconds of idle should produce at least 0.3 Litres of oil
  - Repeat test two or three times to confirm oil flow is correct
  - **During this test, do not allow engine to run below minimum oil level!**
  - Vehicle should be driven 20 to 30 miles then the oil/filter must be changed and the filter in the banjo bolt removed
  - Advise oil/filter are changed at 3000 mile intervals

Feedback shows, that even after the above has been carried out, not all of the carbon/sludge will have been removed; resulting in a further turbocharger failure, despite the turbo unit not being defective. These units will **NOT** be covered under warranty as the failure is caused by external influences and not faulty turbocharger components.

BTN Turbo only supply units direct from the turbocharger manufacturers, the same people that will supply the O.E and O.E.S. We have now purchased the oil feed pipes and fittings for this turbocharger from the O.E.S. and will **NOT** supply these turbochargers without the additional purchase of these components.

We feel that due to the possibility of further turbocharger failures on this engine, it is only right to inform you before you purchase a replacement turbo for your customer. Currently we are experiencing a 15% failure rate of new units we supply for this engine.

Please feel free to speak to our engineers or sales team, if you would like to discuss this issue further on **01895 466666**

Any turbocharger returned under warranty will be subject to our standard terms and conditions.

We would also like to assure you that this is the only engine we have experienced these failure rates with. We as a company will always inform you of any ongoing issues to allow you to make the right judgement call for what you deem correct for your business.

**If you do not understand the procedures or have difficulty doing so, please call your local distributor for guidance.**

**WARNING:** To reduce the risk of premature turbocharger failure by residual carbon/sludge, you must ensure you follow the above procedure. You should **NOT** fit the turbocharger where you know, or have reason to believe, that the risk cannot be overcome due to the possible age of the application and/or lack of service history etc. In these circumstances you must decide how best to prepare the application in order to avoid damage to the turbocharger once fitted.

*We will not be liable for failure of the turbocharger due to damage by external elements, including penetration of residual carbon/sludge.*

