Frequently Asked Questions

Question
C4 1.6 HDi Oil Changing and Turbo Failure

Answer
The commonest reason for the 1.6HDi turbos to fail is due to poor maintenance, and poor oil quality.... or not being drained properly at the service. Citroen have in fact issued dealers with a specific bulletin for the changing of oil in the 1.6HDi. What they are saying is that if not drained 100%... old oil can pollute the new oil causing accelerated ageing of the new oil in the engine possibly even causing it to congeal.

Citro ën wrote ...

OIL CHANGE PROCEDURE ON ALL DV6 ENGINES

It is necessary to follow a specific oil change procedure on all DV6 and DV6U engines so as to ensure that no used oil remains to mix with the new oil.

The following method must be used:

" The engine oil temperature must be at least 50 °C :
- the engine oil temperature is considered to be at 50 °C when the water temperature indicator is between 80 °C and 90 °C or the cooling fan has cut in
" ensure that the vehicle is level (side to side and fore and aft)
" remove the oil filter to allow the circuit to drain completely
" remove the oil filler cap and the dipstick
" remove the drain plug
" allow the oil to drain by gravity for at least 10 minutes (DO NOT USE SUCTION METHODS)
" fit a new oil filter
" refit the drain plug with a new sealing washer
" fill the engine with quantity of oil recommended for the engine
" refit the oil filler cap and the dipstick
" run the engine at idle until the oil pressure warning lamp goes out (about 1 minute)
" wait 5 minutes
" check the oil level using the dipstick: the level should be as close as possible to, but not exceeding the maximum mark (1) so as to be between (1) and (3)

For information, the lower mark (2) = Min (0%) the upper mark (1) = Max (100%) the intermediate mark (3) = ¾ litre.

CONSEQUENCES OF NOT KEEPING TO THE OIL CHANGE INTERVALS

If the customer does not have the oil changed at the recommended intervals, the oil will become excessively polluted and will no longer ensure the correct lubrication of the engine. One of the first consequences is inadequate lubrication of the turbocharger bearings causing a failure which is repeated after the turbocharger is replaced. Subsequent symptoms resulting from the reduced level of lubrication will be a noisy engine and then destruction of the engine.

We remind you that if the customer does not keep to the servicing intervals recommended in the Maintenance and Guarantee Guide, the customer will be responsible for the durability of the mechanical parts of the engine.
In this case, the any related repairs needed are not covered by the new vehicle warranty.

CONSEQUENCES OF NOT FOLLOWING THE OIL CHANGE PROCEDURE

If the oil changes are not done as described above, all deposits of old oil will not be removed and will very quickly pollute the new oil, accelerating the ageing of the oil in the engine lubrication circuit (even causing the oil to congeal).

The consequences for the engine are the same as if the oil change intervals are not observed. As a result, any related repairs needed are not covered under the new vehicle warranty.

Greetings

We are a Diesel Turbo Specialist workshop in South Africa.

The Citroen C4 1.6 HDi turbo has been replaced last year November because of the Turbo Wailing like a police siren.

The car came back last week with the same noise to the turbo, so I took the turbo off to inspect to find

that the Turbine blades (hot side) have been damaged from foreign object from the engine. The foreign object

hit it out of balance so that's why it sounds like a police siren. A Citroen specialist says it can be carbon build up in the engine that can cause this? The engine still runs smooth with no problems.

I will insert some pics to show this.

We have fitted a new turbo and the car seems to be fine, no probs.


C4owners


C4owners

There are big problems with poor oil change routines on 1.6HDi's causing oil clogging in cylinder head galleries, turbo supply lubrication pipes etc which is the cause for repeated turbo failure.

When replacing a failed turbo it is imperitive to replace the oil supply/return pipes. You also need to remove the sump and check the gauze on on the pump for any blockages.

Finally a good check so see if there is serious internal blockages, remove the brake vacuum pump - there's a little gauze inside that. If that has signs of blockage then you've got some serious internal clogging going on.

We've had a brand new turbo literally fail within 100 mile from the impellor seizing up and the nut which secures it on the shaft coming undone and wedging in the fan blades. This particular one was an extreme case and ended up having a new engine!

C6 Dave wrote ...

It's possible that all the carbon build up is due to poor oil quality.

The HDi's require a 'Low Saps' oil

There is an ongoing thread here on oil: - Click Here -

gmerry wrote ...

The thing to realise if using a forum such as this for information, is that just like Wikipedia, because it's posted does not necessarily make it true. For example, buying an oil just on SAE viscosity rating is a recipe for problems: the industry in Europe (ie ACEA) stopped using this other than as a marketing label years ago.

The nasty end of the lubricant blenders/marketers can use some pretty cheap base stocks, throw in some polymers and the viscosity ranges (SAE variety) will look fine on the can. Might not last very long in the engine though.

There is a good presentation on Southern Lubricants website by Total explaining the thinking behind ACEA service fill specifications for PSA FAP equipped diesels like our 2.7HDis

- Click Here -

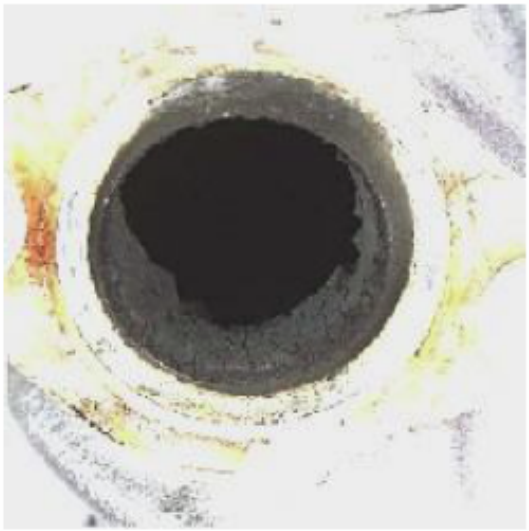
In the Lube Library under Total open the presentation named Low Saps details

Look at the photo of the fouled EGR valve when using a normal non "low SAPS" oil.

Exhausted Gas Recirculation valve at 80,000 km

Conventional

Fouling = 50%



Low SAPS

Fouling = 5-10%

Details

Info 04 May 2009 by Phil