



## SUBJECT

PureTech 1.2l Engines  
EB2 Engine Stellantis Group

## PRODUCTS DESIGNATIONS

VKMA 03306 / VKMA 03307  
VKMA 03306-1 / VKMA 03306-2

## CAR MANUFACTURERS - BRANDS



Peugeot  
Citroen  
Opel

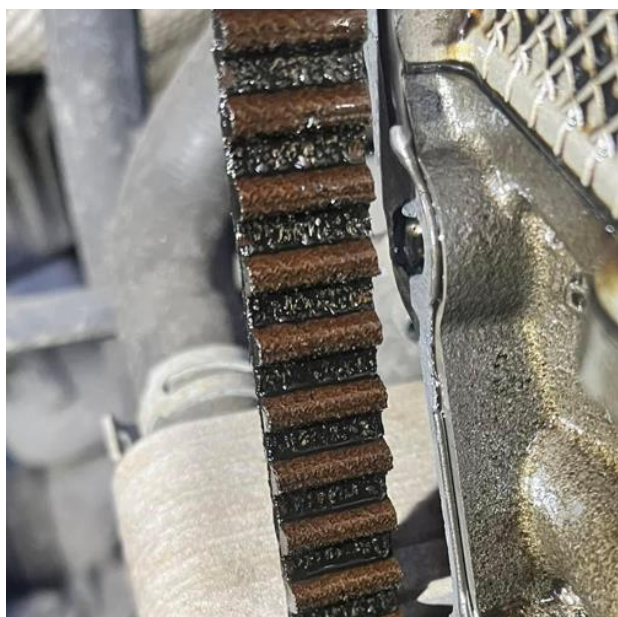


SKF Kit	OE number (equivalency)
VKMA 03306	16 086 842 80, 16 108 724 80, 16 232 316 80, 16 290 801 80, 16 545 127 80, 16 545 160 80
VKMA 03307	16 115 101 80, 16 545 090 80, 16 545 128 80
VKMA 03306-1	16 086 842 80, 16 108 724 80, 16 232 316 80, 16 290 801 80, 16 545 127 80, 16 545 160 80 + Seal set Atmospherique Engine
VKMA 03306-2	16 086 842 80, 16 108 724 80, 16 232 316 80, 16 290 801 80, 16 545 127 80, 16 545 160 80 + Seal set Turbo Engine

### Case study PureTech 1.2l Engines

Problem: Extreme wear on the timing belt leads to clogged oil pump – Results in an engine damage

We have investigated several complaints in which the timing belt showed extremely high wear after a comparatively short period of time. This is due to abrasion of the belt material or even detached teeth.



Extremely worn-out timing belt.



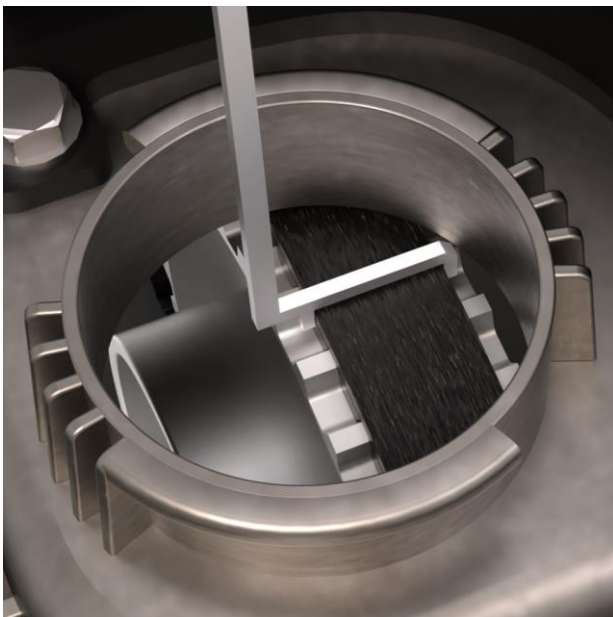
Oil pump clogged due to timing belt abrasion.

The main problem is the premature wear of the timing belt, which gradually decomposes. The resulting particles can clog the lubrication system and clog the solenoids of the variable valve control or the sieve of the oil pump (filter). This then leads to lubrication problems (loss of oil pressure) or to contamination on the camshaft and valves. The problem arises from the rapid breakdown of the engine oil, especially in vehicles that are driven relatively infrequently (less than 15,000 km per year) and mainly in city traffic. Under these conditions, the 1.2 PureTech is prone to oil dilution, with fine droplets of unburned fuel sliding down the cylinder walls and mixing with the oil in the sump below. The resulting mixture acts abrasively on the belt, explaining the wear.

### Avoiding engine damage in these cases

Note: It is mandatory to follow the installation steps exactly!

Since there is no technical solution to prevent this condition, the only way to protect the belt on these rarely used vehicles is to change the engine oil annually. This explains why the manufacturer recommends checking the belt condition through the oil fill hole at every routine service. When topping up, you are in fact pouring the oil into a hole located above the timing belt. You can see part of the belt through the same hole and thus determine its condition. In addition, it should be measured with a special gauge to evaluate the condition of the belt (Tool-OE: G-0109-6). Always measure the belt at three different positions.



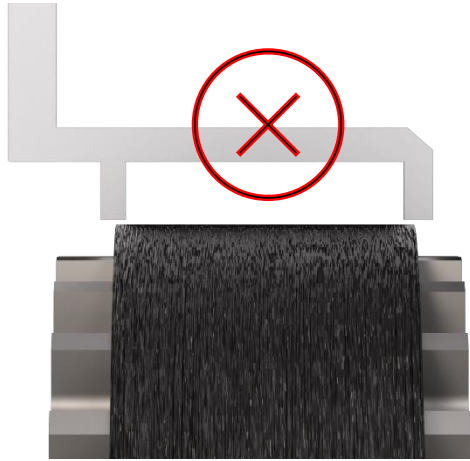
Access via the oil filler cap.



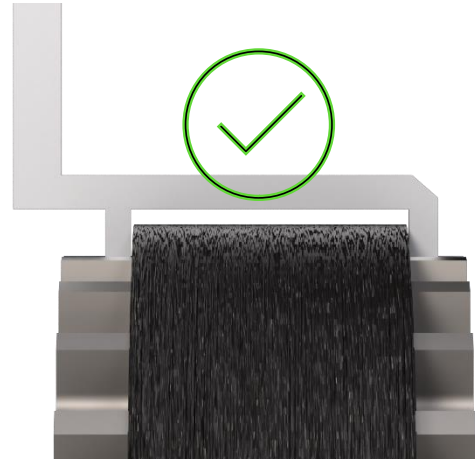
Always measure over a belt teeth.

Note: The replacement interval for this belt as 100.000 km or 6 years. Anyhow it's mandatory to check regularly the belt condition as the interval can only be reached under optimal conditions.

In addition, blockages may occur in the vacuum pump and impurities may collect on the valve seat.

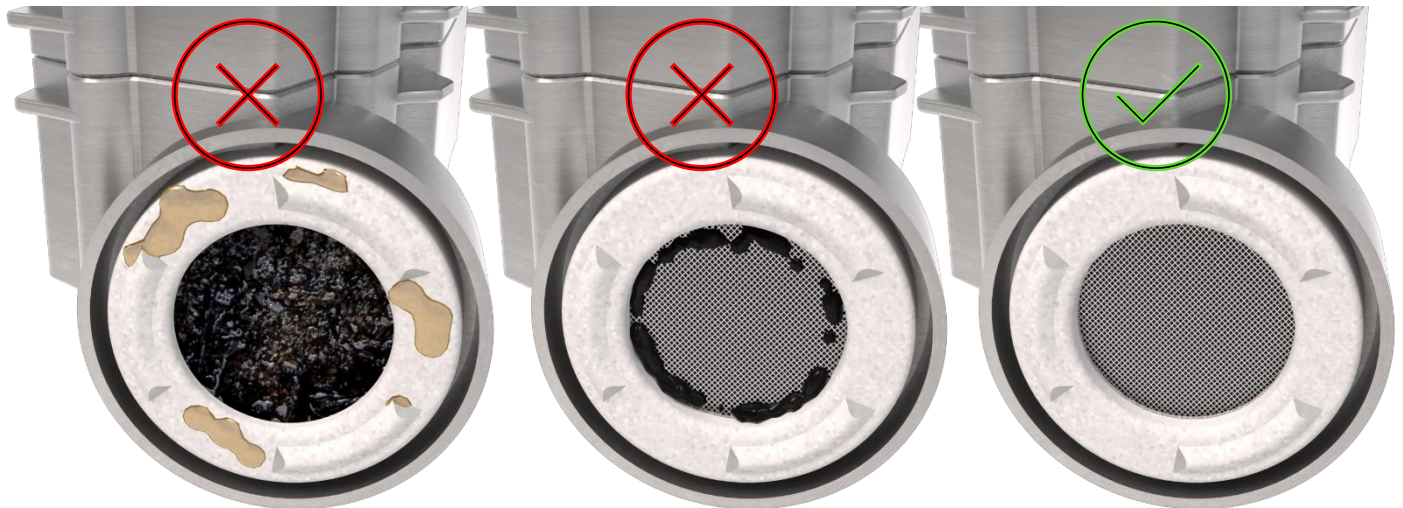


The belt has swelled up, the gauge no longer fits over the belt.



The gauge fits over the belt, the belt is ok.

If the belt has swelled up it's mandatory to replace the timing belt and in addition check the condition of the oil pump:



If contamination is visible in the oil strainer, the strainers of the two solenoid valves of the variable camshaft phasing unit and the oil strainer of the vacuum pump must also be checked for contamination and cleaned. These blockages are usually also associated with a fault in the oil pressure system, which leads to an active oil pressure warning light.

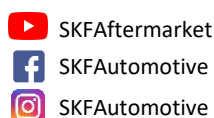
If the timing belt needs to be replaced due to a broken belt, it is advisable to carry out additional work:

- Check and clean the two solenoid valves for the camshaft adjustment, replace if necessary
- Check and clean the oil strainer on the vacuum pump, replace if necessary
- Check and clean the oil pump strainer
- Replace the cap screw on the turbocharger oil connection
- Replace the oil and oil filter
- Check and clean the oil pressure control valve, replace if necessary



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