

BMW N52 engines oil leaks from behind oil filter housing





The new N52 series includes the N52B25. Also included is the N52B30 engine which has 6 cylinders and is totally different from previous versions of the M54B30. It is equipped with popular Double-VANOS camshaft and light-weight aluminum-magnesium engine block along with lighter connecting rods and pistons.

A new cylinder head design is used in this engine. It incorporates variable valve timing on both the intake and exhaust valves. The Valvetronic II improved system of valve lifting is used in order to increase the engine's efficiency.

The N52 engine uses three aluminum bolts securing the cylinder head to the timing cover. This is where our problem starts for this oil leak. These aluminum bolts tend to break; the one you can see with a quick glance is the bolt located behind the oil filter housing.



This bolt is relatively easy to replace. The procedure involves removing the intake manifold and cutting a small slot in the bolt; it will then back out rather easily. This however is not where you should stop. If you find this bolt broken there is a strong possibility that there are other bolts broken under the valve cover as well.

The next step involves removal of the valve cover to inspect the remaining timing cover bolts.

Once the valve cover is off there are a few things you should inspect, one being the Valvetronic eccentric shaft sensor. Here we are looking for any signs of oil in the electrical connector. This would indicate a problem in the sensor which should be replaced at this time. A faulty sensor allows oil to leech into the sensor and can cause issues down the road. Some of the codes this sensor will set are

- 2A31 Valvetronic eccentric shaft sensor, guide sensor
- 2A32 Valvetronic reference
- 2A47 Valvetronic eccentric shaft sensor plausibility

It's best to change this sensor when the valve cover is off.

There are two more bolts located under the timing gears. These are also aluminum and should be checked. If either of these is found to be broken or loose, you will have to pull the front timing gears off to change the bolts. BMW instructions can be found in 1131505.

Special tools required:

11 0 300	11 4 280
11 4 360	11 4 362
11 5 200	11 9 280

If you find the broken bolt head, pull it out. However if you have gotten unlucky and the bolt head cannot be found the fun is only beginning. At

this point you should remove the oil pan to retrieve it. The bolt head can easily jam in the timing chain and cause jumped timing or worse. Once the pan is pulled down and you have retrieved the bolt, it's time for reassembly. ●

