

Excessive Sealant Seizes Camshaft: 3.2L Duratorq



We would like to thank Geoff, from All Head Services, for sharing this practical information and photos www.allhead.com.au

Front camshaft bearing surface in the head showing the signs of imminent seizure from lack of oil.



This is the oil supply gallery to the camshafts in the camshaft cradle that was partly blocked from unnecessary and excessive sealant application.



All Head Services recently had a customer who purchased a reconditioned Duratorq 3.2L (PUMA) cylinder head for a 2012 Ford Ranger. The cylinder head was fitted and taken for a 40 km road test. When checking over the vehicle, a noise was heard coming from the cylinder head.

The valve cover and camshaft cradle were removed they noticed that the camshaft had begun to grab on the front camshaft journals.

The cylinder head was removed and sent in for inspection, and during the dismantling, it was found that the front cap oil supply gallery had been partially blocked due to excessive use of sealant on the front cam cap.

NO sealant is required in this area.

Sealant should be applied in a bead of 2.5mm in diameter on the areas highlighted in ORANGE when fitting the camshaft cradle to the head. Wipe off any excess that is squeezed out from the joint.

The workshop manual indicates that sealant is only required to be applied in a bead of 2.5mm in diameter around the outer edge of the cylinder head and the camshaft cradle. None is needed in-between the front cam bearings according to the manual. The 2.2L Duratorq engines have the same requirements.

The excess sealant blocked an oil gallery, in this case. However, there have been reports of sealant blocking coolant passages or ending up in the sump to block the oil pump pickups.

The logic of "if some sealant is good

then more is better" and "if in doubt apply it everywhere" might sound like a quick and simple plan, but it can lead to expensive rework. It is best practice to check where, how much and what sort of sealant is required to correctly reassemble an engine.

Luckily, the cylinder head and camshaft were able to be repaired in this case, and the cylinder head was returned to the customer.

For the correct tension sequences to reassemble these engines, login to Tech Online or call the Technical Advisory Service. 



We have covered the problem of excessive sealant use before. See Tech Talk Oct 2016, page 4237