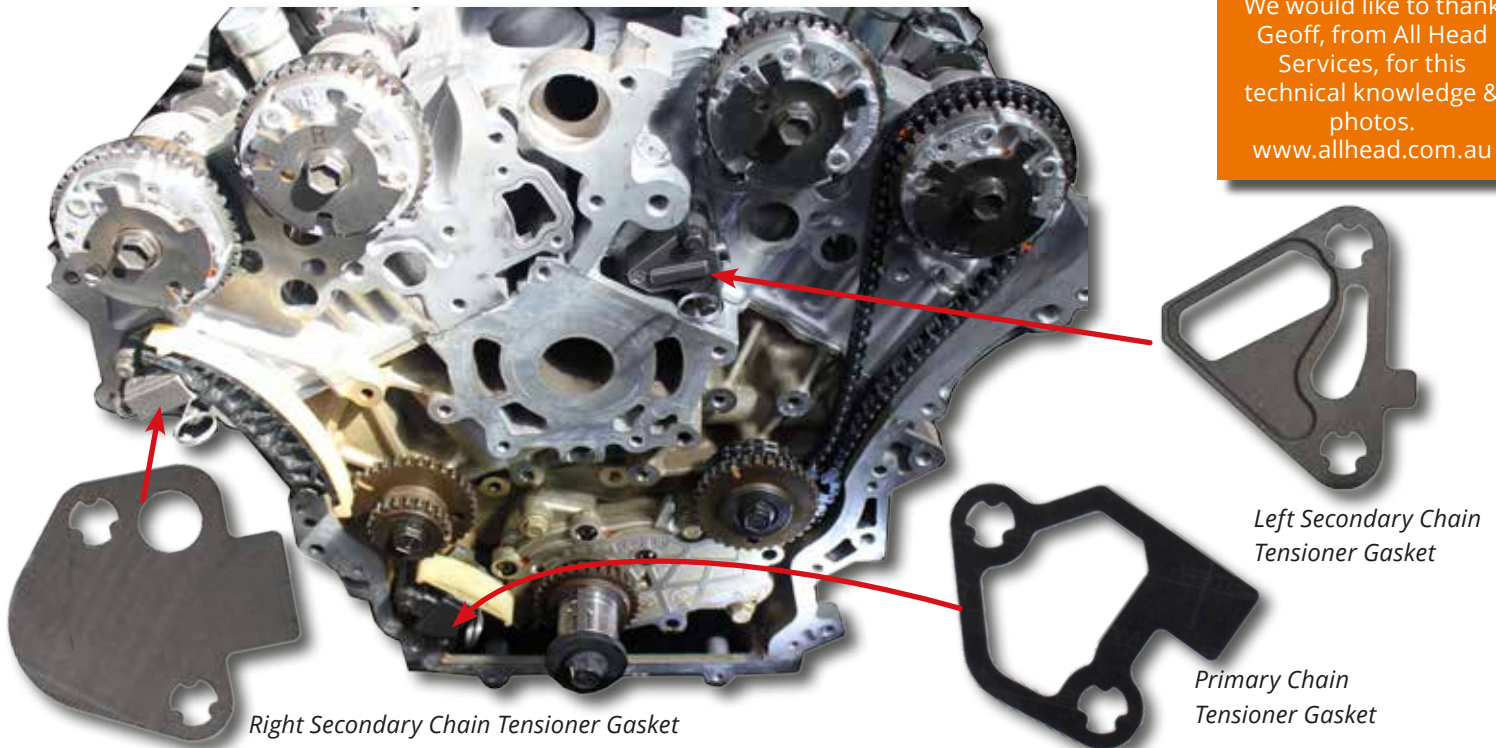


Holden Alloytec V6 Timing Chain Tensioner Gaskets: NO Oil Pressure



We would like to thank Geoff, from All Head Services, for this technical knowledge & photos.
www.allhead.com.au



All Head Services sold a customer a set of heads for a VZ V6 Alloytec engine and the customer fitted the heads, and also fitted new timing chain kit while it was apart. When the engine was started, there were no rattles, but the low oil pressure warning came up on the dash display.

A master oil pressure gauge was fitted, and the engine was showing ZERO oil pressure at idle (should be 69 kPa / 10 psi) and 40 psi when revved to 2000 RPM. The oil pick up was checked with a camera and was clean (the pickups tend to block if the oil becomes sludgy, see Jan / Feb 2018 Tech Talk page 4468) so the timing cover was removed and the components inspected.

These engines have three timing chains and three timing chain

tensioners. These tensioners are hydraulically actuated via pressurised oil from the engines lubrication system. This keeps the chain slack to a minimum and allows for automatic adjustment. Each tensioner also has an oil jet that sprays oil onto the chains while the engine is running.

All of the tensioners have a small oil reservoir between their body and their mating surface, this allows for quiet and fast operation on start-up. This reservoir of oil is contained by the rubber covered metal gasket that seals the tensioners to the block or heads. As this engine was dismantled and the timing chain tensioners removed, it was found that one of the tensioners had not had the metal gasket fitted when it was being assembled. This was where the oil pressure was escaping. A new set of gaskets was fitted to

the tensioners and the engine was reassembled. The engine had full oil pressure at idle and through the rev range.

As this case shows, one small component can reduce the oil pressure in the entire engine. The lesson from this is to make sure to replace all gaskets on reassembly, and not to assume that because a component is inside the engine that it does not need a gasket or to seal correctly.

The procedure to replace the timing chains on these engines is complicated, requires special tools and must be completed in two stages for the cam timing to be correct. For this procedure see the Sept 2009 issue of Tech Talk (page 2988), login to Tech Online or call the VACC's Technical Advisory Service. 📄



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