

## Servicing the engine-oil relief valve, Eddie Loader



If this valve is worn, it can be the cause of abnormally low oil pressure. It needs to be routinely serviced every 25,000 miles, or when the engine is rebuilt. The valve protects the oil pump by preventing the oil pressure getting too high. This occurs when the engine is cold and the oil is more viscous. The valve is located on the left side of the sump, but is obscured by the chassis rail.

To access it, first remove the large hexagon blanking nut (blue arrow).

The mechanism consists of a non-adjustable fixed-compression spring, which provides force to a ball bearing, which in turn rests in a seating which is the entrance to the return oil gallery. If the oil pump generates excessive pressure, the ball bearing overcomes the spring pressure, opening the passageway to the return oil gallery leading to the sump, thus reducing the oil pressure.



When the engine oil temperature reaches a normal working range, the viscosity drops, allowing the oil to flow more easily through the jets, which reduces the oil pressure. This in turn allows the ball bearing assisted by the spring pressure to seal off the return oil gallery.

It is easy and straightforward to service the valve. The components required are a new spring, ball bearing and fibre sealing ring. All these components are readily available via the main A7 spares stockists .

If the engine operating oil pressure drops gradually with no obvious cause, then the relief-valve could be the problem, because the spring can lose its compression. Also the ball bearing can be subject to corrosion and fail to seal the return oil gallery, see photos. The oil pressure is higher in the three-bearing engine, which is due to having oil jets of a smaller internal diameter than those used in the two-bearing engine. It is now becoming normal practice when rebuilding competition engines to fit a modified oil pump, the pump body is over bored by 1/16 inch. This modification will increase the volume of lubricating oil delivered, but does not materially increase the oil pressure.