

RYCO

TECHNICAL BULLETIN

SPIN ON OIL FILTERS

OIL FILTER OVER-PRESSURISATION

Oil filter over-pressurisation must be seen as a symptom of oil pressure regulating valve malfunction. This valve is installed as either a part of the oil pump assembly or in the oil gallery located downstream of the oil filter. **SCAN QR CODE TO VIEW TECHNICAL VIDEO >**



The regulation valve controls maximum oil pressure in the lubrication system. The valve's correct operation is crucial. Without regulated oil pressure, any spin-on oil filter will fail. Beginning with the deformation of its body or shell and leading to eventual seal blow out. Interestingly, the release of system pressure caused by filter leakage, or blow out, may temporarily free the malfunctioning pressure regulating valve causing suspicion that the filter, rather than the valve, is faulty.

It's in the vehicle owner's best interest that the cause of over-pressurisation be sought out and corrected, eliminating the risk of recurrence. Known causes of oil pressure regulating valve failure are:

Oil Filter Over-pressurisation

- 1 Seemingly insignificant debris, varnish or rust on the valve cylinder or piston could occur after engine rebuild or major dismantling
- 2 Reassembly of a worn valve where the piston is repositioned at variance to its original wear track
- 3 Valve lock-up is a first sign of glycol type antifreeze build up in the oil - a result of minor head gasket leakage
- 4 Hydraulic lock can occur with some valve designs and jamming by ice crystal formation can be experienced in cooler climates as a result of condensation build-up in the oil

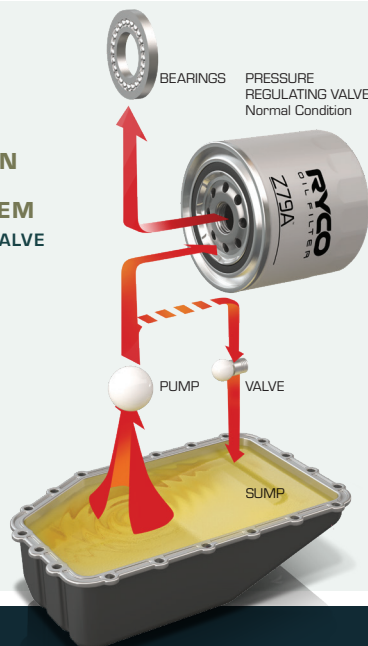
The risks of oil pressure regulating valve malfunction and subsequent filter failure can be minimised by regular oil change maintenance and adherence to the following checks:

- 1 After engine or oil pump rebuilds or disassembly, ensure that the oil pressure regulating valve components are clean, undamaged and re-oiled prior to assembly. Ensure that the piston moves freely within its cylinder
- 2 When checking for leaks on filter installation, ensure that maximum rated oil pressure is achieved through adequate engine revolutions

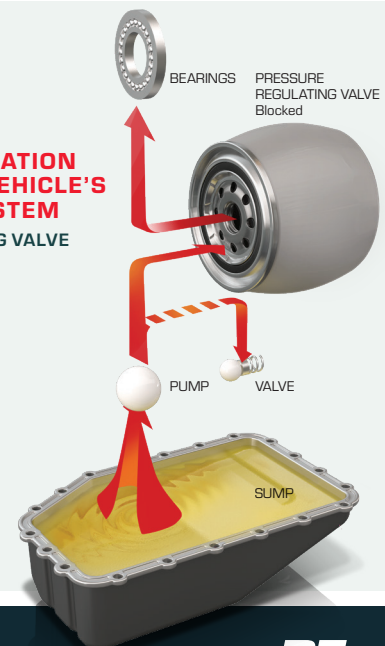
While pressure resistance varies with size and gasket position, Ryco Filters are guaranteed to withstand minimum pressures of 1379KPa (200 PSI). This is twice the normal operating oil pressures of most engines and a requirement of modern engine manufacturers.



**NORMAL OPERATION
OF A VEHICLE'S
LUBRICATION SYSTEM**
PRESSURE REGULATING VALVE
NORMAL CONDITION



**OVER-PRESSURISATION
OCCURRING IN A VEHICLE'S
LUBRICATION SYSTEM**
PRESSURE REGULATING VALVE
BLOCKED CONDITION



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