

Lagondaforum: two pressure oil circulation system and old and new conrods

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Written by Peter S30 at Dec 06, 2008 4:14 pm

The V12 oil system originally had two completely separate systems: one for low pressure for the cams and one high pressure for the big end bearings. This was modified by the factory soon combining both sides to high pressure and having a small pressure reduction valve to take part of that oil to lubricate the cams.

After some months of production it was found that the duralumin conrod big ends when produced in summer would seize in winter because of too much difference in thermal expansion of the duralumin compared to steel. So the factory did the 1 1/2 thou treatment (increasing the big end clearance to that figure)- see Arnold Davey, Lagonda 4 1/2 & V12, page 142

Maybe the conversion of the oil system became only necessary because of this treatment of the conrods and because the duralumin is expanding so much when hot. See also David Hines revised Manual for the V12, page 24 about this topic.

My conclusion: If somebody is putting in new modern steel conrods with very little clearance, the increased amount of oil with the factory modified system is no longer needed, the overpressure/bypass valve has to open very often and may be damaged or stuck open which then leads to loss of oil pressure at low revs and damages the big end bearings (I have heard about one such case).

So in this case (new conrods, little clearance) I think it would be better to convert the oil system back to the very first design.

other opinions, corrections, experiences and discussion welcome
