Note 47

The Ferrari SOHC V12 inlet limitation

In the 1957 type 250 Testa Rossa 60V12 3 L Sports-Racing engine, which was B/S = 73mm/58.8 = 1.24, still based on the original type 125 block casting and still SOHC, Ferrari finally fitted a cylinder head with individual inlet ports (138). Each had its own carburetter choke. This improvement in breathing was made possible by moving the single plug per cylinder from the inlet to the exhaust side where they were arranged as in the 1951 type 375 4.5 L 24-plug engine, i.e. the individual exhaust ports being displaced longitudinally to a 1-2-2-1 grouping. The plug points were still deeply recessed from the combustion chamber (see Fig. SO14B which has the 24 plug scheme).

The new engine was claimed to give 306 CV (302 BHP) @ 7,400 RPM (138), representing BMPP = 12.4 Bar on Petrol at R = 9.6; MPSP was 14.5 m/s.

The power claim seemed optimistic at the time but the engine was very successful, winning the Sports Car Championship (limited to 3 L) including Le Mans, in 1958, 1960, and 1961. Significantly, however, it was beaten in the 1959 Championship and at Le Mans by the Aston Martin DBR1 IL6 3 L which had just under 270 BHP*.

If it is accepted that the 250TR claimed power was 10% optimistic, then BMPP = 11.1 Bar. This figure, on Petrol, is still comfortably 10% better than the 1951 24-plug type 375 on an alcohol mixture fuel. It indicates how that engine had been restricted by its breathing.

The 250TR had MGVP = 60 m/s and (R x VIA) = (9.6 x 60^0) = 576^0.

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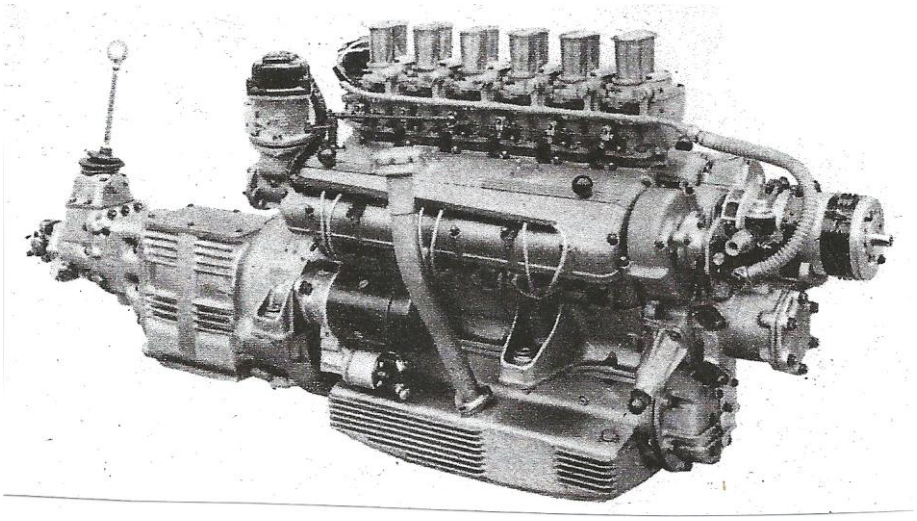
*DASO 267. Racing with the DB Aston Martins. Vol. 2. J. Wyer & C. Nixon. 1980.

Fig. N47A
1957 Ferrari 250TR
Motor 23 April 1958



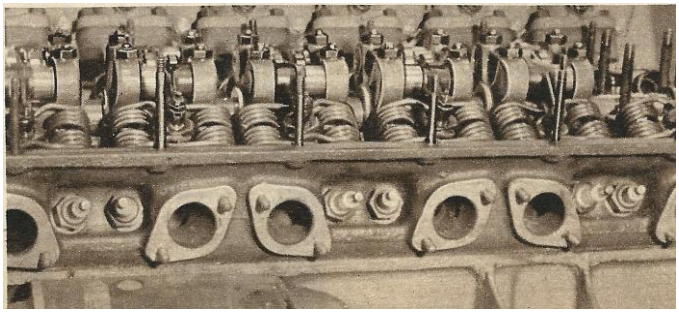


Fig. N47B
Showing details of the 250TR plug arrangement on the exhaust side.
DASO 138