Note 61

Coventry Climax type FPE versus potential rival Grand Prix engines

In 1954 the leading characteristics of 2.5L Grand Prix engines were as tabled below.

Make	Mercedes	Maserati	Ferrari	Lancia	Climax
Type	M196	250F1	554 (?)	D50	FPE
Data sources	468	147, 158	8, 22, 711	800, 1089	33, 131B
Configuration	IL8	IL6	IL4	90V8	90V8*
B/S mm/mm	76/68.8	84/75	100/79.5	73.6/73.1	76.2/67.945**
	= 1.105	1.12	1.258	1.007	1.121
					**3''/2.675''
R	12.5	12.5	12	10.5	12.3
Methanol in fuel	25%	50%	Yes, ?%	Yes, ?%	65%
PP HP	253 (n1)	214 (n2)	240	260 (n4)	258 (n6)
@ NP RPM	8,250	7,000	7,500	8,000	8,250
TP lb.ft.	183	180 (n2)	?	?	190 (n6)
@ NT RPM	6.300	6,000	?	?	6,000
NP – NT / NP	23.6%	14.3%	?	?	27.3%
W kg	205	178	160	170	154
PP/W HP/kg	1.23	1.20	1.5	1.53	1.67**
					**(36% higher than the M196).
Major races won	4	2	2 (n3)	None (n5)	Not raced (n7)

Notes

(n1). 257 PS

(n2).UK test of Stirling Moss' engine after full works overhaul (147). Hassan quoted 230 HP as best used by Fangio in early 1954 (575).

(n3). ! win in a type 625 chassis with a 625 crankcase.

(n4). Other sources quote 250 HP.

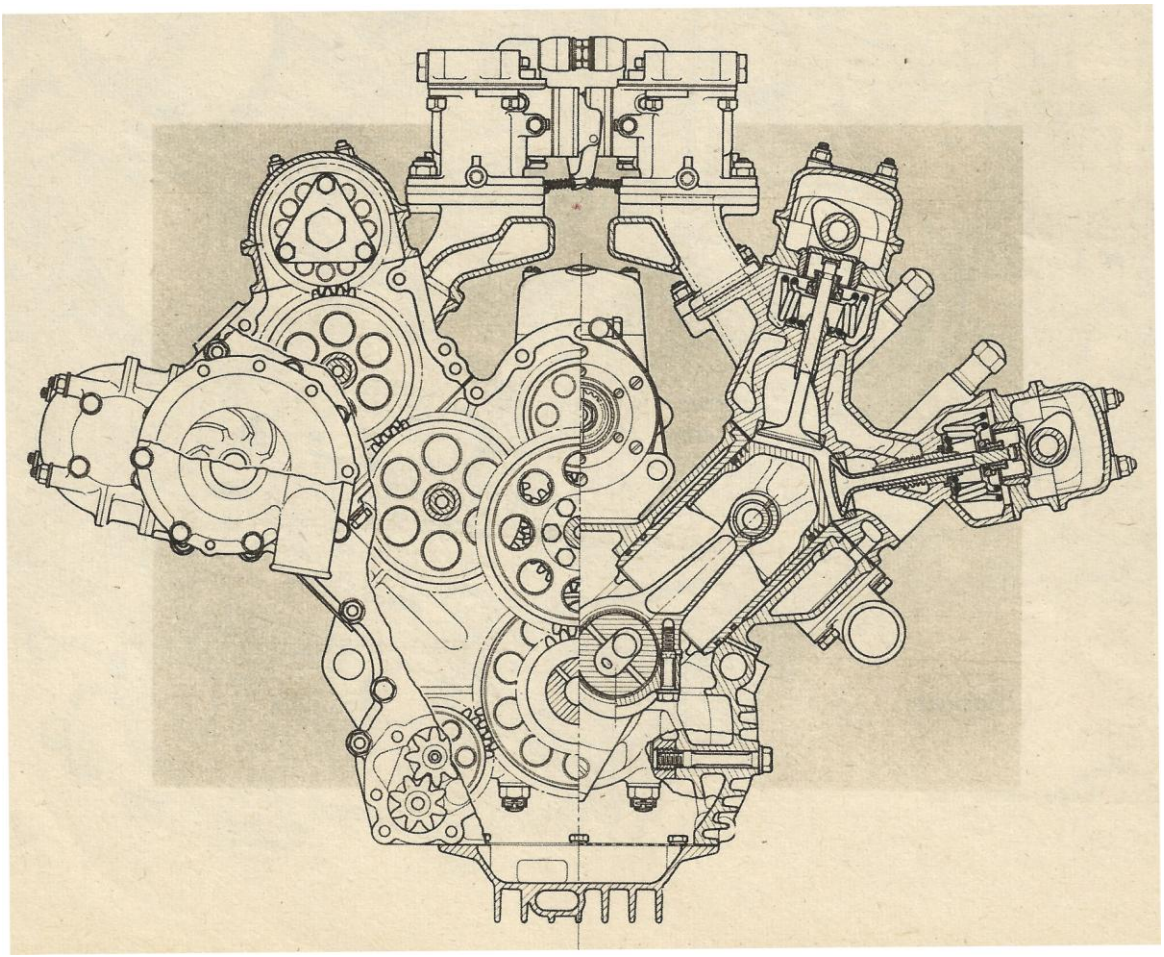
(n5). Fastest lap in the last race of the season but this may have been with a light fuel load in a car not expected to last its 1st race.

(n6). Table 4 and Fig. 24 in ref. (33). Text of (33) quotes 264 HP @ 7.900 RPM.

(n7). Source (131B) stated test in 1954.

*A section of the Coventry Climax FPE is given on P.2.

1953 Coventry Climax FPE
90V8 3''/2.675'' (76.2mm/67.945) = 1.121 2,479 cc
This is the original design with hairpin valve springs (HVRS).
The inlet tracts are angled to give radial swirl.
The exhaust valves are hollow in both stem and head for an internal coolant.
The exhaust valve guides have a portion in direct contact with water.
The con.-rod is split at an angle to permit withdrawal upwards.
There are extra transverse bolts retaining the main bearing caps.
Data Source Autocar 7 August 1953.



Contrast the type FPF in 2.5L form shown on Fig.39A.
This IL4 engine in 1960 had PP/W of 1.82 HP/kg on AvGas 100/130 fuel, 8½% higher than the 90V8 FPE on 65% methanol.

The performance of the family of Coventry Climax DOHC racing engines is given in Note 20.