Note 112

BMW 2005 P85: SO27

DASO 1095* provides official BMW data (underlined) for this prototype engine.
It was not raced in the 2005 season because the FIA suddenly changed the required engine life limits from 1 race weekend, to which the P85 had been designed, to 2 race weekends. BMW assessed this as requiring a 1,600 km life instead of 800.

The P85 was the last all-new BMW V10.

4 v/c DOHC
90V10 Bore (B) = 98 mm
Stroke (S) = 39.75 mm
Swept Volume (V)= 2,998.33 cc
B/S= 2.465
100/Smm=2.516

Peak Power (PP)=>937 BHP [BMW >950 PS]
@ NP=19,300 RPM [BMW Red Line 19,800]
Assessed 500 below Red Line

Peak Torque (TP)= 265.5 lb.ft. [BMW 360 Nm]

PP/V=312.5 BHP/Litre [using 937 BHP]
BMPP = 14.49 Bar
@ MPSP = 25.57 m/s [using 19,300 RPM]

BMTP = 15.09 Bar

BNP = 31.52 m/s

Inlet Valve head Diameter (IVD) = 41.5 mm 42.35% of B
Inlet Valve Area/Piston area (IVA/PA) = 0.359
Mean inlet Gas Velocity @ PP (MGVP) = 71.29 m/s

Exhaust Valve head Diameter (EVD) = 34.4 mm 83.9% of IVD

Weight (W) = 82 kg
PP/W = 11.43 BHP/kg

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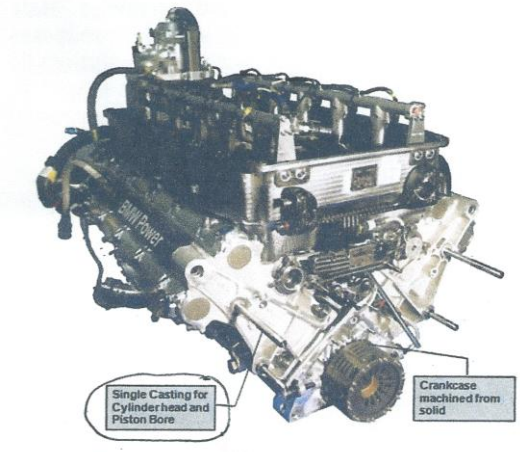
* DASO1095. *Ten Years of BMW F1 Engines*. Paper by Prof. Dr-Ing. Mario Theissen et al. 2010.



P85

Type	V10-90°
Displacement	2,998.5 cc
Bore	98 mm
Stroke	39.75 mm
Cylinder spacing	102 mm
Bank offset	18mm
Engine length	575.0 mm
Engine width	517.0 mm
Engine height	290.0 mm
Weight	82 kg
Centre of gravity height	110 mm
Max. output	>950 PS
Max. torque	360 Nm
Max. engine speed	19,800 rpm
No of valves	40
Intake valves	41,50 mm, titanium
Exhaust valves	34.40 mm titanium