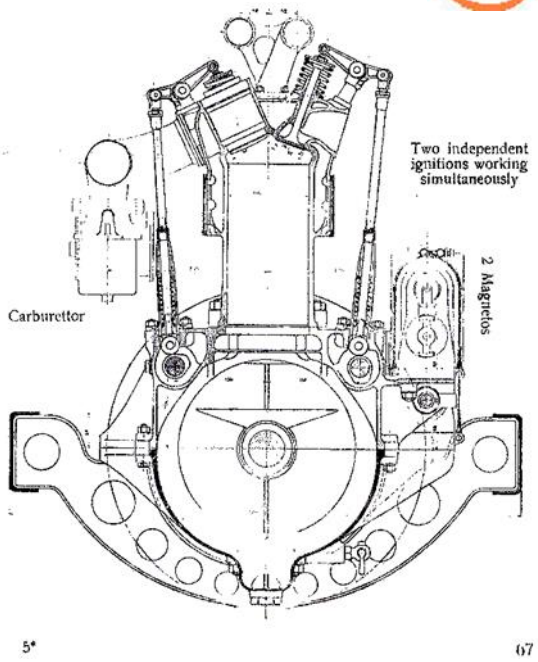
ILLUSTRATIONS for Appendix 6

Fig. 1
1910 Benz Prince Henry
IL4 115 mm/175 = 0.657 7,271 cc
118 HP @ 2,080 RPM

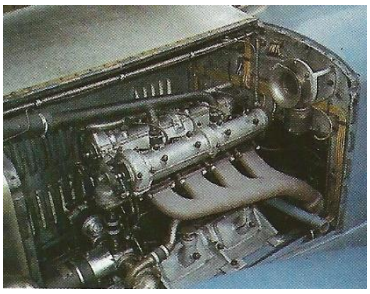
Curiously, the inlet valve (which had an inner ring of holes, like the 1908 Mercedes) was held in a removable cage. The exhaust valve, which would certainly have needed frequent attention, was seated directly in the iron combined head/block. The exhaust valve guide was integral with the head. Another curiosity was the extremely early exhaust valve opening.



DASO 1149

Fig. 2
PEP 372
1921 Ballot 2LS
IL4 69.9 mm/130 = 0.538 1,996 cc
72 HP @ 3,800 RPM

The 2LS Ballot finished 3rd in the 3L 1921 French Grand Prix, driven by Jules Goux. In the 1922 Targa Florio the cars came in 2nd (Goux) and 3rd (Giulio Foresti) behind an up-dated 1914 4 ½L GP Mercedes.



***Motor Sport* December 1993**

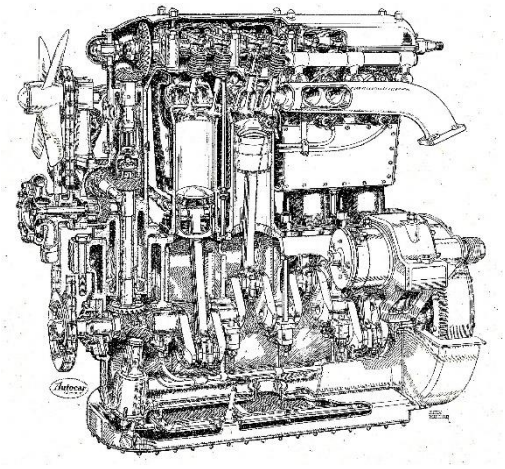
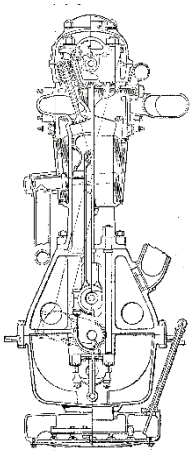


Fig. 3
PEP 103
1924 Bentley Le Mans
IL4 80 mm/149 = 0.537
2,996 cc
87 HP @ 3,500 RPM

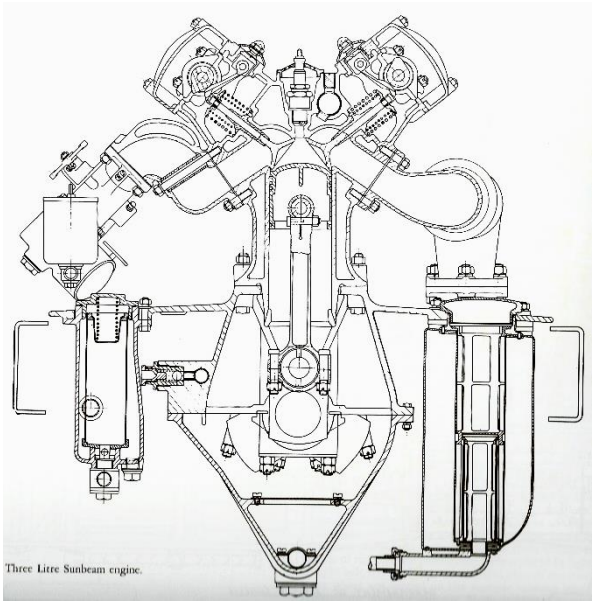
The 3 Litre Bentley won the 1924 Le Mans, driven by John Duff and Frank Clement.



Both Figs DASO 51

Fig .4
1925 Sunbeam 3 Litre
IL6 75 mm/110 = 0.682 2,916 cc
90 HP @ 3,800 RPM

www.ipocars.com



DASO 24

The 3 Litre Sunbeam was Louis Coatalen's weapon to beat the 3 Litre Bentley. In its one-and-only entry at Le Mans in 1925 it achieved this aim. One car (of two) driven by Jean Chassagne/Sammy Davis finished 2nd to a Lorraine.

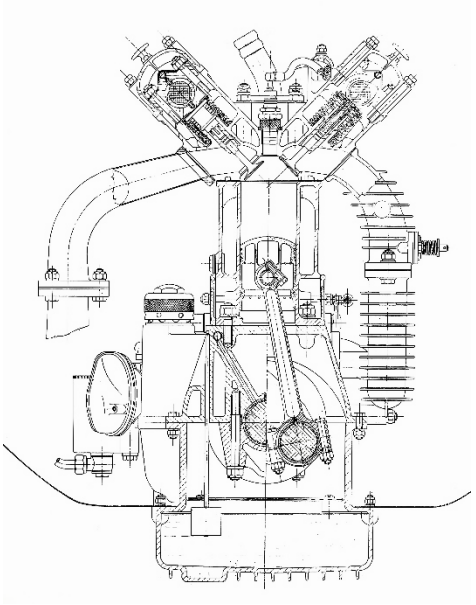
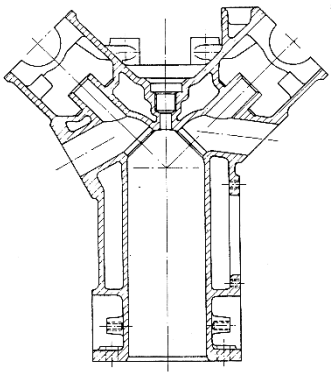


Fig. 5
PEP 362
1930 Alfa Romeo 6C/GSTF
IL6 65 mm/88 = 0.739 1,752 cc
101 HP @ 5,000 RPM
The Fig. is for the normal 6C 1750 cc engine. The works engines were TF = *Testa Fissa (*Fixed Head*). This is shown RHS.



Both Figs. DASO 322

Alfa 1750s won the Mille Miglia in 1929 and 1930.

Fig.6
PEP 283
1930 Bentley Le Mans
IL6 100 mm/140 = 0.714 6,597 cc
201 HP @ 3,500 RPM

The same 6.6 Litre Bentley ("Old No. 1") won the Le Mans twice:- in 1929 driven by Woolf Barnato and Tim Birkin; and in 1930 by Barnato and Glen Kidston.

"Old N0. 1" Wikipedia

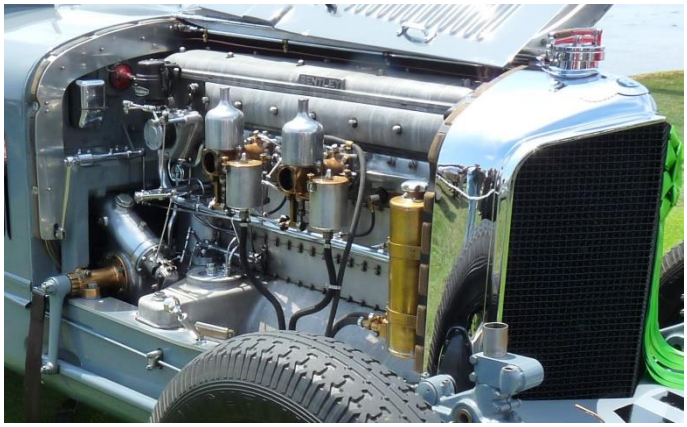
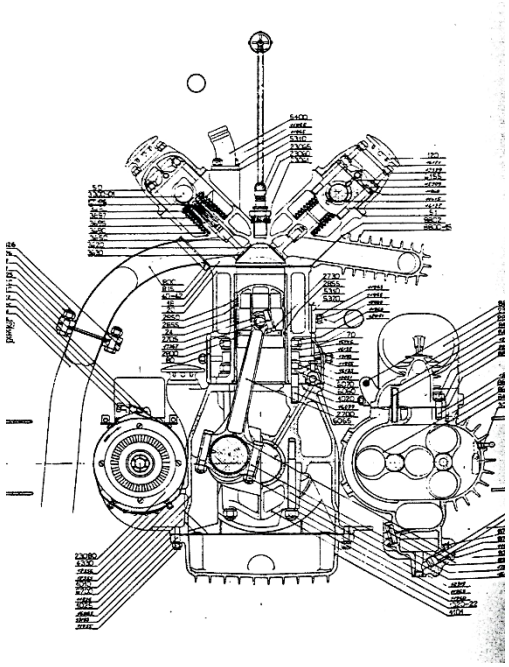


Fig .7
PEP 363
1931 Alfa Romeo 8C2300/LM
IL8 65 mm/88 = 0.739 2,336 cc
136 HP @ 5,400 RPM

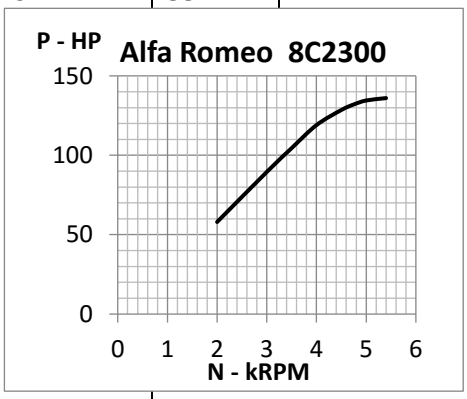


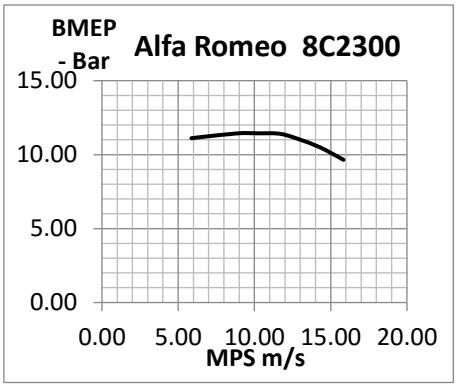
DASO 25

This was an 8-cylinder derivative of the 6C 1750 and retained the removable head for ease of maintenance by private owners. The pure racing works 2.65L Type B (or "P3") which followed in 1932 used the fixed head architecture (see "1st Pressure-Charged Era (1PC) at Eg. 18).

POWER CURVES

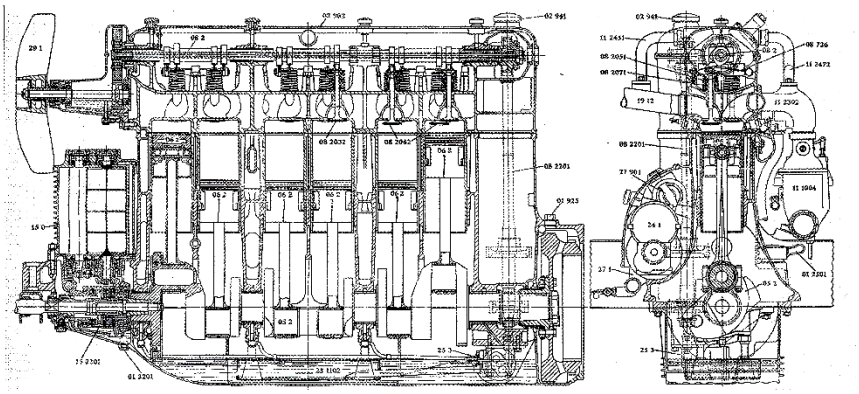
PEP	363	N	P	MPS	BMEP
DASO	301	kRPM	HP	m/s	Bar
YEAR	1931	2	58	5.87	11.11
Make	Alfa Romeo	3	89.5	8.80	11.43
Model	8C2300	3.5	104.5	10.27	11.44
		4	119	11.73	11.40
Vcc	2336	4.5	128.5	13.20	10.94
Ind. System	PC	4.75	132	13.93	10.65
Confign.	IL8	5	134.5	14.67	10.31
Bmm	65	5.4	136	15.84	9.65
Smm	88				





Alfa 2300s won at Le Mans in 1931 (Lord Howe/Tim Birkin), 1932, 1933 and 1934. They won the Mille Miglia in 1932, 1933, 1934 and 1935.

Fig. 8
PEP 440
1931 Mercedes-Benz SSKL
IL6 100 mm/150 = 0.667
7,069 cc
306 HP @ 3,500 RPM
Supercharger 317 mm rotor length (DASO 1182).
A major success of the SSKL was winning the 1931 Mille Miglia, driven by Rudolf Carraciola.



DASO 468.

Fig.8 shows the 'S' type with 203 mm supercharger rotor length giving 1.58 ATA and 225 HP.

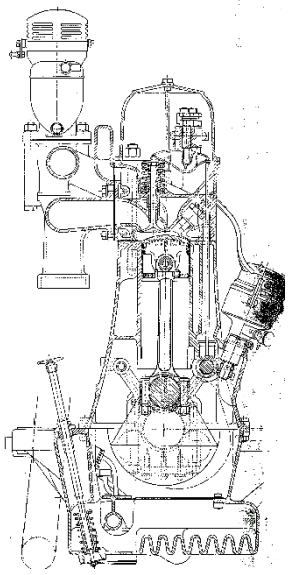
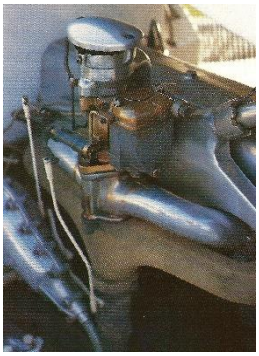


Fig. 9
PEP 553
1932 Talbot 105 TT
IL6 75 mm/112 = 0.670 2,969 cc
126 HP @ 4,800 RPM
One owner, when asked to show the engine of his 105, asked "*Do you want to see the tame side or the very tame side?*". With only one carburetter, same side inlet and exhaust and some ports siamesed (Figure on RHS), his question was very relevant. The performance of the cars in competition belied the tameness! 105s finished 3rd at Le Mans in 1931 (T Rose-Richards/A. Davies) and 1932 (Brian Lewis/Rose-Richards).



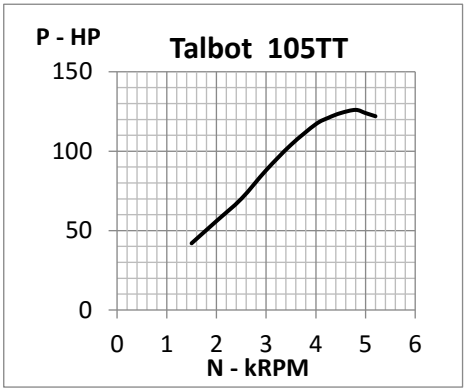
DASO 301 ***Motor Sport* February 1991**

Power Curves on P.5

Contd. from P. 4

POWER CURVES

PEP	553	N	P	MPS	BMEP
DASO	301	kRPM	HP	m/s	Bar
YEAR	1932	1.5	42	5.60	8.44
Make	Talbot	2	56	7.47	8.44
Model	105TT	2.5	70	9.33	8.44
		3	88	11.20	8.84
Vcc	2969	3.5	104	13.07	8.96
Ind. System	NA	4	117	14.93	8.82
Confign.	IL6	4.25	121	15.87	8.58
Bmm	75	4.5	124	16.80	8.31
Smm	112	4.8	126	17.92	7.91
		5	124	18.67	7.47
		5.2	122	19.41	7.07



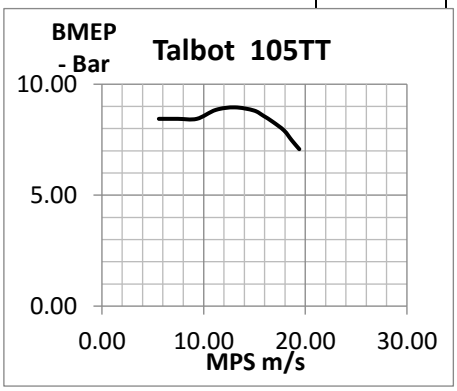


Fig. 10
PEP 413
1933 MG J4
IL4 57 mm/73 = 0.791 745 cc
72.3 HP @ 6,000 RPM

www.bonhams.com

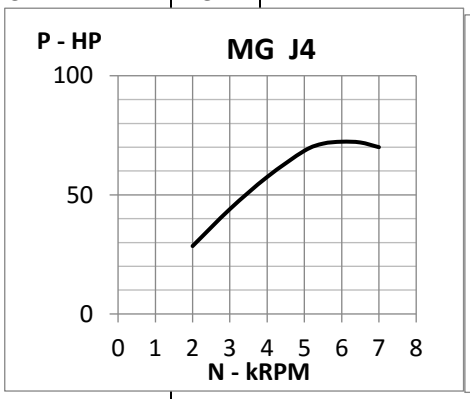
As for all MG supercharged engines the carburetter and blower were placed between the front dumb irons. This gave a considerable length of manifold between the throttle and engine but there does not seem to have been any complaint about lag in power on/off.

Power Curves on P. 6

Contd. from P.5

POWER CURVES

PEP	413	N	P	MPS	BMEP
DASO	139	kRPM	HP	m/s	Bar
YEAR	1933	2	28.5	4.87	17.12
Make	MG	3	44	7.30	17.62
Model	J4	4	57.5	9.73	17.27
		5	68.5	12.17	16.46
Vcc	745	5.5	71.5	13.38	15.62
Ind. System	PC	6	72.3	14.60	14.47
Confign.	IL4	6.5	72	15.82	13.31
Bmm	57	7	70	17.03	12.01
Smm	73				



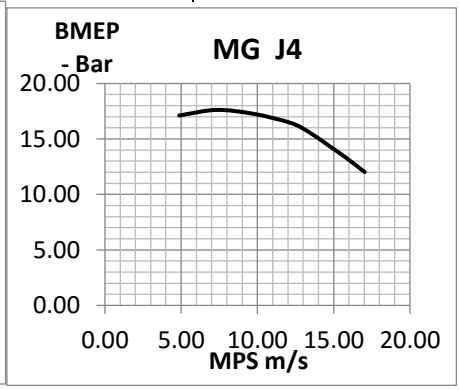


Fig. 11
PEP 416
1934 MG NE
IL6 57 mm/83 = 0.687 1,271 cc
74 HP @ 6,500 RPM
Fig. allcarcentral.com

After superchargers were banned for the 1934 RAC Tourist Trophy, the MG NE type was modified specially from the production N Magnette to contest the race, as allowed by the rules. The race was handicapped by capacity groups and the NE cars were set to average a speed 4.3% less than the biggest-engined competitors. The result, after nearly 6¼ hours, was that an NE driven by Charlie Dodson won by 17 seconds from a Rolls-Royce-works-tuned 3½ Litre Bentley driven by Eddie Hall. The winning margin would have been much larger but for an unscheduled pit stop for the NE to change wheels suspected during the race of being un-raceworthy.

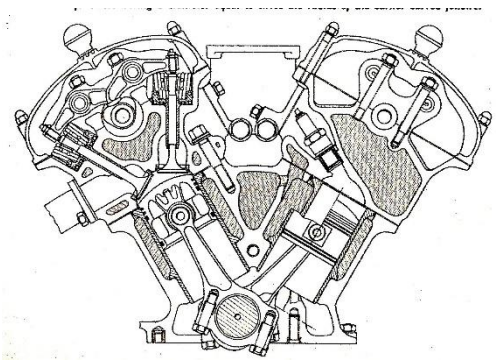


Fig. 12
PEP 455
1949 Ferrari Type 166MM
60V12 60 mm/58.8 = 1.020 1,995 cc
138 HP @ 6,600 RPM

The type 166MM justified its designation with wins in the 1948 and 1949 Mille Miglia ,both driven by Clemente Biondetti. Its biggest success was to win the first post-WW2 Le Mans, driven mostly by Luigi Chinetti (with Lord Selsdon spelling him for about an hour). This was and still is the smallest capacity car ever to win the Grand Prix d'Endurance.

DASO 138

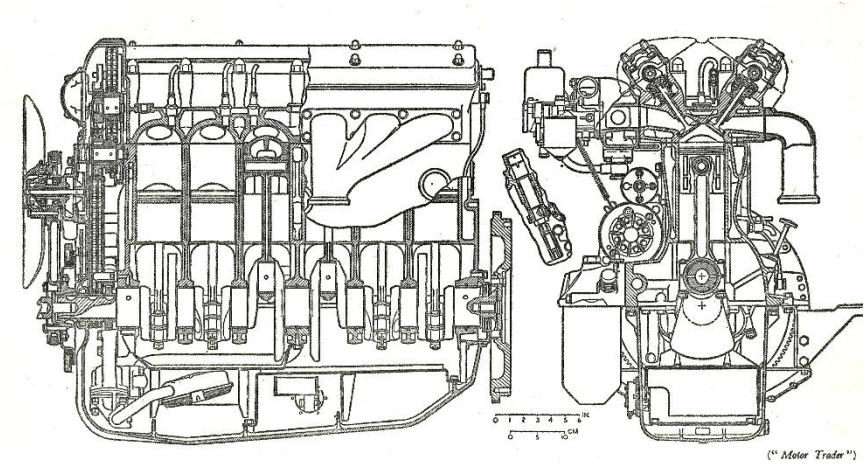


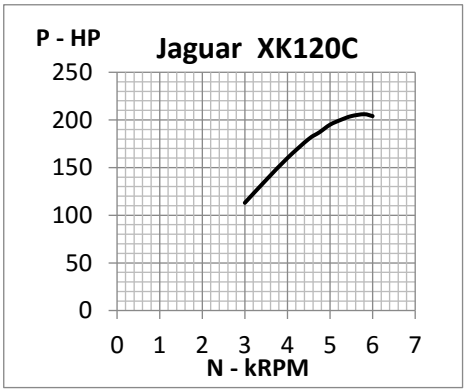
Fig. 13
PEP 272
1951 Jaguar XK120C
IL6 83 mm/106 = 0.783
3,441 cc
206 HP @ 5,800 RPM

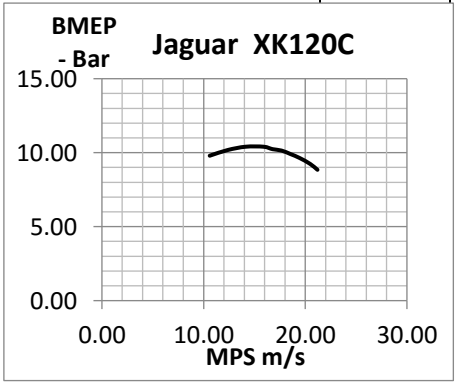
Production engine
DASO 337

The C-type won the 1951 Le Mans, driven by Peter Walker/Peter Whitehead.

POWER CURVES

PEP	272	N	P	MPS	BMEP
DASO	125	kRPM	HP	m/s	Bar
YEAR	1951	3	113	10.60	9.80
Make	Jaguar	3.5	137	12.37	10.18
Model	XK120C	4	160	14.13	10.40
		4.5	180	15.90	10.40
Vcc	3441	4.75	187	16.78	10.24
Ind.					
System	NA	5	195	17.67	10.14
Confign.	IL6	5.25	200	18.55	9.91
Bmm	83	5.5	204	19.43	9.65
Smm	106	5.8	206	20.49	9.24
		6	204	21.20	8.84





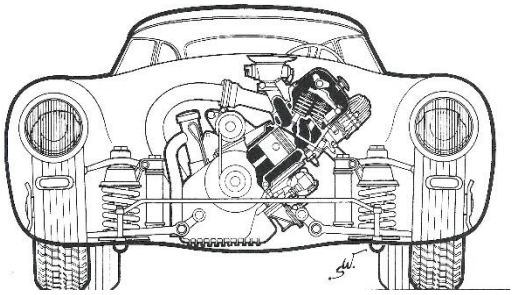


Fig. 14
PEP 441
1952 Mercedes-Benz 300SL/M194
IL6 85 mm/88 = 0.966 2,996 cc
169 HP @ 5,200 RPM

The 300SL won at Le Mans, driven by Herman Lang & Fritz Riess, and also the Carrera Panamericana with Karl Kling & Hans Klenk. In this last race the engines had been bored out to 86.5 mm to give 3,103 cc and 177 HP on the bench – less at Mexican altitude.

DASO 468

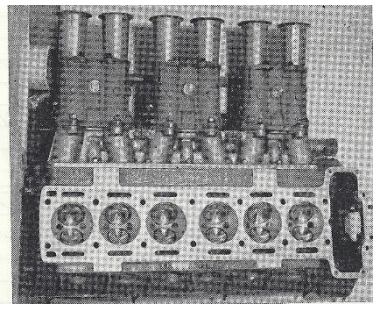


Fig. 15
PEP 217
1953 Jaguar XK120C
IL6 83 mm/106 = 0.783 3,441 cc
219 HP @ 5,250 RPM

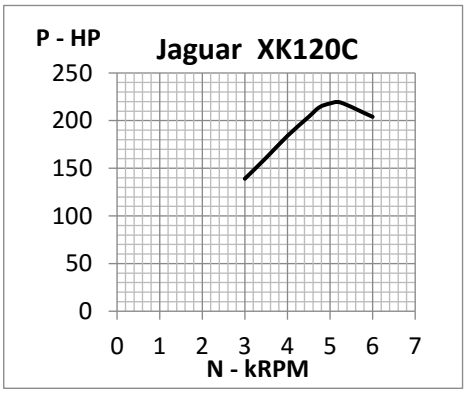
The Fig. shows the triple Weber 40DCO carburetters introduced in 1953.

DASO 125

In the 1953 Le Mans the Jaguar team placed 1st (Tony Rolt/Duncan Hamilton), 2nd (Stirling Moss./Peter Walker) and 4th (Peter Whitehead/ Ian Stewart). This was largely because of their Dunlop disc brakes.

POWER CURVES

PEP	217	N	P	MPS	BMEP
DASO	125	kRPM	HP	m/s	Bar
YEAR	1953	3	139	10.60	12.05
Make	Jaguar	3.5	161	12.37	11.96
Model	XK120C	4	184	14.13	11.96
		4.5	204	15.90	11.79
Vcc	3441	4.75	214	16.78	11.72
Ind. System	NA	5	218	17.67	11.34
Confign.	IL6	5.25	219	18.55	10.85
Bmm	83	6	204	21.20	8.84
Smm	106				



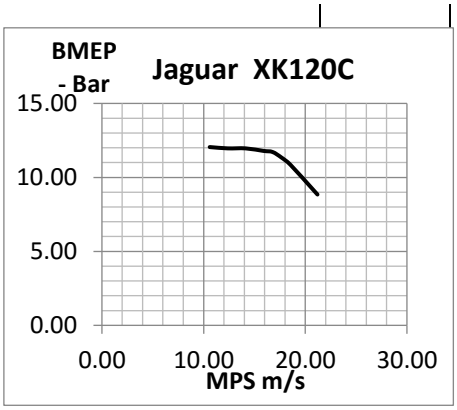
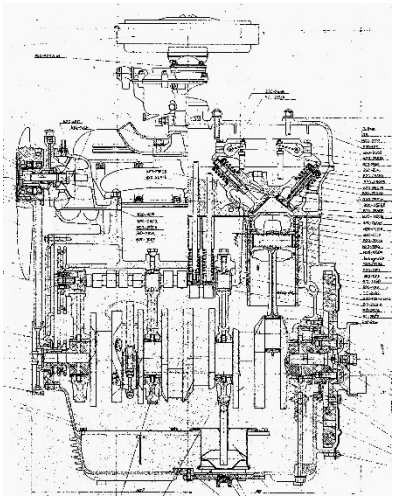
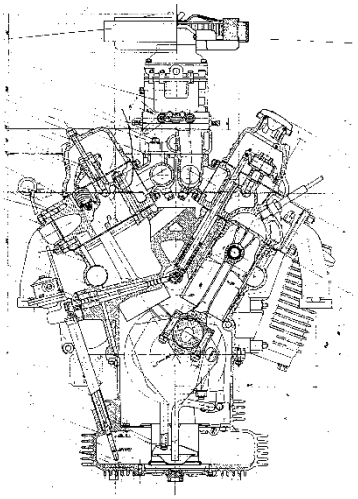


Fig. 16
PEP 614
1953 Lancia Aurelia B20GT
60V6 78 mm/85.5 = 0.912 2,451 cc
116 HP @ 5,000 RPM



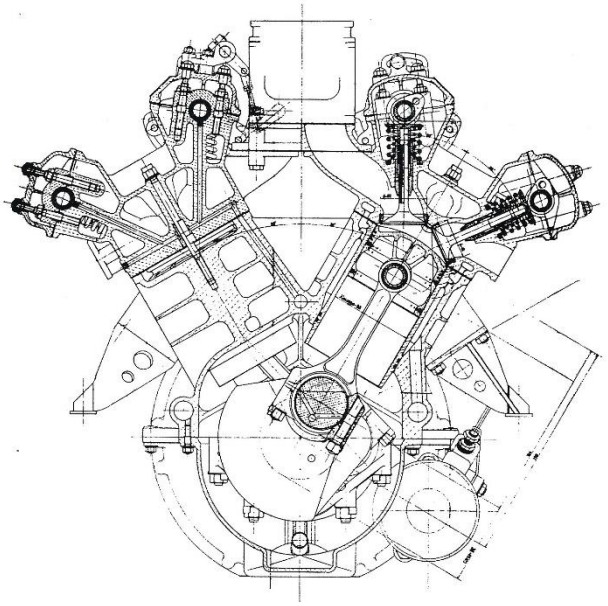
On the longitudinal section note the unique placing of the valves (in a plane at 45^0 to the crank axis). Also the 6-pin crank, with 60^0 intervals.

The first series of the B20 Aurelia, which was 2 litres, established its credentials as *a Gran Turismo* car by coming 2nd in the 1951 Mille Miglia, driven by Giovanni Bracco & Umberto Maglioli. The following year the type was placed 3rd (Luigi Fagioli driving).



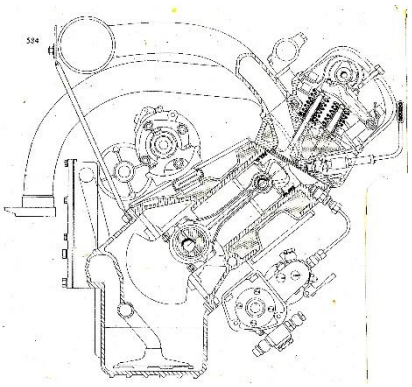
Both Figs. DASO 404.

Fig. 17
PEP 420
1954 Lancia D25
60V6 93 mm/92 = 1.011 3,750 cc
295 HP @ 6,200 RPM



The D25 was the last in a line of 60V6 Racing Sports engines which began with the D20 (86 mm/85 = 1.012, 2,962 cc) in April 1953. It won the Targa Florio (Umberto Maglioli driving). This was followed (in engine size) by the D24 (88/90 = 0.978, 3,284 cc) in August 1953. This won the Carrera Panamericana (Juan Fangio) and the following year the Giro di Sicilia (Piero Taruffi), the Mille Miglia (Alberto Ascari) and the Targa Florio (Taruffi). The D25 appeared for the Tourist Trophy in September 1954 but 2 cars DNF. Fig. DASO 404.

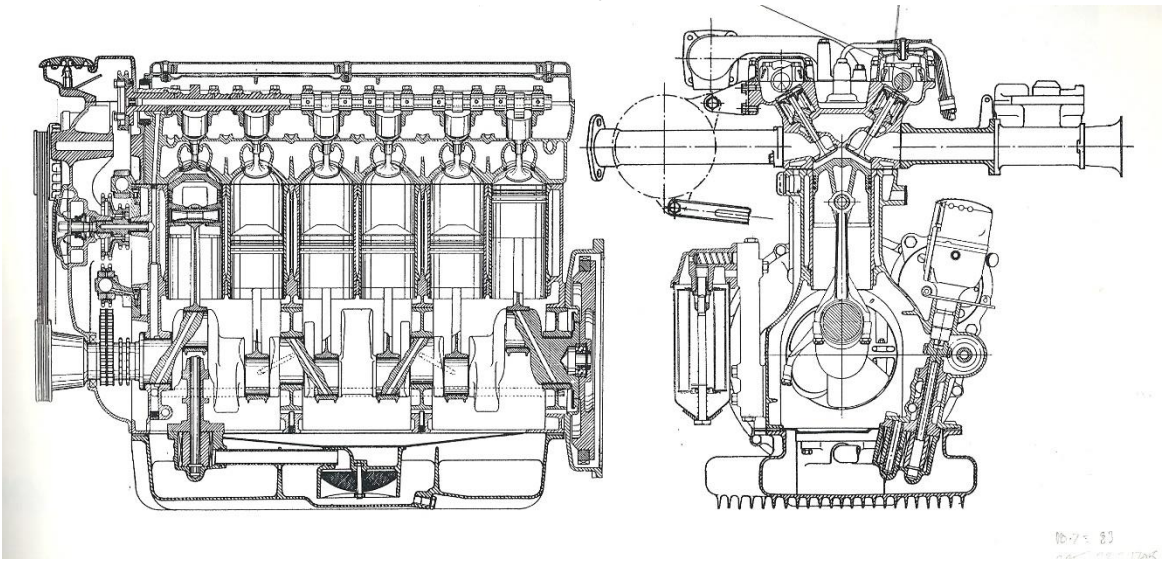
Fig. 18
PEP 442
1954 Mercedes-Benz 300SL/M198
IL6 85 mm/88 = 0.966 2,996 cc
216 HP @ 5,800 RPM



This direct-fuel-injected engine was intended originally for a 1953 Racing-Sports campaign, but pressure of work on the new W196 Grand Prix car for 1954 led to its being discontinued. The car was later "productionised" retaining the 300SL name. The Fig. is of the production engine.

DASO 477

Fig. 19
PEP 154
1955 Aston Martin DB3S
IL6 83 mm/90 = 0.922 2,922 cc
236 HP @ 6,000 RPM



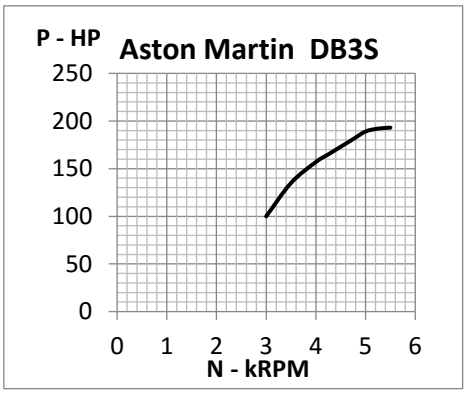
DASO 202

POWER CURVES

PEP	152	N	P	MPS	BMEP
DASO	267	kRPM	HP	m/s	Bar
YEAR	1954	3	100	9.00	10.21
Make	Aston Martin	3.5	135	10.50	11.81
Model	DB3S	4	157	12.00	12.02
		4.25	165	12.75	11.89
Vcc	2922	4.5	173	13.50	11.77
Ind. System	NA	4.75	181	14.25	11.67
Confign.	IL6	5	189	15.00	11.58
Bmm	83	5.25	192	15.75	11.20
Smm	90	5.5	193	16.50	10.75

Contd. on P. 11

Contd. from P. 10



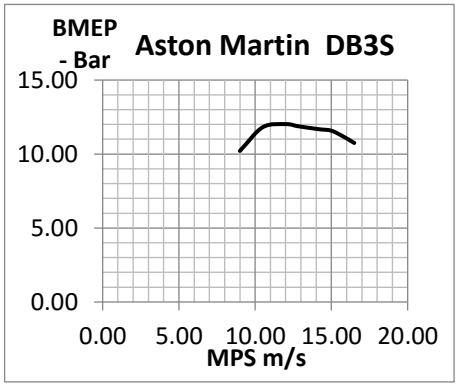


Fig. 20
1955 Jaguar XK120D
IL6 83 mm/106 = 0.783 3,441 cc
272 HP @ 5,900 RPM

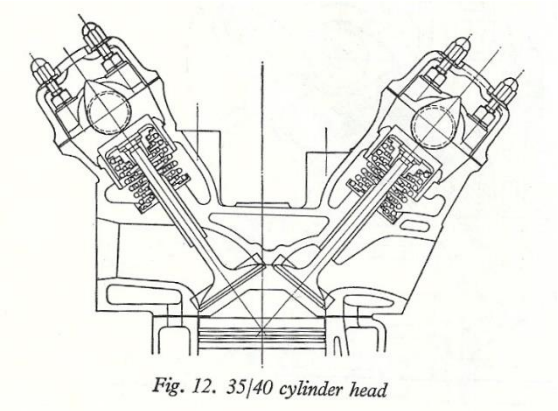


Fig. 12. 35/40 cylinder head

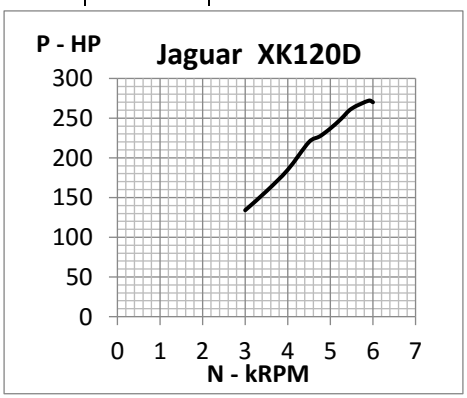
The Fig. shows the new cylinder head introduced in 1955 with VIA = 75^0 to provide 30% larger inlet valve area. This was fitted with 45DCO carburetters. The power increase was 24%.

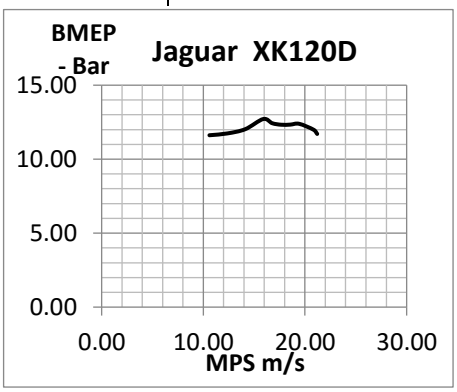
DASO 125

The 1955 Le Mans race was won by Mike Hawthorn and Ivor Bueb after the Mercedes-Benz team withdrew because of its involvement in the tragic accident. A private Belgian 1954 D-type was 3rd (Johnny Claes/Jacques Swaters).

POWER CURVES

PEP		N	P	MPS	BMEP
DASO	125	kRPM	HP	m/s	Bar
YEAR	1955	3	134	10.60	11.62
Make	Jaguar	3.5	158	12.37	11.74
Model	XK120D	4	185	14.13	12.03
		4.5	220	15.90	12.71
Vcc	3441	4.75	227	16.78	12.43
Ind.					
System	NA	5	237	17.67	12.33
Confign.	IL6	5.25	249	18.55	12.33
Bmm	83	5.5	262	19.43	12.39
Smm	106	5.9	272	20.85	11.99
		6	270	21.20	11.70





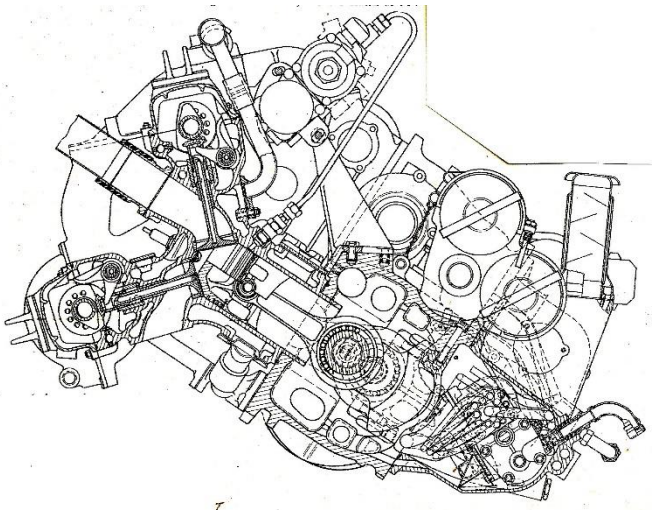
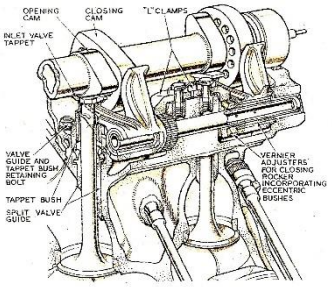


Fig. 21
PEP 190
1955 Mercedes-Benz 300SLR/M196.I
IL8 78 mm/78 = 1 2982 cc
296 HP @ 7,450 RPM

The Fig. below shows the Desmodromic valve gear.

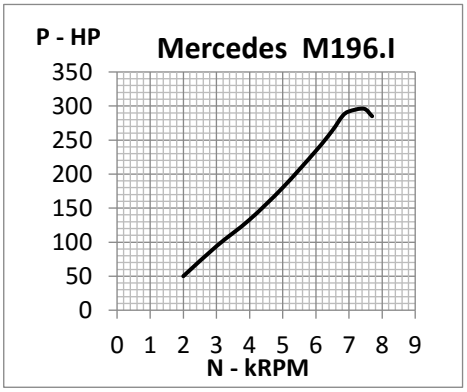


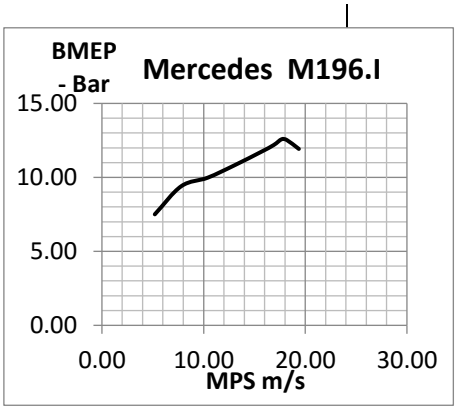
Both Figs. DASO 67

The 300SLR won the Mille Miglia with Stirling Moss driving, navigated by Denis Jenkinson; the Tourist Trophy (Moss, spelled by John Fitch); and the Targa Florio (Moss, with co-driver Peter Collins).

POWER CURVES

PEP	190	N	P	MPS	BMEP
DASO	67	kRPM	HP	m/s	Bar
YEAR	1955	2	50	5.20	7.50
Make	Mercedes	3	94	7.80	9.40
Model	M196.I	4	133	10.40	9.98
		5	180	13.00	10.80
Vcc	2982	6	234	15.60	11.70
Ind. System	NA	6.5	264	16.90	12.19
Confign.	IL8	6.8	285	17.68	12.58
Bmm	78	7	292	18.20	12.52
Smm	78	7.45	296	19.37	11.92
		7.7	285	20.02	11.11





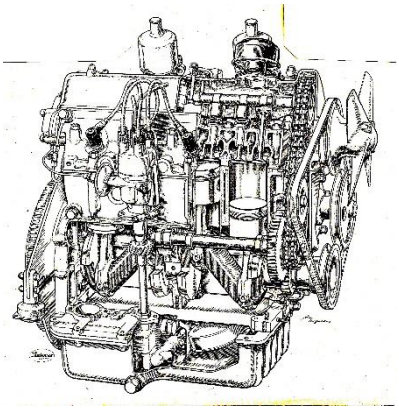


Fig. 22
PEP 258
1955.5 Coventry Climax
FWA 3
IL4 2.85"/2 5/8" = 1.086
[72.39 mm/66.675] 1,098 cc
96 HP @ 7,300 RPM
with 2 x 2-choke Weber carburetters.

Both Figs DASO 132, and apply to the prototype of the FWA 1, from which the Mk 3 was developed.

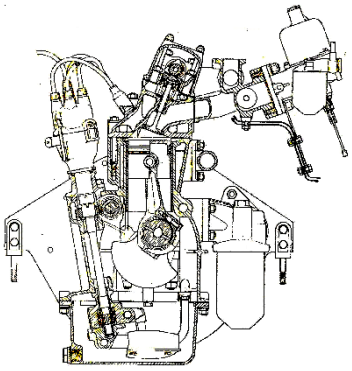
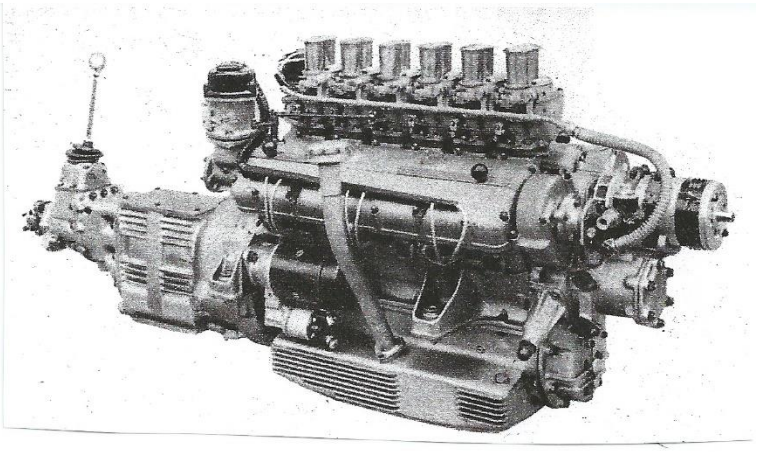


Fig. 23
PEP 158
1958 Ferrari Type 250 Testa Rossa
60V12 73 mm/58.8 = 1.241
2,953 cc
302 HP @ 7,400 RPM

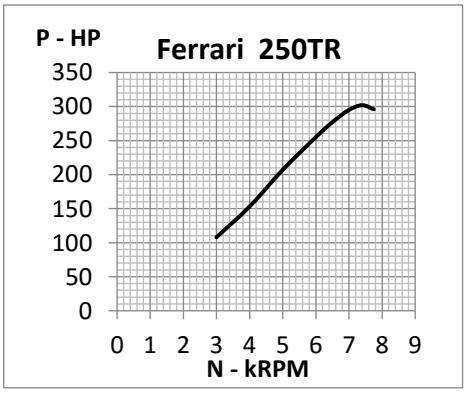
See also Note 47 (DASO 1183).

***Motor* 23 April 1958**



POWER CURVES

PEP	158	N	P	MPS	BMEP
DASO	138	kRPM	HP	m/s	Bar
YEAR	1958	3	108	5.88	10.91
Make	Ferrari	4	153	7.84	11.59
Model	250TR	5	207	9.80	12.55
		6	255	11.76	12.88
Vcc	2953	6.5	277	12.74	12.91
Ind. System	NA	7	295	13.72	12.77
Confign.	60V12	7.4	302	14.50	12.37
Bmm	73	7.75	296	15.19	11.57
Smm	58.8				



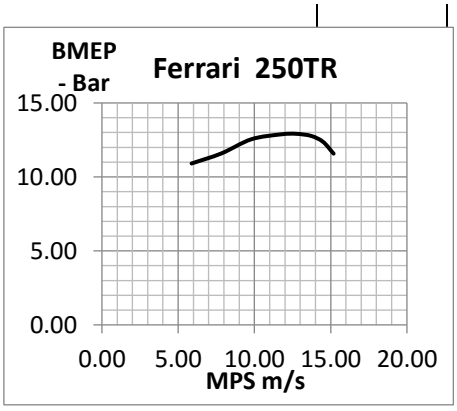
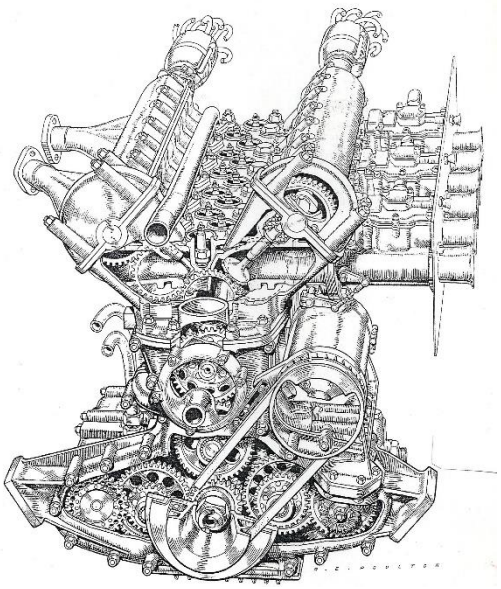
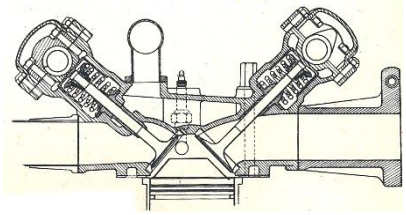


Fig. 24
PEP 325
1959 Aston Martin DBR1
IL6 84 mm/90 = 0.933 2,993 cc
267 HP @ 6,000 RPM



DASO 267

A new cylinder head was introduced in late 1957 with VIA = 95^0. This is shown below:-

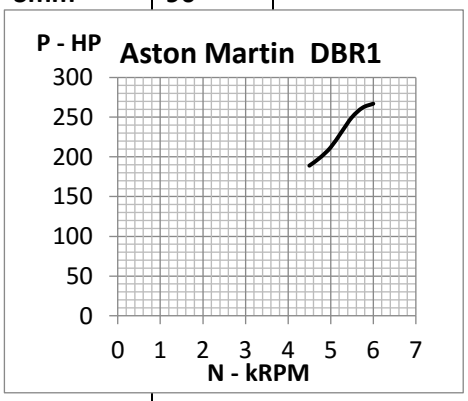


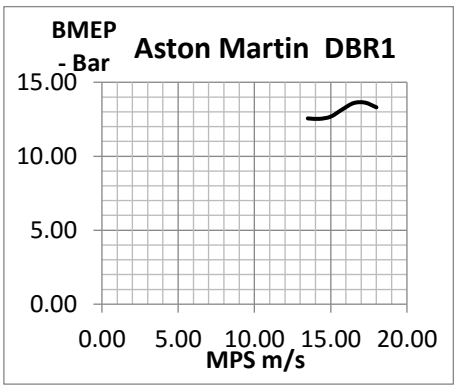
DASO 119

The main Fig. is also of the 95^0 head engine.

POWER CURVES

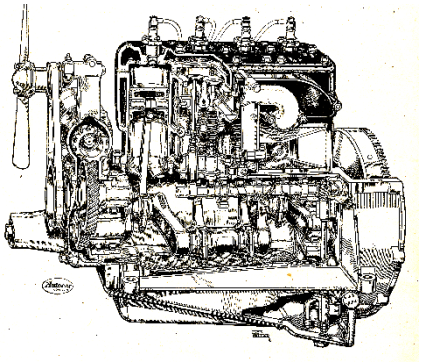
PEP	325	N	P	MPS	BMEP
DASO	267	kRPM	HP	m/s	Bar
YEAR	1959	4.5	189	13.50	12.56
	Aston				
Make	Martin	4.75	199	14.25	12.53
Model	DBR1	5	212	15.00	12.68
		5.25	231	15.75	13.16
Vcc	2993	5.5	250	16.50	13.59
Ind.					
System	NA	5.75	262	17.25	13.62
Confign.	IL6	6	267	18.00	13.31
Bmm	84				
Smm	90				

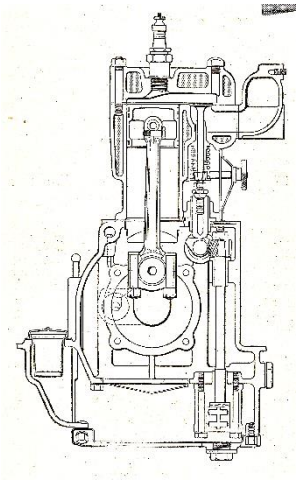




The 95^0engine was fitted originally with a 4-bearing crank, as in all previous engines descended from the W.O.Bentley Lagonda 2,580 cc engine of 1947. To reduce vibration and extend life a 7-bearing crank was fitted into the same length of crankcase in March 1958, although this cost about 13 hp. For 1959 Le Mans Stirling Moss' car was give the more powerful 4-bearing engine and set the task of leading the Ferrari 250TR opposition. This he did for 75 minutes, by which time the Ferraris had no doubt lost their tune (all the works 250TRs retired eventually. The car was stopped after 70 laps when a piece of inlet duct broke off and went into the engine (possibly a fatigue failure from vibration). The other two DBR1s finished 1^{st} (Roy Salvadori/Carroll Shelby) and 2^{nd}.(Maurice Trintignant/Paul Frère).

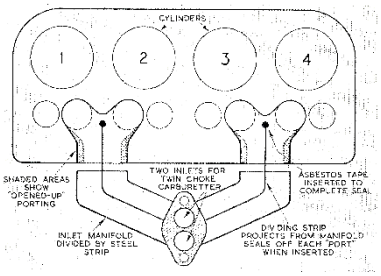
Fig. 25
PEP 562
1962 Austin 750 Special "Impala" built by Derrick White
IL4 57.4 mm*/3'' (76.2) = 0.753 789 cc*
***0.060'' rebore permitted by rules**
***34 HP* @ 6,000 RPM**
The Figs. are for a standard Austin Seven.





Both Figs. DASO 387

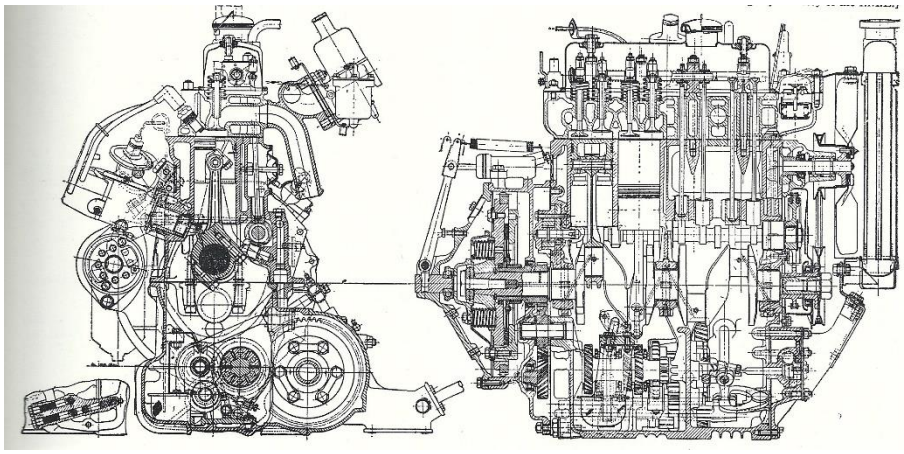
Probably the fastest A7 special was Colin Chapman's Lotus Mk 3 in 1951. He "*De-siamised*" the inlet ports, as shown on RHS. This was then banned!
***(Lotus: the 1st 10 years* I .Smith. MRP)**



If it seems curious to include a tiny home-built special in this series, it should be remembered that some Austin 7 special builders competing to 750 club rules went on to become major competition car designers – Colin Chapman, Nigel Bennett, Tony Southgate as well as Derrick White himself.

Fig. 26
1964 Morris Mini-Cooper S
IL4 2.78''/3.2'' = 0.869
[70.612 mm/81.28]
1,273 cc
76 HP @ 6,000 RPM

Fig. on RHS:-where it all began – the 948 cc version of the Mini.



DASO 271

The Cooper S engines had re-spaced cylinder centres and different block castings, as well as larger valves and higher lifts with extended valve timings.

www.longspeed.com

This Fig. is an "A+" 1275 head, similar to the Cooper S. It shows the 1 13/32'' inlet valves crammed into the Weslake heart-shaped head. **Contd. on P. 16.**

Contd. from P. 15

As mentioned for the Lotus Cortina, the Cooper Minis also often beat larger and more expensive cars, just as their big brothers had done in Grands Prix over 1958 – 1960.

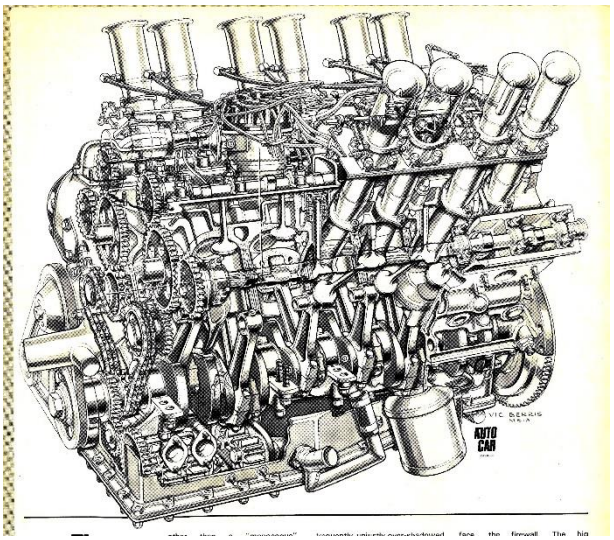


Fig. 27
PEP219
1964 Jaguar XJ13
60V12 87 mm/70 = 1.243 4,994 cc

Planned originally for a return by Jaguar to racing when the Le Mans prototype limit was 5 litres. Delayed by various things until the development of wider tyres made the chassis design obsolete.

DASO 110

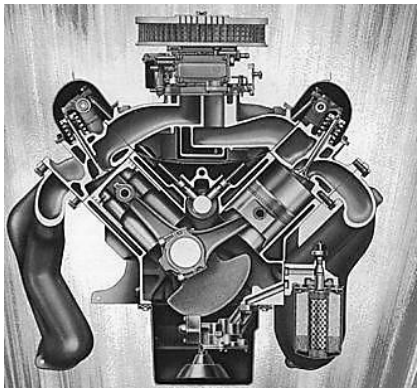


Fig. 28
1966 Ford GT Mk II
90V8 4 15/64''/3 25/32'' = 1.12 425.99 cid
[107.553 mm/96.044] 6,981 cc
485 HP @ 6,300 RPM

The Fig. is believed to be for the original type FE ("Ford-Edsel") engine, which was 3 7/8''/3 ½'' = 1.107 330 cid, subsequently enlarged in stages to the racing unit labelled as "427".

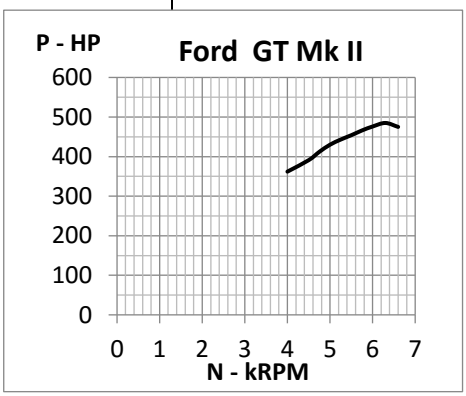
Wikipedia

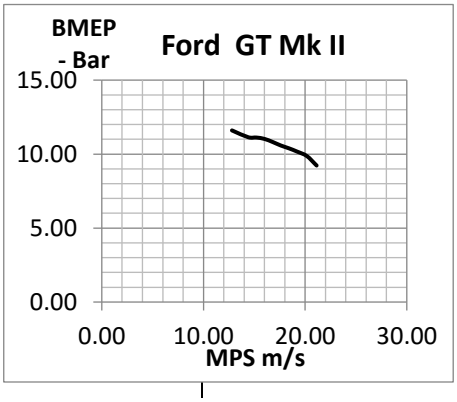
POWER CURVES

PEP		N	P	MPS	BMEP
DASO	546	kRPM	HP	m/s	Bar
YEAR	1966	4	362	12.81	11.60
Make	Ford	4.5	391	14.41	11.14
Model	GT Mk II	4.75	412	15.21	11.12
		5	430	16.01	11.02
Vcc	6981	5.25	443	16.81	10.82
Ind. System	NA	5.5	454	17.61	10.58
Confign.	90V8	5.75	466	18.41	10.39
Bmm	107.553	6	476	19.21	10.17
Smm	96.044	6.3	485	20.17	9.87
		6.6	475	21.13	9.23

Contd. on P. 17

Contd. from P. 16

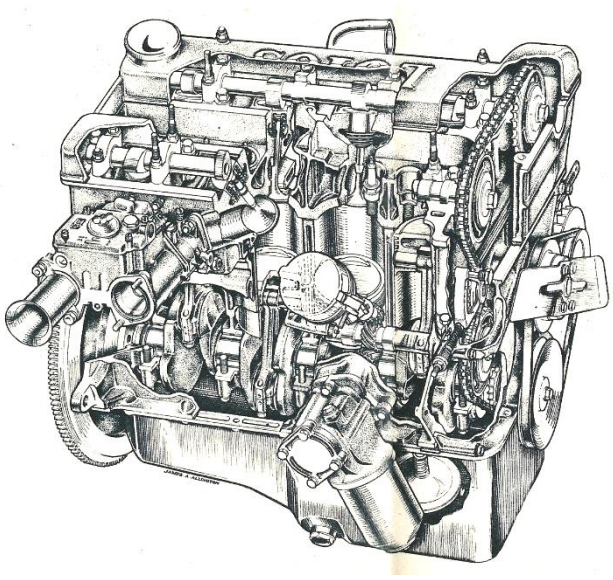




The output of the GT Mk II engine was with a single 4-choke Holley carburetter.
For the GT Mk IV car of 1967 the engine was similar but fitted with 2 carburetters (see Fig. at RHS) and power increased to 530 HP @ 6,200 RPM.

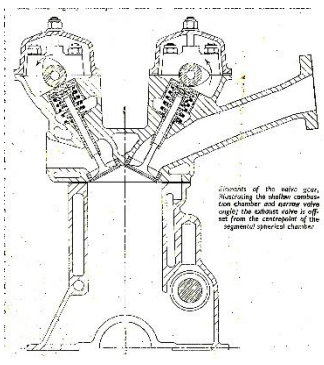
The GT Mk II won the 1966 Le Mans, driven by Chris Amon & Bruce McLaren.
The GT Mk IV won the 1967 Le Mans, driven by Dan Gurney & Tony (AJ) Foyt.

www.motorsportretro.com



Motor 23 Jan. 1963

Fig. 29
PEP 567
1968 Lotus Cortina
IL4 3¼"/2.864" = 1.135
[82.55 mm/72.7456] 1,557 cc
109 HP @ 6,000 RPM



DASO 173

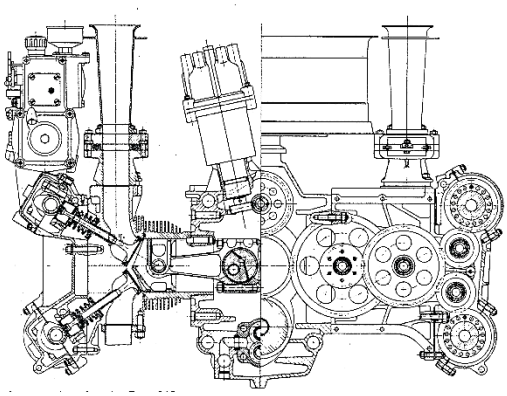


Fig. 30
PEP 338
1969 Porsche 912
F(180^0 V)12 85 mm/66 = 1.288 4,494 cc
575 HP @ 8,400 RPM

The 912 was a 12 cylinder version of the 1968 8 cylinder 908, differing only in VIA reduced from 71^0 to 65^0. The 908 produced 345HP @ 8,400 RPM. The original 912 was followed quickly by an engine enlarged to 86 mm/70.4 = 1.222, 4,907 cc giving 592 HP.

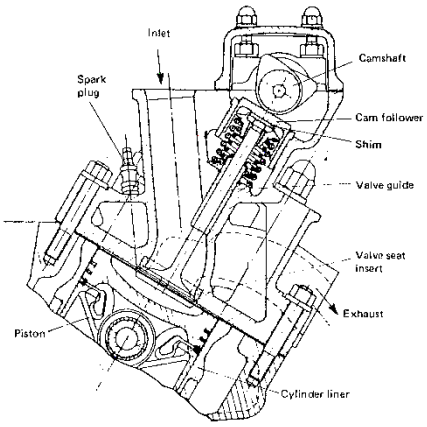
DASO 302

The 917 car with the 912 4.5 Litre engine won the 1970 Le Mans, driven by Richard Attwood & Hans Herrman. This was the 1st Porsche win in the GP d'Endurance. The 912 4.9 Litre powered the 1971 winner (Helmut Marko & Gijs van Lennep).

Fig. 31
PEP 351
1978 Porsche 935/71
F6 95.7 mm/74.4 = 1.286 3,211 cc
750 HP @ 8.000 RPM
Water-cooled 4v/c heads, air-cooled cyls.
As installed in the type 935/78 car "*Moby Dick*", which reached 228 MPH at the 1978 Le Mans, but only finished 8th.

Teamspeed.com

Fig. 32
PEP 261
1988 Jaguar TWR Le Mans
60V12 94 mm/84 = 1.119 6,995 cc
826 HP @ 7,500 RPM

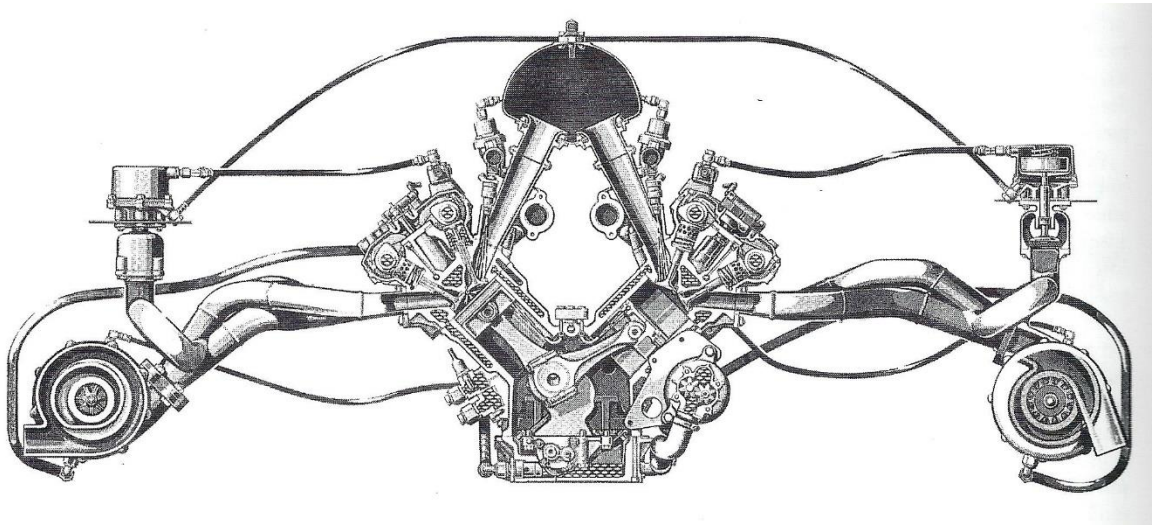


jaguar-fc.ru

TWR developed this engine for the Jaguar XJR-9LM from the production 60V12 unit of 90 mm/70 = 1.286, 5,344 cc. The SOHC cylinder-head section of that engine is shown on the LHS (DASO 1151).

The XJR-9LM won the 1988 Le Mans race driven by Jan Lammers/Johnny Dumfries/Andy Wallace. Another XJR-9LM was 4th.

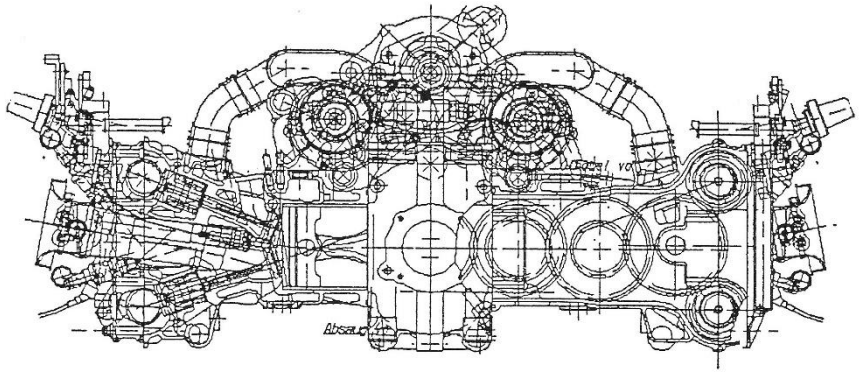
Fig .33
PEP 444
1990 Mercedes-Benz M119HL
90V8 96.5 mm/85 = 1.135 4,973 cc
912 HP @ 7,000 RPM



DASO 468

The essential intercoolers between the turbochargers and the engine inlet plenum chamber are not shown – and their weight is not included in the 212 kg in Appendix 6.
The Sauber-Mercedes C11 powered by the M119HL won 7 of the 9 World Sports-car Championship races in 1990 (the team did not enter the Le Mans race as it was not included in the WSC Championship). Drivers were:- Mauro Baldi/Jean-Louis Schlesser (Champions); Jochen Mass; Karl Wendlinger; Michael Schumacher.

Fig. 34
PEP 434
1991 Mercedes-Benz M292
F(180^0 V)12 86 mm/50.1 = 1.717 3,492 cc
690 HP @ 12,600 RPM



DASO 468

The M292 was a development of the M291 which powered the Sauber-Mercedes C291 car in the 1991 3.5Litre Sports-car Championship. This won only once in the last race of the season, driven by Michael Schumacher and Karl Wendlinger. The poor support for the Championship and economic pressure led to Daimler-Benz cancelling a 1992 programme.

Power Curves on P. 20

Contd. from P. 18

POWER CURVES

PEP	434	N	P	MPS	BMEP
DASO	468	kRPM	HP	m/s	Bar
YEAR	1991	6	279	10.02	11.92
Make	Mercedes	6.5	302	10.86	11.91
Model	M292	7	335	11.69	12.26
		7.5	395	12.53	13.50
Vcc	3492	8	442	13.36	14.16
Ind. System	NA	8.45	477	14.11	14.47
Confign.	F12	9	503	15.03	14.32
Bmm	86	9.8	567	16.37	14.83
Smm	50.1	10.5	576	17.54	14.06
		11	580	18.37	13.51
		11.5	616	19.21	13.73
		12	657	20.04	14.03
		12.6	690	21.04	14.03
		13.5	661	22.55	12.55

Powers as published were kW and have been multiplied by 1.34 to convert to HP