

	A	B	C	D	E	F	G	H	I	J
1										
2	ENGINE IDENTITY									
3	Example No.	1	2	3	4	5	6	7	8	9
4	2012 ed."All the cars" Page no.	9	11	9	25	27	29	28	43	45
5	YEAR	1948	1948	1949	1950	1950	1950	1951	1952	1952
6	Model	125F1	166F2	125F1/49	275F1	340F1	375F1	375F1/51	500F2	375 Indy
7	Swept Volume Litres	1.5	2	1.5	3.3	4.1	4.5	4.5	2	4.4
8	Induction System	PC	NA	PC	NA	NA	NA	NA	NA	NA
9	Class	RR	RR	RR	RR	RR	RR	RR	RR	RR
10	GEOMETRY									
11	Configuration	60V12	60V12	60V12	60V12	60V12	60V12	60V12	IL4	60V12
12	No. of Cylinders CN	12	12	12	12	12	12	12	4	12
13	No.Cyls/Intake CNI	1	2	1	2	2	2	2	1	1
14	In. & Ex. Configuration	1RSC		2RSC						
15	Comb. Ch'b'r/Piston Config'n									
16	Compression Ratio R	6.5	11	7	10	12	11	12	11.5	13
17	BORE B mm	55	60	55	72	80	80	80	90	79
18	STROKE S "	52.5	58.8	52.5	68	68	74.5	74.5	78	74.5
19	Valve Opening/Return System	SOHC/H	SOHC/H	DOHC/H	SOHC/H	SOHC/H	SOHC/H	SOHC/H	DOHC/HC	SOHC/H
20	Valve No./Cyl.-In. VNI	1	1	1	1	1	1	1	1	1
21	" " " -Ex. VNE	1	1	1	1	1	1	1	1	1
22	Valve Incl. Angle VIA Deg	60	60	60	60	60	60	60	58	60
23	INFLOW CONDITIONS									
24	Fuel Type / Ref. No. to APPX. 2	PBM/28	M	PBM/28	M	M	M	M	PBM/32	M
25	Fuel Adj. to Petrol AA	1	1.12	1	1.12	1.12	1.12	1.12	1	1.12
26	Press. @ In. Valve IVP ATA	2	1	2.6	1	1	1	1	1	1
27	Manifold Density Ratio = MDR	2	1	2.22	1	1	1	1	1	1
28	PERFORMANCE									
29	Power CV		155		300	335	350	380	165	400
30	Peak (Rated) Power PP HP	225.0	152.9	286	295.9	330.4	345.2	374.8	162.7	394.5
31	Crank RPM @ PP NP	7500	7000	7500	7300	7000	7000	7500	7000	7500
32	GEOMETRIC ANALYSIS									
33	B/S	1.048	1.020	1.048	1.059	1.176	1.074	1.074	1.154	1.060
34	PA SqCm	285.1	339.3	285.1	488.6	603.2	603.2	603.2	254.5	588.2
35	V/CN cc per cylinder	124.7	166.3	124.7	276.9	341.8	374.5	374.5	496.2	365.2
36	V cc	1496.8	1995.0	1496.8	3322.3	4101.7	4493.7	4493.7	1984.9	4382.1
37	100/Smm	1.90	1.70	1.90	1.47	1.47	1.34	1.34	1.28	1.34
38	R*VIA	390.00	660.00	420.00	600.00	720.00	660.00	720.00	667.00	780.00
39	PERFORMANCE ANALYSIS									
40	PP/V=SP HP/Litre	150.32	76.63	191.08	89.06	80.56	76.82	83.41	81.99	90.03
41	MPSP = 2*S*NP m/s	13.13	13.72	13.13	16.55	15.87	17.38	18.63	18.20	18.63
42	BMPP Bar	17.94	9.80	22.80	10.92	10.30	9.82	9.95	10.48	10.74
43	RA = 0.63/(1-1/R^0.4)	1.195	1.021	1.165	1.047	1.000	1.021	1.000	1.010	0.982
44	PPA = PP*RA/AA HP	268.92	139.40	333.09	276.49	295.02	314.78	334.65	164.40	345.86
45	BMPA= BMPP*RA/AA Bar	21.44	8.93	26.55	10.20	9.19	8.95	8.89	10.59	9.42
46	BMPA/MDR Adj.Bar	10.72	8.93	11.96	10.20	9.19	8.95	8.89	10.59	9.42
47	Example No.	1	2	3	4	5	6	7	8	9
48	YEAR	1948	1948	1949	1950	1950	1950	1951	1952	1952
49	Model	125F1	166F2	125F1/49	275F1	340F1	375F1	375F1/51	500F2	375 Indy
50	PPA/PA HP/SqCm	0.943	0.411	1.168	6.000	0.489	0.522	0.555	0.646	0.588
51	(PPA/PA)/MDR Adj.HP/SqCm	0.472	0.411	0.526	6.000	0.489	0.522	0.555	0.646	0.588
52	PPA/V HP/Litre	179.67	69.87	222.54	83.22	71.93	70.05	74.47	82.83	78.93
53	(PPA/V)/MDR Adj.HP/Litre	89.83	69.87	100.24	83.22	71.93	70.05	74.47	82.83	78.93
54	BNP = B*NP "	6.88	7.00	6.88	8.76	9.33	9.33	10.00	10.50	9.88
55	MPD @ nom'l (CRL/S)=2 g	2063.1	2012.9	2063.1	2531.6	2327.8	2550.3	2927.7	2670.1	2927.7
56	(NPx(MPSP)^2)/10^5	12.92	13.18	12.92	19.99	17.62	21.15	26.02	23.19	26.02
57	KF1 for FPMEP		0.75		0.75	0.75	0.75	0.75	0.75	0.75
58	KF2 for FPMEP		9		9	9	9	9	9	9
59	EIMPA Bar		10.70		12.58	11.28	11.37	11.65	13.45	12.13
60	Estd. Mech. Effy. EEM %		83.5		81.1	81.5	78.7	76.3	78.7	77.7
61										
62										
63	= [EV x EC x EM]%									
64	=Line 46 x 4.1771	44.8	37.3	50.0	42.6	38.4	37.4	37.1	44.2	39.3

	A	K	L	M	N	O	P	Q	R	S
1										
2	ENGINE IDENTITY									
3	Example No.	10	11	12	13	14	15	16	17	18
4	2012 ed."All the cars" Page no.	42	57	75	77	87	89	111	113	123
5	YEAR	1953	1953	1954	1954	1955	1955	1957	1957	1958
6	Model	500F2/53	553F2	553F1	625F1	555F1	D50	801F1	156F2	412MI
7	Swept Volume Litres	2	2	2.5	2.5	2.5	2.5	2.5	1.5	4
8	Induction System	NA	NA	NA	NA	NA	NA	NA	NA	NA
9	Class	RR	RR	RR	RR	RR	RR	RR	RR	RR
10	GEOMETRY									
11	Configuration	IL4	IL4	IL4	IL4	IL4	90V8	90V8	65V6	60V12
12	No. of Cylinders CN	4	4	4	4	4	8	8	6	12
13	No.Cyls/Intake CNI	1	1	1	1	1	1	1	1	1
14	In. & Ex. Configuration									
15	Comb. Ch'b'r/Piston Config'n									
16	Compression Ratio R	13	13	13	13	13	11.9	11.5	10	9.9
17	BORE B mm	90	93	100	94	100	73.6	76	70	77
18	STROKE S "	78	73.5	79.5	90	79.5	73.1	68.5	64.5	72
19	Valve Opening/Return System	DOHC/HC	DOHC/HC	DOHC/HC	DOHC/HC	DOHC/HC	DOHC/C	DOHC/C	DOHC/C	DOHC/C
20	Valve No./Cyl.-In. VNI	1	1	1	1	1	1	1	1	1
21	" " " -Ex. VNE	1	1	1	1	1	1	1	1	1
22	Valve Incl. Angle VIA Deg	58	100	100	58	100	74	74	60	?
23	INFLOW CONDITIONS									
24	Fuel Type / Ref. No. to APPX. 2	M	M	M	M	M	M	M	P	M?
25	Fuel Adj. to Petrol AA	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1	1.12
26	Press. @ In. Valve IVP ATA	1	1	1	1	1	1	1	1	1
27	Manifold Density Ratio = MDR	1	1	1	1	1	1	1	1	1
28	PERFORMANCE									
29	Power CV	185	180	260	230	260	265	275	180	415
30	Peak (Rated) Power PP HP	182.5	177.5	256.4	226.9	256.4	261.4	271.2	177.5	409.3
31	Crank RPM @ PP NP	7500	7200	7200	7000	7200	8000	8400	9000	8000
32	GEOMETRIC ANALYSIS									
33	B/S	1.154	1.265	1.258	1.044	1.258	1.007	1.109	1.085	1.069
34	PA SqCm	254.5	271.7	314.2	277.6	314.2	340.4	362.9	230.9	558.8
35	V/CN cc per cylinder	496.2	499.3	624.4	624.6	624.4	311.0	310.7	248.2	335.3
36	V cc	1984.9	1997.1	2497.6	2498.3	2497.6	2488.0	2486.0	1489.4	4023.3
37	100/Smm	1.28	1.36	1.26	1.11	1.26	1.37	1.46	1.55	1.39
38	R*VIA	754.00	1300.00	1300.00	754.00	1300.00	880.60	851.00	600.00	
39	PERFORMANCE ANALYSIS									
40	PP/V=SP HP/Litre	91.93	88.90	102.68	90.80	102.68	105.05	109.11	119.20	101.74
41	MPSP = 2*S*NP m/s	19.50	17.64	19.08	21.00	19.08	19.49	19.18	19.35	19.20
42	BMPP Bar	10.97	11.05	12.76	11.61	12.76	11.75	11.62	11.85	11.38
43	RA = 0.63/(1-1/R^0.4)	0.982	0.982	0.982	0.982	0.982	1.002	1.010	1.047	1.049
44	PPA = PP*RA/AA HP	159.96	155.64	224.81	198.87	224.81	233.83	244.65	185.80	383.49
45	BMPA= BMPP*RA/AA Bar	9.62	9.69	11.19	10.18	11.19	10.51	10.48	12.40	10.66
46	BMPA/MDR Adj.Bar	9.62	9.69	11.19	10.18	11.19	10.51	10.48	12.40	10.66
47	Example No.	10	11	12	13	14	15	16	17	18
48	YEAR	1953	1953	1954	1954	1955	1955	1957	1957	1958
49	Model	500F2/53	553F2	553F1	625F1	555F1	D50	801F1	156F2	412MI
50	PPA/PA HP/SqCm	0.629	0.573	0.716	0.716	0.716	0.687	0.674	0.805	0.686
51	(PPA/PA)/MDR Adj.HP/SqCm	0.629	0.573	0.716	0.716	0.716	0.687	0.674	0.805	0.686
52	PPA/V HP/Litre	80.59	77.93	90.01	79.60	90.01	93.98	98.41	124.75	95.32
53	(PPA/V)/MDR Adj.HP/Litre	80.59	77.93	90.01	79.60	90.01	93.98	98.41	124.75	95.32
54	BNP = B*NP "	11.25	11.16	12.00	10.97	12.00	9.81	10.64	10.50	10.27
55	MPD @ nom'l (CRL/S)=2 g	3065.2	2661.9	2879.2	3080.9	2879.2	3268.5	3376.7	3650.0	3219.3
56	(NPx(MPSP)^2)/10^5	28.52	22.40	26.21	30.87	26.21	30.40	30.90	33.70	29.49
57	KF1 for FPMEP	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
58	KF2 for FPMEP	9	9	9	9	9	9	9	9	9
59	EIMPA Bar	12.52	12.11	13.91	13.27	13.91	13.63	13.67	16.36	13.85
60	Estd. Mech. Effy. EEM %	76.8	80.0	80.4	76.7	80.4	77.1	76.7	75.8	77.0
61										
62										
63	= [EV x EC x EM]%									
64	=Line 46 x 4.1771	40.2	40.5	46.7	42.5	46.7	43.9	43.8	51.8	44.5

	A	T	U	V	W	X	Y	Z	AA	AB
1										
2	ENGINE IDENTITY									
3	Example No.	19	20	21	22	23	24	25	26	27
4	2012 ed."All the cars" Page no.	125	129	141	153	163	173	181	193	192
5	YEAR	1958	1959	1961	1963	1964	1964	1966	1967	1968
6	Model	246F1	256F1	156F1	156F1	158F1	512F1	312F1	166F2	166F2/68
7	Swept Volume Litres	2.4	2.5	1.5	1.5	1.5	1.5	3	1.6	1.6
8	Induction System	NA	NA	NA	NA	NA	NA	NA	NA	NA
9	Class	RR	RR	RR	RR	RR	RR	RR	RR	RR
10	GEOMETRY									
11	Configuration	65V6	65V6	120V6	120V6	90V8	F12	60V12	65V6	65V6
12	No. of Cylinders CN	6	6	6	6	8	12	12	6	6
13	No.Cyls/Intake CNI	1	1	1	1	1	1	1	1	1
14	In. & Ex. Configuration									
15	Comb. Ch'b'r/Piston Config'n									
16	Compression Ratio R	9.8	9.8	9.8	9.8	10.5	9.8	11.8	11	11
17	BORE B mm	85	86	73	73	67	56	77	86	79.5
18	STROKE S "	71	71	58.8	58.8	52.8	50.4	53.5	45.8	53.5
19	Valve Opening/Return System	DOHC/C	DOHC/C	DOHC/C	DOHC/C	DOHC/C	DOHC/C	DOHC/C	DOHC/C	DOHC/C
20	Valve No./Cyl.-In. VNI	1	1	1	1	1	1	1	2	2
21	" " " -Ex. VNE	1	1	1	1	1	1	1	1	2
22	Valve Incl. Angle VIA Deg	60	60	60	60	70 ?	?	?	?	?
23	INFLOW CONDITIONS									
24	Fuel Type / Ref. No. to APPX. 2 P	P	P	P	P	P	P	P	P	P
25	Fuel Adj. to Petrol AA	1	1	1	1	1	1	1	1	1
26	Press. @ In. Valve IVP ATA	1	1	1	1	1	1	1	1	1
27	Manifold Density Ratio = MDR	1	1	1	1	1	1	1	1	1
28	PERFORMANCE									
29	Power CV	280	295	190	205	210	220	360	200	225
30	Peak (Rated) Power PP HP	276.2	291.0	187.4	202.2	207.1	217.0	355.1	197.3	221.9
31	Crank RPM @ PP NP	8500	8600	9500	10500	11000	12000	10000	10000	11000
32	GEOMETRIC ANALYSIS									
33	B/S	1.197	1.211	1.241	1.241	1.269	1.111	1.439	1.878	1.486
34	PA SqCm	340.5	348.5	251.1	251.1	282.1	295.6	558.8	348.5	297.8
35	V/CN cc per cylinder	402.9	412.4	246.1	246.1	186.2	124.1	249.1	266.0	265.6
36	V cc	2417.3	2474.5	1476.6	1476.6	1489.2	1489.6	2989.6	1596.3	1593.4
37	100/Smm	1.41	1.41	1.70	1.70	1.89	1.98	1.87	2.18	1.87
38	R*VIA	588.00	588.00	588.00	588.00	735.00				
39	PERFORMANCE ANALYSIS									
40	PP/V=SP HP/Litre	114.25	117.58	126.91	136.93	139.08	145.67	118.77	123.58	139.27
41	MPSP = 2*S*NP m/s	20.12	20.35	18.62	20.58	19.36	20.16	17.83	15.27	19.62
42	BMPP Bar	12.03	12.23	11.95	11.67	11.31	10.86	10.63	11.06	11.33
43	RA = 0.63/(1-1/R^0.4)	1.052	1.052	1.052	1.052	1.033	1.052	1.004	1.021	1.021
44	PPA = PP*RA/AA HP	290.58	306.15	197.18	212.75	214.03	228.31	356.49	201.46	226.64
45	BMPA= BMPP*RA/AA Bar	12.65	12.87	12.58	12.28	11.69	11.43	10.67	11.29	11.57
46	BMPA/MDR Adj.Bar	12.65	12.87	12.58	12.28	11.69	11.43	10.67	11.29	11.57
47	Example No.	19	20	21	22	23	24	25	26	27
48	YEAR	1958	1959	1961	1963	1964	1964	1966	1967	1968
49	Model	246F1	256F1	156F1	156F1	158F1	512F1	312F1	166F2	166F2/68
50	PPA/PA HP/SqCm	0.853	0.878	0.785	0.847	0.759	0.772	0.638	0.578	0.761
51	(PPA/PA)/MDR Adj.HP/SqCm	0.853	0.878	0.785	0.847	0.759	0.772	0.638	0.578	0.761
52	PPA/V HP/Litre	120.21	123.72	133.54	144.08	143.72	153.27	119.25	126.21	142.24
53	(PPA/V)/MDR Adj.HP/Litre	120.21	123.72	133.54	144.08	143.72	153.27	119.25	126.21	142.24
54	BNP = B*NP "	12.04	12.33	11.56	12.78	12.28	11.20	12.83	14.33	14.58
55	MPD @ nom'l (CRL/S)=2 g	3583.8	3668.6	3707.4	4529.0	4463.4	5070.3	3737.6	3199.7	4522.6
56	(NPx(MPSP)^2)/10^5	34.40	35.63	32.94	44.47	41.23	48.77	31.80	23.31	42.33
57	KF1 for FPMEP	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
58	KF2 for FPMEP	9	9	9	9	9	9	9	9	9
59	EIMPA Bar	16.70	17.04	16.49	17.28	16.30	16.84	14.30	14.20	16.23
60	Estd. Mech. Effy. EEM %	75.8	75.6	76.3	71.1	71.7	67.9	74.6	79.5	71.3
61										
62										
63	= [EV x EC x EM]%									
64	=Line 46 x 4.1771	52.9	53.8	52.5	51.3	48.8	47.7	44.6	47.2	48.3

	A	AC	AD	AE	AF	AG	AH	AI	AJ	AK
1										
2	ENGINE IDENTITY									
3	Example No.	28	29	30	31	32	33	34	35	36
4	2012 ed."All the cars" Page no.	201	209	217	223	231	237	239	245	251
5	YEAR	1968	1969	1970	1971	1973	1974	1975	1976	1978
6	Model	312F1	212E	312B	312B2	312B3	312B3	312T	312T2	312T3
7	Swept Volume Litres	3	2	3	3	3	3	3	3	3
8	Induction System	NA	NA	NA	NA	NA	NA	NA	NA	NA
9	Class	RR	RS	RR	RR	RR	RR	RR	RR	RR
10	GEOMETRY									
11	Configuration	60V12	F12	F12	F12	F12	F12	F12	F12	F12
12	No. of Cylinders CN	12	12	12	12	12	12	12	12	12
13	No.Cyls/Intake CNI	1	1	1	1	1	1	1	1	1
14	In. & Ex. Configuration									
15	Comb. Ch'b'r/Piston Config'n									
16	Compression Ratio R	11.8	11.3	11.5	11.5	11.5	11.5	11.5	11.5	11.5
17	BORE B mm	77	65	78.5	80	80	80	80	80	80
18	STROKE S "	53.5	50	51.5	49.6	49.6	49.6	49.6	49.6	49.6
19	Valve Opening/Return System	DOHC/C	DOHC/C	DOHC/C	DOHC/C	DOHC/C	DOHC/C	DOHC/C	DOHC/C	DOHC/C
20	Valve No./Cyl.-In. VNI	2	2	2	2	2	2	2	2	2
21	" " " -Ex. VNE	2	2	2	2	2	2	2	2	2
22	Valve Incl. Angle VIA Deg	20	20	20	20	20	20	20	20	20
23	INFLOW CONDITIONS									
24	Fuel Type / Ref. No. to APPX. 2	P	P	P	P	P	P	P	P	P
25	Fuel Adj. to Petrol AA	1	1	1	1	1	1	1	1	1
26	Press. @ In. Valve IVP ATA	1	1	1	1	1	1	1	1	1
27	Manifold Density Ratio = MDR	1	1	1	1	1	1	1	1	1
28	PERFORMANCE									
29	Power CV	410	290	450	470	485	490	495	500	510
30	Peak (Rated) Power PP HP	404.4	286.0	443.8	463.6	478.4	483.3	488.2	493.2	503.0
31	Crank RPM @ PP NP	10600	11500	12000	12600	12500	12500	12200	12200	12200
32	GEOMETRIC ANALYSIS									
33	B/S	1.439	1.300	1.524	1.613	1.613	1.613	1.613	1.613	1.613
34	PA SqCm	558.8	398.2	580.8	603.2	603.2	603.2	603.2	603.2	603.2
35	V/CN cc per cylinder	249.1	165.9	249.3	249.3	249.3	249.3	249.3	249.3	249.3
36	V cc	2989.6	1991.0	2991.0	2991.8	2991.8	2991.8	2991.8	2991.8	2991.8
37	100/Smm	1.87	2.00	1.94	2.02	2.02	2.02	2.02	2.02	2.02
38	R*VIA	236.00	226.00	230.00	230.00	230.00	230.00	230.00	230.00	230.00
39	PERFORMANCE ANALYSIS									
40	PP/V=SP HP/Litre	135.27	143.66	148.39	154.95	159.89	161.54	163.19	164.84	168.13
41	MPSP = 2*S*NP m/s	18.90	19.17	20.60	20.83	20.67	20.67	20.17	20.17	20.17
42	BMPP Bar	11.42	11.18	11.07	11.00	11.45	11.56	11.97	12.09	12.33
43	RA = 0.63/(1-1/R^0.4)	1.004	1.015	1.010	1.010	1.010	1.010	1.010	1.010	1.010
44	PPA = PP*RA/AA HP	406.00	290.18	448.37	468.30	483.25	488.23	493.21	498.19	508.16
45	BMPA= BMPP*RA/AA Bar	11.46	11.34	11.18	11.12	11.56	11.68	12.09	12.21	12.46
46	BMPA/MDR Adj.Bar	11.46	11.34	11.18	11.12	11.56	11.68	12.09	12.21	12.46
47	Example No.	28	29	30	31	32	33	34	35	36
48	YEAR	1968	1969	1970	1971	1973	1974	1975	1976	1978
49	Model	312F1	212E	312B	312B2	312B3	312B3	312T	312T2	312T3
50	PPA/PA HP/SqCm	0.727	0.729	0.772	0.776	0.801	0.809	0.818	0.826	0.842
51	(PPA/PA)/MDR Adj.HP/SqCm	0.727	0.729	0.772	0.776	0.801	0.809	0.818	0.826	0.842
52	PPA/V HP/Litre	135.81	145.75	149.91	156.53	161.52	163.19	164.85	166.52	169.85
53	(PPA/V)/MDR Adj.HP/Litre	135.81	145.75	149.91	156.53	161.52	163.19	164.85	166.52	169.85
54	BNP = B*NP "	13.60	12.46	15.70	16.80	16.67	16.67	16.27	16.27	16.27
55	MPD @ nom'l (CRL/S)=2 g	4199.6	4619.7	5181.0	5501.3	5414.3	5414.3	5157.6	5157.6	5157.6
56	(NPx(MPSP)^2)/10^5	37.88	42.25	50.92	54.68	53.39	53.39	49.64	49.64	49.64
57	KF1 for FPMEP	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
58	KF2 for FPMEP	9	9	9	9	9	9	9	9	9
59	EIMPA Bar	15.64	15.96	16.57	16.85	17.17	17.29	17.36	17.48	17.73
60	Estd. Mech. Effy. EEM %	73.3	71.1	67.5	66.0	67.3	67.6	69.6	69.9	70.3
61										
62										
63	= [EV x EC x EM]%									
64	=Line 46 x 4.1771	47.9	47.4	46.7	46.4	48.3	48.8	50.5	51.0	52.0

	A	AL	AM	AN	AO	AP	AQ	AR	AS	AT
1										
2	ENGINE IDENTITY									
3	Example No.	37	38	39	40	41	42	43	44	45
4	2012 ed."All the cars" Page no.	253	255	261	263	267	269	275	283	287
5	YEAR	1979	1980	1981	1982	1983	1984	1985	1986	1987
6	Model	312T4	312T5	126C	126C2	126C3	126C4	156-85	F1-86	F1-87
7	Swept Volume Litres	3	3	1.5	1.5	1.5	1.5	1.5	1.5	1.5
8	Induction System	NA	NA	PC	PC	PC	PC	PC	PC	PC
9	Class	RR	RR	RR	RR	RR	RR	RR	RR	RR
10	GEOMETRY									
11	Configuration	F12	F12	120V6	120V6	120V6	120V6	120V6	120V6	90V6
12	No. of Cylinders CN	12	12	6	6	6	6	6	6	6
13	No.Cyls/Intake CNI	1	1	1	1	1	1	1	1	1
14	In. & Ex. Configuration			TC	TC	TC	TC	TC	TC	TC
15	Comb. Ch'b'r/Piston Config'n									
16	Compression Ratio R	11.5	11.5	6.7	6.5	6.7	6.7	7	7.5	8
17	BORE B mm	80	80	81	81	81	81	81	81	81
18	STROKE S "	49.6	49.6	48.4	48.4	48.4	48.4	48.4	48.4	48.4
19	Valve Opening/Return System	DOHC/C	DOHC/C	DOHC/C	DOHC/C	DOHC/C	DOHC/C	DOHC/C	DOHC/C	DOHC/C
20	Valve No./Cyl.-In. VNI	2	2	2	2	2	2	2	2	2
21	" " " -Ex. VNE	2	2	2	2	2	2	2	2	2
22	Valve Incl. Angle VIA Deg	20	20	38	38	38	38	38	38	?
23	INFLOW CONDITIONS									
24	Fuel Type / Ref. No. to APPX. 2	P	P	P	P	P	P	P	P	PC
25	Fuel Adj. to Petrol AA	1	1	1	1	1	1	1	1	1
26	Press. @ In. Valve IVP ATA	1	1	2.7	2.7	2.7	3.2	3.3	3.4	3.95
27	Manifold Density Ratio = MDR	1	1	2.48	2.48	2.48	2.94	3.04	3.13	3.63
28	PERFORMANCE									
29	Power CV	515	515	570	580	600	660	780	850	880
30	Peak (Rated) Power PP HP	508.0	508.0	562.2	572.1	591.8	651.0	769.3	838.4	868.0
31	Crank RPM @ PP NP	12300	12300	11500	11000	10500	11000	11000	11500	11500
32	GEOMETRIC ANALYSIS									
33	B/S	1.613	1.613	1.674	1.674	1.674	1.674	1.674	1.674	1.674
34	PA SqCm	603.2	603.2	309.2	309.2	309.2	309.2	309.2	309.2	309.2
35	V/CN cc per cylinder	249.3	249.3	249.4	249.4	249.4	249.4	249.4	249.4	249.4
36	V cc	2991.8	2991.8	1496.4	1496.4	1496.4	1496.4	1496.4	1496.4	1496.4
37	100/Smm	2.02	2.02	2.07	2.07	2.07	2.07	2.07	2.07	2.07
38	R*VIA	230.00	230.00	254.60	247.00	254.60	254.60	266.00	285.00	
39	PERFORMANCE ANALYSIS									
40	PP/V=SP HP/Litre	169.78	169.78	375.70	382.29	395.47	435.02	514.11	560.25	580.02
41	MPSP = 2*S*NP m/s	20.34	20.34	18.55	17.75	16.94	17.75	17.75	18.55	18.55
42	BMPP Bar	12.35	12.35	29.23	31.10	33.70	35.39	41.82	43.59	45.13
43	RA =0.63/(1-1/R^0.4)	1.010	1.010	1.182	1.195	1.182	1.182	1.165	1.138	1.115
44	PPA = PP*RA/AA HP	513.14	513.14	664.75	683.73	699.74	769.71	896.01	954.37	968.13
45	BMPA= BMPP*RA/AA Bar	12.48	12.48	34.57	37.17	39.85	41.84	48.71	49.63	50.34
46	BMPA/MDR Adj.Bar	12.48	12.48	13.94	14.99	16.07	14.23	16.02	15.85	13.87
47	Example No.	37	38	39	40	41	42	43	44	45
48	YEAR	1979	1980	1981	1982	1983	1984	1985	1986	1987
49	Model	312T4	312T5	126C	126C2	126C3	126C4	156-85	F1-86	F1-87
50	PPA/PA HP/SqCm	0.851	0.851	2.150	2.211	2.263	2.490	2.898	3.087	3.131
51	(PPA/PA)/MDR Adj.HP/SqCm	0.851	0.851	0.867	0.892	0.913	0.847	0.953	0.986	0.863
52	PPA/V HP/Litre	171.51	171.51	444.22	456.91	467.60	514.37	598.76	637.76	646.96
53	(PPA/V)/MDR Adj.HP/Litre	171.51	171.51	179.12	184.24	188.55	174.95	196.96	203.76	178.23
54	BNP = B*NP "	16.40	16.40	15.53	14.85	14.18	14.85	14.85	15.53	15.53
55	MPD @ nom'l (CRL/S)=2 g	5242.5	5242.5	4471.8	4091.4	3727.9	4091.4	4091.4	4471.8	4471.8
56	(NPx(MPSP)^2)/10^5	50.87	50.87	39.59	34.64	30.13	34.64	34.64	39.59	39.59
57	KF1 for FPMEP	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
58	KF2 for FPMEP	9	9	9	9	9	9	9	9	9
59	EIMPA Bar	17.86								
60	Estd. Mech. Effy. EEM %	69.9								
61										
62										
63	= [EV x EC x EM]%									
64	=Line 46 x 4.1771	52.1	52.1	58.2	62.6	67.1	59.5	66.9	66.2	57.9

	A	AU	AV	AW	AX	AY	AZ	BA	BB	BC
1										
2	ENGINE IDENTITY									
3	Example No.	46	47	48	49	50	51	52	53	54
4	2012 ed."All the cars" Page no.	291	293	299	301	303	309	315	321	327
5	YEAR	1988	1989	1990	1991.5	1991.5	1993	1994.5	1995	1996.5
6	Model	F1-87/88C	F1-89	F1-90	F1-91(643)	F92A	F93A	412T1B	412T2	F310
7	Swept Volume Litres	1.5	3.5	3.5	3.5	3.5	3.5	3.5	3	3
8	Induction System	PC	NA	NA	NA	NA	NA	NA	NA	NA
9	Class	RR	RR	RR	RR	RR	RR	RR	RR	RR
10	GEOMETRY									
11	Configuration	90V6	65V12	65V12	65V12	65V12	65V12	75V12	75V12	75V10
12	No. of Cylinders CN	6	12	12	12	12	12	12	12	10
13	No.Cyls/Intake CNI	1	1	1	1	1	1	1	1	1
14	In. & Ex. Configuration	TC								
15	Comb. Ch'b'r/Piston Config'n									
16	Compression Ratio R	10	11.5	12.5	13.5	12.6	13	12.8	12.8	12.5
17	BORE B mm	81	84	84	88	90	88	88	86	92
18	STROKE S "	48.4	52.6	52.6	47.9	45.8	47.9	47.9	43	45.1
19	Valve Opening/Return System	DOHC/C	DOHC/C	DOHC/C	DOHC/P	DOHC/P	DOHC/P	DOHC/P	DOHC/P	DOHC/P
20	Valve No./Cyl.-In. VNI	2	3	3	3	3	3	2	2	2
21	" " " -Ex. VNE	2	2	2	2	2	2	2	2	2
22	Valve Incl. Angle VIA Deg	?	20	20	20	20	20	20	20	?
23	INFLOW CONDITIONS									
24	Fuel Type / Ref. No. to APPX. 2	P	P	P	P	P	P	P	P	P
25	Fuel Adj. to Petrol AA	1	1	1	1	1	1	1	1	1
26	Press. @ In. Valve IVP ATA	2.47	1	1	1	1	1	1	1	1
27	Manifold Density Ratio = MDR	2.27	1	1	1	1	1	1	1	1
28	PERFORMANCE									
29	Power CV	620	600	680	735	745	745	800	690	725
30	Peak (Rated) Power PP HP	611.5	591.8	670.7	724.9	734.8	734.8	789.1	680.6	715.1
31	Crank RPM @ PP NP	12800	12500	12750	14800	15000	15000	15250	16800	16500
32	GEOMETRIC ANALYSIS									
33	B/S	1.674	1.597	1.597	1.837	1.965	1.837	1.837	2.000	2.040
34	PA SqCm	309.2	665.0	665.0	729.9	763.4	729.9	729.9	697.1	664.8
35	V/CN cc per cylinder	249.4	291.5	291.5	291.3	291.4	291.3	291.3	249.8	299.8
36	V cc	1496.4	3498.0	3498.0	3496.0	3496.4	3496.0	3496.0	2997.3	2998.1
37	100/Smm	2.07	1.90	1.90	2.09	2.18	2.09	2.09	2.33	2.22
38	R*VIA		230.00	250.00	270.00	252.00	260.00	256.00	256.00	
39	PERFORMANCE ANALYSIS									
40	PP/V=SP HP/Litre	408.65	169.18	191.74	207.36	210.16	210.19	225.70	227.05	238.51
41	MPSP = 2*S*NP m/s	20.65	21.92	22.36	23.63	22.90	23.95	24.35	24.08	24.81
42	BMPP Bar	28.57	12.11	13.46	12.54	12.54	12.54	13.24	12.09	12.94
43	RA = 0.63/(1-1/R^0.4)	1.047	1.010	0.991	0.974	0.989	0.982	0.985	0.985	0.991
44	PPA = PP*RA/AA HP	639.97	597.83	664.38	705.87	726.57	721.46	777.42	670.53	708.35
45	BMPA= BMPP*RA/AA Bar	29.90	12.23	13.33	12.21	12.40	12.31	13.05	11.92	12.81
46	BMPA/MDR Adj.Bar	13.17	12.23	13.33	12.21	12.40	12.31	13.05	11.92	12.81
47	Example No.	46	47	48	49	50	51	52	53	54
48	YEAR	1988	1989	1990	1991.5	1991.5	1993	1994.5	1995	1996.5
49	Model	F1-87/88C	F1-89	F1-90	F1-91(643)	F92A	F93A	412T1B	412T2	F310
50	PPA/PA HP/SqCm	2.070	0.899	0.999	0.967	0.952	0.988	1.065	0.962	1.066
51	(PPA/PA)/MDR Adj.HP/SqCm	0.912	0.899	0.999	0.967	0.952	0.988	1.065	0.962	1.066
52	PPA/V HP/Litre	427.67	170.91	189.93	201.91	207.80	206.37	222.37	223.71	236.27
53	(PPA/V)/MDR Adj.HP/Litre	188.40	170.91	189.93	201.91	207.80	206.37	222.37	223.71	236.27
54	BNP = B*NP "	17.28	17.50	17.85	21.71	22.50	22.00	22.37	24.08	25.30
55	MPD @ nom'l (CRL/S)=2 g	5540.0	5741.8	5973.8	7330.0	7199.3	7529.4	7782.5	8478.7	8578.1
56	(NPx(MPSP)^2)/10^5	54.59	60.04	63.72	82.64	78.66	86.04	90.41	97.41	101.52
57	KF1 for FPMEP	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
58	KF2 for FPMEP	9	9	9	9	9	9	9	9	9
59	EIMPA Bar		18.45	19.75	20.18	20.14	20.65	21.80	21.29	22.61
60	Est'd. Mech. Effy. EEM %		66.3	67.5	60.5	61.6	59.6	59.8	56.0	56.7
61										
62										
63	= [EV x EC x EM]%									
64	=Line 46 x 4.1771	55.0	51.1	55.7	51.0	51.8	51.4	54.5	49.8	53.5

	A	BD	BE	BF	BG	BH	BI	BJ	BK	BL
1										
2	ENGINE IDENTITY									
3	Example No.	55	56	57	58	59	60	61	62	63
4	2012 ed."All the cars" Page no.	331	333	337	341	347	349	355	361	371
5	YEAR	1997	1998	1999	2000	2001	2002	2003	2004	2005
6	Model	F310B	F300	F399	F1-2000	F2001	F2002	F2003-GA	F2004	F2005
7	Swept Volume Litres	3	3	3	3	3	3	3	3	3
8	Induction System	NA	NA	NA	NA	NA	NA	NA	NA	NA
9	Class	RR	RR	RR	RR	RR	RR	RR	RR	RR
10	GEOMETRY									
11	Configuration	75V10	80V10	80V10	90V10	90V10	90V10	90V10	90V10	90V10
12	No. of Cylinders CN	10	10	10	10	10	10	10	10	10
13	No.Cyls/Intake CNI	1	1	1	1	1	1	1	1	1
14	In. & Ex. Configuration									
15	Comb. Ch'b'r/Piston Config'n									
16	Compression Ratio R	12	12.2	12.5	12.3	12.6	12.6	13.3	13.3	13.3
17	BORE B mm	95	96	96	96	96	96	97	97	97
18	STROKE S "	42.3	41.4	41.4	41.4	41.4	41.4	40.56	40.56	40.56
19	Valve Opening/Return System	DOHC/P	DOHC/P	DOHC/P	DOHC/P	DOHC/P	DOHC/P	DOHC/P	DOHC/P	DOHC/P
20	Valve No./Cyl.-In. VNI	2	2	2	2	2	2	2	2	2
21	" " " -Ex. VNE	2	2	2	2	2	2	2	2	2
22	Valve Incl. Angle VIA Deg	?	25	25	25	25	25	25	25	25
23	INFLOW CONDITIONS									
24	Fuel Type / Ref. No. to APPX. 2	P	P	P	P	P	P	P	P	P
25	Fuel Adj. to Petrol AA	1	1	1	1	1	1	1	1	1
26	Press. @ In. Valve IVP ATA	1	1	1	1	1	1	1	1	1
27	Manifold Density Ratio = MDR	1	1	1	1	1	1	1	1	1
28	PERFORMANCE									
29	Power CV	730	775	790	805	825	835	845	865	870
30	Peak (Rated) Power PP HP	720.0	764.4	779.2	794.0	813.7	823.6	833.4	853.2	858.1
31	Crank RPM @ PP NP	16050	16300	16300	17300	17300	17800	18300	18300	18300
32	GEOMETRIC ANALYSIS									
33	B/S	2.246	2.319	2.319	2.319	2.319	2.319	2.392	2.392	2.392
34	PA SqCm	708.8	723.8	723.8	723.8	723.8	723.8	739.0	739.0	739.0
35	V/CN cc per cylinder	299.8	299.7	299.7	299.7	299.7	299.7	299.7	299.7	299.7
36	V cc	2998.3	2996.6	2996.6	2996.6	2996.6	2996.6	2997.3	2997.3	2997.3
37	100/Smm	2.36	2.42	2.42	2.42	2.42	2.42	2.47	2.47	2.47
38	R*VIA		305.00	312.50	307.50	315.00	315.00	332.50	332.50	332.50
39	PERFORMANCE ANALYSIS									
40	PP/V=SP HP/Litre	240.14	255.09	260.02	264.96	271.54	274.83	278.06	284.64	286.29
41	MPSP = 2*S*NP m/s	22.63	22.49	22.49	23.87	23.87	24.56	24.74	24.74	24.74
42	BMPP Bar	13.39	14.00	14.27	13.71	14.05	13.82	13.60	13.92	14.00
43	RA = 0.63/(1-1/R^0.4)	1.000	0.996	0.991	0.994	0.989	0.989	0.977	0.977	0.977
44	PPA = PP*RA/AA HP	720.02	761.46	771.86	789.44	804.59	814.34	814.17	833.44	838.25
45	BMPA= BMPP*RA/AA Bar	13.39	13.95	14.14	13.63	13.89	13.66	13.28	13.60	13.68
46	BMPA/MDR Adj.Bar	13.39	13.95	14.14	13.63	13.89	13.66	13.28	13.60	13.68
47	Example No.	55	56	57	58	59	60	61	62	63
48	YEAR	1997	1998	1999	2000	2001	2002	2003	2004	2005
49	Model	F310B	F300	F399	F1-2000	F2001	F2002	F2003-GA	F2004	F2005
50	PPA/PA HP/SqCm	1.016	1.052	1.066	1.091	1.112	1.125	1.102	1.128	1.134
51	(PPA/PA)/MDR Adj.HP/SqCm	1.016	1.052	1.066	1.091	1.112	1.125	1.102	1.128	1.134
52	PPA/V HP/Litre	240.14	254.11	257.58	263.44	268.50	271.75	271.63	278.06	279.67
53	(PPA/V)/MDR Adj.HP/Litre	240.14	254.11	257.58	263.44	268.50	271.75	271.63	278.06	279.67
54	BNP = B*NP "	25.41	26.08	26.08	27.68	27.68	28.48	29.59	29.59	29.59
55	MPD @ nom'l (CRL/S)=2 g	7612.6	7684.6	7684.6	8656.4	8656.4	9164.0	9489.5	9489.5	9489.5
56	(NPx(MPSP)^2)/10^5	82.20	82.47	82.47	98.60	98.60	107.40	112.02	112.02	112.02
57	KF1 for FPMEP	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
58	KF2 for FPMEP	9	9	9	9	9	9	9	9	9
59	EIMPA Bar	21.54	22.09	22.24	23.20	23.40	23.96	23.86	24.18	24.26
60	Estd. Mech. Effy. EEM %	62.2	63.1	63.6	58.7	59.3	57.0	55.7	56.2	56.4
61										
62										
63	= [EV x EC x EM]%									
64	=Line 46 x 4.1771	55.9	58.3	59.1	56.9	58.0	57.1	55.5	56.8	57.1

	A	BM	BN	BO	BP	BQ
1						
2	ENGINE IDENTITY					
3	Example No.	64	65	66	67	68
4	2012 ed."All the cars" Page no.	383	387	393	399	405
5	YEAR	2008	2009	2010	2011	2012
6	Model	F2008	F60	F10	F150	F2012
7	Swept Volume Litres	2.4	2.4	2.4	2.4	2.4
8	Induction System	NA	NA	NA	NA	NA
9	Class	RR	RR	RR	RR	RR
10	GEOMETRY					
11	Configuration	90V8	90V8	90V8	90V8	90V8
12	No. of Cylinders CN	8	8	8	8	8
13	No.Cyls/Intake CNI	1	1	1	1	1
14	In. & Ex. Configuration					
15	Comb. Ch'b'r/Piston Config'n					
16	Compression Ratio R	13	13	13	13	13
17	BORE B mm	98	98	98	98	98
18	STROKE S "	39.74	39.74	39.74	39.74	39.74
19	Valve Opening/Return System	DOHC/P	DOHC/P	DOHC/P	DOHC/P	DOHC/P
20	Valve No./Cyl.-In. VNI	2	2	2	2	2
21	" " " -Ex. VNE	2	2	2	2	2
22	Valve Incl. Angle VIA Deg	?	?	?	?	?
23	INFLOW CONDITIONS					
24	Fuel Type / Ref. No. to APPX. 2	P	P	P	P	P
25	Fuel Adj. to Petrol AA	1	1	1	1	1
26	Press. @ In. Valve IVP ATA	1	1	1	1	1
27	Manifold Density Ratio = MDR	1	1	1	1	1
28	PERFORMANCE					
29	Power CV	740	740	750	750	730
30	Peak (Rated) Power PP HP	729.9	729.9	739.7	739.7	720.0
31	Crank RPM @ PP NP	19000	18000	18000	18000	18000
32	GEOMETRIC ANALYSIS					
33	B/S	2.466	2.466	2.466	2.466	2.466
34	PA SqCm	603.4	603.4	603.4	603.4	603.4
35	V/CN cc per cylinder	299.8	299.8	299.8	299.8	299.8
36	V cc	2398.1	2398.1	2398.1	2398.1	2398.1
37	100/Smm	2.52	2.52	2.52	2.52	2.52
38	R*VIA					
39	PERFORMANCE ANALYSIS					
40	PP/V=SP HP/Litre	304.36	304.36	308.47	308.47	300.24
41	MPSP = 2*S*NP m/s	25.17	23.84	23.84	23.84	23.84
42	BMPP Bar	14.33	15.13	15.34	15.34	14.93
43	RA =0.63/(1-1/R^0.4)	0.982	0.982	0.982	0.982	0.982
44	PPA = PP*RA/AA HP	716.62	716.62	726.30	726.30	706.92
45	BMPA= BMPP*RA/AA Bar	14.07	14.86	15.06	15.06	14.66
46	BMPA/MDR Adj.Bar	14.07	14.86	15.06	15.06	14.66
47	Example No.	64	65	66	67	68
48	YEAR	2008	2009	2010	2011	2012
49	Model	F2008	F60	F10	F150	F2012
50	PPA/PA HP/SqCm	1.188	1.188	1.204	1.204	1.171
51	(PPA/PA)/MDR Adj.HP/SqCm	1.188	1.188	1.204	1.204	1.171
52	PPA/V HP/Litre	298.83	298.83	302.87	302.87	294.79
53	(PPA/V)/MDR Adj.HP/Litre	298.83	298.83	302.87	302.87	294.79
54	BNP = B*NP "	31.03	29.40	29.40	29.40	29.40
55	MPD @ nom'l (CRL/S)=2 g	10022.6	8995.3	8995.3	8995.3	8995.3
56	(NPx(MPSP)^2)/10^5	120.36	102.34	102.34	102.34	102.34
57	KF1 for FPMEP	0.75	0.75	0.75	0.75	0.75
58	KF2 for FPMEP	9	9	9	9	9
59	EIMPA Bar	25.45	24.64	24.84	24.84	24.43
60	Estd. Mech. Effy. EEM %	55.3	60.3	60.6	60.6	60.0
61						
62						
63	= [EV x EC x EM]%					
64	=Line 46 x 4.1771	58.8	62.1	62.9	62.9	61.2