

SHORT BLOCK

Short Block:	Pontiac 455	Bore:	4.155 in	Stroke:	4.000 in
No. Cylinders:	8	Cylinder Volume:	888.78 cc	Total Vol:	433.9 ci

CYLINDER HEADS

Cylinder Heads: Ported

Valve Specifications:

Intake Valves/Port:	1	Exhaust Valves/Port:	1
Intake Valve Dia:	2.110 in	Exhaust Valve Dia:	1.770 in

COMPRESSION

Compression Ratio: 13.00

Combustion Space: 74.07 cc Cylinder Volume: 888.78 cc

INDUCTION

Induction Flow:	850.0 cfm	@ 1.50 inHg	Fuel Type:	Gasoline
Manifold Type:	Dual-Plane High-Flow	Nitrous Injection:	0.0 lbs/min	

Forced Induction Specifications:

Blower Type:	None				
Island Flow:	*** cfm	Surge Flow:	*** cfm	Pressure Ratio:	***
Impeller Speed:	*** rpm	Belt Ratio:	***	Internal Ratio:	***
Peak Efficiency:	*** %	Boost Limit:	*** psi	Intercooler:	*** %

EXHAUST

Exhaust System: Large-Tube Headers Open Exhaust

CAMSHAFT

Cam Name: TMC

Intake Lift At Valve:	0.785 in	Lifter Type:	Hydraulic
Exhaust Lift At Valve:	0.753 in	Lifter Acceleration Rate:	4.21 (Auto)

Valve Opening/Closing Based On: Seat-To-Seat

Primary Timing (Seat-to-Seat):	IVO: 46.0	IVC: 76.0	EVO: 88.5	EVC: 38.5
Secondary Timing (0.050-inch):	IVO: 21.0	IVC: 51.0	EVO: 63.5	EVC: 13.5

Cam Installed Advanced(+)/Retarded(-): 0.0

True IVO:	46.0	True EVO:	88.5
True IVC:	76.0	True ICA:	105.0
True EVC:	38.5	True ECA:	115.0

Cam Timing Summary:

Intake Duration:	302.0	Exhaust Duration:	307.0
Intake Centerline Angle:	105.0	Exhaust Centerline Angle:	115.0
Lobe Centerline Angle:	110.0	Valve Overlap:	84.5

NOTES

CYLINDER HEAD AIRFLOW DATA

Description: Ported

Intake Valve

Test Diameter: 2.110 in
Pressure Drop: 28.0 inH2O

<u>Lift: in</u>	<u>Flow: cfm</u>
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0.100	75.0
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0.200	144.0
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0.300	207.0
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0.400	248.0
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0.500	276.0
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0.600	295.0
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Exhaust Valve

Test Diameter: 1.770 in
Pressure Drop: 28.0 inH2O

<u>Lift: in</u>	<u>Flow: cfm</u>
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0.100	60.0
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0.200	111.0
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0.300	148.0
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0.400	178.0
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0.500	198.0
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0.600	234.0
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CALCULATED POWER AND ENGINE PRESSURES

Engine RPM	Power (Fly)	Torque (Fly)	Int Man Pressure	Vol Eff %	BMEP Pressure
2000	153	403	14.67	69.4	141.9
2500	209	440	14.65	76.9	155.0
3000	260	455	14.61	79.9	160.3
3500	322	482	14.57	85.5	170.0
4000	391	513	14.51	91.6	181.0
4500	462	539	14.42	96.2	190.0
5000	524	550	14.32	99.5	193.9
5500	571	545	14.21	101.1	192.2
6000	608	532	14.09	101.4	187.5
6500	618	499	13.98	99.5	176.0
7000	623	467	13.90	98.1	164.7
7500	618	432	13.80	95.2	152.4
8000	593	389	13.74	92.4	137.1
8500	575	355	13.68	89.8	125.2
9000	519	303	13.62	85.0	106.7
9500	470	260	13.62	81.4	91.6
10000	416	218	13.61	77.0	77.0
10500	356	178	13.62	74.1	62.7
11000	280	134	13.60	69.7	47.1

PROTOOLS CALCULATED POWER AND ENGINE PRESSURES

Engine RPM	Power (Fly)	Indicated Power	Frictional Power	Pumping Power	Mech. Eff %	Induction Airflow	Piston Force	Piston Speed	IMEP Pressure	FMEP Pressure	PMEP Pressure
2000	153	175	16	4	88.6	174.2	2170	1333	160.1	14.5	3.7
2500	209	240	20	7	88.6	241.3	2371	1667	174.9	14.9	5.0
3000	260	299	25	10	88.1	300.8	2468	2000	182.0	15.4	6.2
3500	322	371	30	15	87.8	375.7	2626	2333	193.7	15.9	7.7
4000	391	453	36	21	87.5	460.0	2803	2667	206.7	16.3	9.4
4500	462	537	41	28	87.2	543.6	2956	3000	218.0	16.8	11.2
5000	524	614	48	35	86.4	624.4	3041	3333	224.3	17.6	12.8
5500	571	678	57	43	85.4	698.2	3053	3667	225.2	18.8	14.2
6000	608	733	67	50	84.0	763.6	3026	4000	223.1	20.3	15.3
6500	618	764	80	57	82.1	811.7	2908	4333	214.5	22.5	15.9
7000	623	790	96	63	79.9	862.5	2795	4667	206.1	25.0	16.5
7500	618	809	114	69	77.4	896.8	2671	5000	197.0	27.7	16.9
8000	593	811	136	74	74.1	928.0	2508	5333	184.9	30.9	16.9
8500	575	822	159	80	70.9	958.7	2392	5667	176.4	34.1	17.1
9000	519	797	188	82	66.1	960.4	2191	6000	161.6	38.2	16.6
9500	470	781	220	85	61.0	970.3	2036	6333	150.1	42.2	16.3
10000	416	764	254	87	55.3	967.1	1890	6667	139.4	46.5	15.9
10500	356	742	293	89	48.6	977.4	1750	7000	129.1	50.9	15.5
11000	280	709	336	89	40.1	962.3	1596	7333	117.7	55.7	14.8



