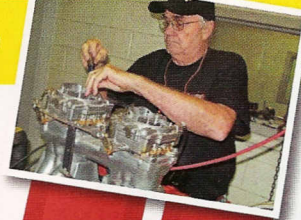


> **7 Big-Blocks With 7 Dyno Sheets**



# MOPAR MUSCLE



**NEW CHALLENGER DROP-TOP**

MOPARMUSCLEMAGAZINE.COM

AUGUST 2010

# SMOKE 'EM

## B-BODY STREET BRAWLERS

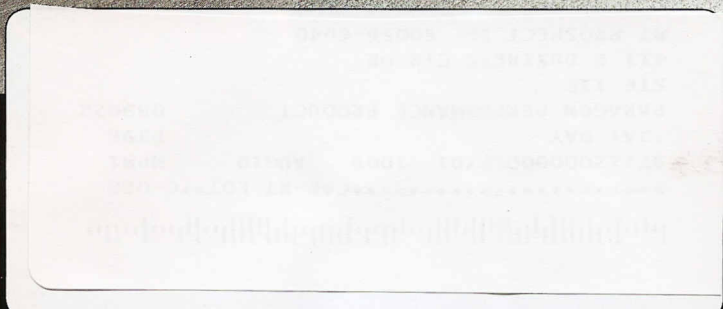


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- » '71 ROAD RUNNER SUSPENSION REBUILD
- » WIN THIS ENGINE!!!  
SMALL-BLOCK 408 BUILD AND DYNO TEST
- » NEW B-BODY DOORS DO THEY FIT? WE FIND OUT



A SOURCE INTERLINK MEDIA PUBLICATION

AUGUST 2010





## THE 2009 AMSOIL/MOPAR MUSCLE ENGINE CHALLENGE

# PARTS AND POWER

## INSIDE THE '09 BIG-BLOCKS

**TEXT:** DAVE YOUNG

**PHOTOS:** DAVE YOUNG AND RANDY BOLIG

**T**he 2009 AMSOIL/Mopar Muscle Engine Challenge has been a big hit, as it really highlighted the power an economically built big-block can make with a little thought and careful

planning. This year's engine builders used a variety of techniques to gain an advantage in our contest, and the result was a diverse array of professionally built big-blocks for us to tell you about.

On the dyno at Comp Cams' Memphis, Tennessee, facility, these engines all performed flawlessly, with no real disappointments or failures to speak of. Each of the engine builders tuned their entries to impressive power, especially given that most engines were built with budget priced, and even pre-owned parts. Since this year's contest featured the low-deck Mopar B engine, most of the competitors utilized a factory 440 crank

in a 400 block, for a displacement of 451 or 452 cubic inches depending on final bore size. This trick kept costs down and was a good combination with the required Edelbrock Performer RPM cylinder heads.

The rules of our contest change slightly each year, and this year the cost of the parts used to build the engine was factored into the peak combined horsepower and torque, for a dollar-per-power rating. Since used parts were factored at fair market value instead of full retail price, it really paid to utilize seasoned equipment rather than building an engine with all new parts. While the intention of this rule change was to show our readers that you could make big power inexpensively, as a side affect, the 2009 contest took on somewhat of a "junkyard wars" theme, with the least expensive engines taking the top two places.

This month we'll show you the list of parts that went into each of the '09 big-blocks, as well as a dyno sheet for each engine. We enjoyed working

◀ This month we'll show you the parts used and the dyno sheets for each of the powerful 2009 AMSOIL/Mopar Muscle Engine Challenge big-blocks.



**STREETpro**  
by Ceramic Gasket



**Rockett Brand**



### 2009 PARTICIPANTS

TEAM OF:

**SCHURBON ENGINE AND MACHINE**

MAQUOKETA, IA, 52060

563/652-3100

SCHURBO@MSN.COM

**MO-PAR CITY**

OREGON, IL 61061

800/426-HEMI

WWW.MOPARCITY.COM

**MID AMERICA RACING ENGINES**

WASHINGTON, IA 52353

319/653-6282

MIDAMERICADB@IOWATELECOM.NET

**LAROY ENGINES**

CHALLIS, ID 83226

208/ 879-2969

JGLAROY@CUSTERTEL.NET

**CHENOWETH SPEED AND MACHINE**

MORTON, IL, 61550

309/266-8084

WWW.CHENOWETHSPEEDANDMACHINE.COM

**JD ENGINE AND MACHINE**

COLUMBIA, MO, 65203

573/445-4550

**PROMAX PERFORMANCE**

INDIANAPOLIS, IN

317/484-1451

SALES@PROMAXCARBS.COM

**R.M. COMPETITION**

ROSEVILLE, MI, 48066

586/909-1591

RMCOMPBRANDY@YAHOO.COM



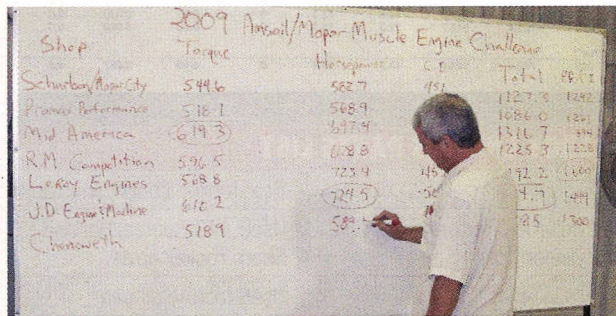


We couldn't host our dyno contest without the efforts of our many sponsors. We'd like to thank all our sponsors, especially Amsoil, Comp Cams, and Rockett Brand, for making our competition possible.

All the competitors used the 10W40 synthetic engine oil provided by Amsoil. As a testament to the quality of this lubricant, none of the engines had any oil related issues during the contest.



Rockett Brand specially blends 93 octane unleaded gasoline for our contest, and provides as much as the engines can burn. Rockett Brand is a great source for all fuels, including racing fuels designed for modern high-performance engines, and E-85 with consistent chemical properties.



Comp hosts our contest each year at their Memphis research facility, and we keep track of each engine's numbers during the dyno sessions. Check out the power these big-blocks made on 93 octane unleaded fuel!

with all the shops in the '09 contest and encourage you to call one of them for your next project. Be sure to visit moparmuscle.com to check out the rules for the 2010 AMSOIL/Mopar Muscle Engine Challenge which will feature the small-block Chrysler A-engine with RHS's new cast-iron cylinder heads.

## SCHURBON ENGINE AND MACHINE/MO-PAR CITY



Schurbon Engine and Machine combined efforts with Mo-par City this year, winning the 2009 Amsoil/Mopar Muscle Engine Challenge with their 451ci big-block.

EngSpd RPM	STPPwr C/Hp	STPTq Cib-ft	DR A/F Ratio	Avg AF Ratio	Air1+2 SCFM	BSAC lb/Inch	BSFC lb/Inch	VolIEF %
3,000**	266.5	468.6	13.5	13.5	0	0.00	0.055	0.0
3,100	273.7	463.7	13.5	13.2	0	0.00	0.052	0.0
3,200	281.2	461.5	13.2	12.8	0	0.00	0.049	0.0
3,300	289.0	459.9	12.8	12.3	0	0.00	0.046	0.0
3,400	296.9	458.7	12.4	11.8	0	0.00	0.043	0.0
3,500	304.7	457.2	11.9	11.3	0	0.00	0.040	0.0
3,600	311.9	455.0	11.5	11.0	0	0.00	0.038	0.0
3,700	318.5	452.1	11.3	10.9	0	0.00	0.037	0.0
3,800	325.4	449.7	11.2	10.8	0	0.00	0.036	0.0
3,900	332.9	448.4	11.2	10.9	0	0.00	0.035	0.0
4,000	342.0	449.1	11.4	11.1	0	0.00	0.035	0.0
4,100	353.2	452.5	11.6	11.3	0	0.00	0.035	0.0
4,200	366.4	450.6	11.8	11.7	0	0.00	0.034	0.0
4,300	388.4	474.4	12.1	12.1	0	0.00	0.034	0.0
4,400	409.8	488.1	12.4	12.5	0	0.00	0.033	0.0
4,500	432.5	504.8	12.5	12.7	0	0.00	0.032	0.0
4,600	454.1	518.4	12.6	12.8	0	0.00	0.031	0.0
4,700	473.0	526.6	12.7	12.9	0	0.00	0.029	0.0
4,800	490.3	536.4	12.8	12.9	0	0.00	0.029	0.0
4,900	505.2	541.6	12.7	12.9	0	0.00	0.028	0.0
5,000	518.1	544.2	12.8	12.9	0	0.00	0.027	0.0
5,100	528.8	544.6	12.8	13.0	0	0.00	0.027	0.0
5,200	536.6	542.0	12.8	12.8	0	0.00	0.026	0.0
5,300	541.6	536.7	12.8	12.7	0	0.00	0.025	0.0
5,400	546.0	531.0	12.9	12.7	0	0.00	0.025	0.0
5,500	550.0	526.2	12.8	12.7	0	0.00	0.025	0.0
5,600	554.3	519.9	12.8	12.7	0	0.00	0.025	0.0
5,700	558.8	514.9	12.8	12.8	0	0.00	0.025	0.0
5,800	564.4	511.1	12.8	12.8	0	0.00	0.025	0.0
5,900	570.8	508.1	12.8	12.8	0	0.00	0.024	0.0
6,000	576.8	504.9	12.8	12.7	0	0.00	0.024	0.0
6,100	580.8	500.1	12.8	12.7	0	0.00	0.024	0.0
6,200	582.7	493.6	12.7	12.6	0	0.00	0.024	0.0
6,300	582.2	488.4	12.7	12.7	0	0.00	0.024	0.0
6,400	581.2	476.9	12.8	12.8	0	0.00	0.024	0.0
6,500	578.8	467.7	12.7	12.8	0	0.00	0.024	0.0
6,600	577.8	459.8	12.7	12.8	0	0.00	0.024	0.0
6,700	575.5	451.1	12.6	12.7	0	0.00	0.024	0.0
6,800	570.2	440.4	12.4	12.3	0	0.00	0.024	0.0
6,900	559.1	425.6	12.1	12.0	0	0.00	0.024	0.0
7,000**	550.6	413.1	11.9	11.7	0	0.00	0.023	0.0
Max**								
7,000	582.7	544.6	13.5	13.5	0	0.00	0.055	0.0

## SCHURBON ENGINE AND MACHINE/MO-PAR CITY PARTS LIST

Factory Chrysler 400 block	Stock 440 connecting rods
Edelbrock Performer RPM cylinder heads	Used ductile iron rocker arms
Comp Cams flat-tappet camshaft	Used industrial oil pan
Comp Cams solid lifters	Used factory oil pump
Comp valvesprings	Used Weiland tunnel ram intake manifold
Stock timing set	Used Rochester Quadrajct carburetors
Factory 440 steel crankshaft	Used stock electronic distributor
Keith Black/Silvolite cast pistons	Stock harmonic balancer



## CHENOWETH SPEED AND MACHINE



Chenoweth placed a close second in this year's contest, with an economical and powerful 452ci low-deck big-block.

EngSpd RPM	STPPwr CHp	STPTq Ctl-ft	DR A/F Ratio	Avg AF Ratio	Air1+2 SCFM	BSAC lb/hph	BSFC lb/hph	VolEFF %
3,000**	273.3	478.5	14.4	13.2	0	0.00	0.052	0.0
3,100	277.2	489.6	14.2	13.0	0	0.00	0.051	0.0
3,200	282.8	484.1	13.8	12.8	0	0.00	0.049	0.0
3,300	287.8	488.0	13.4	12.4	0	0.00	0.046	0.0
3,400	292.2	451.3	13.0	12.1	0	0.00	0.045	0.0
3,500	296.3	444.7	12.6	11.9	0	0.00	0.043	0.0
3,600	300.4	438.3	12.3	11.7	0	0.00	0.042	0.0
3,700	305.6	433.7	12.2	11.7	0	0.00	0.041	0.0
3,800	312.2	431.4	12.2	11.7	0	0.00	0.040	0.0
3,900	320.7	431.9	12.3	11.8	0	0.00	0.040	0.0
4,000	333.1	437.3	12.5	12.1	0	0.00	0.039	0.0
4,100	352.1	451.0	13.2	12.5	0	0.00	0.038	0.0
4,200	375.3	469.3	13.7	12.8	0	0.00	0.037	0.0
4,300	397.7	485.8	14.0	13.0	0	0.00	0.035	0.0
4,400	418.4	498.4	14.1	13.2	0	0.00	0.034	0.0
4,500	436.1	509.0	14.3	13.3	0	0.00	0.033	0.0
4,600	450.7	514.8	14.4	13.4	0	0.00	0.032	0.0
4,700	463.1	517.5	14.4	13.4	0	0.00	0.031	0.0
4,800	474.1	518.7	14.4	13.4	0	0.00	0.030	0.0
4,900	484.1	518.9	14.4	13.3	0	0.00	0.030	0.0
5,000	493.8	518.5	14.2	13.3	0	0.00	0.029	0.0
5,100	502.8	517.8	14.1	13.2	0	0.00	0.028	0.0
5,200	511.7	516.8	14.1	13.2	0	0.00	0.028	0.0
5,300	520.4	515.7	14.0	13.2	0	0.00	0.027	0.0
5,400	528.7	514.2	13.9	13.1	0	0.00	0.027	0.0
5,500	538.9	512.7	13.9	13.1	0	0.00	0.026	0.0
5,600	544.9	511.1	13.9	13.1	0	0.00	0.026	0.0
5,700	553.3	509.8	13.9	13.1	0	0.00	0.025	0.0
5,800	561.5	508.4	13.9	13.0	0	0.00	0.025	0.0
5,900	569.4	506.9	13.9	13.0	0	0.00	0.025	0.0
6,000	576.4	504.6	14.0	13.0	0	0.00	0.024	0.0
6,100	582.4	501.4	14.2	13.1	0	0.00	0.024	0.0
6,200	588.7	497.0	14.4	13.1	0	0.00	0.024	0.0
6,300	593.2	491.2	14.6	13.2	0	0.00	0.024	0.0
6,400	598.6	483.8	14.7	13.2	0	0.00	0.024	0.0
6,500	599.1	478.0	14.8	13.2	0	0.00	0.024	0.0
6,600	586.8	469.9	14.7	13.1	0	0.00	0.024	0.0
6,700	583.1	457.1	14.7	13.1	0	0.00	0.024	0.0
6,800	578.7	447.0	14.7	13.1	0	0.00	0.025	0.0
6,900	574.6	437.4	14.6	13.0	0	0.00	0.025	0.0
7,000**	568.5	426.5	14.6	13.0	0	0.00	0.025	0.0
Max**								
7,000	589.6	518.9	14.8	13.4	0	0.00	0.052	0.0

### CHENOWETH SPEED AND MACHINE PARTS LIST

Factory Chrysler 400 block	Used forged I-beam connecting rods
Edelbrock Performer RPM cylinder heads	Used Harland Sharp roller rocker arms
Used Engle flat-tappet camshaft	Used stock oil pan
Used Howard Cams oil-through lifters	Used Melling oil pump
Chet Herbert valvesprings	Used Edelbrock Victor 383 intake manifold
Avon timing set	Used Holley Dominator carburetor
Factory 440 steel crankshaft	Used stock electronic distributor
Diamond forged pistons	Stock harmonic balancer

## LAROY ENGINES



LaRoy Engines impressed everyone as their 452ci powerhouse made well over 720 horsepower to capture third in this year's Engine Challenge.

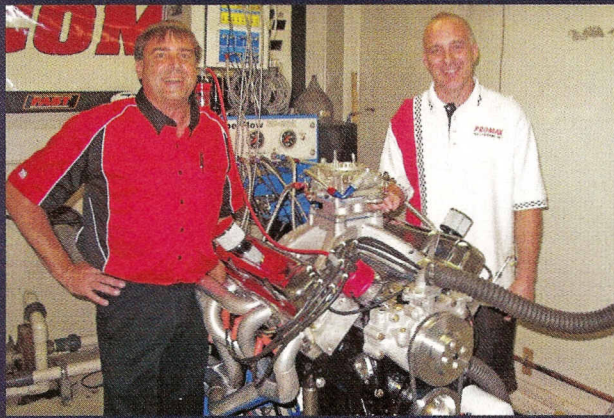
EngSpd RPM	STPPwr CHp	STPTq Ctl-ft	DR A/F Ratio	Avg AF Ratio	Air1+2 SCFM	BSAC lb/hph	BSFC lb/hph	VolEFF %
3,000**	284.7	463.4	13.7	13.8	0	0.00	0.057	0.0
3,100	270.8	459.9	12.9	13.3	0	0.00	0.053	0.0
3,200	276.8	463.9	12.4	12.9	0	0.00	0.051	0.0
3,300	281.6	448.2	12.2	12.5	0	0.00	0.048	0.0
3,400	285.4	440.9	11.9	12.3	0	0.00	0.047	0.0
3,500	287.4	431.3	11.7	12.0	0	0.00	0.045	0.0
3,600	288.5	420.9	11.8	11.8	0	0.00	0.045	0.0
3,700	289.7	411.2	11.5	11.8	0	0.00	0.044	0.0
3,800	292.8	404.7	11.5	11.8	0	0.00	0.044	0.0
3,900	297.8	401.1	11.7	11.9	0	0.00	0.044	0.0
4,000	304.7	400.1	11.9	12.0	0	0.00	0.043	0.0
4,100	314.8	403.2	12.2	12.3	0	0.00	0.042	0.0
4,200	333.7	417.3	12.5	12.5	0	0.00	0.041	0.0
4,300	352.8	443.1	12.7	12.7	0	0.00	0.038	0.0
4,400	393.6	469.9	12.8	12.8	0	0.00	0.038	0.0
4,500	423.0	493.7	12.8	12.9	0	0.00	0.033	0.0
4,600	448.9	512.5	12.8	13.0	0	0.00	0.032	0.0
4,700	468.2	523.2	12.9	13.1	0	0.00	0.030	0.0
4,800	484.5	530.2	12.8	13.0	0	0.00	0.029	0.0
4,900	498.4	534.3	12.7	12.9	0	0.00	0.028	0.0
5,000	510.7	536.4	12.6	12.7	0	0.00	0.027	0.0
5,100	521.7	537.2	12.8	12.7	0	0.00	0.027	0.0
5,200	532.0	537.3	12.7	12.8	0	0.00	0.026	0.0
5,300	542.6	537.6	12.7	12.9	0	0.00	0.026	0.0
5,400	553.7	538.5	12.6	12.9	0	0.00	0.025	0.0
5,500	566.0	540.5	12.8	13.0	0	0.00	0.025	0.0
5,600	580.3	544.2	12.8	13.1	0	0.00	0.025	0.0
5,700	596.6	549.7	12.6	13.2	0	0.00	0.024	0.0
5,800	614.2	558.1	12.5	13.2	0	0.00	0.023	0.0
5,900	631.0	561.7	12.4	13.2	0	0.00	0.023	0.0
6,000	646.5	566.9	12.2	13.1	0	0.00	0.022	0.0
6,100	659.8	568.1	12.0	13.0	0	0.00	0.022	0.0
6,200	671.4	568.8	12.0	13.1	0	0.00	0.021	0.0
6,300	681.4	568.1	12.1	13.1	0	0.00	0.021	0.0
6,400	690.0	566.3	12.3	13.2	0	0.00	0.021	0.0
6,500	697.7	563.7	12.6	13.3	0	0.00	0.021	0.0
6,600	704.4	580.5	12.8	13.4	0	0.00	0.021	0.0
6,700	710.4	566.9	12.9	13.4	0	0.00	0.021	0.0
6,800	715.0	552.2	13.0	13.4	0	0.00	0.021	0.0
6,900	719.8	547.9	12.8	13.3	0	0.00	0.020	0.0
7,000**	723.4	542.7	12.3	13.1	0	0.00	0.020	0.0
Max**								
7,000	723.4	568.8	13.7	13.8	0	0.00	0.057	0.0

### LAROY ENGINES PARTS LIST

Factory Chrysler 400 block	Scat forged connecting rods
Edelbrock Performer RPM cylinder heads	Used 440 Source/Harland Sharp rocker arms
Eron roller camshaft	Used factory oil pan
Comp Cams solid roller lifters	Melling oil pump
Comp Cams valvesprings	Indy Cylinder Head single-plane intake manifold
Comp Cams timing set	Used Pro Systems Holley Dominator carburetor
Factory 440 steel crankshaft	Summit Racing electronic distributor
Ross forged pistons	Professional Products harmonic balancer



## PROMAX PERFORMANCE



EngSpd RPM	STPPwr Chp	STPTrq Ctlb-ft	DR A/F Ratio	Avg AF Ratio	Air1+2 SCFM	BSAC lb/hph	BSFC lb/hph	VolEff %
3,000**	270.8	474.1	13.4	12.5	0	0.00	0.050	0.0
3,100	276.0	467.6	13.2	12.3	0	0.00	0.048	0.0
3,200	281.3	461.7	13.1	12.0	0	0.00	0.046	0.0
3,300	286.1	455.4	12.9	11.8	0	0.00	0.046	0.0
3,400	291.4	450.1	12.8	11.8	0	0.00	0.044	0.0
3,500	297.2	445.9	12.8	11.7	0	0.00	0.043	0.0
3,600	303.7	443.1	12.8	11.7	0	0.00	0.042	0.0
3,700	311.8	442.7	12.7	11.7	0	0.00	0.041	0.0
3,800	322.3	445.4	12.8	11.8	0	0.00	0.040	0.0
3,900	336.9	453.7	12.9	11.9	0	0.00	0.038	0.0
4,000	356.3	467.8	12.9	12.0	0	0.00	0.036	0.0
4,100	376.8	482.7	13.1	12.0	0	0.00	0.035	0.0
4,200	396.3	496.6	13.2	12.1	0	0.00	0.033	0.0
4,300	419.9	505.5	13.2	12.2	0	0.00	0.032	0.0
4,400	428.9	512.0	13.2	12.2	0	0.00	0.031	0.0
4,500	442.0	515.9	13.1	12.2	0	0.00	0.030	0.0
4,600	453.5	517.8	13.0	12.2	0	0.00	0.029	0.0
4,700	463.7	518.1	12.9	12.1	0	0.00	0.028	0.0
4,800	472.8	517.4	12.8	12.0	0	0.00	0.027	0.0
4,900	481.3	515.9	12.7	11.9	0	0.00	0.027	0.0
5,000	489.4	514.1	12.7	11.9	0	0.00	0.027	0.0
5,100	497.3	512.1	12.8	12.0	0	0.00	0.026	0.0
5,200	505.1	510.1	12.9	12.1	0	0.00	0.026	0.0
5,300	512.8	508.1	13.1	12.2	0	0.00	0.026	0.0
5,400	520.5	506.3	13.2	12.3	0	0.00	0.026	0.0
5,500	528.1	504.3	13.2	12.3	0	0.00	0.025	0.0
5,600	535.6	502.3	13.2	12.3	0	0.00	0.025	0.0
5,700	543.1	500.5	13.2	12.3	0	0.00	0.025	0.0
5,800	550.0	498.1	13.2	12.4	0	0.00	0.025	0.0
5,900	556.7	495.6	13.2	12.4	0	0.00	0.024	0.0
6,000	561.9	491.9	13.3	12.4	0	0.00	0.024	0.0
6,100	565.5	486.9	13.3	12.5	0	0.00	0.024	0.0
6,200	568.4	481.5	13.3	12.5	0	0.00	0.024	0.0
6,300	568.9	474.2	13.4	12.5	0	0.00	0.024	0.0
6,400	567.8	466.0	13.4	12.5	0	0.00	0.024	0.0
6,500	566.3	457.6	13.3	12.4	0	0.00	0.024	0.0
6,600	563.2	448.2	13.4	12.4	0	0.00	0.024	0.0
6,700	559.8	438.9	13.4	12.4	0	0.00	0.024	0.0
6,800	556.2	428.9	13.3	12.4	0	0.00	0.024	0.0
6,900	551.4	419.7	13.3	12.4	0	0.00	0.025	0.0
7,000**	544.3	408.4	13.3	12.6	0	0.00	0.025	0.0
Max** 7,000	568.9	518.1	13.4	12.6	0	0.00	0.050	0.0

Promax Performance's 451ci big-block performed flawlessly, needing only minor tuning for optimal performance on Comp's dyno.

### PROMAX PERFORMANCE PARTS LIST

Factory Chrysler 400 block	Eagle forged H-beam connecting rods
Edelbrock Performer RPM cylinder heads	Used ductile iron rocker arms
Comp Cams flat-tappet camshaft	Used factory oil pan
Comp Cams solid lifters	Melling oil pump
Edelbrock valvesprings	Edelbrock Victor 383 intake manifold
Comp Cams timing set	Promax prepped Holley 850 carburetor
Factory 440 steel crankshaft	Used stock electronic distributor
Diamond pistons	PRW harmonic balancer

## MID AMERICA RACING ENGINES



Mid-America is a previous winner of our Engine Challenge, and brought a low-deck stroker of nearly 500 ci to this year's competition.

EngSpd RPM	STPPwr Chp	STPTrq Ctlb-ft	DR A/F Ratio	Avg AF Ratio	Air1+2 SCFM	BSAC lb/hph	BSFC lb/hph	VolEff %
3,100**	317.6	538.1	14.3	14.1	0	0.00	0.048	0.0
3,200	324.2	532.1	13.3	13.4	0	0.00	0.045	0.0
3,300	330.2	525.5	12.5	12.9	0	0.00	0.042	0.0
3,400	335.9	518.9	12.2	12.6	0	0.00	0.041	0.0
3,500	341.9	513.0	11.9	12.4	0	0.00	0.039	0.0
3,600	349.4	509.8	11.8	12.2	0	0.00	0.038	0.0
3,700	357.1	506.8	11.6	12.1	0	0.00	0.037	0.0
3,800	366.4	506.4	11.5	12.0	0	0.00	0.036	0.0
3,900	376.6	506.9	11.4	11.9	0	0.00	0.034	0.0
4,000	397.4	521.8	11.6	12.1	0	0.00	0.033	0.0
4,100	422.8	541.6	11.8	12.3	0	0.00	0.032	0.0
4,200	452.4	565.7	12.2	12.7	0	0.00	0.031	0.0
4,300	476.6	585.6	12.4	12.9	0	0.00	0.029	0.0
4,400	503.9	601.5	12.3	12.8	0	0.00	0.028	0.0
4,500	523.4	610.9	12.0	12.7	0	0.00	0.026	0.0
4,600	539.8	616.3	11.7	12.5	0	0.00	0.025	0.0
4,700	553.6	618.6	11.6	12.5	0	0.00	0.024	0.0
4,800	566.0	619.3	11.7	12.5	0	0.00	0.024	0.0
4,900	577.7	619.2	11.9	12.7	0	0.00	0.024	0.0
5,000	589.1	618.8	12.1	12.8	0	0.00	0.024	0.0
5,100	600.4	618.3	12.3	12.9	0	0.00	0.023	0.0
5,200	612.0	618.1	12.4	13.0	0	0.00	0.023	0.0
5,300	623.5	617.9	12.5	13.0	0	0.00	0.023	0.0
5,400	634.6	617.2	12.5	13.1	0	0.00	0.022	0.0
5,500	645.1	616.1	12.5	13.1	0	0.00	0.022	0.0
5,600	654.6	614.2	12.4	13.1	0	0.00	0.022	0.0
5,700	663.5	611.4	12.3	13.1	0	0.00	0.021	0.0
5,800	671.5	608.1	12.0	12.9	0	0.00	0.021	0.0
5,900	678.6	604.1	11.8	12.8	0	0.00	0.021	0.0
6,000	685.0	599.6	11.9	12.8	0	0.00	0.020	0.0
6,100	690.0	594.1	11.9	12.8	0	0.00	0.020	0.0
6,200	693.9	587.8	12.0	12.8	0	0.00	0.020	0.0
6,300	696.0	580.2	12.1	12.8	0	0.00	0.020	0.0
6,400	697.4	572.3	12.0	12.8	0	0.00	0.020	0.0
6,500	696.5	562.8	12.0	12.7	0	0.00	0.020	0.0
6,600	695.1	553.1	12.0	12.7	0	0.00	0.020	0.0
6,700	692.8	543.1	11.9	12.7	0	0.00	0.020	0.0
6,800	688.6	531.8	11.8	12.7	0	0.00	0.020	0.0
6,900	685.1	521.5	12.0	12.7	0	0.00	0.021	0.0
7,000**	681.0	510.9	12.1	12.8	0	0.00	0.021	0.0
Max** 7,000	697.4	619.3	14.3	14.1	0	0.00	0.048	0.0

### MID AMERICA RACING ENGINES PARTS LIST

Factory Chrysler 400 block	RPM forged I-beam connecting rods
Edelbrock Performer RPM cylinder heads	PRW roller rocker arms
Cam Motion roller camshaft	Moroso oil pan
PBM solid roller lifters	Melling oil pump
PAC valvesprings	Edelbrock Victor intake manifold
JP Performance timing set	Holley Dominator carburetor
RPM steel crankshaft	MSD Pro-Billet distributor
Keith Black forged pistons	Professional Products harmonic balancer



## JD ENGINE AND MACHINE



Known for making power, JD Engine and Machine made a strong statement as their nearly 500ci low-deck made a contest leading 724.5 horsepower.

EngSpd RPM	STP Pwr CHp	STP Trq Cb-ft	DR A/F Ratio	Avg AF Ratio	Air1+2 SCFM	BSAC lb/hph	BSFC lb/hph	VolEff %
3,100**	318.9	540.2	13.6	14.0	0	0.00	0.047	0.0
3,200	325.0	533.4	12.8	13.4	0	0.00	0.045	0.0
3,300	330.7	526.3	12.2	12.9	0	0.00	0.042	0.0
3,400	335.8	518.7	11.7	12.6	0	0.00	0.041	0.0
3,500	340.7	511.2	11.6	12.4	0	0.00	0.039	0.0
3,600	344.8	503.1	11.5	12.3	0	0.00	0.039	0.0
3,700	349.1	495.6	11.5	12.3	0	0.00	0.038	0.0
3,800	354.6	490.1	11.6	12.2	0	0.00	0.037	0.0
3,900	361.9	487.3	11.7	12.2	0	0.00	0.037	0.0
4,000	371.4	487.7	11.7	12.3	0	0.00	0.036	0.0
4,100	383.9	491.7	11.9	12.4	0	0.00	0.035	0.0
4,200	401.4	502.0	12.2	12.6	0	0.00	0.034	0.0
4,300	424.8	518.9	12.5	12.9	0	0.00	0.033	0.0
4,400	449.6	536.6	12.6	13.1	0	0.00	0.032	0.0
4,500	474.9	554.3	12.7	13.2	0	0.00	0.030	0.0
4,600	500.4	571.3	12.6	13.2	0	0.00	0.029	0.0
4,700	522.0	583.3	12.6	13.2	0	0.00	0.027	0.0
4,800	541.3	592.2	12.6	13.2	0	0.00	0.027	0.0
4,900	558.3	598.5	12.7	13.3	0	0.00	0.026	0.0
5,000	574.1	603.1	12.9	13.3	0	0.00	0.025	0.0
5,100	588.6	606.1	13.0	13.4	0	0.00	0.025	0.0
5,200	602.4	606.5	13.0	13.4	0	0.00	0.024	0.0
5,300	615.5	609.9	13.0	13.4	0	0.00	0.024	0.0
5,400	627.4	610.2	12.9	13.4	0	0.00	0.023	0.0
5,500	638.5	609.8	12.7	13.3	0	0.00	0.023	0.0
5,600	649.0	606.6	12.6	13.3	0	0.00	0.022	0.0
5,700	659.0	607.2	12.5	13.2	0	0.00	0.022	0.0
5,800	668.7	605.5	12.6	13.2	0	0.00	0.022	0.0
5,900	678.6	604.1	12.6	13.2	0	0.00	0.021	0.0
6,000	688.3	602.5	12.7	13.3	0	0.00	0.021	0.0
6,100	697.3	600.3	12.7	13.2	0	0.00	0.021	0.0
6,200	705.0	597.2	12.7	13.2	0	0.00	0.020	0.0
6,300	711.5	593.1	12.6	13.2	0	0.00	0.020	0.0
6,400	716.8	588.3	12.7	13.3	0	0.00	0.020	0.0
6,500	720.7	582.3	12.8	13.3	0	0.00	0.020	0.0
6,600	723.3	575.6	12.9	13.2	0	0.00	0.020	0.0
6,700	724.5	567.9	12.8	13.2	0	0.00	0.020	0.0
6,800	724.2	559.4	12.8	13.2	0	0.00	0.020	0.0
6,900	721.6	549.3	12.8	13.1	0	0.00	0.020	0.0
7,000**	717.5	538.4	12.8	13.1	0	0.00	0.020	0.0
<b>Max**</b>	<b>724.5</b>	<b>610.2</b>	<b>13.6</b>	<b>14.0</b>	<b>0</b>	<b>0.00</b>	<b>0.047</b>	<b>0.0</b>

### JD ENGINE AND MACHINE PARTS LIST

Factory Chrysler 400 block	Eagle forged connecting rods
Edelbrock Performer RPM cylinder heads	Used Harland Sharp rocker arms
Comp Cams roller camshaft	Used factory oil pan
Comp Cams solid roller lifters	Milodon oil pump
Comp Cams valvesprings	Indy Cylinder Head single-plane intake manifold
Pro Gear timing set	Holley Dominator carburetor
Eagle forged steel crankshaft	MSD Pro-Billet distributor
Diamond forged pistons	Stock harmonic balancer

## RM COMPETITION



At 512 ci, the RM Competition Entry was the largest engine in the contest, making over 625 horsepower and nearly 600 lb-ft of torque.

EngSpd RPM	STP Pwr CHp	STP Trq Cb-ft	DR A/F Ratio	Avg AF Ratio	Air1+2 SCFM	BSAC lb/hph	BSFC lb/hph	VolEff %
3,100**	323.0	547.3	11.9	12.8	0	0.00	0.043	0.0
3,200	330.8	543.0	11.3	12.3	0	0.00	0.040	0.0
3,300	337.9	537.8	10.9	11.9	0	0.00	0.038	0.0
3,400	344.5	532.2	10.7	11.5	0	0.00	0.036	0.0
3,500	350.3	525.6	10.5	11.4	0	0.00	0.035	0.0
3,600	356.6	520.3	10.5	11.2	0	0.00	0.034	0.0
3,700	364.1	516.8	10.5	11.2	0	0.00	0.034	0.0
3,800	373.1	515.6	10.5	11.3	0	0.00	0.033	0.0
3,900	384.4	517.6	10.6	11.4	0	0.00	0.032	0.0
4,000	399.5	524.8	10.8	11.6	0	0.00	0.032	0.0
4,100	419.1	536.8	11.0	11.8	0	0.00	0.031	0.0
4,200	442.7	553.5	11.3	12.0	0	0.00	0.030	0.0
4,300	465.8	569.0	11.3	12.1	0	0.00	0.028	0.0
4,400	486.6	580.8	11.3	12.1	0	0.00	0.027	0.0
4,500	504.4	596.7	11.2	12.1	0	0.00	0.026	0.0
4,600	519.7	593.3	11.2	12.1	0	0.00	0.025	0.0
4,700	533.3	595.9	11.1	12.0	0	0.00	0.025	0.0
4,800	545.1	596.5	11.1	12.0	0	0.00	0.024	0.0
4,900	555.8	595.8	10.9	12.1	0	0.00	0.024	0.0
5,000	565.8	594.3	10.8	12.1	0	0.00	0.023	0.0
5,100	575.2	592.3	10.7	12.1	0	0.00	0.023	0.0
5,200	584.4	590.2	10.7	12.2	0	0.00	0.023	0.0
5,300	593.1	587.7	10.8	12.2	0	0.00	0.022	0.0
5,400	601.7	585.2	10.8	12.2	0	0.00	0.022	0.0
5,500	609.7	582.2	10.8	12.2	0	0.00	0.022	0.0
5,600	616.9	578.5	10.6	12.1	0	0.00	0.021	0.0
5,700	622.7	573.8	10.5	12.0	0	0.00	0.021	0.0
5,800	626.3	567.1	10.4	11.9	0	0.00	0.021	0.0
5,900	628.6	559.7	10.4	11.8	0	0.00	0.021	0.0
6,000	628.3	550.0	10.6	11.9	0	0.00	0.021	0.0
6,100	628.0	540.7	10.7	11.9	0	0.00	0.021	0.0
6,200	626.3	530.5	10.7	11.9	0	0.00	0.021	0.0
6,300	625.2	521.2	10.7	11.9	0	0.00	0.021	0.0
6,400	623.5	511.6	10.6	11.9	0	0.00	0.021	0.0
6,500	621.2	501.9	10.6	11.8	0	0.00	0.021	0.0
6,600	617.9	491.7	10.7	11.9	0	0.00	0.021	0.0
6,700	614.0	481.3	10.8	12.0	0	0.00	0.022	0.0
6,800	608.3	469.9	10.9	12.0	0	0.00	0.022	0.0
6,900	603.5	459.3	10.9	12.1	0	0.00	0.022	0.0
7,000**	595.3	446.7	10.7	12.0	0	0.00	0.022	0.0
<b>Max**</b>	<b>628.8</b>	<b>596.5</b>	<b>11.9</b>	<b>12.8</b>	<b>0</b>	<b>0.00</b>	<b>0.043</b>	<b>0.0</b>

### RM COMPETITION PARTS LIST

Factory Chrysler 400 block	440 Source forged connecting rods
Edelbrock Performer RPM cylinder heads	Harland Sharp roller rocker arms
Lunati flat-tappet camshaft	Moroso oil pan
Engine Tech solid lifters	Melling oil pump
Edelbrock/Elgin valvesprings	Edelbrock Victor intake manifold
Melling timing set	Used Holley Dominator carburetor
440 Source forged steel crankshaft	Used stock electronic distributor
440 Source forged pistons	Professional Products harmonic balancer