2006 Mopar Muscle Engine Challenge - We Have A Winner!

2006 Mopar Engine Challenge Final Results

writer: Dave Young
photographer: Dave Young, Randy Bolig

David Bruns and his wife Dianne of Mid America Racing Engines in Washington, Iowa, brought the winning combination to our engine challenge this year, making more than 741 budget-friendly horsepower from their 500ci wedge.

We all expected stout power numbers from the 500ci wedges in this year's engine challenge, and we certainly weren't disappointed. We relaxed the rules a bit for this year's competition by allowing roller camshafts and smaller rod-journal sizes, but aside from that, the rules of our challenge didn't change from last year. The engines were dyno'd between 3,000 and 7,000 rpm, and the peak horsepower and torque were added together for a combined score. This score was then divided into the retail cost of the parts in the engine for a power-per-dollar factor. Manifold vacuum at idle was used as a bonus tie-breaker in case the competition was close. It turns out this year's competition was a close contest, with decimal points separating the top finishers. As it turned out, the winning engine wasn't the most powerful or the most economical of the eight entries. It was actually a combination of the two. David Bruns of Washington, Iowa's Mid America Racing Engines built a very powerful 500ci wedge using a cost-effective combination of parts to win this year's competition.

Most of these big-blocks easily out powered last year's Hemis as more than half the entries produced horsepower numbers in the mid- to high-700s. This was a function of both the relaxed rules of this year's contest and an rpm range for the dyno pulls that favored the wedge cylinder head design. Mopar Engines West holds the honor for the most power in this year's contest as their 500-inch wedge made more than 761 peak horsepower. Knowing the cost of the engine is factored into the combined peak power and torque the engine makes on the dyno, several builders chose not to go for peak power numbers, instead trying to win the contest by building their engines economically. In the end, however, it took a combination of big power and economical parts for engine builder David Bruns to win this year's engine challenge.

When a power outage caused this year's challenge to start a little behind schedule, Rich Smith and the dyno crew at Comp worked late to make up for the lost time. We had four days to dyno eight engines, and thanks to Comp we met our schedule. Overall the contest ran smoothly, and everyone in attendance had a good time. Only two of the eight engines failed to qualify-one couldn't make the required rpm, missing by only 200 rpm, and the other suffered a mechanical failure that was repaired, just not in the allotted time.

In this issue we'll give you an overview of the engine challenge wedges in the order they placed. Look for in-depth articles on each engine in future issues. If you're considering a mean street wedge for one of your projects, this will be a great chance to look at what's inside some of the most potent big-blocks on the planet.

David Bruns efficiently tuned his big-block to the best power and torque of any Edelbrock headed engine, impressing all in attendance by making 741 hp and an amazing 644 lb-ft of torque.

The crew from Mopar Engines West made an impressive 761 hp and 656 lb-ft of torque to clinch the title for the most power in the contest. When the final results were tallied, however, the cost of their parts kept them from winning.

Comp Cams was again a hospitable host for our competition, providing their facility, personnel, dyno cell, and plenty of great food for all in attendance. When one of the engines broke on the dyno they were also quick to offer parts and assistance so a repair could be made. The guys at Comp love what they do, and it really showed during our engine challenge.

Rockett Brand was our fuel sponsor again this year, bringing several drums of their specially blended 93-octane pump gas. Tim Wusz was also on hand to provide technical assistance, discussing fuel-related issues with the competitors and answering fuel-related questions.

'06 Participants	
Best Machine Racing Engines **(Chuck Millen)** 24808 Romano Warren, MI 48091 586/759-2673 chuck@bestmachineracing.com pete@bestmachineracing.com	**Hitech Motorsport** **(Bart Wells)** 13915 Radium St. NW Ste. C Ramsey, MN 55303 763/712-9088 bartwells@aol.com
J.D. Engine and Machine **(Jeff Dickey)** 900 Spencer Ave. Columbia, MO 65203 573/445-4550 acelr8@mcmsys.com	**Mid America Racing Engines** **(David Bruns)** 1945 W. 18th St. Washington, IA 52353 319/653-6282 midamericadb@lisco.com
Mopar Engines West **(David Timmons and Richard Nedbal)** 37530 Enterprise Ct. No.4	**MRL Performance** **(Mike Liston)** 4651 Culley In. Jackson, MI 49201

Newark, CA 94560 510/796-4313 richnedbal@msn.com	517/569-2672 mrlperformance@peoplepc.com
Promax **(Ben Gorman)** 298-A Gasoline Alley Indianapolis, IN 46222 317/241-3432 sales@promaxcarbs.com	**Speed-O-Motive** **(August Cederstrand)** 131 N. Lang Ave. West Covina, CA 91790 626/869-0270 august@speedomotive.com

Mid America Racing Engines - Washington, Ia

You may remember David Bruns of Mid America Racing Engines from last year's engine challenge, which featured 500ci Hemi motors. While David didn't win last year, he certainly made a good showing and impressing us with a powerful and very street-worthy entry. One thing David did do last year was pay attention. Carefully interpreting the rules, he realized that a stout combination of power and torque, combined with an economical list of parts, would win this year's challenge. The wedge that David brought this year epitomizes the concept of our challenge. It wasn't the most powerful engine, though it did make great power, nor was it the most economical. It was, however, the best combination of the two, and won our challenge with points to spare.

The Mid America Racing Engines' entry was the third engine to run in this year's challenge, and builder David Bruns came ready to compete. The 500-inch big-block fired right up and sounded healthy, needing only minor ignition timing and jetting changes to tune the motor to the conditions of Comp's dyno cell. This entry not only made the most horsepower of any Edelbrock-headed engine, it also made the third highest combined power and torque score. Mopar Muscle congratulates David Bruns, his wife Dianne, and the crew at Mid America Racing Engines for winning the '06 Royal Purple/Mopar Muscle Engine Challenge. Be sure to follow future issues as we go in-depth to tell you what parts and techniques were utilized to build this and the rest of the engines in our challenge.

Engine builder David Bruns preps his 500-inch big-block to run on Comp's dyno. His careful budgeting and some 741 hp and more than 644 lb-ft of torque were enough to win this year's challenge.

Engine builder David Bruns had definitely done his homework for this year's challenge, making only minor tuning changes to optimize power from his big-block.

After making the highest numbers thus far in the contest, Bruns was cautiously optimistic that this may be his year. Turns out he was right as only two of the entries out-powered his engine, but had to use expensive parts to do it, which gave him the win this year.

J.D. Engine and Machine - Columbia, MO

Jeff Dickey of J.D. Engine and Machine is also no newcomer to our engine challenge. In fact, the Hemi Jeff brought to last year's competition set the standard in terms of horsepower and torque, narrowly missing a win in the contest. This year, Jeff kept his spending in check, building a budget-minded engine that made good power as well. Knowing the big-block's propensity for big torque numbers, Jeff tuned his wedge to the highest torque of any of the Edelbrock headed engines, and the second highest torque of the contest. When the final results were tallied, the J.D. Engine and Machine entry was literally decimal points away from first place, netting a second place finish in our contest.

When the J.D. Engine and Machine entry fired up it sounded strong, but at the end of the first qualifying pull Jeff heard a noise. At the beginning of his second pull, Jeff noticed something and aborted the pull early to check his engine. What he found was a broken rocker arm adjuster that had let the number-six cylinder intake rocker back out, rendering that cylinder useless. Since the rules allow a limited time for tuning and maintenance between pulls, Jeff and his crew scrambled to make repairs. Luckily, their experience at the track taught them to work quickly and always have extra parts, so they had their engine repaired with time to spare. Making minor jetting and timing changes, Jeff proceeded to put up some impressive numbers to the tune of 718 hp and a stump-pulling 654 lb-ft of torque. We congratulate Jeff and the crew of J.D. Engine and Machine for a second place finish.

Engine builder Jeff Dickey and his crew from J.D. Engine and Machine also utilized Edelbrock's new Victor heads on their entry this year, tuning their engine to a second place finish.

A broken rocker adjuster had Jeff and his crew making repairs instead of tuning their engine during the time between dyno pulls. They still managed to make enough power, however, for a second place finish.

After their dyno pulls, the crew from J.D. Engine and Machine prepare their engine for the post dyno inspection. This engine was not only legal, but demonstrated that impressive horsepower and torque could be made without breaking the bank.

Engine Builder	HP	Torque	Combined Score
Mopar Engines West	761.6	656.4	1418.0
Best Machine	746.7	652.2	1398.9
Mid America	741.6	644.6	1386.2
J.D. Engine and Machine	718.8	654.0	1372.8
HiTech Motorsport	738.5	627.6	1366.1
Speed-O-Motive	716.7	598.7	1315.4
ProMax/CFM*	587.6	595.6	1183.2
MRL*	472.7	507.3	980.0
*These engines failed to qualify for the judged portion of the challenge; results are for comparison only.			

Promax - Indianapolis, IN

Tying for seventh place in this year's contest was the Promax entry, which unfortunately failed to qualify for the judged portion of the engine challenge. During its first dyno pull, the Promax engine began making a rattling noise, and builder Ben Gorman chose to abort the pull. Removing the valve covers, the cause of the noise was apparent. The end bolts holding the rocker shafts to the heads were too short, allowing the threads to be pulled from the heads and bending the left rocker shaft in the process. While this did keep Promax from officially finishing the contest, the guys at Comp quickly provided another rocker shaft and longer bolts so repairs could be made. At the end of the competition we allowed Promax to make an additional dyno pull, which netted them a respectable, though unofficial, 587 hp and 595 lb-ft of torque. The mechanical problem was unfortunate since this engine was built on a strict budget, and the Promax entry certainly would have placed better had it made its required runs.

Ben Gorman from Promax teamed up with the guys from Creative Flow Management to bring the only engine with multiple carburetion. Unfortunately, a rocker-arm shaft problem prevented them from qualifying for the judged portion of the engine challenge.

Rocker-arm problems ended Promax's hopes of winning this year's challenge as too short a retaining bolt stripped the threads from the cylinder head allowing the rocker shaft to bend on the first qualifying pull. This was unfortunate for the Promax team because this engine had what could have been a winning combination of power and economy.