MINNESOTA'S '64 – '87 CHEVELLE AND EL CAMINO CLUB

President: Stan Shinker **Vice President: Chris Reid**
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AUTOMANIA = SUCCESS!

Our Automania car show in August was an absolute success! We hosted over 130 show cars plus more club cars that didn't compete. There were over 100 paid spectators in the first few hours too. One of the big successes was our club's level of involvement. Everyone who participated in helping plan, coordinate, and of course those who were hands-on at the show all deserve applause. In all there were over 90 door prizes given away, 2 dozen trivia prizes, and 18 trophies. The top 3 trophy winners also got cash awards. The cars that were in attendance were more than the typical Saturday night cruisers too. Some looked to be nearly purpose-built trophy chasers, but most were cars that aren't typically seen out and about. There were a few modern cars, but even those were not stock. As a coordinator, you can only prepare for the worst and plan for the best. The few complaints I heard were things that can be easily changed for shows in the future. One pleasant surprise was the amount of serious photographers present. I had coordinated with Andy Valentine to have several hundred photographs taken and collected for free distribution after the show was over. He took approximately 950 pictures and sorted them down to about 300. Those pictures are available through a link on our web forums. Since the show ended, I have had several other photographers contact me including Shawna who is a NCC member with her husband Chad. She has also posted some very nicely styled pictures from the show on our web forums. One of the pictures I took was even recently published in the north metro newspaper. Friendly has invited us back next year, and it will be even bigger and better.


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NEXT MEETING: ANOKA CRUISE SATURDAY 9/10 6:30PM

Goodie bag stuffing- we had a ton of stuff! It took more than a dozen of us 30 minutes to fill them!

One of the pre-show jobs was to move Friendly's entire inventory of used cars and put up snow fence to control the shows gate access. Thanks to everyone who helped. What could have taken hours was done quickly.

Registration center-thanks to all our volunteers!

The big winner: Friendly Chevrolet Choice, Participant Choice and a vendor choice trophy

Northstar Chevelle Club Choice winner

Winner of the Metro Moulded Parts Choice

Convertible Tops and Interior's Choice winner Loren

LIMITED PRODUCTION ENGINE:

I want to take everyone back in time a little bit. Let's go back to a time when the economy was booming and there was plenty of spare money for hobbies and toys. A time when muscle cars were affordable and even the rare and top notch ones were within reach. The year is 1998, and GM has decided that their booming crate engine program was ready to be kicked up a notch. At the time, GM's baddest crate engine was the ZZ4. It was what seemed to be a winning combination of good parts at a fair price without sacrificing power. It was a drop in installation for almost every vehicle that could accept a small block. Even the Ford guys were using them in the old hot rods resurrected from the 20s and 30s. Muscle car owners were able to drop in a brand new small block with more horsepower than some of the big blocks back in the day. Imagine if they were available back in 1970: "Hey Don, is that the 396/350hp big block?" "*Yep*." "HA! *I just picked me up a 355 horse small block*." Do you think there would be a mad dash to the speed shop?

SEMA 1998

Flash forward to 1998. After building and running a prototype small block 350 in the 12 Hours At Sebring race, GM announces there will be a new hotshot 350 crate engine. It is decided that this engine will ring in the next era of performance crate engines and each will be hand built to the same specifications as the prototype in the Flint V8 engine assembly plant, and carry unique serial numbers engraved right into the NASCAR derived 18' valve covers. To add to the aura surrounding this special engine, GM decided to limit the production to 430, the same number as the horsepower rating. One stipulation is that every part number used in the engine would need to be available to the general public except two. The air cleaner would receive a special ZZ430 decal which also included the Mobil 1 logo and noted that synthetic oil must be used. The other was the unique valve covers. The pieces themselves were available, but GM specified that the valve covers for the ZZ430 would bear the GM Performance Parts logo, the ZZ430 logo, and in the lower right corner would be the individual engine serial number. As a bonus for the engine owner, GM included an embroidered GM Performance Parts ZZ430 hat and jacket. Each would also bear their engine's unique serial number. If a valve cover were ever to become damaged, the owner must surrender it to GM, who would then have a replacement one created and sent back to their customer.

The base of this wonder was GM's proven workhorse ZZ4 short block. Already having 4 bolt mains, an undercut rolled and fillet forged steel crankshaft, high silicone aluminum pistons with low tension piston rings, and the powdered metal connecting rods which had replaced the old "pink" rods for a stronger bottom end, GM coupled this solid base with their new FastBurn cylinder head. These heads helped to change the face of the small block Chevrolet performance parts world. With GMs Cast-Ported technology they were able to improve the combustion process and airflow over past processes and create a chamber and port design machined to exacting tolerances so no additional polishing is necessary, which could actually hurt performance. The FastBurn name came from the combustion chamber's ability to quickly and efficiently burn the intake charge and results in higher cylinder pressures. The 62cc chambers add to this and are designed to be used with flat-top pistons. The heads themselves incorporate a .400" deck which can be machined down to .340 for higher compression. The raised rocker rails are CNC machined for better sealing, and provide for both old style and the center bolt style valve cover mounting. The intake mating surfaces are also drilled and tapped for both traditional and Vortec style intake manifolds, though due to the .240" raised runner intake ports, the Vortec type manifold would be a better choice for best performance. The ports were raised to allow for a better line of sight meaning less obstruction in air flow. 2.00" hollow stem intake valves and 1.55" sodium filled exhaust valves accommodate the needs of lightweight parts that can also take the high temperatures produced. 78cc D-shaped exhaust ports can accommodate 500+ horsepower. The 3/8" screw-in rocker studs, drilled and tapped accessory holes, and GM Performance's logo etched onto the face ends of the cylinder head complete the package. With no other changes, these heads would bump the ZZ4 crate engine to over 385hp using only 10:1 compression. GM actually used 2 different casting numbers when creating the cylinder heads. The 12367712 was made from the original limited production "soft" mold designed for the limited production run of crate engines. The 12367713 came from the permanent tooling for later heads. There were no other differences in the cylinder heads themselves.

Installed in a Boss Hoss Cycle

The heart of any engine combination is the camshaft. This one single part change can really wake up a solid combination of parts. GM did not have to look very far for something to compliment the stout long block they had created. It was decided that the cam designed for their LT1/LT4 showroom stock racing engines would be used. It is a hydraulic roller cam with very good numbers: Duration @.050 is 218 intake and 228 exhaust. Lobe centerline is 112 degrees and maximum lift

with 1.5 rockers is .492, and GM had another trick up its collective sleeve. This cam coupled with the GM Performance Parts 1.6 ratio self-aligning aluminum roller rockers brings the lift to a power making .525".

ZZ430 re-creation-note valve cover difference

To round out the historic engine, GM wanted to include everything necessary for a complete engine installation. They chose a gear reduction starter for not only weight savings, but also for header clearance. An aluminum water pump was chosen along with an 8" balancer and automatic transmission flex plate. GM even included an HEI distributor with 8mm spark plug wires sporting the GM Performance Parts logo and stylish plug wire holders. Knowing that the engine, if installed, would most likely go into a vintage street rod versus a drag racer, GM created a dual plane aluminum intake manifold to match the raised cylinder ports and Vortec bolt pattern. They designed it for maximum horsepower and a broad torque curve. Holley created a 4160 series 750cfm carburetor #0-80508S using the chrome body for added style. The electric choke and vacuum secondaries also played into the street car target design. Topping it all off was a GM Performance Parts 14" open element air cleaner. Since it needed a part number for sale and maybe as an inside joke, GM designated it 12346430.

These engines were available only to GM Performance Parts dealerships, and each was allotted a certain quantity based on their previous GM Performance Parts purchases from GM. From my best understanding, engines #1, 2, 3 and 430 were withheld from the public for GM's own uses which could be for a display, future project, magazine company promotions, or give-away. I was fortunate enough to work for the dealer that received #4-6, 62, 63, and several later numbers too. I have seen these engines installed in 30s era Chevys, 40s Fords, first generation Camaros. I personally built a special shipping crate for one being sent to England. Since the ZZ430 was created, GM has gone on to build other crate engines using different combinations of the ZZ4 short block or a 383 version of it, FastBurn heads and various camshafts to create the ZZ383, ZZ425 and others. There are also many dealers who have replicated the ZZ430 build to include everything but the air cleaner decal and special valve covers, but the aura of these special engines will always follow the original ones around. If you want to see one of these legendary engines, Ellingson Car Museum in Rogers, MN has #4 on display.