

*October 2012*



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

**President: Stan Shinker**  
**Webmaster: John Delke**

**Vice President: Tom Brokaw**  
**Treasurer: Michael Sabby**

## **October Meeting/Event**

### **Saturday, October 20**

**Derek K's Home/Shop-Mantorville, MN -12 Noon  
Social Hour, Club Business, then "Pot Luck" Lunch  
Bring your own "grill-ables" and a dish to share!**

**\*\*NCC Members-check your email for important details & directions!\*\***

# Upcoming Events

**November Meeting-Officer Elections Saturday November 17**

Starts at 11:30, Pizza Lunch at Noon, Meeting @ 12:30

*Corvette Specialties-Moundsview*

**2012 Christmas Party, Saturday December 15**

Stay tuned for details

**February Meeting-Saturday February 16**

12 Noon-Lunch, Tour, Tech Demo & Club Business

*Roger's Rod and Customs- East Bethel*

The quick-size Chevelle now comes two ways.  
**NEW COUPES and CONVERTIBLES:** lean, clipped and highly maneuverable on the 112-inch wheelbase.  
**NEW SEDANS and STATION WAGONS:** roomier, longer, and smoother riding on the 116-inch wheelbase.  
Both have cornered the market on what's new and sportier for '68. Long-hood, short-deck styling. New interiors and instrument panels. Wider tread to move surely, corner

lightly. A bigger standard V8, 307 cubic inches big-  
Hide-A-Way windshield wipers disappear when not in use. They're standard on the SS 396, Concours and Malibu and you can order them on all other models.  
**PROVED SAFETY FEATURES:** The GM-developed energy-absorbing steering column, folding front seat back latches, four-way hazard warning flasher and all other advanced safety features are continued.

**NEW SAFETY FEATURES:** Energy-absorbing front seat backs. Seat belts for every passenger position. Safety armrests to shield door handles and many more. Your new Chevelle will even tell you if you've left your keys in the ignition. See the '68 Chevelle now. It's distinctly new, dramatically different!



**BE SMART. BE SURE. BUY NOW AT YOUR CHEVROLET DEALER'S.**

**'68 Chevelle. Distinctively new! Sport size or family size.**



Among left: Malibu Sport Coupe. Heading right: Malibu Sport Sedan.



*Corvette  
Specialties*



The **BEST** Source for all Your  
Corvette Parts, Accessories, and Gifts

Silver View Plaza  
2558 Hwy. 10 N.E.  
Mounds View, Minnesota 55112  
(763) 784-8577  
(763) 784-4319 FAX  
[www.CorvetteSpecialties.com](http://www.CorvetteSpecialties.com)

**Mike Smith**  
Manager



**Crystal Lake  
Automotive, Inc.**

[www.crystallakeautomotive.com](http://www.crystallakeautomotive.com)

**Karl Drotning, AAM**

**Complete Collision  
& Mechanical  
Service**



16055 Buck Hill Road • Lakeville, Minnesota 55044

Phone 952-435-9800 Fax 952-435-9810



**36<sup>th</sup>**  
**CAR SHOW & SWAP MEET**  
**Sunday Sept. 16, 2012**

**Southern  
Minnesota**

**Annual**

**Some of the NCC members cruised together down to St. Peter, MN to attend the Auto Restorers Club Car Show and Swap Meet on Sunday September 16. The following are a sample of the 400 plus cars that attended this show. A great time was had by all,**









## **Building a 1969 Tribute COPO**

*The Long story of building my car. by Tim Hallberg*

### **FINDING THE CAR**

A friend who is into Mopars grew up in a small town in Wisconsin where the car I bought was sitting. He's known about it for years but since he is not into Chevy's he never gave it much thought. In 2008 he told me about the car and brought some pictures of it. I contacted the lady who owned it and told her I would like to look at it. She agreed. It belonged to her first husband. He passed away in 1991. About 6 months before he died he had the motor rebuilt for drag racing.

After he died she moved from Washington to Montana then to Wisconsin. The car was never driven after he died. It was trailered to Wisconsin and set out on the edge of a farm field near some trees where it sat for at least 15 years. The tires still held air.

I had a 1969 Chevelle in 1977 it was also Azure Turquoise.

I told her I would do a frame off restoration and when I'm done I would drive it back to her town so she could drive it. She recently came to Shakopee and I took her and her family for a ride in it. The car has 52,412 original miles.

When I started restoring it I thought I would build a 383 stroker or a 396 and clone it to a SS and give it to my wife. I then bought here a different car and the 69 became my car again. I thought about the powertrain and cloning an SS but after reading an article in an old magazine about COPO's I decided to try and but as period correct COPO tribute as I could.

Make no mistake this is a tribute car, however I feel I built a very close replica to the real deal. From the 427 engine and M22 transmission to the rims and the glass all of the parts are date coded 1 to 2 months before Chevrolet originally assembled the body of this particular car in January 1969. It is a Malibu Sport Coupe that truly was a farm find. The car now houses a correct 427 4 bolt main engine. This car's body was originally built the 4<sup>th</sup> week of January 1969. The engine block and heads were cast in December 1968. (details are under the DRIVETRAIN section)

It was a fun car to build. I enjoyed the research and locating the OEM date coded parts. I will try to sell it this spring. For me it's more about the build than it is driving them.

### **The Work and Process of Restoring the Car**

I started in earnest on the car in January 2012 and completed it in June 2012

### **BODY**

The body was solid with the exceptions of two rust spots behind both rear tires. Each spot was approximately a 1 inch high by 2 inch wide area. I cut out each spot to an area of 4 inches by 4 inches to remove all the bad metal. The cut out areas were replaced with new sheet metal. The front passenger fender was dented enough that I replaced it with an original fender I found on Craigslist. The front inner fender wells, radiator support and trunk lid are Goodmark replacements.

The entire car was stripped of all the original paint using two methods. The outer body was stripped using 6 and 3 inch DA's to sand the car to bare metal. 80 grit DA

paper was used as recommended by Southern Polyurethanes Incorporated (SPI) for their Epoxy Primer. The entire body was cleaned was using SPI wax and grease remover followed by tack rags. The body was then shot with 2 coats of SPI epoxy primer followed by Robellero 2K primer and many rounds of blocking spraying and blocking some more. This car had no large dents. It had some dings and we hammered and dollied those out. There is some filler on the car but not to fill holes and no dents deeper than 3/32". After all the blocking was complete we used SPI epoxy to seal the car prior to spraying the base coat. The basecoat is 1969 code 55 Azure Turquoise DuPont PPG DBC activated applied using an Iwata LPH 400 using the purple cap. The clear coat consists of 1 1/2 gallons of SPI Universal Clear again using the Iwata but with the silver cap. The clear was wet blocked and buffed.

### **Floor and Body Interior Sheet Metal**

The floor boards were in very good shape. There were no holes they were solid. Once the original carpet and jute were removed the floor showed it's original color of Azure Turquoise. I sealed the inside surfaces of all the following parts: floor, quarter panels, fenders, doors and the roof with a heavy coat of rust preventer primer and then top coated all of it in an epoxy paint. I literally pour the rust preventative paint into the doors, quarter panel wheel well areas and fenders until it runs out the bottom to ensure it gets behind all of the bracing. All of these parts were in extremely good condition and required little or no repair work.

### **Underside**

The car was put on a rotisserie. All the undercoating was scraped off then sandblasted. The body was air blown and then vacuumed to remove any residual sand. The underside was shot with POR 15, sanded and then top coated in Eastwood Chassis Black Satin paint.

### **Trunk**

With the exception of two pin holes the inside of the trunk was void of any rust. These areas were stripped of paint and repaired with new metal. The rest of the trunk including the inside surfaces of the quarter panels were sanded and then painted in a rust preventative paint. The trunk was then shot with epoxy paint and finally top coated with GM Black and Aqua Splatter Paint.

## *Glass*

The glass is tinted green and date coded. It is all new and was purchased from Auto City Classics in Isanti Minnesota.

## *Trim*

The window, roof rails, rear panel, light bezels, door handles, grill, emblems, wheel openings, hood grills, door locks, sill plates etc. was refurbished or is new and was purchased from Auto City Classics.

## **DRIVETRAIN**

### *Engine*

The engine is balanced and blue printed. I worked on it with the owner of Master Motorworx, Sean Bestler, in Jordan Minnesota. He has been in business for 20 + years. He is an "Old School" shop.



### *Short Block*

The engine block was a standard bore and unmolested when we started the rebuild. The block, heads and crankshaft were burned and blasted. The block and heads were then shot peened. All parts were magnetic particle tested. The block was bored .030 and line honed. The main caps were line honed as well. The Crankshaft is an original 7115 cross drilled High HP 427 crank. I had it burned, blasted, magnafluxed, cut 10 10 and polished at Crankshaft Supply in Minneapolis. The main cap bolts are new GM. It has the correct Windage tray installed. The rods are the correct 7/16" dimple rods that were resized and topped with Keith Black Hypertechnic pistons. This created a 10:8 – 1 compression ratio. The damper balancer is the correct 8" that was rare but came standard on the 1969 COPO 427. It is an original NOS. The oil pan is the correct pan for the 69 COPO.

## **Heads**

The heads were fitted with new bronze valve guides, new stainless steel valves, new valve springs and correct rockers. The heads were not ported as to keep them unmolested. A true 3 angle valve job was performed. The cam is a solid lifter as was originally installed in the COPO engine.

## **Fuel System**

The carburetor is the correct Holley 780 for the COPO. The fuel pump is the same AC Delco that would have come on a COPO.

The engine was run on the dyno and final tuned on April 12, 2012. It produced 502 HP with 457 foot pounds of torque.

## **Transmission**

The transmission is a M22 "Rockcrusher" with a 621 bell housing and a Hurst shifter topped off with a Muncie handle.

## **Rear End**

The rear end / differential is a 12 bolt 1969 date coded February. It contains 4:10 -1 gears as were in the COPO's. It was professionally rebuilt with all new bearings and seals. The housing was sandblasted and then power cleaned prior to rebuilding.



## **Exhaust**

The exhaust system is aluminized and is a correct replacement dual system with the correct hangers and mufflers.

## **Fuel System**

The gas tank, tank straps, sending unit, fuel pump, fuel lines and fuel line hardware are all new. The fuel line is a single 3/8" with no return line. From my research this is correct for a Chevelle COPO.

### **SS Wheels**

The 5 rims are 14" x 7" YA coded and range in dates from 10/25/1968 to 1/6/1969. The rims were sand blasted and then sprayed with epoxy primer. GM color Argent silver is on the front face with the charcoal grey painted on the inserts of the rims. The backside and inside of the rims are painted in the correct grey with a slight tint of green. The trim rings are new as are the center caps.

### **Tires**

The tires are Firestone Wide Oval F70 – 14. The spare is mounted correctly in the up position. (The air in the tires is 2012 however while filling the tires with air I played music from January 1969)

### **SUSPENSION:**

#### **Frame**

The frame is the original to this car. It was removed, torn down, sandblasted, epoxy coated and top coated using the correct satin black color ceramic / epoxy paint.

The sway bar, steering box, drag link, front upper and lower control arms, spindles, rear upper and lower control arms and transmission mount are original to the car. They were all refinished in the same method as the frame.

The upper and lower ball joints, inner and outer tie rods, tie rod couplings, all control arm bushings, axel bushings, control arm bumpers, shocks, front and rear springs, rear spring upper bushings, idler, sway arm bushings and body bushings are all new. They are not poly as I wanted to stay as close to the original parts as possible. All parts were cleaned with a wax and grease remover, primed and then painted.

The shocks are painted with GM grey shock paint.

#### **Brakes**

The brake system is new with a couple of exceptions. The new parts include the booster, master cylinder, all lines and hoses, correct line clips, dust shields, rotors, calipers, shoes, rear wheel cylinders, all the rear springs and star wheels, parking brake cable system and fluids.

The original parts are the line distribution block, rear wheel backer plates, pedal assembly and pedal support.

## **INTERIOR:**

The interior was completely removed. Where possible the original pieces were restored and are installed in the car. The original pieces include the dash bezel, AM radio, kick panels, arm rest bases, speedometer, heater housing, seat belts, seat frames, steering column, parking brake mechanism, clutch and brake arm assembly, headliner bows, headliner trim, rearview mirror arm, sunvisor supports and arms.

The floor and firewall were stripped and sealed in POR15 then top coated in epoxy primer. The dash, inside quarter panels, rear seat back support, package tray and inside roof were sanded then painted with a rust encapsulator and top coated with epoxy primer. The floors and all other areas were solid. I paint everything with a rust encapsulator or POR 15 as a preventive measure. Fat Mat was installed on the floor, firewall, rear seat back support, package tray, inside the front air cowls, doors where the dust and moisture shield would go, inside of the quarter panels and rear fenderwells up to the point that it would be seen from the trunk. The inside of the roof was insulated with a foam sound deadener / heat shield.

New for the interior are the door and rear side panels, arm rest pads, package tray, carpet, dash pad, window cranks, door handles, lock knobs, all screws and hardware, headliner, seat covers, pads, glove box, dash lens, ash tray, cigarette lighter and dome light.

The dash has the correct 6000 RPM Tach and gauges.

## **Odds and Ends**

I purchased complete bolt kits for the body / sheet metal, interior, engine and rear end cover. These all have the correct markings and were all packaged individually which made the assembly much easier.

With the exception of the engine and rear end all the work was completed in my two car garage.

There are a lot of OEM parts that predate the body I have listed below but there are many more.

<b>Part</b>	<b>Description</b>	<b>Number</b>	<b>Date Code</b>	<b>Date</b>
Block	4 Bolt Main high distributor tower 427 CUI	3963512	L 16 8	December 16 1968
Head	Square Port	3919840	L 13 8	December 13 1968
Head	Square Port	3919840	L 30 8	December 30 1968
Crankshaft	Cross Drilled	7115		
Intake	Aluminum Winters	3933163	6 20 8	June 20 1968
Balancer	8"	3870325		
Carburetor	Holley	4346 3959164- GE	8B1	December 1st week 1968
Crank pulley	2 Groove Deep Long Pump	3955291		
Water Pump Pulley	1 Groove Deep Long Pump			
Camshaft	Solid Lifter			
Piston Rods	Dimple rods 7/16" bolts		NA	
A.I.R. Pump			Jan 69	
T Stat Housing				
Exhaust Manifold	Left			October 1968
Exhaust Manifold	Right			October 1968
Bell Housing		621		
Cooling Fan			A69	
Fuel Pump	AC Delco	40727		
Transmission	4 Speed Rock Crusher	M22		
<b>Aftermarket Parts</b>				
Spark Plug Wires	Date Coded Correctly		1 Q 69	
Battery	Dated Coded AC Delco Replacement			



# Count on Chevrolet to build the one you want!



**JET-SMOOTH CHEVROLET**

IMPALA SPORT COUPE

**Never so much luxury before!** In a class all its own in all but price, the '64 Chevrolet rivals just about anything on the road today in styling, comfort and performance. 16 power teams, 7 different engines, 15 models in four series including exciting Impala Super Sports, luxurious Impalas, handsome Bel Airs and low-cost Biscaynes. Each with Jet-smooth ride, Body by Fisher and easy-maintenance features.



**ALL-NEW CHEVELLE!**

CHEVELLE MALIBU SUPER SPORT COUPE

**This year's smartest surprise!** There's more to Chevelle than you can readily see. A good foot shorter than the big cars—yet the interior is surprisingly spacious. So is the 27-cu.-ft. trunk. Chevelle's 11 models come in three series: Malibu Super Sport, Malibu and Chevelle 300. A choice of Sport Coupes, Sedans, Convertibles and Wagons. Engine line-up includes a standard Six or V8, and at extra cost, high-performance power teams.



**CHEVY II**

CHEVY II NOVA SUPER SPORT COUPE

**All-out thrift with V8 power!** Here's sparkling performance with traditional Chevy II economy. There's a standard 120-hp Six or thrifty four-cylinder engine. Or choose at extra cost the optional 195-hp V8 or new 155-hp Six. Models include smart Nova Sport Coupe and Super Sport Coupe. All with Body by Fisher, easy-care features. Chevy II gives you beauty on a budget and the only car with a choice of 4, 6 or 8 cylinders.



**CORVAIR**

CORVAIR MONZA CONVERTIBLE

**CORVETTE**

CORVETTE STING RAY SPORT COUPE

**Even easier to get around in!** Corvair's standard engine has nearly 19% more horsepower. The extra-cost high-performance job is 110 hp. And Monza Spyder is a Turbocharged 150 horses. Engine in the rear makes Corvair as easy to handle as it looks.

**Corvette never felt better!** Improved handling and a smoother, quieter ride make the Corvette Sting Ray all the more desirable. With extra-cost V8's up to 375 hp. . . . Chevrolet Division of General Motors, Detroit, Michigan.

