CAPITAL CITY CORVETTES

P.O. Box 13927 • Salem, Oregon 97309

VOLUME 22 NO. 8

August 11th, 2011 is the GENERAL MEETING

MEETINGS & MEMBERSHIP

General membership meetings are held at 6:00pm, the 2nd Thursday of each month, at Capital Auto Group, 2711 Mission St. SE, Salem, OR 97302.

We have a social meeting on the 4th week of every month, location and event will be announced in the activities calendar.

Web site: www.CapitalCityCorvettes.com

Membership annual dues are $50.00

BIRTHDAY'S & ANNIVERSARIES

August Anniversaries

Wes & Joan Ediger	August 16

August Birthdays

Judy Baszniak	August 14
Frank Salerno	August 13
Ceritha Willeford	August 5

COMING EVENTS

August 13th-NCRS Picnic-Dutoits

August 20th-Joint CCC/WVCC picnic at Stark's, 5895 Aumsville Hwy SE, Aumsville-2:00 pm

August 28th-President's Mystery Tour

Coming Events (continued)

September –Oktoberfest

October 29th-Halloween Party-Steve & Mary StanleyNovember 26th-Annual Banquet

President: John Elegant-john.elegant@gmail.com
V. President: Joe Watson
Secretary: Brenda Fleming
Treasurer: Mary Stanley

Directors at Large
Steve Stanley-Past President
Frank Salerno-Member at Large
Car Activities Chair-Roman Baszniak
Charlotte Burton-Social Coordinator

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Capital Corvette Club Meeting Minutes
July 14, 2011

The meeting was called to order at the Capital Auto Group by President John Elegant.

The members approved the minutes for June.

Upcoming Events: Charlotte reported that those people attending the July Jubilee in Coos Bay should be prepared to leave the South Salem Walmart at 9:00 sharp. She and Gary have a lot of wonderful things planned and a schedule must be adhered to in order for all to go smoothly. She indicated that it was currently being reported that a 20% chance of rain was predicted – therefore bring your umbrellas, but wishfully also bring your sunscreen. Eight cars are expected to make the journey. The events that are scheduled for the Jubilee include breakfast at the Ken Ware Chevrolet dealership, a poker run and a show and shine. Glen reported that there will be a car show on 8/27 at the South Salem Fred Meyer, if interested in attending, contact Glen. John reported that the **President's Mystery Tour has been moved to 8/28 to accommodate the Mid Willamette Valley Club's Joint Picnic on 8/20** (2:00 p.m. – Starks place, 5895 Aumsville Hwy SE, Aumsville). John's mystery tour will leave from the Original Pancake House at 8:30. He expects to be back by 5:00 p.m.

Last Month's Activities: The Flemings first annual Coastal Surprise Tour was pronounced a success. Carol Dutoit was especially taken with Brenda Fleming's apple pie. This, of course, made Brenda Fleming very happy so I guess there will be a second Fleming's Coastal Surprise tour. The Flemings wish to express their apologies for the overflowing downstairs toilet at their final stop. Sorry for any discomfort this caused anyone. It was NOT a planned part of the tour.

Tec Time- Ira discussed options for radiator cleanliness for the C5. Please contact him for information about this. The group also discussed methods for cleaning (shining) their cars. A sound deadening package was also discussed, specifically for the C6.

John's Car Corner: John shared a picture of the Centennial Edition of the Z06. He quizzed us about the components of corvettes – Carol was the smarty who knew the answer. Everyone was suitably impressed. He told us that the C7 model would be the last V8, for fuel reasons there will be no more V8s. The Chevy Cruise is America's top selling car. GM is offering free car insurance for one year if you buy a GM automobile, this will be offered through Met Life.
Meeting adjourned at 6:45.
Members gathered at the Flight Deck for dinner and conversation.

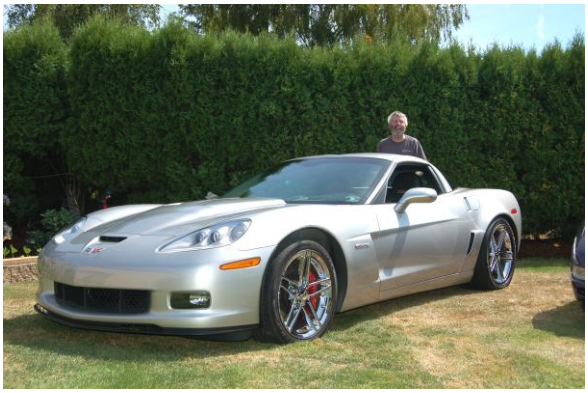
Respectfully submitted by Brenda Fleming

Another day at glen's office

Women will never be equal to men until they can walk down the street with a bald head and a beer gut, and still think they are sexy.

PRESIDENT'S CAR CORNER

JOHN & ANNIE



President's Corner: What's Hot; What's Not; And…, What's New

Really Hot:

Thank you so much Charlotte and Gary for putting together such a **great** Corvette three-day adventure at Coos Bay. Great fun was had by all. We ate super well – loved the King's Winery for lunch, and driving great roads they picked for all of us. Special kudos to Judy for driving her beautiful C1 down those challenging roads the entire weekend. Also, special kudos to Steve and Mary for their 1st place in the C1/C2 show-n-shine!

Corvette Racing:

Corvette racing is also really hot. Corvettes finished first, bettering Ferrari, Porche, BMW, Aston Martin, Ford GT and more in the world's premier 24 hour sport car race, the 24 Heures du Mans in July. Then just a couple of weeks ago, Corvette also finished first ahead of the same competitors, winning the American LeMans race at Mosport.

Chevrolet's highest six month sales in 100 years:

The first six months of 2011 were the best first-six-months of calendar year sales in Chevy's entire history, totaling 2,350,000 units. Sales were strong here in the United States – led by the new Cruze. In fact for the same six month period, 2011 sales were 14% higher in the United States. Over 286,000 Cruzes (or is it "Cruzen") were sold during this time period. As we discussed at our last meeting, Cruze sales are now above all other small car sales in the USA. Sales of the Cruze have also been hot in Brazil, China, Russia and Canada.

Other GM worldwide huge increases were seen in the Aveo and the Spark minicar.

Corvette sales have continued to increase in 2011 (compared to the two previous years), though at just under 14,000 total units, sales were still paltry compared to the five year 2000-2005 average of approximately 32,000 Corvettes per year.

Here's 2011 Corvette sales, by color: 1) Black (2,891); 2) Torch Red (2,264); 3) Crystal Red (1,419); 4) Supersonic Blue (1,417); 5) Cyber Gray (1,197); 6) Arctic White (1,133); 7) Blade Silver (1,037); 8) Velocity Yellow (867); 9) Inferno Orange (790); and, 10) Jetstream Blue (581). Jetstream Blue is obviously discontinued for 2012's. Hopefully Corvette sales increases will continue improvement with the 2012 model year.

To add more positive fuel to the fire, GM's market share during this past month was double what Toyota's was. All in all 2011 has been an excellent GM and Chevy model year.

Hyundai's The Hottest!

Hyundai continues to lead all manufacturers with the highest percentage of sales increases in our country, up a fantastic 38% compared to last year. Not only has the Sonata been a continued great seller, but the new for 2011 Elantra has been experiencing significant sales. The just-now released 2012 Accent also has tremendous initial pre-production sales. (It goes on sale later this month.)

Ford Stumbles Badly:

One year ago Ford had risen to the 5th best car company in terms of initial customer satisfaction. This year it dropped dramatically, to 23rd. One thing has been responsible for the huge drop, the "Sync" voice recognition system, should allow a driver to easily "voice direct" the radio to change to a different channel, allow one to voice direct a phone call to be made, or to tell the car to adjust its HVAC system in a specific manner, e.g. lower temperature. However, Ford's Sync voice recognition capabilities have been judged by customers as just plain lousy, often frustrating the driver (or passenger) by repeatedly either not doing what it had been directed to do, or, worse yet, implement a command that was never requested in the first place.. Sync has been panned by many auto industry analysts for years for such problems, and up until now nothing changed – with the exception of the building crescendo of customer dissatisfaction complaints. After receiving the downgrade in customer rankings this time around, Ford has hired a new firm to revise its voice recognition software/systems. As of yet, customers are plain unhappy! And it is doubtful that the already sold Fords with Sync can be retrofitted.

And Now Extinct:

Car manufacturers have realized that they need to reduce the number of model lines which are no longer profitable – to make those decisions in a more "market timely" manner. Thanks to Edmunds.com for the following information that many models, and in some cases entire brands, are now living with the dinosaurs.

MODEL	REASON FOR DEMISE
Bentley Arnage	**End of Product Cycle**
Cadillac DTS	**End of Product Cycle**
Cadillac STS-V	**Market Conditions**
Cadillac XLR	**End of Product Cycle**
Cadillac XLR-V	**End of Product Cycle**
Chevrolet Cobalt Sedan SS	**Market Conditions**
Chevrolet HHR SS Panel Van	**Market Conditions**
Chevrolet Impala SS	**Market Conditions**
Chevrolet Malibu Hybrid	**Market Conditions**
Chevrolet Trailblazer	**End of Product Cycle**
Chrysler Aspen	**Market Conditions**
Dodge Durango	**Market Conditions**
Ford Taurus X	**End of Product Cycle**
GMC Envoy	**End of Product Cycle**
Honda S2000	**End of Product Cycle**
Hyundai Entourage	**Market Conditions**
HUMMER H2	**Market Conditions**
HUMMER H2 SUT	**Market Conditions**
HUMMER H3	**Brand Terminated**
HUMMER H3T	**Brand Terminated**
Kia Amanti	**End of Product Cycle**

Kia Borrego	**End of Product Cycle**
Lexus SC 430	**End of Product Cycle**
Mercedes-Benz CLK-Class	**End of Product Cycle**
Mercury Sable	**End of Product Cycle**
Mitsubishi Raider	**Market Conditions**
Pontiac G3	**Brand Terminated**
Pontiac G5	**Brand Terminated**
Pontiac G6	**Brand Terminated**
Pontiac G8	**Brand Terminated**
Pontiac Solstice	**Brand Terminated**
Pontiac Torrent	**Brand Terminated**
Pontiac Vibe	**Brand Terminated**
Saab 9-7X	**End of Product Cycle**
Saturn Astra	**Brand Terminated**
Saturn Aura	**Brand Terminated**
Saturn Aura Hybrid	**Brand Terminated**
Saturn Outlook	**Brand Terminated**
Saturn Sky	**Brand Terminated**
Saturn Vue	**Brand Terminated**
Saturn Vue Hybrid	**Brand Terminated**
Suzuki Equator	**Market Conditions**
Suzuki XL7	**Market Conditions**
Toyota Solara	**End of Product Cycle**
Volvo V70	**End of Product Cycle**

One one-third of the above products will have a “replacement model;” however, two-thirds of the above models/brand are now dead, done, gone forever. At no other time other than the Great Depression has the automobile industry seen so many models/ become extinct in such a short time.

What's New:

Cadillac's Small Car Future: Want to look a few years into the future, and see what the new Cadillac Urban Vehicle looks like? Just like Cadillac transformed itself five years ago with its new styling genre, expect another major change in the future, as Cadillac creates a whole new urban vehicle sub-brand. Here's what the concept for those vehicles looks like.

New Hybrid Vehicle Federal Noise Standards:

There is a new pedestrian accident/death problem being caused by hybrid vehicles, i.e., they are too quiet. Pedestrians, especially those in cities who cross intersections while texting or making cell phones, and blind

individuals are being hit by cars they didn't hear. Consequently, Federal agencies are working with citizens and car manufacturers to establish minimum vehicle noise standards. Toward that end, the new Porsche Boxster hybrid concept, which is still at least two years from production, includes one sound transmitter and two small speakers which exactly mimic the sound that the current gasoline production Boxster's engine produces. An automotive journalist who had been given a ride in the all-electric concept car say it sounds just like you are in a regular gas engine Porsche.

Chevy Cruze News:

Confirmed: The 2013 Cruze will offer a diesel powered version. It will be mated to an automatic only, averaging 45 MPG combined city/highway, perhaps as much as 50 MPG highway.

Perhaps In 2013 or 2014? Later model years Cruzes may have a coupe version, as conceptually pictured below:

Save the Wave!

John

Corvette Body Materials - From Fiberglass To Carbon Fiber

Tracing Corvette's pioneering use of lightweight materials

By Barry Kluczyk
Photography by General Motors
We equate Corvette with fiberglass like we do pinstripes on a Yankees uniform or red on a can of Coca-Cola. It's just always been that way.

Fiberglass isn't the primary body material on Vettes these days, but the car continues a tradition of non-traditional, lightweight bodywork that began with the very first one off the assembly line in 1953. In fact, the reason conventional fiberglass isn't used any longer is because it's been replaced with better, lighter composite materials.

Beneath the skin, the Corvette has long been a pioneer in lightweight technology, from the use of aluminum wheels and suspension parts, to powertrain and chassis parts, and more. That heritage was advanced with the launch of the C5, which used materials including balsawood in the floor to minimize the car's overall mass; the C6 went several steps further, with the introduction of the Z06's aluminum chassis and the ZR1's extensive use of carbon-fiber body panels.

Importantly, the Corvette wasn't the first car to feature a fiberglass body, but it was the first mass-produced model. Similarly, the other lightweight components used in its construction led the way for the rest of the industry, slotting in between the ultra-expensive, low-production exotics and the high-production, value-priced family cars.

In the Beginning

Fiberglass was first considered for use on a GM vehicle by legendary designer Harley Earl. Besides a certain "exoticness" for the early '50s and the undeniable weight advantage, fiberglass offered an economical way to create the low-volume Corvette without investing in expensive sheet metal-stamping dies.

GM's Parts Fabrication Operation was tasked with figuring out the intricate requirements for the '53 Corvette's body, while supplier Molded Fiber Glass Company (with some support from Owens Corning Fiberglass) got the contract to build them. Amazingly, the company was awarded the business in April 1953 and was asked to deliver the bodies by the June 1953 start-of-production deadline--and they had never built a car body previously.

Not surprisingly, there were plenty of unknowns when it came to designing and building those first Corvettes. Tests had to be done to determine how many layers of fiberglass were needed for the various areas of body, as well as the interior "tub." And for products so large, the correct ratio of resin and plastic hardener had to be determined, not to mention figuring out how long it would take for each hand-laid body to cure. Also, it wasn't clear at first how many separate parts would be required to construct each body, and a surface finish suitable for production-quality paint was far from assured.

The parts were produced with the "chop gun" method, in which pieces of fiberglass matting and polyester resin were "blown" into a mold to build up the part, layer by layer. With the benefit of nearly 60 years of hindsight, it's easy to criticize the quality of the early Corvettes' fiberglass bodies, but considering they represented the genesis of a production method that basically didn't exist previously, it was a feat that should be lauded.

The Introduction of SMC

Building an entire mass-produced **sheet molded composite** Corvette...

Starting with the C3 generation in 1968, body parts were manufactured with a press-mold process, whereby the fiberglass material and resin were shaped in a die-like tool that produced smoother parts more quickly. It was a significant jump in forming technology and laid the groundwork for a change in the body panels' material in 1973. That year, the composition changed from conventional fiberglass to sheet-molded compound (SMC), which was composed of fiberglass, resin, and a catalyst formed under high heat and pressure. The ratio of resin to fiberglass was reduced with SMC, while the fiberglass itself was a bit coarser. The new material helped produce panels that were

even smoother right out of the mold, meaning they required less surface finishing prior to painting. It also helped create a better final paint finish.

Technically, all Corvettes since 1973 have used SMC body panels, but the material composition has changed dramatically, featuring less traditional fiberglass and more lightweight plastic. The early SMC material created parts that were stronger and more rigid, but more brittle. As SMC technology and production experience evolved, Corvette engineers were able to alter the material composition and the body parts' specifications in order to trim the car's curb weight--an endeavor that was certainly welcomed though the later C3 years, as engine output kept eroding. Mostly, that meant making thinner body panels, because SMC was denser and stronger than conventional fiberglass.

The assembly-plant changeover from St. Louis to Bowling Green in 1981 brought a switch to a more plastic-infused formula for the SMC body panels. Published figures vary, so without the capability to weigh both factory-stock '80 and '81 models, it's difficult to provide an accurate comparison of the weight differences between traditional fiberglass and SMC-bodied cars. From the numbers we researched, it appears the '81s were about 100 pounds lighter than their '80 counterparts. That's not all attributable to the SMC bodywork, however, since the change to a fiberglass mono-leaf rear spring for '81 accounted for about a 35-pound reduction. Nevertheless, newly formulated body panels helped lighten the Corvette--and it was the same basic formula used throughout the C4 generation.

C5: Getting Serious About Weight Savings

The introduction of the C5 in 1997 represented one of the rare instances in the automotive world where the next-generation model weighed less than its predecessor. Even more impressive, the '97 Corvette was larger overall--longer and wider--than the '96 model, yet it tipped the scale at about 3,220 pounds with a manual transmission, compared with the '96's 3,300-pound curb weight.

A number of contributors helped drive down the C5's weight, including the use of SMC body panels that had a higher content of plastic than ever before. The material, which is basically the same as used in the C6, was composed of about 40 percent resin--polyester, vinyl ester, styrene, or a blend of all three--33 percent calcium-carbonate filler, 20 percent chopped fiberglass, and the remaining 7 percent resins and hardeners that improve the out-of-mold surface finish.

The C5's panels were exceptionally light, but so was the Corvette's all-new chassis, which used beefy rails and hydroformed sections to provide strength with less complexity and weight. In

fact, the floor sections used a sandwich of materials including featherweight balsawood to minimize mass, a feature that continues with the C6.

The Gen III small-block can't be discounted in the weight savings and overall greater balance of the C5. Compared with the old-school small-block it replaced, it delivered a lightweight aluminum cylinder block and a composite intake manifold that weighed less than 10 pounds.

In 1999, the Corvette "hardtop" model took weight savings and performance to a new level. By replacing the signature--and heavy--hatchback glass with a more formal-looking roof section made of an even lighter-weight SMC material, curb weight dropped to about 3,155 pounds. There hadn't been such a lightweight Corvette since the early C2 days, when comparatively heavy airbag modules, electronic chassis-control systems, and structural crash-safety features weren't even sparkles in the eyes of engineers.

The hardtop model, of course, was the foundation for the C5 Z06, whose weight was further pared to 3,120 pounds by shedding some of the base models' luxury features for a more purposeful driving experience. The '04 Z06 Commemorative Edition was lighter still, with a carbon-fiber hood that was 10.6 pounds lighter than the standard SMC piece. Taking that weight off the nose of the car improved its overall balance as well. It was the perfect send-off for the influential and technologically advanced C5 generation.

C6: Aluminum Chassis, Carbon Fiber, and More

Although the C5 and C6 generations share basic chassis layouts, the C6 brought additional changes in the quest for reduced weight, not the least of which was the elimination of the Corvette's trademark retractable headlamps in favor of simpler, lighter-weight fixed units. The plastic-intensive SMC body panels remained, although surprisingly, the rear fenders were made of conventional steel. That's right--steel fenders on a Corvette. It was a first.

The base '05 Vette weighed in at 3,240 pounds--only about 20 pounds more than the first C5 models of 1997, despite more safety-enhancing structure under the skin and generally more standard content. A year later, the C6 Z06 brought with it an aluminum-based chassis structure and carbon-fiber body panels that represented the most significant targeted weight-reduction initiative in the Corvette's history. With its 505-horsepower engine and a curb weight of less than 3,200 pounds, the Z06 had an enviable power-to-weight ratio that most higher-priced European exotics couldn't match.

Despite looking like the steel chassis of the base Corvette, the C6 Z06's aluminum frame weighs nearly one-third less. And besides the core-material difference, it features a unique manufacturing process that incorporates MIG and laser welding, as well as self-piercing rivets, while the base Corvette frame is assembled with conventional spot-welding techniques. Additionally, magnesium is used for the engine cradle and some of the other suspension attachment points, further contributing to mass reduction.

On the outside, the Z06 differs from base Corvettes with carbon-fiber panels used for the front fenders, front wheelhouses, hood, and rear fenders. A check of Chevrolet's latest press data shows the car's curb weight at a svelte 3,175 pounds. Interestingly, the base Corvette is listed at 3,208 pounds, a mere 33-pound difference. If that doesn't seem like much of a trade-off for an aluminum chassis and carbon-fiber body panels, keep in mind that the Z06 packs some

beefier components, including brake rotors that are about 10 percent larger and a larger rear-axle assembly. It also features a dry-sump-type oiling system, which has a separate reservoir tank and about twice the oil capacity of the base car. So, the low-mass structure elements don't merely cut the weight of the car; they work to offset the weight of the heavier higher-performance elements.

The Corvette ZR1 uses the same aluminum chassis structure as the Z06 and incorporates even more carbon-fiber body parts, including the roof panel, but the there's a weight penalty for the LS9 engine's intercooled supercharger system. The ZR1 tips the scales at 3,333 pounds, but all that extra weight isn't attributable to the blower. It has an even larger rear-differential carrier than the Z06, as well as other heavier-duty--emphasis on heavier--drive train components. Then again, with a power-to-weight ratio of 5.22:1, or 1 hp for every 5.22 pounds, the ZR1 can outpace all but a few race-car-derived production vehicles.

The Future

In case you hadn't noticed, cars have been getting obscenely heavy in recent years, with much of the excessive poundage coming from dense steel used in crash protection, along with the seemingly dozens of airbag modules and miles of wiring for chassis-control systems. A new Camaro SS with an automatic transmission weighs more than 3,900 pounds, while a family car such as the Buick LaCrosse tips the scales at more than two tons--and we won't even bother listing the tank-like weights of popular crossovers.

That the Corvette has remained unequivocally a lightweight car in this day and age is remarkable. But despite its heritage as a technology leader, particularly in lightweight materials, Corvette engineers are under the same pressure as the rest of the industry to deliver on tougher-than-ever crash standards--and the car isn't about to lose any of those high-tech electronic control systems, either. Maintaining its low-mass credentials, then, will require the continued use of lightweight body panels, but with carbon fiber still considerably more expensive than SMC, it's likely the plastic panels will remain on at least the base models.

As for the chassis, we'd be surprised if separate frames will be justified for base and higher-performance models under the new austerity of post-bankruptcy GM. With luck, that could mean the trickle-down effect will deliver a lighter-weight chassis for the base models. It seems to us that maintaining the base-model coupe's curb weight in the 3,200-pound range will be difficult. But based on the Corvette's track record of continual advancements, particularly over the last 15 years, we wouldn't bet against it.

Here’s the all aluminum chassis of the C6 Z06:

Corvettes Compared: '53 Roadster vs. '11 Convertible		
Feature/Dimension	1953	2011
Wheelbase (in.)	102	105.7
Length (in.)	167	174.6
Width (in.)	72.2	72.6
Engine type	Inline 6	OHV V-8
Displacement (ci)	235.5	376
Horsepower	150 (gross)	430 (net)
Transmission	Two-speed auto.	Six-speed auto.
Brakes	Four-wheel drum	Four-wheel disc w/ABS
Wheels	15-in. steel	18/19-in. aluminum
Curb weight (lbs.)	2,886	3,221 (convertible)