

Official Newsletter of the Ozaukee Corvette Club

January 2017 Issue

"Cruisin' Since 1979" www.ozaukeecorvetteclub.com Facebook.com/OzaukeeCorvetteClub

President: Vice Pres: Secretary: Treasurer: Newsletter Editor:

Jeff Myers Ron Giese Sue Montana Myers Sue Giese Dana Drennen

The Ozaukee Glass, official Newsletter of the Ozaukee Corvette Club, is produced monthly and provided to all members, advertisers and other car clubs. Articles printed in Ozaukee Glass are believed to be accurate and correct. The Ozaukee Club assumes no responsibility for the completeness or correctness of the articles.

Membership:Ron GieseParades:Thom BrownWeb Masters:Pat Murray / Dana DrennenAdvertising:Mark HoblerDirectors:Gregg Goetz, Mark Hobler,
Pat Murray

The Ozaukee Corvette Club meets the 3rd Sunday of the month!

2017 Annual Christmas Party!!!

This year's Christmas Party was held on Saturday January 14th at MJ Stevens Restaurant. It was truly a wonderful evening of food, drink and fellowship. Please see website for additional photos and information on the event. Thank you to our hosts Sue Montana-Myers and Judi Krafcheck for hosting such a special event. (Photos courtesy of Mark Hobler)



Ozaukee Corvette Club Meeting Minutes – January 15th, 2017

President, Jeff Myers called the meeting to order at 1:00pm

Board Members Present:

Jeff Myers, President Ron Giese, Vice President Sue Montana-Myers, Secretary Sue Giese, Treasurer Gregg Goetz, Director Mark Hobler, Director Pat Murray, Director

Secretary's Report: Sue Montana-Myers read the November 2016 Annual Meeting Notes. There was no December 2016 meeting passed by a majority of members at the November meeting. Mark Hobler motion to accept the minutes as read, and this was seconded by Sue Giese.

Treasurer's Report: Sue Giese reported the current balance in the checking account, reported that 3 checks had been written, and 1 deposit was made. Sue gave a detailed report on the cost of the Christmas Party. Pat Murray motioned to accept the treasurer's report as read, and this was seconded by Mark Hobler.

Advertising: Mark Hobler reported on the current status of advertisers as well as detailing those advertisers that had not renewed, and those that should renew.

Membership: Ron Giese reported on the current membership situation. We are at 71 members to start the year. Ron detailed his work at contacting members that had not renewed.

Webmasters: Pat Murray and Dana Drennen reported that everything is going well, and that they are smoothing out some issues with access to roster, changes to the roster, and use of a bill board. Both webmasters were asked by Jeff Myers if there had been any issues with our web security. Pat explained that our server Fat Cow does a very good job helping us, and staying on top of things. Dana added that there was nothing out of the ordinary.

Vice President's Report: Ron Giese reported that Ed Sari from Chula Vista Resort will be talking to our March meeting. Ron also talked about our member Dale Doerflinger organizing a bowling party after the February general meeting, more to follow on this. Ron suggested we include wearing of Club identified shirts be included in the parade etiquette sheets for this upcoming year. A discussion about purchasing additional club emblem cling-ons and a larger parade banner was made into a motion by Mark Hobler, and seconded by Sue Giese.

Old Business:

The Christmas Party at M.J. Stevens was a success, and it was moved and seconded that we have our 2018 Christmas Party at M.J. Steven's on January 13, 2018. This will be requested. The Cedar Grove Car Show was not granted to the Club. The old organizers were brought back.

New Business:

It was asked when the dates for the Car Craft National car show will be. This will be looked at by Jeff Myers. Jeff Myers also suggested our Shake Down Cruise will be at the Horse and Plow Restaurant at the Kohler Co. There was concern about parking for a large group. This will be looked at, as well as reserving a date. Jeff Myers proposed a Saturday, July 8, 2017 Christmas in July Party for our members that spend the winter in Florida, and miss our annual Christmas Party. This party will be held at the Myers' home. Brats and burgers and beverage will be provided, and members interested can bring a dish to pass. We will also have a Christmas Gift exchange similar to what we had at our recent Christmas Party.

All business was concluded and Sue Giese made a motion to adjourn, seconded by Dana Drennen at 1:50pm.





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CLASSIFIEDS:

For Sale- 2007 Corvette Convertible, 22,350 miles, 3LT with Select Ride, chrome wheels, headsup display, 6 disc CD, am/FM Bose Stereo, power convertible top, 6 speed automatic transmission. This is also a very rare Corvette with Lemans Blue Paint and a Cobalt Red Interior- 1 of 4 built with a black Haartz convertible top. Lemans Blue was a \$395 option and has not been offered since 2007 on any Corvette. The original sticker price on this Corvette was over \$65,000. The Current NADA price guide states this Corvette is worth \$32,562. This does not take into account the chrome wheels (\$1995), Genuine Corvette Accessory Silver and red center stripe (\$395 + \$600 installation labor), Red Brake Calipers (\$500), Chrome gauge accents (\$100), Comp Cams Roller Rocker arm bearing conversion (\$130), MSD 8.5mm Super conductor Spark Plug wires(\$75). This Corvette will be sold with the stock factory exhaust, but the SLP aftermarket exhaust is available for \$800. This very low mileage, immaculately maintained, Corvette is available for \$31,000. Jeff or Sue Myers 262-421-8049

C-5: • Soundboard for trunk • Taillights & license plate louvers (Painted mell. yellow) • Relay for low & high beam lights (turns on both high and low headlights beams on the highway) easy to wire in • Dr. Color chip kit Mell. Yellow (never opened) •Leather steering wheel cover (yellow & black)
• Emergency hood release • Touch up bottles (3) • Can of NAPA spray paint (Millennium yellow)

• 2-yellow key fob rubber covers • Yellow grab handle -5. Contact Ron at: ronhgiese@gmail.com

CORVETTE Storage in Cedarburg area. Very clean, dry, bird proof and secure. Reasonable annual rates. Thom Brown 262-377-6857.

Storage in Germantown. Very clean, dry and secure. Reasonable seasonal and annual rates. Electricity available for battery tender at additional charge. Wally Baatz 262-751-5011



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January 2017 Tech Tip –Direct Injection.

There is fuel injection and now there is the latest direct injection on the C-7 engine. What is it, and why is it so revolutionary? Direct Injected engines are more efficient and considerably more powerful. Every diesel engine is direct injection. Diesel fuel burns slower and is less volatile, enabling the engineers to control the combustion process in a diesel. Gasoline is far more unstable and faster burning than diesel. Controlling the ignition of gasoline was the engineering challenge to make direct injection possible.

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So what is the big deal about Direct Injection? In a word, it is about emissions. Fuel injectors, in normal applications, are fairly delicate. They are basically small electronic solenoids designed to open and close many times a second in order to meter fuel in precise amounts. The wires that send the signals and activate the injectors are very light gauge, and the fuel rails to them are light weight machined aluminum and plastic. The fuel lines are either hard metal or flexible neoprene plastic designed to withstand fuel pressures up to 100 psi and temperatures of about 300 degrees The injectors open and close with approximately 45 psi of fuel pressure that produces a very nice spray pattern of precisely atomized fuel. These injectors are located in the intake plenum near the cylinder head. When the intake valve opens on a particular cylinder, the injector sprays or injects fuel in the same sequence as the ignition firing order at that opened valve. (This is why it is called sequential fuel injection.) Most of the fuel is drawn into the engine mixing with the appropriate amount of incoming air. The key word here is "most" of the fuel. There is always some fuel that clings to the intake runners or tunnels in the cylinder head. Once the fuel and air ignite, and the exhaust gases are analyzed by the oxygen sensor as they pass out of the engine. Adjustments to the fuel being injected are made, and a greater degree of mileage and cleaner air is the end result. The advantage of any fuel injected system over carburetors is a better use of fuel with very little waste. This is the primary reason fuel injected cars get better mileage. One huge surprise for owners of the early to mid sixties fuel injected Corvettes was that besides delivering incredible horsepower (375 horsepower from a 1965 327 Corvette V-8), these same Corvettes could deliver 20 to 21 mpg if they were driven sensibly- even with 3.73: 1 rear end gearing.

The big difference is Direct Injectors are threaded directly into the cylinder head, and they are very robust pieces designed to operate under high temperature and ultra high fuel pressure. These types of injectors are named "direct injectors" because they inject fuel directly into the combustion chamber, without any fuel being wasted by clinging to intake manifolds, or cylinder heads. The benefit to that is a no wasted fuel, a far more accurate desired air/ fuel ratio (14.7:1) and much less fuel being used. Less fuel is needed to achieve the same power, and cleaner exhaust emissions are the result. Hand in hand with lower emissions is higher mileage. To illustrate how focused the GM engineers were on direct injection emissions and mileage, when the first 2014 Corvettes were sold, Corvette engineers did not know how fast (zero to 60 and quarter mile times) these direct injected 6.2 liter LT-1's were. When asked about the horsepower and torque levels, these same engineers did not have any hard numbers to tell the car magazine writers. Some of the enthusiast magazines did their own dyno tests and actually informed GM of their results. Initially GM engineering thought 430 horsepower and 400 lb. ft. of torque, but they really were not sure. Turns out the direct injected LT-1 produced 455 hp and 440 lb ft of torque. The engineer's response was basically, oh well it is what it is, and thank you for telling us what our motor is producing. This reaction surprised quite a few people, but illustrates GM's commitment to emissions and mileage. (Continued next page)







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OK, so we have injectors that are threaded directly into the cylinder head. The temperature inside the combustion chamber can exceed 1800 degrees, and the temperature of the cylinder head can be well over 300 degrees. The injectors are somewhat larger, and the solenoids that activate those injectors must be much heavier duty. The fuel pressure in the heavy duty steel fuel lines runs around 290 to 2700 psi, and is actually produced by a boosting fuel pump actuated by a lobe on the engine's camshaft- no light duty plastic lines would survive here. The fuel pressure varies from 290 psi at idle to over 2700 psi at 6500 rpm. There has never been a fuel pressure this high on Corvettes until the C-7 was introduced. The fuel line plumbing is also a major feature of the system. Spraying fuel at these pressures sends an extremely large amount of fuel throughout the cylinder in a very short period of time. (Continued next page)



This injector "on time" is known as "pulse width". To give you an idea how far GM has progressed, the 1984 Corvette made 50 fuel spraying corrections in 1 second. The C-6 LS2 and LS3 made 23,000 fuel spraying corrections in 1 second at 45 psi. The 2014 C-7 direct injected engine also makes 23,000 direct injected fuel correction in 1 second, at 290 to over 2700 psi! Because so much fuel is sprayed under high pressure in such a short window of time, the system actually has time to rest between injections of fuel due to a higher volume sprayed in a shorter pulse width. Every aspect of the LT-1 engine was looked at. The total engineering development time for the LT-1 was in excess of 2 million man hours. Something as small as the design of the piston surface is very important to the design and function of this engine. Aftermarket suppliers and engine builders have found if they try and rebuild the LT-1 for more horsepower with new camshafts, cylinder heads, and pistons the power produced has in some cases actually fallen off. For the time being, this is one engine you should probably not try to change with all the trick high performance parts. You could end up spending thousands on exotic parts, machining time, and labor; and have a motor making 40 or 50 less horsepower. To make matters worse, you would probably void your warranty!

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Currently, GM utilizes Direct Injection on the 2014 to current Corvette, Camaro SS LT-1, the 5.3 and 6.2 liter Silverado, Tahoe, and Suburban as well as their passenger car 3.6 liter V-6 and the Ecotec 4 cyl engines. In the future, every gasoline engine will probably be direct injected or electric/ direct injected hybrid. Someone said the 1960's to early 1970's was the golden age of performance muscle cars. I actually feel we are currently in the 2nd Golden Age of performance. After all, in 1967 to 1969 it took a 427 that weighed 750 lbs, got 8 to 12 mpg, to make 435 gross horsepower and @ 300 horsepower to the rear wheels. Now we have LT-1's that weigh @ 500 lbs, get 26 to 32 mpg, and produce more than 400 hp to the rear wheels. Direct Injected gasoline engines are here to stay, but make no mistake, it is only about emissions and mileage. All that increased performance is merely a by-product of all the efficiencies gained from the designs of the heads and pistons with a goal towards cleaner air as well as greater mileage.

Save the Wave,

Jeff Myers





Member's Spotlight

About the Owners: Dana and Carie Drennen – Saukville, WI. Why a Corvette?: I had wanted a Corvette since about 1984 when the owner of the company I was working for in LA bought one of the first "new" C4's. He took me for a ride in it and I was hooked. This is the fourth Corvette we have owned and is sure to not be the last!



About the Corvette:

Year: 1995

Model: Coupe

Engine: LT-1

Color: Polo Green Metallic II

Nickname or outstanding features:

Her name is Emily and we are the second owners of this originally a California car.

Ozaukee Corvette Club PO Box 371 Cedarburg, WI 53012



100 South Main Street Saukville, WI 53080 (262) 284-8886 Owner – Jim Keller UpcomingCalendarEvents(See web site calendar for latest information)

Feb 12th - 1PM-3PM - OCC Lunch at Bella Caffe Ltd. 189 N Milwaukee St. Milwaukee, WI 53202. See website calendar for map and more information.

Feb 19th - OCC Meeting at Firehouse Restaurant, Lunch at 12PM, Meeting at 1PM.

Feb 19^{th} – 2:30PM - OCC Bowling at Harbor Hills in Port Washington. See website calendar for map and more information.