SC³ VETTE VIBES

INSIDE THIS ISSUE

Southern Colorado Corvette Club

Mailing Address:
9 Ibis Lane
Pueblo, Co 81005

We meet every 4th Tuesday at the Pueblo Public Library, 100 E Abriendo Ave. @ 7:00 P.M.

Come join us.

SCCC Holds BBQ and Club Picture Event

It was a HOT time on the St. Charles Mesa on Sunday August 29th. The club was invited to a BBQ meal hosted at the home of Dennis & Patty Clark. The start of the event was the challenging task of getting the Corvettes lined up in the nearby cul de sac for the annual club picture. The cars….or was it their owners….got into several different positions until finally a consensus was reached on how to arrange the vehicles. Bob brought his pick-up truck and a tall ladder to set up in the bed of the truck. This provided a great perspective to see the cars along with the scenic background and take several pictures. Thanks to Jill, Jason, Bob, and Rocky who all took pictures at the event.

SCCC Holds BBQ and Club Picture Event

Trivia #1

What was the last year the Corvette had a Big Block option?

Trivia #2

The Z06 made it's triumphant return in what year C-5 Corvette?

Club members attending received a Corvette logoed beer/soda Koozie and an entry into a door prize drawing. The first door prize, "The Corvette Black Book" was won by Ted Frederick (Todd's brother). The second door prize, a book about first time ownership of a Corvette, "When did it start for You" was won by Jason.

SCCC Holds BBQ and Club Picture Event

There was plenty of food to eat. Members brought an appetizer or a desert. Dennis & Patty had arranged for Gus' Gourmet BBQ to provide the pulled pork, ribs, beans and slaw. The entire meal was really tasty good…..maybe even finger lickin' good….but the ribs, by far, got the most comments. There was talk of making GG's BBQ a future Sonic Night destination.

All in all, a great time was had by all. One Corvette makes a great picture – don't a lot of them make it even better?

Written by Dennis and Patty Clark

FUEL FOR THOUGHT

By Kevin Koch

Okay, it's kind of a corny title, but just a few words about one of the areas where we car people spend most of our "car" money whether we want to or not, gasoline. There are many things that can be said about this liquid that makes our cars go, but I just wanted to concentrate on two subjects. Cont. on Page 4

Trivia #3

What year did the checkered flag portion of the Corvette emblem move from the right to the left side of the emblem?

Trivia #4

Calloway returned to the Vette after an 11 year absence in 1998, what was the designation of this new car?

FUEL FOR THOUGHT

Additives

Most of us have seen a lot of ad copy devoted to gasoline additives that can be purchased in the parts stores and poured into the tank as well as those that are included as part of the refining process before the product ever reaches you corner quick stop. Are any of these additives really effective or useful?

If you have ever disassembled a gasoline engine with a few miles on it you have seen firsthand the deposits that accumulate as a result of the combustion process. There are brownish or sometimes black hard deposits on the valve faces, piston tops, and sometimes even on the backside of the valves. Thin layers of these deposits are normal but if the material builds to thicker rough layers over time some problems can result. Thick deposits on the pistons, valve faces or the surface of the head (combustion chamber) can increase the compression ratio or create hot spots that may promote "pinging" or detonation under heavy engine load (more on that later). Heavy deposits on the backsides of the valves can disrupt airflow into and out of the combustion chamber, decreasing efficiency and performance. Such surface deposits were more of a problem in the past with carbureted engines (mixtures that are too rich, especially on cold start up) and poor quality gasoline (perhaps high levels of contaminates such as sulfur). However even in today's cleaner burning, more efficient engines, a significant amount of unburned fuel can be left on hot surfaces when the engine is shut down. The raw fuel can "bake" or partially evaporate on the hot surfaces leaving behind a residue of heavier hydrocarbons.

Also, even with better efficiency and higher fuels, modern engines can have another problem resulting from gasoline byproducts. The fuel injectors used in all Corvettes (and most other cars) since about 1985 must produce a fine mist sprayed in the proper direction at the proper time in order for optimal combustion to take place.

Unfortunately injectors tend to build deposits in the pintle area. This is the tip where the injector actually sprays the fuel into the intake post or combustion chamber. Even tiny amounts of hard deposits can significantly effect the spay pattern. If the fuel injection becomes a stream of larger droplets instead of a find mist spray, combustion will become less complete and efficient, reducing performance and fuel mileage. In Figure 1 the lower image shows a normal spray pattern and the upper image shows a pattern from an injector that is partially blocked.

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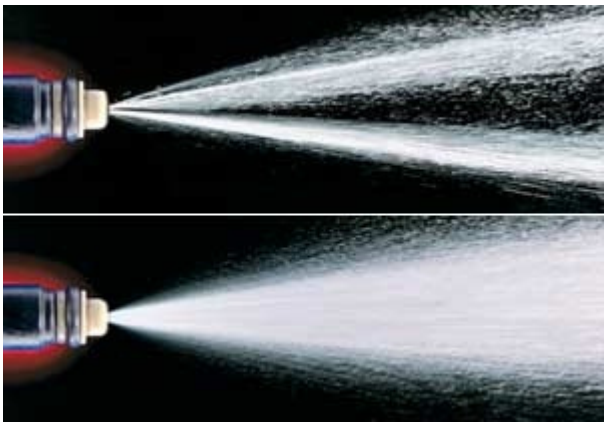
FUEL FOR THOUGHT

A way to combat deposit accumulation is to use better quality fuels and/or regularly add an effective fuel treatment/injector cleaner to your tank. The key ingredient is some form of detergent. Currently federal standards dictate a minimum level of detergent in all gasoline in an effort to keep injectors clean. The cheaper "no name" gasolines, however, may use the minimum amount of the least effective detergents in order to meet the standards. Several name brand gasoline's on the market contain higher levels of detergent or proprietary variations that may have, through testing, proven to be more effective. Most gasoline treatments cannot clean up heavy deposit layers but can be used to prevent build-up if used on a regular basis. Products described as fuel injection cleaners should contain enough detergent to clean deposits from the injector tips but not enough to clean deposits from valves or combustion chambers. Then there are products described as "concentrated fuel system cleaners" that should be somewhat effective in cleaning deposits from injectors, valves and combustion chambers. The most effective of these products contain concentrated levels of special types detergents such as polyetheramine (PEA) or the brand name, Techron. If you are confident that your Corvette's combustion chamber and injectors are relatively clean, it is still fairly inexpensive insurance to add a good quality injector cleaner to the tank every 3 to 4 months.

FUEL FOR THOUGHT



<u>Octane</u>

For years there have been misconceptions about the true benefits of higher-octane gasoline. If you look on the Internet you can find a lot of erroneous information. First, it is beneficial to review a little about what really happens when gasoline is burned in the combustion chamber. Cont. on Page 6

FUEL FOR THOUGHT

The combustion process is more of a controlled burn than a sudden explosion. The resulting pressure rise that pushes the piston down and creates power is rapid but not close to instantaneous. In most engines the spark plugs actually fire before the piston reaches the top of its stroke so that peak pressure will occur just as the piston is starting its journey back downward. Higher-octane fuels actually promote a controlled burn rate and prevent spontaneous explosions. Such explosions, or detonation, produce shock loads and heat that are extremely damaging to valves, pistons, piston rings and rod bearings. The "pinging" sounds we have all heard coming from an engine on occasion are actually small scale or localized explosions occurring at hot spots on the cylinder walls or heads. Since these explosions are relatively small they are not usually damaging, but they do indicate that under those particular conditions the engine would like to have a higher octane fuel. Pings, however, can turn to detonation under heavy, high rpm engine loads.

The primary contributors to the requirement for higher octane fuel are cylinder pressure and intake charge temperature. So octane requirements are higher if the engine has a relatively high compression ratio, the intake charge is boosted (turbo or supercharged), the ambient temperature is high or the engine is running on the lean side. Ignition timing can also affect peak cylinder pressure. Compression ratio is just the ratio of the "above the piston" cylinder volume with the piston at the bottom of its travel to that volume when the piston is at the top of its travel. In the muscle car heyday of the late 1960's and early 1970's compression ratios of certain high performance engines straight from the manufacturers reached a peak of about 11 or 11.5 to 1. These engines often needed octane levels in the range of 95 to 98 to ward off pinging and detonation. Compression ratios decreased significantly in the late 1970's and 1980's but have crept back up in the past 15 years or so as the manufacturers have engaged in a mini horsepower war through the use of fuel injection, computer controls and basic engine research. It is common to see ratios in newer cars such as Corvettes in the range of 10 to 10.5 to 1, requiring the use of premium, 93 to 95 octane fuel.

When contemplating which fuel grade to pump into the tank it is always best to first follow the recommendations in the owner's manual. Only consider a higher grade if the dreaded "pings" can be heard when the recommended grade is used. The use of premium gasoline will not increase power output unless the ignition timing is adjusted to take advantage of the extra octane. Conversely, however, some cars can suffer a loss of performance if a lower fuel grade than is recommended is used.
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FUEL FOR THOUGHT

If these vehicles have "knock" sensors installed in the engine block, the ignition timing might be retarded when the sensor measures several knock or detonation events. This change in timing would be felt as a performance decrease.

Finally, there are several additives on the market that claim to increase octane level if added to the fuel in the tank. In order to really increase octane numbers the products should contain methylcyclopentadienyl manganese tricarbonyl (MMT), toluene, or variants of trimethylbenzene. All are known octane boosters but effectiveness depends on concentration. A product called 104 Octane Boost has a fairly good reputation but the manufacturer does not specify the ingredients, only that it does not contain MMT. It is fairly certain that the octane level of unleaded premium could be increased only one or two points at the most, certainly not to 104. These products alone, however, will not increase engine performance. The most they can do is possibly ward of the onset of pinging or detonation. Real performance could only be enhanced if ignition timing was adjusted to take advantage of the slightly higher octane level.

BIRTHDAYS AND ANNIVERSARIES

MEMBER BIRTHDAYS

Burt Jaco – 3 Oct
Judy Stadler – 5 Oct
Kevin Koch – 8 Oct
Ron Newman – 12 Oct
Paula Stricca – 26 Oct
Marti Lucero – 27 Oct

MEMBER ANNIVERSARIES

NONE

CLUB ANNIVERSARIES (October)

Wayne and Judy Stadler - 08

SC3 Calendar
October 2010

					1	**2 – SC3 Color Run**
3–CSCC Fall Autocross, Cokes Diner Cruise-In	4	5	6	7 – CSCC Club Meeting	**8 – SC3 Sonic Night**	9
10 – CWCC Autocross	11	12	13	14	15	16 – RMR Regional Plan Mtg
17 – TORCA All Hallows Eve Rally, Cokes Diner Cruise-In	18	19	20	21	22	23
24	25	**26 – SC3 Club Meeting**	27	28	29	30 – CSCC Halloween Party
31 – Cokes Diner Cruise-In						

November 2010

	1	2	3	4 – CSCC Club Meeting	5	6 – Veterans Day Parade
7 – CSCC S'No Flake Rally	8	9	10	11	**12 – SC3 Sonic Night** NCCC Gov Meeting	13 – NCCC Gov Meeting
14	15	16	17	18	19	20
21 – DCA Turkey Rally	22	**23 – SC3 Club Meeting**	24	25	26	27
28	29	30				