

Under the Hood, March 2019

**In the 55 years of Mustang, Ford has now produced over 10 million Mustangs.** Ford hasn't had a direct competitor of Corvette since 1957, but the Mustang and Corvette have been somewhat rivals. Few Mustang models would ever be compared directly with a Corvette, but Ford's philosophy of having a Mustang model for every taste has contributed to the huge sales over the years. In comparison, in the last 66 years, Chevy has sold about 1.75 million Vettes. This is a significant number of sales, but it does pale compared to the Mustang sales. During a recent CMCS visit to the LeMay Collection at Marymount, we spent some time talking to the one mechanic that keeps all their Ford Model T's running. Few of us have ever driven a Model T, let alone even ridden in one. As a result, LeMay has a class in how to operate the Model T and all the students get to drive one of the museum's cars. Since the Model T happened so long ago, we tend to forget the significance of Ford, and the Model T, on getting America in cars. In the 19 years of Model T production (1909-1927), Ford produced 14.7 million Model T's. Not only is that a huge number but you need to remember that our population in 1918 was only 103 million, compared with the current 330 million. By 1923 Ford was in full swing with Model T production and over 2 million T's were produced that year. That was basically one Model T produced for every 55 people living in the USA in 1923. Ford and the Model T deserve their prime place in our automotive history. For your reference, the best year for Corvette was 1979 with 53,800 cars. The C3 generation was produced for the most years, so it is probably no surprise that the C3 had the most cars produced with a total of almost 543,000. The C4 generation is a distant second at about 358,000. Although the C1 generation lasted 10 years, only 69,000 were produced. I am sure you have read before how slowly sales started for the Corvette and how Corvette was almost cancelled.

I know there is a fair number of CMCS members that purposely purchase their **Corvette fuel** at the Grange in Issaquah, as they sell fuel without ethanol. If you have an older car there are some good reasons to use non-ethanol fuels, although I think much of the fear is un-founded. Certainly, there is some confusion at the pump as most pumps will say something like "May contain up to 10% ethanol". Now that note doesn't mean it does contain 10%, it might be 7 % or 5 % or any number up to 10%. Probably the biggest disadvantage of ethanol is that ethanol has less energy value per pound or gallon than does gasoline. The higher the ethanol content, the less miles per gallon you will get from the fuel. If you were running 100% ethanol you would need about 40% more gallons to travel the same distance as gasoline. You can see that if the ethanol content is only 10% or less, that perhaps you will need 4% more ethanol added gasoline than straight gas for the same mileage. 4% is probably not significant to you. Many full out race cars will run E85, or in theory 85% ethanol. It isn't really that simple as the ASTM standard for E85 allows a range of 51%-83% ethanol and still be called E85. Did you notice that the ASTM specification never requires exactly 85%? Normally you will find a higher ethanol percentage in the summer and lower in the colder winter or climates. So why use E85? The biggest reason is that ethanol burns faster and cooler than gasoline. Ethanol has a cooling effect as it evaporates so it is sort of like having an intercooler in the engine intake. Cooler intake air/fuel has a higher density, which results in more energy per volume. Although gasoline burns with an air:fuel ratio of about 15, ethanol has a high oxygen content and only needs an air:fuel ratio of about 10. Since E85 burns faster, it is ideal for smaller high-rpm engines. E85 also has a higher-octane number than gasoline which allows higher supercharger or turbocharger boost levels without inducing spark knock or pinging, which can cause serious engine damage. If you are driving a 4-cylinder Honda with a 1.5-liter engine running 30+ pounds of turbo boost, E85 is a natural fuel for the vehicle. For the naturally aspirated modern Corvette

I suspect that a little ethanol in the fuel is not detrimental and further that there is no reason to be using E85.

**For electric car fans**, the past few years I have been reporting on our local Puget Sound Energy efforts to become a “green” energy producer. In the NW we like to think we are renewable with our hydro power plus our expanding wind generation. PSE provides an annual report on energy sources and the report is usually about a year late as it needs to be approved by the Utility Commission. In 2015 60% of our energy came from coal and gas. The following year, this had been reduced to 59%. The latest report shows 2017 energy still 59% derived from coal and gas. For 2017, hydro amounted to 33% and wind power has increased to 6%. We have conflicting ecological demands, and our hydro power source is actually reducing as we destroy existing dams and divert more water away from the generating turbines for the salmon.

In the **1955 Le Mans race** a terrible accident sent a Mercedes 300 SLR flying into the grandstands killing 83 spectators. Suddenly, automobile racing was being heavily criticized. In June 1957, the Automobile Manufacturers Association banned racing involvement. This came near the end of very successful racing year for Chevy with the 283 fuel injected Corvettes winning in sports car racing and the 283 ci Chevy 2 door post sedan posting major wins in NASCAR. Chevy chose the low priced (and lighter weight) 150 model sedan for NASCAR. The winningest cars were all painted black and white and were therefore known as the “Black Widows”. Officially, 1957 was the last year that Chevy supported Corvette racing in the USA. Corvettes were still raced internationally, and many a privateer had some under the table help from Chevy. By the early 1960s both Ford and Chrysler were blatantly cheating on the AMA racing ban. Significantly, the Ford powered Cobras were cleaning Corvette’s clock by 1962. Corvette engineer Zora Arkus-Duntov developed a plan to build 125 each 1963 Corvette Grand Sports. At the time, a production run of 125 vehicles was the minimum required to qualify for GT Production racing per international rules. Top brass at GM pulled the plug on the Grand Sport after only 5 were produced and you probably know much of the story on these legendary cars. Unfortunately, since the required 125 examples weren’t built, the Grand Sports were forced to race in the Prototype class which was far more competitive than the GT Production class. At least according to Chevy, factory supported Corvette racing was again officially dead. Come the mid-1990s and the Dodge Viper is scoring win after win at Daytona, Sebring and Le Mans. This is finally too much for Chevy to accept, and Chevy signs with Pratt & Miller to create the C5R race car in 1997. After a slow start fixing their teething problems, teammates Ron Fellows and Johnny O’Connell surprised the world by beating every other entry (including prototypes) at the 2001 Daytona 24-hour race. In second place was an identical C5R driven by Andy Pilgrim and the Dale Earnhardts (both Sr and Jr). The C5R went on to win the GT1 class at Le Mans 3 times in the 5 years. Chevy, never one to miss a chance to sell a few more Corvettes, celebrated the C5R wins with the 2004 Corvette Commemorative Edition. In SCCA racing, John Heinricy (Assistant Chief Engineer for Corvette) won the T1 class 5 years in a row with a C5 Z06. In SCCA GT1 and Trans Am racing, tube frame C5 bodied Corvettes also had some success. Certainly, the C5 race efforts put Corvette back in competition with world class wins. Chevy has continued their public support of Corvette racing with the C6R and now the C7R race teams. Officially, there was a 40 year period (1957-1997) in Corvette history where Chevy did not support the Corvette race teams. Where might we be today, if we had not had to suffer this lack of racing support?