

## Under the Hood, March 2021

In the season finale of the 2020 IMSA racing season, Bill Auberlen, BMW driver in class GTD (Daytona), bested Scott Pruett for the most wins (61) in IMSA history. For the 2021 season Pruett was downgraded from a silver to bronze rated driver. Pruett started racing carts at age 8, moved to sedan racing in 1984, and won his first IMSA championship in 1986. Since Pruett basically retired from racing in 2018, the driver rating downgrade is mostly meaningless, and probably driven by his 60<sup>th</sup> birthday in 2020. So what is this silver vs. bronze rating? At one time it seems amateur racers competed in SCCA events and pro drivers were in other racing series. It was probably never quite that simple as SCCA was the sponsor of the Can Am racing series which featured drivers Al Unser Jr, Mario Andretti, Mark Donohue & Dan Gurney among the many notable drivers. Amateur, or “gentlemen racers” have always been crucial in most racing. Luigi Chinetti won the 24 hours of Le Mans in 1949. The car owner, Lord Selsdon, drove a single 72-minute period, about 5% of the race. Did Lord Selsdon hire a hot-shoe to win the race, so that Selsdon could also share in the win notoriety? Locally, we know a couple that raced for several years in the Star Mazda series, open wheel formula cars powered by the latest generation of Mazda rotary engine. He went on to race at least two years at Le Mans competing in the LMP2 class. This is the class below the fastest cars LMP (Prototype) and typically a bit faster than the class that would have included the Corvette race cars. Our friend, who obviously had a fair amount of money, owned the team and he then hired other drivers to complete the 24-hour driving team. There are 4 classes of drivers, in ascending order, Bronze, Silver, Gold and Platinum. You can assume, generally speaking, Platinum and Gold are pros and amateurs (although many still paid) are Silver or Bronze. This driver rating system is important when the team needs a “gentleman driver” to help fund the team. In the current IMSA series we have the cars organized in descending order of expected speed: DPi, LMP2, GTLM (Le Mans) and finally GTD (Daytona). Remember that the C7R and C8R were competing in the GTLM class. DPi and GTLM classes are unrestricted, meaning that the teams can hire any driver that they can afford. It gets more complicated in LMP2 and GTD. In these two classes, the team is only allowed one Platinum or Gold driver per car. Platinum is pretty much reserved for the absolute best drivers; for example, think of Lewis Hamilton in F1. In sports car racing it probably means that the top driver on the team is Gold rated. Going back to the LMP2 class at the 24 Hours of Le Mans, this class requires “at least” one Bronze driver. It is pretty clear that this Bronze driver is probably the gentlemen racer that is (at least partially) funding the team expenses. In sports car racing, this rating system has created a situation where the most coveted rating might be Bronze or Silver. A really good Bronze driver will be in high demand by the race teams. Although in this rating system, a Silver driver is still considered an amateur, the best Silver drivers can run with the Gold drivers. This creates some odd protests. More than one driver has protested re-classification to Gold from Silver as it reduces their driving options. Perform too well, and you run the risk of being upgraded. I have long been confused by this driver classification, and now I suspect you are equally confused.

In an earlier column I had repeated speculation that the Corvette C8R team might be moving down from GTLM to GTD as several of the competitors had left GTLM, leaving a very limited field. Now it appears that Corvette will stay in GTLM, but only compete in the four 2021 races that are 6 hours or longer. We understand that they will stay parked for the shorter races, as they debate why compete against themselves with the reduced entries. The Corvette team is not expected at Le Mans this year due to Covid concerns. Looks like we might have a very abbreviated C8R season for 2021.

Since we are a Corvette focused group, most of us know that Chevrolet introduced fuel injection on the 1957 Vette, and full-size cars. This was a mechanical fuel injection system built by Rochester Products. There were some early problems with the Corvette fuel injection and many owners removed the fuel injection unit and replaced it with the more reliable carburetors. Of course, most of those cars were reverted to fuel injection for the collector car market. However, Chevrolet wasn't the only brand experimenting with fuel injection. Rochester rival Bendix Corp had developed an electronic fuel injection (EFI) system. This EFI system was introduced on the 1957 Rambler Rebel sedan. American motors immediately sent a Rebel to Speed Week at Daytona Beach and the Rebel was second only to the 57 fuel injected Vette for top speed. For anyone that was around in the late 1950s the EFI name would resonate. Bendix called their EFI, Electrojector. Doesn't that sound right out of a Buck Rodgers episode? However, the Bendix system proved to be even more problematic than Chevy's Rochester fuel injection and few cars were actually delivered with EFI. The following year, Chrysler introduced the same Bendix system on the Chrysler fleet to much the same failure. It is rather hard for most of us to think of American Motors as a "performance brand", but the 1957 Rebel engine was a relatively large 327 cubic inches, when Chevy was still offering their 283 as the largest available. Yes, the Rambler engine size is identical to the Chevy 327, which was introduced in 1962. There are still people that will argue that the Ramblers were powered by Chevy engines, but those people haven't stopped to work out the math of the years. After all, the Rambler engine was introduced 5 years before the Chevy 327. It is not hard to understand how both brands built their 327 engines. In the days before metrics took over, both brands created their 327 engines with identical bore and stroke dimensions of 4.0" X 3.25". Although both the Rambler and Chrysler EFI ventures failed, Bendix later licensed their EFI patents to Bosch. Bosch then introduced the D-Jetronic system and we had many European brands using the Bosch EFI. Today, I suspect every gasoline vehicle sold in the modern world has EFI. As an aside, that 4.0" cylinder bore was used by many manufacturers. It was considered ideal for allowing fairly large valves for efficient breathing. The engine displacement was changed by varying the piston stroke. In addition to the Chevy 302, 327, & 350, Ford used a 4" bore on their 289, 302, 351 & 352. Actually Ford's 351 & 352 both used the identical 3.5" stroke, but Ford chose to call the later engine a 351 to avoid confusion with the earlier 352 ci.

After helping me proof this article, Judy asks "Who the heck cares?" Obviously she and I don't love the same trivia.