

Have you ever taken your car, or even just spectated, at a “dyno day”? Perhaps your car club rents a dyno for half or full day and interested members share the cost and take their turn on the dyno. You drive onto two huge rollers, they strap your car down, open the hood and put a 48-60” fan in front of the car to help with cooling since you are not actually moving. Then you gradually go through the gears until you are in 4<sup>th</sup> gear (a manual transmission generally has direct 1:1 ratio in 4<sup>th</sup> gear), and on the signal floor the pedal, the engine screams as the rpms build (remember that the engine is under load, so the test is similar to what would happen on the highway) until you finally shut down about engine red line. You can often watch the computer screen during the test, and within a few moments the dyno operator will give you the results. The dyno is actually measuring torque at the wheels which will be mathematically converted to horsepower. Read and weep? Since we are doing the test on a chassis dyno, we are measuring rear wheel horsepower which will always be lower than published engine horsepower. When you get the results is when all the trash talk usually starts. Why the trash talk? For starters, there are two main types of chassis dynos. They are a Mustang (not related to the marque) and Dynojet. The two use different methods for measurement and it is generally agreed that a Mustang dyno will have lower numbers, although probably the most accurate. In calculating horsepower, the ASTM standard considers ambient temperature and barometric pressure and a competent dyno operator is supposed to correct the test results to the baseline ASTM standard. Now, you probably are thinking the dyno operator can “fudge” the results by using a different correction factor, and certainly that is possible. I got thinking about dyno tests when reading a recent comparison test of a McLaren 600LT vs. Porsche GT3 RS. The McLaren is rated in the USA at 592 hp, and 600 hp in Europe, as Europe uses slightly different ambient temperature and pressure in their tests. The Porsche is rated at 513 hp. In this test, the magazine took both cars to the same dyno and tested both cars back to back, so that the results were directly comparable, as close as anyone could manage. The McLaren put 530 hp through the wheels to the “road” and the Porsche 430 hp. The difference between the engine hp and the rear wheel hp is related to internal losses, mostly due to friction, in the vehicle drive train. A quick math check shows that the McLaren rear wheel hp was 90% of the engine rated hp, while the Porsche recorded 84%. This doesn’t really mean that the Porsche drive train is necessarily that much more inefficient. It is generally considered that a chassis dyno will have results about 85% of the engine rated hp. The Porsche’s results are right in line with that approximation. Perhaps McLaren has under-rated their engine, since McLaren 600LT sounds better than McLaren 613.7LT. One other contributor to the trash talk is when one car owner sees the results of a dyno run and then says something like “Bill’s car showed 340 hp, but I have a bigger carburetor than Bill, so clearly my car must be putting out closer to 380 hp”. Don’t believe it. One fun memory of one of the dyno days. We were testing a friend’s Ford Lightning supercharged pickup. We couldn’t keep the tires from spinning on the rollers, so finally 4 of us climbed in the back of the box. Perhaps not the safest thing to do, although the vehicle is securely strapped down, but sort of an E ticket ride as the engine speed increased.

I enjoy reading some of the historic stories about my favorite cars. Judy knows that I have many, many favorite cars. A recent article featured a 1965 Shelby GT350. A copy of the dealer sticker showed a selling price of exactly \$4,200. The owner lived on the east coast and promptly started drag racing the Shelby. The article included one photo of the Shelby racing in the B/SP class and besting a 1963 split window Corvette for the class win. Upon further reading, I learned that the Corvette driver was none other than Shirley Muldowney. Shirley went on to much fame in funny car competition and is one of the

most successful female racer. Although \$4200 was large money in 1965, I decided to try to compare the cost with today's cost. Currently a Ford built 2019 Shelby GT350 has a MSRP of \$60,235. Although the Consumer Price Index (CPI) officially started in 1982, there are tables that will try to account for inflation prior to 1982. Using those table, we discover that a 1965 dollar was worth 8.1 times a 2019 dollar. Using this multiplier on the original \$4,200 Shelby cost would show an equivalent car should cost \$34,000 today. Don't we wish that we could pick up a "new" 1965 Shelby GT350 for \$34,000. Of course, the 2019 Shelby GT350 has features that we could not even imagine in 1965, so perhaps this comparison isn't really fair.

Whether we are talking about cars of the 50's, 60's, 70's or 80's, I believe our memories are much more forgiving than reality. Especially cars of earlier periods might have had horsepower, but often had very poor brakes and even worse handling suspensions. Those of you that have autocrossed know that a car that can take the corners and brakes well, will typically beat a much hotter car that doesn't handle. At the 2014 SCCA Solo (autocross) Nationals, just such a demonstration was put together. Pitted against each other were a 1969 Dodge Charger Daytona (the one with the huge rear wing, although no mention of whether this was 426 Hemi or 440 powered Daytona) vs. a new Honda Odyssey mini-van. They even put a few passengers in the Honda to equal the weight. Both cars were bone stock, and both were driven by the same SCCA staffer. The Honda mini-van had a time of 60.063 seconds vs. the Daytona 62.742 seconds. Yes, hard to believe. However, the facts don't stop me. The Everett-Port Gardner Rotary Club has an annual collector car raffle each year. This year they have a genuine 69 Camaro Z28. Of course, I have bought tickets and Judy will be so surprised when I get the call to come pick up my Hugger Orange Z28.