

Under the Hood, June 2021

In the early years of hot rodding, the Ford flathead V8 engine was king. Ford was the only one of the Big 3 with a V8 engine. Many of these flathead V8s were equipped with $\frac{3}{4}$ race cams and multiple carbs. The really exotic rods might have had a Mercury flathead V8 as the Merc engines were always slightly larger in displacement than the equivalent Ford. Then 1955 arrives and Chevrolet introduces the 265 ci overhead valve V8 and the earth shifted on its axis. For decades afterwards, it seems that every hotrod, regardless of make, had a Chevy small block V8, culminating in the 350 Chevy which was built by the millions. Hotrodders being who they are cannot be easily satisfied, so many started fitting Chevy big block engines (396, 427, or 454) assuming the engine bay was large enough. Then the old adage "There is no substitute for cubic inches" once more arose and pretty soon you could buy Chevy big block V8s with displacements of 502 ci or even 572 ci. In the typical collector car auction you will often see a 57 Bel Air with a hulking 572 ci engine. Things change and with the advent of the Chevy LS series V8s introduced in 1997, the hot rod crowd had a new icon. It took a few years to fully sort out the computer-controlled LS engines in the older cars, but now you are just as likely to see a LS3 (same engine as the later C6 Corvette) in the early shoe box Chevy. Although the LS3 can produce serious horsepower numbers, the downside for the hotrod crowd was the LS3 was only 376 ci or 6.2 liters. Sort of makes you want to run and hide when the guy or gal next to you shows up with the ground pounding 572 ci. To the rescue comes an Australian company producing a V12 engine based upon the LS3. Custom block, heads, crankshaft and camshaft, but the pistons, rings, bearings, valves etc. are all off-the-shelf LS3 parts, which helps contain costs. Maybe push the firewall of your 57 Bel Air back a bit and slide this new 580 ci, 700 hp V12 in the engine bay. I assume the builder included a slight increase in piston stroke to get to the 580 ci displacement, but did you notice that this V12 is slightly larger than the Big Block 572? It is all about bragging rights. Of course, the custom V12 isn't cheap but when you are building a car to showcase at SEMA, or shame your neighbor, cost is probably not your primary concern. The 700 hp version has a list price of about \$42,000. Add another \$4,000 and you can upgrade to 1,000 hp.

Genius never sleeps, regardless of country. A friend of ours in the local Sunbeam Tiger fraternity was doing much the same as the Australians. As a Tiger owner he was familiar with the Ford 260/289 ci V8. Brent recently retired from Boeing, has a well-equipped shop, and simply doesn't know how to sit still. Brent decided to build a Ford based V12. He started with two 289 ci engine blocks, four heads, two intake manifolds etc. Cut off the end of one of the blocks and cut the second block in half. Then proceeded to weld the two blocks together. He had to cut access holes in the outside of the block to get inside to internally weld the blocks together, and then close the access holes. He used a similar process to join the heads and intake manifold. There is a You Tube video of the operation and in the video you can see how he used a pipe to align the crankshaft and camshaft journals during the welding operation. Brent modified a Jaguar V12 distributor to handle the ignition duties. There is another hobbyist in the Midwest that has also built a Ford V12, but he used two sets of ignition components and his engine basically operates as two straight six cylinders engines joined by a common crankshaft. Brent had a lot of trial and error in this build but in the video you can see the engine being tested on the dyno and the V12 is now installed and running in a baby blue 4 speed 1968 Mustang coupe. Assuming Covid allows it, I am looking forward to seeing the V12 Mustang at the Mustang Roundup this summer. Check out the V12 Ford on You Tube and look for the name Brent E.

Funny or sad racing results: We all know that the rule makers never think they are wrong and seldom can be convinced of their errors. It is just as true in racing. I want to recite a couple of racing episodes that leave me shaking my head. Both involved Alex Job Racing, a onetime leader in IMSA type racing. One episode involved a Ferrari which crossed the finish line first, but IMSA awarded the win to the Audi R8 that was behind. Apparently, the rules makers penalized the Ferrari because the Ferrari driver had committed avoidable contact with another car. Many observers protested that there was no contact and film review proved no contact. IMSA reviewed the case for 4 hours, most of the teams left for the next event, and IMSA finally concluded that the rules indicate that for there to be avoidable contact, NO ACTUAL CONTACT IS REQUIRED. WHAT? Maybe the Ferrari looked crossly at the other car. Perhaps one of the rule makers had been burned in a payday loan, and this was payback. Scott Tucker, the driver of the Ferrari, was later convicted of operating a predatory payday loan scheme and is serving a prison sentence until 2032. The second episode involved two white Porsches from different teams in a 2014 race. The Job's Porsche was served with an 80 second penalty for improper contact. However, the team that actually caused the infraction was the other white Porsche. IMSA admitted the mistake but said there was nothing they could do to correct the penalty assessed on the Job's team. IMSA compounded the error by never penalizing the offending Porsche team, which went on to win the event. IMSA races can be very close, and the Job's Porsche was then relegated to fourth place, rather than a podium finish.

Aurora Innovation, a California based self-driving innovator has teamed with local PACCAR in an accelerated development program to making driverless capable trucks available. Probably the one thing that scares me more than a driverless car on our rain-soaked roads at night, is the thought of that driverless 80,000 lb semi-truck on that same road.