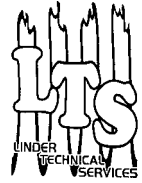


Networking

Newsletter



They are “Special”

In our July 2004 newsletter we featured the 1918 Dodge called the “**Krylon Special**”. That vehicle has been enjoyed by many since its introduction. I drove it to the Morris Illinois “Hunnert Car Pile Up” (www.hunnertcarpileup.com) last October and put over 500 miles on it partially in the rain for the weekend. The car rides out very good and runs really well. (You can check out the pictures if you go their website, look at last year’s events, page 2 4th row down.)

In our newsletter from November 2004 we discussed the building of another hot rod called “**The Fuel Injection Special**” a 1932 Chevy Truck V-8 powered “traditional” hot rod. That car is now finished and the boys (Stan & Greg) just got back from the Bowling Green, KY Hot Rod Nationals with it. Car is now getting a new aluminum hood with louvers and has been a lot of fun so far as well.



The third of the group is my car, “**The Real Steel Special**” a 1929 Model A Sedan we made into a truck. My thinking with this vehicle is to use nothing newer than 1956. The Chopped A-body sits on 1932 Ford frame rails and has a 302 GMC inline six cylinder engine with old school McGurk camshaft, big valves and 5 Stromberg carbs. 1941 Lincoln brakes stop the vehicle and the transmission is a Saginaw four speed hooked to a winters quick change rear axle. The paint is real steel that we use in the injector

business and gives the car the look I wanted. The picture above is from a local car show where we won a trophy for each car that we entered. All three cars have been and will continue driven to shows and we are planning many road trips for next year. In addition to many car shows this year, we are planning to display all of them, along with our Bonneville Truck this year at our conference in September.

That’s it for now. I’ve got to go work on these multiple carbs!

—Jim Linder, The Injector “Guru”

What's Happening in the Fuel Injection Lab.....

K&K PERFORMANCE 700 SERIES TBI

Rick Wilson of K&K Performance sent in this GM, 700 Series, TBI unit. It is used on a Dirt Track Car. The engine is being slightly modified and they wanted the TBI to be modified also.



A close up of the injector show the condition that the unit was in. Baseline readings were taken on the injector (82 mil on the ASNU). A pressure test was done on the regulator, it was set at 13 psi.



Greg, The TBI Magician, started working his magic. After the unit was disassembled, Greg gave the pieces a good cleaning in the ultrasonic tank to remove all the carbon buildup. After the unit was cleaned the idle screw plug was knock out so idle speed could be adjusted. Next Greg installed new throttle shaft bushings. Modifications were also made to the pressure regulator housing. First removing the setscrew, drilling and tapping the housing and then installing a new adjustable bolt. A new regulator diaphragm was installed. He also clear coated the upper and lower section.



On reassembly the gasket between the upper and lower sections were doubled up to allow more airflow. An LTS reconditioned injector was installed (an 86 mil flow). The unit was checked for leaks and an initial setting of the regulator pressure was adjusted to 18 psi.



Analysis from the “Sleuth”, Michele Winn



Why do we have to complicate things?

Raise your hand if you think that OBDII has made it easier to work on vehicles? Yes, I believe that it has made my job easier in some respects. However, I think I have made it harder at times as well. It seems like I assume that if the all-knowing OBDII computer decides to turn on the MIL, it must be something big like a sensor, wiring problem, etc. However, OBDII is also good at detecting the small, routine items that often get overlooked in the era of 100K mile spark plugs, etc.

Case in point: 2002 Dodge Ram 1500 pickup equipped with a 4.7L engine and 85,000 miles on the odometer. It came to us from a nearby car lot who recently purchased it from an auction. The truck has a misfire and the MIL is on. After a quick test drive (which confirmed a misfire under all conditions), I pulled the codes. P0300 (random misfire), P0301 (cyl. 1 misfire), P0302 (cyl. #2 misfire), P0307 (cyl. 7 misfire) and I also found a pending code for P0304 (cyl. 4 misfire). Hmmmmm. This truck had coil-on-plug ignition, so I reasoned that the misfires must not be due to an ignition problem because it was highly unlikely that all of the coils, or all of the boots were bad. I was leaning toward a fuel injection problem. First, I checked fuel pressure and found 49psi KOEO which was perfect according to the spec. of 47-51psi. Then I checked with Doug to see if the fuel injectors used on this engine were ones that he had seen with a lot of failures. Unfortunately for me, he checked our inventory and gave me the bad news: We have only sold about 6 sets of those injectors all year. Definitely not a big seller, but I wasn't willing to give up on the fuel issue. I decided to hook up the Auto Care machine and do a fuel injection cleaning. At one point during the service I was sure that the truck was running much better. However, after I was finished and the unit disconnected, I found a misfire as soon as I started the truck. This time to my delight, the misfire was only on cylinder #1. In my mind, it was “better”, when in reality, had I driven the truck around the block, it was very likely that misfires would have shown up on the other cylinders again. I decided to try to narrow down the problem with cylinder #1 as either fuel or ignition. I hooked the fuel pressure gauge back up and decided to do a pressure drop on #1 and then a couple of others to compare. Not a great test, but I was just hoping to see no drop on #1 and 10psi or so on the others. After testing #1, #2, #4 & #5, I found a 9psi drop on all. At this point, I was forced to abandon any hopes that an injector was at fault. Remember, that's hard to do in a fuel injection shop, after all, they all need injectors, don't they? Now I might be looking at an ignition-related problem. I decided to pull the plug on cyl. #1 and see what it looked like. You've got to be kidding! Could it be this easy? Not only was the electrode almost gone, but the plug was wet and smelled of fuel. I also pulled the plug on cyl. #3 figuring it would look much the same. The next picture shows it was pretty bad, but looks like it was still firing. I returned the truck to their service department for spark plug replacement and all was well.



Sometimes we forget that even though OBDII is a sophisticated program designed to help find faults, not all problems will be complicated. Sometimes the vehicle is just in need of routine maintenance. It's when we start over-analyzing and talking to our buddies that we make things harder than they need to be.



Jim fixed a truck for a friend last week. It came in backfiring and lacked power on acceleration. The buddy had already replaced fuel pump and had the injectors and throttle body unit rebuilt. Jim checked the timing and found it more than 20 degrees retarded. With the timing set back at 0, the truck ran great. As he pulled out of our lot on a test drive, he lit the tires and left a stream of smoke. When he got back, he said, “All problems start out small. It's when people start messing around when it gets complicated”.

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Another Shortie from Jim

I overheard a serious discussion the other day between 2 technicians regarding battery maximum discharge rates and I was somewhat confused when the conversation was going on. It seems as if a technician had attended a class concerning battery discharge rate and the other technician had also attended the same class and they disagreed as to the maximum rate allowed for parasitic draw on a battery with all systems shut down.

After a few minutes they asked me what I thought and my answer was one they had never heard before. The answer varies from manufacturer to manufacturer and will be (when discussed) somewhere between 50 ma up to .5 (½) amp, depending on who and when you ask. But the shocker was “ it really doesn’t matter” as long as the vehicles battery rating or reserve capacity is high enough to support a couple days of sitting.

What is Reserve Capacity?

Reserve Capacity, (RC) is a battery industry rating, defining a battery's ability to power a vehicle with an inoperative alternator or fan belt. The rating is the number of minutes a battery at 80 degrees F can be discharged at 25 amps and maintain a voltage of 10.5 volts for a 12 volt battery. The higher the reserve rating, the longer your vehicle can operate should your alternator or fan belt fail.

Checking on a couple batteries that I had just bought for the shop a cheaper unit RCI was 90 minutes and the better (more expensive) battery was 120 minutes. Using the maximum ½ amp (.500ma) my 120 RCI battery would sit unused lighting a .5 amp load for 10 days before dropping below minimum volts required.

Customers battery runs down over night = very large load or very poor battery!! Think about it!
—Jim Linder, The Injector “Guru”