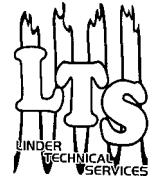


Networking

Newsletter



Newport Antique Auto Hill Climb

WOW! Another record breaking year at the annual Newport Hill Climb! Newport is hard to describe until you have been there during a "good weather" year! For the old car buff Newport has it all. Old cars filled with people having fun with their cars! I have over the years owned show cars, hot rods, drag cars and muscle cars, but never have I seen as much enjoyment of the vehicles. One of my friends who was at Newport for the first time this year made the comment, "I will never miss this again". I think this sums up the Newport weekend.



The Newport Hill Climb is a timed competition up the famed 1800 foot long, 140 foot high hill. There are 28 classes for antique cars, 1942 and older plus discontinued makes.(discontinued before 1970) through 1955. Show car classes go up to 1970. All vehicles must be stock with exception of the F-1M class for model T speedsters. This is the only vehicle allowed to be modified. I have one of these going to together this winter and hope to be able to run the hill next year in a modified speedster.

I attended my first hill climb as a spectator, then as a swap meet car parts vendor and noticed the lack of any service facilities for the many hundred old cars entered in the hill climb. After helping a car owner fix the distributor on his old car, the lions club mentioned me coming back the following year and setting up some old equipment behind the starters stand (in the alley) just to assist these old cars. Well, I just couldn't refuse as the pay was great (all the barbeque I could eat and maybe a beer or two thrown in if I did good). After hauling stuff to the hill for years I decided to build a real building to store tools and old parts in all year long. My friend, Andy Heller, built the "Bubbas Garage" building that we now store and use behind our shop. Once each year this entire building is loaded on a car hauler and moved to spend a week in the Newport alley.

It takes a lot of resources to make this happen each and every year and many special car loving people pitch in to make "Bubbas garage" one of the most special places to visit in Newport during this event. Along with hundreds of old cars come over 100,000 people in the 3 days of the hill climb. We still honor our traditional free bottled coke and a moon pie with every tune-up, and many times this same deal is just offered to anyone with a smile. A special thanks to my local LTS crew and all the other technicians that came down a spent the weekend with us. I know that all our efforts were appreciated by the car owners and the entire Newport Lions club as well. Good job "Bubba Crew".

Anyone wishing to hang out with the crew should plan to attend this event next year on October 3, 4 & 5, 2003.



Analysis from the “Sleuth”, Michele Winn



This month’s case study is on a 1996 Chevy Monte Carlo with a 3800. The customer complains that the check engine light is on, but no driveability problems are present. Apparently the light came on shortly after they last filled the gas tank and the customer was convinced they had gotten some “bad” gas. However, since the car was running fine and the light was still on after the second tank of gas, they decided to bring it in.

The GM Tech-2 was the scan tool of choice for this particular vehicle. A quick scan revealed a DTC P0441, EVAP system no flow during purge.

Vacuum Switch

Where do I start? The description of the code leads me to believe that I’m not going to be looking for a leak. It sounds like I’ve got a hard part failure. I decided to grab the Tech-2 and see what kind of EVAP data I could get. Not only do I have several pids of EVAP data, but it looks like I have some bi-directional controls that will be of use in this situation. I commanded the purge valve “ON”, but according to my scan tool, the EVAP vacuum switch did not see any purge. The vacuum switch is “normally closed” and gets power to it. It opens around 5” of H2O. (By the way, the vacuum switch is located on the rear of the engine by the generator. See picture to the right)



OK, if I command the purge valve “ON”, I should have vacuum between the purge valve and the vacuum switch, right? I disconnected the hose at the end closest to the vacuum switch, installed a vacuum gage and once again commanded the purge valve “ON” with the Tech-2. Sure enough, I have 16” of vacuum. This confirms that the purge valve is turning on and also that I have sufficient vacuum in the system. Looks like I simply have a bad vacuum switch, but am I sure there isn’t a PCM problem? No, but I’ll try my quick PCM check and see what happens. I disconnected the vacuum switch electrical harness and now my scan tool showed purge “ON”. Sure, that’s a primitive test, but at least I know that the computer saw the change when I disconnected the electrical connector, so I will assume that the computer is working. The vacuum switch was easily accessible as you can see from the above picture, so it took just a few minutes to replace the part. With the new switch installed, I commanded the purge “ON” with my scan tool and sure enough, this time the vacuum switch also showed purge “ON”. I cleared the codes and shipped the vehicle back to the customer.



Purge Valve located on front of engine near oil filler cap

QUICK TIP: Make sure the two vacuum lines on the purge valve haven’t been crossed and are routed properly!

Fuel Injection Service Update from the “Wizard”



For over a year I've been getting a lot of calls regarding fuel injector problems on the GM 3100 engine (vin M or J), the 3400 (vin S) and the 3800 engine (vin K). Many of the complaints are related to a MIL light on and/or a lean condition. In the last few months I've been hearing some new complaints. It seems as technicians are checking into these driveability problems, they find that one of more of the injectors doesn't seem to be working at all. However, with a few “taps” on the side of the injector, it seems to come back to life. Let's try to explain what's going on.

In September of 2001, I wrote a brief article about these injectors. To read the entire article, go to this link: <http://www.lindertech.com/archives.htm>. In short, these injectors have been redesigned with a stamped spray tip. This was done to prevent “dribbling” of the injectors and to help pass emissions. What we've found is this new design is more prone to clogging at the discharge end. This would cause a multitude of problems such as hard starting, hesitation, MIL light on and/or lean conditions. GM has published a TSB regarding this particular problem: Bulletin# 99-06-04-005B Below is an excerpt from the bulletin.

Condition

Some owners may comment on driveability symptoms of long or hard starts, chuggle, rough idle and light or intermittent misfire. The MIL may also illuminate

Cause

Due to various factors, the fuel injectors may become restricted. At this point, no specific fuel or engine condition has been identified as causing the restriction. The restriction causes the engine to operate at a lean air/fuel ratio. This may either trigger the MIL to illuminate or the engine to develop various driveability symptoms.

So what's happening with these injectors that don't seem to be working at all until you give them a few “taps”? I believe at some point these vehicles probably started with a driveability symptom like the ones listed in the TSB. But, nothing was done about it. The carbon, dirt, rust, or whatever was restricting the injectors was not cleaned out. Now the problem has gotten worse and something has become lodged in the injector or it is so clogged to the point that very little or no fuel is being discharged. A few “taps” on the side of the injector dislodges whatever happens to be stuck inside the injector and it seems to start working again. So, is tapping on the injector a good fix? Absolutely not! In most cases, the injector will stick closed again and/or other injectors in the vehicle may begin to have the same problem. Remember, whatever contaminated the injector in the first place is likely still in the fuel system.

What's the fix?

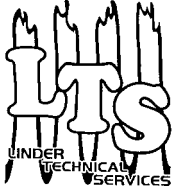
1. Replace all injectors with one of our flow-matched sets
2. Perform and intake cleaning to remove carbon that can possibly clog the new injectors
3. Take a fuel sample and test for contaminants such as: water, sugar, rust, dirt, etc.
4. Flush the fuel rail, lines and tank as needed
5. Educate your customer that regular fuel system servicing can reduce their chances of having this problem in the future. Not only will this make your shop money, but there is much less chance that this vehicle will come back with a similar problem.

Doug Garriott
The Injector “Wizard”

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IMPORTANT ANNOUNCEMENT!!



Effective January 1, 2003, the Linder Technical Services monthly newsletters will **only be available by e-mail or by downloading from our website**. This is due to several factors:

1. It is very labor-intensive to print, fold, staple and mail each newsletter
2. It is very costly to produce these mass mailings each month.
3. Picture quality suffers when it is copied. However, we feel these pictures are very valuable and necessary when trying to explain a case study.

Due to these factors, our monthly newsletter will only be available electronically after January 1, 2003. We understand that there may be a few of you who still do not have the capability to download and print these newsletters by e-mail. In these cases, please contact Michele at 888-809-3835 or fax at 317-487-1868. A limited number of yearly subscriptions will be available for \$39.95. In these cases, the newsletters will be printed in color so the picture quality does not suffer.

Please remember, the deadline is January 1st! If you want to continue receiving newsletters at no charge after the first of the year, please e-mail Michele at michele347@juno.com with your e-mail address.