Linder Technical Services

Networking Newsletter

February 2007

What's a HAMBster?

Every now and then something comes along and just bites ya! I guess you could say I got bit a few years ago with the Bonneville Salt Flats bug. I attended the event for two years and then decided I had to just stop and get a vehicle done. We made that trip last year and are looking forward to the trip each year from now on. *(dyno reports coming soon)*

One of the latest web sites to hang out on is called the www.jalopyjournal.com. A friend got me to read a couple posts on traditional hot rods and I got hooked again. My son Scott got bit at the same time. The journal has become a daily read and has a separate discussion board called the HAMB. (Honkey Ass Message Board)

Last August they held a vintage drag race at a track in Joplin, Mo called the "MoKan Speedway" (based on the fact that the ¼ mile track starts in Mo. and ends in Kansas). We attended the race with a few friends and raced Tom Culbertson's Flathead Ford powered 60's dragster. Ouch! I got bit again! The HAMB dudes had created a class of dragster called HA/GR (Honkey Ass/Gas Rails). The rules are pretty simple and all the parts are basically pre –1962 stuff that most gear heads have laying around. The rules are posted at : http://hambdrags.com/HaGr/rules.html The class speed limit is kinda set by the rear spec tire rule for L-78 x 15 tires being bias ply. (That's a 6.00 in tread max) Last year they had quite a few of these cars running and they have been invited to many tracks to race and show again this year.

Our car came together pretty quick as I have had this old GMC 302 six-cylinder engine that came out of a pulling tractor. It's 322 cubic inch and has two AFB four barrels, 12–to-1 pistons and a Howard roller camshaft. It really ought to run very well in this class once we get thru the tire smoke. A pile of steel tubing, a Morris front axle and 1958 Edsel 9-inch rear and we are almost ready to run. A little red paint, some Waffle House cheese eggs during our planning meeting and it looks like we have another project to begin the learning curve on. Updates will be on the www.lindertech.com web site as we go.

Looks like a lot of fun. No real winners, no real losers, just a number of passes with one car being the fastest and that's it!

—Jim Linder

Doug's "Dirty Dozen" Part 2

This is the conclusion to last month's article titled: "Doug's Dirty Dozen". Last month we looked at the top six highest selling injectors, which means these are the injectors that we see fail the most often. This month we will finish with the final six of Doug's Dirty Dozen.

7. **Application: FORD 5.0L "E & N" and 5.8L "H & R" 1985 - 1992**
Type: Bosch, first generation.
Symptom: These injectors have been around for a while and have served well; unfortunately they have a tendency to leak externally. An internal o-ring failure will cause them to leak where the plastic top portion meets the metal body. Some may even leak into the electrical connector area. This may be seen with a visual inspection, look for the paint being removed from fuel leaking.
Resistance: 14.0 – 16.0 ohms at room temperature.
Recommendation: Reconditioned injectors work great! We throw out any of these injectors that show signs of the paint being removed from a possible fuel leak.
EXTRA: *This same style injector was used on early GM 3.8L "3 & C" engines. Watch for leaks on these too!*

8. **Application: CADILLAC 4.5L "3" 1990**
Type: Another original design Multec.
Symptom: It shorts out!
Resistance: Minimum resistance of this injector is 16 ohms at room temperature.
Recommendation: Our fix is to replace them with a Bosch DRI (Deposit Resistant Injector).

9. **Application: JEEP 4.0L "L & M" 1987 – 1990**
Type: Bendix, Deka or Siemens
Symptom: They leak externally. An internal o-ring failure will cause them to leak where the plastic top portion meets the metal body. Some may even leak into the electrical connector area. This may be seen with a visual inspection. Look for the paint being removed from fuel leaking.
Resistance: This injector should read 14– 16 ohms at room temperature.
Recommendation: Our fix is to replace them with a Bosch DRI (Deposit Resistant Injector).
EXTRA: *Other vehicles under the Chrysler, Dodge and Jeep name use this style of injector. Check them for external leaks also***.**

Doug's "Dirty Dozen" (Cont.)

10. **Application: GM 3.1L "M & J", 3.4L "E" and 3.8L "K"**
Type: Multec II
Symptom: It is prone to clogging at the discharge end. It is very likely that if you have a misfire code (even a random misfire code) you have at least one of these injector not delivering enough fuel. We have seen as little as 5% reduction in fuel flow cause a misfire.
Resistance: The minimum resistance of this injector is 12 ohms at room temperature.
Recommendation: Reconditioned injectors work great! An intake cleaning should be performed at time of injector replacement.
EXTRA: *The Multec II injector also was produced in a shorter version. These injectors are widely used on GM vehicles. They all had a tendency to carbon up at the discharge end and reduce fuel flow.*

11. **Application: GM CENTRAL SEQUENTIAL FUEL INJECTION UNIT (CSFI)**
4.3L "W", 5.0L "M" and 5.7L "R" 1996 – 2002
Type: Poppet valve at the end of each tube with an individual injector for each tube in a metering body.
Symptom: The poppet valves are known to stick causing a misfire. The injectors may leak fuel into the wiring harness cavity of the metering body (which can lead to fuel following the wiring harness to the PCM). The pressure regulator may also leak fuel causing a rich mixture.
Resistance: The minimum resistance of this injector is 12 ohms at room temperature.
Recommendation: Replace the original poppet style unit with the NEWER mini injector style. This unit uses a mini injector at the end of each tube. There are plastic injector protectors attached to each injector that fits into the intake ports protecting the injectors from carbon and sticking. The unit is a direct replacement. Always replace the upper plenum gasket when replacing this unit.
EXTRA: *Fuel pressure is very critical on the CSFI systems. One of the first checks made should be fuel pressure. Pressure should be 58 psi or above KOEO and idle pressure should be 54 psi or above. If pressure is below these specs further testing of the fuel pump should performed. The system should also hold pressure when the pump stops running.*

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Doug's Dirty Dozen

12. **Application: GM CENTRAL PORT INJECTION UNIT (CPI) 4.3L "W" 1991 – 1995**
Type: Poppet valve at the end of each tube with only one injector in the metering body to feed them.
Symptom: The poppet valves are known to stick causing a misfire. The pressure regulator is prone to leaking as is the fuel supply and return lines that are located under the upper plenum.
Resistance: The injector is low impedance and should be 1.4 ohms at room temperature.
Recommendation: Reconditioned LTS units work GREAT especially when they have our upgraded pressure regulator installed in them. When servicing these systems it is best to replace the CPI unit and the supply and return lines.
EXTRA: Fuel pressure is very critical on the CPI systems. One of the first checks made should be fuel pressure. Pressure should be 58 psi or above KOEO and idle pressure should be 54 psi or above. If pressure is below these specs, further testing of the fuel pump should be performed. The system should also hold pressure when the pump stops running. LTS offers a service kit that includes the CPI unit, S&R lines, upper plenum gasket and a carbon trap (screen type) gasket for the EGR valve.