

Linder Technical Services

Networking Newsletter



January 2007

What's in store for 2007?

Here's what's happening at LTS during the first part of 2007. We have tried to include web addresses so you can find out more information on our remote seminars and trade shows

February

- 9-11 Guru-II class
- 23-24 ASA Illinois; Jim and Doug are teaching and LTS will have a trade show booth
www.asaodyssey.com

March

- 9-10 Auto Value Milwaukee; Jim will be teaching; www.avtechexpo.com
- 19-23 Guru school
- 27-28 Wisconsin Tech College; Jim will be teaching

April

- 1 Indy Southside Mustang Club monthly meeting
- 7 ISRA (Indiana Street Rod Association) Open house; <http://www.indianasra.com>
- 13-15 ASA Keys show in Phoenix, AZ; Jim will be teaching; www.ASAshop.org/KEYS
- 20-21 Auto Value Lansing, MI; Jim will be teaching; www.avtechexpo.com
- 27-29 LTS North Conference in Canada w/ Canadian Technician Magazine & Cochrane Automotive
www.lindertech.com or www.lindertechnorth.ca

May

- 14-18 East Coast Guru school (Dave DeCoursey group from Massachusetts only!)
- 22 FSR (Linder Tech Field Sales Rep.) new hire training and orientation; more information on our website at www.lindertech.com or contact michele347@juno.com

June

- 21-23 AST Training Conference; LTS will have a booth www.asttraining.com

July

- 16-20 Guru school

Doug's "Dirty Dozen"

We get asked all the time, "What injector do you service the most of?" Anyone that has been in any of our classes can answer that question without hesitation. As a matter of fact, the answer has not changed since I've been doing injectors. But do you know why? Do you know what other vehicles have injector problems? Lets take a look at what we see as high failure rate injectors and why they fail. Some of the injectors mentioned may be on the list because of the volume of vehicles sold; others may be because of the age. Some injectors fail do to engine design. Regardless of the reason, it is always nice to know you could have an injector problem.

So, the number one failing injector as we see it is found on

1. Application: GM 2.8L, 3.1L vin"T" and 3.3L up to 1993.

Type: This is the original design Multec.

Symptom: It is prone to electrically shorting out. We have heard a couple of reasons, too much bronze mixed in with the coil windings and the winding wires are not shielded where they come off the bobbin to the terminals. Which ever the case may be, they short out.

Resistance: The minimum resistance of this injector is 12 ohms. We usually see then 12 – 13 ohms at room temperature.

Recommendation: Our fix is to replace them with a Bosch DRI (Deposit Resistant Injector).



2. Application: GM 3100 "M" 1994-2000

Type: This is the second design of the Multec injector. It is a little shorter and has an enlarged discharge area. GM refers to this injector as a "Stamped Spray Tip".

Symptom: We don't see a lot of these short out electrically but we do find that some that fail testing at low pulse width commands, which is an indication of the winding breaking down. The enlarged discharge area makes the injector prone to carbon build up at that end, reducing the amount of fuel flow.

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.



Second Design Multec on Left



Carbon build-up reduces flow

Doug's "Dirty Dozen" (Cont.)

3. **Application:** CADILLAC 4.9L "B" 1991-93
Type: Here is another original design Multec.
Symptom: It also shorts out!
Resistance: Minimum resistance of this injector is 16 ohms.
Recommendation: Our fix is to replace them with a Bosch DRI (Deposit Resistant Injector).
EXTRA: *The same injector (with a different casting number) is also used on the 5.0L "F" engines that were in the Camaro and Firebirds.*



4. **Application:** GM 3.4L "E & S", 3.8L "K & L" 1993-2000
Type: This is another Stamped Spray Tip design.
Symptom: It also is prone to clogging at the discharge end and not functioning properly at low pulse width commands.
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: *There is also a TSB regarding the symptoms that these engines May have. Bulletin # 99-06-04-005B*



5. **Application:** GM 7.4L "J" 1996-2001
Type: Here again we have a Stamped Tip Multec injector.
Symptom: We don't see them short out and very few of them show any sign of contamination at the discharge end. They just leak! If you watch the injectors after shut down you will see droplets form at the bottom and then they drip. This causes a hard starting and will give off a raw fuel smell.
Resistance: The minimum resistance of this injector is 12 ohms at room temperature.
Recommendation: Our fix is to replace them with a Bosch DRI (Deposit Resistant Injector).



6. **Application:** FORD 4.6L "F & W", 5.0L "F, N & T" 5.4L "L" and 5.8L "H & R" 1993 - 2002
Type: Bosch
Symptom: This is a durable injector but it likes to be well maintained. Most of them become restricted because of fuel contamination. Sometimes the pintle caps are missing. The caps are important and new ones need to be placed back on the injector before installation.
Resistance: 14.0 – 16.0 ohms at room temperature.
Recommendation: Reconditioned injectors work great! Take a fuel sample and let it sit overnight to make sure no major contamination problem exists.



—The final 6 in Doug's "Dirty Dozen" will be featured in the Feb. newsletter.....

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“Foul” Ford Plugs

Be careful when replacing spark plugs on certain Ford V-8 engines (4.6, 5.4 and 6.8L) On a recent TSB and iATN search, I noticed several posts and bulletins regarding spark plugs “blown out” of the head or seized and broken in the head.

What is the reason? Some say the heads the heads on the effected vehicles have fewer threads to hold the spark plugs and others say that the spark plugs aren’t being torqued properly. Of course once a spark plug blows out, the threads usually go with it. That means if you have recently done a “tune-up” and a spark plug jumps out of the hole, you might be looking at spending a lot of time and money you weren’t planning on. Be aware that there are many companies making “inserts” to correct the problem once a spark plug blows out. However, the only approved fix according to Ford is to replace the head.

Another problem with these engines is the spark plugs break off or pull the threads out upon removal. Why? Many say the recommended service interval of 100K miles is just too long and the threads will come out with the plug after so long. The good news is there are a few companies making extraction tools that seem to work well.

These are definitely things to keep in mind when one of these vehicles rolls into your service bay. In some cases, educating the customer BEFORE a service or repair is attempted might save you a lot of headaches.

If you would like to read more about these problems, log onto iATN (International Automotive Technician Network at www.iatn.net) and search either the fix database or the technical discussion archives. Remember, you must be a sponsoring member to have access to the archives.