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What's new with Jim?

On September 14, 2017, at a faculty recognition event, I was presented with a nice glass award vase as part of being named a Professor Emeritus at Sinclair Community College in Dayton Ohio. This means a lot to me because my father taught part time at Sinclair in the 1950s and 1960s and I taught at Sinclair and now my daughter is an academic counselor at Sinclair. She attended the award ceremony and shared the experience with me.



Special thanks to Justin Morgan, automotive department chairperson and Steve Ash, former automotive department chair as well as Chuck Taylor and Mike Garblik, in the automotive department for their support and recommendation.

Thank you to everyone who congratulated on my Facebook page too. Your words of encouragement and positivity are why I do what I do in "retirement".

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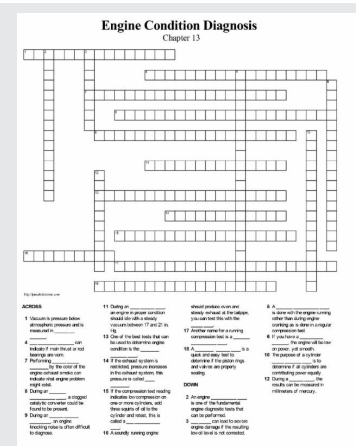
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Where's Jim?

- * **October 6** - Pikes Peak Community College in Colorado Spring, CO. My topic will be "Free Instructor Resources." This is at the annual Colorado Automotive Teachers Society (CATS) conference.
- * **October 12** - Parkland College in Champaign, Illinois. My presentation at this event which is at the Illinois College Automotive Teachers Association (ICATA) conference will be "Light Diesel Diagnosis".
- * **October 21** - I will be giving the presentation on "Free Instructor Resources" at Pasadena City College, in Pasadena, CA as part of the fall California Automotive Teachers conference.
- * **October 26** - I will be giving the presentation on "Light Diesel Diagnosis" at the Southeast Michigan Automotive Association (SEMATA) held at Macomb Community College in Warren, MI.

Puzzle of the month

Find this month's puzzle of the month at this [link](#) and test your students knowledge on engine performance (A8).



Auto Trivia

In which year did Chrysler acquire American Motors that also included Jeep?

- 1985
- 1986
- 1987
- 1988

Answer at the bottom of this page!

FAQ

What is the Alpha PID?

Alpha is the air-fuel ratio parameter displayed on Nissan/Infiniti vehicles.

100 = 14.7:1

Higher than 100 = PCM is adding fuel

Lower than 100 = PCM is subtracting fuel

Alpha is used as a single parameter that replaces both long-term fuel trim and short-term fuel trim.

Sample ASE certification-type question

Question:

Gasoline used should be fresh and the octane as specified by the vehicle manufacturer. What symptoms are most likely to be caused by using gasoline that is old or is in a vehicle that has been stored for a while?

- Hard to start
- Rough or unstable idle
- Stalling
- Any of the above

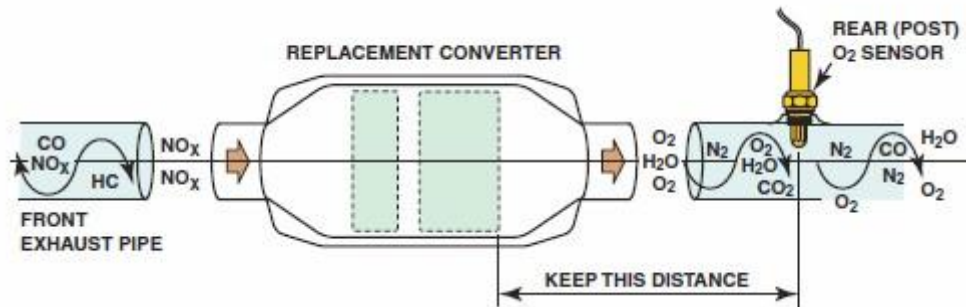
Answer/Explanation:

The correct answer is d. All of the above are symptoms of using old gasoline. Answer a is correct because the "light ends" or parts of the fuel that evaporate easily are the first part that is lost when gasoline is stored. Without the light ends, getting the remaining gasoline to ignite can be a challenge. Answer b is correct because the fuel will not burn consistently and will usually cause the engine to not operate smoothly resulting in a rough or unstable idle. Answer c is correct because

the fuel will not burn correctly due to the evaporation of many of the components of the fuel and this can cause the engine to stall especially when the engine is cold.

Tech Tip

Aftermarket catalytic converters



Some replacement aftermarket (non-factory) catalytic converters do not contain the same amount of cerium as the original part. Cerium is the element that is used in catalytic converters to store oxygen. As a result of the lack of cerium, the correlation between the oxygen storage and the conversion efficiency may be affected enough to set a false diagnostic trouble code (P0422). If an aftermarket converter is being installed, be sure that the distance between the rear of the catalyst block is the same distance from the rear oxygen sensor as the factory converter to be assured of proper operation. Always follow the instructions that come with the replacement converter.

Straight Talk

From the September 30, Wheels section of Dayton Daily News

Reader asks about using unleaded gas in an old car

Wheels: Dave H. writes by email:

"I enjoy reading your column in the Dayton Daily News, and I'd appreciate your advice on a couple of topics.

1) My wife and I own a '57 T-bird. The owner's manual "recommends" using a premium-grade fuel (which, of course, would have been leaded fuel in 1957). I understand that gasoline octane ratings are calculated differently now than they were in the 50s, and I also don't know what octane rating would have been considered to be "premium" in the 50s.

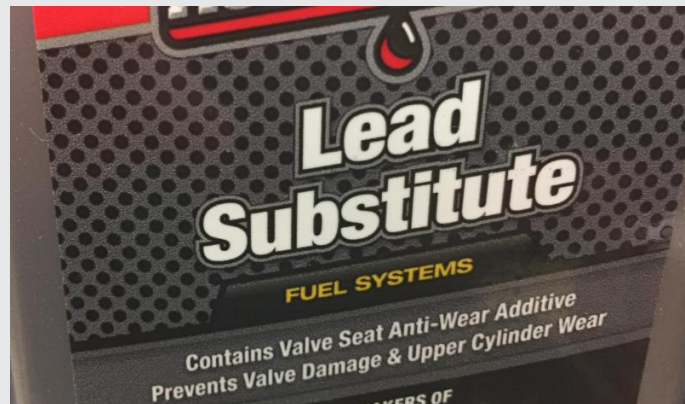
Given the changes in fuel formulations over the years, most notably the addition of ethanol and the removal of lead, would you say that I should still use a premium-grade fuel, or would today's regular grade now be satisfactory?

2) Also, the vehicle was restored before we got it, so I don't know if any engine modifications were made to accommodate unleaded fuel. Consequently, I always add a lead substitute to every tank fill-up. In the event that the necessary modifications were in fact done before we purchased the car, other than adding unnecessary air pollution, is there any harm being caused by adding lead substitute to the fuel at every fill-up?"

Halderman:

Thanks for writing and here are my thoughts:

1) The best way to find out how the gas works is to try using first midgrade (Plus) and see if the engine pings under a load when it is hot. When the engine "pings", it sounds like loose marbles in a steel can. If it does, then continue to use premium grade. If it does not ping using midgrade, try regular at the next fill-up and see if it pings. There is really no other reasonable way to find out.



2) I don't really think using a lead substitute is needed. The valves may recess into the cylinder head if hardened seats were not installed (not likely), but to have this happen requires the engine to be operating under a heavy load and at high speeds for a long period of time. If you drive this car in hilly areas at highway speeds for hours at a time, then yes, continue to use the lead substitute, but maybe reduce it to every other tank fill-up. If the car is being driven around town at lower speeds and not under a heavy load, I don't think there is a need to continue to use it.

Have an automotive question? Please write to Jim with your questions at jim@jameshalderman.com

Trivia question answer: C.

Please let me know what you think of the newsletter. I would love to include any of your automotive news, trivia questions or any tech tips you might have. Send me your suggestions!

You can email me [here](#) or visit [my website](#). You can connect with me on Facebook, Twitter and LinkedIn too (links above).

Regards,

Jim Halderman

James D. Halderman writes automotive technology textbooks for [Pearson Education](#). He is an ASE-certified Master Technician with more than 20 years instructional experience.