



Author & Automotive Expert James D. Halderman



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Halderman newsletter

December 2014

What's new with Jim?

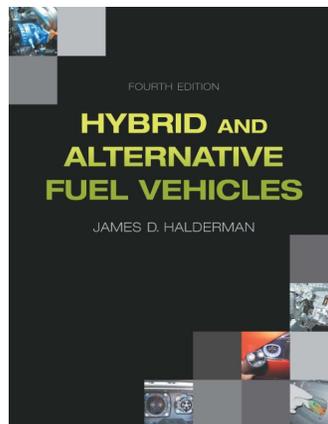
I hope you all enjoy some time off this holiday season. Spending time with family and friends is my favorite holiday tradition. I remember this time of year when I was still teaching how much I enjoyed the break and it made me appreciate my family and the time I got to spend with them.

I'm proud to announce a 4th edition Hybrid title that will be out late February with a 2016 copyright.

Hybrid and Alternative Fuel Vehicles - 4th edition ISBN: 0-13-351212-6

The new updated fourth edition includes the following changes:

- * Three new chapters were added by expanding existing chapters. The three new chapters include:
 1. Oxygenated Fuels (E10, E15, E85 and Methanol) - Chapter 5.
 2. Propane, CNG, LNG and Synthetic Fuels - Chapter 6
 3. Electric and Plug-in Electric Vehicles - Chapter 17
- * Over 60 new full color photographs and line drawings to help bring the subject alive.
- * All chapters updated with the latest technology.
- * HV battery testing using a scan tool and procedures for HV battery reconditioning added to Auxiliary and High-Voltage Batteries- Chapter 8
- * Inverter replacement photo sequence added to Electric Motors, Generators and Controls-Chapter 9.
- * New content on the Honda two-motor hybrid electric vehicle-Chapter 13
- * New content on the Ford Fusion hybrid electric vehicle -Chapter 15
- * Loss of insulation (LOI) test procedure added Hybrid Safety and Service Procedures - Chapter 19



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- * New sample ASE-type certification test for Hybrid/Electric Vehicle Specialist (L3) -Appendix 1.
- * Updated NATEF correlation chart for hybrid electric vehicles tasks -Appendix 2

Please continue to follow me on [LinkedIn](#), [Facebook](#) and [Twitter](#) for up-to-the-minute updates and for the fantastic interaction I receive from many of you.

Sincerely,
Jim

ASE Sample Certification Question

Sample ASE certification test question:

Question:

A thermometer inserted into the A/C vents reads 44°F in the right and center vents, but 52°F in the left (driver) side vent. What is the most likely cause?

- a. Too much oil charge in the system
- b. A partially restricted orifice tube
- c. A misadjusted blend door
- d. A disconnected air discharge vent tube under the dash

Answer:

The correct answer is d. A disconnected air discharge vent tube is the most likely cause for the discharge air temperature to be greater in one vent. Answer a is not correct because too much refrigerant oil in the system would reduce the cooling for all vents and could not affect just the left side discharge vent temperature. Answer b is not correct because while a partially clogged orifice tube will cause a lack of cooling, it cannot cause a lack of cooling out of just one discharge air vent. Answer c is not correct because a blend door is used to adjust the amount of air that flows across the heater core after it has flowed through the evaporator to control the temperature of the discharge air and is not likely to cause a difference in air temperature at just one vent opening.

For FREE sample ASE test questions with answers, visit my website where you will find 15 questions for each of the eight ASE areas (120 total questions).

www.jameshalderman.com

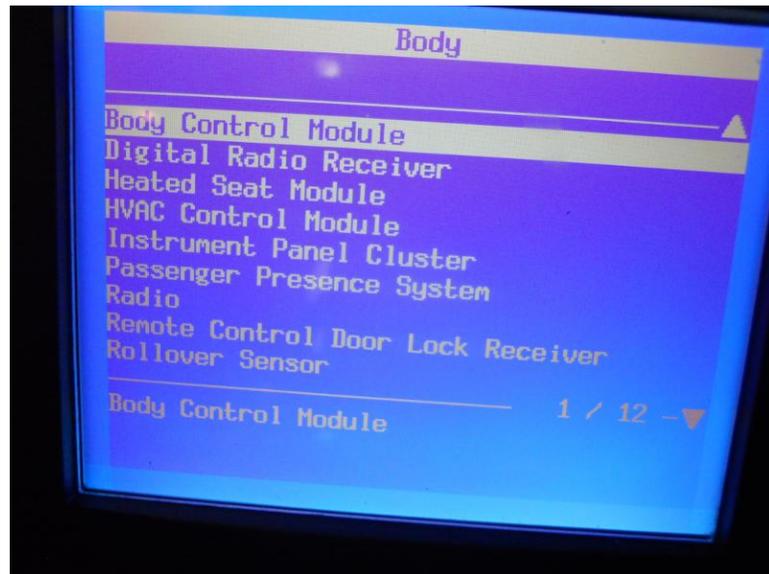
For an excellent resource for all eight ASE content areas, consider this test preparation book:

<http://www.pearsonhighered.com/educator/product/ASE-Test-Prep-and-Study-Guide/9780133414950.page>

Tech Tips

Look for DTCs in "Body" and "Chassis"

Whenever diagnosing a customer concern with the HVAC system, check for diagnostic trouble codes (DTCs) under chassis and body systems and do not just look under engines. Therefore, a global or generic scan tool that can read only "P" codes is not suitable for diagnosing an HVAC system. Engine or emission control-type codes are "P" codes, whereas module communications are "U" codes. These are most often found when looking for DTCs under chassis or body systems. Chassis related codes are labeled "C" and body system-related codes are labeled "B" codes and these can cause an HVAC issue if they affect a sensor that is used by the system.



Straight Talk

From the November 29 Wheels section of Dayton Daily News

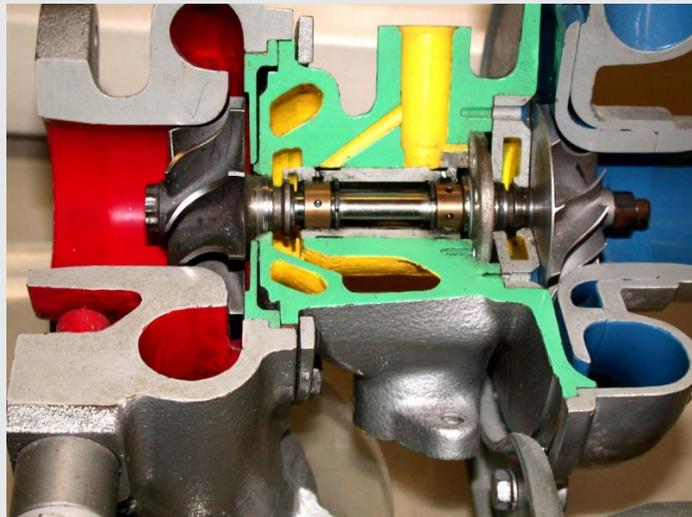
Reader asks about turbocharged engines

Wheels:

Brett S. writes by e-mail:

"Since turbochargers can operate at much higher rpm than the accompanying engines, how much of a risk is overheating after engine shut down?

I see that some high performance cars (for example, Alfa Romeo's 4C) come with an "after-run pump" to cool down the turbo following shut down. On normal turbo cars (e.g., Chevy Cruze Diesel or Chevy Malibu Turbo), do you suggest letting the car idle for a minute or so to let the turbo slow down and cool off before shutting down? Is synthetic oil a must for turbo-equipped cars? Thanks."



Halderman:

Thanks for writing. As you may be aware, older engines that had turbochargers were known for coking the oil (turning it to tar) and it was advised to keep the engine running at idle speed for about a minute if it had been accelerated rapidly. Today, several things have changed including:

1. The turbocharger bearings are now cooled by coolant being circulated around the bushings as well as cooled and lubricated by the engine oil (this was not the case in older turbocharged engines).
2. The oil specified today, such as dexos, is designed to meet the needs of turbocharged engines. While dexos oil specifications do not indicate which base oil is used, it almost HAS to be a synthetic. There are three groups of synthetics (Group II, IV and V) and I believe that the specified oil has to use at least a Group III base stock. See "Engine Oil Update" Power Point on my website. Go to www.jameshalderman.com and then click on "Jim's Stuff" and click on "Conference Power Points" and select "Engine Oil Update".

I think that Alfa Romeo is being very conservative and want to make sure that the turbocharger bushings are kept lubricated under all conditions. As always, vehicle owners should always follow the manufacturers' recommended products such as engine oil and coolant, and maintenance intervals. I hope this helps.

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

Please let me know what you think of the newsletter. I would love to include any of your automotive news 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.