



Author & Automotive Expert James D. Halderman



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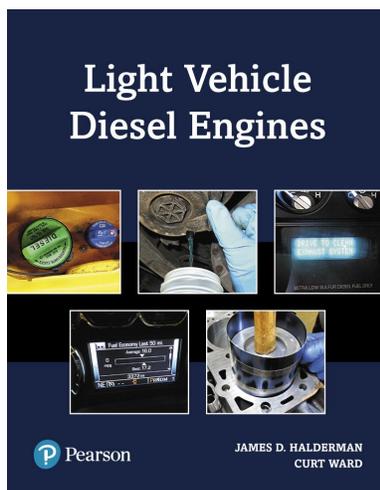


Halderman newsletter

September 2018

What's new with Jim?

With most schools starting back to classes now or soon, it is time to think about the curriculum needed to prepare tomorrow's technicians. Curt Ward, from Joliet Junior College and I teamed up and wrote a new book covering the latest in light diesel technology. As Curt told me: "I was selfish. I wanted an up-to-date book that I could use in my classes. Teaming up with Jim was great and I learned a lot working through the manuscript."



Check it out and consider using it next semester as part of your automotive service curriculum. Light vehicle diesel engines are a big part of the light truck market, and getting your students ready for this expanding market will make you and your program successful.

LIGHT VEHICLE DIESEL ENGINES (A9)
ISBN: 9780134678726

CHAPTER TITLE

- Chapter 1 Diesel Engine Operation
- Chapter 2 Diesel Engine Blocks and Rotating Assemblies
- Chapter 3 Cylinder Heads and Valve Trains
- Chapter 4 Diesel Engine Lubrication System Diagnosis and Repair
- Chapter 5 Diesel Engine Cooling System Diagnosis and Repair
- Chapter 6 Diesel Engine Condition Diagnosis
- Chapter 7 Diesel Engine Disassembly, Cleaning And Crack Detection

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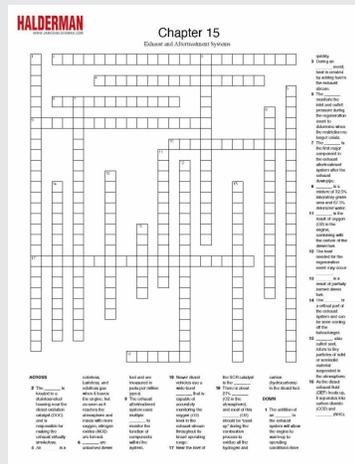
Where's Jim?

Sept. 27-30 - ASTE Expo, Cary, NC

Keep up with me at:
www.jameshalderman.com
Email Jim
Facebook

Puzzle of the month

Find this month's puzzle of the month at this [link](#) and test your students knowledge on diesel after treatment.



Chapter 8	Diesel Engine Assembly
Chapter 9	Turbocharger Systems
Chapter 10	Air Induction, EGR and Glow Plug Systems
Chapter 11	Diesel and Biodiesel Fuel
Chapter 12	Fuel Supply and Low Pressure Fuel Systems
Chapter 13	High Pressure Diesel Fuel Systems
Chapter 14	HEUI Diesel System Operation
Chapter 15	Exhaust After Treatment Systems
Chapter 16	Diesel Service Procedures
Chapter 17	Diesel Engine Electronics
Chapter 18	CAN and Network Communications
Chapter 19	Diesel OBD II
Chapter 20	OBD II Diesel Monitors
Chapter 21	OBD II Diesel Diagnosis
Chapter 22	Power Stroke Diesel Engines (Ford)
Chapter 23	Duramax Diesel Engines (General Motors)
Chapter 24	Cummins Diesel Engines (Dodge/Ram/Nissan)
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Auto Trivia

This generation of General Motors trucks were made during which years?



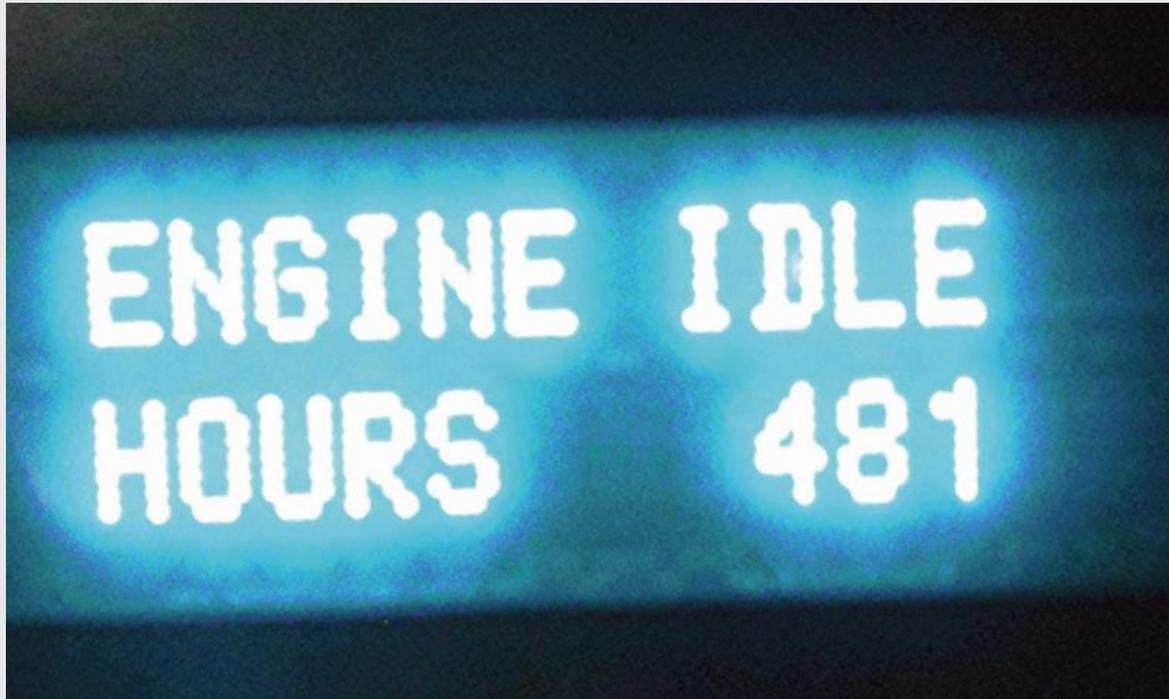
- a. 1960-1966
- b. 1967-1972
- c. 1973-1987
- d. 1988-1998

Answer at the bottom of this page!

FAQ

What is the Relationship Between Miles Driven and Engine Hours?

Most vehicle manufacturers specify that each hour of engine run time is equal to 25 miles. Most pickup trucks are equipped with an hour meter that can be accessed using the trip odometer button to scroll through miles and then hours. When servicing a truck, it is wise to check both the mileage and the hours of operation to see if service needs to be increased based on the number of hours spent idling compared to actual driving miles.



Sample ASE certification-type question

Question:

A late model pickup truck equipped with a common rail, light duty diesel engine is being diagnosed for excessive black smoke from the tailpipe. What could be the cause?

- a. An empty diesel exhaust fluid container
- b. A clogged air filter
- c. The incorrect engine oil used at the last oil change
- d. A stuck closed fuel injector

Answer/Explanation

The correct answer is b. A clogged air filter will restrict the amount of air entering the engine and while the system may be able to reduce the amount of fuel delivered to match the reduced airflow, incomplete combustion is the most likely result of black exhaust smoke. Answer a is not correct because if the DEF container was empty, the diesel control system would prevent the engine from producing power and may even prevent the engine from starting but would not cause the engine to produce black exhaust smoke. Answer c is not correct because while the incorrect oil can cause a degradation of the engine itself over time, it is unlikely to be the cause of black exhaust smoke. Answer d is not correct because a stuck closed injector would prevent the cylinder from firing and therefore could not be the cause of black exhaust smoke.

Tech Tip

Use the Air Filter Gauge as a Guide

An engine air filter operates most efficiently when it is slightly dirty. Do not change the filter unless the restriction gauge indicates it is near failure. This will increase system efficiency and reduce maintenance costs.



Straight Talk

From the August 25, Wheels section of Dayton Daily News

Reader Asks About Possible Purchase of Hybrid Vehicle

Wheels:

Ray writes by email:

"I currently own a Chevrolet pickup truck that is almost 20 years old and I want to purchase a car next time and something that gets better fuel economy. Some of my friends and co-workers have suggested that I buy a hybrid vehicle, such as a Prius because fuel economy is important to me since I changed jobs that now involves a long commute of about 100 miles a day. However, I really don't want a hybrid because I don't want to have to plug it in every night when I am home. What do you suggest? Thanks".

Halderman:

I think you are confusing an electric vehicle (EV) with a hybrid electric vehicle (HEV). Hybrid vehicles use both a gasoline engine and an electric motor, and do not need to be plugged in to an electrical outlet to charge the high-voltage battery. The gasoline engine is used to keep the battery charged. An electric car, such as a Nissan Leaf or a Tesla, are all electric without a gasoline engine and these must be plugged in to charge the high-voltage battery. There are many vehicles that get outstanding fuel economy and many are not hybrid electric vehicles (HEV). Hybrid electric vehicles achieve their superior fuel economy by trapping the energy during braking, called regenerative braking. As a result, they achieve their best fuel economy when driven in the city stop and go traffic. Many vehicles today are able to deliver 30 miles per gallon or more, especially on the highway and some can achieve 40 MPG. I am sure that you will find a vehicle that meets your needs and it may or may not be a hybrid, but don't overlook purchasing a hybrid. I have one and I love it.



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

Trivia question answer: B.

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.