

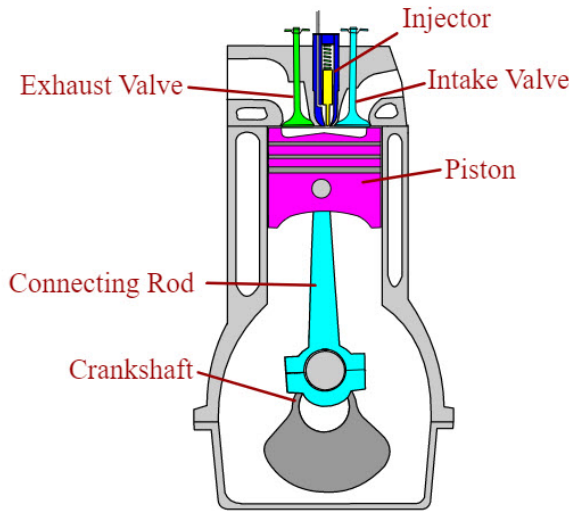


Connect with me:



What's new with Jim?

Four-Stroke Cycle



I hope everyone is enjoying some time off this summer. For me, it is time to start getting things ready for fall semester classes. This means getting my website updated with the correlation charts and elements for all of the latest editions of the Pearson automotive textbooks. The major changes to my website include:

1. With the new design schedule to be live on or about August 1, the pages being viewed will match the device being used. For example, if viewed on a laptop or desktop, the pages are full size with the major heading in boxes located side-by-side. If viewed on a smartphone, the major headings are arranged so that they appear vertically making viewing and navigation a lot easier.
2. All 700+ of the animations are being converted to MP4 format (movie mode, a sample animation is pictured above). This means that they can easily be downloaded and viewed on any device as well as placed in your own Power Points.
3. All of the classroom resources will be arranged by chapter in each textbook making it a LOT easier for instructors to find what they need to teach a particular topic.

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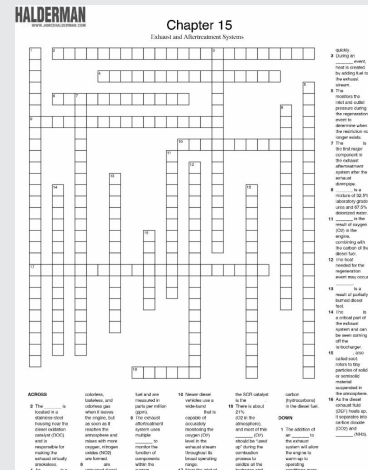
Where's Jim?

July 2, 2019- Giving a technical presentation at Ohio Technical College in Cleveland
July 15-19- Attending and giving presentations at the NACAT conference in Calgary, Alberta Canada

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 aftertreatment.





What is the auction estimated presale price for this 1958 Mercedes- Benz 300SL Roadster? (Numbers matching, original and low mileage).

- a. \$150,000
- b. \$250,000
- c. \$600,000
- d. \$1,250,000

Answer at the bottom of this page!

FAQ

Why Are There Holes on the Underside of Diesel Pistons?



Most diesel engines use piston squirt nozzles to force engine oil to the underside of the piston to help remove heat from the top of the piston. The nozzles are connected to the main oil gallery and oil is squirted through the nozzles whenever the engine is running.

Behind the Scenes

As with any of my textbooks, they are all scheduled to be updated regularly. This means that many of the photos and line drawings are replaced with newer more up-to-date figures as well as new and updated text material. To get new photos, I ask technicians to help me at my shop for a series of photo shots for each title. While I may take several hundred photos using photo lights and a SLR digital camera, I end up using only a fraction of the photos that I take.



Sample ASE certification-type question

Question:

An oil sample was drawn from a diesel engine to determine if the oil needs to be changed. The sample tested high for silicon. What does this indicate to the technician?

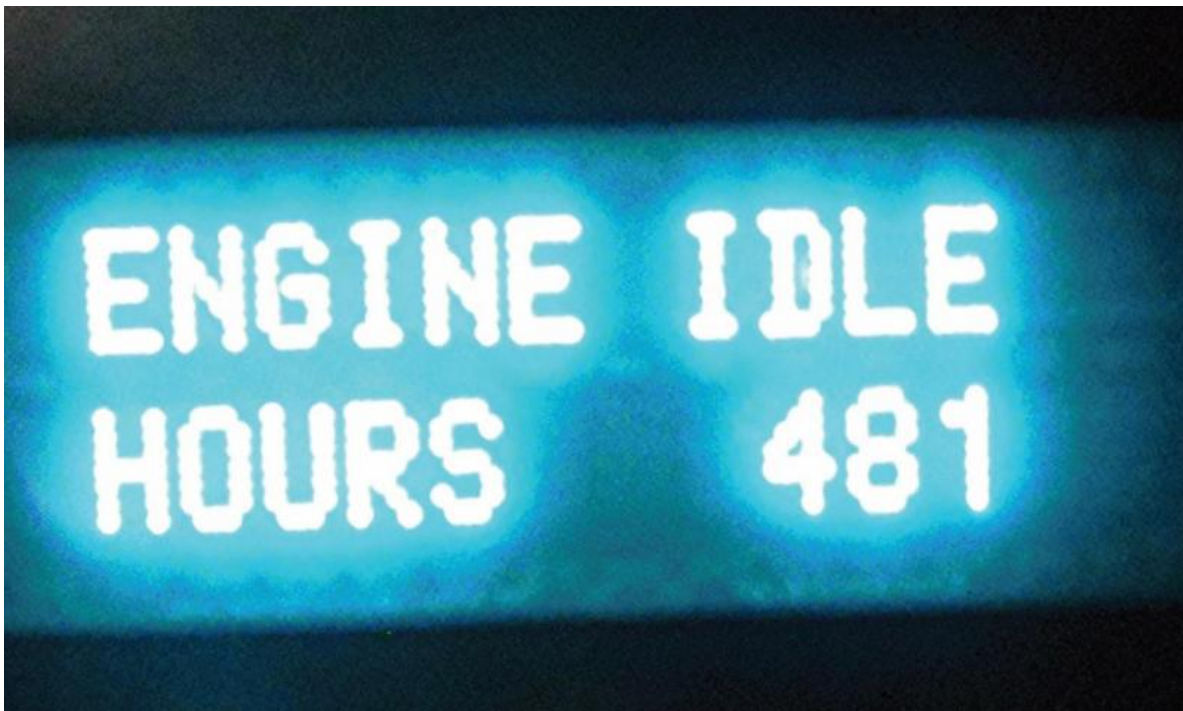
- a. Sealer from an oil pan gasket replacement was in the oil.
- b. Sealer may be leaking form the intercooler.
- c. The oil filter is clogged.
- d. The oil has excessive dirt.

Answer/Explanation

The correct answer is d. Silicon is dirt whereas if the word is spelled with an "e" at the end (silicone), this means a type of sealer. Answer a is not correct because silicon is not a sealer but is instead dirt such as silicon sand. Answer b is not correct because silicon is not a sealer but is instead dirt such as silicon sand. Answer c is not correct because while a clogged oil filter could be a contributing factor of the engine having excessive silicon in the oil, there are many other reasons with the most common being a defective or incorrectly fitting air filter allowing dirt to enter the engine.

Tech Tip

Check the Hours of Operation As Well As the Miles



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. Use the trip odometer function to locate and display the hours.

Straight Talk

From the June 29 Wheels section of Dayton Daily News

Reader Has Questions About Rodent Damage



Tom L. writes:

"So now for the third time my car is in the shop with significant rodent damage to the wiring harnesses in the engine. This time to the tune of thousands. Come to find out for some time now this has become epidemic in the industry. Why? The stupid auto makers to save money under the guise of being environmentally friendly, have been using soy-based wiring covers instead of the petroleum-based products. The soy-based however is a feast for rodents. Is there anything a vehicle owner can do to prevent this type of damage?"

Halderman:

You are correct Tom that many vehicle manufacturers are now using soy-based wiring insulation. The reason is the European Union (EU) has mandated that the vehicle manufacturer, not the owner of the vehicle, is responsible for the "end-of-'life" disposal of the vehicle. Plastic wiring insulation is very difficult to separate from the copper wiring so plant-based materials are used instead. To help prevent rodent damage try the following suggestions:

- Avoid parking a vehicle in a closed space where there is also pet food. Once a rodent gets access to a food source, they go looking for other foods in the area.
 - Store dog or cat food, as well as bird seed, in a different area from where the vehicle is parked.
 - Try using an electronic device that emits a sound that only the rodent can hear to keep them away from the vehicle.
 - Place drier sheets inside the vehicle, and several places under the hood. These have a pleasant odor to people, but rodents don't like the smell and will not stay around.

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

Trivia question answer: D.

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.