### Author & Automotive Expert James D. Halderman

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#### Halderman newsletter

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Where's Jim?

Jim will be attending the KOI training event at the Cincinnati convention center on January 10-11, 2020

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

### What's new with Jim?

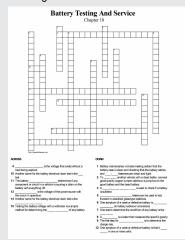
Starting Wednesday, January 1, the content information (over 8 gigabytes), will be available after registering for a 1-year unlimited access for the low introductory price of just \$50 a year (less than a dollar a week). Starting March 1, 2020, the normal rate will be \$79 a year.

The following will still be available for FREE access:

- Textbook information such as ISBNs and size as well as number of pages etc.
- Where to purchase and Pearson contact information
- Links to Pearson where the FREE instructors' resources are available for instructors who are registered with Pearson.

# Puzzle of the month

Find this month's puzzle of the month at this <u>link</u> and test your students knowledge on batteries.



# Auto Trivia



This Dodge pickup was known as\_\_\_\_\_

- a. Fleetside
- b. Stepside
- c. Sweptside
- d. Boxside

#### Answer at the bottom of this page!

?

## FAQ

### Can A Stop-Start System Be Turned Off?

Sometimes. Some vehicles equipped with a stop-start system can be turned off using a button on the dash or center stack.

# Case Study

### **Electronic Devices Cannot Swim**

The owner of a Dodge minivan complained that after the vehicle was cleaned inside and outside, the temperature gauge, fuel gauge, and speedometer stopped working. The vehicle speed sensor was checked and found to be supplying a square wave signal that changed with vehicle speed. A scan tool indicated a speed, yet the speedometer displayed zero all the time. Finally, the service technician checked the body control module (BCM) to the right of the accelerator pedal and noticed that it had been wet, from the interior cleaning. Drying the BCM did not fix the problem,

but a replacement BCM fixed all the problems. The owner discovered that electronic devices do not like water and that computers cannot swim.

Summary:

\* Complaint-Customer complained that many gauges stopped working after the vehicle was cleaned.

\* Cause-The body control module (BCM) was found to be wet and had to be replaced to fix the problems.

\* Correction-Replacing the BCM was needed to fix the problems.

# Guest Expert

#### The Hybrid and Electric Vehicle Classroom

Electric and hybrid electric vehicles are one of the fastest growing segments of the automotive industry today. This is, in part, due to the popularity of vehicles like the Chevrolet Bolt and Tesla 3. Is your program properly preparing the students to service this rapidly growing segment of the industry? A renewed emphasis needs to be placed in the classroom and lab on the topics of electrical and safety. This can be done with very little additional cost. The opportunities for a student, who has the proper training, to perform service on electric and hybrid electric vehicles are limitless.

If need help adding this topic to the classroom, I would recommend the text: Hybrid and Alternative Fuel Vehicles; ISBN # 9780133512120. This great resource will provide you information you need to get started. If you have questions on how to get started, I can be reached at <u>cuward@jjc.edu</u>.

#### Curt Ward

Joliet Junior College



# Sample ASE certification-type question

#### Question:

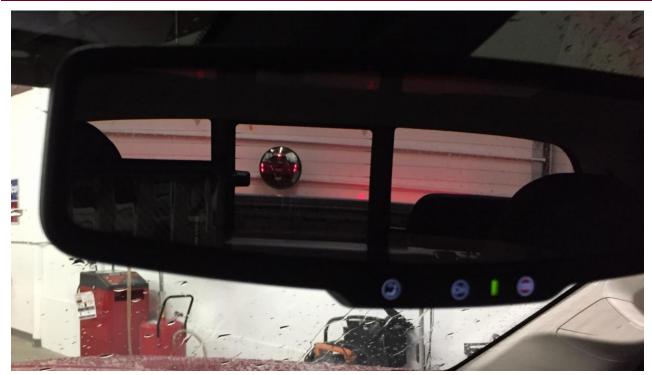
An alternator overrunning pulley (AOP) is being tested with the accessory drive belt removed. It is functioning correctly if \_\_\_\_\_\_.

- a. The pulley rotates freely in only one direction
- b. The pulley is locked in both directions
- c. The pulley is unlocked in both directions
- d. Either b or c

#### Answer/Explanation

The correct answer is a. An alternator overrunning pulley uses a one-way roller clutch that allows the pulley to freely rotate in only one direction if working as designed. Answers a, b, and c are not correct because they do not indicate the proper operation for a good alternator overrunning pulley.

# Tech Tip



### Check the Brake Lights

On many vehicles, the cruise control does not work if the brake lights are not working. This includes the third brake light, commonly called the center high mounted stop light (CHMSL). Always check for the proper operation of the brake lights first if the cruise control does not work.

To make it easier to check the brake lights, use a convex mirror in the shop so that the lights can be easily checked from the driver's seat.

# Straight Talk

From the December 28 Wheels section of Dayton Daily News

## Reader Asks About Engine Oil

#### Wheels:

Jeff asks:

"I have some questions about what oil I should be using in my truck and in my new lawn tractor.

\* First, my 2016 Chevrolet Silverado truck calls for SAE 0W-20. That seems very thin to me and I was thinking of using SAE 5W-30 instead. Your thoughts? Also, do you think using a synthetic is worth the extra money?

\* My new lawn tractor calls for SAE 10W-30 but some Internet sites recommended the use of SAE 10W-40? Which one should I use? Also is using a synthetic recommended? Thanks."

#### Halderman:

I always recommend what the vehicle manufacturer specifies to be used. The

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engineers know the what is best for the engine and in your case using SAE 0W-20 is the right viscosity to use. Here is the good news. If there is a "0" at the beginning of any oil viscosity rating, it HAS to be synthetic to be able to meet the specifications.

Regarding your lawn tractor oil. I would again recommend the use of the specified SAE 10W-30. Using the SAE 10W-40 means that it has more viscosity index improvers added to make it suitable for the wider



viscosity range. The extra improver additive has been known to cause piston rings to stick leading to increased oil usage. Stay with a known brand name SAE 10W-30 and using a synthetic is a wise option in my opinion. Change the oil in the lawn tractor as specified by the manufacturer, which is usually ever 25 hours of operation.

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

#### 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 <u>here</u> or visit <u>my website</u>. You can connect with me on Facebook, Twitter and LinkedIn too (links above).

Regards, *Jim Halderman* 

James D. Halderman writes automotive technology textbooks for <u>Pearson Education</u>. He is an ASE-certified Master Technician with more than 20 years instructional experience.