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Halderman newsletter

January 2020

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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.

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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

Puzzle of the month

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

Battery Testing And Service
Chapter 18

ACROSS

4. _____ is the voltage that exists without a load being applied.
5. Another name for the battery electrical clean test is the _____ test.
11. The battery _____ determines if any component or circuit in a vehicle is loading or draining the battery when it is not being used.
12. _____ is the voltage of the power source with the electrical system.
14. Another name for the battery electrical clean test is the _____.
15. Testing the battery voltage with a voltmeter is a simple method for determining the _____ of any battery.

DOWN

1. Battery maintenance includes making certain that the battery case is clean and checking that the battery cables and _____ terminals are clean and tight.
2. The _____ another vehicle with a dead battery, connect periodically by jumper jumper cables to a jump box to the good battery and the dead battery.
3. A _____ is used to check if a battery is fully charged.
4. _____ battery can be used to start a motor or operate gas/gel batteries.
5. _____ is a test for a weak or discharged battery.
6. One method of a weak or discharged battery is _____ on battery indicator terminals.
7. One way to determine the condition of any battery is the _____.
8. A _____ is a tester that measures the specific gravity of a battery's cells.
9. The first step for _____ is to determine the charge condition of a weak or discharged battery is that it _____ one or more cells.

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 cuard@jjc.edu.

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 _____.

- The pulley rotates freely in only one direction
- The pulley is locked in both directions
- The pulley is unlocked in both directions
- 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.



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 engineers know 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 [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.