



Connect with me:



Halderman newsletter

November 2019

What's new with Jim?

I am happy to announce that my team has been busy updating my website to make it easier to use and offers even more resources. For example, the information on lug nut torque specifications now include additional links so that information is constantly updated.

Service Information

Downloads

Lug Nut Torque

Lug Nut Tighten Torque Specs

cte-auto.net: Wheel Nut Torque Specs

Jegs.com: Wheel Nut Torque Specs

I am also very pleased with the latest edition of Automotive Electricity and Electronics-6th edition due out early next year. Order ISBN-13: 978-0-13-576442-8

New and updated content includes:

- The number of chapters has been increased from 28 to 30 making it easier to select the exact content to study or teach.
- Static electricity and lightning information added to Chapter 4 (Electrical Fundamentals)
- Enhanced lead-acid batteries (ELA) information added to Chapter 18 (Batteries).
- New content on float-type battery charges and memory saver tools added to chapter 19 (Battery Testing and Service)
- Stop-start and push-button start systems (chapter 20)
- Dash warning symbols (122 of them) added to Chapter 25 (Driver Information and Navigation Systems).
- Advanced Driver Assist Systems- Chapter 29

IN THIS ISSUE

[Auto Trivia](#)

[FAQ](#)

[Case Study](#)

[Sample ASE](#)

[Tech Tip](#)

[Straight Talk](#)

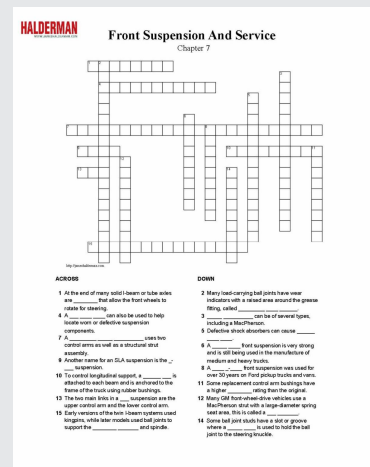
Where's Jim?

No travel plans for Jim for the month of November.

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 suspensions.



Automotive Electricity and Electronics

JAMES D. HALDERMAN



Auto Trivia



The vehicle shown is a _____

- a. 1969 Plymouth Road Runner
- b. 1970 Hemi Cuda
- c. 1969 Chevelle
- d. 1968 Olds 442

Answer at the bottom of this page!

FAQ

What Are "Four Season Tires"?

Four seasons tires are about the same as all-season tires except most of these are also three-peak mountain snowflake (3PMSF) rated. They have minimum snow traction ability tested versus an industry standard reference test tire (SRTT)-minimum 110 rating.

The three-mountain snowflake rated tires are required to be installed on vehicles in many states and provinces during the winter months, usually December 15 to March 15. For reference, most all-season tires have a traction rating of 70-80, so this means that the four-season tires offer more traction on snow.



Case Study

The Case of the Harsh-Riding Buick

The owner requested that all of the shock absorbers be replaced on a ten-year-old Buick. The rear was equipped with air shocks as part of the ride leveling system. During a test-drive after installing all four shocks, the service technician noticed that it seemed to ride much harsher than normal for a Buick. The technician asked the owner to ride along to verify that it was not usual to ride as harsh as it was. Puzzled as to why this occurred, the technician contacted the parts store which then asked their supplier about the issue. It was discovered that the air shocks were not cycled before they were installed. Installing air shocks/struts requires cycling the shock/strut to spread lubricant inside the diaphragm to avoid binding. The installing technician should inflate the air diaphragm through the air fitting until the shock/strut fully extends. The shock can be kept fully extended to make it easier to install. After removing the rear shocks and inflating them as instructed, and reinstalling, the Buick rode normally.

Summary:

- Complaint
- Cause
- Correction-The air shocks were removed and cycled and then inflated before being reinstalled solving the harsh ride concern.

Sample ASE certification-type question

Question:

Two technicians are discussing the proper procedure for bleeding air from a power steering system. Technician A says that the front wheels of the vehicle should be lifted off the ground before bleeding. Technician B says that the steering wheel should be turned left and right during the procedure. Which technician is correct?

- a. Technician A only
- b. Technician B only
- c. Both Technicians A and B
- d. Neither Technician A nor B

Answer/Explanation

The correct answer is c. Both technicians are correct. Technician A is correct because keeping the front wheels off the ground helps prevent any trapped air from dispersing into small bubbles or foam due to the resistance forces created by the weight of the vehicle on the ground. Technician B is correct because the steering wheel must be turned all the way to the left and all the way to the right to allow fluid to flow through the power steering system to allow any trapped air to escape. Answers a, b, and d are not correct because both technicians are correct.

Road Test: Before and After

Many times, technicians will start to work on a vehicle based on the description of the problem by the driver or owner. A typical conversation was overheard where the owner complained that the vehicle handled "funny," especially when turning. The owner wanted a wheel alignment, and the technician and shop owner wanted the business. The vehicle was aligned, but the problem was still present. The real problem was a defective tire. The service technician should have road tested the vehicle before any service work was done to confirm the problem and try to determine its cause. Every technician should test-drive the vehicle after any service work is performed to confirm that the service work was performed correctly and that the customer complaint has been resolved. This is especially true for any service work involving the steering, suspension, or braking systems.

Straight Talk

From the October 26 Wheels section of Dayton Daily News

Reader Asks About Directional Tires

Wheels:

Al wrote by e-mail:

"My son purchased new tires for his Toyota. When he got home, he noticed they were one way directional, which means you cannot cross rotate unless you remove tires from the rim. Is front to rear rotation adequate?"

Halderman:

Yes, rotating them front to rear is actually the most commonly used method and works well. The first rotation is the most important. Try to perform this at about 5,000 to 7,500 miles. The usual tire rotation method is to switch sides of the non-drive wheels and go straight back or rear for the drive wheels. This method is called the "modified X" method. I always remember this saying:

"Drive wheels straight; cross the non-drive wheels".

This means on a front wheel drive vehicle:

- The front wheels are moved to the rear on the same side.
- The rear wheels are crossed and moved forward.

By following this modified X method, every tire will eventually be in every wheel position. Some wheels cannot be rotated such as many high-performance vehicles that not only use directional tires but also different sizes front and rear. In this case, the tires must remain where they are and simply replaced (always in pairs) when they are worn.

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

Trivia question answer: a.

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.

