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Halderman newsletter

August 2016

What's new with Jim?

Welcome to my August newsletter and I hope everyone is getting ready for a new school year. Please consider using Pearson automotive textbooks as I believe they are the best and most up-to-date texts on the market today. See my website www.jameshalderman.com for details as I have many new and updated editions including:
COMPREHENSIVE TEXTS: (Covers all eight ASE/NATEF content areas in three levels of comprehensiveness).

- Automotive Technology -5th (130 chapters, over 1,600 pages)
- Maintenance and Light Repair (70 chapters, over 1,000 pages)
- Introduction to Automotive Service (40 chapters, over 400 pages)

SYSTEMS TEXTS: (Covers one or more ASE/NATEF content area).

In alphabetical order:

- Advanced Automotive Electricity and Electronics (29 Chapters and over 440 pages)
- Advanced Engine Performance Diagnosis-6th (30 chapters and over 446 pages)
- Automatic Transmissions and Transaxles-6th (17 Chapters and over 316 pages)
- Automotive Brake Systems-7th (20 Chapters and over 383 pages)
- Automotive Chassis Systems-6th (35 Chapters and over 734 pages)
- Automotive Electrical and Engine Performance-7th (43 Chapters and over 700 pages)
- Automotive Electricity and Electronics-5th (28 Chapters and over 487 pages)
- Automotive Engine Performance-5th (33 Chapters and over 564 pages)
- Automotive Engines- Theory and Servicing-8th (35 Chapters and over 555 pages)
- Automotive Fuel and Emissions Control Systems-4th (32 Chapters and over 445 pages)
- Automotive Heating and Air Conditioning-7th (15 Chapters and over 275 pages)
- Automotive Steering, Suspension and Alignment-7th (20

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- Chapters and over 456 pages)
- Hybrids and Alternative Fuel Vehicles-4th (20 Chapters and over 340 pages)
- Manual Drivetrains and Axles-7th (17 chapters and over 350 pages)

Please continue to follow me on [LinkedIn](#), [Facebook](#) and [Twitter](#) for up-to-the-minute updates and for the fantastic interaction I receive from many of you.

Sincerely,
Jim

Auto Trivia

The Chevrolet SSR was introduced in 2003 and was equipped with what engine?



- a. 4.3 liter V6
- b. 5.3 liter V8
- c. 5.7 liter V8
- d. 6.0 liter V8

Answer at the bottom of this page!

Sample ASE question

Question:

A defective upper strut mount can cause all of the following except .

- a. Binding
- b. Noise when driving over bumps
- c. Poor steering wheel return after turning a corner
- d. A crooked steering wheel

Answer/explanation

The correct answer is d. Toe is the major reason for a crooked steering wheel. A crooked (not straight) steering wheel cannot be caused by a defective upper strut mount, even though it could cause steering problems. Answer a is not correct because a defective upper strut mount can cause binding. Answer b is not correct because a defective upper strut mount could cause noise while the vehicle is being driven over bumps in the road. Answer c is not correct because a defective upper

strut bearing could have so much friction that the front wheels do not return to the straight-ahead position after turning a corner.

FAQ

What are self-leviling shocks?



A German company, ZF Sachs, supplies a self-leveling shock absorber to several vehicle manufacturers, such as Chrysler for use on the rear of minivans, plus BMW, Saab, and Volvo. The self-leveling shocks are entirely self-contained and do not require the use of height sensors or an external air pump.

The shock looks like a conventional shock absorber but contains the following components:

- Two reservoirs in the outer tube
- An oil reservoir (low-pressure reservoir)
- A high-pressure chamber

Inside the piston rod is the pump chamber containing an inlet and an outlet valve. When a load is placed in the rear of the vehicle, it compresses the suspension and the shock absorber. When the vehicle starts to move, the internal pump is activated by the movement of the body. Extension of the piston rod causes oil to be drawn through the inlet valve into the pump. When the shock compresses, the oil is forced through the outlet valve into the high-pressure chamber. The pressure in the oil reserve decreases as the pressure in the high-pressure chamber increases.

The increasing pressure is applied to the piston rod, which raises the height of the vehicle.

When the vehicle's normal height is reached, no oil is drawn into the chamber. Because the shock is mechanical, the vehicle needs to be moving before the pump starts to work. It requires about 2 miles of driving for the shock to reach the normal ride height. The vehicle also needs to be driven about 2 miles after a load has been removed from the vehicle for it to return to normal ride height.

Tech Tip

Squeaks and rattles

Many squeaks and rattles commonly heard on many older vehicles can be corrected by tightening all bolts and nuts you can see. Raise the hood and tighten all fender bolts. Tighten all radiator support and bumper brackets. Open the doors and tighten all hinge and body bolts.

An even more thorough job can be done by hoisting the vehicle and tightening all under-vehicle fasteners, including inner fender bolts, exhaust hangers, shock mounts, and heat shields. It is amazing how much this quiets the vehicle, especially on older models. It also makes the vehicle feel more solid with far less flex in the body, especially when traveling over railroad crossings or rough roads.

Straight Talk

From the July 30, Wheels section of Dayton Daily News

Reader asks about tires that are flat-spotted

Wheels: Doug. P of Centerville asks, "I have a vehicle that is not used very often but when I do, it shakes as if the tires are square. I know to drive the vehicle about ten miles before it rides normally. What is the most likely cause? I don't want to spend a lot of money on it just for this problem. Thanks."

Halderman: The most likely reason for the harsh and bumpy ride is that the tires have "taken a set" from being parked. This is normal for many types of tires, especially high-performance tires that use an overlay ply over the steel belt. When the vehicle is parked, the tires "flat-spot" where they contact the ground and it

takes a while until the tire becomes round again. If the vehicle is stored for a long period, this flat-spotting can become permanent and ruin the tires which would then require replacement. The least expensive thing to do is nothing. There are several ways to help avoid this issue including:

- Overinflate the tires about 4 PSI higher than the door placard pressure to help reduce the amount of deflection of the tire.
- If stored for several weeks or more, consider using a curved platform where the tires can be kept round.
- Use a jack and safety stands to raise the vehicle off the ground when not being used.

If replacing the tires, check that the material used includes polyester or rayon and try to avoid tires that contain nylon to help reduce this flat-spotting.

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.

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