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Halderman newsletter

February 2017

What's new with Jim?

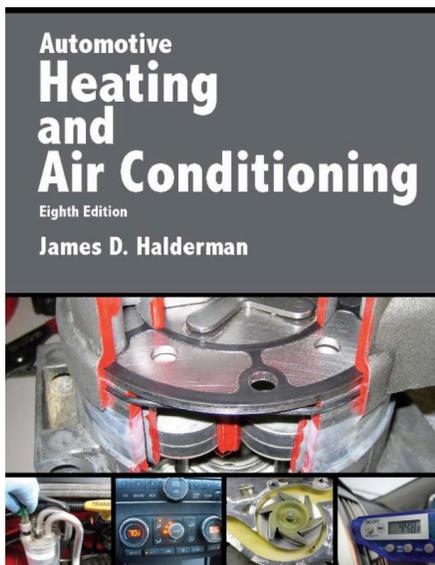
I am happy to announce that the latest edition of Automotive Heating and Air Conditioning -8th (ISBN 0-13-4-60369-9) is available to order for summer and fall classes. Updates to the eighth edition include:

1. New chapter organization and expanded coverage
2. Updated throughout to match the latest ASE/NATEF tasks
3. Expanded content on R-1234yf refrigerant (Chapter
4. Over 50 new full color line drawings and photos make the subject come alive
5. Case studies added to selected chapters that include the "three Cs" (Complaint, Cause and Correction)
6. New chapter on engine coolants (Chapter 7)
7. New chapter on HVAC system inspection procedures (Chapter 13)
8. New content on sealant filters (Chapter 15)
9. All systems and components are described throughout with the following format to make learning complex systems easier:

- Purpose and Function
- Parts and Operation
- Diagnosis and Service

10. All terms used adhere to the SAE J1930 standard

Sincerely,
Jim



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WHERE'S JIM?

Feb. 8-10 Chicago Auto Show media preview days

Auto Trivia

In which year did Chrysler acquire American Motors?

- a. 1985
- b. 1986

- c. 1987
- d. 1988

Answer at the bottom of this page!

FAQ

Which companies build automatic transmissions?

Many larger automobile manufacturers make their own automatic transmissions, including General Motors, Ford, Chrysler, and Honda. However, several companies manufacture automatic transmissions and transaxles that are used in a variety of vehicles. M

These include:

* ZF Friedrichshafen AG. This German company manufactures manual and automatic transmissions and transaxles for many vehicle manufacturers, including Mercedes, BMW, Volvo, VW, Audi, Jaguar, Chrysler, Bentley, and Maserati.

* Aisin AW. This Japanese company makes automatic transmissions for many vehicle manufacturers, including Ford, Toyota, Nissan, Mazda, Mitsubishi, Subaru, Kia, and VW.

* JATCO (Japan Automatic Transmission Company). This is a Japanese manufacturer of automatic transmissions and transaxles for many vehicle manufacturers, including Nissan, Mazda, Infiniti, VW, Mitsubishi, and Suzuki.



Sample ASE question

Question:

An automatic transmission is not shifting correctly. A check of the fluid level indicates that the fluid is full of air bubbles. Technician A says that the fluid level may be too high (overfilled). Technician B says that the fluid level may be too low. Which technician is correct?

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

Answer/Explanation

The correct answer is c. Both technicians are correct. Technician A is correct because if the transmission fluid is overfilled, the rotation of the planetary gears can force air into the fluid. This aerated fluid can foam and cause a lack of proper lubrication and can cause clutches and servos to not function correctly. Technician B is correct because if the fluid level is too low, air will be drawn into the pump along with fluid creating foam or fluid filled with bubbles. Answers a, b, and d are not correct because both technicians are correct.

Tech Tip

Look for PUN or TUN

In GM automatic transmission/transaxles, the part numbers identify the solenoid performance characteristic data which is stored in the TCM. If a solenoid is replaced, not only should the correct

solenoid be used, but its unique performance characteristic must be programmed into the TCM.

These unique part numbers are called:

* PUN-Part unique number

* TUN-Transmission unique number

The PUN or TUN is printed on the solenoid. The vehicle then needs to be connected to a scan tool, which is connected the Internet so that the TCM can be updated with the new PUN/TUN.

Check service information for the exact procedures to follow for the unit being serviced.

Did you know?

Did you know that task sheets are now posted on my website? Visit www.jameshalderman.com and then select the book you are using and there you will see that the task sheets are posted and sorted by chapter. They are available (FREE) in both Word and as a PDF.

Also coming soon to my website will be the new 2017 NATEF correlation charts that correlate the textbook content by page number and the task sheets to the new standards. For more information on the new standards, visit www.natef.org.

Straight Talk

From the January 28, Wheels section of Dayton Daily News

Reader discusses gasoline with a friend

Wheels:

Ron K of Miamisburg writes by e-mail: "I have been discussing gasoline with a friend and he says that name brand gasoline is better and that I should always use premium because it is more highly refined. I say that all gasoline comes from the same tank so buy gas where it is cheapest and use regular, and not premium in most cars. Who is right? Thanks."

Halderman:

You are Ron. Gasoline is "fungible" meaning that if it meets specifications, such as 87 octane regular, then it is interchangeable with any other 87 octane gasoline.

Once the gasoline is made, it is sent to distributors. This is where the additives are added including dyes for each brand of gasoline. So while the gasoline itself is the same, the additives can and do make a difference. Try to use "Top Tier" gasoline. For a list of stations that include an extra amount of engine cleaning additives, visit www.toptiergas.com.

Regarding the use of "premium", compared to "regular", the only difference is the octane rating. Most vehicles are designed to operate on regular. However, some vehicles may "recommend" premium whereas others "require" premium. If the owner's manual recommends premium or midgrade (plus), then regular can be used. However, if premium is required, then only premium should be used to prevent possible engine damage.

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



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.