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What's new with Jim?

I am very pleased that my son, Brad and I were able to give a technical presentation together at the fall California Automotive Teacher's (CAT) conference held at Rio Hondo College on Saturday, October 20. Brad has been a tire development engineer for many years and he was able to address the many questions that instructors have been asking me about tires. Some of the questions addressed in the presentation include:

1. What do the yellow ne red dots mean on the sidewall of the tire?
2. What is the shelf life of tires?
3. What do the tire markings TPC, MO, MOE, or NO mean?
4. What is a "rim protector" tire design?
5. What should the inflation pressure be set to?
6. What is a "void ratio" mean when discussing tire tread design?
7. Why are "3 peak mountain snowflake" (3PMSF) required in some places?
8. What are "noise reducing" tires and how are they different? (Hint: they use acoustic foam)

IN THIS ISSUE

Where's Jim?

Jim does not have any travel plans for November after a very busy fall conference schedule.

Keep up with me at:
www.jameshalderman.com
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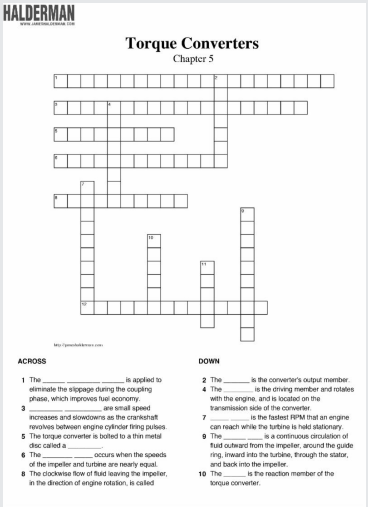
Puzzle of the month

Find this month's puzzle of the month at this link and test your students knowledge on transmissions.



A copy of the Power Point presentation is available for free download on my website.
Visit www.jameshalderman.com and then click on "Downloads" and then select "Conference Power Points" and right click on the presentation to "save target as". Enjoy.

Auto Trivia

What year is this Chevrolet Chevelle?

a. 1964
b. 1965
c. 1966
d. 1967

Answer at the bottom of this page!

FAQ

What Do All the Letters and Numbers Mean in Transmission Designations?

The numbers and letters usually mean the following:
* Number of forward speeds. The number of forward speeds may include four, five, or six such as the GM 4T60-E four-speed unit and the ZF 5HP24 five-speed unit.
* Front-wheel drive or rear-wheel drive.The letter T usually means transverse (front-wheel-drive transaxle) such as the Chrysler 41-TE; the L means longitudinal (rear-wheel-drive transmission) such as the General Motors 6L80; and the R means rear wheel drivesuch as the Ford 5R55E.
* Electronically controlled.The letter E is often used to indicate that the unit is electronically controlled, and M or H is used to designate older mechanically (hydraulically) controlled units. Most automatic transmissions built since the early 1990s are electronically controlled and therefore the E is often included in the designation of newer designs of transmission or transaxles.
* Torque rating. The torque rating is usually designated by a number where the higher the number, the higher the amount of torque load the unit is designed to handle. In a GM 6L80-E, the torque rating is 80.
Always check service information for the exact transmission designation for the vehicle being studied.

Sample ASE certification-type question

Question:
What is the usual method to tighten the retaining bolts for the pan on automatic transmission/transaxles?
a. Start by hand to avoid cross threading
b. Tighten gradually
c. A torque wrench should be used to achieve the final torque
d. All of the above

Answer/Explanation
The correct answer is d. All of the above are correct. Answer a is correct because starting bolts by hand reduces the chances of cross threading, which can damage the transmission case. Answer b is correct because tightening the bolts gradually helps assure that the pan will be evenly tightened and that none of the bolts will be in a bind, which can cause the bolt to be tight, yet not properly clamp the pan to the case. Answer c is correct because a torque wrench should be used not only to achieve the specified torque but also to achieve even tightening of all of the fasteners.

Tech Tip

Test Drive Before and After Every Service

The wise technician test drives any vehicle being serviced, especially one where a routine automatic transmission service is being requested. Sometimes, a vehicle owner will ask that a service be performed hoping that it will fix an issue that has been noticed. To help avoid misunderstandings and to insure good customer relations, test drive the vehicle and let the customer know if any transmission-related issues are discovered before performing a routine transmission service. Then, of course, test drive the vehicle after the service has been performed to verify that everything is normal and operating properly.

Straight Talk

From the October 27, Wheels section of Dayton Daily News

Reader Asks About Automatic Door Locking

Wheels:
Steve M. writes by email:
"I learned to drive back in the 1960s. I was taught to keep my door locked because that would help keep it from popping open in the event of an accident. Is that advice really relevant today, with all the additional strengthening in the doors? If unlocked, at least it might help first responders to get the door open quicker. Regards."
Halderman:
Great question. Today most vehicles are programmed to lock the doors when placed in gear or when driven above about five miles per hour. By locking the doors, the door latch is separated from the door handle. In an event of a crash this would prevent the doors from opening. Here is what happens and why the doors are locked:
1. In an accident (usually from the front), the movement can and will actually cause the door to open on impact.
2. This prevents the proper operation of the seat and curtain airbags.
3. With the doors locked and secured to the rest of the body of the vehicle, you are much more likely to survive a crash.

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

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.