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Halderman newsletter

June 2016

### What's new with Jim?

I hope everyone is enjoying some well-deserved time off from teaching/working and able to find time to be with family and friends. It seems as if once June arrives, I turn around it is already the 4th of July. Then things really get busy for me with national automotive teacher's conferences. But until then, I am going to enjoy the summer weather. I've got my Mustang convertible out now and will enjoy some top down drives this summer.

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

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## Auto Trivia

The first automatic transmission to use the Simpson gear train was the

- A. Ford Cruiseomatic
- B. Chrysler Torqueflite
- C. Chrysler Powerflite
- D. Chevrolet Powerglide

**Answer at the bottom of this page!**

## Sample ASE question

### Question:

A rear-wheel-drive vehicle equipped with an automatic transmission shudders during hard acceleration from a stop. Technician A says that the transmission mounts may be collapsed causing a change in the drive shaft angle. Technician B says that a slipping direct (forward) clutch is a possible cause. 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 a "launch shudder" occurs if the two U-joints are not within about 0.5° of each other, which could be caused by a collapsed transmission mount. Technician B is correct because maximum torque is being

applied to the direct (forward) clutch during rapid acceleration from a start. If the clutch discs are worn, or if the clutch pack piston seal is torn or leaking, the vehicle could shudder during acceleration. Answers a, b, and d are not correct because both technicians are correct.

## Tech Tip

### Air Testing Tricks

Some technicians use an air gun that is modified with a piece of rubber tubing for hard-to-reach locations. An eraser with a hole drilled through the center can be used to seal passages. This makes air testing at the valve body easy.



## FAQ

### What is a clutch-to-clutch type transmission

A clutch-to-clutch transmission or transaxle is a unit that does not use one-way clutches and instead just uses multiple-plate clutches for all clamping functions. A Chrysler 41TE transaxle is an example of a clutch-to-clutch automatic transmission. The primary reason for not using one-way clutches is that the metal particles that are detached from these assemblies are attracted to the magnetic solenoids. These particles can clog the screens and reduce the flow of fluid through the solenoid valves. This leads to many types of transmission or transaxle failures that are prevented by not using steel-on-steel units such as roller clutches or mechanical diodes.



## Straight Talk

From the May 28, Wheels section of Dayton Daily News

### Reader asks about vent position on dash

**Wheels:** Don N. writes by e-mail:

"Are there any 2016 sedans that have just plain air vents that bring in fresh air into the car without treating and regulating the air thru heating or air conditioning systems? We enjoyed the good old days of opening air vent to fresh air at outside temperature without opening the windows".

**Halderman:** Thanks for writing. All vehicles allow fresh air in to the passenger compartment without the air conditioning operating. However, I am not aware of any vehicle that offers a straight path for outside air to flow into the passenger compartment without flowing through the heating, ventilation

and air conditioning (HVAC) system. The mode to allow fresh air only to enter the passenger compartment is often referred to as economy or simply "ECON". The temperature can be controlled using the temperature lever and this would allow some of the air to pass through the heater core on the way to the inside. The position where the air enters the vehicle is also adjustable so it can be directed to the floor, dash or the defroster vents and often in combination of two or all three positions. If air conditioning is wanted for cooling, then a button with a "snowflake" icon or the letters "AC" on it needs to be depressed to cause the A/C compressor to be engaged.



The air entering the cabin enters at the base of the windshield and first travels through a cabin filter where pollen and dirt are removed. The air then flows through the ducts to the inside. Ask a knowledgeable salesperson to explain how this is achieved on the vehicle you are considering purchasing.

*Have an automotive question? Please write to Jim with your questions at [jim@jameshalderman.com](mailto: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.*