



Author & Automotive Expert James D. Halderman



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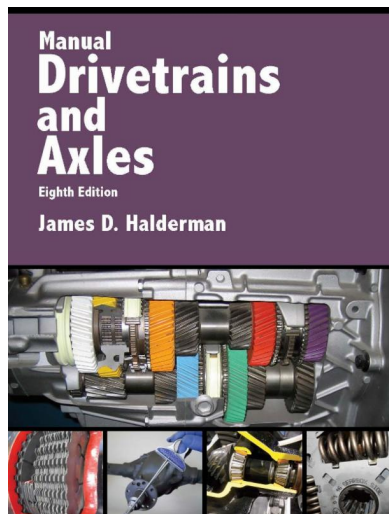
Halderman newsletter

December 2016

What's new with Jim?

I am pleased to announce that the latest edition of Manual Drivetrains and Axles will be available in January. Order ISBN: 0-13-351504-4 Updates to the Eighth Edition include:

- The content has been updated throughout and correlated to the latest NATEF and ASE tasks for Manual Drive Trains and Axles (A3).
- Over 40 new or enhanced full color photos and line drawing have been added to help make the subject come alive.
- New Case Studies have been added to many chapters that include the "Three Cs" (Complaint, Cause and Correction).
- Additional information on spur-type gears is included in Chapter 3.
- New content on pre-filled hydraulic clutch systems added to Chapter 5.
- Chapter 11 has two new Tech Tips and a new Case Study.
- Chapter 14 has a new conventional and global electrical symbol chart added.
- Chapter 17 has a new FAQ and a new Tech Tip.



IN THIS ISSUE

[Auto Trivia](#)

[Did you know?](#)

[Sample ASE](#)

[Tech Tip](#)

[FAQ](#)

[Straight Talk](#)

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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 General Motors Electric car called the EV-1 was produced during which time frame?

- 1996-99
- 2000-04
- 2005-09

d. 1990-95

Answer at the bottom of this page!

Did you know?

The best way to order any book is by the ISBN number. ISBN means International Standard Book Number and numbers indicate the following:

- Publisher
- Title
- Edition
- Type of cover (paper, hardcover, EBook etc.)

Before 2007, there were 10 numbers used and then after 2007, 13 are used due to the vast number of new titles being introduced each year. Eventually, the 10 digit number ISBN will disappear but many titles still use both. Either number can be used when ordering a book, such as the numbers listed for the 8th edition of Manual Drivetrains and Axles.

ISBN 10: 0-13-351504-4

ISBN 13: 978-0-13-351504-6

Visit www.jameshalderman.com and then click on "Jim's Stuff" and then select "favorites". Enjoy.

Sample ASE question

Question:

Which is the least likely to cause a weak spark at the spark plug?

- A partially shorted primary winding in the ignition coil
- A 12.2-volt battery voltage
- A high resistance spark plug wire(s)
- A voltage drop across the ignition switch

The correct answer is b. The least likely cause of a weak spark is a battery voltage of 12.2 volts. Even though a battery voltage is less than normal, it could be enough to allow the ignition coil(s) to become fully saturated and provide the correct spark to the spark plugs. Answer a is not correct because a partially shorted primary winding of the ignition coil could cause a weak spark and the question asks for which is the least likely to cause a weak spark. Answer c is not correct because a spark plug wire with high resistance could cause a weak spark. Answer d is not correct because a voltage drop across the ignition switch would reduce the current flow to the coil which could cause a weak spark.

Tech Tip

Your nose knows

Whenever diagnosing any vehicle try to use all senses including the smell. Some smells and their cause include:

* **Gasoline:** If the exhaust smells like gasoline or unburned fuel, then a fault with the ignition system is a likely cause. Unburned fuel due to lean air-fuel mixture causing a lean misfire is also possible.

* **Sweet smell:** A coolant leak often gives off a sweet smell especially if the leaking coolant flows onto the hot exhaust.

* **Exhaust smell:** Check for an exhaust leak including a possible cracked exhaust manifold, which can be difficult to find because it often does not make noise.



FAQ

What are the various names used for Variable Valve Timing Systems?

- * BMW-VANOS (Variable Nockenwellen Steuerung)
- * Ford-VVT (Variable Valve Timing)
- * GM-DCVCP (Double Continuous Variable Cam Phasing), if used for both intake and exhaust camshafts
- * Honda-VTEC (Variable valve Timing and lift Electronic Control)
- * Hyundai-MPI CVVT (Multiport Injection Continuously Variable Valve Timing)
- * Mazda-S-VT (Sequential Valve Timing)
- * Mitsubishi-MIVECC (Mitsubishi Innovative Valve timing Electronic Control system)
- * Nissan-N-VCTT (Nissan Variable Control Timing)
- * Nissan-VVL (Variable Valve Lift)
- * Porsche-variocam (Variable camshaft timing)
- * Suzuki-VVT (Variable Valve Timing)
- * Subaru-AVCS (Active Valve Control System)
- * Toyota-VVT-i (Variable Valve Timing-intelligent)
- * Toyota-VVTL-i (Variable Valve Timing and Lift- intelligent)
- * Volkswagen-VVT (Variable Valve Timing)
- * Volvo-VVT (Variable Valve Timing)

Straight Talk

From the November 26, Wheels section of Dayton Daily News

Reader asks about octane ratings

Wheels: An e-mail from Bob says, "I've been looking at new cars and some specify that the engines can use 87 octane, whereas some others recommend midgrade (89 octane) or premium (91+). I want to use regular gas (87) in the car I purchase. I'm a confused new car shopper."

Halderman: Good question! Some vehicles, such as my Mustang, "recommend" the use of premium (91+ octane) for "best performance" and to achieve the full rated horsepower (412) that the engine can deliver. However, if regular is used, the performance is reduced and the horsepower rating is reduced to "just" 402 horsepower. When I use regular, I do not notice a drop in power, but I do notice a drop in fuel economy. There is a difference between "recommended" and "required." As long as the owner's manual states that premium is recommended (not required), then regular grade (87 octane) can safely be used. However, if the owner's manual specifies that only premium should be used, then using regular grade gasoline may cause engine damage. Best wishes in selecting a new vehicle and enjoy driving it.



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.