



Author & Automotive Expert James D. Halderman



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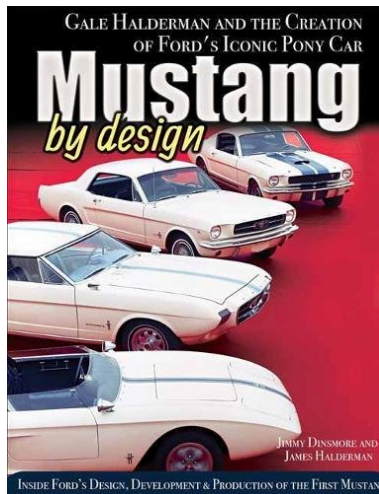


Halderman newsletter

October 2018

What's new with Jim?

I'm thrilled to announce that after two years of planning, interviewing and work, Jimmy Dinsmore and I have finally received author's copies of our new book, *Mustang by Design*, that showcases my cousin Gale Halderman. This means the book is officially now for sale! Gale was like a big brother to me and I loved hearing his stories about his time at Ford, including working in the design studio.



In many ways, Gale inspired my passion for cars too. Gale was hired by Ford right out of college and his first major hit occurred when his sketch was chosen by Lee Iacocca to become the first Ford Mustang. Our hardcover book is now available from Car Tech publishing company as well as other major retailers throughout the country. The title is: *Mustang by Design: Gale Halderman and the Creation of Ford's Iconic Pony Car*. Order a copy [here](#).

- Hardcover: 192 pages
- Publisher: Car Tech Books (September 12, 2018)
- Language: English
- ISBN-10: 1613254075
- ISBN-13: 978-1613254073
- Product Dimensions: 8.5 x 0.5 x 11 inches
- Shipping Weight: 2.1 pounds

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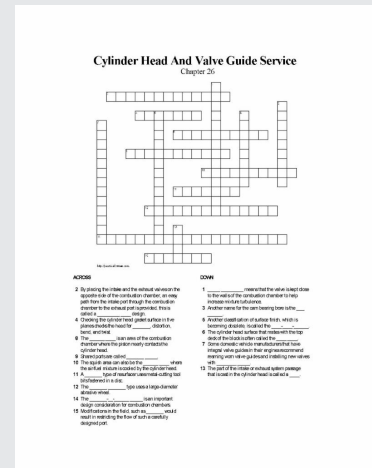
Where's Jim?

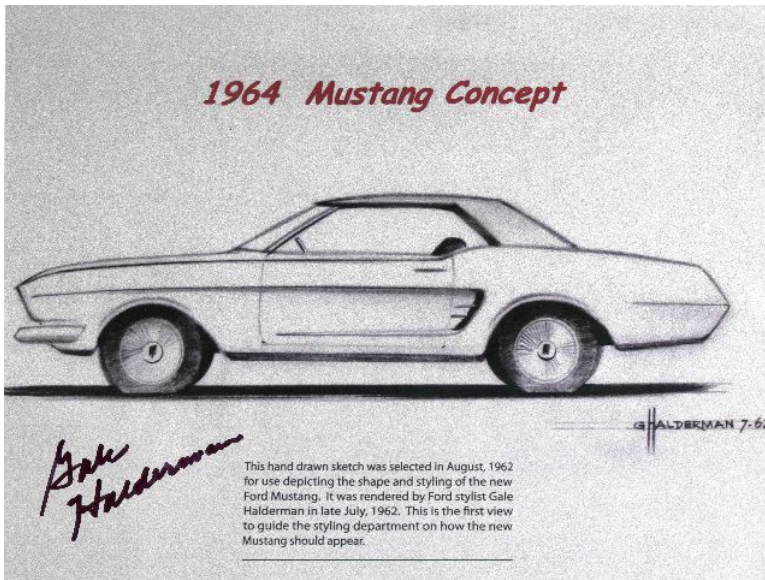
- October 2-3-** Electric-Drive Vehicle Course, Sinclair College, Dayton, Ohio
- October 4-** Presenting at SEMATA conference at Macomb College, Warren, MI
- October 20-** Presenting at the California Automotive Teachers (CAT) conference

Keep up with me at:
www.jameshalderman.com
Email Jim
Facebook

Puzzle of the month

Find this month's puzzle of the month at this [link](#) and test your students knowledge on engine repair





Auto Trivia

These taillights belong to what vehicle?



- a. Pontiac Grand AM
- b. Mercury Capri
- c. Chevrolet Corvair
- d. Chrysler 300

Answer at the bottom of this page!

What is the Atkinson Cycle?

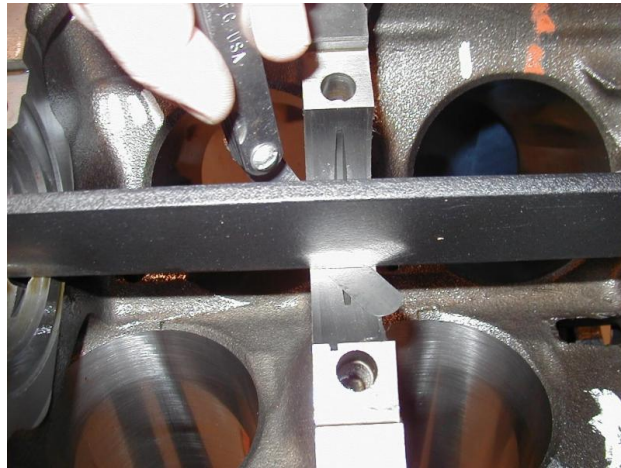
In 1882, James Atkinson, a British engineer, invented an engine that achieved a higher efficiency than the Otto cycle but produced lower power at low engine speeds. The Atkinson cycle engine was produced in limited numbers until 1890, when sales dropped, and the company that manufactured the engines finally went out of business in 1893. However, the one key feature of the Atkinson cycle that remains in use today is that the intake valve is held open longer than normal to allow a reverse flow into the intake manifold. This reduces the effective compression ratio and engine displacement and allows the expansion to exceed the compression ratio while retaining a normal compression pressure. This is desirable for good fuel economy because the compression ratio in a spark ignition engine is limited by the octane rating of the fuel used, while a high expansion delivers a longer power stroke and reduces the heat wasted in the exhaust. This increases the efficiency of the engine because more work is being achieved. The Atkinson cycle engine design is commonly used in hybrid electric vehicles.

Sample ASE certification-type question

Question:

A 0.010 inch feeler gauge is able to slide between the feeler gauge and the main bearing bore (saddle bore) as shown. Technician A says that the block should be replaced. Technician B says that oversize main bearings should be used. 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 d. Neither technician is correct. Technician A is not correct because the block can be restored to useful service if it is align bored or honed. Technician B is not correct because oversize bearings will not restore the alignment of the main bearing bores. Answers a, b, and c are not correct because neither technician is correct.

Tech Tip

Your Nose Knows

Whenever diagnosing any vehicle try to use all senses including 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.

Straight Talk

From the September 29, Wheels section of Dayton Daily News

Reader Asks About Start/Stop Technology

Wheels:

Al F. write by email:

"I am thinking of buying a new car but I am skeptical of stop- start technology. Can it be turned off?"

Halderman:

Sometimes. Some vehicles equipped with a stop-start system can be turned off using a button on the dash or center stack. Stop-start systems are designed to increase fuel economy and reduce exhaust emissions. Fuel economy and the reduction of CO2 emissions are estimated to be 5 to 10 percent, depending on the vehicle and how it is being operated. With stop-start mechanism, the engine is stopped when the vehicle is stopped at traffic signals or in stop and go traffic conditions to reduce the fuel consumption. Therefore, whether or not the feature can be turned off depends on if the systems is needed to meet the mandated fuel economy and/or emission standards. If it can meet the standards without being actuated, it can be turned off. However, the button usually has to be pushed every time the vehicle is started as it often defaults to on.



Various vehicle manufacturers refer to stop-start systems using different terms including:

- Auto Stop
- Stop-Start
- Idle-Stop
- Smart Stop
- Intelligent Stop and Go
- Auto Start/Stop
- Engine Stop-Start (ESS)
- Start-Stop

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.