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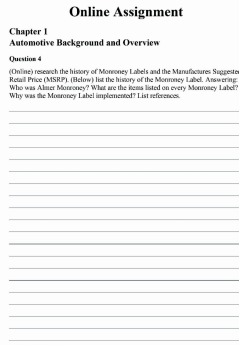
Halderman newsletter

April 2020

What's new with Jim?

During these trying times, my team has reached out to help automotive instructors to offer to their student's online assignments and technical information. Effective immediately I am offering the following resources:

- **FREE access to my website** (www.jameshalderman.com) for 60 days to automotive instructors. Glen Plants, a member of my team, can setup the free site. Please email him at glen@jameshalderman.com with your name and school information to receive the free access information.
- A full year (365 days from the time you sign up) for just \$79. Follow the link on site if paying with a credit card. If you want to use a purchase order and need a quote or a W9 form, please email Glen Plants at glen@jameshalderman.com and ask him to send you what you need.
- For three (3) or more instructors from the same school, we offer a 20% discount.



HALDERMAN

The resources on the website are all sorted by content area such as disc brakes, making it easy to use and download to the learning Management System (LMS):

- Power Points
- Task sheets
- Puzzles (using the key terms)
- Animations - Over 700 in movie mode making it easy to download and view
- Videos-over 2.200 all sorted by content area (chapter)

Coming soon:

- Online assignments, five per chapter (680 total) for the big book's 136 chapters. In PDF format so they can be filled out electronically and emailed back to the instructor.

IN THIS ISSUE

- Auto Trivia
- FAQ
- Sample ASE
- Tech Tip
- Straight Talk

Where's Jim?

Due to the Coronavirus, all events have been canceled and I have no travel plans in April.

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 cylinder heads.

Cylinder Head And Valve Guide Service
Chapter 26

ACROSS

- By placing the intake and the exhaust valves on the opposite side of the combustion chamber, an easy path for the intake port through the combustion chamber to the exhaust port is provided. This is called a _____ design.
- Checking the cylinder head gasket surface in five places is done by hand for _____, distortion, level, and heat.
- The _____ main axis of the combustion chamber opens the piston nearly contacts the cylinder head.
- Shank parts are called _____.
- The right side can also be the _____ when the air/fuel mixture is sucked by the cylinder head.
- A _____ type of head can be used for fuel that is contained in a disc.
- The _____ type uses a larger diameter shank valve.
- The _____ is an important design consideration for combustion chambers.
- Distortions in the field, such as _____, could result in restricting the flow of such a carefully designed part.

DOWN

- _____ means that the valve is held down to the walls of the combustion chamber to help increase intake volume.
- Another name for the cam bearing bore is the _____.
- Another designation of surface finish, which is known as _____, is called the _____.
- The cylinder head surface that mates with the top angle of the block is often called the _____.
- Some domestic vehicle manufacturers that have integral valve guides have their engine wear and tear wear on valve guides and making new valves will _____.
- The part of the intake or exhaust system passage that is cast in the cylinder head is called a _____.

- Super Power Points- Starting with the big book (Automotive Technology-6th), the Power Points will include animations (over 700) and videos (over 2,200) making these presentations a total learning experience for the students.

Auto Trivia



What year is this Chevrolet truck (pictured)?

- 1949
- 1950
- 1951
- 1952

Answer at the bottom of this page!

FAQ

What is torque paint?

Whenever a major fastener is tightened to the proper torque at the assembly plant, a dab of paint is applied to the head of the fastener to indicate that it was properly torqued. This is part of the quality control procedure used to help ensure that all fasteners are properly tightened to factory specification.



Sample ASE certification-type question

Question:

Valve-to-valve guide is measured using a _____.

- Micrometer
- Feeler gauge
- Dial indicator
- Plastigage

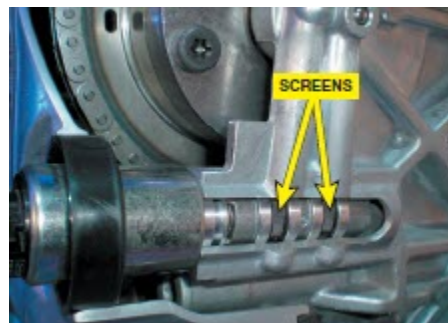
Answer/Explanation

The correct answer is a. The valve-to-guide clearance between is measured using a micrometer to measure the diameter of the valve stem and to measure the inside diameter of the valve guide that is determined using a small ball gauge. The difference between these two is the valve-to-guide clearance. Answers b, c, and d are not correct because they cannot be used to measure the clearance between the valve stem and the valve guide.

Tech Tip

Check the Screen on the Control Valve If There Are Problems

If a NOx emission failure at a state inspection occurs or a diagnostic trouble code is set related to the cam timing, remove the control valve and check for a clogged oil screen. A lack of regular oil changes can cause the screen to become clogged, thereby preventing proper operation. A rough idle is a common complaint because the spring may not be able to return the camshaft to the idle position after a long highway trip.



Straight Talk

From the March 28 Wheels section of Dayton Daily News

Reader Asks Why the Type of Oil is Important**Wheels:**

Gary writes by email:

"I own a 2012 VW Jetta and I was told by the shop that my car takes a special oil. The special oil was expensive too because I was told that an oil change could cost more than \$100. What difference does the oil make? All the oil does is trap the carbon that is scrapped off the cylinder walls by the piston rings and keep the carbon in the oil until it is drained. I don't want to have to pay for expensive oil if that is all the oil does. My question is, why does my VW require a special and expensive oil?"

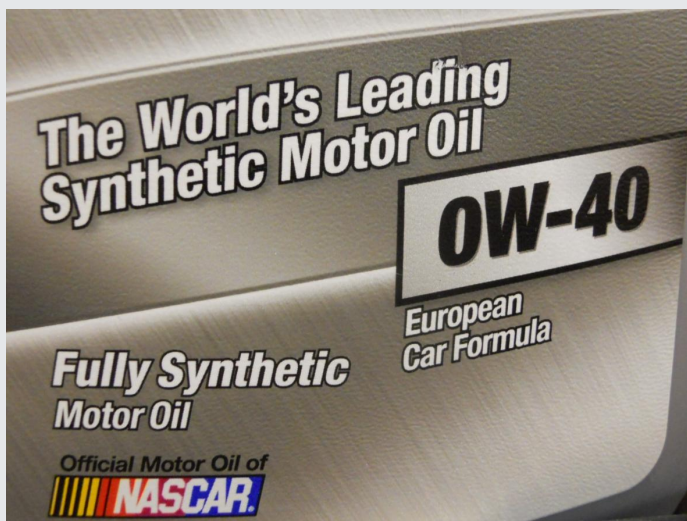
Halderman:

Engine oil does a lot more than simply trapping carbon in an engine. Engine oil has a major effect on the proper operation and life of any engine. Engine oil provides the following functions in every engine.

- Lubricates moving parts
- Helps cool engine parts
- Helps seal piston rings
- Helps to neutralize acids created by the by-products of combustion
- Reduces friction in the engine
- Helps to prevent rust and corrosion

As a result of these many factors, the specified engine oil must be used and replaced at the specified mileage or time intervals.

The oil specified for use in a 2.5-liter Jetta four cylinder is 502.00. Do not use any other oil except oil that meets this specification to help avoid excessive engine wear, such as to the high-pressure fuel



pump that rides against the camshaft. The three facts that are important to know when changing oil include:

1. Use the recommended SAE viscosity (thickness) for the temperature range that is anticipated before the next oil change (such as SAE 0W-40 as in the case of the VW Jetta).
2. Use the quality rating as recommended by the engine or vehicle manufacturer, such as the VW 502.00 in this case.
3. Use the recommended oil change interval (time or mileage) or as indicated by the oil life monitor (OLM).

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

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.