

# Navigating the Modern Automotive Technology, c2026, eBook in an LMS

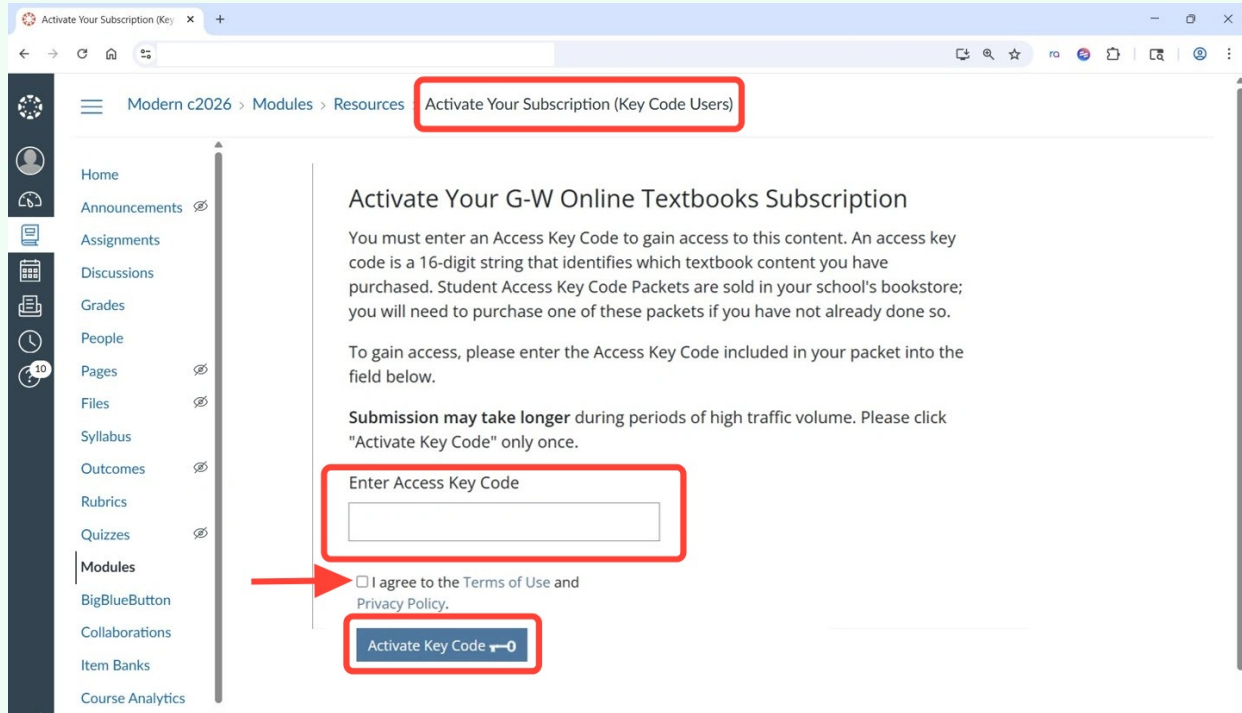


G-W content works similarly in all LMS's but in this Onboarding Video, we will demonstrate these steps in Canvas.

A screenshot of a Canvas Learning Management System (LMS) interface. The left sidebar contains a navigation menu with icons and labels for Home, Announcements, Assignments, Discussions, Grades, People, Pages, Files, Syllabus, Outcomes, Rubrics, Quizzes, Modules, BigBlueButton, Collaborations, Item Banks, Course Analytics, and G-W Online ITI 1.3. The main content area is titled 'Modern c2026 &gt; Modules'. At the top right of this area are buttons for 'Collapse All', 'View Progress', 'Publish All' (with a green checkmark and a dropdown arrow), and '+ Module'. Below these buttons is a table of resources. The table has a header row with a dropdown arrow, a checkmark, a plus sign, and a vertical ellipsis. The table lists several resources, each with a link icon, a title, and a status icon (a circle with a checkmark or a circle with a slash). The resources listed are: 'Activate Your Subscription (Key Code Users)', 'Online Instructor Resources', 'G-W Assessment', 'Modern Automotive Technology Image Library', 'Activate Your Subscription', 'Modern Automotive Technology eBook', 'Modern Automotive Technology Online Textbook', and 'Automotive Virtual Toolbox'. The 'Activate Your Subscription', 'Modern Automotive Technology eBook', 'Modern Automotive Technology Online Textbook', and 'Automotive Virtual Toolbox' rows have a green checkmark in the status column, while the others have a circle with a slash.

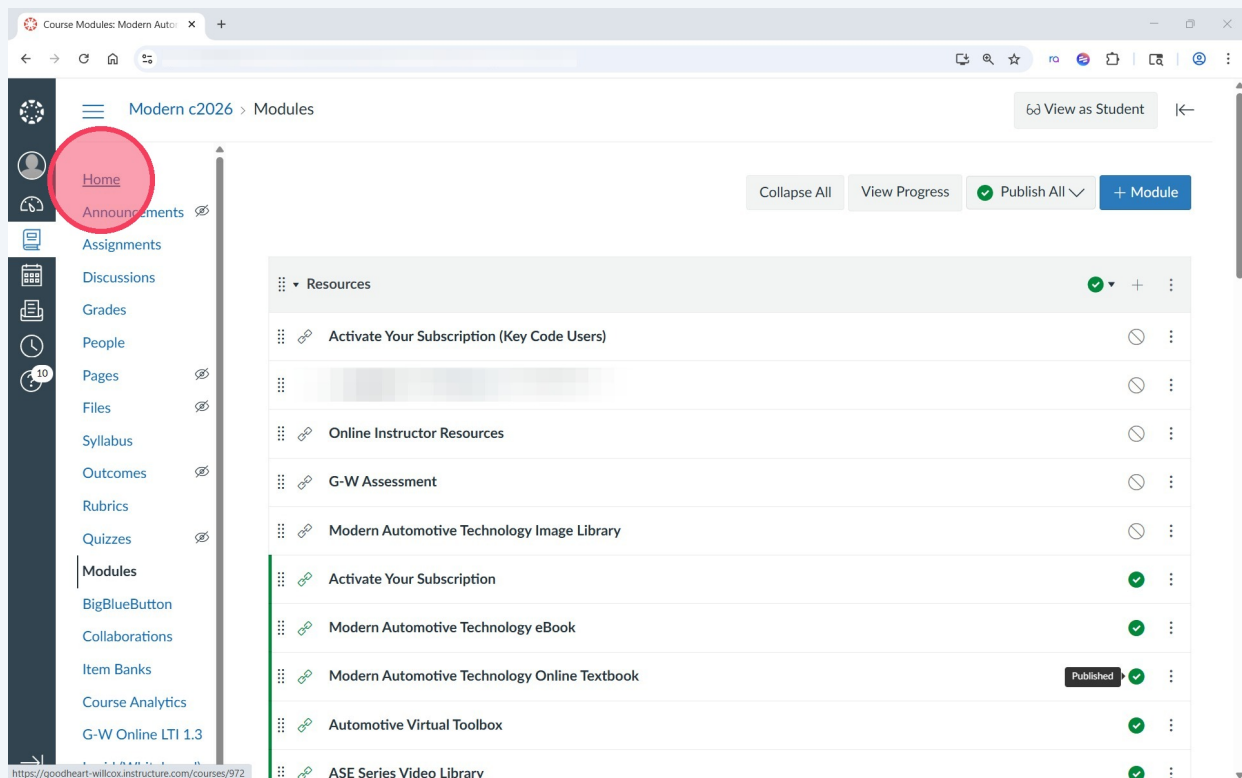


**Please Note:** Instructors must activate their subscription in their LMS before accessing G-W content in their course. Visit G-W Support for those steps. <https://support.g-w.com/home/>



1

After logging in to Canvas and going to your Automotive course, you will find G-W content either on the Home page of the course



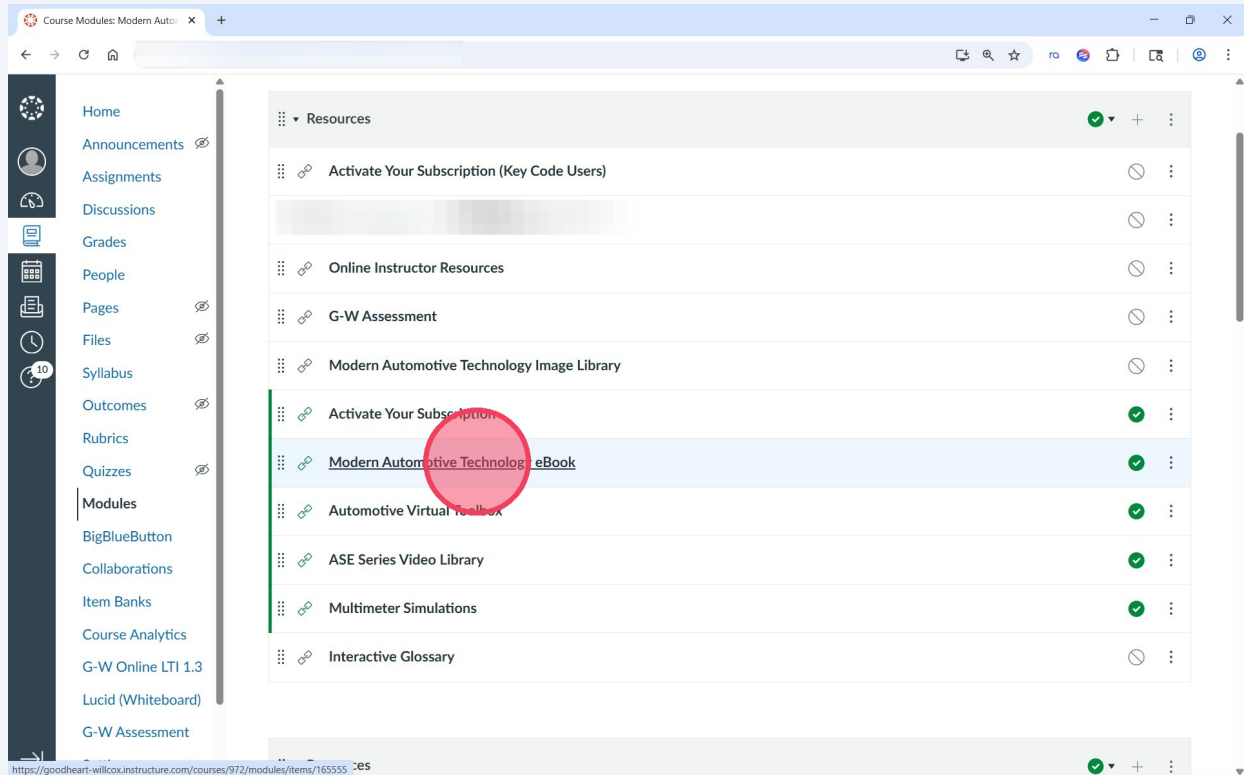
2

or in the Modules section of the course depending on how you or the LMS Administrator has set up each course shell.

The screenshot shows a web browser window displaying the Blackboard LMS interface for a course titled 'Modern Automotive Technology'. The browser's address bar shows the URL 'https://goodheart-willcox.instructure.com/courses/972/modules'. The course page has a top navigation bar with 'Modern c2026 > Modules' and a 'View as Student' button. A left-hand sidebar contains a list of course tools: Home, Announcements, Assignments, Discussions, Grades, People, Pages, Files, Syllabus, Outcomes, Rubrics, Quizzes, Modules (highlighted with a red circle), BigBlueButton, Collaborations, Item Banks, Course Analytics, and G-W Online LTI 1.3. The main content area is titled 'Resources' and contains a list of items: 'Activate Your Subscription (Key Code Users)', 'Online Instructor Resources', 'G-W Assessment', 'Modern Automotive Technology Image Library', 'Activate Your Subscription', 'Modern Automotive Technology eBook', and 'Modern Automotive Technology Online Textbook'. Each item has a link icon and a three-dot menu icon. On the right side, there is a 'Course Status' section with buttons for 'Import Existing Content', 'View Course Stream', 'New Announcement', 'Course Analytics', and 'View Course Notifications'. Below this is a 'Coming Up' section with a 'View Calendar' link and the text 'Nothing for the next week'. At the bottom of the page, there is a URL bar showing 'https://goodheart-willcox.instructure.com/courses/972/modules'.

3

Select the *Modern Automotive Technology* eBook link to view the eBook.



4

Select the **Read this eBook** button to view the text in the RedShelf eReader platform.



MODERN AUTOMOTIVE TECHNOLOGY 11E, eBook

Author: James E. Duffy and Brian LaCroix

**Modern Automotive Technology** is a comprehensive solution that will take your students through the latest in automotive technology. Correlated to all three levels of the latest ASE Education Foundation Task Lists (MLR, AST, and ASEP), it details the construction, operation, diagnosis, service, and repair of late-model automobile systems. Updated by new author Brian LaCroix, this edition features new pedagogy and hundreds of illustrations reflecting the latest advancements in automotive system technology and service. New chapters include Advanced Driver Assistance Systems (ADAS); Automotive Oils, Coolants, Lubricants, and Fluids; Cleaning; Detailing; Controller Area Network (CAN) Systems; and EPA 609 Certification.

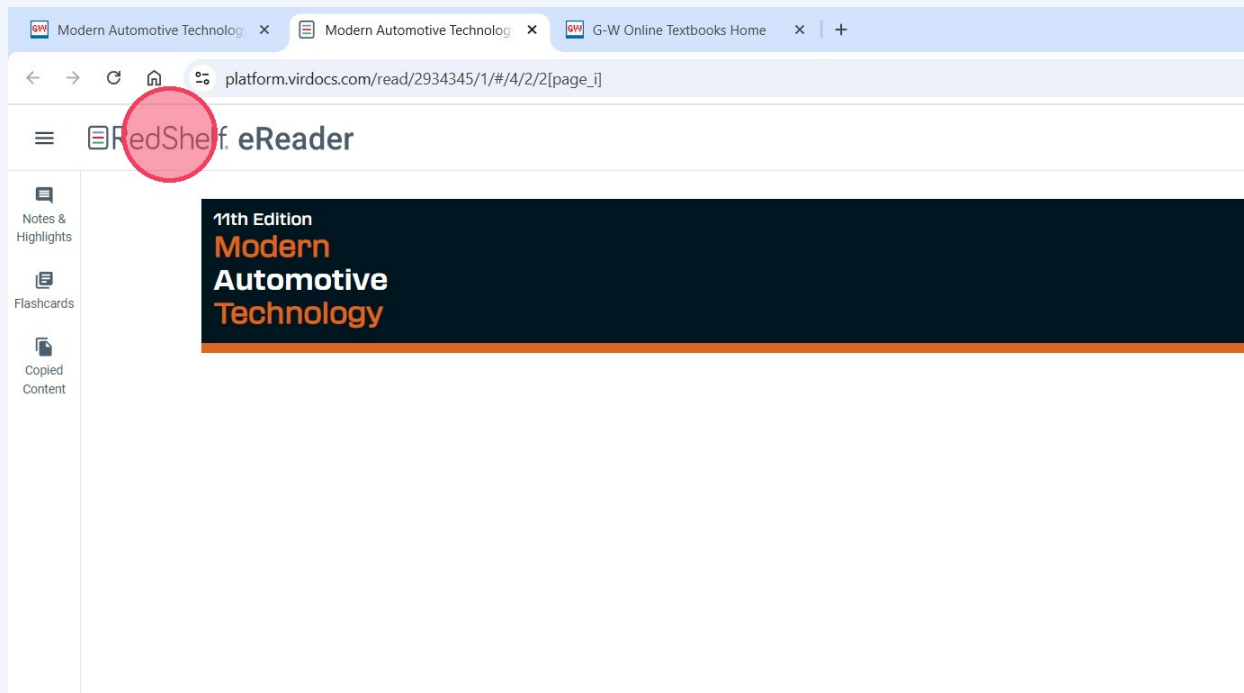
**Read this eBook**

This reflowable eBook allows you to take notes and highlight text to customize your learning experience.

If you are having trouble loading your eBook, try disabling ad blockers and pop-up blockers. For more assistance, visit the [How-To Guides on the G-W Support Center](#).

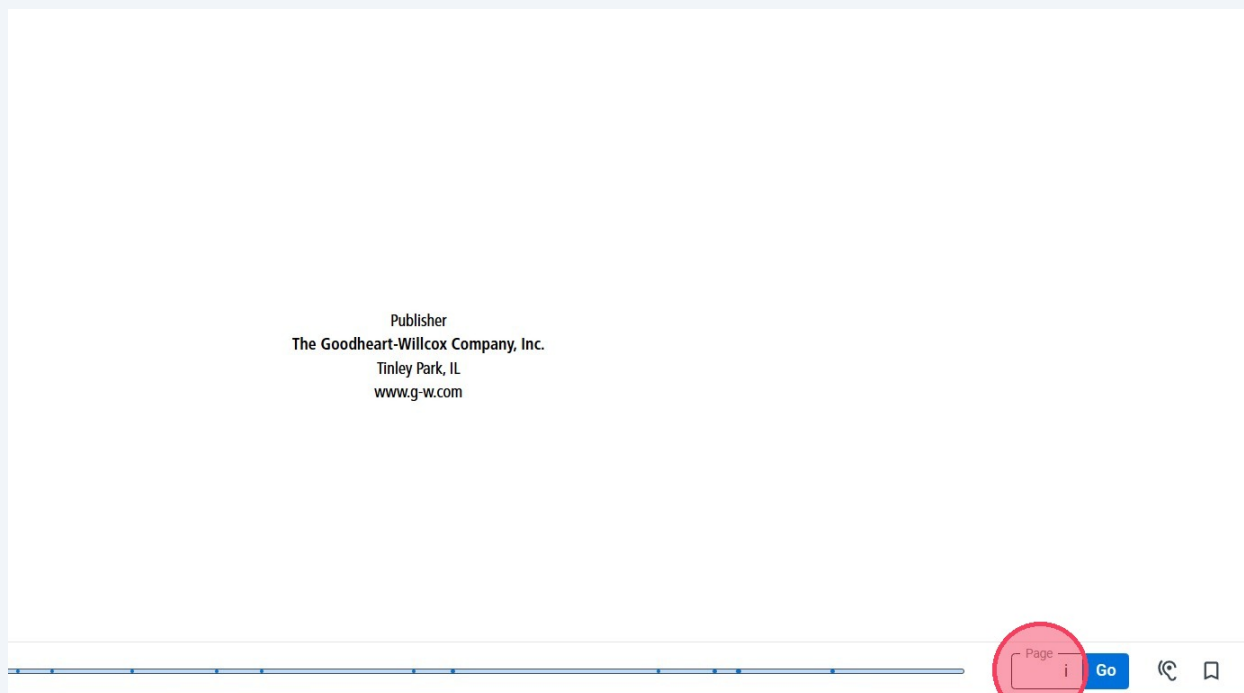
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The *RedShelf eReader* platform has a number of features to enhance the learning experience.



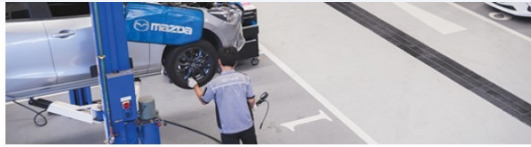
6

You may enter a specific page number to link to that page in the book.



7

On the bottom left of your screen, select the arrow forward to jump to the next section of the eBook.



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**Figure 2-1.** A well-maintained automotive shop can be an enjoyable place to work. Always do your part to keep the shop clean and well organized. Shop layouts vary, but majority of shop space.

### Parts Department

Service departments at vehicle dealerships commonly have an adjoining parts department. Parts department employees often handle two counters: one for technicians while the other is a sales-only counter for walk-in customers, owners servicing their own vehicles, or sales to other businesses. The entire department is responsible to organize, store, manage, and retrieve the parts required to complete vehicle service and repairs, including handling common over-the-counter sales. The parts department also maintains common manufacturer parts in stock to ensure fast repairs on their manufacturer's models.

### Vehicle Traffic Lanes

Most shops have designated traffic lanes for vehicles to be driven in and out of the shop through centralized garage doors. It is important to keep these lanes clear of obstacles to avoid accidents and not disrupt the overall productivity of the shop.

### Walking Lanes

Automotive shops also have designated walking lanes for technicians, service writers, or other employees to travel that are clear of vehicle traffic and indicated with painted or taped lines on the shop floor and provide routes from the service bays to the service counter, parts department, toolroom, classroom, and other areas.

### Repair Area

The **repair area** includes any location in an automotive shop where service and repair operations are performed, such as the service bay, vehicle lift, and other areas. The repair area is also categorized as part of the repair area. It typically includes every area except the classroom, locker room, restroom, and toolroom.

Next



Service Bay

8

You may annotate your eBook by highlighting a specific portion of text and...

Notes & Highlights

Flashcards

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## CHAPTER 1 Review and Assessment

### SUMMARY

- An automotive part, or component, can be removed from a vehicle but not disassembled. An automotive assembly is a set of fitted parts, which a technician can disassemble and reassemble during service, that is designed to complete a specific task on a vehicle. Automotive systems are groups of related components and assemblies that work together to perform a specific function. (1.1)
- A vehicle's paneled body structure provides safety to the occupant(s) and encloses the vehicle. A strong metal frame provides a mounting place for all vehicle's chassis and drive train components, as well as for the body structure. Unibody construction is the most common type of passenger vehicle construction. (1.2)
- General specifications for vehicles include fuel efficiency, curb weight, gross vehicle weight rating, weight distribution, wheelbase, track width, and wheel length, width, and height. Vehicles are categorized as full-size, midsize, compact, and minicompact based on their size. Sedans, convertibles, hatchbacks, wagons, pickup trucks, vans, sport utility vehicles, and crossover utility vehicles are some of the vehicle body types available. (1.2)
- Automotive engines are multicylinder engines that use the four-stroke cycle to provide dependable, efficient power for vehicle propulsion. The fuel system provides the correct mixture of air and fuel for efficient and complete engine combustion. The cooling system maintains a constant engine operating temperature for improved combustion efficiency. The lubrication system reduces friction between moving parts inside the engine and carries heat away from the engine. The exhaust system routes hot exhaust gases out of the vehicle and quiets engine noise. Emission control systems reduce air pollution produced by the vehicle's engine and fuel system. (1.3)
- A vehicle's computer system uses electronic devices to monitor, control, and operate various automotive assemblies and systems. The three major components of vehicle computer systems are sensors, electronic control modules, and actuators. (1.4)
- Igniting the air-fuel mixture in a gasoline engine requires a correctly timed spark produced by components of the vehicle's ignition system. The starter



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Flashcards

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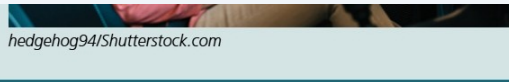
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- Suspension, steering, and brake systems support and control vehicle handling, maneuvering, and deceleration. (1.7)

10

You may also select a section of text to which you'd like to add a note and save for a later date.

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## CHAPTER 1 Review and Assessment

### SUMMARY

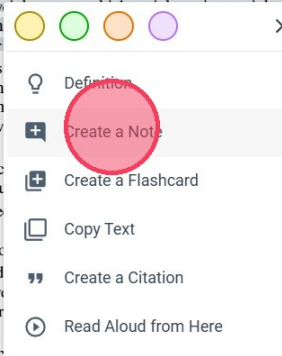
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## 11 Right click on the selected text and choose **Create a Note**

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## 12 select a specific color, *Add a Note*, and select **Save**.

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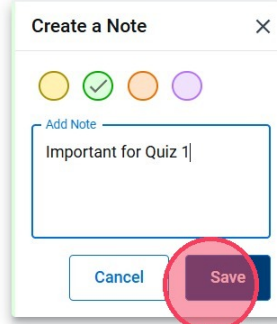
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13

Users may have the text read to them by selecting the **Text-to-Speech** icon on the bottom right of the screen.

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Important for Quiz 1

Text-to-Speech Controls

Page 20 Go

14

Notice the "Text-to-Speech" features on the bottom of the screen including the *Play* button, *Volume*, and more.

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15 Select the **Bookmark** icon to tag a specific page for later reference.

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Important for Quiz 1



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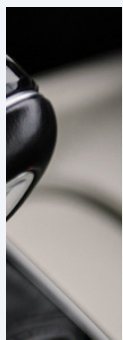
16

Select the **Notes & Highlights** feature to view all the highlighted text and notes created throughout the eBook.

The screenshot shows the RedShelf eReader interface. On the left, a sidebar titled 'Notes & Highlights' is open, displaying a list of notes from 'Section 1 Introduction to Automotive Technology and Foundational Workplace Skills (10)'. The notes are organized by page (Page 4) and timestamp (4:33 PM on 11/13/25). The first note states: 'The term automobile is derived from the Greek word autos, which means self, and the French word mobile, which means moving.' The second note states: 'You are beginning your study of the design, construction, service, maintenance, and repair of modern passenger vehicles. This chapter provides a quick look at...'. On the right, a technical diagram of a hybrid drive train is shown, labeled 'Internal combustion engine' and 'Motor-generator/transaxle assembly'. Below the diagram, the text reads: 'Figure 1-22. A basic hybrid drive train contains an internal combustion engine, a motor-generator, a transaxle, an HV battery, and an HV power control module. If the HV battery is fully charged, the vehicle will drive in all-electric mode. When the battery becomes discharged, the engine starts up to operate the motor-generator, which recharges the HV battery.' The 'Description' section follows, explaining the operation of the hybrid vehicle in all-electric mode and the role of the internal combustion engine in recharging the HV battery. The interface also includes a 'Flashcards' section and a 'Copied Content' section.

17

To turn off the **Text-to-Speech** feature, select the icon once again.



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ventional automatic transmission and describe their functions.  
of the torque converter in an automatic transmission.  
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n of automatic transmission clutches and bands.

487

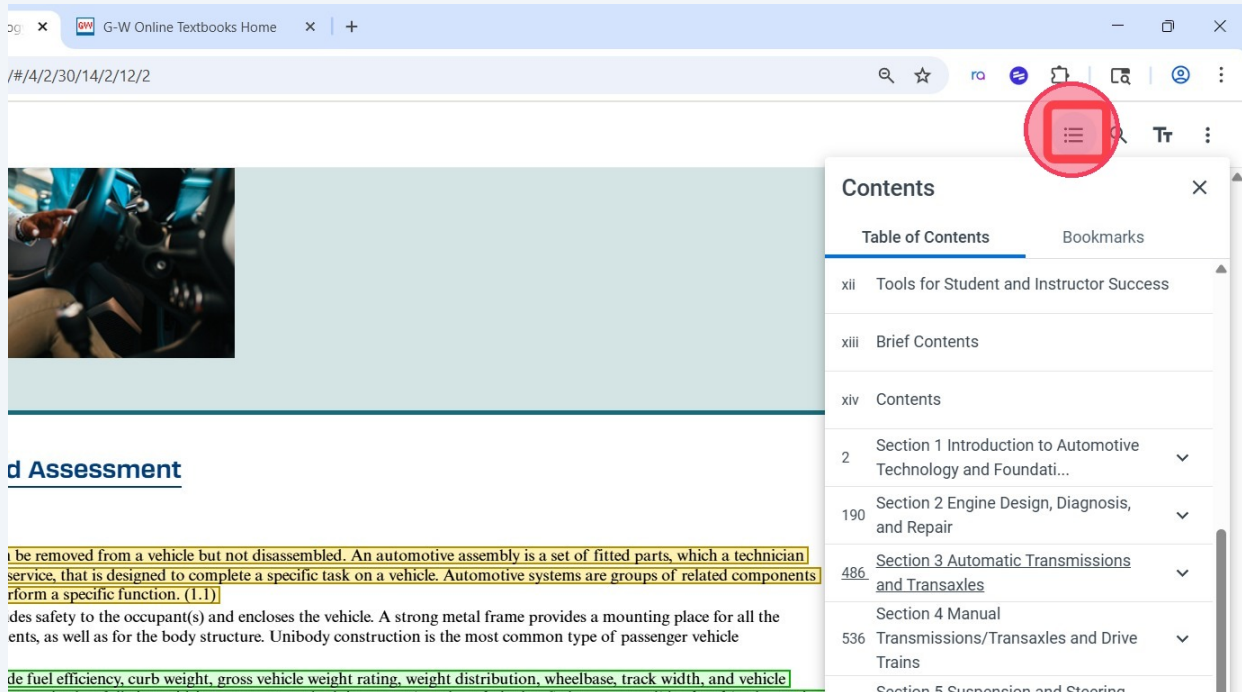
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The screenshot shows the RedShelf eReader interface with the 'Text-to-Speech Controls' bar at the bottom. The bar includes a play button, a volume icon, a settings gear, and a 'Text-to-Speech Controls' button. The page number '487' is displayed, along with a 'Go' button and a red circular icon with a white 'X' inside.



18

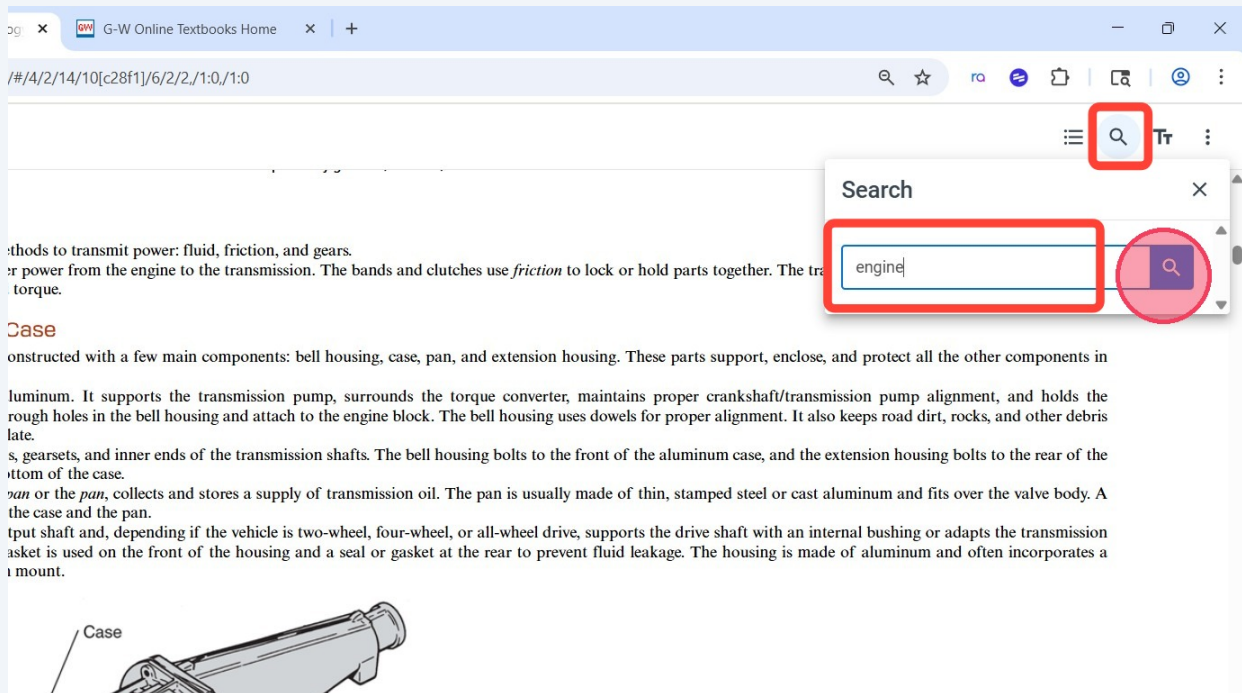
Select the *bullet point* icon to view the **Table of Contents** and select a chapter or unit to link directly to that page in the book.



The screenshot shows a web browser window with the address bar displaying a URL. The page content includes a section titled "d Assessment" and a paragraph of text. A sidebar titled "Contents" is open on the right, showing a list of chapters and sections. A red circle highlights the "bullet point" icon in the top right corner of the page, which is used to open the "Contents" sidebar.

19

Users may conduct a page or keyword search throughout the book. Select the **Search** icon, enter a keyword search and select *Go* or *Enter*.



The screenshot shows a web browser window with the address bar displaying a URL. The page content includes a section titled "Case" and a paragraph of text. A sidebar titled "Search" is open on the right, showing a search bar with the text "engine" and a magnifying glass icon. A red circle highlights the "Search" icon in the top right corner of the page, which is used to open the "Search" sidebar.




## 20 Scroll down to view the search results

Methods to transmit power: fluid, friction, and gears. Friction is used to transfer power from the engine to the transmission. The bands and clutches use *friction* to lock or hold parts together. The torque converter uses *friction* to transfer torque.

**Case**

Constructed with a few main components: bell housing, case, pan, and extension housing. These parts support, enclose, and protect the internal components of the transmission. The case is made of aluminum. It supports the transmission pump, surrounds the torque converter, maintains proper crankshaft/transmission alignment, and provides mounting points for the input and output shafts. The bell housing uses dowels for proper alignment. It also provides mounting points for the input and output shafts. The pan or the *pan*, collects and stores a supply of transmission oil. The pan is usually made of thin, stamped steel or cast iron. The input shaft and, depending if the vehicle is two-wheel, four-wheel, or all-wheel drive, supports the drive shaft with an input shaft seal. A gasket is used on the front of the housing and a seal or gasket at the rear to prevent fluid leakage. The housing is mounted to the engine block.



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About the Authors

Chevrolet CRC Industries, Inc. Cummins **Engine** Co., Inc. Cy-lent Timing Gears

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Senus Auto Volkswagen Volvo Waukesha **Engine** Div., Dresser Industries, Inc. ZF

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the basics of different automotive **engine** oils, coolants, lubricants, and chemicals

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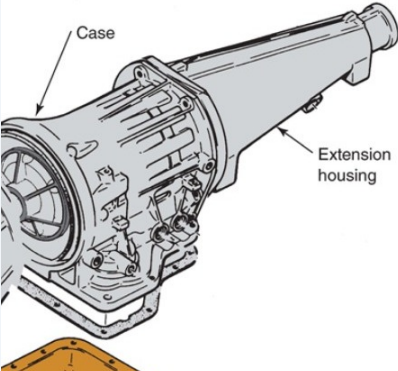
16 Engine Timing Components 17 **Engine** Size and Performance Measurements 18

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torque.

**Case**

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must always replace a manufacturer-developed **engine** oil with the same one

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It often has a smaller **engine** and gets better fuel economy

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**substitute to avoid damaging the engine and its systems or experiencing**

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type of oil. Start the **engine** and make sure the oil

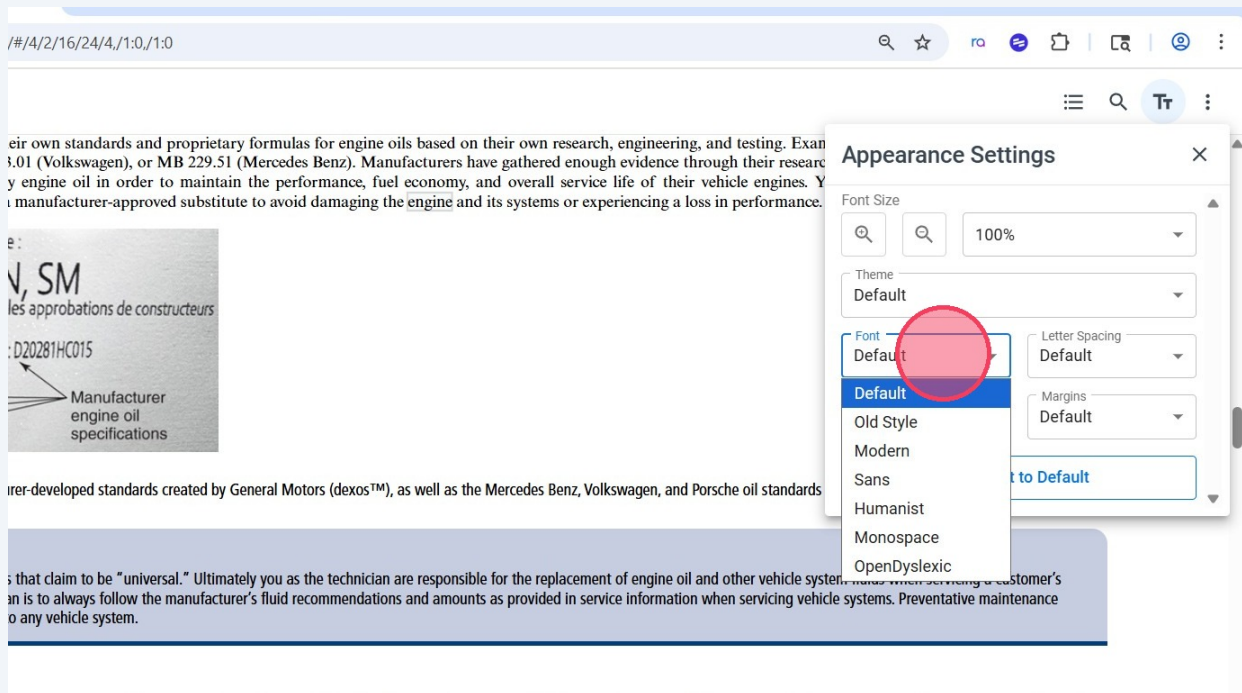
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system mid-engine drive train multicylinder **engine** part rear-wheel drive (RWD) safety

Section 1 Introduction to Automotive Technology and Foundational Workplace Skills

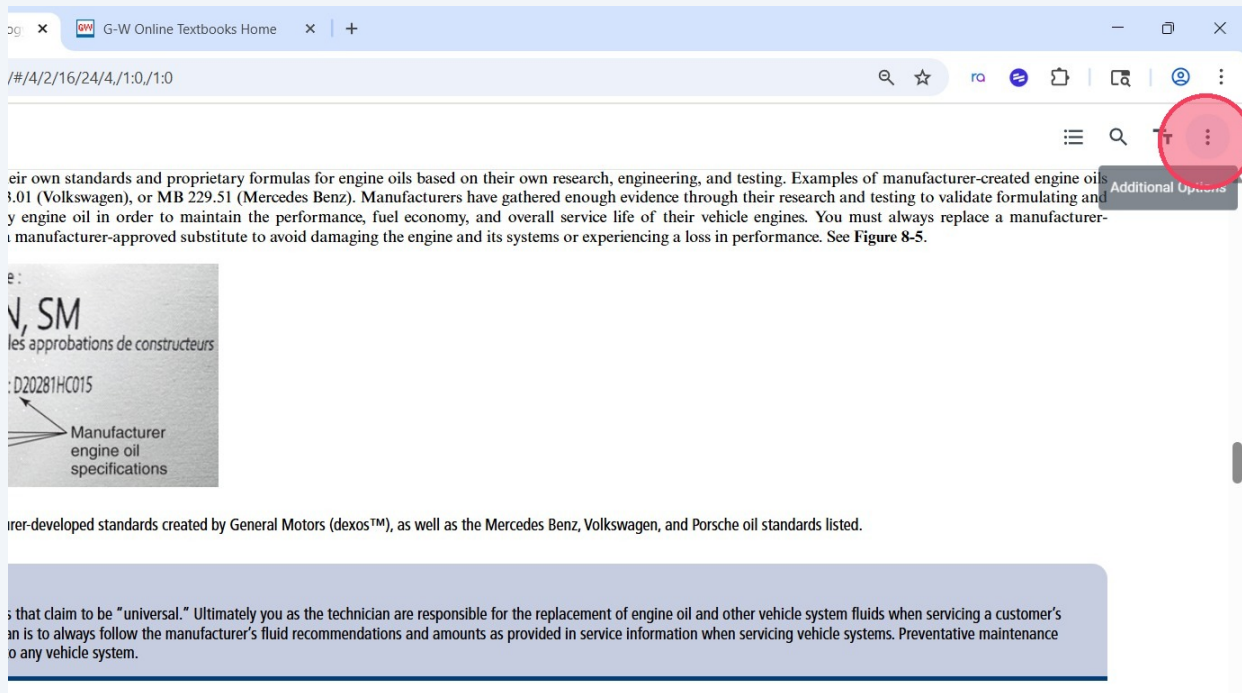
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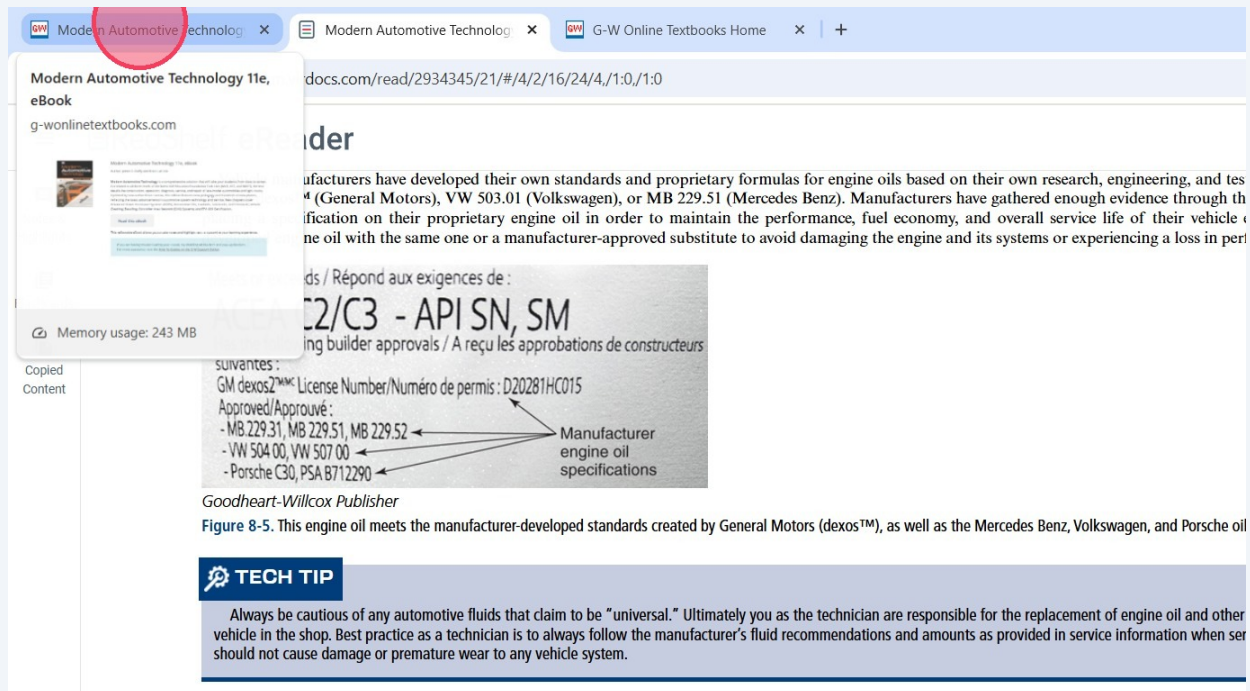
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Manufacturers have developed their own standards and proprietary formulas for engine oils based on their own research, engineering, and testing (General Motors), VW 503.01 (Volkswagen), or MB 229.51 (Mercedes Benz). Manufacturers have gathered enough evidence through their certification on their proprietary engine oil in order to maintain the performance, fuel economy, and overall service life of their vehicle. Use the same oil with the same one or a manufacturer-approved substitute to avoid damaging the engine and its systems or experiencing a loss in performance.

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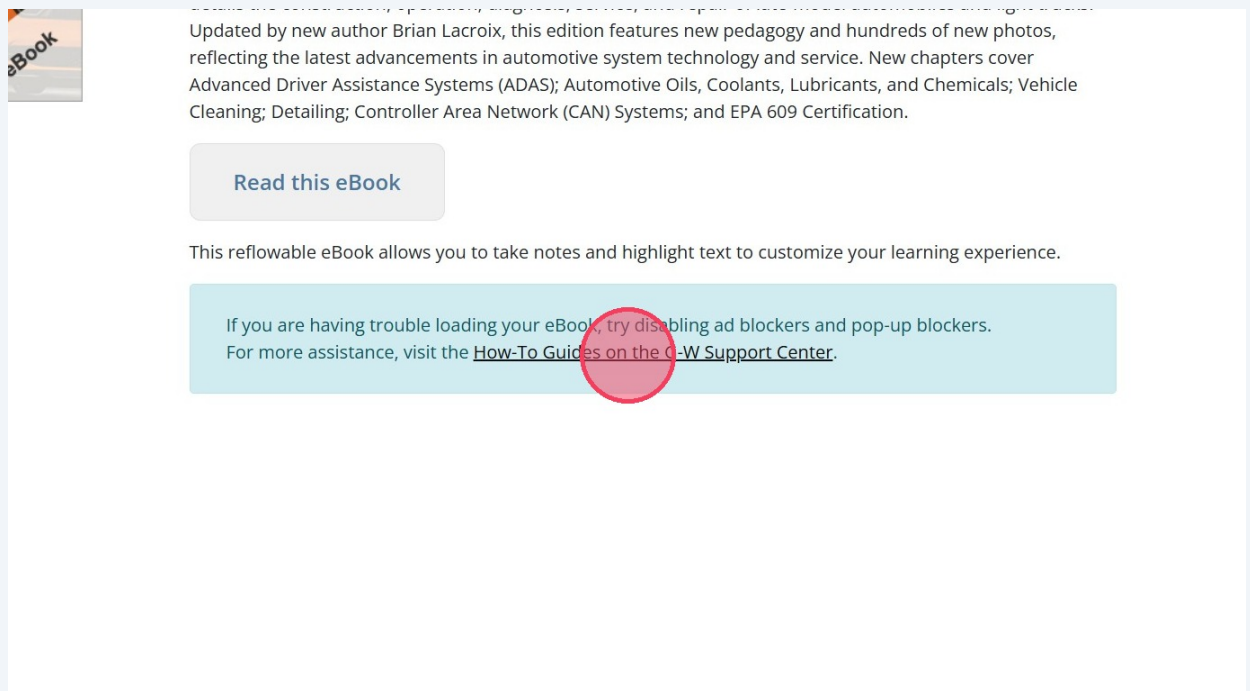
**TECH TIP**

Always be cautious of any automotive fluids that claim to be "universal." Ultimately you as the technician are responsible for the replacement of engine oil and other vehicle in the shop. Best practice as a technician is to always follow the manufacturer's fluid recommendations and amounts as provided in service information when service should not cause damage or premature wear to any vehicle system.

Figure 8-5. This engine oil meets the manufacturer-developed standards created by General Motors (dexos™), as well as the Mercedes Benz, Volkswagen, and Porsche oil

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