

CHILTON[®] LIBRARY User Guide

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Introduction to Chilton Library

Welcome to the user guide for the Chilton Library application. Here you will be able to research specific topics that will help answer any questions you may have on the use of the product.

Getting Started

The Chilton Library application allows you to browse through a robust list of vehicles in order to obtain vehicle specific information including:

- Repair Procedures
- Technical Service Bulletins/Recalls
- Labor Estimation
- Vehicle specific Maintenance schedules and much more.

This application is setup with flexible toolbars and navigation which allows you to jump between the various areas listed above for each vehicle you are researching.

Browser Recommendations and System Requirements

The Chilton Library System Requirements are as follows:

Recommended:

- High-speed internet connection
- Adobe Reader ® [Click here to be directed to the download site](#)
- Adobe Flash Player ® [Click here to be directed to the download site](#)

Supported platforms and browsers:

- Windows
 - IE9 or higher, latest versions of Firefox and Chrome
- Mac OSX / iOS
 - Latest versions of Safari, Firefox and Chrome
- Android
 - Latest versions of Firefox and Chrome

Required:

JavaScript must be enabled on browser. Check your browser Help files for instructions on enabling JavaScript.

Adobe Flash Player ® is required to view the Animations which appear in the **Repair** section of this site. **Note:** *animations are only available on the Windows platform.*

Animations and Videos appear in various section headings within the Repair content and can be viewed by clicking the icon or the provided description for each. See the sample below.



Adobe Reader® is required to view specific **Technical Service Bulletin (Bulletins/Recalls)** information as well as some drawings/photos in the **Repair** and **Maintenance** sections of this application. Any information will appear in a separate **Adobe Reader® Window**.

The following sample from the repair section of the Chilton Library application shows that a user can retrieve a larger view of an image using the **Adobe Reader®**.

By selecting on the "**click to enlarge**" as shown in **Figure 1**, the full size image will open in a new Adobe Reader® window as shown in **Figure 2**.

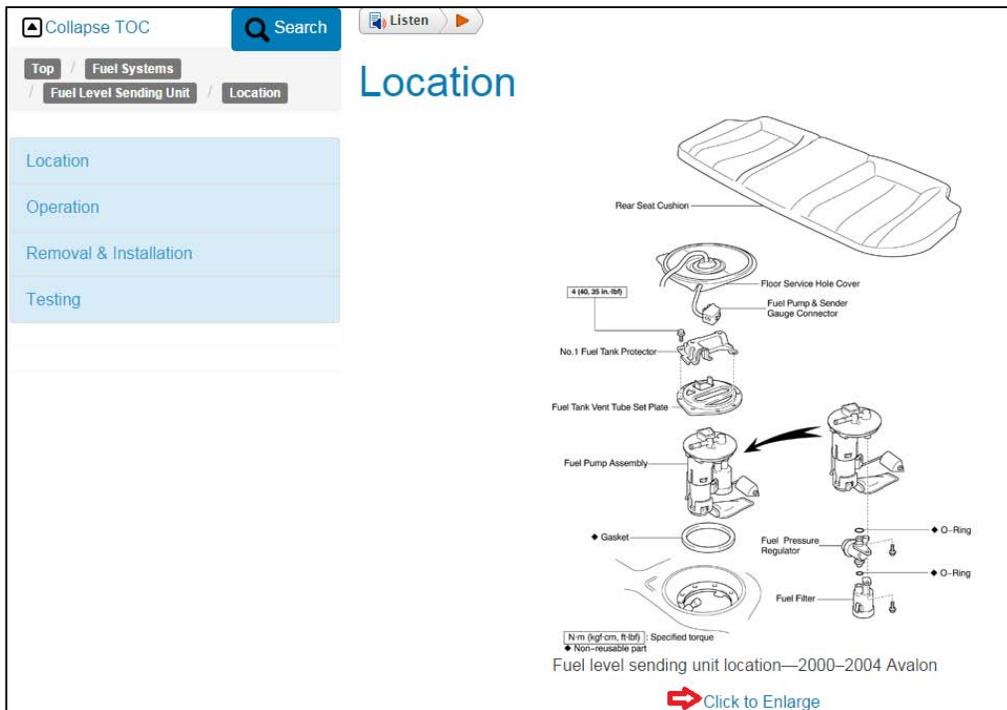


Figure 1

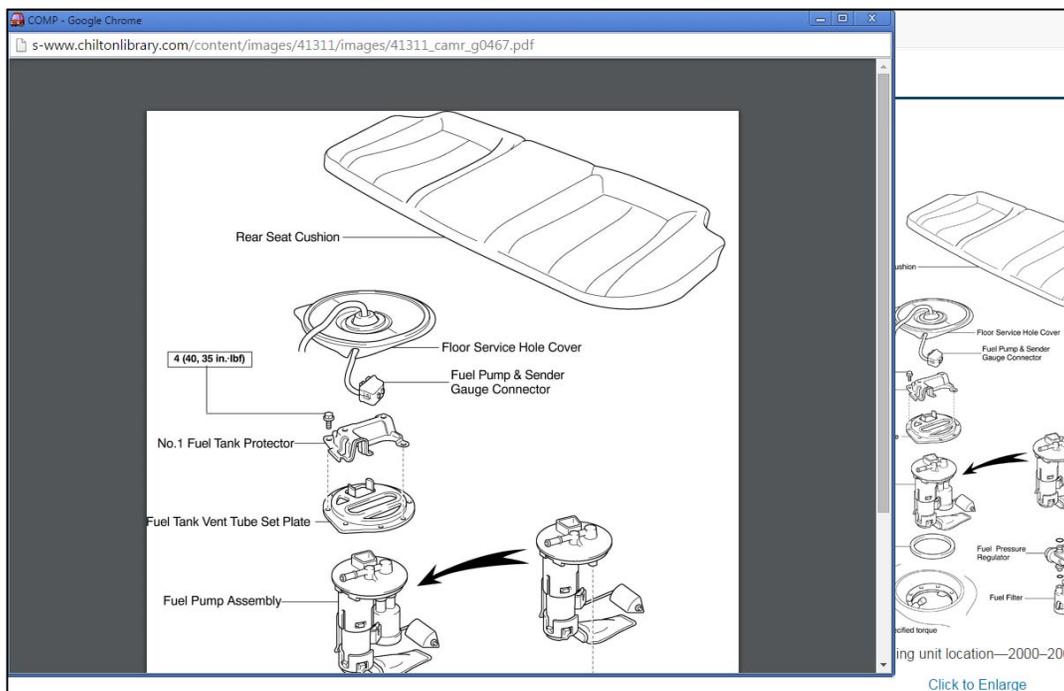


Figure 2

Chilton Library Functionality

Selecting a Vehicle

In order to examine any vehicle related information, you must first select the specific vehicle that you are interested in.

Using the left navigation bar on the homepage of the application, there are a series of drop-down menus that will give you the ability to select the vehicle you would like to research.

Vehicle Selector

Select a year: ▾

Select a make: ▾

Select a model: ▾

Clear Select

Get the detailed information you need to tackle vehicle maintenance and repairs. Some of Chilton Library's more popular features include:

- Maintenance and specification tables that provide the unique data you need for each specific vehicle.
- Step-by-step service and repair procedures, and labor estimating tool to help you confidently determine your next move.
- Vacuum diagrams to simplify troubleshooting.
- Wiring diagrams to help explain system operation.
- Close-up photographs and illustrations for visual support.
- [ASE test prep quizzes](#) for the most popular certification exams
- A print button which allows you to easily print out what is needed.

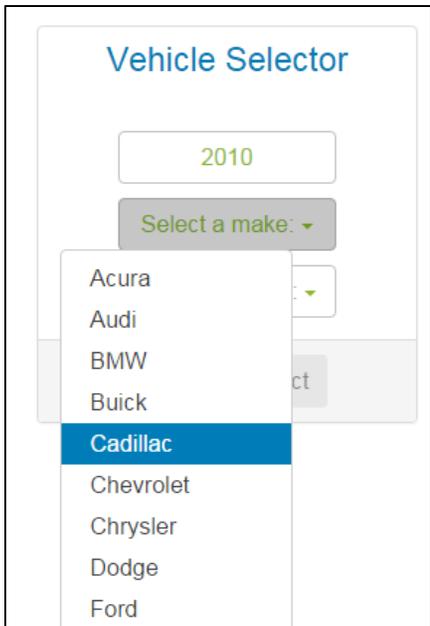
To start any search you must first select from the highest menu and work your way down until a full vehicle specification is selected.

Each drop-down menu is populated based on the selection that is above it. For example, the “**Select a Make**” drop down list is populated based on the “**Select a Year**” value that you select before it. Similarly, the “**Select a Model**” list is populated based on the **Year** and **Make** that you selected.

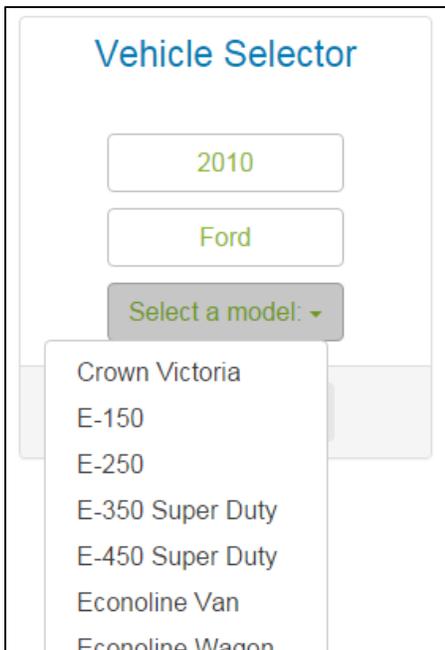
1. First, select the **Year** of the vehicle you would like to research



2. Next, select the vehicle **Make**



3. And finally, select the vehicle **Model**



Once the vehicle is selected, the Chilton Library application will compile your vehicle data and return with categories that are available.

Depending on what vehicle you research, you may return up to four categories of information. The bullet points below represent these possible categories which are **Repair, Maintenance, Labor Estimating** and **Bulletins/Recalls**.

If a category does not appear for the selected vehicle it means that Chilton Library does not yet have this information available for that vehicle.

Sample ASE Test Prep questions are also available under the **ASE Test Prep** menu option at the top of the page. Since these are not vehicle related they do not appear in the four main categories that change with vehicle availability.

Your Current Vehicle: 2010 Toyota Camry

Data is available for the following:

- Repair
- Maintenance
- Labor Estimating
- Bulletins/Recalls

4. Select a category from the vehicle selection results (shown above) to be navigated to that section of the Chilton Library application.

Note: Once you have selected your vehicle, any navigation on the application will be in relation to the vehicle you have selected. If you want to research a new vehicle you must click on the **Select Vehicle** tab again and select a new vehicle with the drop-down menus.

However, within the **Labor Estimating** module you will be able to change vehicles without having to go back to the **Select Vehicle** tab. **Labor Estimating** has its own vehicle selector which will initially be set to the vehicle you had previously chosen when you entered Chilton Library.

Repair

If the **Repair** category is available after initially [selecting a vehicle](#), you can now select it to research the Repair information for the currently selected vehicle.

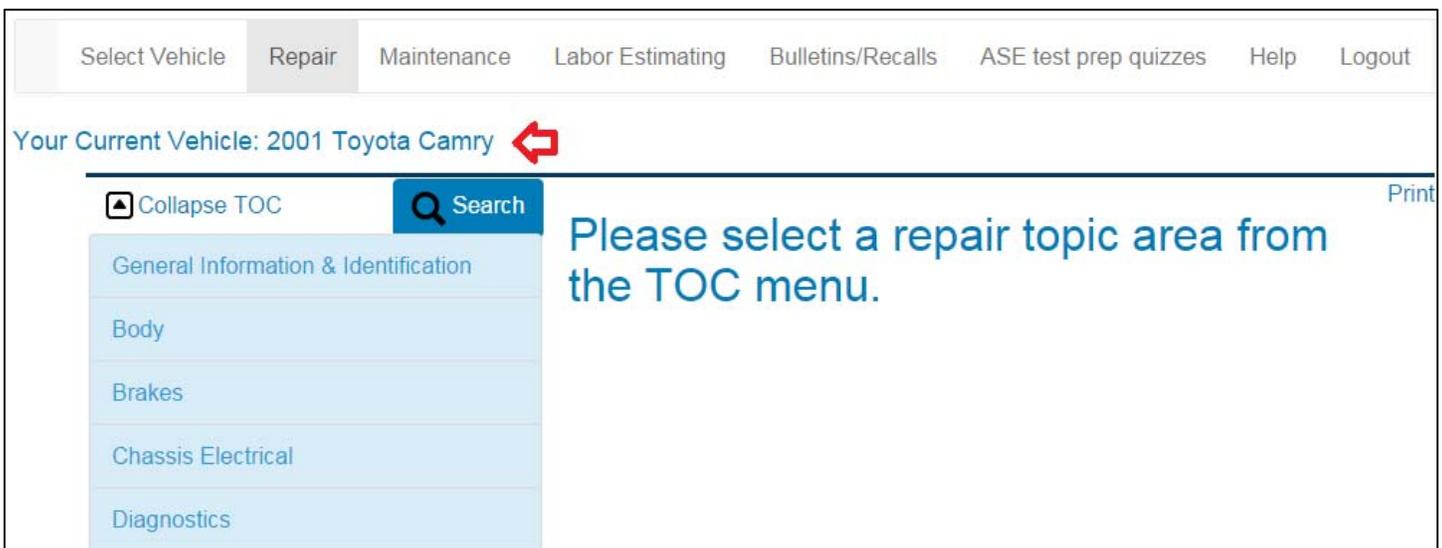
Note: This information will always be accessible even if you decide to research a separate category on this vehicle (i.e. **Labor Estimating**, **Bulletins/Recalls** or **Maintenance**). Simply select the **Repair** tab on the top navigation bar from any screen in order to return to the **Repair** screen of your current vehicle.

The steps following will illustrate how to navigate in the **Repair** tab of the Chilton Library application.

1. After selecting the **Repair** option from your **Vehicle Selection Results**, the application will navigate you to the Repair manual of the specific vehicle you have selected.



The window will be split into two separate panes. The left window will display all available **Repair** subcategories for the selected vehicle in a table of contents layout. The right pane will display the documentation from the subcategory which was selected.



Note: Repair subcategories on the left navigation may differ based on the vehicle you are researching.

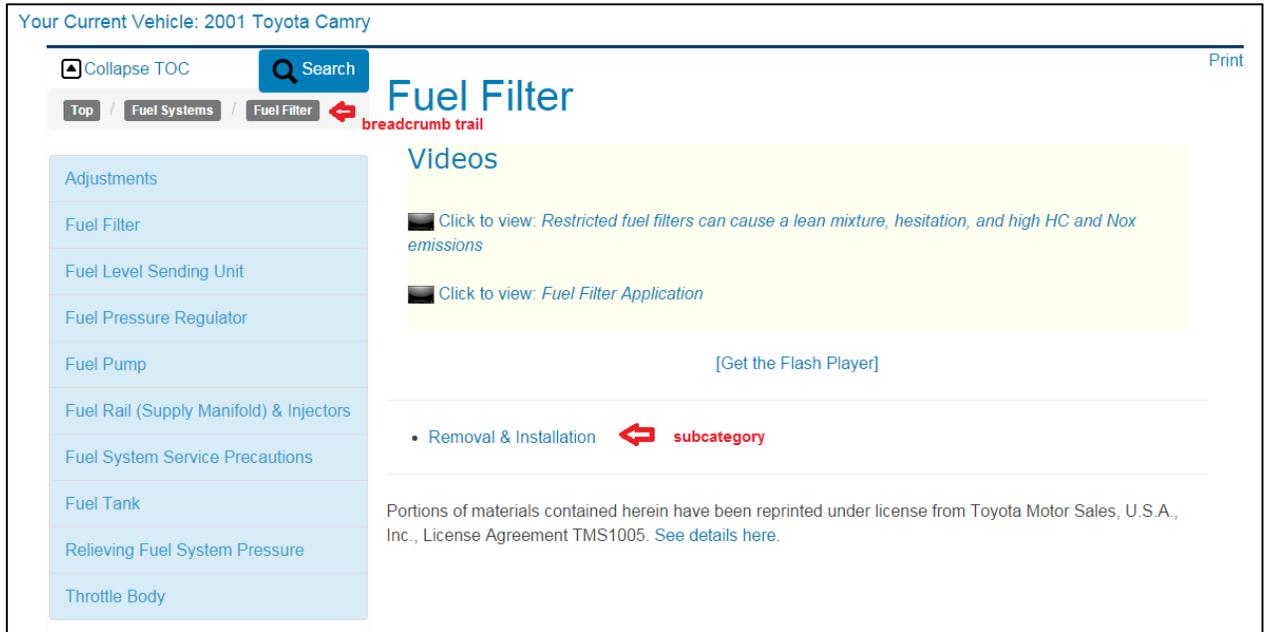
2. The table of contents layout is highlighted and documented in the figure below. For sample purposes, we are going to obtain information on how to remove and install a fuel filter for a 2010 Toyota Camry:
 - a. Click one of the categories of the vehicle in the left pane that you would like information on. Using the figure below as a sample, the selection was **Fuel System**.

Once the selection has been made, a new series of selections under **Fuel System** will be displayed (i.e. *Adjustments, Fuel Filter, Fuel Level Sending Unit, etc.*).

These are displayed as children of the root category **Fuel System**. They will also be represented by the breadcrumb trail at the top of the table of contents.

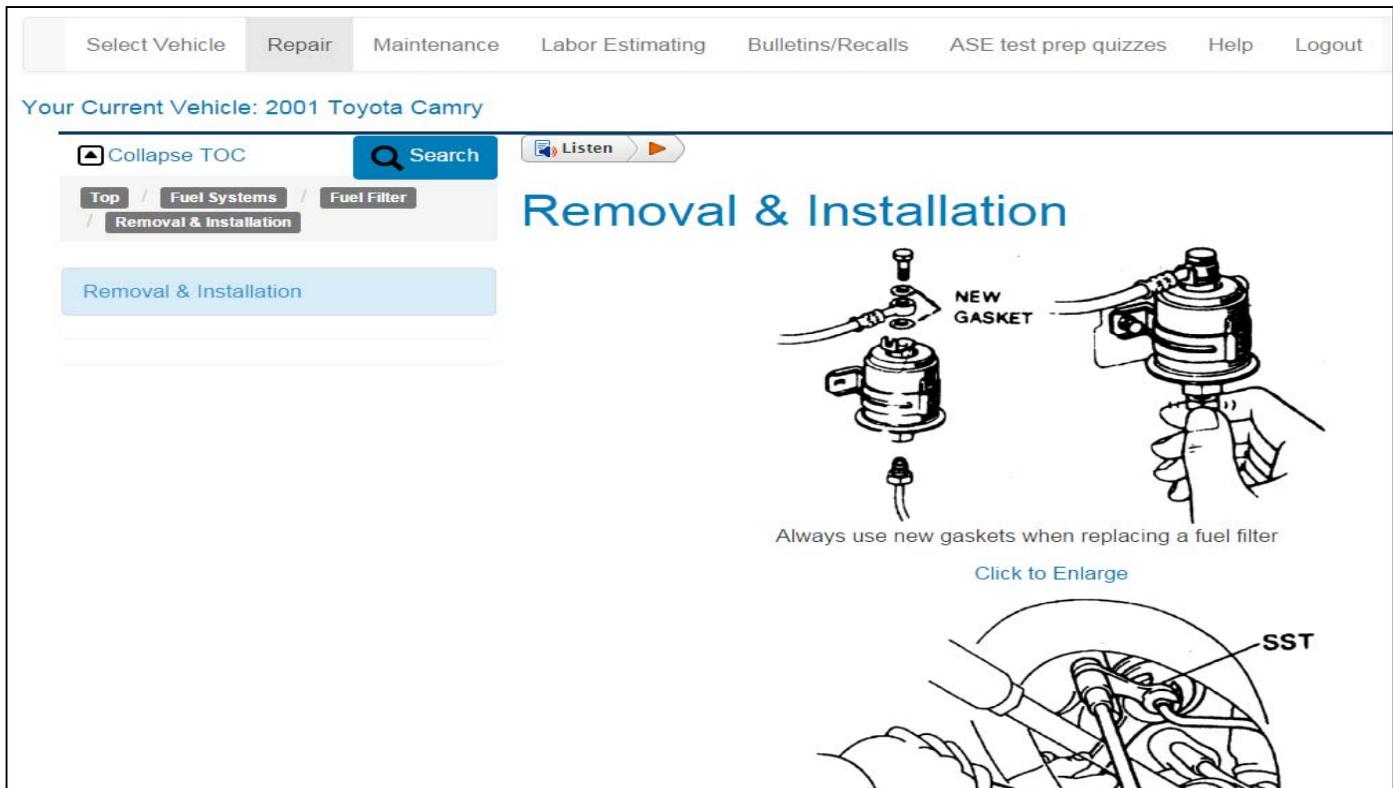
- b. Selecting the **Fuel Filter** entry, which is a subcategory of **Fuel System**, will display any other categories that are associated with the **Fuel Filter** i.e. **Removal & Installation**.

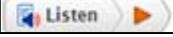
Since there are no other selections shown in the table of contents, **Removal and Installation** is the lowest subcategory.



- c. Selecting **Removal and Installation** will now display information on how to Remove and Install a fuel filter in the right window pane.

The right pane will now display all the detailed information for removing and installing a 2001 Toyota Camry Fuel Filter.



If you would like to have the text of the content pane read to you then click on the  button. This will open the document using **ReadSpeaker**™ text-to-speech functionality.

- Pause and Stop abilities are available.
- With the Settings button, users can change speed, highlighter color, and font size.
- Audio content from the Repair section can be downloaded in MP3 format for users to save and access offline.

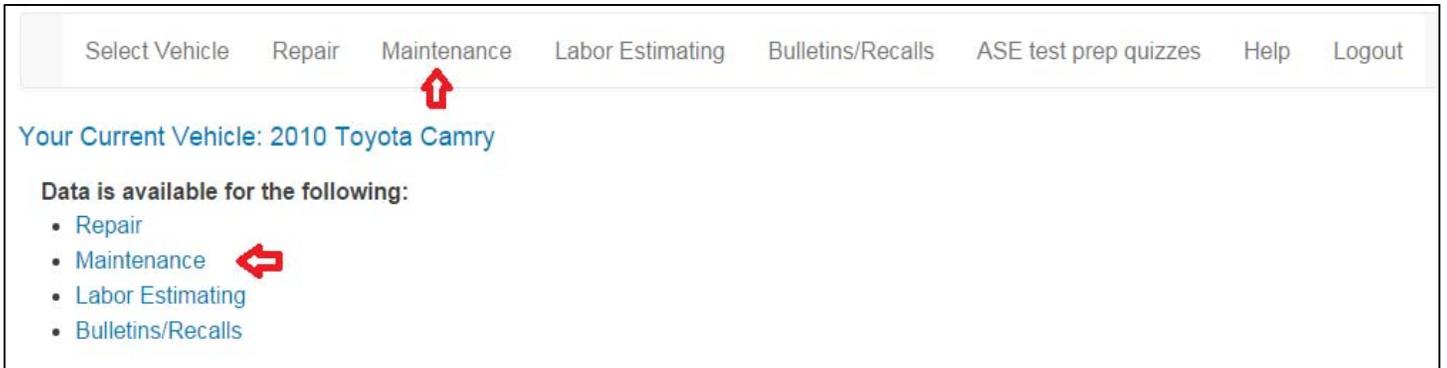
Vehicle Maintenance

If the **Maintenance** category is available after initially [selecting a vehicle](#), you can now select it to research the maintenance information for the currently selected vehicle.

Note: This information will always be accessible even if you decide to research a separate category on this vehicle (i.e. **Labor Estimating**, **Bulletins/Recalls's** or **Repair**). Simply select the **Maintenance** tab on the top navigation bar from any screen in order to return to the **Maintenance** screen of your current vehicle.

The steps following will illustrate how to navigate in the Maintenance tab of the Chilton Library application.

1. After selecting the **Maintenance** option from the **Vehicle Selection Results**, the application will navigate you to the Maintenance Chart for the specific vehicle you have selected.



2. Once opened, you will be provided with a **Vehicle Configuration Filter**. This will allow you choose the following characteristics for the vehicle configuration you are interested in.

Each selection you make will filter the available choices in the following selections. For example, if you select "LE" for the Sub Model on the sample vehicle shown, the Fuel Type filter will only contain those values that are valid for the "LE" Sub Model.

As you choose each vehicle you will only be presented with values in the following filter that are valid for the filters you have already selected.

Alternatively, if you want to see all of the available vehicle configurations that are available you can select the ["full chart list"](#) link that is provided next to the **Vehicle Configuration Filter**.

From the full chart list you can simply select the vehicle configuration you are interested in to view the maintenance schedules.

Samples of the **Vehicle Configuration Filter** and **Full Chart List** are below.

Vehicle Configuration Filter Sample

Scheduled Maintenance Intervals

Please select your vehicle configuration from the items below, or from the [full chart list](#).

▲ Collapse filter

Vehicle Configuration Filter	
Submodel:	LE
Fuel Type:	GAS
# of Cylinders:	4
Drive Type:	FWD
Body Type:	Sedan
Transmission:	Automatic
Operating Condition:	Select ▼

Select
Normal
Severe

Full Chart List Sample

Your Current Vehicle: 2010 Toyota Camry

[Back to configuration filter.](#)

Submodel	Body	Liter	Cylinders	Fuel Type	Drive	Transmission	
Hybrid	Sedan	2.4	4	ELECTRIC	FWD	Automatic CVT	View Chart
LE	Sedan	2.5	4	GAS	FWD	Automatic	View Chart
LE	Sedan	2.5	4	GAS	FWD	Standard	View Chart
LE	Sedan	3.5	6	GAS	FWD	Automatic	View Chart
LE	Sedan	3.5	6	GAS	FWD	Standard	View Chart

Once a chart is selected you will be presented with mileage based service recommendations for that vehicle configuration and selected operating conditions.

To scroll back and forth between the different mileage intervals you can use the “<< [Look Back](#)” and “[Look Ahead](#) >>” links. These will move you backward or forward to the next recommended service interval.

You can also enter the vehicles current mileage in the “**Enter Mileage**” box and then select “**Show Services**”. This will bring you to the recommended service interval for the mileage entered. This usually

rounds up the mileage to the next recommended service interval.

If you want to see the full maintenance chart with all defined service intervals you can select the “[View Full Chart](#)” link.

Finally, if you want to see the **Vehicle Configuration Filter** selections again click on the “[Expand Filter](#)” link and it will reappear so you can change your selections. To collapse it again selects the “[Collapse Filter](#)” link.

Scheduled Maintenance Recommendations Sample

Scheduled Maintenance Intervals

Please select your vehicle configuration from the items below, or from the [full chart list](#).

[Expand filter](#)

Enter Mileage

[← Look back](#) [View Full Chart](#) [Look ahead →](#)

Your **10000 mile service under Normal conditions** includes:

- Service or Inspect : Brake linings & drums
- Service or Inspect : Brake pads & discs (front & rear)
- Inspect or Adjust : Drivers floor mat
- Replace : Engine oil & filter
- Top off : Fluid levels
- Rotate/Inspect : Tires (Rotate, inspect the tire tread for wear, and adjust air pressure.)

These recommendations also apply:

- Replace : Spark plugs Spark plugs are replaced every 120,000 miles
- Replace : Engine coolant Replace engine coolant at 100,000 miles and then inspect every 15,000 miles.

Note: In some cases we may only have the full chart for a vehicle especially if it is an older model. When the full chart is the only choice available it will automatically be displayed without any selections required by the user.

Maintenance recommendations for each interval are shown along with footnotes that list any exceptions based on the vehicle configuration or operating conditions.

Normal Service Schedule		VEHICLE MILEAGE INTERVAL (x1000)																								
SERVICE NAME	TYPE OF SERVICE	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	
Air conditioning filter	Replace												X							X						X
Axle shaft bolts	Service or Inspect		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Ball joints & dust covers	Service or Inspect		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Bolts & nuts on chassis & body	Service or Inspect		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Brake fluid	Flush/Replace								X				X							X						X
Brake line pipes & hoses	Service or Inspect			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Brake linings & drums	Service or Inspect	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Brake pad thickness and rotor runout	Service or Inspect								X					X						X						X
Brake pads & discs (front & rear)	Service or Inspect	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Clean air conditioning filter	Service or Inspect		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Drive belts	Service or Inspect												X							X						X
Drivers floor mat	Inspect or Adjust	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Engine air filter	Replace								X				X							X						X
Engine coolant	Replace	Replace engine coolant at 100,000 miles and then inspect every 15,000 miles.																								
Engine coolant	Service or Inspect	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Engine oil & filter	Replace	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Exhaust pipes & mountings	Service or Inspect	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Fluid levels	Top off	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Fuel system (tank, pipe line, connection & fuel tank filler tube)	Service or Inspect	X							X					X						X						X

NOTES:

- Starting with the 2010 Model Year, Toyota began a gradual transition to the use of synthetic 0w-20 viscosity engine oil. There are multiple benefits of this oil, including:
 - * Reduced friction and wear on engine surfaces
 - * Improved fuel economy
 - * Reduction in waste oil stream (in vehicles approved for 10,000 mile oil change intervals)
 - * Reduced maintenance cost (in vehicles approved for 10,000 mile oil change intervals)
- Due to the improved performance and durability of 0w-20 synthetic oil, Toyota has extended the oil change intervals to 10,000 miles for most vehicles that

Technical Service Bulletins (Bulletins/Recalls)

If the **Technical Service Bulletin (Bulletins/Recalls)** category is available for your selected vehicle, you will have the ability to research any released technical service documentation about it.

This information is updated in the system on an ongoing basis, ensuring that you will have the most up-to-date data on your selected vehicle.

The following steps will show you how to navigate in **Bulletins/Recalls** tab of Chilton Library.

1. After selecting your vehicle you will be presented with the **Vehicle Selection Results** which show the available categories for you vehicle. If the **"Bulletins/Recalls"** link is available just click on it.

Note: You can always get to the Bulletins/Recalls by clicking on the **Bulletins/Recalls** tab at the top of the page. This will take you directly from whatever other section of coverage you are using to the Bulletins/Recalls coverage.

Select Vehicle Repair Maintenance Labor Estimating **Bulletins/Recalls** ASE test prep quizzes Help Logout

Your Current Vehicle: 2010 Toyota Camry

Data is available for the following:

- Repair
- Maintenance
- Labor Estimating
- **Bulletins/Recalls**

2. Once you click on the Bulletins/Recalls link or tab you will see the search results page. Initially it will contain the first page of unfiltered results for your selected vehicle.

Technical Service Bulletins

Advanced Filter

ALL Systems

ALL Symptoms

ALL Trouble Codes

Quick Search

TSB #

Keyword

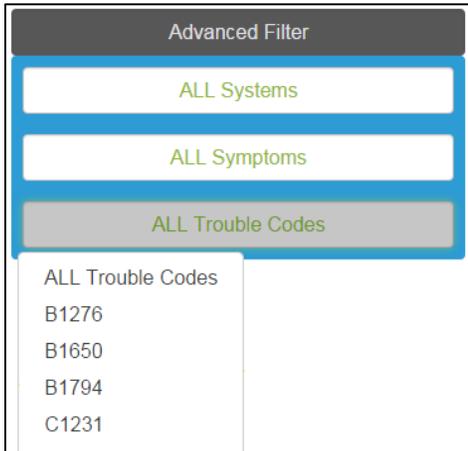
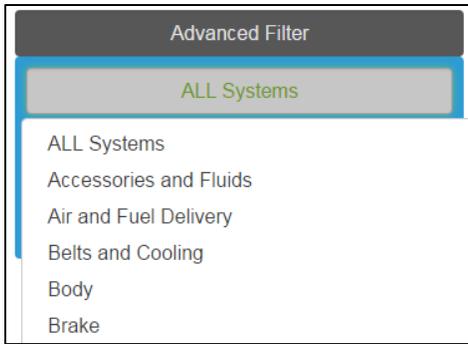
Only Show Recalls

10 of 104 matching items displayed.

Listen	Technical Service Bulletin (TSB) Description	TSB#	Issue Date	Type
	T-SB-0079-09: '98-'10 Applicable Toyota Models: Long Term Vehicle Stor...	SB-0079-09	3/4/2009	Technical, Information
	T-SB-0017-09: '10 Camry: Front Wheel Opening Extension Pad Installatio...	SB-0017-09	1/13/2009	Technical, Information
	T-SB-0014-09: '10 Camry: Installation of Rubber Body Plugs During PDS	SB-0014-09	1/13/2009	Technical, Information
	T-SB-0013-09: '10 Camry: Tire Pressure Warning System Activation & Ini...	SB-0013-09	1/12/2009	Technical, Information
	2010 MY Camry Pre-Delivery Service Check Sheet		1/14/2009	Technical,

- To narrow down the items displayed you can use the **Advanced Filters** or the **Quick Search** boxes at the top of the page.

The **Advanced Filters** will let you search for Bulletins/Recalls by the affected System, vehicle operating Symptoms or a Diagnostic Trouble code. The values for these drop downs are populated based on the Bulletins/Recalls assigned to this vehicle so only valid values are listed.



The **Quick Search** box will allow you to enter a Bulletins/Recalls number if you already know it or any keyword that you want to search on. You can also search for just Recalls by selecting the **“Only Show Recalls”** checkbox. Once your criteria is entered click on the search button to get your results.

- After your filtering has been done you will be presented with a list of Bulletins/Recalls matching that criteria.
 - To view the Bulletins/Recalls simply point your mouse at the Bulletins/Recalls you want to view and click anywhere on the highlighted line.
 - To listen to the bulletin using **ReadSpeaker**™ hover over the “Listen” column and click on the  icon when it appears.

Listen	Technical Service Bulletin (TSB) Description	TSB#	Issue Date	Type
	T-SB-0079-09: '98-'10 Applicable Toyota Models: Long Term Vehicle Stor...	SB-0079-09	3/4/2009	Technical, Information
	T-SB-0017-09: '10 Camry: Front Wheel Opening Extension Pad Installatio...	SB-0017-09	1/13/2009	Technical, Information
	T-SB-0014-09: '10 Camry: Installation of Rubber Body Plugs During PDS	SB-0014-09	1/13/2009	Technical, Information
	T-SB-0013-09: '10 Camry: Tire Pressure Warning System Activation & Ini...	SB-0013-09	1/12/2009	Technical, Information
	2010 MY Camry Pre-Delivery Service Check Sheet		1/14/2009	Technical,

- The select Bulletins/Recalls will now open up in a separate Adobe Reader® window for you to view.

A sample Bulletins/Recalls is on the following page.



TOYOTA
Technical Service
BULLETIN
August 6, 2007

Title:
**SRS COMPONENT DISPOSAL AS
HAZARDOUS MATERIAL TREATMENT**

Models:
'98 – '08 Toyota (SRS-Equipped)

SPECIAL SERVICE TOOLS

SS004-07

Introduction Some hazardous material treatment and handling regulations at the state and local level now define the pre-disposal deployment of airbag and pre-tensioner assemblies as hazardous material treatment. Hazardous material treatment may require special training, certification or licensing in certain areas. TMS recommends dealership personnel carefully review and follow all local and state regulations and, where necessary, contract with Environmental Protection Agency (EPA) Licensed Hazardous Waste Transportation and Disposal facilities.

TMS no longer recommends the manual deployment of SRS components as a general practice method of disposal. Employment of an EPA Licensed Hazardous Waste Transportation and Disposal contractor is encouraged.

Reasons for the change in practice:

- Previously, deployed SRS components were considered to be non-hazardous waste and airbag deployment was an acceptable practice when performed safely by properly equipped service facilities.
- The EPA has deferred the responsibility of determining if airbags, deployed or un-deployed, constitute hazardous waste to the discretion of each state.
- Within the past several years, a number of states have ruled the deployment of airbags to be considered treatment of hazardous waste, requiring practicing dealerships to obtain a HAZMAT treatment facility permit.
- Airbag disposal practices and protocols vary from state to state and are continuously evolving.

For information on local regulations, contacts for EPA Licensed Hazardous Waste Transportation and Disposal providers, an up-to-date list of states that require "waste treatment permits" for SRS component deployment, as well as more information about airbag recycling opportunities, please consult the Environmental Assistance Network (EAN). website <http://www.ccar-greenlink.org/tms> and enter the keywords "airbag disposal".

Applicable Vehicles

- 1998 – 2008 model year Toyota vehicles equipped with SRS.**

Warranty Information

OP CODE	DESCRIPTION				
N/A	Not Applicable to Warranty	-	-	-	-

Labor Estimating

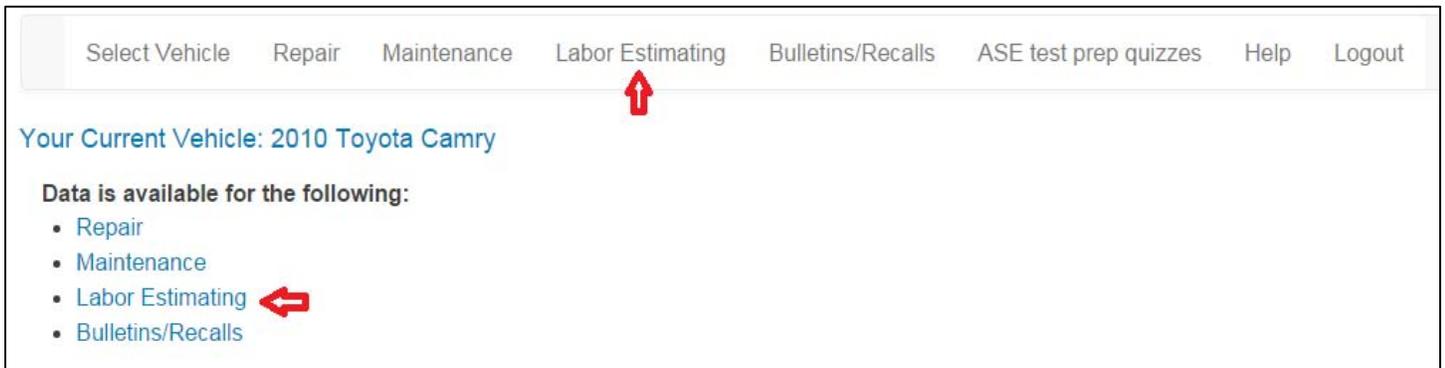
If the **Labor Estimating** category is available for your selected vehicle, you will have the ability to do a quick lookup of Chilton labor times for various operations that can be performed on your vehicle.

This information is updated in the system on an ongoing basis, ensuring that you will have the most up-to-date data on your selected vehicle.

The following steps will show you how to navigate the **Labor Estimating** tab of Chilton Library.

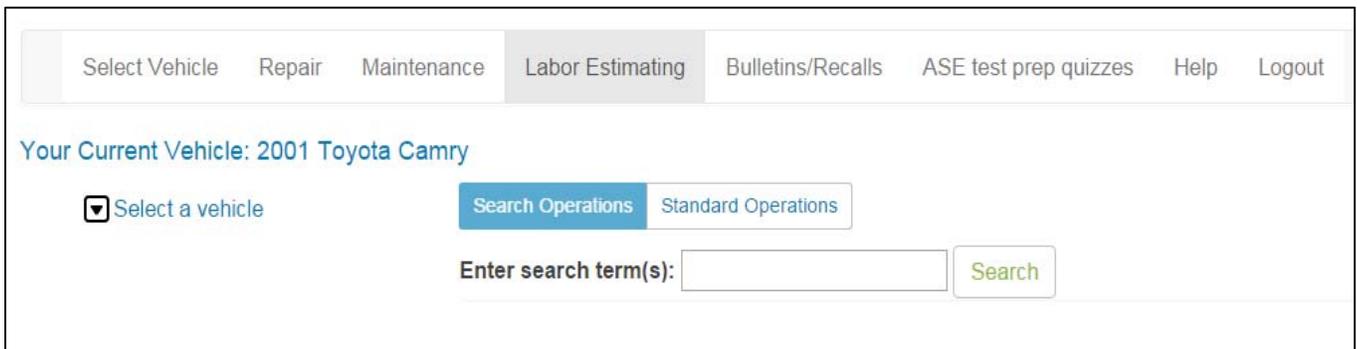
1. After selecting your vehicle you will be presented with the **Vehicle Selection Results** which show the available categories for you vehicle. If the **Labor Estimating** link is available just click on it.

Note: You can also get to the Labor Estimating module by clicking on the **Labor Estimating** tab at the top of the page. This will take you directly from whatever other section of coverage you are using to the **Labor Estimating** coverage.



2. Once you click on the **Labor Estimating** link or tab you will see the **Select Operation** window. This screen will allow you to search for a specific labor option or pick it from a tree of defined labor operations for your selected vehicle.

Note: Initially the vehicle information will default to the vehicle you already had selected when you entered Chilton Library. If you would like to search for labor operations for a different vehicle you can close the **Select Operation** window and choose another vehicle with the provided vehicle selector.



To find labor times for different operations you can use the **Search Operations** or the **Standard Operation** buttons at the top of the **Select Operation** window.

3. To perform a text search for labor operations just enter the terms you are searching for like "caliper" in the text box and then click on the **Search** button. You will then be presented with all the **Standard Operations** that match the search text as follows:

Your Current Vehicle: 2010 Toyota Camry

Select a vehicle

Search Operations Standard Operations

Enter search term(s):

Show Times BRAKES SERVICE BRAKES Caliper Assy., R&R and Recondition

Show Times BRAKES SERVICE BRAKES Caliper Assy., Replace

At this point you can select one of the operations listed to see more detailed selections for that operation or you can search again to narrow your results.

If you do not see the Labor Operation you expected you can refine your search by entering different search terms and clicking the "Search" button again.

- Alternatively, to get the full tree of defined labor operations for your vehicle you can click on the **Standard Operations** button. The **Select Operation** screen will then redisplay with the full labor operation table of contents for the selected vehicle.

Your Current Vehicle: 2001 Toyota Camry

Search Operations **Standard Operations**

Select a vehicle

Systems

- AUTOMATIC TRANSAXLE
- BODY
- BRAKES
- CHARGING
- CLUTCH
- CONTINUOUSLY VARIABLE TRANSAXLE (CVT)
- CRUISE CONTROL
- DRIVELINE

5. Similar to the repair Table of Contents you can drill down into the various labor operations to find the labor times you are looking for.

Systems / BRAKES / ANTI-LOCK / Actuator Assy., Replace  breadcrumb trail

- Actuator Assy., Replace
- Control Unit, Replace
- Diagnose Anti-Lock Brake System Component Each
- Front Sensor Assy., Replace
- Rear Sensor Assy., Replace

System: BRAKES
Subsystem: ANTI-LOCK
Operation: Actuator Assy., Replace

Time Category: Regular Severe

Description:	OEM/Dealer (hrs):	Regular (hrs):
Avalon	1.3	1.9
Camry		
1990-91	0.0	3.8
1992-06	1.5	2.2
2007-11	1.2	1.8
Solara	1.3	1.9

By default, the available Labor Operations are listed for a Regular service type situation. This is noted by the **Time Category** label above. The **“Regular”** time category identifies the labor times for most everyday normal use and wear/tear on a vehicle.

You can also get the Labor times based on a severe service schedule by clicking the radio button next to the **“Severe”** label. You will notice that the hours change due to the extra work involved when “Severe” service is taken into consideration (i.e. heavy use, high mileage, dirty or rusted items, etc.).

Systems / BRAKES / ANTI-LOCK / Actuator Assy., Replace

- Actuator Assy., Replace
- Control Unit, Replace
- Diagnose Anti-Lock Brake System Component Each
- Front Sensor Assy., Replace
- Rear Sensor Assy., Replace

System: BRAKES
Subsystem: ANTI-LOCK
Operation: Actuator Assy., Replace

Time Category: Regular Severe

Description:	OEM/Dealer (hrs):	Severe (hrs):
Avalon	1.3	2.2
Camry		
1990-91	0.0	4.1
1992-06	1.5	2.5
2007-11	1.2	2.1
Solara	1.3	2.2

In the example above the user has clicked through the labor tree to the **Brakes > Anti-Lock > Actuator Assy., Replace** options. The labor times shown are the number of recommended hours it would take to replace an actuator assemble on a 2010 Toyota Camry used under severe conditions.

The labor times are further broken down by other categories in the lines that appear since they may cover more than one year, make, and model. Often different labor times are given depending on the engine configuration or some other vehicle configuration beyond the year, make, and model which was selected. The various labor lines will make those distinctions and give different labor times for those exceptions.

You will also notice that OEM times are listed. These are the recommended times from the manufacturers. The Regular and Severe times are times calculated by Chilton Editors based on real world experience.

Below are more extensive definitions of what is considered when calculating Regular and Severe service times.

Regular Service Times

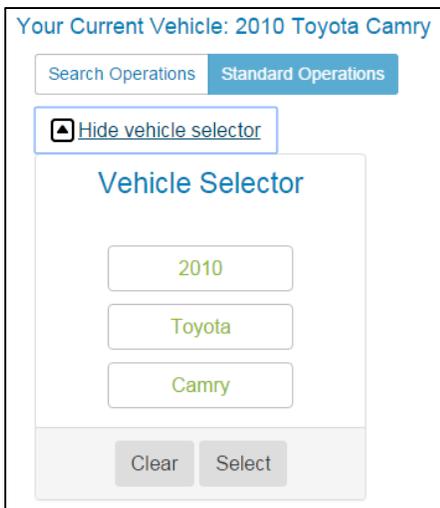
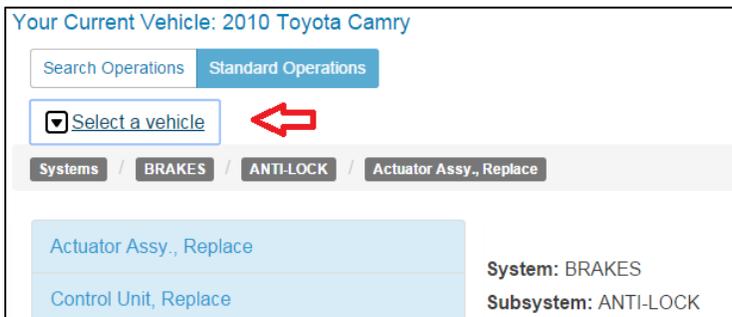
Labor time consistent with an individual with mechanical repair knowledge and tools and a vehicle that does not exhibit advanced age, high mileage, lack of maintenance, abuse, and has not operated in a climate that creates extra effort needed to free up seized bolts, replace broken fasteners, remove rust, degrease and clean parts, etc.

Severe Service Times

Labor time consistent with an individual with limited mechanical repair knowledge and tools and/or a vehicle that does exhibit advanced age, high mileage, lack of maintenance, abuse, and has operated in a climate that creates extra effort needed to free up seized bolts, replace broken fasteners, remove rust, degrease and clean parts, etc.

Note: Chilton does not provide local labor costs as there are too many variables to consider with each repair and locality. Once you have the number of hours for an expected operation you can call around to get local labor rates and that combined with the labor times should give you a good idea of what a repair might cost.

6. To select a new vehicle you can click on the **“Select a vehicle”** link after which you will be presented with a new Vehicle Selector.



Once you choose a new year, make, and model click on the **Select** button. You will then be presented with the **Select Operation** window for the new vehicle.

Note: Upon returning to **Repair, Maintenance, or Bulletins** your initial vehicle selection will be restored. If you want to change it just use the **Select Vehicle** option on the top of the page.

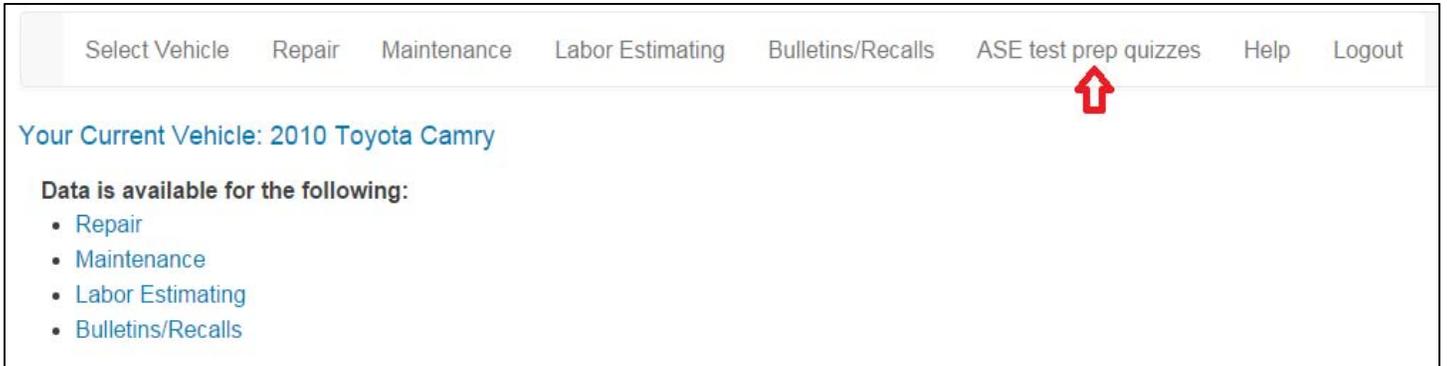
ASE Test Prep

The **ASE Test Prep** area of ChiltonPro enables you to take sample ASE Test Preparation exams. There is a list of several test exams available. Selecting one will open the test in a new window.

These tests are all multiple choice and can be taken as many times as needed.

First, click on the “**ASE test prep quizzes**” from the main menu.

Note: Your vehicle selection does not matter. These samples are not vehicle specific.



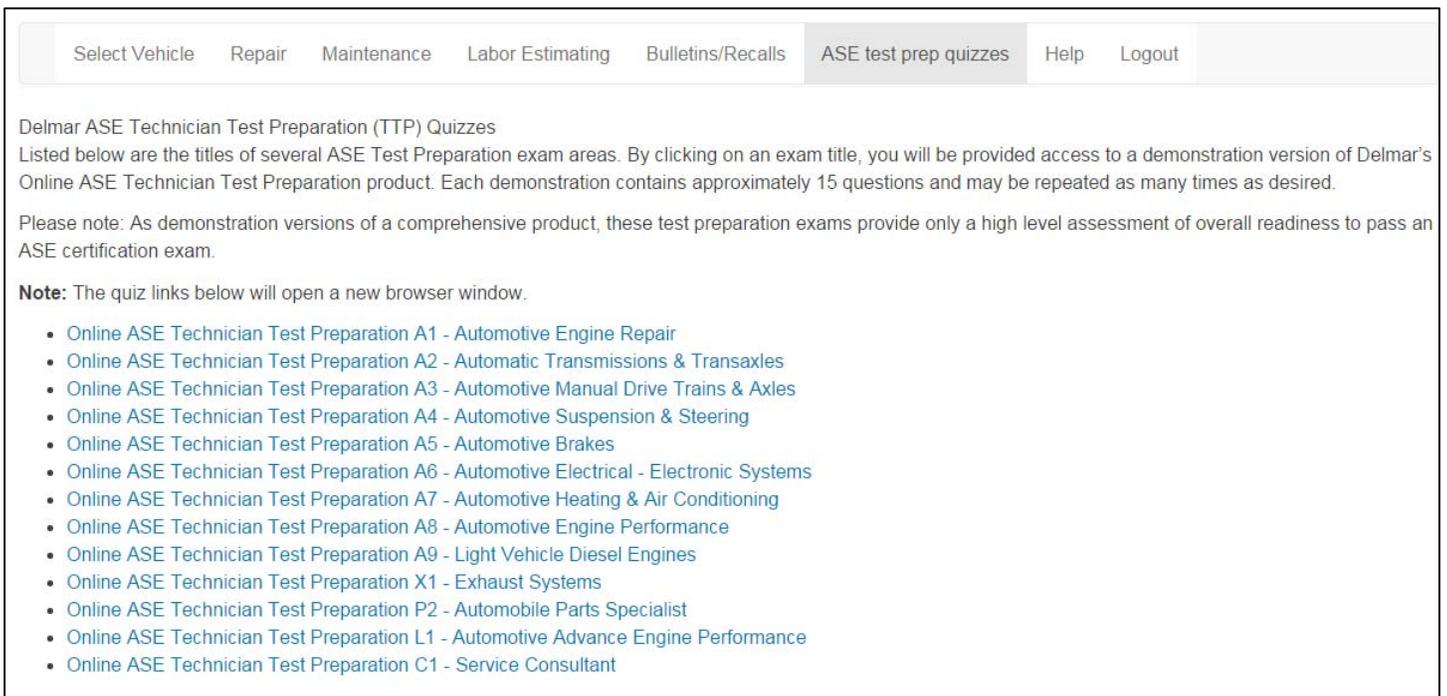
Select Vehicle Repair Maintenance Labor Estimating Bulletins/Recalls ASE test prep quizzes Help Logout

Your Current Vehicle: 2010 Toyota Camry

Data is available for the following:

- Repair
- Maintenance
- Labor Estimating
- Bulletins/Recalls

Then click on one of the sample tests you are interested in.



Select Vehicle Repair Maintenance Labor Estimating Bulletins/Recalls ASE test prep quizzes Help Logout

Delmar ASE Technician Test Preparation (TTP) Quizzes

Listed below are the titles of several ASE Test Preparation exam areas. By clicking on an exam title, you will be provided access to a demonstration version of Delmar's Online ASE Technician Test Preparation product. Each demonstration contains approximately 15 questions and may be repeated as many times as desired.

Please note: As demonstration versions of a comprehensive product, these test preparation exams provide only a high level assessment of overall readiness to pass an ASE certification exam.

Note: The quiz links below will open a new browser window.

- [Online ASE Technician Test Preparation A1 - Automotive Engine Repair](#)
- [Online ASE Technician Test Preparation A2 - Automatic Transmissions & Transaxles](#)
- [Online ASE Technician Test Preparation A3 - Automotive Manual Drive Trains & Axles](#)
- [Online ASE Technician Test Preparation A4 - Automotive Suspension & Steering](#)
- [Online ASE Technician Test Preparation A5 - Automotive Brakes](#)
- [Online ASE Technician Test Preparation A6 - Automotive Electrical - Electronic Systems](#)
- [Online ASE Technician Test Preparation A7 - Automotive Heating & Air Conditioning](#)
- [Online ASE Technician Test Preparation A8 - Automotive Engine Performance](#)
- [Online ASE Technician Test Preparation A9 - Light Vehicle Diesel Engines](#)
- [Online ASE Technician Test Preparation X1 - Exhaust Systems](#)
- [Online ASE Technician Test Preparation P2 - Automobile Parts Specialist](#)
- [Online ASE Technician Test Preparation L1 - Automotive Advance Engine Performance](#)
- [Online ASE Technician Test Preparation C1 - Service Consultant](#)

To take a test, click the drop-down menu next to each question and select an answer.

A5: Brakes

Choose the correct answer

1. There are signs of paint removal and peeling on the power brake booster right below the master cylinder. Which of these would be the most likely cause?

- A. A leaking master cylinder piston cup
- B. A defective diaphragm in the brake booster
- C. Incorrect master cylinder pushrod adjustment
- D. Fuel being drawn into the booster by vacuum

2. All of these statements about manual brake bleeding procedures are true EXCEPT:

- A. Connect one end of a hose to the bleeder screw and submerge the opposite end in a container of brake fluid.
- B. Apply the brake pedal with moderate pressure and then open the bleeder screw.
- C. When the bleeder screw is opened and the pedal goes to the floor, release the pedal and close the screw.
- D. Repeat the bleeding procedure until the fluid escaping from the bleeder hose is free of air bubbles.

3. After refinishing a brake drum, there are tiny metal particles remaining on the surface. These particles can be removed by:

- A. blowing the drum clean with compressed air.
- B. wiping the drum clean with a dry lint-free cloth.
- C. placing the hub side up and tapping with a dead blow hammer.
- D. wet washing with warm soapy water and wiping it dry with a lint-free cloth.

4. All of these statements are true about brake drum inside diameter measurements with a brake

Once completed click on the **Check your Work** link at the bottom of the page to reveal you results.

You can also retake the test by selecting the **Retake Test** link at the bottom of the page.

9. Technician A says the parking brake indicator light goes out when the ignition switch is turned off. Technician B says the parking brake indicator light may also be used in some vehicles to indicate problems in the antilock brake system. Who is correct?

C

- A. A only
- B. B only
- C. Both A and B
- D. Neither A nor B

10. The proper procedure for adjusting tapered roller wheel bearings is:

B

- A. tighten while spinning the rotor to seat the bearings and back off to the specified amount of end play.
- B. finger tighten the adjusting nut.
- C. torque the adjusting nut to 20 pounds-feet of torque and turn the nut an additional 45 degrees.
- D. tapered roller wheel bearings do not have to be adjusted.

11. An ABS hydraulic control unit (HCU) makes a clicking noise after the vehicle is started. Technician A says that this indicates a faulty control unit. Technician B says that this is the initial self-test of the HCU and is normal. Who is correct?

B

- A. A only
- B. B only
- C. Both A and B
- D. Neither A nor B

12. A diagnostic trouble code (DTC) representing the L/R wheel speed sensor is obtained in the ABS. This DTC may be caused by:

B

- A. an open circuit at the R/R wheel signal sensor.
- B. a grounded circuit on the L/R wheel sensor.
- C. a larger tire than specified by the manufacturer on the R/F wheel.
- D. an open circuit in the electronic brake control.

<End of Document>