

**Automotive Engines Theory and Servicing**  
Ninth Edition

**Automotive Engines**  
Theory and Servicing  
Ninth Edition  
James D. Halderman

**Chapter 8**  
Service Information



ALWAYS LEARNING Copyright © 2016, 2015, 2011 Pearson Education, Inc. All Rights Reserved. PEARSON

---

---

---

---

---

---

---

---

**OBJECTIVES (1 OF 2)**

**8.1** Discuss the importance of vehicle service records, owner's manuals, lubrication guides, and labor guide manuals.

**8.2** Discuss the importance of service manuals.

**8.3** Discuss the advantages and disadvantages of hard copy versus electronic service information.

Copyright © 2016, 2015, 2011 Pearson Education, Inc. All Rights Reserved. PEARSON

---

---

---

---

---

---

---

---

**OBJECTIVES (2 OF 2)**

**8.4** Explain electronic service information.

**8.5** Explain hotline services, specialty repair manuals, and aftermarket supplies guides and catalogs.

Copyright © 2016, 2015, 2011 Pearson Education, Inc. All Rights Reserved. PEARSON

---

---

---

---

---

---

---

---

## VEHICLE SERVICE HISTORY RECORDS

- Whenever service work is performed, a record of what was done is usually kept on file by the shop or service department for a number of years.
  - The service technician will check the vehicle service history if working on a vehicle with an unusual problem.
  - A previous repair may indicate the reason for the current problem or it could be related to the same circuit or components.

Copyright © 2018, 2015, 2011 Pearson Education, Inc. All Rights Reserved.

PEARSON

---

---

---

---

---

---

---

---

## OWNER'S MANUALS (1 OF 2)

- Most owner's manuals contain all or most of the following information.
  - How to reset the maintenance reminder light
  - Viscosity of oil needed and number of quarts (liters)
  - Tire pressures and standard and optional tire sizes
  - Maintenance schedule for all fluids

Copyright © 2018, 2015, 2011 Pearson Education, Inc. All Rights Reserved.

PEARSON

---

---

---

---

---

---

---

---

## OWNER'S MANUALS (2 OF 2)

- How to program the remote control as well as the power windows and door locks
- How to reset the tire pressure monitoring system after a tire rotation

Copyright © 2018, 2015, 2011 Pearson Education, Inc. All Rights Reserved.

PEARSON

---

---

---

---

---

---

---

---

**FIGURE 8-1** The owner's manual has a lot of information pertaining to the operation as well as the maintenance and resetting procedures that technicians often need.



Copyright © 2018, 2015, 2011 Pearson Education, Inc. All Rights Reserved

PEARSON

---

---

---

---

---

---

---

---

## LUBRICATION GUIDES

- Lubrication guides include all specifications for lubrication-related service including:
  - Hoisting location
  - Lubrication points
  - Grease and oil specifications
  - Capacities for engine oil, transmission fluid, coolant and differential fluid

Copyright © 2018, 2015, 2011 Pearson Education, Inc. All Rights Reserved

PEARSON

---

---

---

---

---

---

---

---

## SERVICE MANUALS (1 OF 3)

- Included in most service manuals are the following:
  - Capacities and recommended specifications for all fluids
  - Specifications including engine and routine maintenance items
  - Testing procedures

Copyright © 2018, 2015, 2011 Pearson Education, Inc. All Rights Reserved

PEARSON

---

---

---

---

---

---

---

---

## SERVICE MANUALS (2 OF 3)

- Service procedures including the use of special tools when needed
- Component location information
- General Information
- Maintenance And Lubrication Information
- Engines

Copyright © 2018, 2015, 2011 Pearson Education, Inc. All Rights Reserved.

PEARSON

---

---

---

---

---

---

---

---

## SERVICE MANUALS (3 OF 3)

- Automatic Transmission/Transaxle
- Electrical Systems
- Heating, Ventilation, and Air Conditioning
- Engine Performance (Driveability And Emissions)

Copyright © 2018, 2015, 2011 Pearson Education, Inc. All Rights Reserved.

PEARSON

---

---

---

---

---

---

---

---

## HARD COPY VS. ELECTRONIC SERVICE INFORMATION (1 OF 2)

- Advantages
  - Hard Copy
    - Easy to use—no hardware or expensive computers needed
    - Can be taken to the vehicle for reference
    - Can view several pages easily for reference

Copyright © 2018, 2015, 2011 Pearson Education, Inc. All Rights Reserved.

PEARSON

---

---

---

---

---

---

---

---

## HARD COPY VS. ELECTRONIC SERVICE INFORMATION (2 OF 2)

- Advantages
  - Electronic Service Information
    - Information can be printed out and taken to the vehicle
    - Has a search function for information
    - Internet or network access allows use at several locations in the shop

Copyright © 2018, 2015, 2011 Pearson Education, Inc. All Rights Reserved.

PEARSON

---

---

---

---

---

---

---

---

## HARD COPY VS. ELECTRONIC SERVICE INFORMATION (1 OF 2)

- Disadvantages
  - Hard Copy
    - Can be lost or left in the vehicle
    - Cost is high for each manual
    - Can get dirty and unreadable

Copyright © 2018, 2015, 2011 Pearson Education, Inc. All Rights Reserved.

PEARSON

---

---

---

---

---

---

---

---

## HARD COPY VS. ELECTRONIC SERVICE INFORMATION (2 OF 2)

- Electronic Service Information
  - Requires a computer and printer
  - Internet or network access can be a challenge
  - Cost can be high

Copyright © 2018, 2015, 2011 Pearson Education, Inc. All Rights Reserved.

PEARSON

---

---

---

---

---

---

---

---

## LABOR GUIDE MANUALS

- Labor guides list vehicle service procedures and the time it should take an average technician to complete the task.
  - This flat-rate time is then the basis for estimates and pay for technicians.
- Some manuals also include a parts list, including the price of the part to help service advisors create complete estimates for both labor and parts.

Copyright © 2018, 2015, 2011 Pearson Education, Inc. All Rights Reserved.

PEARSON

---

---

---

---

---

---

---

---

FIGURE 8-2 Some technical service bulletins also include the designated flat-rate time when specifying a repair procedure.

INFORMATION  
paired under warranty, use:

Description	Labor Time
Brake Burnish	0.2 hr
Pads, Front Disc Brake -- Replace	Use Published Labor operation Time
Pads, Disc Brake -- Rear R&R or Replace	Use published labor operation time
Front Asm -- Front	Use published labor

Copyright © 2018, 2015, 2011 Pearson Education, Inc. All Rights Reserved.

PEARSON

---

---

---

---

---

---

---

---

## ELECTRONIC SERVICE INFORMATION

- Home Screen
- Toolbars
- Electronic Service Information
- Technical Service Bulletins
- Internet
- Recalls And Campaigns

Copyright © 2018, 2015, 2011 Pearson Education, Inc. All Rights Reserved.

PEARSON

---

---

---

---

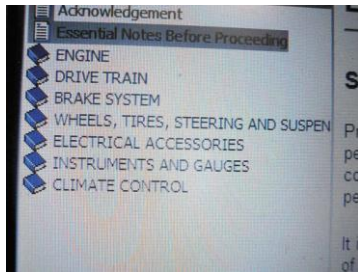
---

---

---

---

**FIGURE 8-3** A main menu showing the major systems of the vehicle. Clicking on one of these major topics opens up another menu showing more detailed information.



Copyright © 2018, 2015, 2011 Pearson Education, Inc. All Rights Reserved.

PEARSON

---

---

---

---

---

---

---

---

---

---

## HOTLINE SERVICES

- A subscription-based helpline to assist service technicians solve technical problems.
  - Most charge a monthly fee for a certain amount of time each month to talk to an experienced service technician

Copyright © 2018, 2015, 2011 Pearson Education, Inc. All Rights Reserved.

PEARSON

---

---

---

---

---

---

---

---

---

---

**FIGURE 8-4** Whenever calling a hot line service be sure that you have all of the vehicle information ready and are prepared to give answers regarding voltage readings or scan tool data when talking to the vehicle specialist.



Copyright © 2018, 2015, 2011 Pearson Education, Inc. All Rights Reserved.

PEARSON

---

---

---

---

---

---

---

---

---

---

## SPECIALITY REPAIR MANUALS

- Examples of specialty repair manuals include unit repair for assembled components, such as:
  - Automatic transmission/transaxle, manual transmission/transaxle, differentials, and engines.
- Some specialty repair manuals cover older or antique vehicles.

Copyright © 2018, 2015, 2011 Pearson Education, Inc. All Rights Reserved

PEARSON

---

---

---

---

---

---

---

---

## AFTERMARKET SUPPLIES GUIDES AND CATALOGS

- Aftermarket supplies guides and catalogs are usually free and include expanded views of assembled parts
- Go to the following websites for examples of training conferences with trade shows.
  - [www.CARSevent.com](http://www.CARSevent.com)
  - [www.avtechexpo.com](http://www.avtechexpo.com)
  - [www.visionkc.com](http://www.visionkc.com) (Vision Expo)

Copyright © 2018, 2015, 2011 Pearson Education, Inc. All Rights Reserved

PEARSON

---

---

---

---

---

---

---

---

## ADDITIONAL INFORMATION

- What is the information the service advisor or shop owner should record about the customer?
- Check the vehicle before work is started
- Special service tools
  - What tools are made by SPX?
  - Other manufacturers of SST are...?

Copyright © 2018, 2015, 2011 Pearson Education, Inc. All Rights Reserved

PEARSON

---

---

---

---

---

---

---

---



## SUMMARY (1 OF 2)

- Vehicle history records are sometimes very helpful in determining problems that may be related to a previous fault or repair.
- The vehicle owner's manual is very helpful to the service technician.

Copyright © 2018, 2015, 2011 Pearson Education, Inc. All Rights Reserved

PEARSON

---

---

---

---

---

---

---

---

## SUMMARY (2 OF 2)

- Lubrication guides provide information on the specified oil and lubricants needed along with the capacities and the location of lubrication points.
- Hotline services are subscription based and allow a technician to talk to an experienced technician who has many resources.

Copyright © 2018, 2015, 2011 Pearson Education, Inc. All Rights Reserved

PEARSON

---

---

---

---

---

---

---

---