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FUNDAMENTALS OF

Automotive Technology

Principles and Practice

THIRD EDITION

Kirk T. VanGelder

ASE Certified Master Automotive Technician & L1 & G1

President, Technology Educators of Oregon

Certificated Automotive Service Instructor

Vancouver, Washington



JONES & BARTLETT
LEARNING



World Headquarters
Jones & Bartlett Learning
25 Mall Road
Burlington, MA 01803
978-443-5000
info@jblearning.com
www.jblearning.com

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APPENDIX **A**

2018 ASE Automobile Accreditation Task List Correlation Guide

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APPENDIX **B**

ASE Integrated Applied Academic Skills Correlation Guide

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This appendix can be accessed online using the unenhanced eBook access code provided with each new print copy of *Fundamentals of Automotive Technology, Principles and Practice, Third Edition*. It is also available in the Online Course that can be purchased separately on www.cdlearning.com.

GLOSSARY

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The full glossary can be accessed online using the unenhanced eBook access code provided with each new print copy of *Fundamentals of Automotive Technology, Principles and Practice, Third Edition*. It is also available in the Online Course that can be purchased separately on www.cdlearning.com.

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Acknowledgments

Editorial Board

Keith Santini

Addison Trail High School
Addison, Illinois

Tim Dunn

Dunn Multimedia
Manyana, New South Wales, Australia

Contributors

Addison Trail High School

Addison, Illinois

Aims Community College

Greeley, Colorado

Caleb J. Bafford

Washington State University
Vancouver, Washington

Larry Baker

Aims Community College
Greeley, Colorado

Lee Berger

Southwest Metro Tech
Shakopee, Minnesota

Cascadia Technical Academy

Vancouver, Washington

Casey's Independent Auto Repair

Vancouver, Washington

CJC Auto Parts

Melrose Park, Illinois

Brandon Fryman

JRM Creative
Denver, Colorado

Dr. Nick Goodnight

Ivy Tech Community College
Fort Wayne, Indiana

Tony Gumushian

Prairie State High School
Chicago, Illinois

Ron Haefner

Columbus High School
Columbus, Nebraska

Haggerty Automotive Group

Glen Ellyn, Illinois

Michael Klyde

Cypress College
Cypress, California

Les Schwab Tire Centers

Battle Ground, Washington
Orchards, Washington

McCord's Vancouver Toyota

Vancouver, Washington

Eileen Santini

Addison, Illinois

Bethany Strang

Boring, Oregon

Russ Strayline

Abington, Pennsylvania

Joseph Wagner

Minooka, Illinois

Warren Tech

Lakewood, Colorado

Melissa Williams

James Rumsey Technical Institute

Reviewers

Robert C. Anderson

Penta Career Center

David C. Anseth

College of New Caledonia

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Tom Conway

Salina Technical College

Jeremy J. Curley

McCann Technical High School

James DeAngelis

Community College of Baltimore County

Christiaan B. Desmond

San Jose City College

Stephen Frame

Jefferson Community and Technical College

Paul Frye

William R. Moore College of Technology

Simeon Gammage

Somerset Community College

Ron Haefner

Columbus High School

Yosefu Hauge

Lake Washington Institute of Technology

Brian D. Johnson

Pinellas Technical College

Aaron Karnes

Washburn Institute of Technology

Paul Kelley

Cypress College

Craig Kleinsteiber

Madison Area Technical College

Steve Levin

Columbus State Community College

Duane Mariage

Ozark Technical Community College

Lawrence Ku'ulei Martinson

University of Hawaii Maui College

George McNitt**Donald Morisette**

Thomas A. Edison Career and Technical Education High School

Steve Owen

Central Nine Career Center

Paul Perreault

Blackstone Valley Regional Vocational Technical High School

Daryl Pushor

Vancouver Island University

Russell Ringling

Community College of Baltimore County

Michael Schnier

Thomas A. Edison Career and Technical Education High School
Shelby Shade

David M. Sitchler

Burlington County Institute of Technology

Andy Smith

Tennessee College of Applied Technology

Edgard X. Solis

Sheridan Technical College

Claude F. Townsend III

Oakland Community College

John Wrigley

Thompson River University

How to Use This Text

The third edition of *Fundamentals of Automotive Technology, Principles and Practice* is a comprehensive resource that covers the foundational theory and skills necessary to prepare entry-level technicians to maintain, diagnose, and repair today's light-duty vehicles.

Several of the original 64 chapters have been split, creating 75 chapters in the *Third Edition*. The smaller chunks of content fit nicely into the schedule of most two-year programs. Additionally, the reading level has been lowered to eighth/ninth-grade level, making it easier for more students to comprehend. Several features are included in the text to facilitate student learning. Instructors are encouraged to incorporate these features and activities into their lessons.

Learning Objectives

Learning Objectives are skills, knowledge, and behaviors that translate to on-the-job requirements. Instructors should align the Learning Objectives to the outcomes defined by accreditors and advisory boards. This will help instructors ensure that they have provided the training necessary for safety and competence on the job. Learning Objectives are listed at the beginning of each chapter and emphasized when supporting material appears in the chapter content. Organizing each chapter by the Learning Objectives makes the content more manageable for students and focuses their attention on the relevant information.

You Are the Automotive Technician

Each chapter includes a You Are the Automotive Technician scenario and open-ended questions intended to provide relevance to the chapter content. Instructors can use this feature to stimulate classroom discussion, capture students'

attention, and provide an overview of key topics in the chapter.

Skill Drills

Skill Drills offer a step-by-step portrayal, in words and images, of necessary skills. These are particularly helpful as students prepare to perform the tasks themselves for the first time or if they need reference information in the lab. Instructors can use Skill Drills when discussing difficult steps or preparing students for the nuances of a procedure. Breaking down these processes into individual steps helps students internalize the importance of each step. The visual component further assists students in determining what needs to be done, and how it needs to be done, at each step.

Applied Academics

The Applied Academics feature provides a practical scenario for specific communication, math, or science skills in the shop. Instructors who are required to address STEM (science, technology, engineering, and mathematics) content and similar grade-level outcomes (GLOs) will find this feature especially helpful as both a skill review and a reference tool. After the scenario is presented, students are guided through application of the concept. This feature pulls students' existing academic skills into the automotive context and helps them apply these skills to real-world automotive situations.

Technician Tips

Technician Tips add extra background information, details, and suggestions that students will find helpful in both their studies and their work in the shop. These details provide insight into the topic from technicians with years of experience.

How to Use This Text

Safety Tips

Safety Tips draw attention to specific safety concerns and address how to avoid injury in the shop. Instructors know that reinforcement is key for many of these very important practices. Safety Tips alert students to potential hazards and remind instructors to address the dangers in class, ahead of exposure in the shop.

Wrap-Up

The Wrap-Up at the end of each chapter pulls together the information learned in the chapter. In addition to highlighting key topics and terms,

the Wrap-Up gives students an opportunity to test their knowledge of the material they learned. Instructors can use the questions in this section as a homework assignment, an in-class (individual or group) activity, or the basis of a class discussion. Students can develop their critical-thinking and problem-solving skills in the context of automotive service and repair—skills essential for success in the field.

Note to Students

This course was created to help you on your path to a successful career in the transportation industry. Employability basics covered early in the text will help you get and keep a job in the field. Essential technical skills, which are the core building blocks of an automotive technician's skill set, are presented from cover to cover. This course also introduces *strategy-based diagnostics*, a method used to solve technical problems correctly on the first attempt. The text explores virtually every task the various industry standards recommend for technicians and will help you prepare for a successful career.

As you navigate this text, do what successful technicians do—they continuously ask themselves questions. Ask yourself, “Do I understand this concept or task? Can I explain it in my own words? Does this make sense to me?” If not, go back and reread the text and study the pictures.

This course is designed to help you answer the comprehension questions above. Each chapter starts with a list of Learning Objectives. Each chapter ends with a review of the chapter's highlights. The content of each chapter is written to explain each objective. As you read, continue to ask yourself those questions. Study the concepts and wrestle with them in your mind. Every part of the vehicle is governed by the same laws of physics that govern the world around us, so the concepts can be understood. You are on a mission to seek the answers and gain this understanding. Gauge your progress by imagining yourself as the technician. Do you have the knowledge of the concepts presented, and can you perform the tasks explained within each chapter? Know that combining your knowledge with hands-on experience is essential to becoming a Master Technician.

Stay curious. Ask questions. Practice your skills, and always remember that one of the best resources you have for learning is right there in your classroom . . . your instructor. But before you go to them, make sure that you have done your own research. Use your instructor to verify that your answers are correct or for those difficult concepts or techniques that you just can't work out on your own. Once you graduate from the program, your instructor will no longer be there to help answer your questions. You will need to be able to answer them yourself. Now is the best time to begin practicing that skill. Equipped with the knowledge in this course and your drive to learn more about automotive technology, you will go far in your career.

Best wishes and enjoy!

The CDX Learning Automotive Team

