



PLUS

Online Student

Lab Workbook

Contents

Section I Introduction to Agricultural Mechanics

- 1. Introduction to Agriculture and Agricultural Mechanics
- 2. Careers and Employability Skills
- 3. Experiential Learning through Agricultural Mechanics
- 4. Precision Agriculture and Emerging Technologies
- 5. Safety and Developing Safe Work Habits

Section II Tools, Materials, Fasteners, and Hardware

- 6. Measuring and Marking Tools
- 7. Hand Tools
- 8. Power Tools
- 9. Materials, Fasteners, and Hardware

Section III Project Planning and Woodworking

- 10. Project Planning and Design
- 11. Fundamentals of Woodworking
- 12. Designing, Planning, and Constructing Woodworking Projects

Section IV Surveying and Structures

- 13. Surveying and Site Analysis
- 14. Concrete Foundations and Flatwork
- 15. Masonry
- 16. Framing Structures
- 17. Finishing Structures
- 18. Specialized Agricultural Structures
- 19. Fencing

Section V Electricity, Wiring, and Electric Motors

- 20. Electric Power
- 21. Wiring AC Circuits
- 22. Wiring DC Circuits
- 23. Electric Motors and Controls

Section VI Plumbing, Irrigation, and Environmental Controls

- 24. Plumbing Design and Installation
- 25. Farm and Landscape Irrigation
- 26. Environmental Controls

Section VII Metalworking and Welding

- 27. Fundamentals of Metalworking
- 28. Oxyfuel Welding, Cutting, and Brazing
- 29. Shielded Metal Arc Welding
- 30. Gas Metal and Flux Cored Arc Welding
- 31. Gas Tungsten Arc Welding
- 32. Plasma Cutting

Section VIII Engines and Machinery

- 33. Internal Combustion Engines
- 34. Small Engine Performance, Maintenance, and Troubleshooting
- 35. Power Trains and Power Systems
- 36. Machinery Maintenance and Management
- 37. Hydraulic and Pneumatic Power

Together, We Build Careers® 800.323.0440 • www.q-w.com

Now includes the Agriculture Video Library and Virtual Toolbox



Correlated to

you science NOCTI

Develop Safe Work Habits with a Comprehensive Program for Power, Structural, and Technical Systems

- 500 NEW images detail modern agricultural technology and tools while 50 NEW Safety Notes and a chapter on safety cultivate a safety-first mindset before students start work on projects.
- NEW SAE for All Profiles introduce real stories of successful projects, while SAE Opportunities and Check-ins provide additional springboards for planning and decision-making.
- 35 NEW Career Connections features include up-to-date salaries, job descriptions, and education requirements for related opportunities.
- NEW Analyze and Apply activities encourage students to apply knowledge to agricultural situations.
- NEW Hands-on Activities provide end-of-chapter projects designed to be low cost and meet learning outcomes.

STEM Connections and Academic activities offer cross-curricular applications.





18-12. Framing for larger greenhouses can in I-beams, and other hardware for installed eq

Figure captions ask critical-thinking questions throughout the text.

Scan this code to request a free sample. Use Promo Code: AMTS24F



A Complete Package for Classroom Discussion, Hands-on Projects, and Standards-based Assessments

Including Digital Lessons in the Online Learning Suite





Spark Student Success with Learning Materials

- Online Textbook
- Online Lab Workbook—including concept review and 60
 hands-on labs
- AFNR Video Library—including 45 new videos, ranging from SAE student interviews to concepts such as: Hand & Power Tools, Principles of Electricity, Principles of Plumbing, and Sustainable Energies in Power Agriculture
- Drill and practice Vocabulary Activities and eFlashcards
- Virtual Toolbox visual e-flashcards for tool identification and accompanied worksheets



Save Time with Online Instructor Resources

- Robust Reporting tracks student grades and mastery of learning objectives
- Detailed Lesson Plans
- PowerPoint[®] Presentations
- Answer Keys and Rubrics
- Customizable ExamView Test Banks
- Correlations to National AFNR Standards for the Power, Structural & Technical Systems Career Pathway, YouScience Agricultural Systems and Technology/Agricultural Mechanics exams, and NOCTI Agricultural Mechanics job-ready assessment

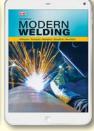
Request Free Previews of Related Titles Across Agriculture and the Technical Trades!

Contact your Educational Consultant: <u>www.g-w.com/consultant</u>

Together, We Build Careers







800.323.0440 www.g-w.com





What tools do you use in your SAE. What tools have you been trained to use in your job or agriculture class? Ask others in your class which tools are important in their SAEs. A clear understanding of the purpase and proper use of each hand tool present in this chapter will hely you perform your job or SAE activities safely and efficiently.



Agricultural Mechanics



