ENGINE TRAINING KITS
TEXTBOOKS
COURSE OUTLINES
DVDs, CBTs, POWERPOINTS
INSTRUCTOR TRAINING
ONLINE SALES CATALOG
To order Briggs & Stratton engine kits, parts, tools and other training materials, refer to the map above and contact our Integrated Distributor (IDN) that handles your region. You may fax, mail or email orders to the IDNs using a purchase order or credit card. Be sure to include a tax-exempt ID number if applicable.

1. MAGNETO POWER, LLC
www.magnetopower.com cfrancis@magnetopower.com Charles Francis 800-248-4016 x1125

2. MIDWEST ENGINE WAREHOUSE
www.mwe.net st.clair.scott@mwe.net Scott St. Clair 877-505-8633

3. PREFERRED POWER, INC
www.preferredpower.com jeffw@preferredpower.com Jeff White 800-650-3046

4. POWER SOURCE CANADA, LTD
www.powersourcecanada.ca mgulley@powersourcecanada.ca Mike Gulley 800-663-9700

5. ATLANTIC POWER, INC
www.atlanticpowerinc.com artf@atlanticpowerinc.com Art Falk 800-678-5692 x4940

6. CENTRAL POWER SYSTEMS
www.centralpower.com mikeb@centralpower.com Mike Blanc 800-554-3336 x2332

7. SEDCO, INC
www.sedcoinc.com yancey.jeff@sedcoinc.com Jeff Yancey 800-346-4260
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Our Training Kits are specifically built for you to use in your classroom and lab. They are designed with an unparalleled level of educational material, aimed at reducing your time spent writing curriculum, creating presentations and lab sheets.

Benefits of using Briggs & Stratton® Training Kits in your classroom may include:

- Materials that are developed with you and the student in mind – our materials make complex issues easier to teach.
- Daily lesson plans will take you through the semester. These were created by working with veteran teachers with years of industry experience.
- Ready to use step-by-step tear down and assembly scripted lab procedures.
- PowerPoint presentation that follows the textbook.
- Engaging video and animations that help clarify difficult concepts and will excite your students’ interest.
- Provided tool list takes the guesswork out and reduces your operating cost.
- Over 100 years of experience from the subject-matter experts who literally wrote the book(s) on small engines.
- Keep current with industry and government standards.

Curriculum relevancy becomes increasingly important as your program is being squeezed by inflation and budget cuts. Offering a program in small engines will help reinforce the core educational competencies, Science, Technology, Engineering and Mathematics (STEM) as they are applied in the real world. Some examples include:

- **Science**: How gasoline changes from a liquid to a vapor
- **Science**: Electricity, electron flow, voltage, resistance, AC & DC current, electromagnetism
- **Chemistry**: How gasoline provides heat energy
- **Physics**: Linear and rotary motion
- **Physics**: Torque as a measurement of force
- **Mathematics**: How to measure materials to within .001 inch
- **Mathematics**: Calculating displacement and compression ratios
- **Reading**: How to use repair manuals
- **Technology**: Online learning parts look-up (www.ThePowerPortal.com)
Whether you are a first-year instructor or a seasoned expert, Briggs & Stratton has just the right mix of what you need to increase the students’ knowledge retention through a multi-media classroom/lab experience.

- Briggs & Stratton offers soundly structured courses, teaching Air-Cooled Engine Theory and Repair Techniques.
- Over 100,000 engines are already in schools for use in courses relating to Air-Cooled Engine Theory and Servicing.
- Our engine technology materials are used and recognized globally, preparing students for entry to the job market.

The purpose of this catalog is to provide you with information on vocational education courses, teaching aids and training materials, as well as the newest technology available through Briggs & Stratton.

To find more information on the Internet, go to:

**ThePowerPortal.com**

If you have not already registered for an individual log-in ID, go to www.thepowerportal.com/register.htm or scan the 2D code with your smartphone.

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**Air-Cooled Engine Industry Opportunities**

Job prospects should be excellent for people who complete formal training programs. Employers prefer mechanics that have knowledge of multiple types of engines and emissions-reducing technology as the government increases regulation of the emissions produced by small engines.

The potential market for service in any one year can be 100 million engines. The need for qualified technicians is enormous. The U.S. Department of Labor’s Bureau of Labor Statistics states:

“As motorized power equipment becomes more sophisticated, employers increasingly prefer to hire mechanics who have completed formal training programs. Employment of outdoor power equipment mechanics is expected to grow 19 percent from 2012 to 2020.”


As engine technology advances and engine power equipment becomes more complex, the skill level of these service technicians also needs to increase. These demands affect future service technicians produced by vocational, trade schools, and high schools. We believe that you, the instructor, along with Briggs & Stratton can meet this challenge.
ENGINE TRAINING KITS

Briggs & Stratton is the world’s largest manufacturer of small air-cooled engines and a leading producer of engine powered equipment like portable and stand-by generators and pressure washers. We are the leader in providing a diverse line of educational training kits to support your programs.

We have many different levels of kits to match your needs. Whether your program is brand new, and you need a starting package, or a seasoned school looking for more advanced material, Briggs & Stratton has the educational materials for you. (Kit contents subject to change without notice.)

Industry advice, ongoing technical support, discounted parts, and engine purchases are available through the Integrated Distributors Network in North America. Information such as parts look-up and service bulletins are available online at ThePowerPortal.com.

There are four levels of kits available, all reasonably priced with school budgets in mind:

- **Basic Training Starter Kit** - Provided at no charge by Briggs & Stratton to qualified accounts. Includes one engine and choice of 2 additional training items. See details on page 5.

- **Entry Level Kits** - Contains two engines, textbooks, workbooks, basic tools and instructor’s materials.

- **Intermediate Level Kits** - Provide additional resources to supplement the Entry Level Kits or existing programs.

- **Advanced Level Kits** - Contain engines, support materials and/or equipment for providing a complete in-depth program.

CE9028 OHV Engine Upgrade Module (pg. 8)

CE9039 L-Head Engine Training Kit (pg. 9)
To participate, a school must meet all of the following requirements...

1. Have an on-going course in air-cooled gasoline engine theory and/or repair. This course may be either stand-alone or part of a broader curriculum in which air-cooled gasoline engine operation and servicing is a major component.

2. Agree that the no-charge materials supplied by Briggs & Stratton are the exclusive property of the school and are not to be considered as “belonging” to any individual instructor.

3. If the small engine training class is discontinued, the donated items are to be given to another school for the use of education.

4. Welcome any visitation by a Briggs & Stratton representative wishing to review the use of this material.

5. Complete and submit form provided on The Power Portal site along with a course outline.

To apply:

Basic Training Starter Kit  
NORTH AMERICA ONLY

This kit is Briggs & Stratton’s traditional Engine Donation Program. Once a year, an educational facility may apply for and receive one (1) Briggs & Stratton engine at no charge. In addition to the engine donation you may select any two (2) items from the list below. This kit is supplied by Briggs & Stratton at no cost to the qualifying school.

Briggs & Stratton’s Contribution

If the above criteria are met, you will receive from Briggs & Stratton:

1. One (1) engine of Briggs & Stratton’s choice.

2. Two (2) items selected from the list below:
   - CE3017 - Basic Engine Systems CD
   - CE3056 - Fuel Delivery Systems CD
   - CE3070 - 4-Cycle Theory DVD
   - MS4185 - Master Parts Catalog
   - 19368 - Ignition Tester
   - CE8155 - Small Engine & Equipment Maintenance
     (10 per engine donated)

Annual Renewal Process

Once each year a school may re-apply for the same basic donation package. Renewal is not automatic. The instructor or school administrator must re-submit the required online application/agreement form.

How to Apply for Kit

Complete and submit the engine donation application and release of liability form online. Remember to upload a course outline.

Go to: ThePowerPortal.com - See Educational Resources > Educational Materials for Donation

Note: Items will be shipped freight prepaid; however, some fees may apply to orders shipped outside the continental United States. Please allow 6 to 8 weeks for delivery.

Engine model is subject to availability and may differ from what is shown in the photo.

+ any 2:

- Basic Engine Systems CD
- Fuel Delivery Systems CD
- 4-Cycle Theory DVD
- Ignition Tester
- Master Parts & Service Tools Catalog
- CE8155 - Small Engine & Equipment Maintenance (10 per engine donated)
This complete course curriculum is refined from the Briggs & Stratton Authorized Field Service School, a widely acclaimed small engine training program in the industry. Developed from years of training experience and built around a textbook written by the Briggs & Stratton Customer Education Department, you are assured a thorough, in-depth study of Briggs & Stratton engines. Included with the purchase of this kit is admission to one of our 4-day Vo-Ed Training Courses of your choice at the Briggs & Stratton Customer Education Center in Milwaukee, Wisconsin*. Once trained with curriculum in place, the instructor will be able to provide a comprehensive and accurate small gasoline engine program for the students.

New instructors will benefit from having a complete day-to-day lesson plan. For more advanced classes it is relatively simple to construct a custom made program based on your needs from the textbook table of contents or your experiences at the instructor training session. It is beneficial for instructors to have some air-cooled engine or automotive/motorcycle/marine engine experience before attending advanced courses.

Included in this package is a CD containing video and PowerPoint presentations, and outlines for the instructor to develop competence.

The combination of textbooks, student workbooks, repair manuals and audio/visual training aids allows tremendous flexibility in how to teach various subjects. The extensively illustrated textbook is the “why”, the repair manuals the “how” and the workbooks containing the student labs are the “reinforcement.”

*Please bear in mind that the instructor training offered includes the school and lunch each day. You will be responsible for transportation to/from Milwaukee as well as any incidental costs; hotel cost is included. Transportation from the hotel to Briggs & Stratton will be provided. (See page 25-28 for school dates and an application.) Visit our website to view our list of educational opportunities.

Note: Some fees may apply for orders shipped outside the continental United States. Call for information. Expect delivery 3-4 weeks after receipt of order.
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**Note:** *Red Bold Italicized* items are considered “consumable” and will need to be replenished on a regular basis. These parts can be re-ordered by request at ThePowerPortal.com. These engines are now equipped with metric fasteners.

For prices and ordering, see the inside front cover for your regional source of supply contact.
**CE9028 OHV Engine Upgrade Module (10 Engines)**

The Overhead Valve Upgrade Module is an excellent way for schools with established air-cooled engine programs to upgrade to more modern components.

CE9028 is one of our most popular kits similar to the larger CE9001 kit, but without some of the specialty tools and repair manuals.

- Perfect for schools with an existing small engine program
- Engines and resources to supplement tools already in place
- Helps schools stay up-to-date with current technology

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For prices and ordering, see the inside front cover for your regional source of supply contact.
CE9039 L-Head Engine Training Kit (2 Engines)

ENTRY LEVEL KIT - One of the most widely used engines for walk-behind lawn mower applications.

CE9039 is designed for schools needing a basic entry-level kit
• Intended for smaller class sizes
• Get hands-on experience with vertical shaft lawn mower engines
• CDs, textbook and workbook to help instructors enhance students’ learning experience

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For prices and ordering, see the inside front cover for your regional source of supply contact.
CE9040 OHV Engine Training Kit (2 Engines)

Used in generator, pressure washer, roto-tiller and other applications.

CE9040 is also designed for schools needing a basic entry-level kit

- Intended for smaller class sizes
- Get hands-on experience with horizontal shaft, overhead valve engines
- CDs, textbook and workbook, to help instructors enhance students’ learning experience

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**CE9041 OHV Engine Replacement Training Kit (5 Engines)**

Use this kit to economically replace engines in the OHV Engine Training Kit CE9001 (pg. 6) or supplement other training kits.

- Replacement engines for larger kits
- Includes instructor’s CD with daily lesson plans and lab procedures
- Engine photos
- Teardown script

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**CE9047 L-Head Engine Replacement Training Kit (5 Engines)**

This kit can be used for schools that have an existing program for L-Head style engines.

CE9047 enables a school to have a low cost solution to replace worn-out training engines

- Instructor CD to help enhance students’ learning experience
- Includes the worldwide industry standard 675 Series™ engine used on many walk-behind rotary lawn mowers
- Engine photos

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For prices and ordering, see the inside front cover for your regional source of supply contact.
CE9053 Super Sized OHV Replacement Kit (12 Engines)

Replace worn-out engines or expand programs so all students have identical engines to learn the essentials.

CE9053 contains 12 OHV horizontal crankshaft engines that are common in tillers, pressure washers and generators. The kit also includes the CE3094 Instructors CD containing:

- Detailed lesson plans
- Student lab sheets
- PowerPoint of engine disassembly & reassembly
- 4-cycle theory video
- Engine photos for creating your own customized presentation

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CE9054 Super-Sized L-Head Replacement Kit (12 Engines)

Replace worn-out engines or expand programs so all students have identical engines to learn the essentials.

CE9054 contains 12 L-Head 675 Series™ vertical crankshaft engines; the most popular rotary lawn mower engine in the world. The kit also includes the CE3093 Instructors CD containing:

- PowerPoint of engine disassembly & reassembly
- 4-cycle theory video
- Engine photos for creating your own customized presentation

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CE9056 Vanguard™ V-Twin OHV Engine Kit (2 Engines)

The Vanguard™ V-Twin Engine Kit will give you the opportunity to elevate your classroom to an advanced level. It will give your students the chance to discover the working mechanisms of multi-cylinder engines. In addition, they will have the opportunity to understand the refinement of the Vanguard™ brand.

CE9056 is designed to take the more advanced learners to the next level. New this year, the V-Twin Engine Kit can give your students a new sophistication of the larger and more powerful engine designs. Get hands-on experience with twin cylinders, pressurized lubrication, electric start and alternators. This kit includes gasket sets, repair manuals and a CD containing:

- PowerPoint engine disassembly and reassembly
- V-Twin teardown script
- V-Twin Model 305447 class outline
- Illustrated Parts List for Model 305447
- Required tool list
- How to look up parts and Operator Manuals
- Oil and fuel recommendations
- And more

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Note: Red Bold Italicized items are considered “consumable” and will need to be replenished on a regular basis. These parts can be re-ordered by request at ThePowerPortal.com. These engines are now equipped with metric fasteners.
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CE9002 Valve Work Cylinders Training Kit*

These cylinders are for demonstration and student hands-on valve guide re-work. This kit only contains cylinders (no tools).

CE9015 Alternator Training Kit*

CE9015 contains 8 of our most common charging system stators (alternators) and 3 solid state regulators (2 full wave and 1 half wave). It can be used to teach:
- Electro-magnetic induction
- Half and full wave rectification in general
- Review charging systems specific to Briggs & Stratton

CE9024 Single Circuit Carburetor Training Kit*

CE9024 contains the primer style bowl carburetor with a high speed circuit only.
- One kit equals 4 carburetors
- Parts are captured off the manufacturing line before assembly
- No pressed-in components are installed, allowing for better visual access to fuel and air circuits

CE9025 Dual Circuit Carburetor Training Kit*

CE9025 contains the choke-style bowl carburetor with both high and low speed circuits.
- One kit equals 4 carburetors
- Parts are captured off the manufacturing line before assembly
- No pressed-in components are installed, allowing for better visual access to fuel and air circuits

*No support information included. You may purchase CE3029, Theories of Operation Vol. 2 Video (pg. 23) to provide additional training reinforcement of carburetor theory or CE3056, Fuel Delivery Systems (pg. 27), for diagrams of common carburetors and fuel circuits. For classroom use only. Carburetors not to be used on engines.

For prices and ordering, see the inside front cover for your regional source of supply contact.
TEACHING AIDS - BOOKS & MANUALS

CE8020 Small Engines Textbook
CE8021 Workbook
CE8022 Workbook Answer Key

Written by the Briggs & Stratton Global Director of Customer Education, Bruce Radcliff, and former Customer Education Manager, Donald Koloski, this textbook has over 350 pages and well over 300 illustrations. It is one of the most detailed theoretical texts available. Already on its third printing, the text is accompanied by a CD-Rom containing quick quizzes, an illustrated glossary, media clips and additional reference material.

Commonly, manufacturers produce repair manuals which supply the “how-to” for most repair jobs. Few industry or outside publications provide much in the way of “why.” Small Engines concentrates on the theory of operation relating to all engine systems. Both air-cooled and water-cooled engines are covered.

Small Engines is supported by a Student Workbook containing review questions on three different levels addressing the skills and acquired knowledge of beginners, intermediate students and those with advanced capabilities.

The Small Engines Workbook Answer Key contains the answers to the lessons provided in the Student Workbook.

Used in Training Kits: CE9001, CE9039, CE9040

CE8143 Small Engines Resource Guide

Used in conjunction with the Small Engines Textbook and Workbook, this 72-page guide provides the instructor with a turn-key program. The guide follows the chapters from the textbook and provides instructional outlines (competencies), PowerPoint presentations and tests. In addition, you will receive media clips, electronic slides of all the art used in the book, pre- and post-tests and much more. Also included is Test Development software. Use a bank of questions already developed from each chapter or incorporate your own questions. This guide will save a teacher an incredible amount of time in developing his/her program.

CE8155 Small Engine and Equipment Maintenance

Small Engine and Equipment Maintenance is a comprehensive compilation of small engines and the maintenance practices that are required to maintain the efficiencies and durability of residential and commercial power equipment. The materials have been designed to support and entry-level small engines program and a small engines owner looking to prolong their power equipment investment.

Quick response code technology is incorporated throughout that references easy-to-understand procedures and identifies critical operation components. The learner will reference this well after they leave the classroom.

Used in Training Kits: CE9001, CE9039, CE9040

For prices and ordering, see the inside front cover for your regional source of supply contact.
CE8147 Cutaway Instruction Guide
This 88-page book is designed to give any individual looking for basic guidance in making a training prop. The content is limited to a basic approach and requires a clear understanding of hand tools and power tools in a safe and responsible fashion. Your imagination is the only thing that will limit what you can accomplish while having the vision of what your cutaway will present when you complete it.

CE8034 Engine Failure Analysis Book
This 48-page book details the five most common causes of engine failures. A thorough discussion of the “how and why” of each failure along with supporting diagrams and photographs assist the technician in determining engine failures.

This manual covers all out-of-production Briggs & Stratton SINGLE CYLINDER engines built in years 1919-1981. From the original model “A” to model series used in 1981, this book has the specifications, diagrams and instructions necessary to restore your “antique” engine to good-as-new condition.

270962 Single Cylinder L-Head Repair Manual
For most single cylinder L-Head engines built after 1981. Our best seller - shop manual contains common specifications and detailed, easy-to-follow instructions on how to adjust, tune up and repair. This 350-page manual is used by Authorized Briggs & Stratton Service Centers.
Used in Training Kits: CE9001, CE9039, CE9047, CE9059

271172 Twin Cylinder L-Head
For most twin cylinder L-Head engines built after 1981. Manual contains common specifications and detailed, easy-to-follow instructions on how to adjust, tune up and repair. This manual is used by Authorized Briggs & Stratton Service Centers.
Used in Training Kit CE9001

272144 Twin Cylinder OHV Vanguard™
For Vanguard™ V-Twin OHV engines built after 1981. This 190-page manual is dedicated to Vanguard engines. It is used by Authorized Briggs & Stratton Service Centers. It contains specifications and detailed instructions on how to repair and adjust these types of engines.
For Vanguard™ Single Cylinder Engines use Repair Manual 272147.
Used in Training Kits: CE9001 & CE9056

For prices and ordering, see the inside front cover for your regional source of supply contact.
For most single cylinder OHV Vanguard™ engines built after 1981. This 280-page manual is now dedicated to Vanguard engines and is used by Authorized Briggs & Stratton Service Centers. It contains specifications and detailed instructions on how to repair and adjust these types of engines.

For Vanguard™ Single Cylinder Engines use Repair Manual 272147.

For other OHV Single Cylinder Engines use Repair Manual 276781.

For most single cylinder OHV engines built after 1981. This manual is used by Authorized Briggs & Stratton Service Centers. It contains specifications and detailed instructions on how to repair and adjust this type of engine.

Used in Training Kits: CE9001, CE9028, CE9040

For Vanguard™ Single Cylinder Engines use Repair Manual 272147.

For single cylinder vertical crankshaft Professional Series™ OHV engines built after 1981. This manual is used by Authorized Briggs & Stratton Service Centers. It contains specifications and detailed instructions on how to repair and adjust this type of engine.


Repair manual for Intek™ V-Twin overhead valve (OHV) engines. Model series 405700, 406700, 40F700, 40G700, 40H700, 445700 and 446700.

Repair manual for 2-cycle R-Tek snow engines.
DVDs

THEORY PROGRAMS

Video programs are available at a nominal charge. While most of these video programs have been developed for service dealer schools, these programs can also serve the needs of vo-ed students. All video programs are recorded on DVD.

CE3070 4-Cycle Theory DVD
This video (6 minutes) is the foundation for understanding how an engine operates and is the cornerstone of a small engine class. Basic 4-cycle theory is described through the use of high-end computer generated graphics.

Used in Training Kits:
CE9001
CE9039
CE9040

CE3013 Theories of Operation – Volume 1 DVD
This is a series of four distinct programs (64 minutes total) on a single DVD. These selections cover four basic topics which are vital to understanding the operation of a 4-cycle engine.

1. Carburetor Theory
2. Valve Theory and Repair Procedures
3. Governor Theory and Troubleshooting
4. Electrical System (Alternator Theory)

Used in Training Kits:
CE9001
CE9039
CE9040

CE3101 Electrical Testing - Voltage Drops
Getting to More Bill Paying Money

Learn how to pinpoint a problem in an electrical circuit by using voltage drop testing. Quickly show where a circuit has resistance (defective components, corrosion, etc.) not allowing it to perform properly.

The goal of any servicing dealer is to make a profit by taking care of customers. This video looks at measuring several key variables such as selling, shop time, technician output and margin targets.

For prices and ordering, see the inside front cover for your regional source of supply contact.
CE3029 Theories of Operation – Volume 2 DVD

This serves as a companion video (72 minutes) to Theories of Operation - Volume 1. It contains four advanced topics on a single DVD.

1. Horsepower and Torque: explains torque as a rotational force and horsepower as a calculation of work performed.
3. Troubleshooting Carburetor Systems: carburetor problems are divided into three main categories; starting problems, performance problems and leakage. Examples, tests and repairs are presented as well as “Tricks-of-the-Trade.”
4. Dynamics of Engine Failure, (see CE3113 pg. 24)

Used in Training Kit: CE9001

CE3097 Water Pump & Pressure Washer Theory & Troubleshooting DVD

This DVD (42 minutes) is an excellent presentation on the operational theory of water pumps and pressure washers. Various principles of physics, liquids, and creating pressure differentials are explained in making this equipment work. 3-D and animation graphics clearly document the coordination of all the operating systems. The principles of operation and basic equipment troubleshooting is covered in this DVD. Maintenance and parts nomenclature are also included.

CE3109 Generator Theory Reminder DVD

Electrical energy can be produced from a variety of means. This DVD explains how a portable generator produces power using a brushed (15 minutes) and a brushless (12 minutes) system. Using high-end 3-D graphics, students will learn the induction method of producing power.

In addition, there is also a presentation on the generator market and maintenance (8 minutes). (Use this to educate students on the profit-making opportunities of working on portable generators.)

For prices and ordering, see the inside front cover for your regional source of supply contact.
### DVDs

**MAINTENANCE & TROUBLESHOOTING PROGRAMS**

**CE3001 Maximizing Engine Life**
Through Preventive Maintenance DVD

The importance of establishing a preventive maintenance system is the primary message of this DVD (35 minutes). Included are explanations of the basic engine maintenance requirements. Implementing a preventive maintenance system assures top power delivery and keeps the equipment more productive over a longer period of time. While the message is geared for equipment operators and owners, anyone learning about small engines can benefit from this important information.

**CE3113 Dynamics of Engine Failure DVD**

This video (55 minutes) sets the scene with various scenarios of different engine failures. The failures covered are abrasive ingestion, insufficient lubrication, over heating and breakage. The video can be used as a stand-alone presentation on engine failures.

This DVD has an additional PowerPoint presentation on the five common causes of engine failures, all supported by embedded video segments. The failures include abrasive ingestion, insufficient lubrication, over heating, over speeding and breakage. You will be able to show the evidence of the failure and explain how and why it happened.

Also enclosed is a PDF version of our Major Engine Failure Analysis book (CE8034). This book serves as a printed resource for the students to follow using the above presentations.

**CE3114 Diagnostics - Volume I DVD**

This DVD is a series of videos explaining different diagnostic approaches.

- **Quick Check Diagnostics**, (10 minutes) - A troubleshooting video using a procedure based upon an interview process with a customer. This procedure enables a technician to quickly look at a piece of equipment to help determine what is wrong.

- **Compression Diagnostics**, (38 minutes) - This video enables the student to truly understand 4-cycle theory and the components behind it. Time will also be devoted to performing a 3-angle valve job which enhances engine performance.

- **Quick Flow Diagnostics**, (15 minutes) - After initially troubleshooting a piece of equipment when it comes in, which technician should work on it? This video helps to develop a process on how to quickly and effectively get the piece of equipment through the shop.

- **Carburetion Diagnostics**, (18 minutes) - Why doesn’t the engine start? Or, why does the engine run poorly? This video looks at all of the functions of the carburetor and gives the student a clear understanding of symptoms and what causes them.

All of the above videos are supported with a PDF booklet included on the disk.

*For prices and ordering, see the inside front cover for your regional source of supply contact.*
CE3091 Archived Service Information DVD

This video (56 minutes) is a collection of four important service procedures, all on a single DVD.

1. Cylinder Resizing (12 minutes) - In addition to the actual resizing procedure, importance is given to describing the relationship between the cylinder bore and piston rings as well as a discussion on cylinder bore wear.

2. Repairing Rewind Starters (16 minutes) - The classic “3 minute rewind starter repair” is demonstrated in step-by-step detail.

3. 4 HP 2-Cycle Theory of Operation (13 minutes) - The third port loop scavenging design is explored.

4. Electrical Systems: Ignition, Charging & Starting (15 minutes) - Covers basic theory with simple troubleshooting as it relates to Briggs & Stratton electrical systems.

CE3069 Briggs & Stratton Story DVD

This video (50 minutes) covers the Briggs & Stratton story, history, products and commitment to supporting customers worldwide. Includes two engine plant tours (small and large engines). Show your students how an engine is built!

For prices and ordering, see the inside front cover for your regional source of supply contact.
POWERPOINT TRAINING CDs

CE3094 “Overhead Valve” (OHV) Engine Instructor’s Reference

The information on this CD will provide instructors with basic techniques needed to teach small engine technology. There are two methods enclosed for teaching the course curriculum. The first method, developed by a high school teacher with over 30 years of experience, utilizes a complete lesson plan for an 8-9 week class taught at the appropriate level.

The second method can utilize the additional information on this CD. These materials will be helpful for a class that is giving an overview of small engines, versus a full semester class. This includes a detailed step-by-step teardown script for the Model 12 OHV horizontal crankshaft engine, PowerPoint slides, course outline and photo library to create customized slides.

The information on this course is based upon the Briggs & Stratton® Model 12 OHV horizontal engine.

Used in Training Kits: CE9001, CE9028, CE9040, CE9041

CE3017 Basic Engine Systems

Contains 86 slides of 4-Cycle and 2-Cycle theory – L-Head, Overhead Valve (OHV), Direct Overhead Valve (DOV®) engine designs, governors, compression ratio, compression release systems, rings, cubic inch displacement, lubrication systems and counter balancing systems. Highly recommended for the beginner…it’s the cornerstone of a small engine program.

Used in Training Kits: CE9001, CE9028

CE3056 Fuel Delivery Systems

Contains 107 slides of basic carburetion systems diagramming common and Briggs & Stratton carburetors and fuel pump circuits.

Used in Training Kits: CE9001, CE9028

For prices and ordering, see the inside front cover for your regional source of supply contact.
CE3093 L-Head Engine Instructor’s Reference

Includes detailed step-by-step teardown script for the popular Briggs & Stratton 625-725 Series™ vertical crankshaft engine, PowerPoint slides, course outline and photo library to create customized slides.

Used in Training Kits: CE9039, CE9047

CE3095 Portable Generator Instructor’s Reference

Includes electrical theory, detailed step-by-step teardown scripts for Briggs & Stratton 3500 watt and 4000 watt generators, generator and engine PowerPoint slides, test equipment usage, course outline and photo library to create customized slides.

CE3125 V-Twin Engine Instructor’s Reference

Includes detailed step-by-step teardown script for the popular Briggs & Stratton Vanguard™ V-Twin OHV engine, PowerPoint slides, course outline and photo library to create customized slides.

Used in Training Kit: CE9056
VO-ED INSTRUCTORS
FACTORY SERVICE TRAINING

Briggs & Stratton conducts Factory Service Training for Vo-Ed Instructors. These schools not only cover the operation and theory behind Briggs & Stratton air-cooled engines, but also offer specific insights in developing teaching aids such as carburetor cut-aways, and other ideas. There are a number of additional educational opportunities available to instructors of air-cooled gasoline engine courses. These schools are conducted at different times during the year. See ThePowerPortal.com for more information.

Beginner Vo-Ed Instructors’ School

SCHEDULED DATES: June 9-12, 2014; June 16-19, 2014

WHAT IS IT?

If you are an instructor who is relatively new teaching small engine technology, then this is where you will want to start.

By attending this course you will have received enough knowledge and confidence to be able to conduct your own basic small engine class. This program will follow lesson plans designed for high schools that can be found on our Overhead Valve (OHV) Engine Instructors’ Reference CD. It is intended to walk you through each of the same steps you would use in your classroom and lab. You will perform complete teardowns on a horizontal shaft OHV and a vertical shaft L-head engine. In addition, you will receive an assortment of training materials from CDs that contain lesson plans, PowerPoint presentations, teardown scripts and more, so that you will be able to teach the same concepts and procedures in your own classroom.

COVERED TOPICS:

• The use of learning materials to deliver a full small engine course
• How to properly identify a Briggs & Stratton engine along with how to obtain support information
• How to access useful information via Briggs & Stratton’s web sites (If you have a laptop computer with wireless Internet capabilities, be sure to bring it with you!)
• Four-cycle theory will be explored thoroughly through the use of multimedia
• Hands-on tear down of L-Head and OHV engines
• Explanations of engine systems from A to Z, including:
  • Carburetors
  • Fuels & Oils
  • Ignitions
  • Governors
  • Compression

WHO SHOULD ATTEND?

• Training professionals that are in need of a thorough refresher or have little knowledge of basic small engines and 4-cycle theory
• Instructors who have never taught an engines course before
• Teachers who are looking for pre-existing curriculum and instructions on how to best apply it in class

PREREQUISITE: None
Experienced Vo-Ed Instructors’ School

SCHEDULED DATES: July 14-17, 2014

WHAT IS IT?
The focus of this school is to concentrate on more complex concepts. Topics pick up from where the beginner course ended and includes more hands-on activities. This school will also focus on making training props for your classroom that make difficult subjects easier to understand.

COVERED TOPICS:
• Compression systems, including performing a 3-angle valve job
• Different types of carburetors along with a hands-on troubleshooting activity
• Significant time will be devoted to making cut-a-ways of carburetors and other engine related components
• We will also make a simple device to show the Venturi effect within carburetors
• Alternator systems will be covered in-depth with an activity to measure alternator electrical output

WHO SHOULD ATTEND?
• Vocational educators that want or need to expand their knowledge to be able to take their classroom to the next level
• Instructors looking for a better way to deliver engine concepts through the use of engine and engine component cut-a-ways made by the instructors themselves

PREREQUISITE: Vo-Ed Instructors - Briggs & Stratton Beginner Course or 2+ years of teaching small engines
Course Package Amenities

- Lodging (individual room)
- Breakfast & Lunch on Day(s) of Class
- 1 Dinner Banquet
- All Course Materials
- Transportation Between the Training Facility and Place of Lodging
- Framed Certificate to Qualifying Graduates
- Network with Fellow Technicians or Instructors
- Personal Attention (Typical Class Size is 10 - 20 Students)
- Please make travel arrangements to arrive the day before class starts and to depart after class ends.

Course Fees

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Course Fee (Includes Lodging)</th>
<th>Course Fee (No Lodging)</th>
<th>MST Fee ($100 off)</th>
<th>Diamond Dealer (Lodging Fee Only)</th>
<th>VOED with CE9001 Kit Purchase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginner Vo-Ed Training</td>
<td>$900.00</td>
<td>$400.00</td>
<td>$800.00</td>
<td>$500.00</td>
<td>FREE</td>
</tr>
<tr>
<td>Experienced Vo-Ed Training</td>
<td>$1,000.00</td>
<td>$500.00</td>
<td>$900.00</td>
<td>$500.00</td>
<td>FREE</td>
</tr>
<tr>
<td>Advanced Engine Technology</td>
<td>$1,000.00</td>
<td>$500.00</td>
<td>$900.00</td>
<td>$500.00</td>
<td>FREE</td>
</tr>
</tbody>
</table>

For application form and more information, go to ThePowerPortal.com — Educational Resources > Vocational Instructor Continuing Education

Master Service Technicians (MSTs), Diamond Dealers™ and Educational Facilities that have purchased the CE9001 OHV Engine Training Program Kit are eligible for reduced factory school fees.

- MSTs receive a $100 discount on each training course.
- Diamond Dealers™ receive one free factory school every season (excludes lodging or transportation to/from Milwaukee).
- Purchasers of CE9001 Training Kit receive one FREE course (includes lodging, excludes transportation to/from Milwaukee).
  - FREE course offer is valid for up to 2 years from date of purchase of CE9001 Training Kit.
  - Include copy of invoice for CE9001 Training Kit with application.
- We’re so confident you’ll be pleased with your experience that we offer a money-back guarantee if you are not satisfied with your training.

NOTE: All classes are held at the Briggs & Stratton Training Center – Menomonee Falls, WI. Briggs & Stratton reserves the right to cancel a scheduled course up to 10 days prior to the start date. If a cancellation does occur, Briggs & Stratton will promptly notify you of alternate dates available, but will not accept liability for non-refundable travel tickets.
2013-2014 FACTORY SERVICE TRAINING COURSES APPLICATION

Date of Application ______________________

Company/School Name ______________________ Company/School Address ______________________

Business Telephone Number ______________________ City ______________________

Fax Number ______________________ State ____________ Zip ______________________

E-Mail ______________________ Yrs of Industry/Teaching Experience ______________________

Applicant Name ______________________ Age ______________________ Male/Female ______________________

Home Address ______________________ City ______________________

State ____________ Zip ______________________ Cell or Home Number ______________________

Course:

First Choice Date ______________________

Second Choice Date ______________________

Customer Education & the EETC

Briggs & Stratton is a strong supporter of the Equipment and Engine Training Council (EETC). The EETC is deeply involved in two distinct areas, technician certification and school accreditation. Attending a Briggs & Stratton course will help the technicians with fundamental knowledge that can be applied to EETC certification tests. Additional information can also be supplied to Vo-Ed Instructors for developing an accredited EETC educational facility. For additional EETC information, visit www.eetc.org.

Payment can be made by credit card, purchase order or check, payable to Briggs & Stratton Corporation.
Submit application/payment via e-mail at cust.ed@basco.com, fax to 414-259-5214 or mail to: Briggs & Stratton Corporation, Attn: Customer Education, P.O. Box 702, Milwaukee, WI 53201-0702.

(Check one) ❑ Visa ❑ MasterCard ❑ American Express ❑ Discover

Print name (as it appears on card): ______________________

Account Number: ______________________

Signature: ______________________

Exp. Date: ______________________

NOTE: PLEASE USE (1) APPLICATION FORM PER PERSON ATTENDING • CANADA ONLY: Please make school fee payable in U.S. funds. CANCELLATION MUST BE RECEIVED IN WRITING AT BRIGGS & STRATTON 10 DAYS PRIOR TO THE WEEK SCHEDULED TO OBTAIN A REFUND.

I understand that Briggs & Stratton may take photographs and/or video of event participants and activities. I agree that Briggs & Stratton Corporation shall be the owner of and may use such photographs and/or videos relating to the promotion of future events. I relinquish all right that I may claim in relation to use of said photographs and/or videos.

Signature of Participant ______________________ Date ______________________

VO-ED Instructors please attach a copy of the invoice for the CE9001 Training Kit if you purchased one within the last 2 years to receive free course.

❑ NO LODGING REQUIRED

PLEASE MAKE TRAVEL ARRANGEMENTS TO ARRIVE ON SUNDAY AND TO DEPART ON FRIDAY
SPECIALTY TOOLS
19300 Basic Tool Kit

KIT INCLUDES:

19061 Carburetor Jet Screwdriver, Small Jets
19062 Carburetor Jet Screwdriver, Large Jets
19063 Valve Spring Compressor
19069 Flywheel Puller - small, hole distance 1-5/8"
19070 Piston Ring Compressor (5 HP‡ & below)
19165 Flywheel Puller - medium, hole distance 2"
19165 Flywheel Puller - large, hole distance 2-13/16
19200 Tachometer (Treysit Sirometer)
19203 Flywheel Puller - large, hole distance 2-13/16
19340 Piston Ring Expander
19368 Tester - Ignition
19393 Torque Wrench
19433 Flywheel Holder
19442 Torqux Star Bitsyr in handy pouch
19480 Tang Bender
19620 Fuel Line Removal Tool
795161 Alcohol Fuel Tester
CE5121 Air Gap Gauge .010" (.254 mm)
MS-4185 Master Parts Catalog

Note: Each tool part number can also be ordered separately.

‡For replacement strap, order 19489
yrTo order replacement bits, specify: 19510 (T-10) - 19511 (T-15) - 19512 (T-20) - 19482 (T25) -
19513 (T-27) - 19514 (T-30) - 19515 (T-40) - 19516 (T-45)
yrAll power levels are stated gross HP per SAE J1940 as rated by Briggs & Stratton.

For prices and ordering, see the inside front cover for your regional source of supply contact.
<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>19545</td>
<td><strong>Leakdown Tester</strong>&lt;br&gt;Used to test the sealing capabilities of the compression components of all engines. Comes with crankshaft clamp.</td>
</tr>
<tr>
<td>795161</td>
<td><strong>Alcohol Tester</strong>&lt;br&gt;Marked with alcohol content lines at 10%, 20%, 70% and 85%. This provides the technician with visual cues as to the alcohol content.</td>
</tr>
<tr>
<td>19598</td>
<td><strong>Digital Tach &amp; Hourmeter</strong>&lt;br&gt;Meter displays RPM while engine is running. When engine is stopped, meter displays elapsed time.</td>
</tr>
<tr>
<td>19602</td>
<td><strong>Digital Meter</strong>&lt;br&gt;Meter features the ability to test for AC or DC voltage, resistance (Ohm’s), capacitance, diode function, temperature. Incorporates clamp for easy measurement of amperage (AC or DC).</td>
</tr>
<tr>
<td>19368</td>
<td><strong>Ignition Tester</strong>&lt;br&gt;Designed to simulate true engine ignition resistance and system capabilities under safe test conditions.</td>
</tr>
<tr>
<td>19608</td>
<td><strong>T40 Plus Torx® Bit</strong>&lt;br&gt;This Plus Torx® bit design is to be used for the Model 31 &amp; 33 rod bolts. If the technician tries using a standard T40 Torx bit on these rod bolts, they will have a real potential of stripping the head of the bolt.</td>
</tr>
<tr>
<td>19468</td>
<td><strong>DC Amp Shunt</strong>&lt;br&gt;Used to measure amperage in a 12 volt system. Color-coded receptacles hold digital multimeter leads securely while testing. This tool works with any digital multimeter with a millivolt scale. Eliminates blowing the fuse in multimeters, due to high current loads such as charging and starting.</td>
</tr>
</tbody>
</table>
19620 Fuel Line Removal Tool
This tool is essentially a pry bar for removing fuel line from barbed fittings. The bar is carefully formed, machined, hardened and plated to ensure a long life. To use, remove fuel line clamps. Push fork at end of tool behind the end of the fuel line. Carefully leverage the tool against some existing engine component as a fulcrum and pry fuel line from fitting. Use caution to prevent damage to linkage or fuel system controls. Inspect all removed fuel lines for damage or hardening and replace as necessary.

Fix-A-Thread Kits
For repairing damaged and stripped threads.
100024 - Master Thread Repair Kit includes:
   100007  Thread Repair Kit 10-32
   100008  Thread Repair Kit 1/4-20
   100009  Thread Repair Kit 5/16-18
   100010  Thread Repair Kit M5x.8
   100011  Thread Repair Kit M6x1
   100012  Thread Repair Kit M8x1.25
   100013  Thread Repair Kit 14 mm Spark Plug

Thread Insert Refills
4185 - 10-32 Refill-10

19607 Otoscope
The use of the otoscope offers the technician the ability to see into small passages and jetting of carburetors. The otoscope offers 2X minimum magnification and a push button switch to activate the bulb to ensure that the technician will not forget to turn off the light causing the battery to be drained.

CE5005 SAE & Metric Equivallance Stainless Steel Scale
This tool is almost a requirement for the shirt pocket of any technician. Made of flexible stainless steel, this SAE & Metric Equivallance scale is equipped with a T-square/pocket clip that functions as a depth gauge. One side of the scale is metric and displays millimeters. The other side is graduated in inches and displays 64ths. The reverse side features a handy decimal equivalent chart.
Notes:

CE5121 Air Gap Gauge
Disguised as a flexible SAE & Metric polymer ruler, this tool’s hidden purpose is a reusable, armature air gap gauge. To use, back the armature out to its widest clearance and snug it down. Line the flywheel magnet up with the armature, insert the gauge between the two and loosen the armature screws. The magnet will pull the armature down to the gauge. Tighten and torque the screws and remove the gauge. Sized at .010 to .012 inch, this setting can be used for all Briggs & Stratton engines.

MS4185 Master Parts Catalog
Includes tool section. See ThePowerPortal.com for information on all Briggs & Stratton Parts and Tools!

AM3006A The Power Within™ Banner
Size 48” x 28”
Briggs & Stratton has developed a powerful and flexible private web-based portal for its family of products, ThePowerPortal.com.

**FEATURES**

➤ Secure, on-demand, 24x7 access to meaningful information and functions for all of our products.

➤ Complete training resource offerings

➤ Engine donation program

➤ Classroom support materials/demos

➤ eParts - service parts and/or whole goods look-up

➤ Technical publications search - 1,000s of technical and service documents

➤ Continuing education for instructors

➤ Power Channel - video training and testing for students

**E-PARTS LOOK-UP**

If you have not already registered for an individual log-in ID, go to www.thepowerportal.com/register.htm or scan the 2D code with your smartphone.