

# Small Engine Service and Repair

**Curriculum Guide:** *Small Engine Service and Repair*

**Module:** 1. Installing a Magnetron Ignition and Breaker Points

**Unit Objective:**

Students will apply principles of small engine ignition service and repair by identifying ignition system tools and components and installing and testing a variety of ignitions.

**Show-Me Standards:** 1.10, CA3

**References:**

Briggs & Stratton Corporation. Accessed January 13, 2004, from <http://www.briggsandstratton.com>.

Kohler Engines. Accessed January 13, 2004, from <http://www.kohlerengines.com/>.

*Small Engine Service and Repair*. University of Missouri-Columbia, Instructional Materials Laboratory, 1994.

**Instructional Strategies/Activities:**

- Students will engage in study questions in lessons 1 through 3.
- Students will complete the Module 1 evaluation, Installing a Magnetron Ignition and Breaker Points.
- Students will complete the following competency profiles: Installing and Servicing Composite Magnetron Ignition, Magnetron Retrofit Installation, and Installing Breaker Points and Condenser.
- Additional activities that relate to the unit objective can be found under the heading “Other Activities” in the following locations: pp. 1.5–1.6 (1, 7), pp. 1.14–1.15 (3), and p. 1.27 (6, 8).

**Performance-Based Assessment:**

As part of the instructional strategies and activities for this module, students will identify ignition system tools and components. They will also install and test a Magnetron ignition, install and test a retrofit Magnetron ignition, and install and test a breaker point and condenser ignition.

Assessment will be based on performance on the module evaluation and the ability to safely and correctly perform the assigned repair and service procedures.



### Module 1—Installing a Magnetron Ignition and Breaker Points Instructor Guide

The instructor should assign the performance-based assessment activity procedures in conjunction with the relevant lesson material outlined in the instructor guide. Students will complete the activity procedures as they progress through the module lessons.

1. Use the Installing and Servicing Composite Magnetron Ignition Competency Profile, p. 17 of the student manual, to assess student performance. The profile covers disassembly and reassembly procedures necessary to install and service a Magnetron ignition system.
2. Use the Magnetron Retrofit Installation Competency Profile, p. 27 of the student manual, to assess student performance. The profile covers disassembly and reassembly procedures for replacing a breaker point ignition with a Magnetron ignition.
3. Use the Installing Breaker Points and Condenser Competency Profile, p. 45 of the student manual, to assess student performance. The profile covers disassembly and reassembly procedures necessary to install and service a breaker point and condenser ignition.
4. Have students complete the Module 1 evaluation, Installing a Magnetron Ignition and Breaker Points. Answers for the evaluation are found on p. 1.28 of the instructor manual.
5. Because the student manual includes step-by-step instructions and an itemized checklist for each competency procedure, there is no student handout for this performance-based assessment activity. However, there is a scoring guide that can be used, if desired. The scoring guide lists the assessment activity procedures and includes spaces for points possible, points earned, and instructor comments.
6. The final assessment score will be based on the performance on the module evaluation and the ability to safely and correctly perform the assigned repair and service procedures.



## Small Engine Service and Repair

### Module 1—Installing a Magnetron Ignition and Breaker Points Scoring Guide

Name \_\_\_\_\_

Activity	Points Possible	Points Earned	Instructor Comments
Installing and Servicing Composite Magnetron Ignition Competency Profile			
Magnetron Retrofit Installation Competency Profile			
Installing Breaker Points and Condenser Competency Profile			
Module 1 Evaluation			

**Total Points Earned** \_\_\_\_\_



# Small Engine Service and Repair

**Curriculum Guide:** *Small Engine Service and Repair*

**Module:** 2. Carburetor Service and Repair

**Unit Objective:**

Students will apply principles of small engine carburetor service and repair by identifying and servicing a variety of carburetors, fuel filters, and air cleaners and by explaining the operation and service of all-temperature and standard automatic chokes.

**Show-Me Standards:** 1.10, CA3

**References:**

Briggs & Stratton Corporation. Accessed January 13, 2004, from <http://www.briggsandstratton.com>.

Kohler Engines. Accessed January 13, 2004, from <http://www.kohlerengines.com/>.

*Small Engine Service and Repair*. University of Missouri-Columbia, Instructional Materials Laboratory, 1994.

**Instructional Strategies/Activities:**

- Students will engage in study questions in lessons 1 through 3.
- Students will complete the Module 2 evaluation, Carburetor Service and Repair.
- Students will complete the following competency profile: Small Engine Carburetor Service and Repair.
- Additional activities that relate to the unit objective can be found under the heading "Other Activities" in the following locations: p. 2.19 (2, 5) and p. 2.33 (3).

**Performance-Based Assessment:**

As part of the instructional strategies and activities for this module, students will identify and service a variety of carburetors, fuel filters, and air cleaners. They will also explain the operation and service of all-temperature and standard automatic chokes.

Assessment will be based on performance on the module evaluation and the ability to safely and correctly perform the assigned repair and service procedures.





### Module 2—Carburetor Service and Repair Instructor Guide

The instructor should assign the performance-based assessment activity procedures in conjunction with the relevant lesson material outlined in the instructor guide. Students will complete the activity procedures as they progress through the module lessons.

1. Use the Small Engine Carburetor Service and Repair Competency Profile to assess student performance. This profile includes the procedures listed below. The page number indicates the location of a checklist for the procedure. The procedures and checklists are found in the student manual.
  - Servicing an Oil Foam Air Cleaner, p. 11
  - Servicing a Cartridge Air Cleaner (Round), p. 14
  - Servicing a Reverse Air Flow Cartridge Air Cleaner, p. 17
  - Servicing a Flat Cartridge (Vertical Crankshaft) Air Cleaner, p. 20
  - Servicing a Flat Cartridge (Horizontal Crankshaft) Air Cleaner, p. 23
  - Servicing an Oil Bath Air Cleaner, p. 25
  - Servicing Briggs and Stratton Walbro One-Piece Flo-Jet Carburetor, p. 33
  - Servicing Pulsa-Jet, Vacu-Jet All-Temperature Automatic Choke, pp. 43–44
  - Servicing Pulsa-Jet (Suction Feed) Carburetor and Fuel Tank Assembly With Automatic Choke, pp. 56–57
  - Servicing Minlon (Vacu-Jet) Carburetor, p. 61
  - Servicing Pulsa-Jet (Suction Feed) Carburetor and Fuel Tank Assembly, p. 70
  - Servicing a Large One-Piece Flo-Jet Carburetor, pp. 78–79
  - Servicing Briggs and Stratton Pulsa-Prime Carburetor Model Series 95900 to 95999, p. 85
2. Have students complete the Module 2 evaluation, Carburetor Service and Repair. Answers for the evaluation are found on p. 2.34 of the instructor manual.
3. Because the student manual includes step-by-step instructions and an itemized checklist for each competency procedure, there is no student handout for this performance-based assessment activity. However, there is a scoring guide that can be used, if desired. The scoring guide lists the assessment activity procedures and includes spaces for points possible, points earned, and instructor comments.
4. The final assessment score will be based on the performance on the module evaluation and the ability to safely and correctly perform the assigned repair and service procedures.



## Small Engine Service and Repair

### Module 2—Carburetor Service and Repair Scoring Guide

Name \_\_\_\_\_

Activity	Criteria	Points Possible	Points Earned	Instructor Comments
Small Engine Carburetor Service and Repair Competency Profile	❑ Oil foam air cleaner			
	❑ Cartridge air cleaner (round)			
	❑ Reverse air flow cartridge air cleaner			
	❑ Flat cartridge (vertical crankshaft) air cleaner			
	❑ Flat cartridge (horizontal crankshaft) air cleaner			
	❑ Oil bath air cleaner			
	❑ Walbro one-piece Flo-Jet carburetor			
	❑ Pulsa-Jet, Vacu-Jet all-temperature automatic choke			

	<input type="checkbox"/> Pulsa-Jet (suction feed) carburetor and fuel tank assembly with automatic choke			
	<input type="checkbox"/> Minlon (Vacu-Jet) carburetor			
	<input type="checkbox"/> Pulsa-Jet (suction feed) carburetor and fuel tank assembly			
	<input type="checkbox"/> Large one-piece Flo-Jet carburetor			
	<input type="checkbox"/> Pulsa-Prime carburetor model series 95900 to 95999			
Module 2 Evaluation	Complete Module 2 evaluation			

**Total Points Earned** \_\_\_\_\_

# Small Engine Service and Repair

**Curriculum Guide:** *Small Engine Service and Repair*

**Module:** 3. Rewind Starters

**Unit Objective:**

Students will apply principles of rewind starter service and repair by identifying starter components and servicing a variety of small engine starters.

**Show-Me Standards:** 1.10, CA3

**References:**

Briggs & Stratton Corporation. Accessed January 13, 2004, from <http://www.briggsandstratton.com>.

Kohler Engines. Accessed January 13, 2004, from <http://www.kohlerengines.com/>.

*Small Engine Service and Repair*. University of Missouri-Columbia, Instructional Materials Laboratory, 1994.

**Instructional Strategies/Activities:**

- Students will engage in study questions in lesson 1.
- Students will complete the Module 3 evaluation, Rewind Starters.
- Students will complete the following competency profile: Rewind Starters Service and Repair.
- Additional activities that relate to the unit objective can be found under the heading "Other Activities" in the following location: p. 3.7 (3, 6, 7, 8).

**Performance-Based Assessment:**

As part of the instructional strategies and activities for this module, students will service a rope-rewind starter, replace a starter rewind spring, replace a starter rope, service a starter clutch, and service a vertical pull starter.

Assessment will be based on performance on the module evaluation and the ability to safely and correctly perform the assigned repair and service procedures.



### Module 3—Rewind Starters Instructor Guide

The instructor should assign the performance-based assessment activity procedures in conjunction with the relevant lesson material outlined in the instructor guide. Students will complete the activity procedures as they progress through the module lessons.

1. Use the Rewind Starters Service and Repair Competency Profile to assess student performance. This profile includes the procedures listed below. The page number indicates the location of a checklist for the procedure. The procedures and checklists are found in the student manual.
  - Model 120000 Quantum Rewind Starters, p. 16
  - Starter Service and Repair Model 60000, 80000, 90000, 100200, 100900, and 110000 Rewind Starters, p. 23
  - Vertical Pull Starters, p. 31
  - Starter Clutch, p. 35
2. Have students complete the Module 3 evaluation, Rewind Starters. Answers for the evaluation are found on pp. 3.7–3.8 of the instructor manual.
3. Because the student manual includes step-by-step instructions and an itemized checklist for each competency procedure, there is no student handout for this performance-based assessment activity. However, there is a scoring guide that can be used, if desired. The scoring guide lists the assessment activity procedures and includes spaces for points possible, points earned, and instructor comments.
4. The final assessment score will be based on the performance on the module evaluation and the ability to safely and correctly perform the assigned repair and service procedures.





## Small Engine Service and Repair

### Module 3—Rewind Starters Scoring Guide

Name \_\_\_\_\_

Activity	Criteria	Points Possible	Points Earned	Instructor Comments
Rewind Starters Service and Repair Competency Profile	<input type="checkbox"/> Model 120000 Quantum rewind starters			
	<input type="checkbox"/> Starter service and repair model 60000, 80000, 90000, 100200, 100900, and 110000 rewind starters			
	<input type="checkbox"/> Vertical pull starters			
	<input type="checkbox"/> Starter clutch			
Module 3 Evaluation	Complete Module 3 evaluation			

**Total Points Earned** \_\_\_\_\_



# Small Engine Service and Repair

**Curriculum Guide:** *Small Engine Service and Repair*

**Module:** 4. Small Engine Compression

**Unit Objective:**

Students will demonstrate an understanding of small engine compression by identifying valve tools and their uses and inspecting and servicing the valve train of a small engine.

**Show-Me Standards:** 1.10, CA3

**References:**

Briggs & Stratton Corporation. Accessed January 13, 2004, from <http://www.briggsandstratton.com>.

Kohler Engines. Accessed January 13, 2004, from <http://www.kohlerengines.com/>.

*Small Engine Service and Repair*. University of Missouri-Columbia, Instructional Materials Laboratory, 1994.

**Instructional Strategies/Activities:**

- Students will engage in study questions in lesson 1.
- Students will complete the Module 4 evaluation, Compression-Valve Service and Repair.
- Students will complete the following competency profile: Compression-Valve Service and Repair.
- Additional activities that relate to the unit objective can be found under the heading "Other Activities" in the following location: p. 4.9 (1, 2).

**Performance-Based Assessment:**

As part of the instructional strategies and activities for this module, students will identify valve tools and their uses and inspect and service the valve train of a small engine.

Assessment will be based on performance on the module evaluation and the ability to safely and correctly perform the assigned repair and service procedures.



### Module 4—Small Engine Compression Instructor Guide

The instructor should assign the performance-based assessment activity procedures in conjunction with the relevant lesson material outlined in the instructor guide. Students will complete the activity procedures as they progress through the module lessons.

1. Use the Compression-Valve Service and Repair Competency Profile to assess student performance. This profile includes the procedures listed below. The page number indicates the location of a checklist for the procedure. The procedures and checklists are found in the student manual.
  - Checking Compression, p. 33
  - Removing Cylinder Head, p. 33
  - Removing the Valves, p. 33
  - Inspecting the Valves and Accessories, p. 33
  - Replacing the Valve Guide, p. 34
  - Refacing the Valves, p. 34
  - Refacing Valve Seats, p. 34
  - Replacing Valve Seats, p. 34
  - Lapping the Valves, p. 35
  - Installing the Cylinder Head, p. 35
2. Have students complete the Module 4 evaluation, Compression-Valve Service and Repair. Answers for the evaluation are found on pp. 4.10–4.11 of the instructor manual.
3. Because the student manual includes step-by-step instructions and an itemized checklist for each competency procedure, there is no student handout for this performance-based assessment activity. However, there is a scoring guide that can be used, if desired. The scoring guide lists the assessment activity procedures and includes spaces for points possible, points earned, and instructor comments.
4. The final assessment score will be based on the performance on the module evaluation and the ability to safely and correctly perform the assigned repair and service procedures.



## Small Engine Service and Repair

### Module 4—Small Engine Compression Scoring Guide

Name \_\_\_\_\_

Activity	Criteria	Points Possible	Points Earned	Instructor Comments
Compression-Valve Service and Repair Competency Profile	<input type="checkbox"/> Checking compression			
	<input type="checkbox"/> Removing cylinder head			
	<input type="checkbox"/> Removing the valves			
	<input type="checkbox"/> Inspecting the valves and accessories			
	<input type="checkbox"/> Replacing the valve guide			
	<input type="checkbox"/> Refacing the valves			
	<input type="checkbox"/> Refacing valve seats			
	<input type="checkbox"/> Replacing valve seats			
	<input type="checkbox"/> Lapping the valves			
	<input type="checkbox"/> Installing the cylinder head			
Module 4 Evaluation	Complete Module 4 evaluation			

**Total Points Earned** \_\_\_\_\_





# Small Engine Service and Repair

**Curriculum Guide:** *Small Engine Service and Repair*

**Module:** 5. Governor Adjustment and Repair

**Unit Objective:**

Students will apply principles of governor adjustment and repair by identifying governor components and inspecting, servicing, and repairing small engine governor systems.

**Show-Me Standards:** 1.10, CA3

**References:**

Briggs & Stratton Corporation. Accessed January 13, 2004, from <http://www.briggsandstratton.com>.

Kohler Engines. Accessed January 13, 2004, from <http://www.kohlerengines.com/>.

*Small Engine Service and Repair*. University of Missouri-Columbia, Instructional Materials Laboratory, 1994.

**Instructional Strategies/Activities:**

- Students will engage in study questions in lesson 1.
- Students will complete the Module 5 evaluation, Governor Adjustment and Repair.
- Students will complete the following competency profile: Governor Adjustment and Repair.
- Additional activities that relate to the unit objective can be found under the heading “Other Activities” in the following location: p. 5.7 (1, 2).

**Performance-Based Assessment:**

As part of the instructional strategies and activities for this module, students will identify governor components and inspect, service, and repair small engine governor systems.

Assessment will be based on performance on the module evaluation and the ability to safely and correctly perform the assigned repair and service procedures.



### Module 5—Governor Adjustment and Repair Instructor Guide

The instructor should assign the performance-based assessment activity procedures in conjunction with the relevant lesson material outlined in the instructor guide. Students will complete the activity procedures as they progress through the module lessons.

1. Use the Governor Adjustment and Repair Competency Profile to assess student performance. This profile includes the procedures listed below. The page number indicates the location of a checklist for the procedure. The procedures and checklists are found in the student manual.
  - Adjusting and Repairing Air Vane Governors, p. 17
  - Servicing Mechanical Governors, p. 23
  - Servicing Mechanical Governors (New Style), p. 27
2. Have students complete the Module 5 evaluation, Governor Adjustment and Repair. Answers for the evaluation are found on pp. 5.7–5.8 of the instructor manual.
3. Because the student manual includes step-by-step instructions and an itemized checklist for each competency procedure, there is no student handout for this performance-based assessment activity. However, there is a scoring guide that can be used, if desired. The scoring guide lists the assessment activity procedures and includes spaces for points possible, points earned, and instructor comments.
4. The final assessment score will be based on the performance on the module evaluation and the ability to safely and correctly perform the assigned repair and service procedures.



## Small Engine Service and Repair

### Module 5—Governor Adjustment and Repair Scoring Guide

Name \_\_\_\_\_

Activity	Criteria	Points Possible	Points Earned	Instructor Comments
Governor Adjustment and Repair Competency Profile	<input type="checkbox"/> Adjusting and repairing air vane governors			
	<input type="checkbox"/> Servicing mechanical governors			
	<input type="checkbox"/> Servicing mechanical governors (new style)			
Module 5 Evaluation	Complete Module 5 evaluation			

**Total Points Earned** \_\_\_\_\_



# Small Engine Service and Repair

**Curriculum Guide:** *Small Engine Service and Repair*

**Module:** 6. Lubricating Small Engines

**Unit Objective:**

Students will apply principles of small engine lubrication by selecting the correct type and grade of oil for a four-cycle engine and inspecting and servicing the lubrication system.

**Show-Me Standards:** 1.10, CA3

**References:**

Briggs & Stratton Corporation. Accessed January 13, 2004, from <http://www.briggsandstratton.com>.

Kohler Engines. Accessed January 13, 2004, from <http://www.kohlerengines.com/>.

*Small Engine Service and Repair*. University of Missouri-Columbia, Instructional Materials Laboratory, 1994.

**Instructional Strategies/Activities:**

- Students will engage in study questions in lesson 1.
- Students will complete the Module 6 evaluation, Lubricating Small Engines.
- Students will complete the following competency profile: Lubricating Small Engines.
- Additional activities that relate to the unit objective can be found under the heading "Other Activities" in the following location: p. 6.8 (1, 2, 3).

**Performance-Based Assessment:**

As part of the instructional strategies and activities for this module, students will select the correct type and grade of oil for a four-cycle engine and inspect and service the lubrication system.

Assessment will be based on performance on the module evaluation and the ability to safely and correctly perform the assigned repair and service procedures.





### Module 6—Lubricating Small Engines Instructor Guide

The instructor should assign the performance-based assessment activity procedures in conjunction with the relevant lesson material outlined in the instructor guide. Students will complete the activity procedures as they progress through the module lessons.

1. Use the Lubricating Small Engines Competency Profile to assess student performance. This profile includes the procedures listed below. The page number indicates the location of a checklist for the procedure. The procedures and checklists are found in the student manual.
  - Checking and Adding Oil to the Lubrication System, p. 14
  - Changing the Crankcase Oil (Four-Cycle Engines), p. 18
2. Have students complete the Module 6 evaluation, Lubricating Small Engines. Answers for the evaluation are found on pp. 6.8–6.9 of the instructor manual.
3. Because the student manual includes step-by-step instructions and an itemized checklist for each competency procedure, there is no student handout for this performance-based assessment activity. However, there is a scoring guide that can be used, if desired. The scoring guide lists the assessment activity procedures and includes spaces for points possible, points earned, and instructor comments.
4. The final assessment score will be based on the performance on the module evaluation and the ability to safely and correctly perform the assigned repair and service procedures.



# Small Engine Service and Repair

## Module 6—Lubricating Small Engines Scoring Guide

Name \_\_\_\_\_

Activity	Criteria	Points Possible	Points Earned	Instructor Comments
Lubricating Small Engines Competency Profile	<input type="checkbox"/> Checking and adding oil to the lubrication system			
	<input type="checkbox"/> Changing the crankcase oil (four-cycle engines)			
Module 6 Evaluation	Complete Module 6 evaluation			

**Total Points Earned** \_\_\_\_\_



# Small Engine Service and Repair

**Curriculum Guide:** *Small Engine Service and Repair*

**Module:** 7. Troubleshooting

**Unit Objective:**

Students will apply principles of small engine repair by systematically evaluating the condition of the ignition system, fuel supply, spark plug, and compression to locate and eliminate engine malfunctions.

**Show-Me Standards:** 3.1, CA3

**References:**

Briggs & Stratton Corporation. Accessed January 13, 2004, from <http://www.briggsandstratton.com>.

Kohler Engines. Accessed January 13, 2004, from <http://www.kohlerengines.com/>.

*Small Engine Service and Repair*. University of Missouri-Columbia, Instructional Materials Laboratory, 1994.

**Instructional Strategies/Activities:**

- Students will engage in study questions in lesson 1.
- Students will complete the Module 7 evaluation, Troubleshooting.
- Students will complete the following competency profile: Maintenance Procedures.
- Additional activities that relate to the unit objective can be found under the heading "Other Activities" in the following location: p. 7.6 (1).

**Performance-Based Assessment:**

As part of the instructional strategies and activities for this module, students will locate and eliminate engine malfunctions by testing the ignition system and checking the fuel supply, spark plug, and compression.

Assessment will be based on performance on the module evaluation and the ability to safely and correctly perform the assigned repair and service procedures.



### Module 7—Troubleshooting Instructor Guide

The instructor should assign the performance-based assessment activity procedures in conjunction with the relevant lesson material outlined in the instructor guide. Students will complete the activity procedures as they progress through the module lessons.

1. Use the Maintenance Procedures Competency Profile to assess student performance. This profile includes the procedures listed below. The page number indicates the location of a checklist for the procedure. The procedures and checklists are found in the student manual.
  - Check Fuel Supply, p. 14
  - Test Ignition System, p. 14
  - Check the Spark Plug, p. 14
  - Checking Compression, p. 14
2. Have students complete the Module 7 evaluation, Troubleshooting. Answers for the evaluation are found on pp. 7.6–7.7 of the instructor manual.
3. Because the student manual includes step-by-step instructions and an itemized checklist for each competency procedure, there is no student handout for this performance-based assessment activity. However, there is a scoring guide that can be used, if desired. The scoring guide lists the assessment activity procedures and includes spaces for points possible, points earned, and instructor comments.
4. The final assessment score will be based on the performance on the module evaluation and the ability to safely and correctly perform the assigned repair and service procedures.





## Small Engine Service and Repair

### Module 7—Troubleshooting Scoring Guide

Name \_\_\_\_\_

Activity	Criteria	Points Possible	Points Earned	Instructor Comments
Maintenance Procedures Competency Profile	<input type="checkbox"/> Check fuel supply			
	<input type="checkbox"/> Test ignition system			
	<input type="checkbox"/> Check the spark plug			
	<input type="checkbox"/> Checking compression			
Module 7 Evaluation	Complete Module 7 evaluation			

Total Points Earned \_\_\_\_\_



# Small Engine Service and Repair

**Curriculum Guide:** *Small Engine Service and Repair*

**Module:** 8. Operation and Maintenance of Small Engines

**Unit Objective:**

Students will demonstrate an understanding of correct operation procedures for small engines by operating and maintaining a small engine.

**Show-Me Standards:** 4.7, HP5

**References:**

Briggs & Stratton Corporation. Accessed January 13, 2004, from <http://www.briggsandstratton.com>.

Kohler Engines. Accessed January 13, 2004, from <http://www.kohlerengines.com/>.

*Small Engine Service and Repair*. University of Missouri-Columbia, Instructional Materials Laboratory, 1994.

**Instructional Strategies/Activities:**

- Students will engage in study questions in lesson 1.
- Students will complete the Module 8 evaluation, Maintaining Small Engines.
- Students will complete the following competency profile: Maintenance Procedures.
- Additional activities that relate to the unit objective can be found under the heading "Other Activities" in the following location: pp. 8.7-8.8 (1, 2).

**Performance-Based Assessment:**

As part of the instructional strategies and activities for this module, students will follow a step-by-step procedure for safely and correctly operating a small gas engine. They will also perform maintenance procedures, such as servicing ignition stop switches, mufflers, and cutter blades, and adjusting "System 2" and "System 4" Consumer Product Safety Commission (CPSC) compliance engines.

Assessment will be based on performance on the module evaluation and the ability to safely and correctly perform the assigned repair and service procedures.



### Module 8—Operation and Maintenance of Small Engines Instructor Guide

The instructor should assign the performance-based assessment activity procedures in conjunction with the relevant lesson material outlined in the instructor guide. Students will complete the activity procedures as they progress through the module lessons.

1. Use the Maintenance Procedures Competency Profile to assess student performance. This profile includes the procedures listed below. The page number indicates the location of a checklist for the procedure. The procedures and checklists are found in the student manual.
  - Procedure for Safe Lawn Mower Operation, p. 8
  - Operating Small Engines, p. 14
  - Servicing Cutter Blade, p. 17
  - Servicing Mufflers: Bolt-On and Pipe Thread, p. 23
  - Adjusting “System 2” and “System 4” CPSC Compliance Engines, p. 25
  - Adjusting the Brake for “System 2” and “System 4” CPSC Compliance Engines, p. 28
  - Servicing Ignition Stop Switches, p. 30
2. Have students complete the Module 8 evaluation, Maintaining Small Engines. Answers for the evaluation are found on p. 8.8 of the instructor manual.
3. Because the student manual includes step-by-step instructions and an itemized checklist for each competency procedure, there is no student handout for this performance-based assessment activity. However, there is a scoring guide that can be used, if desired. The scoring guide lists the assessment activity procedures and includes spaces for points possible, points earned, and instructor comments.
4. The final assessment score will be based on the performance on the module evaluation and the ability to safely and correctly perform the assigned repair and service procedures.



## Small Engine Service and Repair

### Module 8—Operation and Maintenance of Small Engines Scoring Guide

Name \_\_\_\_\_

Activity	Criteria	Points Possible	Points Earned	Instructor Comments
Maintenance Procedures Competency Profile	❑ Procedure for safe lawn mower operation			
	❑ Operating small engines			
	❑ Servicing cutter blade			
	❑ Servicing mufflers: bolt-on and pipe thread			
	❑ Adjusting "System 2" and "System 4" CPSC compliance engines			
	❑ Adjusting the brake for "System 2" and "System 4" CPSC compliance engines			
	❑ Servicing ignition stop switches			
Module 8 Evaluation	Complete Module 8 evaluation			

**Total Points Earned** \_\_\_\_\_

