

**Advanced Small Engines** **Grades 9-12**

| Standards   | Benchmarks  |  | Activities/Examples  |
|---|---|--|--|
| 12. Students will develop the abilities to use and maintain technological products and systems. | L   | Document processes and procedures and communicate them to different audiences using appropriate oral and written techniques.   | Disassemble and reassemble a 2-cycle engine  |
|   |   |  | Identify various carburetor types  |
|   |   |  | Understand and evaluate 2-cycle lubrication requirements   |
|   | M   | Diagnose a system that is malfunctioning and use tools, materials, machines, and knowledge to repair it.   | Disassemble and reassemble a 2-cycle engine  |
|   |   |  | Demonstrate troubleshooting skills on 2-cycle engines  |
|   |   |  | Demonstrate troubleshooting skills on 4-cycle engines  |
|   |   |  | Demonstrate troubleshooting skills on electrical charging/starting systems <ul style="list-style-type: none"> <li>a. Riding mowers</li> <li>b. ATV's and motorcycles</li> <li>c. Outboard engines</li> </ul> |
|   |   |  | Demonstrate knowledge of technical manual use while repairing small engine systems as necessary  |
|   | N   | Troubleshoot, analyze, and maintain systems to ensure safe and proper function and precision.  | Disassemble and reassemble a 2-cycle engine  |
|   |   |  | Demonstrate troubleshooting skills on 2-cycle engines  |
|   |   |  | Demonstrate troubleshooting skills on 4-cycle engines  |
|   |   |  | Demonstrate troubleshooting skills on electrical charging/starting systems <ul style="list-style-type: none"> <li>a. Riding mowers</li> <li>b. ATV's and motorcycles</li> <li>c. Outboard engines</li> </ul> |
|   |   |  | Demonstrate knowledge of technical manual use while repairing small engine systems as necessary  |
| O   | Operate systems so that they function in the way they were designed.  | Disassemble and reassemble a 2-cycle engine  |  |
|   |   | Demonstrate knowledge of technical manual use while repairing small engine systems as necessary  |  |
| P   | Use computers and calculators to access, retrieve, organize, process, maintain, interpret, and evaluate data and information in order to communicate. | Disassemble and reassemble a 2-cycle engine  |  |
|   |   | Demonstrate troubleshooting skills on electrical charging/starting systems <ul style="list-style-type: none"> <li>a. Riding mowers</li> <li>b. ATV's and motorcycles</li> <li>c. Outboard engines</li> </ul> |  |