Small Gas Engines (SGE)
Next Generation Science Standards Alignment

	Unit 1 – Safety and Expectations	Unit 2 – Engines	Unit 3 - Diagnostics
Disciplinary Core Ideas			
Physical Science			
PS1: Matter and Its Interactions			
• PS1.A: Structure and Properties of Matter			
• PS1.B: Chemical Reactions			
• PS1.C: Nuclear Processes			
PS2: Motion and Stability: Forces and Interactions			
• PS2.A: Forces and Motion			
• PS2.B: Types of Interactions			
PS3: Energy			
• PS3.A: Definitions of Energy			
• PS3.B: Conservation of Energy and Energy Transfer		X	
• PS3.C: Relationship Between Energy and Forces			
• PS3.D: Energy in Chemical Processes and Everyday Life			
PS4: Waves and Their Applications in Technologies for Information Transfer			
• PS4.A: Wave Properties			
• PS4.B: Electromagnetic Radiation			
• PS4.C: Information Technologies and Instrumentation			
Engineering, Technology, and the Application of Science			
ETS1: Engineering Design			
• ETS1.A: Defining and Delimiting Engineering Problems		**X**	
• ETS1.B: Developing Possible Solutions	**X**	**X**	
• ETS1.C: Optimizing the Design Solution	**X**		

Science and Engineering Practices			
• Asking Questions and Defining Problems	**X**	**X**	**X**
• Developing and Using Models		**X**	
• Planning and Carrying Out Investigations		**X**	**X**
• Analyzing and Interpreting Data		**X**	
• Using Mathematics and Computational Thinking			
• Constructing Explanations and Designing Solutions		**X**	
• Engaging in Argument from Evidence		**X**	
• Obtaining, Evaluating, and Communicating Information			

	Unit 1 – Safety and Expectations	Unit 2 – Engines	Unit 3 - Diagnostics
Crosscutting Concepts			
• Patterns			
• Cause and Effect: Mechanism and Prediction	**x**	**x**	**x**
• Scale, Proportion, and Quantity			
• Systems and System Models		**x**	
• Energy and Matter: Flows, Cycles, and Conservation		**x**	
• Structure and Function		**x**	
• Stability and Change			