

## High Mileage Cars: Pushing the Limits of Car Efficiency

As the world continues to be dependent on fossil fuels to power industry and transportation, it is necessary to promote a design for conservation philosophy in our emerging professionals. The Society of Automotive Engineers SUPERMILEAGE® Vehicle competition provides a challenging design problem for emerging professionals while increasing awareness of design and operation criteria necessary to minimize fuel consumption in a small displacement, single passenger vehicle platform. Although competition vehicles are constrained in design and operation by SAE safety and performance guidelines, competitors are encouraged to seek creative solutions to obtain optimal fuel economy. Designs vary widely in body shape and material, steering architecture, engine peripheral components, and even driving strategy in an attempt to obtain optimized fuel economy.



BYU Supermileage vehicle test drive across the Lavell Edwards stadium

The objective and goal of the BYU Supermileage team is to apply engineering knowledge and experience to design and build a vehicle that will achieve in excess of the North American record of 3500 miles per gallon while satisfying all of the SAE Supermileage Competition rules and requirements. The other goal of this competition is to provide engineering students with multi-disciplinary design experience and to promote public awareness of potential fuel saving technology that can be applied to the automotive industry. The engineering design goal for the SAE Supermileage is to develop a single person, high mileage vehicle that complies with the SAE Supermileage Competition rules. The vehicle will run a specified course, with the vehicle obtaining the highest combined miles per gallon (mpg) rating plus design segment points winning the event.

The BYU Supermileage would compete at the Eaton Corporation Michigan test track in Marshall, Michigan in June 2015, with bright hopes that it will put BYU in the spotlight. Winning the competition would guarantee sponsorship, which would in turn help the team expand its efforts toward additional improvements toward the vehicle, thus contributing to the advancement of fuel efficiency.

**YEAR**

2014-15

**TEAM**

31: Supermileage

**COACH**

Dr Jerry Bowman

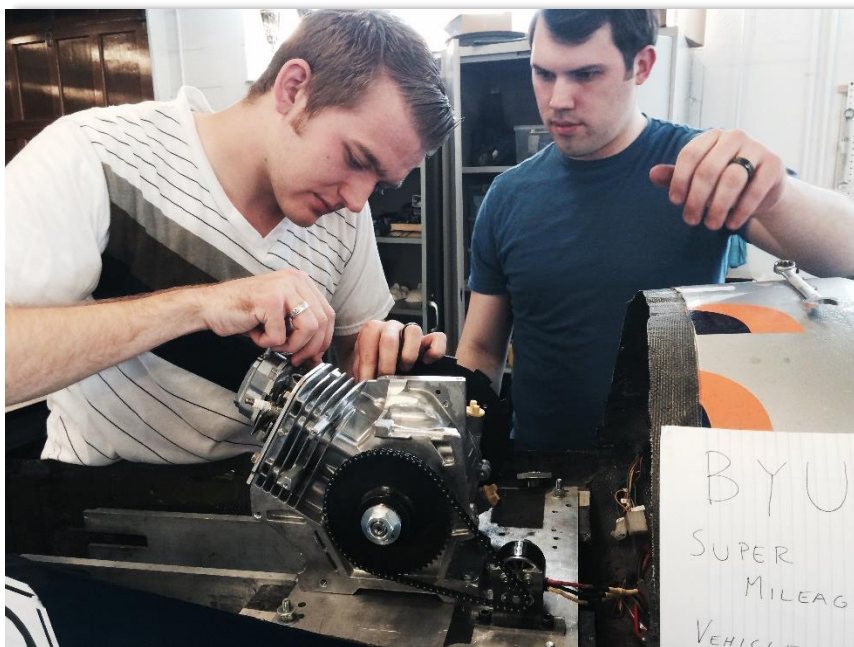
**STUDENTS**

Cameron Dyal, Doug Grondel, Kelly Hales, Jonathan Miller, Jeffrey Sorenson, Carson Storey, Morgan Tanner, Shawn Turek, Todd White, Bryce Wong

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The team is seen here applying their final touches on the carbon fiber wheel. The manufacture of the wheels is a lengthy, eight step process, which takes weeks to complete



The stock Briggs and Stratton engine was modified to displace 45cc. Many modifications have been done on the engine to improve its efficiency