Gear Up for 2020!

Following the 2019 season, the team jumped right into designing this year’s vehicle. The team will race at two Human Powered Vehicle Challenges (HPVC) in 2020. The American Society of Mechanical Engineers (ASME) hosts the HPVC at E-Fests in the U.S., India, and South America. E-Fests are STEM events comprised of student design competitions, keynote speakers from industry, and hands-on learning opportunities for students. This year we will compete at Michigan State University and the Georgia National Fairgrounds and Agricenter.

Alexandria Doll sprinting past the competition in California
Following in the Tread Marks of Cycleangelo and Trikeceratops: Greased Lightning!

This season we will return to our tradition of high-performance, enclosed vehicles. Last year we dropped the fairing to focus on the sheer mechanics of the vehicle, but this year we are bringing it back! A fairing reduces aerodynamic drag and increases rider safety. This year’s enclosure will be based off of rider profiles and feedback and will feature National Advisory Committee for Aeronautics (NACA) ducts for added air flow to increase rider comfort.

Last year Cycleangelo incorporated an innovative adjustable seat, but the seat “fell short” of accommodating the wide height range of our riders. This year’s seat will better fit all of our riders from 5’2” to 6’4”. Greased Lightning will include two major improvements to the seat design. The first change will let riders easily switch seat positions during the endurance race, thus decreasing pit times. The seat support bars release by a mechanical clamping system rather than a pin and slot mechanism. Secondly, the seat is designed to lower the rider’s center of gravity to provide more stability and control.

New to 2020 will be electronic shifting with visible gear readout, a rear view camera, and electronic communication between the rider and team strategist. The electronic shifting will keep the rider informed about their current gear so they can maximize efficiency. The rear view camera will let the rider keep track of opponents while remaining fully enclosed in the fairing. Finally, the electronic communication is key for strategy updates and optimizing rider switch-offs.
Preparing for the Ride

We start each season by measuring our riders’ heights, shoulders, and hips to determine our fairing dimensions. Meanwhile, the riders will train three times a week - twice in the gym with weights and stationary bikes and once on the road with S&T’s cycling club. Once up to “speed”, all the riders compete in head-to-head time trials to determine who will be sprint riders and whose specialty will be endurance racing.

You’re Invited!

Come watch us compete at Michigan State University and the Georgia National Fairgrounds!

ASME E-Fest North: https://efestnorth.asme.org/

ASME E-Fest South: https://efestsouth.asme.org/
Old Bikes, New Students

To kick off the 2020 season, we hosted an ice cream social where we introduced new members to the design center and team (and our eating habits). Then, we welcomed new members at our September pizza and volleyball social. Following the social, we took Cycleangelo and Leviathan (2015) to S&T’s opening football game where we were one of the student design teams featured at halftime.

Help Us Race to Success in Michigan and Georgia!
Our re-implemented fairing will add over $3,000 worth of expenses to the budget, and we need your help! Please send a check or donate online.

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