

LAFAYETTE COLLEGE

Electric Formula SAE 2019-2020

Easton, Pennsylvania 18042-1775

FSAE Electric Formula Car Agenda – 3:10, AEC 429, October 21, 2019

Call to order

Jordyn & Cat

Scribe for the day

Jon

Project Status

SCADA

- Got SCADA connected to dyno
- Leah will work on warnings displaying properly
- Prof. Nadovich says to work on mechanical context of driver display with someone relevant
- Dwayne's near term goal is to connect the motor controller outputs to the CANbus to SCADA to correctly display those values
- Dwayne will work on overdue WBS items related to test sensors in dynoroom
- Should only need GLV to test motor controller data outputs

TSV

- Two boards are designed and hoping to have a design review of the entire pack tomorrow at 1:10pm, and then start construction of the prototype afterwards
- There is a new pack assembly based on the last design review ready

TSI

- Fixed flow rate firmware bugs

- Prof. Nadovich - who's running the GLV/TSI combined CarMan team? The interconnect team is in charge of diagramming that, should have a design review sometime next week
- Plan to test the IO firmware functionality as well as the FSM behavior
- Ordered the new TSI board and parts will be ordered ASAP, once the purchase order goes out

GLV

- Going to have the breakout board approved and ordered very soon, yay
- There will be an accelerometer
- Some of the overdue WBS items' dates were changed/pushed back
- Need to figure out why there is only 21V on the safety loop - Noah will look into it, make sure it's not on the BOB

INTERCONNECT

- Maureen submitted a purchase request for connectors, cables and crimper
- Near goal - finalize complete electrical system diagram
 - Maureen will combine GLV/TSI on diagram
- Alicia will run another cable making seminar for those who were not at the last one
- Prof Nadovich - Have we figured out which cables we need and which we can already use?
 - Maureen can not find any cables lying around, weird that there are not any
 - Prof. N - there was a complete working system with cables at the start of the semester, the panels and dashboard mounted on the rack right now are the ones to go on the car, what of that needs to be remanufactured, what can be reused, and what is missing?
- Only large change concerning connectors will be using the rectangular connectors exclusively (no more circle connectors)
- No one ever purchased the strain relief attachments for the connectors, do we have any kind of strain relief solution?

CHASSIS

- Team has been mostly working on the SES
- Submitting side impacts today to the company
- Planning out the fire walls, battery mounting for the future

DRIVETRAIN

- Michael did the radiator calculations for cooling and selected a radiator
- Had a purchase order created but discovered the radiator had different sized outlet holes than required, new ones will be selected and ordered
- Prof. Nadovich - If any tubing is required, check power requirements with GLV and check that the sensors are compatible with the tubing
- The new motor has arrived!
- The gear ratio was calculated to be around 3, close to last time, but there is lacking confidence in the model so it will be revisited
- Watertight mounting of motor is somewhat complete, will be reviewed with Prof. Helm
- New motor can be mounted to check strain relief of cables
- Will try to find time before lab to review gear ratio with Prof. Helm

SUSPENSION

- Rob got all of the A-arms cut over fall break
- Dan got certified to use tools and prepped a lot of stuff for welding
- Tomorrow during lab Dan will finish all of the a-arms, Rob just has to be in the building
- Dan will start on getting all of the rear suspension drawing complete by the end of this week, some minor changes need to be made before submission to Prof. Helm
- Zach being held up by having to clean the old uprights before they can be put in the CNC by Rob, Zach will go early tomorrow morning to avoid using lab time
- Zach will talk about moving steering cover deadline back
- Will use the same uprights for the front and back, Rob will have those all cut, will have 2 spares

- Carl will be working on the SES over the next couple days, will talk to Rob about cutting the tubing
- Will work with Dan on getting the pushrods and whatnot done
- Carl will start work on the rear suspension parts design

PEDALS

- Dan wants to order rebuild kits for the master cylinders, needs to get them mounted to the actual brake pedal, currently falling apart and leaking fluid
- Will figure out where to put mounts for the pedals, get the brake pedal mounted during lab/over the next week

MANAGEMENT

- Jordyn will submit ESF this week
- Registration opens this Wednesday
- Continued work on the SES

To Do's

SES team

- individual tasks have been split up amongst the team members
- Still waiting on some chassis work to complete before the SES can be completed
- Plan to submit on October 28th for extra points

Inventory

- Submit locations and purchase requests to Phil for easier tracking on inventory

Moving around team members

- As people start to finish up other tasks, there will be more mech-e help needed on TSV in order to complete the packs
- People will start to need to work on software for TSV, Connor and Jon cannot at this point dedicate significant time to it

Misc

- Rolling chassis date is coming sooner than expected, and there is not significant progress done, which is worrying
- Could it be sent in Slack what people are available to help with throughout the following week?
 - TSV - once the initial design is complete and the parts modeled, if Mech-Es could help create detailed parts drawings it would help the TSV team greatly
 - Drivetrain - as soon as Michael gets the cooling stuff ordered, he'll have a week until that comes in where he can put some time aside to help other areas, most of his tasks are small tasks
 - CarMan enclosure - it's looking good so far, short break taken, Monserrat will start looking at getting parts made this week
 - SCADA - Dwayne has gotten over the hard parts, he cross-compiled it, has started to rework the code now
- ~Get stuff done~