LAFAYETTE COLLEGE

Electric Formula SAE 2019-2020

Easton, Pennsylvania 18042-1775

FSAE Electric Formula Car Agenda – 3:10, AEC 429, November 4, 2019

Call to order — Jordyn & Cat

Scribe for the day — Simone

Project Status

VSCADA

- Leah spoke with Nick to locate the dash panel- two new designs were created
- Either e-paper or seven segment display (depending on partial update speed)
- Reimplementing database and finishing testing of sensors in dyno room
- Dwayne will be developing offline module
- Get motor controller to communicate with SCADA

TSV

- Tim and Jack to begin submitting MechE parts tomorrow
- Jack coordinated with chassis to define mounting system in order to submit SES
- Design Review should be scheduled for this week so we can get drawings created for at least some parts (plates and bus bars)
- Decided on eight cells per segment. SegMan is no longer.
- CellMan will go out tomorrow
- Clement and Simon redefined PacMan firmware requirements.

- Send SOC, all cell voltages and temperatures to CAN Bus and define some configurations from CAN Bus
- Tony can work on CellMan firmware this week so we can test CellMan ASAP

TSI

- Tiger is finishing board, some parts have yet to arrive
- Firmware: moving average added to sensor measurements to eliminate jitter
- More consistent driving experience when overcurrent occurs--PWM reduces throttle to half to bring current back to normal range and go into drive state
- Tony can help out this week

GLV

- Discovered what was causing voltage drop and fixed it--its working!
- Alicia is waiting for rest of parts for GLV board, IMUs arrived, will solder this week
- Noah will be working on CarMan schematics and interconnectivity documents

INTERCONNECT

- Maureen purchased low voltage and high voltage connectors. Needs to talk to Tim to figure out TSV connectors
- Enclosure paneling and main drawings submitted by Nick and Monserrat, want all parts purchased by Monday
- Concerns with shelving that pulls out--possible decrease amount they can be pulled out. Make Inventor Model
- Only wires in shelves are connected to TSI boards
- CarMan design review- this Friday

CHASSIS

- A lot is in the manufacturing stage (firewall, seat mounting, batter mountings)
- New design for steering mounts due to large radii of tubes. Submitted and waiting on a quote.
- Front suspension mounts need to be manufactured- Gabe.
- Able to line up suspension with A-Arms now.

- Cut off old steering mounts. Still need a few parts made or purchased to re-mount.
- Will work on securing/ mounting front suspension tomorrow.
- Will start on GLV/TSI enclosures.
- Where tubing, pump, and radiators will be placed to determine lengths of tubes
- Widening of cockpit- once main pieces welded in chassis, measure how long support pieces need to be. Tubing and fish mounts for it are already here, just need to be measured, cut, and mounted
- Talk with SCADA about driver display

DRIVETRAIN

- Motor shaft attaching to sprocket- sprocket removed from old car to be reused
- Radiator should be in by Thursday so mounts can be started. Mike plans to mount it behind drivetrain. Might be able to put pumps in enclosure for GLV/TSI
- Motor support- redesign motor mount. New bracket to hold motor. All designed, drawings submitted. Luc will submit to Rob this week.
- Possibly start on half-shafts
- Want to put the new motor in Dyno Room at some point (wait for cooling system to be installed?)
- Can use current pump to test cooling system
- Check if we can use the same motor mount

SUSPENSION

- Front A-arms mostly finished, ready to be used to mock-up on car
- Order another plate (needs to be custom cut)
- Once parts are made for rear A-Arms, it is just a copy and paste
- Dan will have fronts done this week
- Steering rack cover is designed, parts ordered (spline)
- Zach will have A-Arm mounts completely designed and upright in steering mount this week
- Half-shaft in rear upright mounts

- Carl worked with Dan on rear suspension parts. Will finish Inventor assembly and fix rear chassis mounting points

PEDALS

- Dan got everything mounted to plate from last year. Brake pedal mounted.
- Probably won't work on it this week, next week will work on master cylinders and plate switch. Will wait for seat mounting to make sure pedals can be reached
- Make removable top plate for chassis to access master cylinders so driver doesn't kick wires

MANAGEMENT

- MechE's doing a great job! Some concerns about drivetrain, progress is far below other MechE subsystems. Will get as many part drawings in as they can.
- Once MechE things slow down, let Cat know so she can put you on drivetrain or chassis
- SCADA needs some help
- Budget spending is quite low, should restore accuracy of budget