

MEETING AGENDA

Topic: First Meeting with Nova Kinetics

Wednesday, 10, 2018

Meeting called by: Team

Attendees: Michael Broyles, Ethan Smith, Brandon Beaudoin, Jonathan Hernandez, Nathan Zufelt
Jim Corning, Ryan S.

Please bring: Laptop, Notebook, Relevant research

Location: Engineering Room 323

Objective: Establish how our team and their company can work together.

Notes:

5:30	Nathan, Ethan and Jim took a brief tour of the shipping and receiving area at Prometheus Solar viewed Cessna nose cone that was created by Nova Kinetics and saw molds used for fabricating other parts.	Prometheus Solar
5:40	Discussion of our design and how Nova Kinetics and Prometheus Solar can be of assistance.	Prometheus Solar
Remaining minutes	Plan for next meeting -Schedule next meeting at HWY 89 shop for the first week of November (Ethan) -	Prometheus Solar

Minutes -60

For nova kinetics

Flat sheet carbon processing

They do not do any carbon cutting in their shops but outsource to a company in Phoenix they can put us in contact with them if needed they send them a dxf file and receive finished parts.

How they can help us

- Jim offered space in their shipping and receiving area for us to build our aircraft he said once their group is acquainted with us i.e. after a few visits he would give us keys so we could come and build whenever needed.
- They can also help us do load testing they have a hydraulic press and Jim noted in the past teams that have done well with their projects come in the fall and test their materials and begin construction.
- An aviation book by a Bruhn was recommended for its vast amount of relevant information to the project.

Design input

- We mentioned we wanted to use square tubing to run the length of our wing span for the structural support. Jim said that in their shop they could help us to build up the tubing so that it tapers toward the wing since that will be a lower stress area and thicker in the middle in the higher stress area.
- When talking about our issues with the charge controller Jim recommended using Lithium iron phosphate batteries since they can be abused more than others and pair that with running a small amount of panels to individual batteries so each battery is getting the exact voltage needed to charge correctly. Will be more wiring but sounds like a really good idea.
- Check out KDE direct .com for motors

Carbon stress analysis

Jim said we probably have more access to software for this and as mentioned above he can help us with physical testing of materials.

Solar Panel

- If our two rows of solar cells will be at different angles they said we will get slightly different output and to keep this in mind with how we handle the charge controller or however we do battery charging.
- The sun angle in winter and summer are different so keep in mind our winter testing should under represent what we will get in the summer.
- In general it sounds like our keeping the panels flat and running it in the summer will be pretty optimal for our needs.
- They did not have any expertise in solar cell soldering they deal with whole panels.
- Temperature will effect our panels but not by much