P17221 Interview Questions
8/25/2016

Formula SAE
Interviewees:
Nate

1. What does the GUI do in this application/what kinds of off-the-shelf GUIs are available for possible modification?

   Have no clue, need to look into it. Prefer to it to be easy to learn.

2. Where is the carbon fiber sourced from and how much does it cost?

   Donated to the team typically, no cost to the team.

3. How many tubes constitute a full set of tubes?

   Driveshafts (4), steering shafts (2), suspension arms (44), aero package (8)

4. What range of tube sizes do you need the machine to make?

   3" OD x 50"

5. Are there any other types of material that you are interested in using the machine for?

   No, mostly interested in carbon, although possibly fiberglass for muffler.

6. What types of resins do you plan to use in the machine?

   Mainly thermosetting epoxies.

7. Who will be operating the machine?

   Composites team members

8. What sorts of challenges did you previously experience when attempting to manufacture the tubes by hand?

   Wrinkling of fibers, voids in the laminate.

9. When do you need a fully-operational machine by?

End of the year at the latest. Plan on implementing on car F26

10. What are the financial constraints of the project?

No clue ask Jon Washington

11. What is the benefit of the automated winding process?

More consistent process, better compaction of the plies/fibers, lower void content.

12. Are there constraints surrounding the tension on the fiber during the winding process?

Not sure, you will need to research this for us.

13. In what production setting will you be using the machine? (volume capability)

Low volume production, ~60 tubes a year.

14. What kind of maintenance schedule do you foresee being attainable?

Annual maintenance. Design to make cleanup easy

15. What Ply Angles need to be achieved with this machine?

At least +/-45 degrees, preferrably down to +/-5 degrees.

16. Is there a standard size for the rolls of tow that will be used?

May be dependent on manufacturer of material / material type?