

Milestone #4 – Initial Vehicle Construction and Additional Solid Modeling

DUE: 5 March

DESCRIPTION:

Your first part order should be in transit now, and shipping usually takes about one week (except McMaster!). During this time, you should continue designing in Solidworks the frame, drivetrain, and other parts of your vehicle that you will be fabricating later. It is important to keep working and preparing for fabrication time as your parts ship so you have an idea of what parts need to be made, how they should be made, and in what sequence you should build them. You are welcome to model parts using basic representative geometries and “spec sheet” dimensions if you do not physically have them yet, but please update the models when you do get the parts in.

Milestones from here on will not have directed questions and tasks. You should be aware of your design well enough to pace yourself through the next few milestones, which will focus exclusively on fabrication. **Your vehicle must be ready for a Rolling Frame inspection on Friday, March 24th, as stipulated in the syllabus.** The vehicle should be mechanically done at the inspection – motors and drivetrain should turn and the brakes and steering should work.

Parts order will continue to be aggregated and sent every Monday and Wednesday. If you find yourself in need of metal or plastic stock, some special hardware, frame materials, etc. you should submit an order by emailing charlesg@mit.edu with an email in the following format: **Vendor, Part/item number, Quantity.** McMaster is encouraged if possible – the delivery turnaround is one to two days only. You are encouraged to organize with your classmates for bulk material orders to reduce cost per person.

FORMAT OF DELIVERABLE: 2-4 pages in your notebook documenting your progress this week. Pictures of construction, CAD models, assembly sketches, fabrication drawings, etc. with commentary are encouraged.

Two Solidworks models from your vehicle frame (i.e. not drivetrain parts) as pictures in your notebook with explanation of how you intend to fabricate it.

OTHER ACTIVITY: Shop and machine familiarization will occur on a rolling and as-needed basis this Wednesday and Friday.

RESOURCES:

Reading through the vehicle build reports for MIT student vehicles (links found in the STELLAR EV Resources document) will likely be helpful to your design and fabrication process.