

Milestone #7 – Completed Vehicle Mechanical Inspection

DUE: 3 April

DESCRIPTION:

Finish up your vehicle this coming! **Your vehicle must be ready for the rolling frame inspection on Wednesday, 3 April in 2 weeks. No excuses will be tolerated – you have been warned about this over a month ahead of time and extra time and resources have been allotted to let you finish. An unfinished vehicle rolling frame will earn you a failed milestone. Individual inspections begin at 7pm sharp on 3 April and will be by team. All tools must be down at 7PM.**

Your vehicle will be subject to the following inspection rubric, worth 1 point each. The first five are major criteria and are mandatory, the rest gauge how much attention to detail you put into your design execution:

- 1. The frame is assembled and can support weight without unreasonable flexing**
- 2. Mechanical subsystems such as steering, braking are mounted rigidly and do not wobble or flex.**
- 3. The vehicle can roll freely without mechanical interference in the drivetrain**
- 4. The vehicle can stop using the final braking method as-designed or the braking method can prevent drive wheel motion if applicable**
- 5. The motor is mounted properly (not necessarily connected to the drivetrain)**
6. All provisions for hooking the motor up to the drivetrain are finished (e.g. pulleys are properly bored and mounted, tensioners and retainers mounted)
7. Fasteners are properly used and installed (e.g. all screws and bolts tightened, bolts are not used in shear, standoffs and spacers are not made of stacks of washers)
8. No portions of the frame are bent or forced to fit an assembly – all machined and fabricated components fit true and square, or as-designed
9. The final seating or riding arrangement is present.

GRADING: 10/9 A, 8/7/6 B, 5/4 C, else F

Submission of bills of materials for purchasing and of parts for machining will still occur regularly, subject to the rules of submission.

FORMAT OF DELIVERABLE:

- 2-4 pages in your notebook documenting your progress this week.
- **If your vehicle did not qualify for all of the first five points, you must have a written plan of completion including descriptions of all parts still to be fabricated, assemblies to complete, parts to order, and anticipated dates of completion. Put this in your notebook.**

OTHER ACTIVITY: Start thinking about your vehicle's electrical system! You have a basic diagram of major vehicle electronics from the mini-lectures. Begin scoping out specific electrical components you want to order.