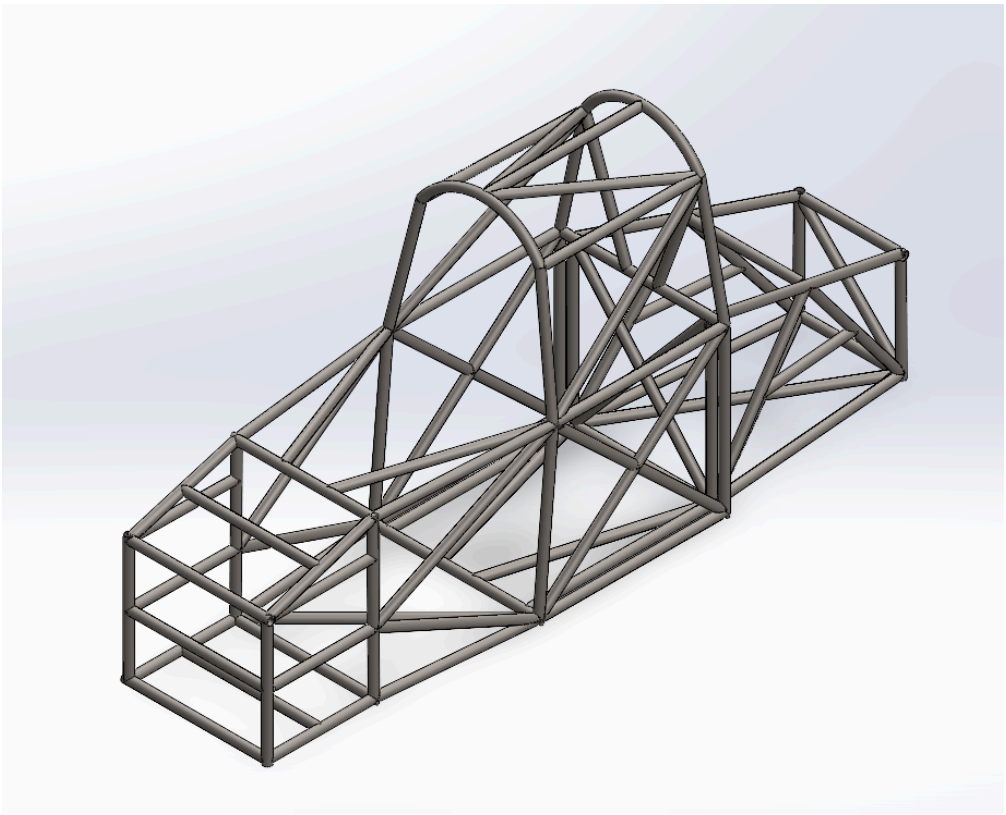


Density = 0.01 grams per cubic millimeter

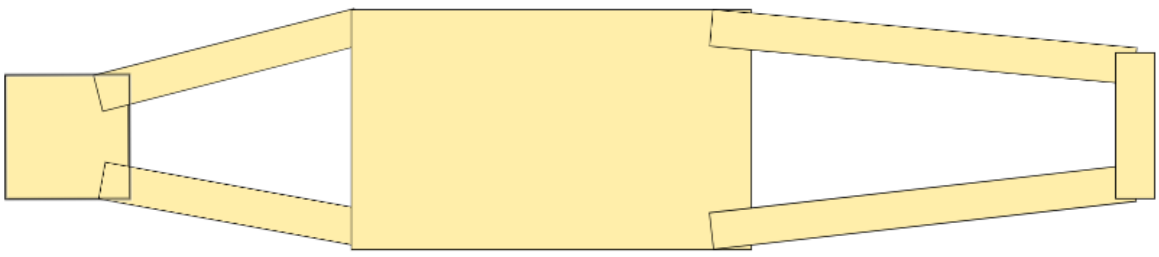
Mass = 67451.77 grams

Volume = 8592581.72 cubic millimeters

Surface area = 9724666.07 square millimeters

Center of mass: (millimeters)
X = -0.13
Y = -98.29
Z = 343.84

Vertical Footprint -



Changes -

- Angled front Roll Hoop back
- Made the car generally smaller, in particular, reduced width significantly and height from the bottom of the car
- Added a “pedal box” for easier mounting and design for VD
- Angled the front and rear of chassis inwards, easier to create positive caster angle
- Significantly reduced size of roll hoops and occupant cell, adding greater triangulation on it as well as the rest of the chassis

Potential Future Changes -

- Increase angle of front roll hoop and further narrow the front of the chassis
- Reduce height of the front of the chassis
- Rear support bar for roll hoop
- Add gussets to reinforce roll hoop or other areas of need (might just be for tabs)
- Reduce members used in triangulation
- Reduce size of bracing tubes

Todo -

- Assess the effectiveness of triangulation in a tube chassis by analyzing torsional stiffness, stress distribution, and deflection under load, ensuring that the chassis resists twisting and bending effectively
- Identify center of mass
- Await additional input from leads on potential future changes, in particular to mounting various components and systems or plans for iteration #3
- Upload current and past iteration to github

Final Notes -

Although I believe some changes could still be made in particular to the bracing tubes and simplification of the triangulation, overall, this looks like a pretty huge step forward from the last chassis. It should be noted that the angling done as well as triangulation is still done arbitrarily, but is based on research done and reference to other teams cars. Weight is down significantly from 278 pounds to 149 pounds. VD can now start on suspension with actual mounting points present on the car, with surfaces available for both wishbone suspension in the front, and rear trailing arm suspension as well. The occupant cell has been considerably reworked and the original “No Go Zone” has been almost entirely dismissed in favor of better fitting to our drivers. The occupant cell should still comfortably fit the seat outline Connor made, and other subsystems should be checking the file when available to identify their own mounting respectively. The tube coping needs to be double checked to make sure tubes aren’t clipping into each other.