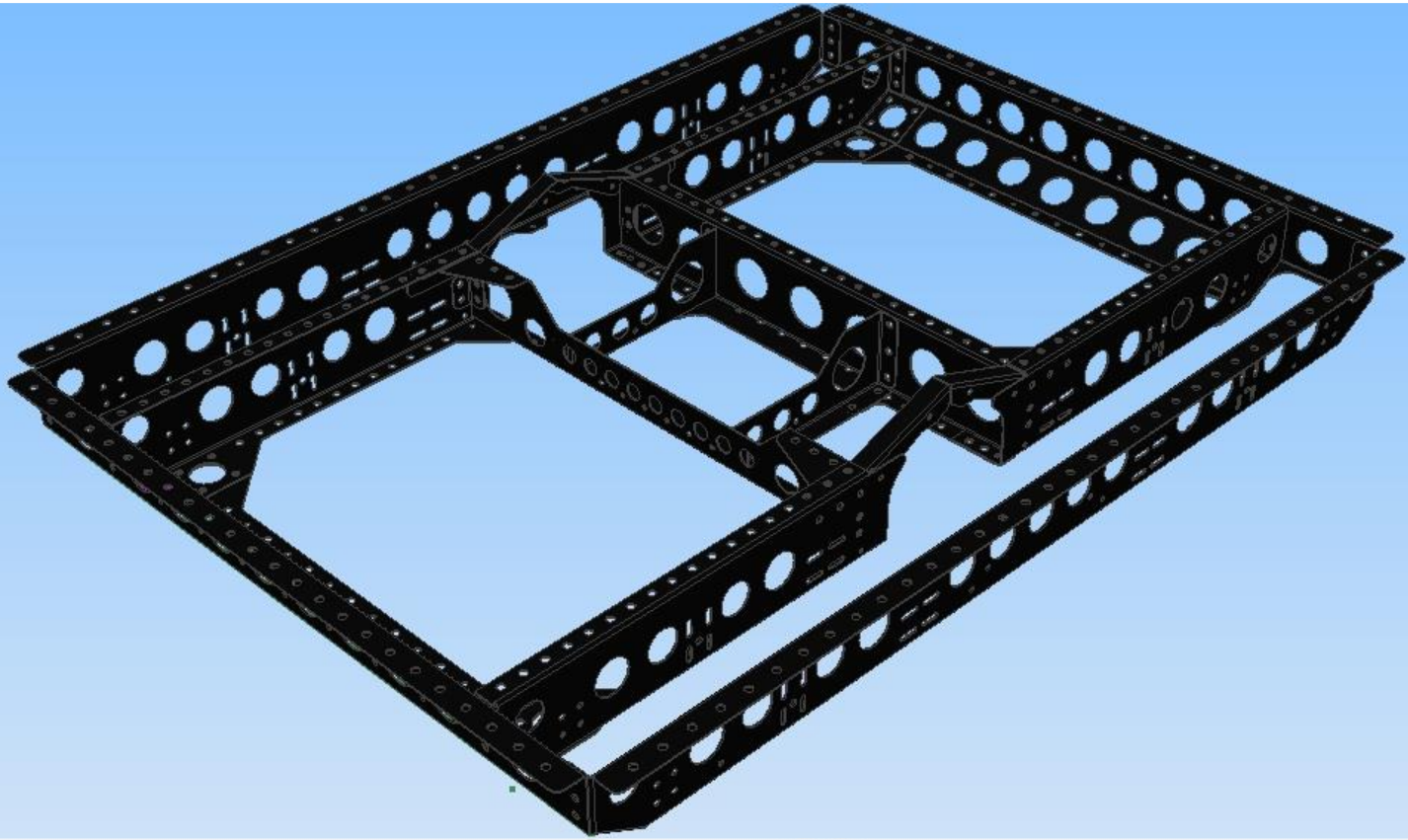
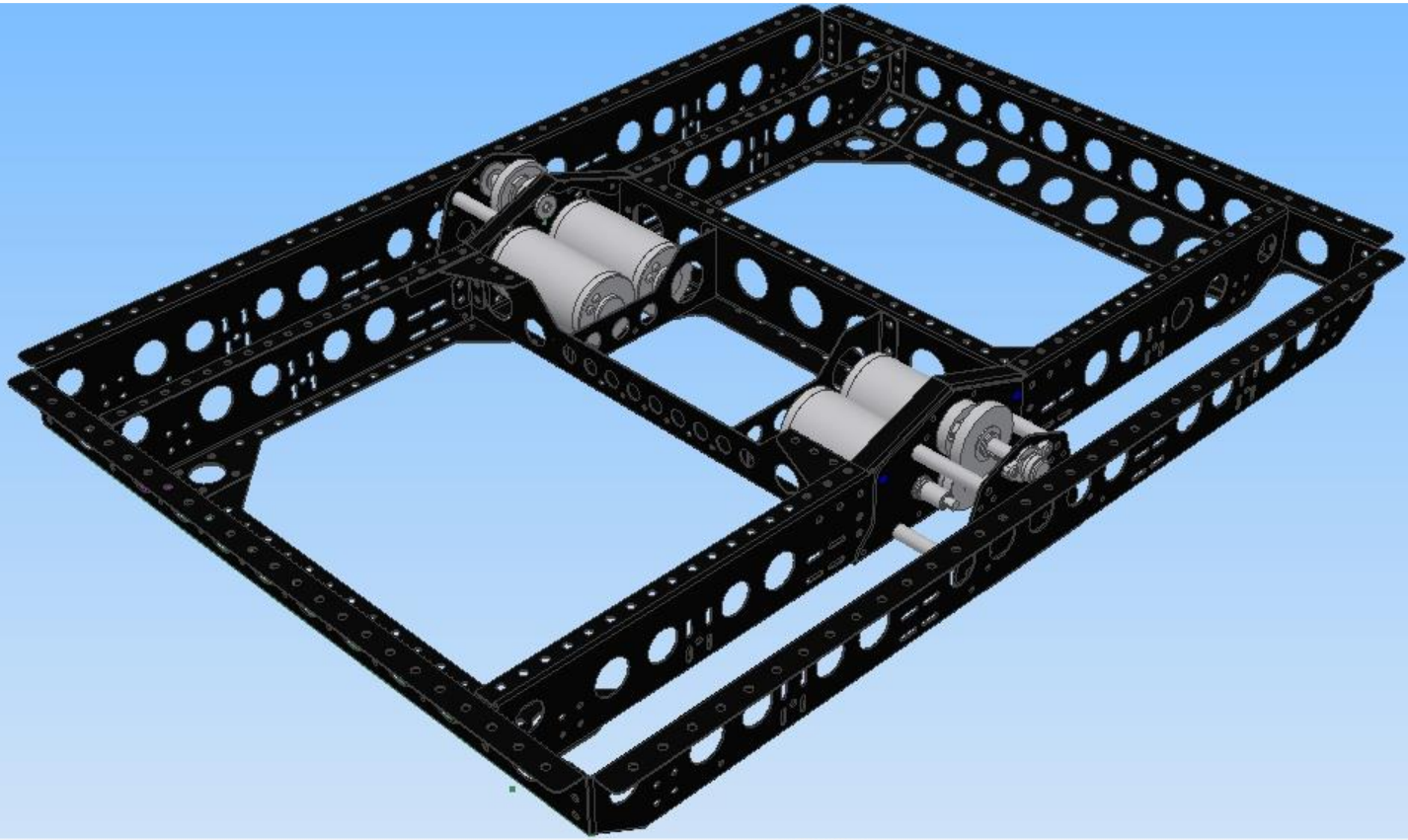


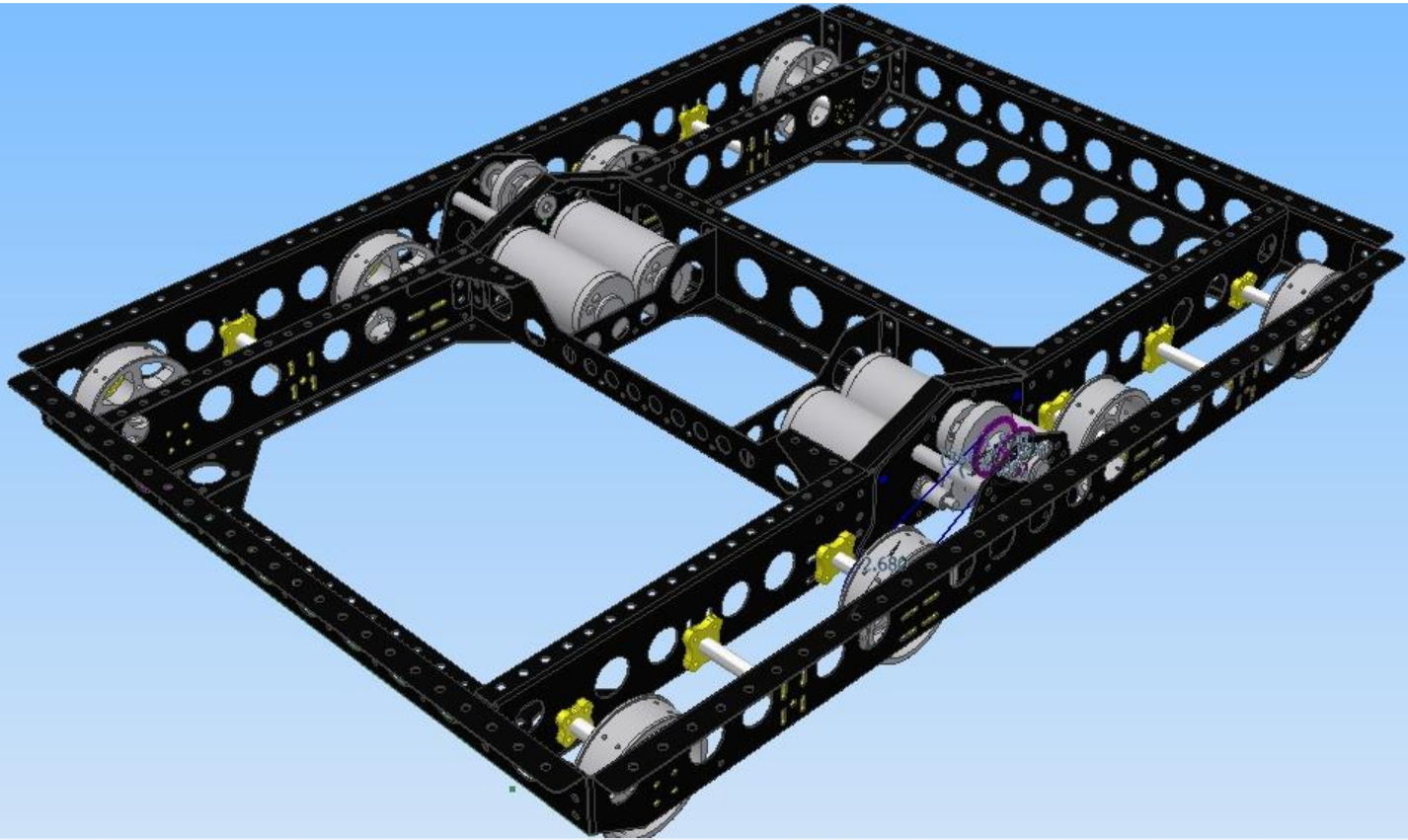
8wd WASP

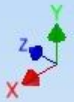
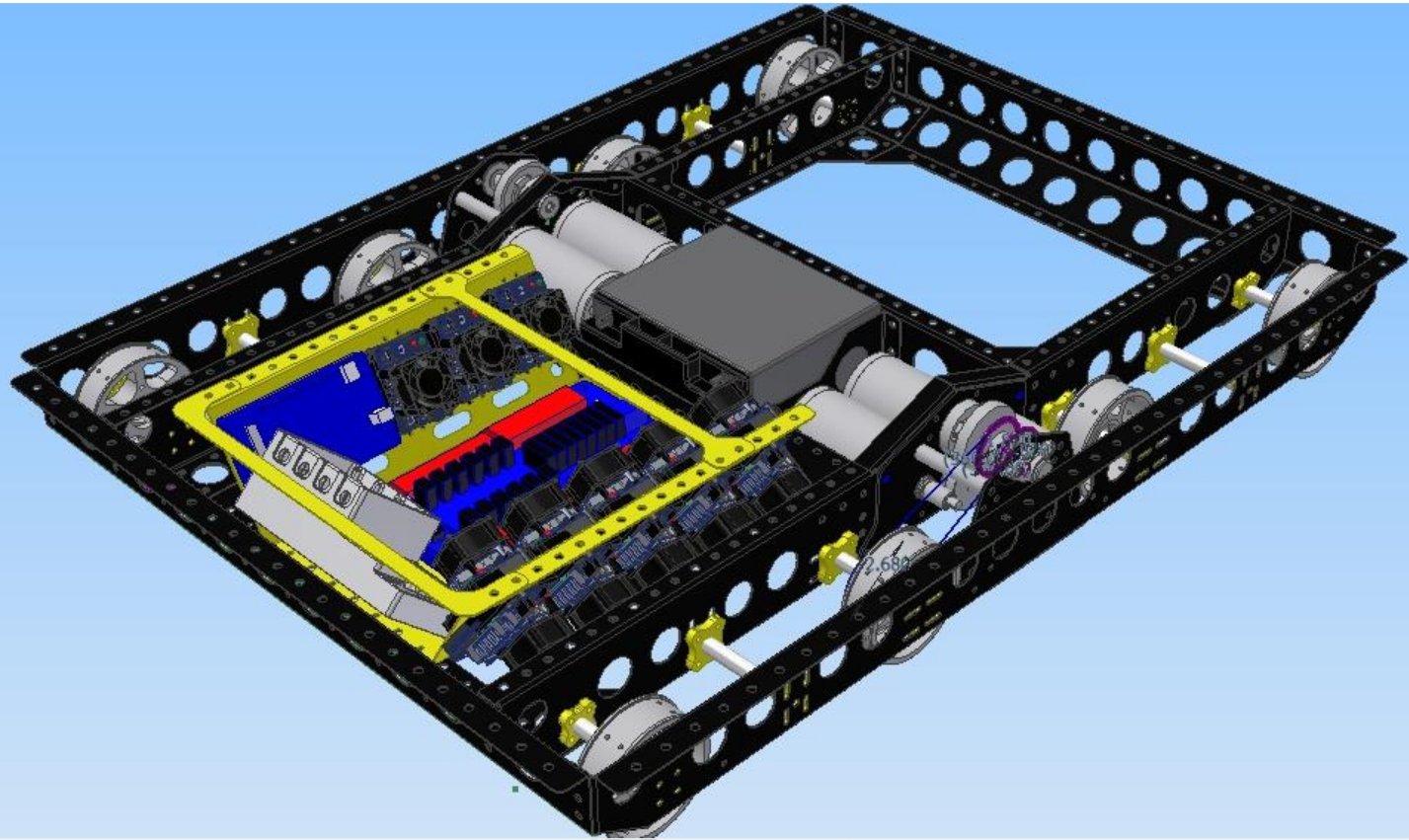
Weight, Adjustability, Stiffness, Packaging

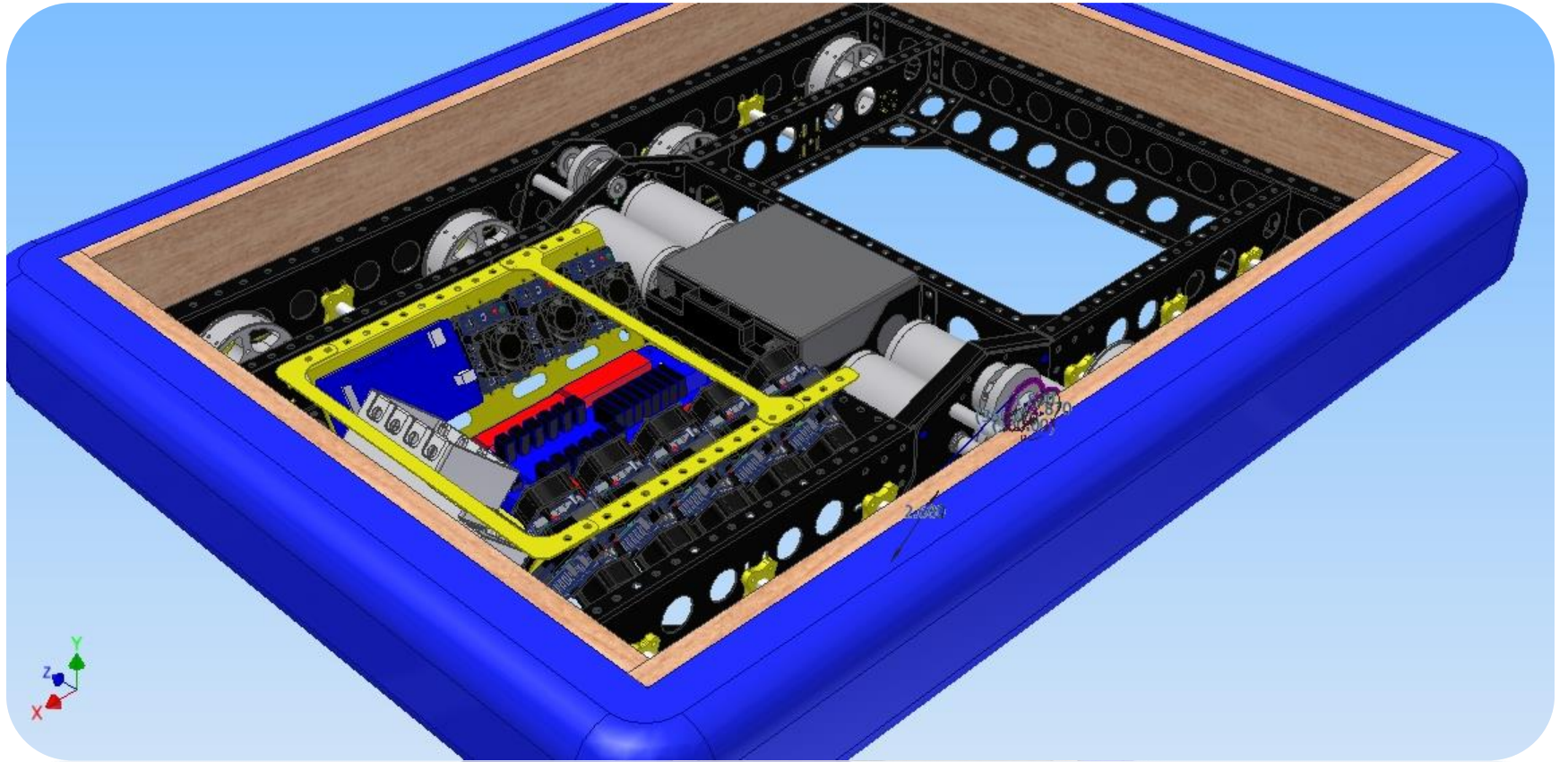
By Bryan Culver











Weight

- Bumper and Frame are “one unit”
- Bumper acts as main structural support
- Artificially decrease drivetrain weight.
- Frame weights only 4.5 lbs.
- Bumpers can weigh 20 lbs but does not count towards robot weight.
- Frame actually weighs ~25 lbs

Adjustability

- Inner wheels are on sliding axle assemblies to tension chain.
- Outer wheels have intermediate assemblies to tension chain and keep path above bottom of frame.
- Outer wheels have asymmetric axle assemblies. 4 drop options $1/32''$ apart.

Stiffness

- Bumper attachment is 2x1", 1/8" thick extruded aluminum welded in a box frame that fits around frame perimeter.
- .75" thick 5" tall plywood is dovetailed at corners and bolted around welded box frame.
- Dead axle assemblies and Gearbox acts as bridge structure within frame.

Packaging

- Frame has 3" section (very low to ground)
- Gearbox inside wheel well: removed through bottom.
- Electronics very low: removed through bottom
- Battery between gearboxes: removed through top or bottom.
- Lots of open space for game features

Electronics Packaging

- cRio, Speed Controllers, PD board, and Sidecar fit onto a removable module.
- Short run from battery to PD board.
- Short run from Speed controllers to PD board.
- Accepts a combo of 16 Victors or Talons.
- Saving weight here too: Wire is heavy!