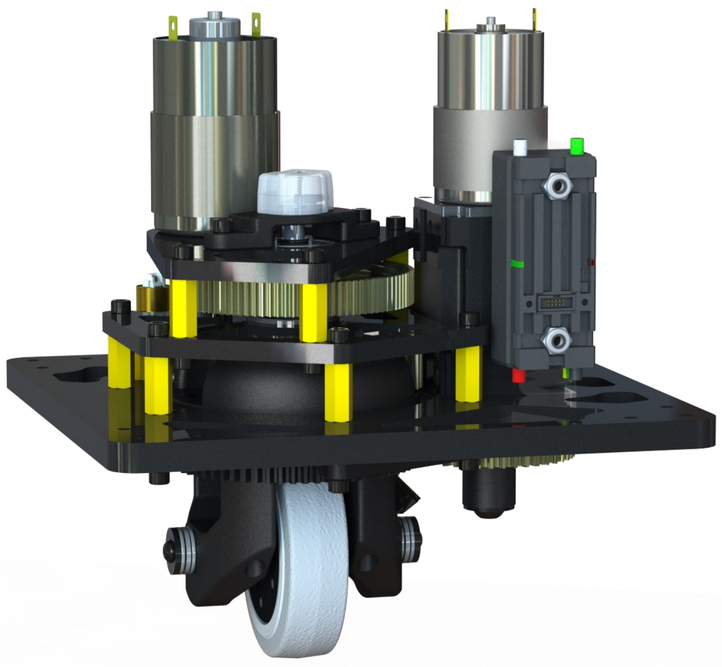
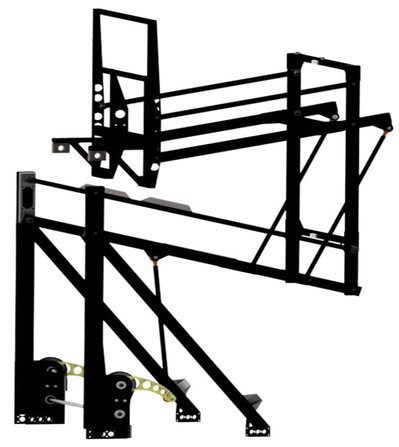
KILLER BEES ROBOTICS - FIRST TEAM 33

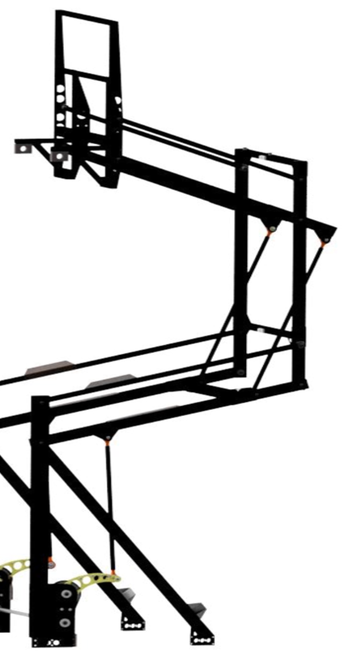
BUZZ XXIII

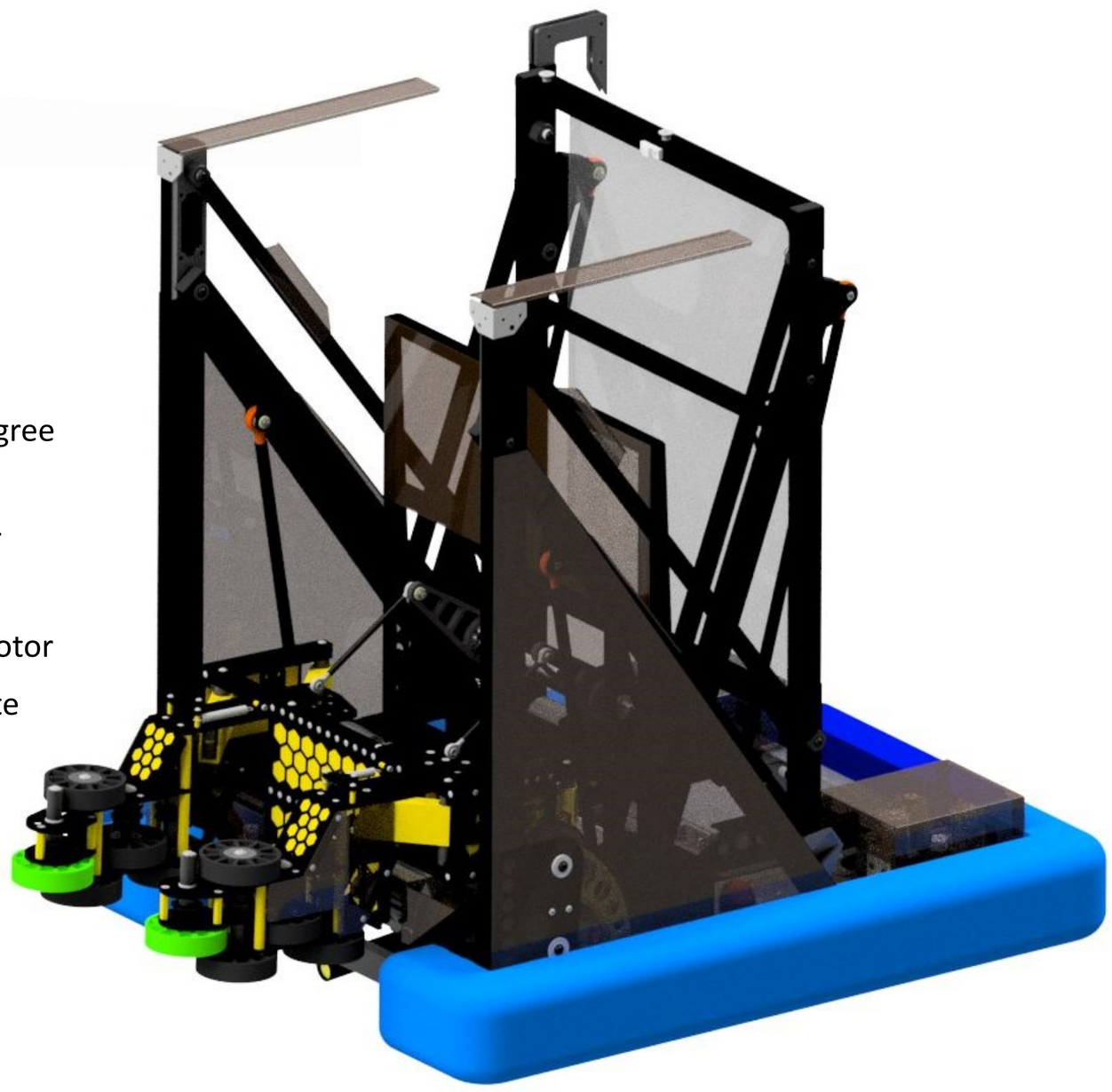


OVERVIEW

- Coaxial Swerve Drive with 4 wheel independent steering.
- 18 ft/s ground speed with six 775Pro Drive motors
- Cross Linked Double Reverse Four Bar Lift
- Floating Four Bar wheeled cube intake
- Distributed closed loop device control on CAN network
- Field Centric Driver Interface





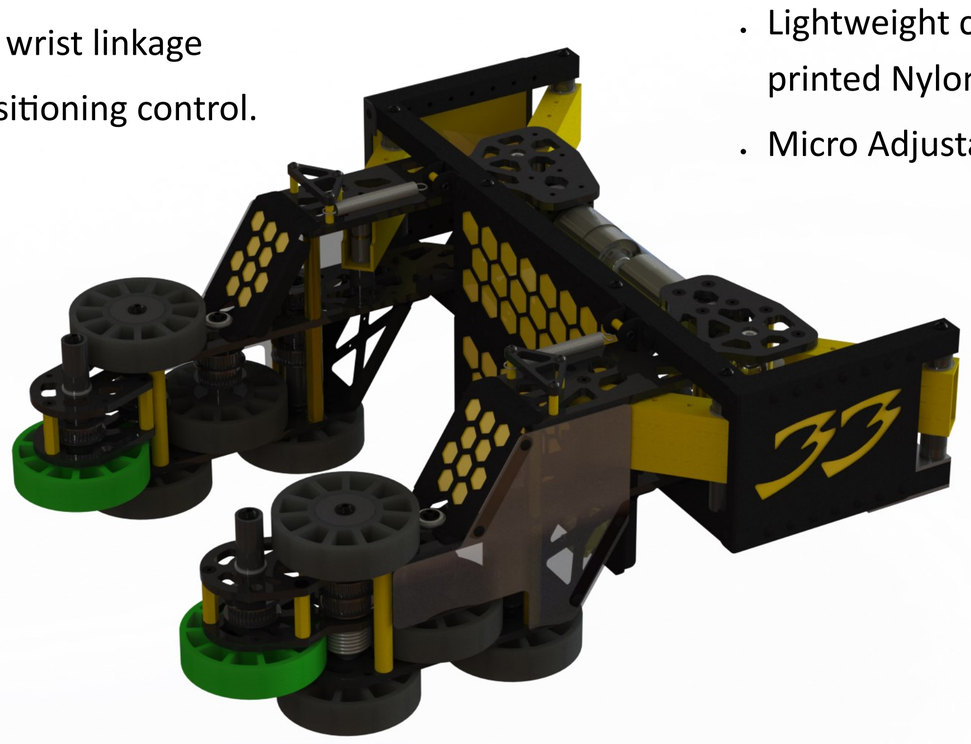


SWERVE

- Lightweight, Modular, 3D printed drive modules.
- Coaxial design with continuous 360 degree steering rotation
- 3” Colson wheels with custom hubs for easy wheel changes
- High speed Versa Planetary steering motor
- Only 5 lbs. per module, 30 lbs. complete chassis with frame.

INTAKE

- Dual independent collector arms with two degrees of freedom.
- Intakes cubes in any orientation at any speed.
- Total of 10 compliant intake wheels for maximum grip on cube
- Dual 775Pro motors through 90 degree DeWalt adapters
- Cube detection sensor with software automation
- Over-centering wrist linkage
- Closed loop positioning control.



DOUBLE REVERSE FOUR BAR

- Cross linked Double Reverse Four Bar design
- Only 41 inches high at rest, over 8 feet tall
- Lifts to full height in one second
- Bell crank push-rod lift design
- Lightweight construction using thin wall tubing and 3D printed Nylon
- Micro Adjustable geometry using threaded rod ends.

ELECTRONICS AND SOFTWARE

- Fully networked, distributed CAN control strategy
- Independent speed and azimuth control of each drive wheel
- Motion profiling control of main lift
- Graphical generation of advanced autonomous modes

2018 POWER UP

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