

2019 Robot Overview

Rishon Shah and Sabina Davis



Intros

Rishon

- Senior
- 4th year
- CAD Lead

Sabina

- Senior
- 6th year
- Captain



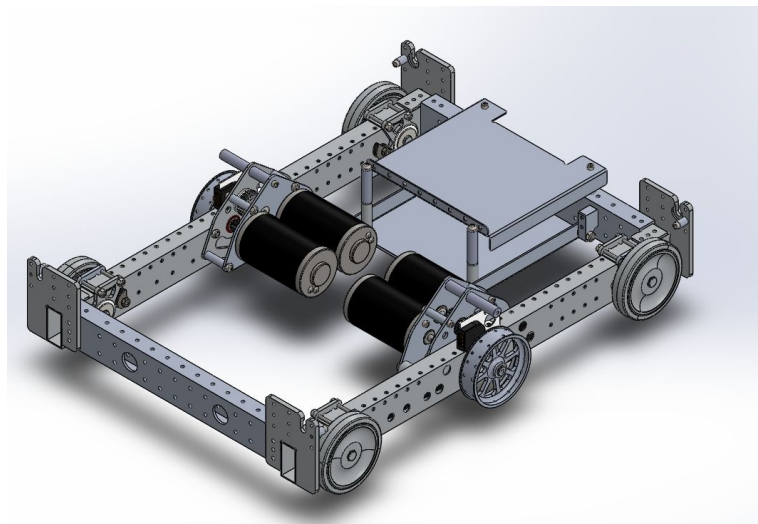
Tachyon

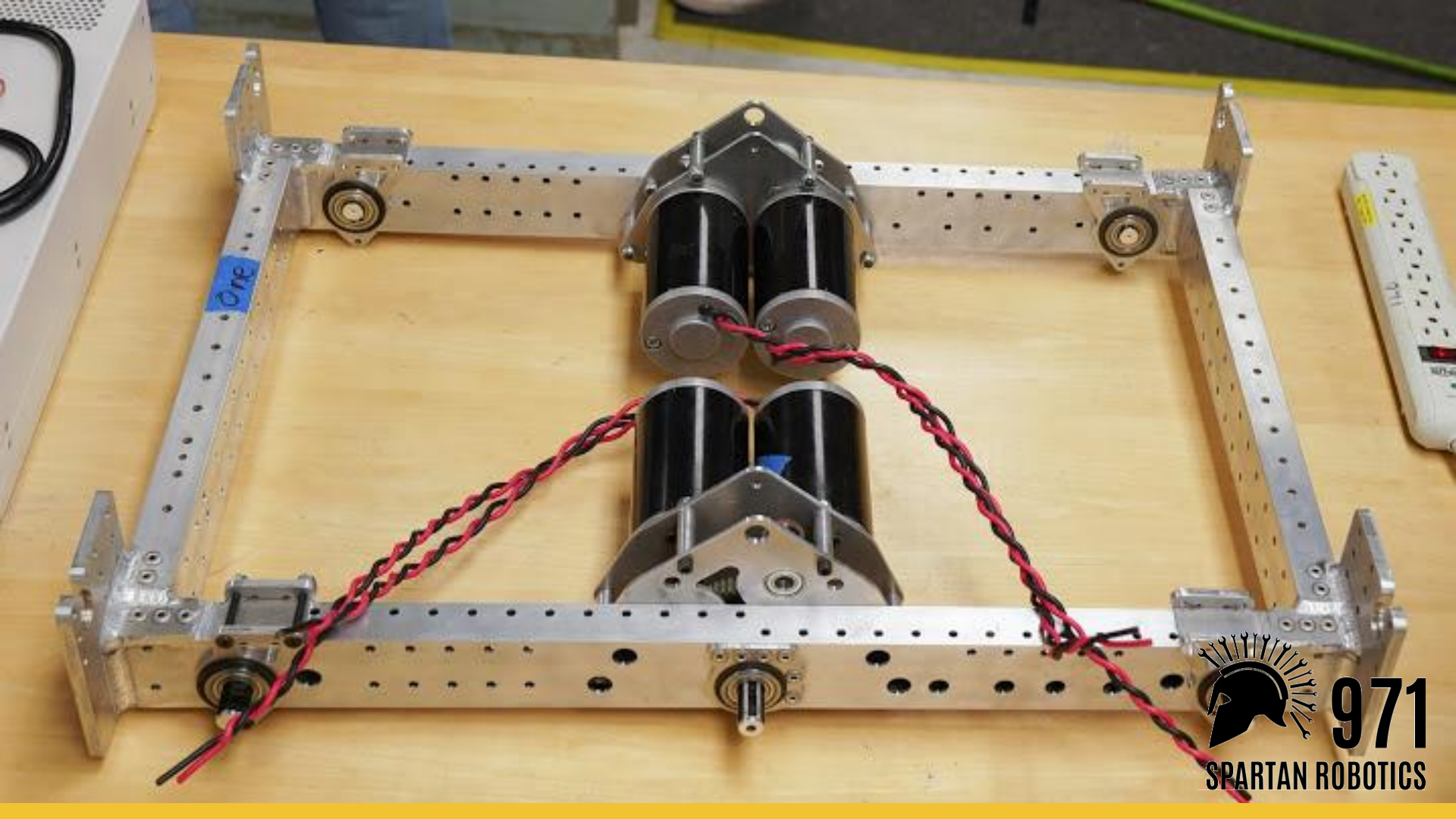
- Drivetrain
- Elevator
- Wrist
- Intake
- Suction
 - Pump
 - Cup
- Stilts
- Vision/Cameras



Drivetrain Overview

- West Coast drive
 - 25 in by 19 in (w/o bumpers)
- 6wd dropped center
 - 4 in Colson wheels, 2 front and back
 - 2 tread wheels in the middle
- Single Speed Transmission
 - 1 reduction w/ 2 regular CIMs
- Sensors: Standard US Digital Rotary Encoder



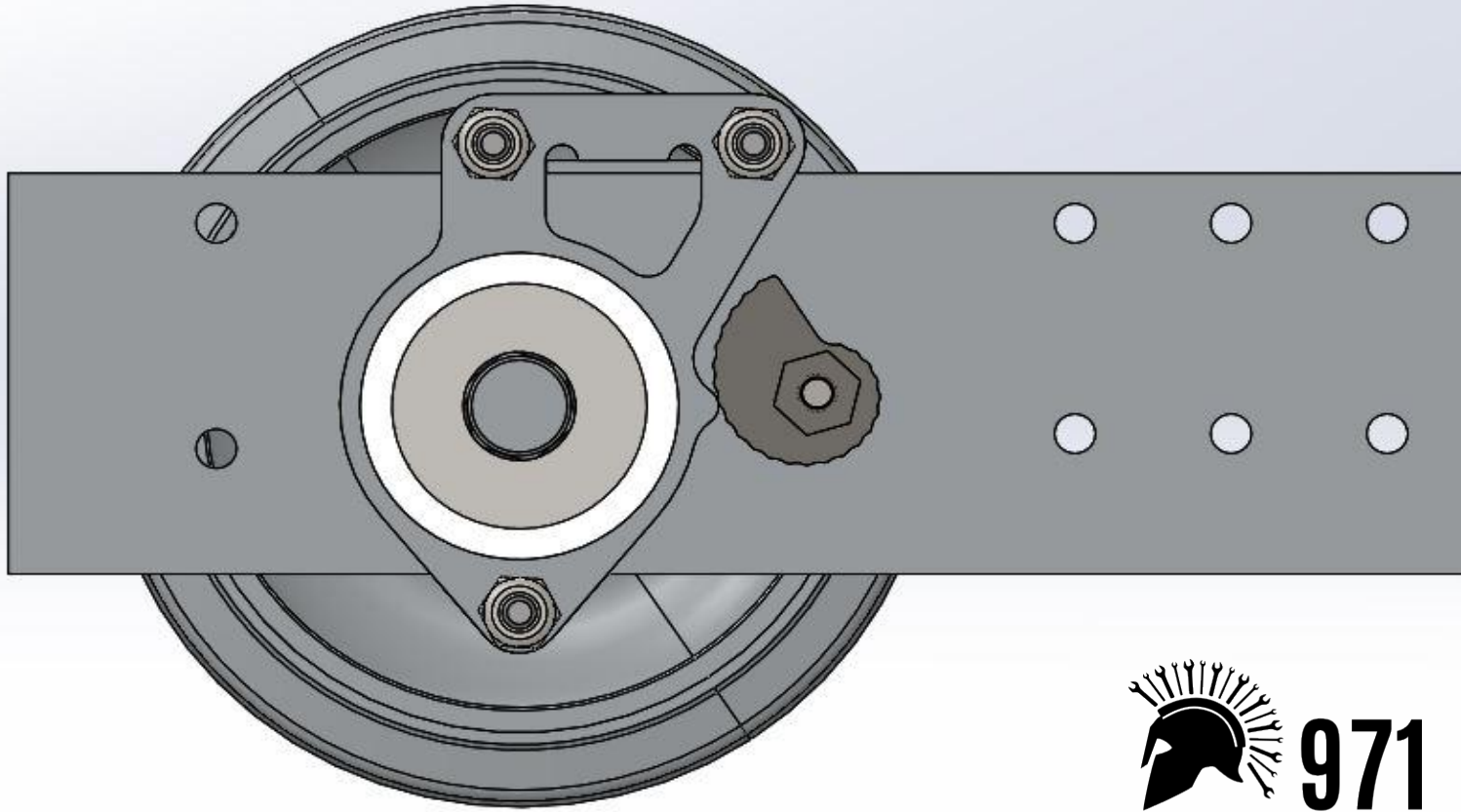


One



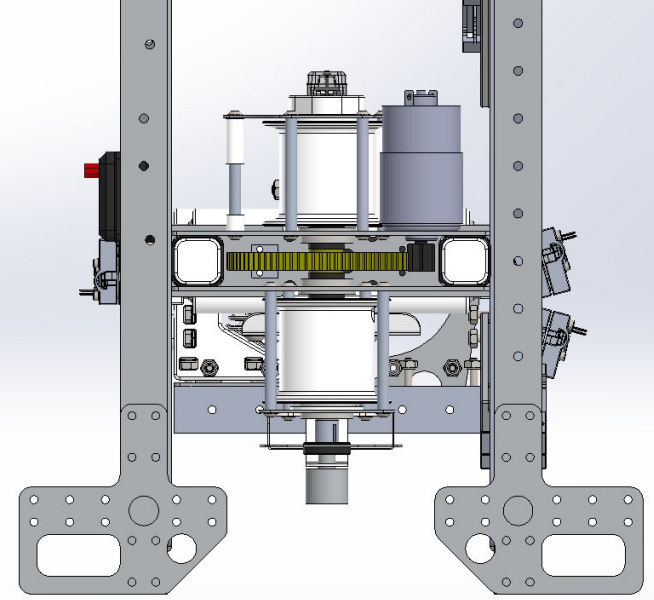
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SPARTAN ROBOTICS



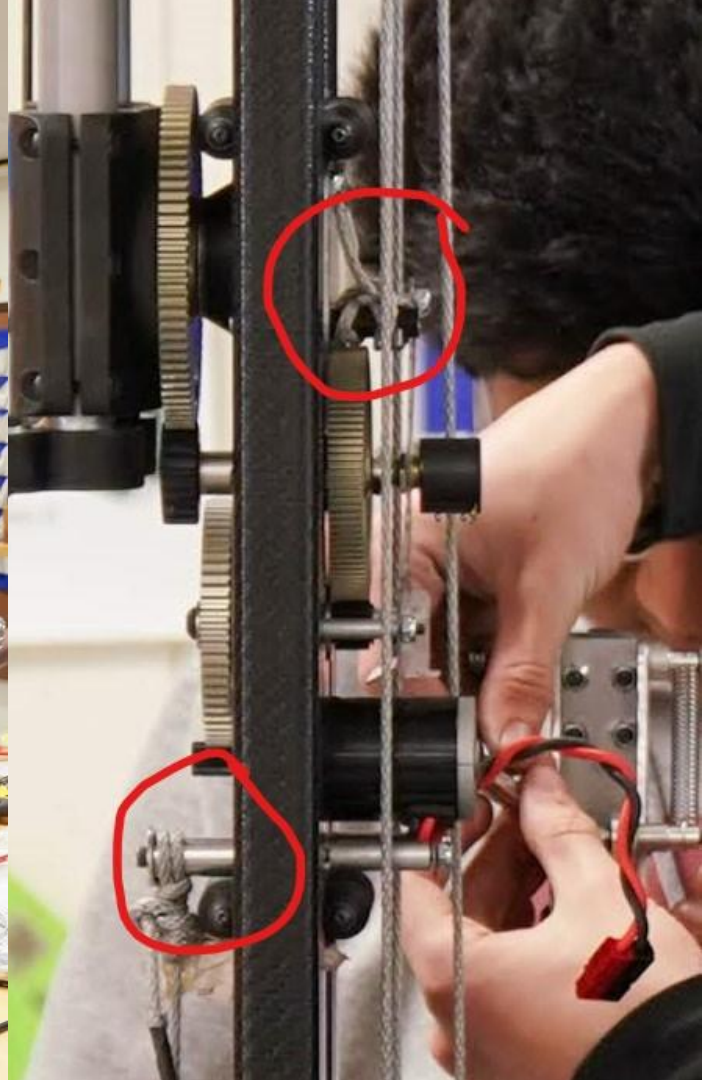
Elevator

- Carbon Fiber
- 14 pounds
- 1 reduction and 1 775pro
- 2 stage continuous
- Potentiometer and Absolute Encoder

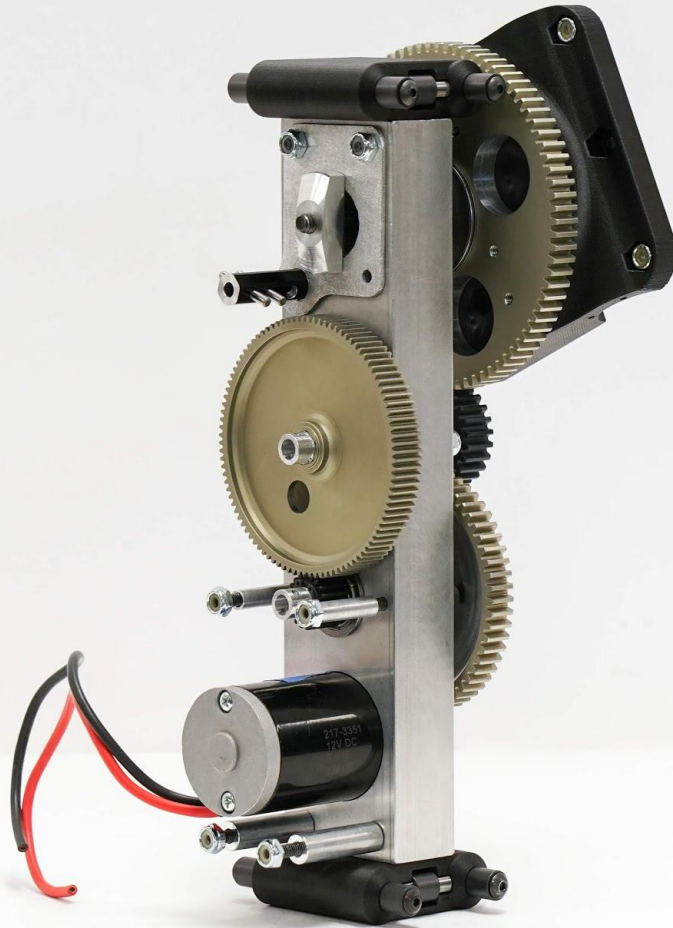




#SIDEWAYSELEVATORGANG

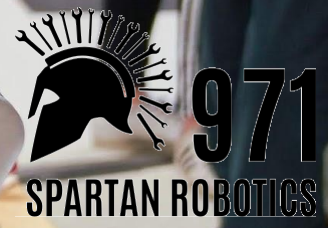


Wrist

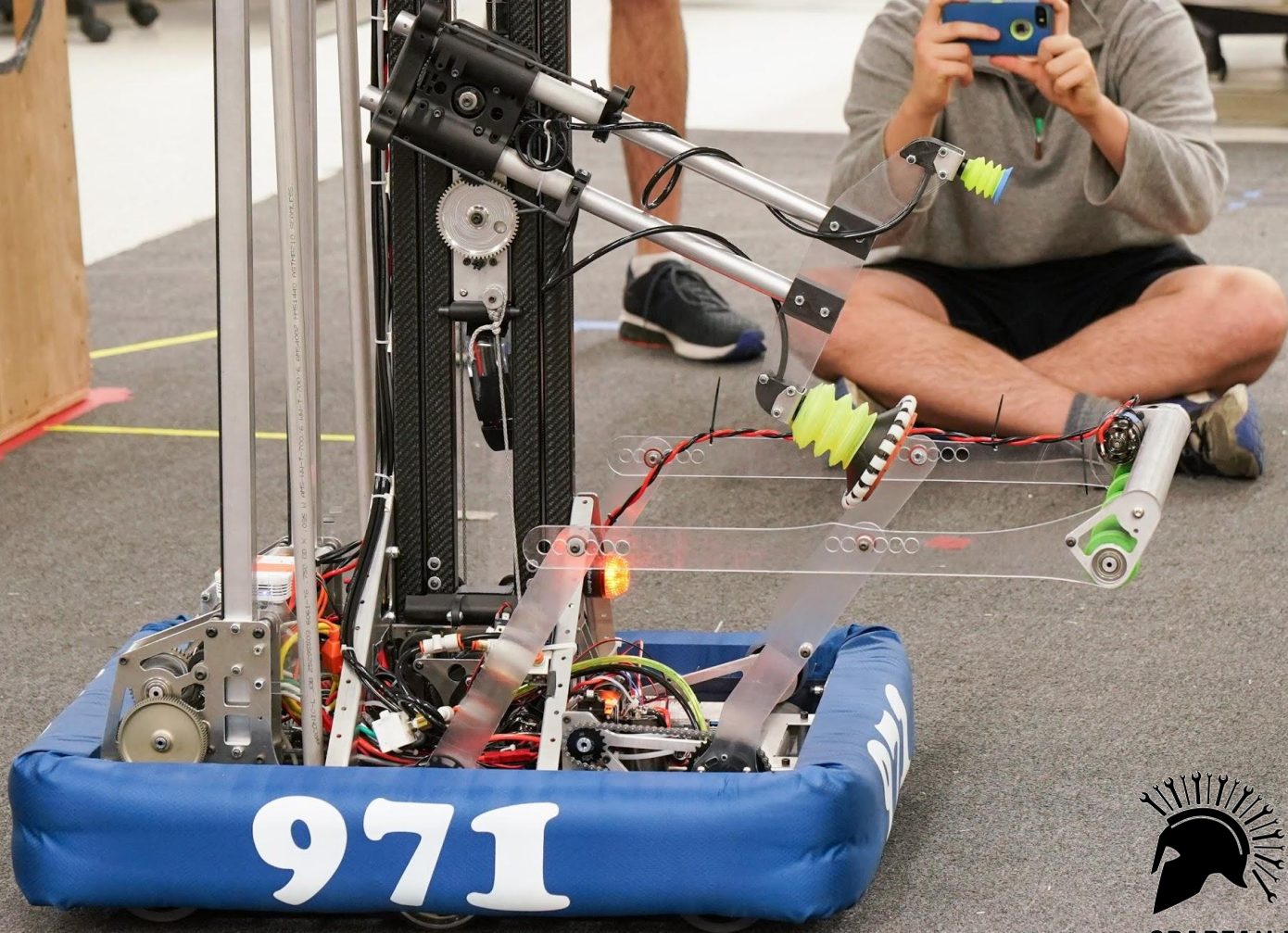


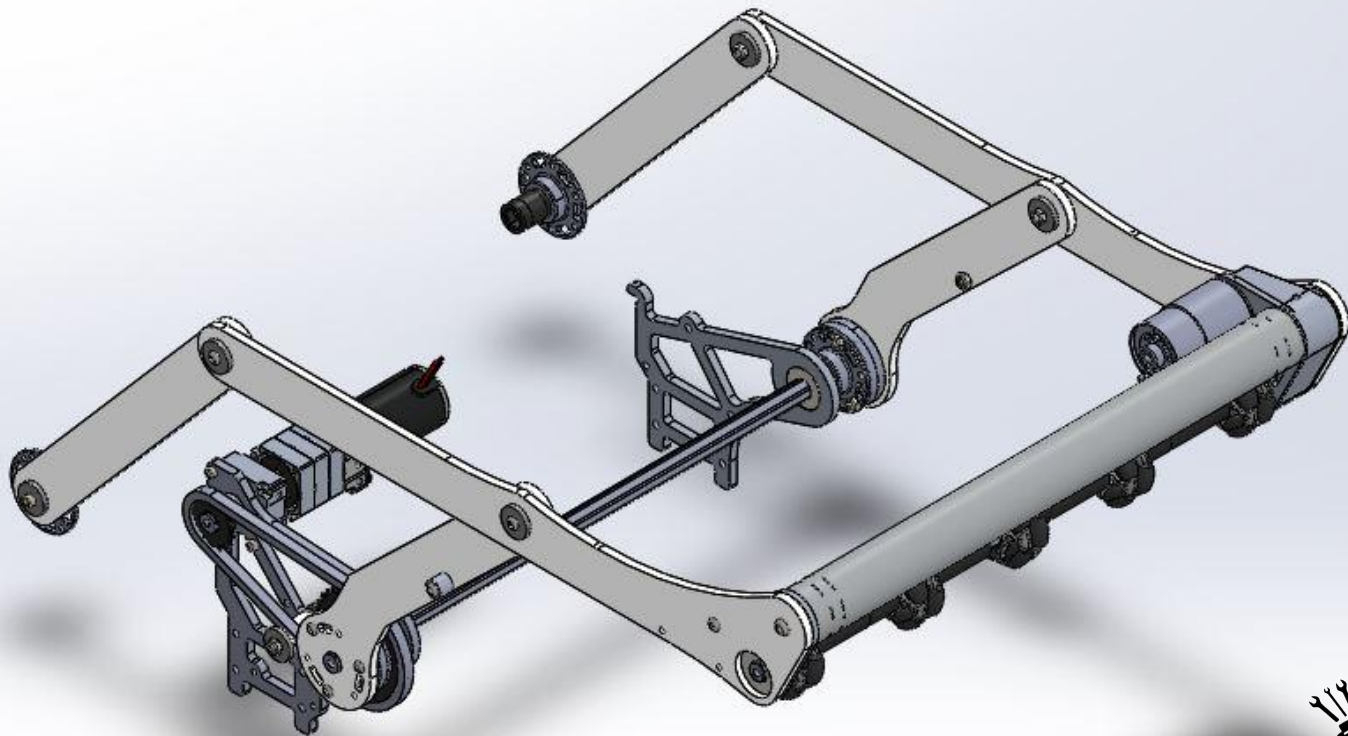


OSS N AMS-HM-T-700-6 HM-T-700-6 AMS-082 MMS1440 ASTHER210 SEAMLESS.



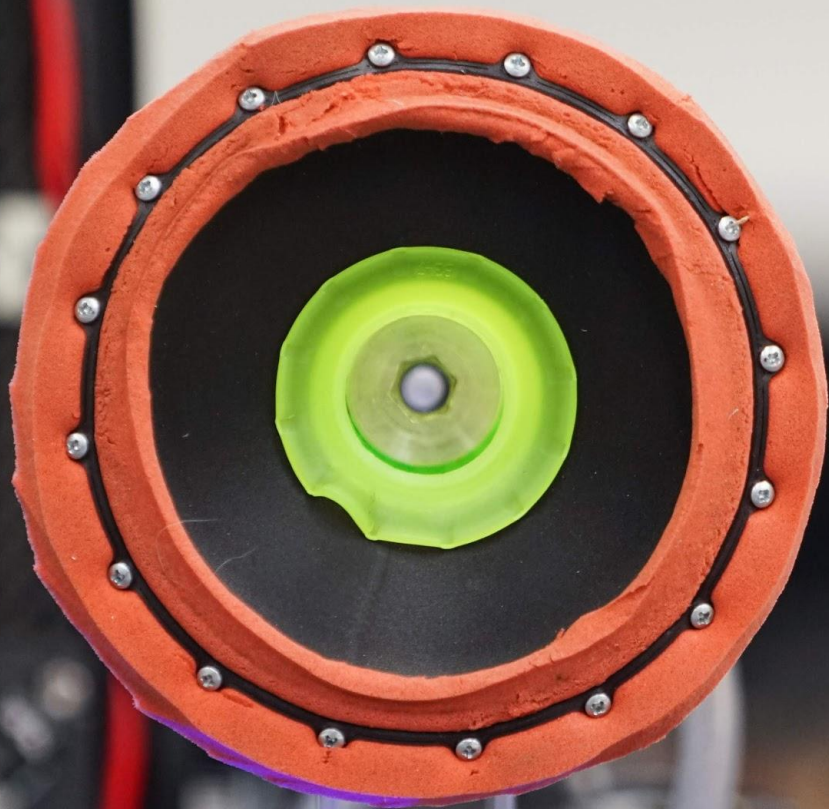
Intake





Suction

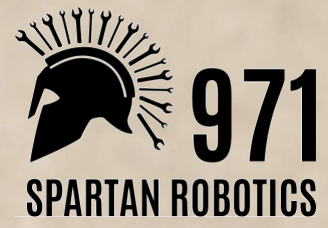




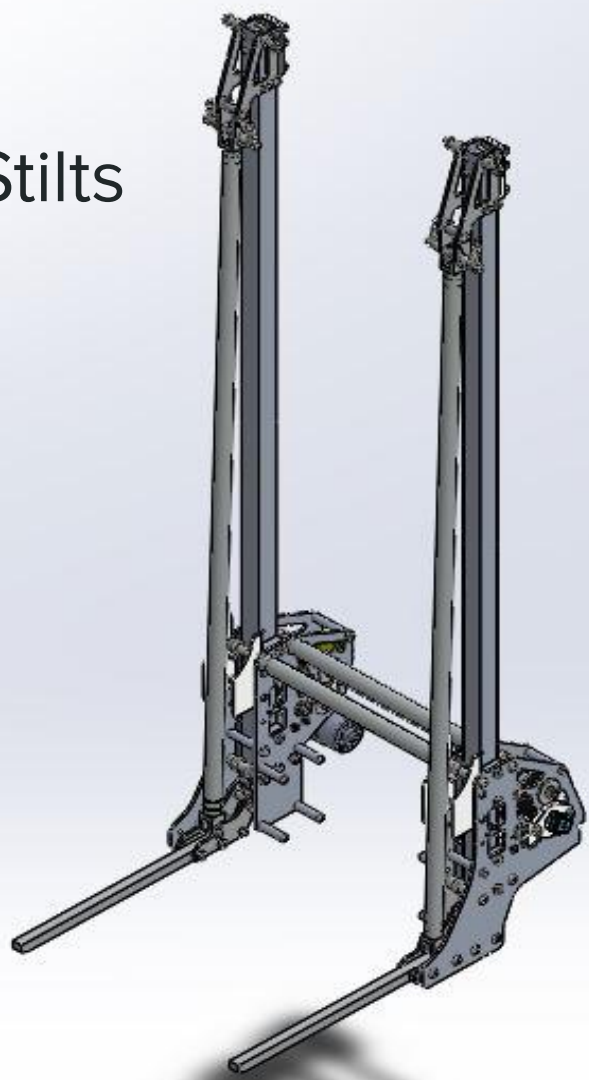


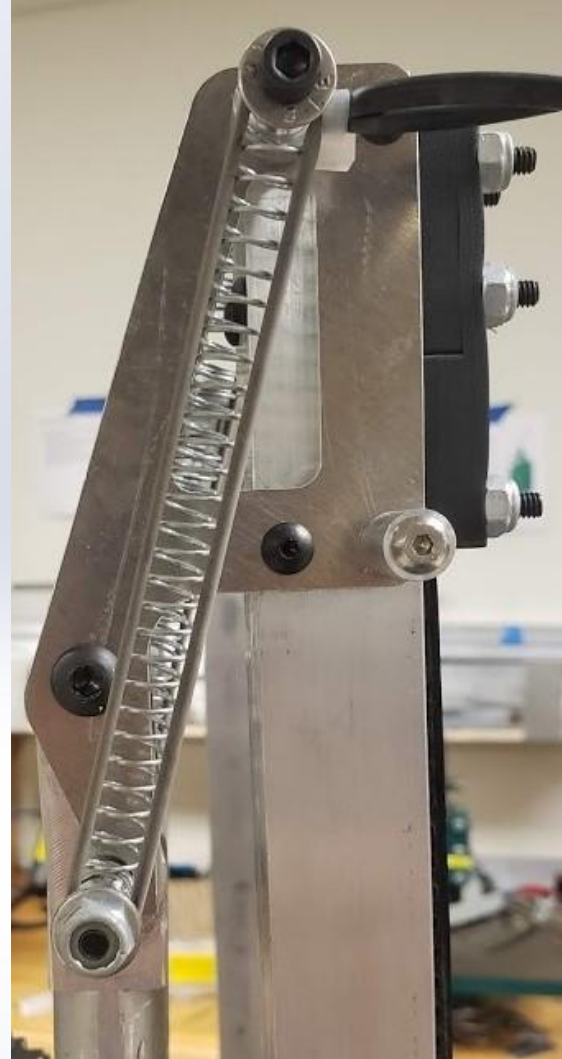
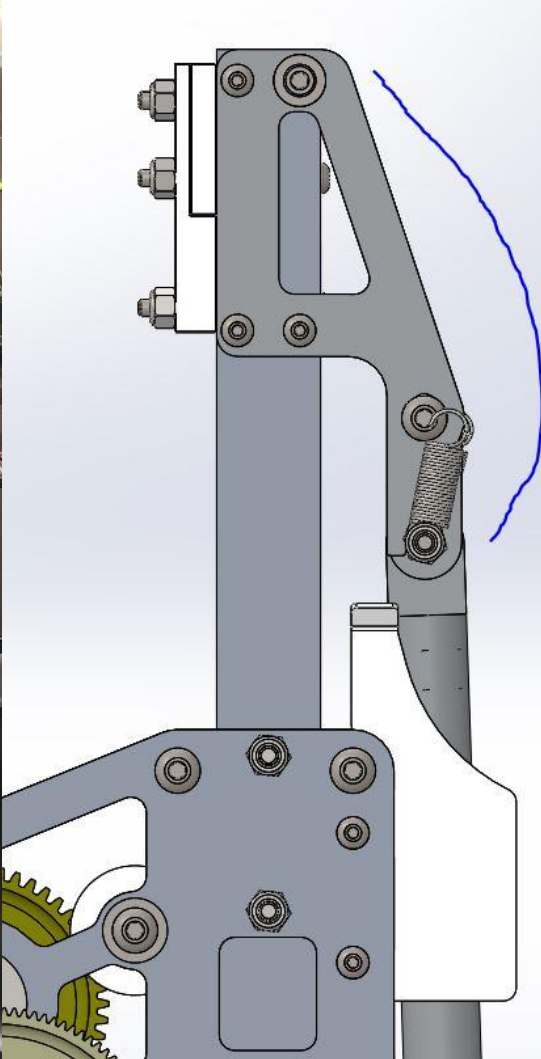
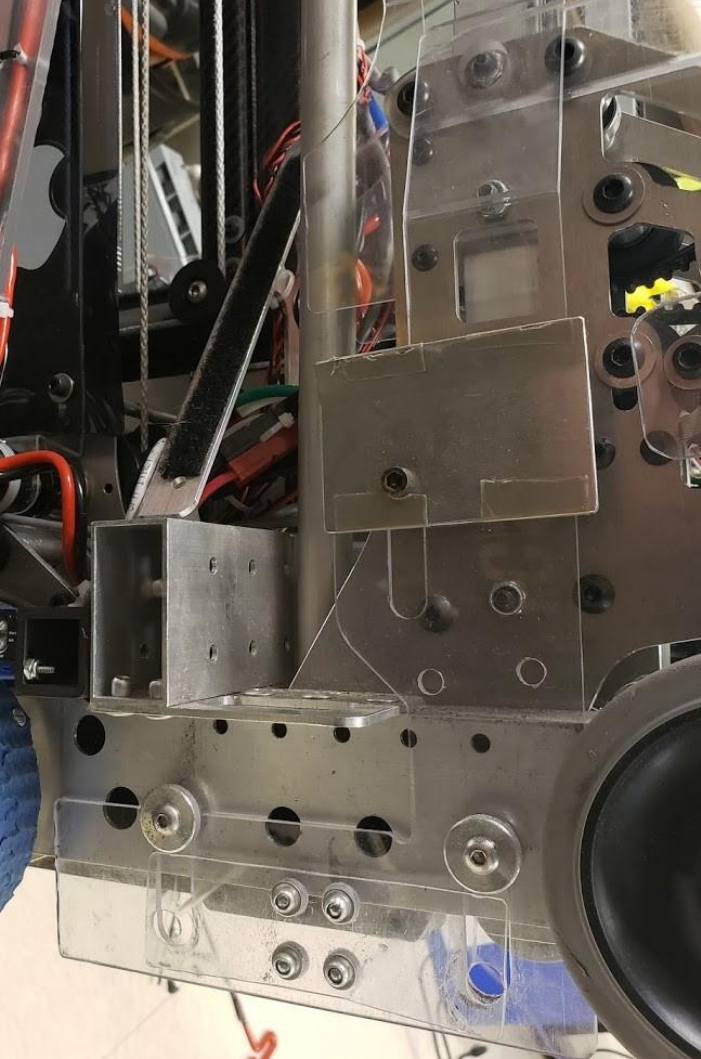


1B210 SEAMLESS.



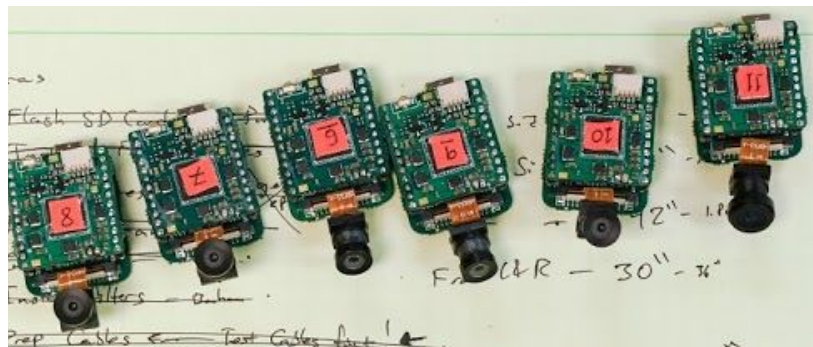
Stilts





Vision System

- IR Lenses and Custom IR Light Boards
- JeVois Cameras:
 - 5 for localization
 - Teesny and Custom Board
 - 1 for driver vision
- Localization using Extended Kalman Filter
 - Blob recognition
 - Full field localization



Final Thoughts + Q&A

Ask Me Anything!



Thank You!

