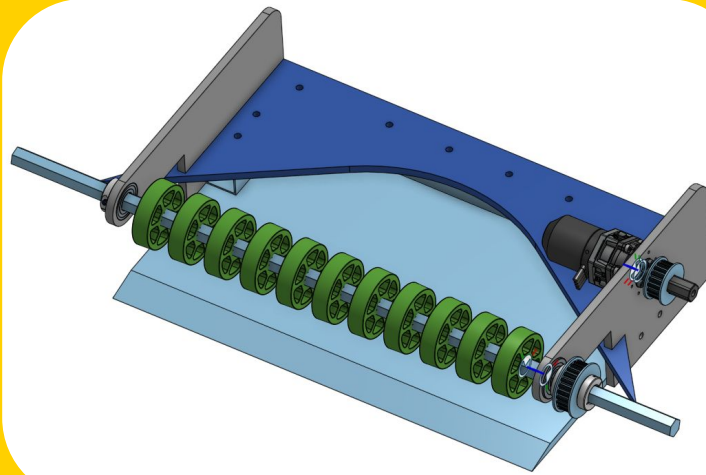


FRC 7407 Wired Boars - Gear Intake Design

By Ella shafman and Garrett Curtis



GEAR RATIOS & MOTOR FUNCTION

Our robot utilizes the Ultra-Planetary 550 Gearbox, which we designed to create a 1:5 gear reduction, 24 tooth and 18 tooth HTD 15mm pulley's, along with our 70 tooth belt.

As a result our intake speed came out to: **OX**

Supports & Structural Designs

We inserted small 3x1 chassis to support the corners of the robot.

COMPLIANT WHEELS

We chose to use 2.25in diameter wheels for optimal pressure on the gear while it intakes.

ITERATIONS/TESTING

Initial testing was a flop- our motor was on the wrong side and the intake spun the wrong way. So we flipped the motor from the inside to the outside, and geared it down from 5:1 to 20:1 because it was too fast.

Final product was very successful.

INTAKE FUNCTION

Shellys roller intake is capable of intaking Steamworks FRC gears. The curved top piece allows the intake to take in gears with less precise driving. The compliant wheels securely intake the gear with 1/16" of compression.

