

FRC Team 4063 Robot Specifications Sheet 2021

Robot Name: **Skyhopper**

Robot Age: About 1 year

Challenge: Infinite Recharge (2020)

Infinite Recharge at Home (2021)

Robot Starting Configuration

Length: 31" Width: 27" Height: 27"

Weight: 118.2 lbs without bumpers and battery

Chassis/Drive System

Eight Wheel Bunny Drive System

- One 6" Colson wheel per side for position control
- Three 6" Omni wheels per side for scrub-free turns
- Two CIM motors per side
- Custom Bunny Drive 10.93:1 gear reduction
- Top speed is about 11 ft/s or 7.5 mph

Electrical and Control System

- CAN Bus
 - 10 Victor SPX motor controllers
 - 3 Talon FX motor controllers
- Sensors
 - 2 encoders for drivetrain
 - navX2-MXP sensor and motion processor

Robot Subsystems

- Articulating arm with rollers for ball intake and transition
 - 1 bag motor to rotate arm
 - 1 bag motor to spin intake wheels
 - 1 bag motor to run transition pulley system
- Shooter
 - 2 Falcon 500 motors spin 4 4" Colson wheels
- "Lightsaber" climbing system
 - 1 Falcon 500 motor for winch
 - 1 bag motor to deploy lightsaber
- Control Panel Manipulator
 - 1 bag motor to deploy manipulator
 - 1 bag motor to spin control panel

