LHS

ROBOTEERS
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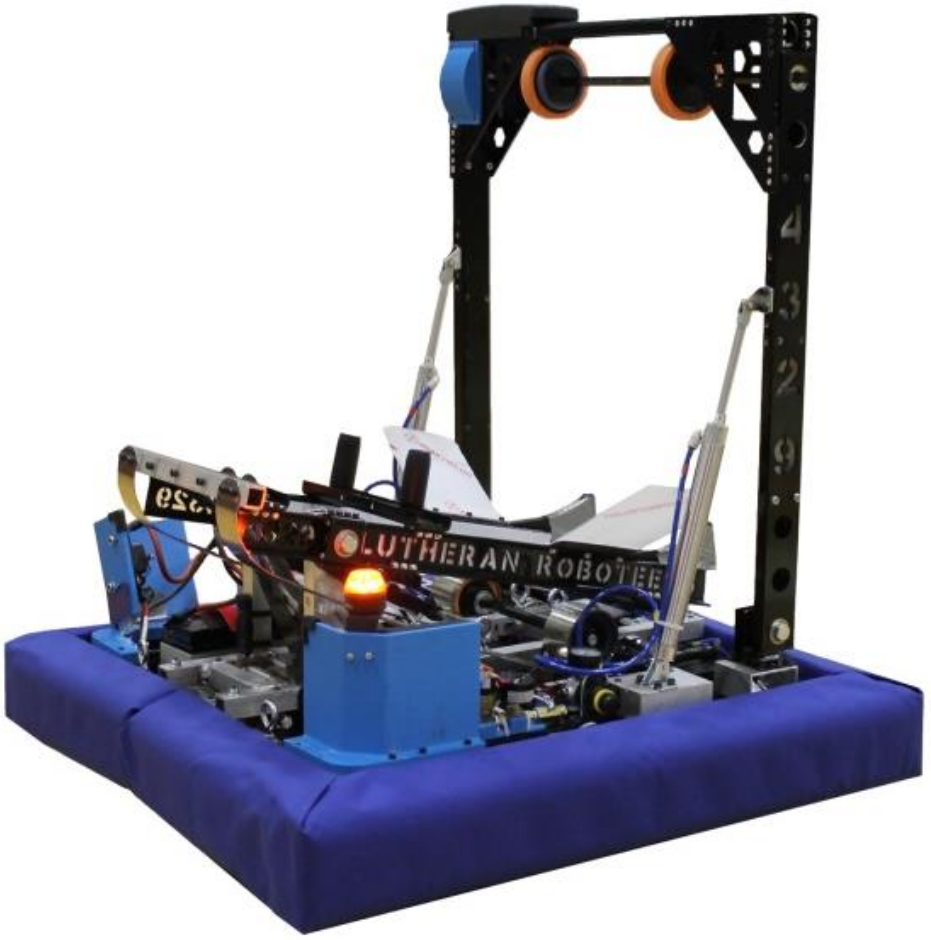
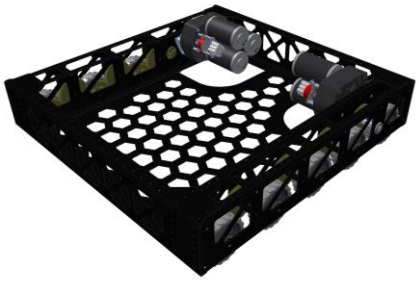
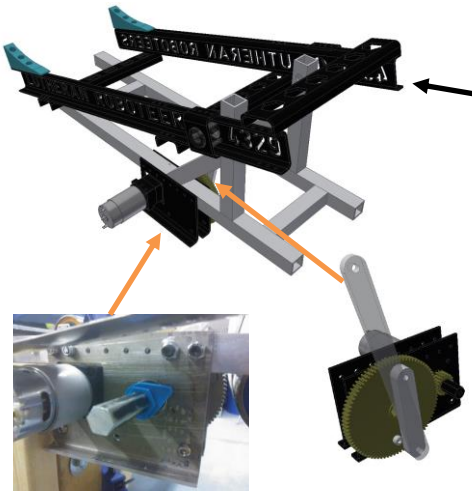




Drive Train:

10 Wheel All-Gear Driven Drive
Powered by 6 CIM Motors (3 per side) using VexPro 3 CIM Ball shifters
Speeds: 5.5 ft/s low gear, 15 ft/s high gear
Each wheel can be removed by taking out a single bolt allowing for quick repairs
Integrated encoders for accurate driving

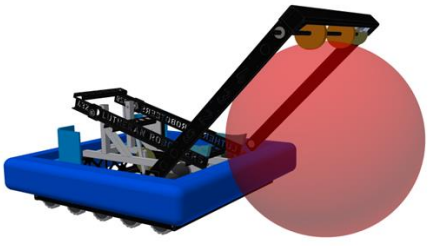


Catapult:

Powered by four 40 pound Vulcan constant force springs
Additional power available through easily attachable spear gun tubing
3D printed angle blocks allow for an easily modifiable shot distance
Uses a resetting mechanism to pull catapult into a charged state
Used for high goal shots and truss passes

Catapult Resetting Mechanism (Choo Choo):

Uses one RS775 motor powering a 100:1 VEXPro Versaplanetary gearbox
Simple mechanical linkage doubles as the charging and firing mechanism
Utilizes a limit switch & a 3D printed camshaft to control the recharging and firing sequences



Ball Intake:

Uses one RS775 motor powering a 5:1 VEXPro Versaplanetary gearbox
Pivots using two 8 inch stroke Bimba pneumatic air actuators to reach the ball
Gear driven using a single gear reduction stage from the gearbox
Intake uses 3.875 inch BaneBots wheels to bring the ball into the robot
Allows for easy ball handling, passing and low goal scoring

Defensive Module:

Blocker that extends above 7 feet
Uses same mounting as the catapult allowing for easy interchangeability
Uses a single pneumatic and pulley system to reach height