

BUILD TEAM CHEAT SHEET

Drive Train

Our robot uses the Kit of Parts chassis with dimensions of 27"x32".. Its drive train consists of two six inch traction wheels and two six inch omni wheels to allow for more versatility on the field while also maintaining control. It uses the West Coast Products Single Speed Gearbox on both sides.

Four-Bar

The robot uses a raising mechanism called a Four-Bar. This uses four bars that always remain parallel to each other so that the intake mechanisms can still move along the vertical axis without being rotated. In the back, there are two [insert type] motors with [insert gear reduction here]. They are driven with two sets of chain that run to a gear. The bars are locked to their hex shaft using a hub that is connected directly to the the bars themselves so that they rotate when the shafts rotate.

Cargo Intake

To intake a ball, four green compliant wheels are used that run along the top. They are driven using a belt and pulley with a bag motor with a gear reduction of [insert here]. The green wheels compress the ball from the top while the bar that holds the hatch intake compresses it the bottom, allowing it to be properly secured. To intake the ball, the driver spins the wheels in reverse. For a more secure hold, the hatch intake is rotated around and acts as a gate and barrier. When scoring for the Level 3 Rocket, the hatch intake also acts as a ramp to guide the ball up into the opening.

Hatch Intake

Our hatch intake composes of basically of two things: a small piece of angle metal and a bar. It is driven with a bag motor with a gear reduction of []. When it is not in use it is tucked underneath the hatch intake so that the cargo intake can be in contact with the floor and properly intake a piece of cargo. It can intake from both the floor and the loading station. To intake from the floor, the hatch intake rotates so that the piece of angle is parallel to the floor and it can slide in between the hatch panel and the carpet. To intake from the loading station, the hatch intake is brought into its upright position and the four bar is raised so that the piece of angle gets in between the hatch panel and the wall and the driver pulls away. To attach it to a rocket or cargo bay, the crossbar slams the hatch panel against the velcro and the hatch intake is lowered so that the driver can pull away without knocking the panel down. This and the hatch intake are camera assisted.

Any Questions: GET NATHAN or JEREMY



CARGO
INTAKE

FOUR-BAR

HATCH
INTAKE

DRIVE
TRAIN