

# Hatch Panels

Hatch intake: hold down left bumper until hatch intake fingers are inside the center of the hatch panel. Fingers will automatically close on hatch panel when bumper is released.

Hatch outtake: hold down left trigger until hatch panel is up against where it is going to be scored. Hatch panel will be automatically released when trigger is released.

# Cargo

Cargo outtake: hold down right trigger to run cargo rollers. Continually release and hold down if cargo is stuck in intake.

Cargo intake from ground: click down on d-pad to move elevator and wrist to intake cargo off the ground. Runs cargo rollers until cargo enters intake.

Cargo intake from loading station: click up on d-pad to move elevator and wrist to intake cargo from the loading station. Runs cargo rollers enters intake.

Cargo move cargo ship: click right bumper to move elevator and wrist to score in the cargo ship.

# Elevator and Wrist

Move low sequence: press A button to move elevator to the low position and deploy wrist for scoring on the bottom level of the rocket, the cargo ship, and intaking from the loading station.

Move mid sequence: press B button to move elevator to the middle position and deploy wrist for scoring on the middle level of the rocket.

Move high sequence: press Y button to move elevator to the high position and deploy wrist for scoring on the top level of the rocket.

Wrist stow sequence: press X button to move elevator to the low position and stow wrist inside the robot.

# Vision

Vision left pipeline: press back to switch limelight pipeline to be tracking the leftmost target.

Vision right pipeline: press start to switch limelight pipeline to be tracking the leftmost target.

**NOTE: There is no way to switch to the driver feed for the camera from the xbox controller. It is switched either by completing a vision sequence or by pressing the top button on the left joystick.**

# Overrides

Wrist override: press down on the right pov stick to engage manual wrist control. Move the right pov stick up and down to move the wrist up and down.

Elevator override: press down on the left pov stick to engage manual elevator control. Move the left pov stick up and down to move the elevator up and down.

**NOTE: Do not engage overrides unless you absolutely have to. They have the potential to break the robot. If you need to use manual control, bring the wrist to a straight position and then move the elevator down to the bottom. Then move the wrist up into the robot to stow it.**



# Driving

This robot is a tank drive, meaning that the left joystick controls the left drivetrain and the right joystick controls the right drivetrain.

Shift high: click the trigger on the left joystick to shift into high gear.

Shift low: click the trigger on the right joystick to shift into low gear.

Drive assist straight: hold down the bottom button on the right joystick and move the joystick forward or backward to drive in a straight line either forward or backward. The amount that you push the joystick in either direction determines how fast the robot will move (further forward/backward means faster). Do not move the left joystick while running this sequence.



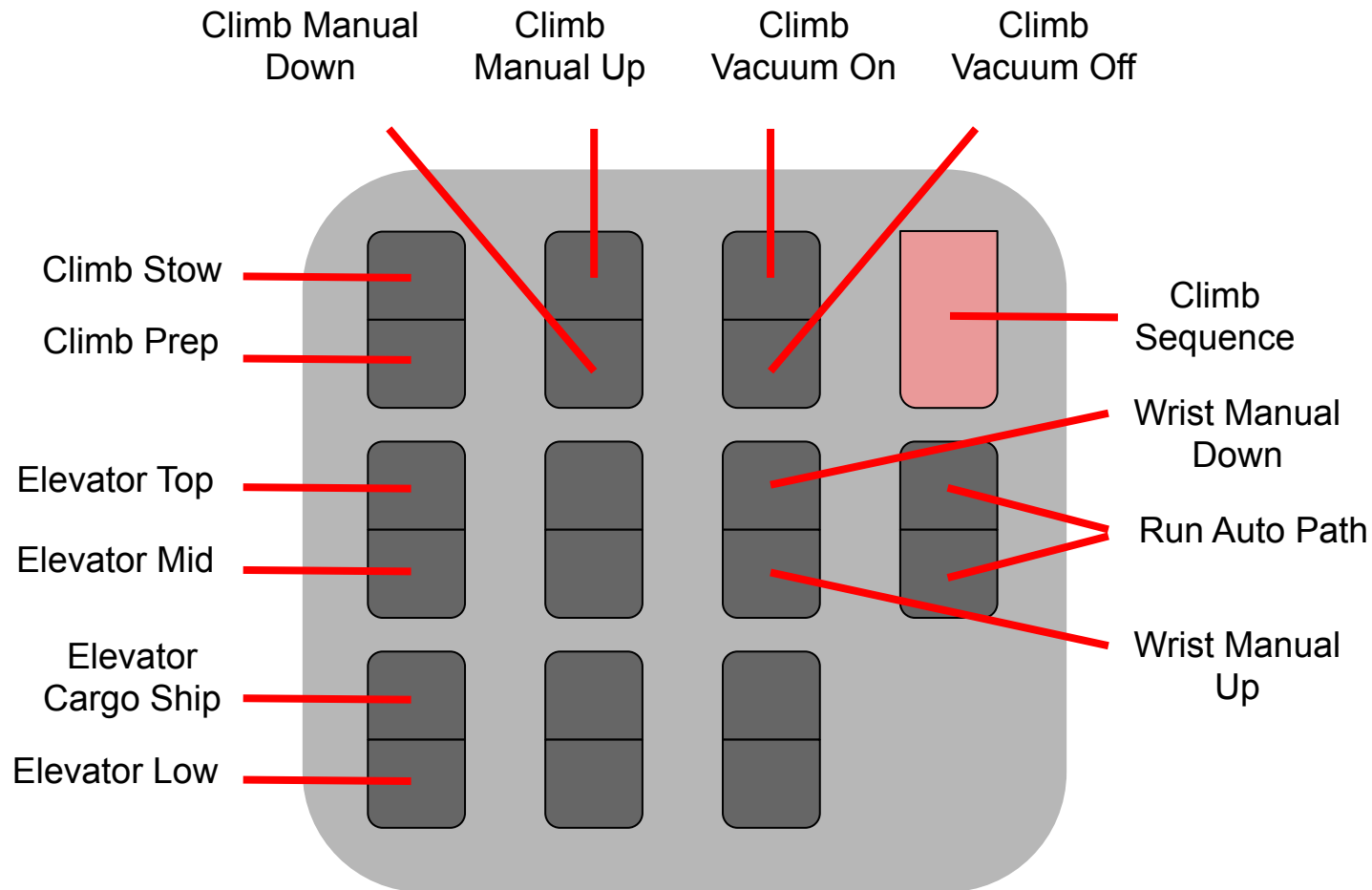
# Vision

Vision left pipeline: press the left button on the left joystick to switch limelight pipeline to be tracking the leftmost target.

Vision right pipeline: press the right button on the left joystick to switch limelight pipeline to be tracking the leftmost target.

Driver pipeline: press the top button on the left joystick to switch limelight pipeline to normal vision.

Drive assist with vision: hold down the bottom button on the left joystick to run vision sequence. **Keep this button held down while you want the vision sequence to run. Do not begin the sequence until the camera feed is black and it shows a green rectangle on the target.**



# Climb

Climb prep: press switch to move climb arm to prep angle.

Climb stow: press switch to move climb arm to stow angle.

Climb sequence: flip switch under red cover to run climb sequence. This involves moving the climb arm down to the hab, turn on the vacuum, and elevate the robot once there is enough pressure. **Do not flip the switch until the robot is fully lined up with the hab platform.**

Climb vacuum off/on: press switch to turn vacuum off or on.

Climb manual up/down: press switch up or down to move climb arm up or down.

# Other

Elevator top/mid/cargo ship/low: moves the elevator to the indicated position.

Wrist manual up/down: press up/down on switch to move wrist up or down.

**NOTE: Do not use these controls unless the xbox controller stops working.**