

# Recoil Robotics

## 2024 Robot User Manual

### Driver User Interface

The driver is responsible for controlling the robot's movement around the playing field.  
The driver uses one or two joysticks attached to the driver station.

Arcade/Tank Drive mode selection is made via a Shuffleboard widget. Selection is read on at the start of teleop and cannot be changed during the game.

Control	Function
Left Joystick, Y axis	Tank Drive - left motor speed Arcade Drive - forward/reverse speed
Right Joystick, Y axis	Tank Drive - right motor speed Arcade Drive - unused
Left Joystick Twist	Tank Drive - unused Arcade Drive - rotation speed
Left Joystick Trigger	Low Gear - while held, cut speed 50%
Right Joystick Trigger	Tank Drive - drive straight Arcade Drive - unused
Button 9 (front left)	Reverse driving direction
Button 7 (middle left)	Normal driving direction

# Operator User Interface

The operator is responsible for controlling the robot subsystems other than the drivetrain. They control the intake/output, Goose angle and climb. Operator controls are via a Logitech F310 gamepad.

**NB: Make sure the Logitech gamepad is in Flight Mode with the LED OFF!**

SubSystem	Control	Function	Control ID
Intake/Output	Intake Auto	Intake a note with automatic motor stop on note detection.	Left Bumper
	Intake Manual	Press and hold to run the intake motors. Note sensor ignored	Btn X
	Deposit Note	Run motors to feed the note out of the mechanism and into the amplifier.	Right Bumper
	Stop	Immediately stop all motors	Btn B
	Discard	Spit a note out of the intake	Right Stick Click
Goose	Move up	Move arm to output/top position.	Start
	Move down	Move arm to intake/bottom position.	Back
	Manual	Manually move arm up or down.	Left Thumbstick Y Axis
Climb	Climb	Retract the pneumatics on the climb mechanism.	Btn Y
	Descend	Extend the pneumatics on the climb mechanism.	Btn A

