

Operator Controls

General Rules

Once again the operators preferences are key but following these rules first will give a good start.

1. Any automated command needs to have a way for a manual backup. Adding a button to the controller that switches everything to manual is a good idea.
2. Automate things as much as possible
 1. Even if a sequence is triggered by a button it is better than fully manual control. For example a command that causes the intake to take in something and then move it inside of the robot is better than 2 or more buttons that do the same thing.
 2. HAVE A MANUAL BACKUP
3. Buttons should automatically execute a task
 1. if you need the operator to control something precisely and can't automate it try to make sure they only need to do one thing at a time, otherwise their performance is going to suffer, For example if the operator is climbing and the arms have to be controlled manually do not make them also have to simultaneously operate a scoring mechanism. Figure out something to reduce the load
 2. If the operator lets go of the button have it stop the command, unexpected things happen on the field and this can prevent robot damage or penalties.
4. If a subsystem has a lot of states don't make a button scroll through them. This can be confusing while operating and you frequently can't see the robot. Instead make each state a different button.
 1. for example a robot arm may need to go from the ground to a variety of scoring positions. It may seem like a good idea to bind these to gamepad up and down but if you cannot see clearly what the robot is doing you may force the robot into the wrong state. Having separate buttons solves this.

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