# of motors: 9-10 total, 4 in the drivetrain, 1 elevator, 1 roller, 1 to lower bridge, + 2 others

Elevator Motor Type: 550 Bangbots

Sensors:

Optical Sensor

2 Touch Sensors

3 encoders (2 for the drivetrain)

1 gyro

**UML**

**Autonomous Potential List of Variables:**

Jaguar Motor1 (port number) = new Jaguar;

Jaguar Motor2 (port number) = new Jaguar;

Jaguar Elevator (port number) = new Jaguar;

Jaguar Roller (port number) = new Jaguar;

Jaguar lower (port number) = new Jaguar

e1, e2, e3 (port numbers) = new encoders; \*respectively

t1, t2 (port numbers) = new touch sensors; \*respectively

? optic = new (what is the type for an optical/ultrasonic sensor?)

Gyro Angle = new Gyro;

**Basic Actions of each variable in Auto Mode**

1. Move forward until the optic sensors come a certain distance (ideal shot) to the reflective covering on the basketball baseboard.
2. Activate Roller Motor to full speed
3. Raise elevator if needed.
4. Shoot basketball with ideal spin
5. Make it into the Hoop(ideally nothing but net at the middle or top)
6. Reverse Motor1 and Motor2 Full Power, so the robot travels toward the bridge in the middle
7. Use lower variable (the mechanism that lowers the bridge) to lower the bridge.

Ideas for a plan of action for the Turret/Roller Class

1. Align elevator to position of aim(most likely, middle)
2. Adjust Drivetrain class as necessary to line up (preferably) directly in front of the middle hoop.
3. Activate Roller variable at full speed to quickly and efficiently make a backspin on the ball, thus shooting it with perfect arc length

**Potential Questions / Concerns**

1. What is the ideal height for the elevator to be at? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. How close can we / [do we need to] get to the main middle hoop? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. How tall can the elevator reach? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. What are the other 2 motors used for? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. How are we going to incorporate backspin into our throw and how likely will it succeed?

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1. What is our most important method of aiming? How can we improve this method?

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**Other Questions to Ask and Fill in**

\*Note to all members of the team! If you have a question, write it down in the following blank spaces! Communication is KEY to a successful robot and competition! Thanks! **:^)**