

HOW TO MAKE A GOOD BASE FOR YOUR BOT?

CHASSIS: As a beginner you can go for simple rectangular or circular shaped base, made of wood unless you want to make an attractive bOt.

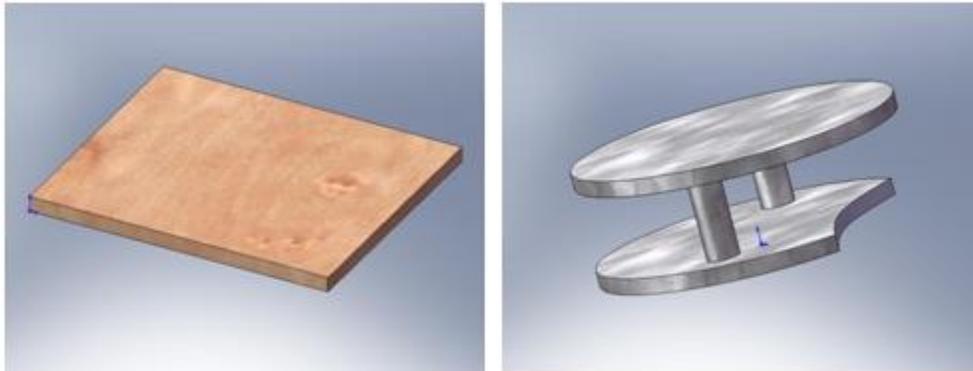
You can also make multistory bOt. Make it simple and better. If you wish to improve remember the following:

Material:

- ♣ Strength to carry weight
- ♣ Should be light
- ♣ Can be easily worked (drilled, cut)
- ♣ Easily available

Materials which you can use for building bOts:

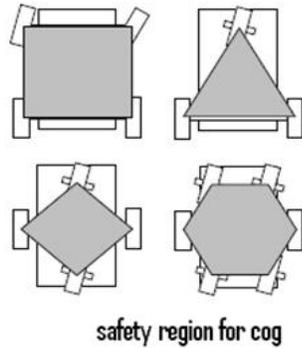
1. Balsa wood: light weight, good choice for flying bots.
2. Aluminum: light and strong.
3. Acrylic sheet: cheaper than aluminum, easy to work.
4. Electric switch board, sheet metal, or any other easily available material.



STABILITY: As far as you are going for 3 or more wheel systems bot you need not worry for stability. You need to plan if you are building a bOt for non-conventional arena where you have bumps.

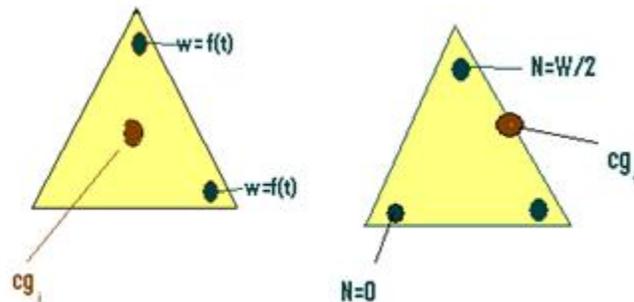
Things you can check for the stability of bots:

- The centre of gravity (cog) of robot should lie inside the polygon formed by the



wheels.

Let's take an example of a three wheeler to understand this concept. Let the polygon formed by the wheels be an equilateral. (REMEMBER the condition to topple is that the normal about any one point of contact become zero!!) Let initially the cog is located at the centroid, if we start increasing weight equally on the two adjacent corners of the polygon, the normal on the third corner become zero.



- The cog should be as low as possible for better stability while accelerating/decelerating.
- Moving the cog can allow the bot to move across wider gaps, climb steeper slopes and get over or onto higher steps.
- If you wish, you can do the dynamic and static analysis of stability.

Source : <http://www.botskool.com/tutorials/mechanical/how-make-good-base-your-bot>