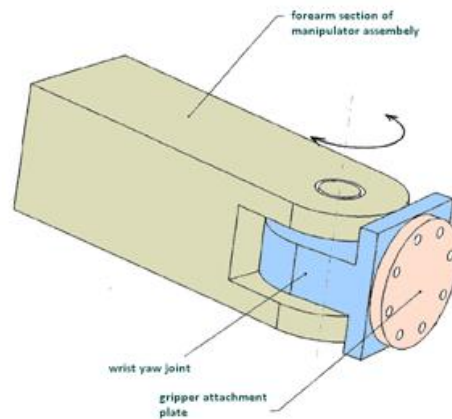
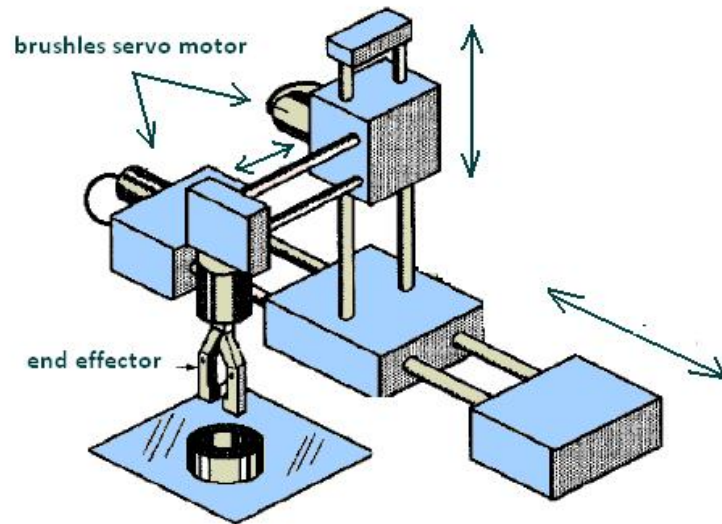


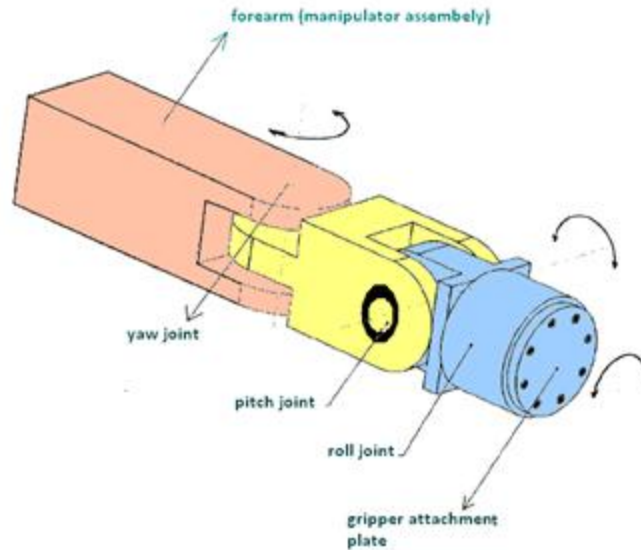
ROBOTIC ARMS

The manipulators are an assembly of segments and joints. They are often referred to as robotic arms. They can be conveniently subdivided into 3 sections just like human hand :

- ♣ **the arm** consisting of one or more segments & joints (like our upper arm with elbow joint)
- ♣ **the wrist** (like our fore arm)
- ♣ **the gripper** for holding objects (like our palm that has fingers).

Lets see how to design a forearm:-





In this case you can obtain number of orientation of the gripper so that it can hold the object better. (e.g., **Orientation:** just twist your palm and you have a different orientation.) **Workspace:** it is the 3D space where your gripper can reach, just swing your arm about shoulder and you have different places where your palm can reach. Now just rotate your arm about your elbow (elbow provide extra degree of freedom). **Degree of freedom:** it is basically the number of actuators for arms; you can have multiple actuators at wrist and gripper. Try to calculate the degree of freedom of our hand and you will be amazed

Source : <http://www.botskool.com/tutorials/mechanical/robotic-arms>