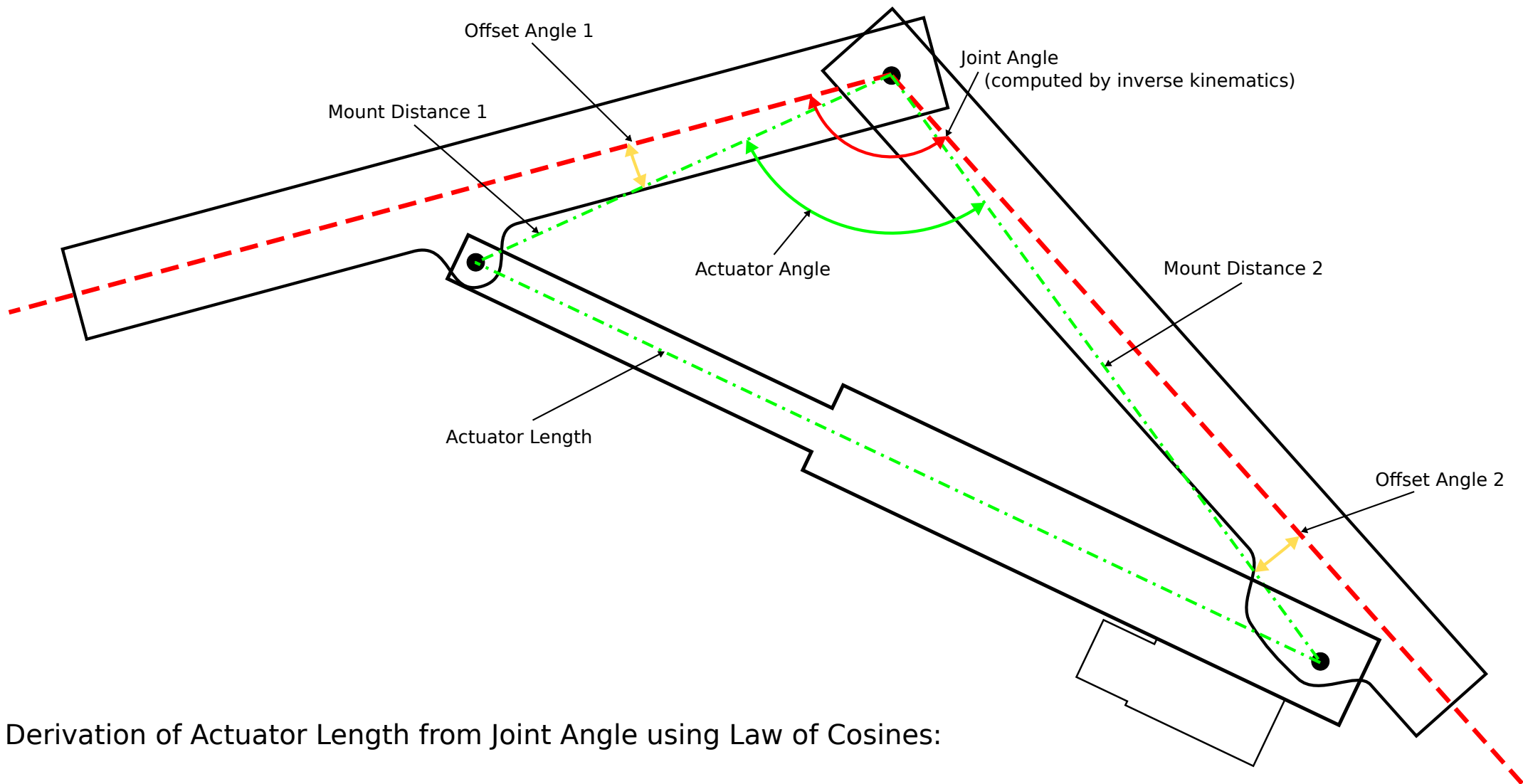


# Reference Diagram for Joint Geometry



Derivation of Actuator Length from Joint Angle using Law of Cosines:

Offset Angle = Offset Angle 1 + Offset Angle 2

Actuator Angle = Joint Angle - Offset Angle

$$(\text{Actuator Length})^2 = (\text{Mount Distance 1})^2 + (\text{Mount Distance 2})^2 + 2 * (\text{Mount Distance 1}) * (\text{Mount Distance 2}) * \cos(\text{Actuator Angle})$$