



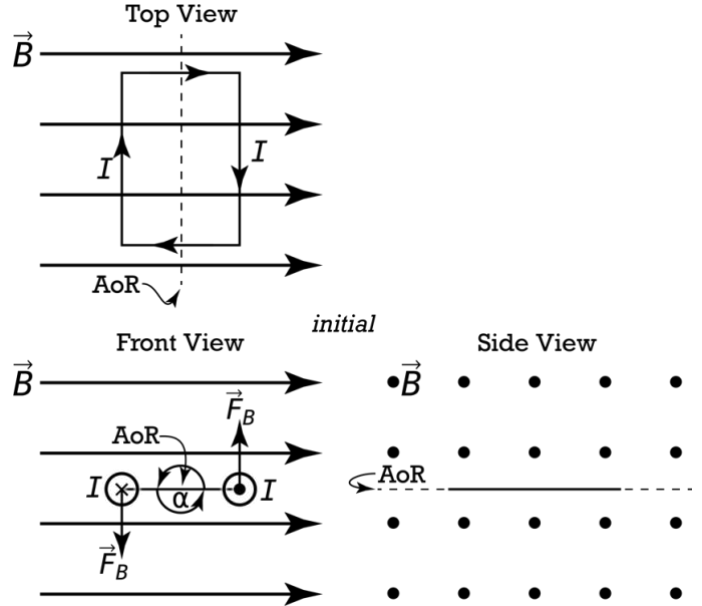
Flipping Physics Lecture Notes:
Electric Motor Basics

<http://www.flippingphysics.com/electric-motor.html>

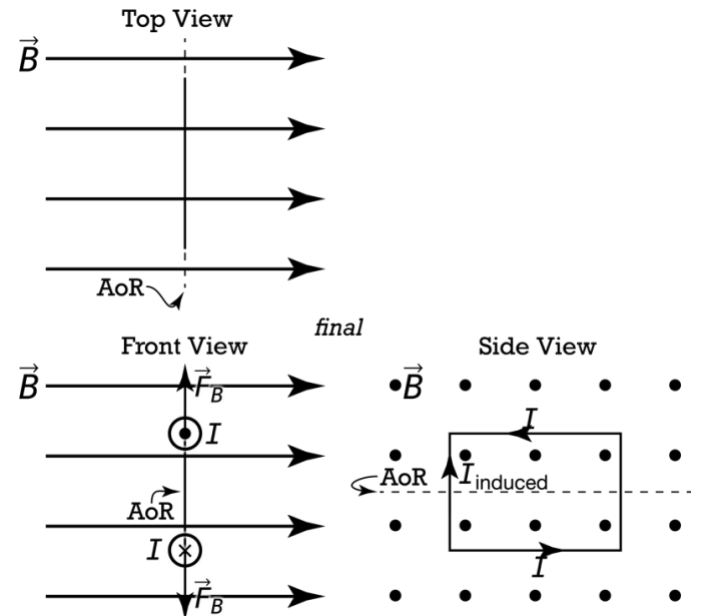
Let's look at a rectangular conducting loop in a uniform magnetic field oriented as shown below. We place an emf across the loop to cause current I in the loop.

In the *front view* you can see that, according to the right-hand rule, a net torque acts on the loop causing it to angularly accelerate in a clockwise direction (in the front view).

Everything we have been referring to is the initial position of the loop.



After the loop has turned 90 degrees, we are now at the final position of the loop.



This is a very basic illustration of how an electric motor works. Current is placed through wire loops in magnetic fields which causes the loops to rotate converting electric potential energy to mechanical energy.