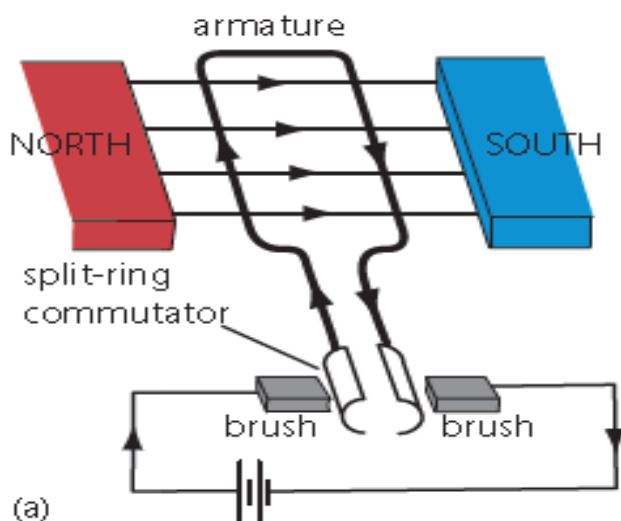


Lesson 7.5 – Electric Motors

Unit 7: Magnetism

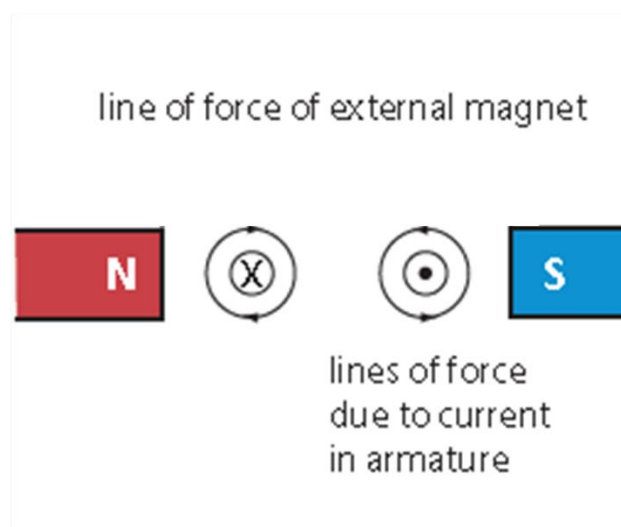
Electric Motors – Basic Components

- _____ (coil)
 - Current-carrying wire
 - Rotates
- Magnetic field
 - From permanent or _____
- Split-ring commutator
 - _____



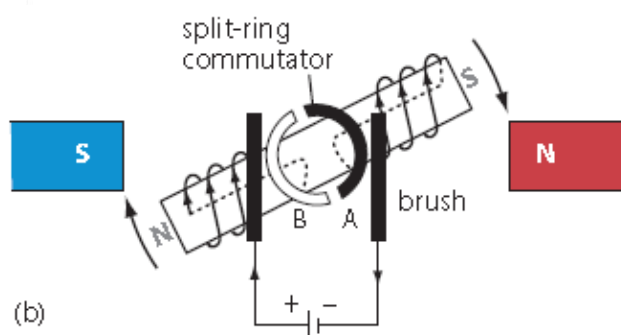
Magnetic Forces in a Motor

- _____ - _____ → gives force direction
- Magnetic field creates _____ → armature rotates
- Commutator reverses current → keeps _____ going



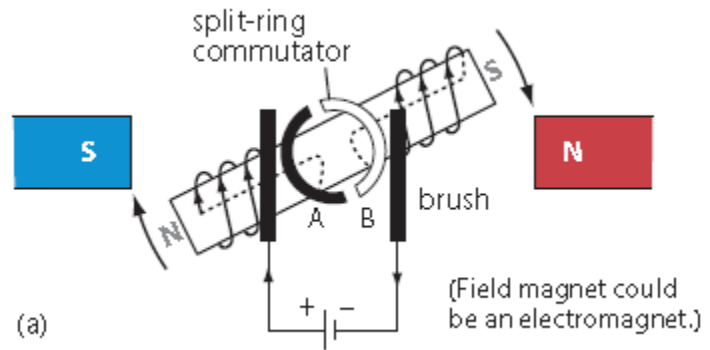
Split-Ring Commutator

- Part of a _____ motor
- Reverses current in _____
- Keeps rotation in _____
- Without it:
 - Turns → stops → reverses
 - No continuous motion



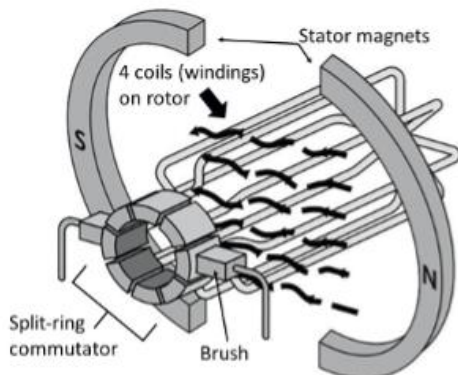
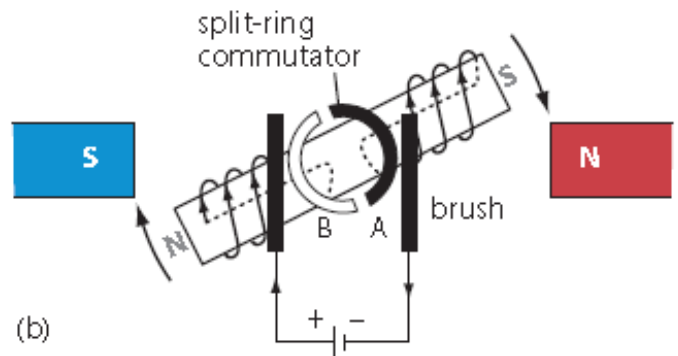
Turning the Motor

- Current flows:
 - _____ → commutator → coil
- Coil becomes a magnet
 - Left side = _____ pole
 - Right side = _____ pole
- Attraction with _____ magnets
- Causes the coil to rotate



Turning the Motor Continued

- Current _____:
 - Enters at B, leaves at A
- Armature poles switch sides
- Interaction with _____ causes continued rotation
- _____ keeps coil turning
- Cycle repeats while current flows



Smoother Motor Rotation:

- More _____ coils
- More _____ segments (gaps)
- Current switches more frequently
- Reduces “dead spots”
- Results in _____, continuous rotation

AC Motors (Comparison):

- Uses _____ current (AC)
- Current reverses naturally
- No split-ring _____ needed
- Still produces rotating motion

