

Mesin Listrik Dasar

Pertemuan 1 : Pendahuluan

Chico Hermanu B. A., S.T., M.Eng

Agus Ramelan, S.Pd., MT.

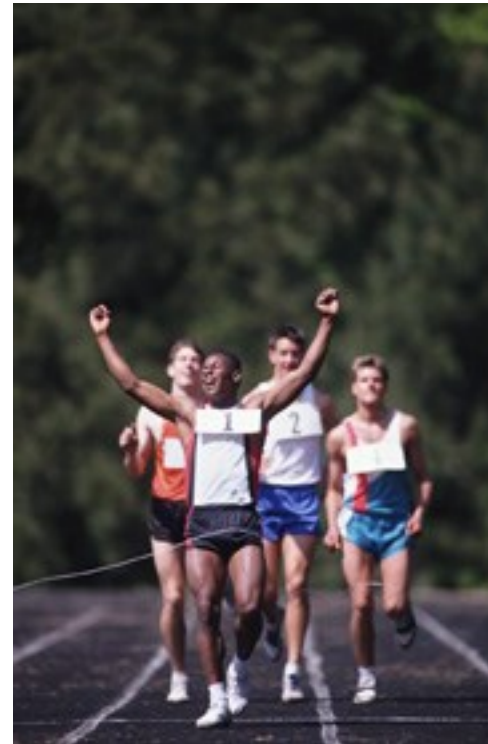


Rules of the Game

- Silahkan bergabung di SPADA MLD Kelas A, enrollment Key : SEMESTERGASAL
- Absen sesuai dengan waktu yang ditentukan, melalui OCW
- Kuliah dilakukan ansinkron dan sinkron melalui SPADA dan Group WA
- Pengumpulan tugas tepat waktu di SPADA, tidak ada toleransi

Nilai

- Keaktifan di kelas
- UTS
- Tugas2
- UAS
- Presensi



Penilaian

KOMPONEN	Skor Maks	Prosentase
Sikap, Quiz, dan Pre Tes	20	15 %
Tugas	20	15 %
UTS	80	35 %
UAS	80	35 %
Total	200	100 %

Silabus

- Pendekatan pragmatis mesin-mesin elektrik
- Mesin Listrik Arus Searah
- Mesin Listrik Arus Bolak-Balik
- Cara kerja Generator, Motor, dan Trafo
- Karakteristik mesin berdasarkan pengujian tanpa beban dan berbeban
- Rangkaian ekuivalen mesin listrik

Mesin listrik

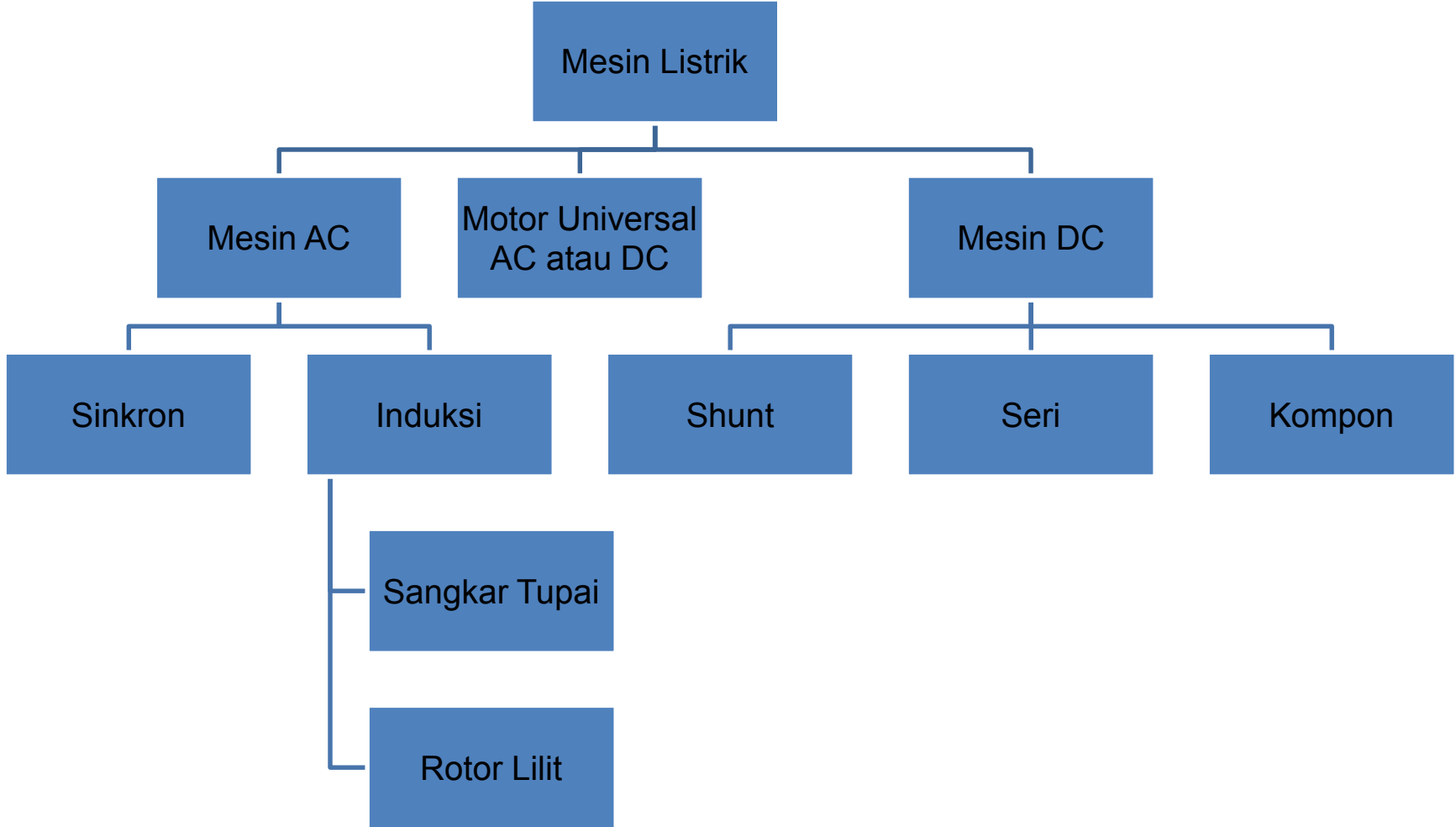
1. Generator

- Generator DC
- Generator AC

2. Motor

- Motor DC
- Motor AC

3. Transformator



Generator/Motor DC

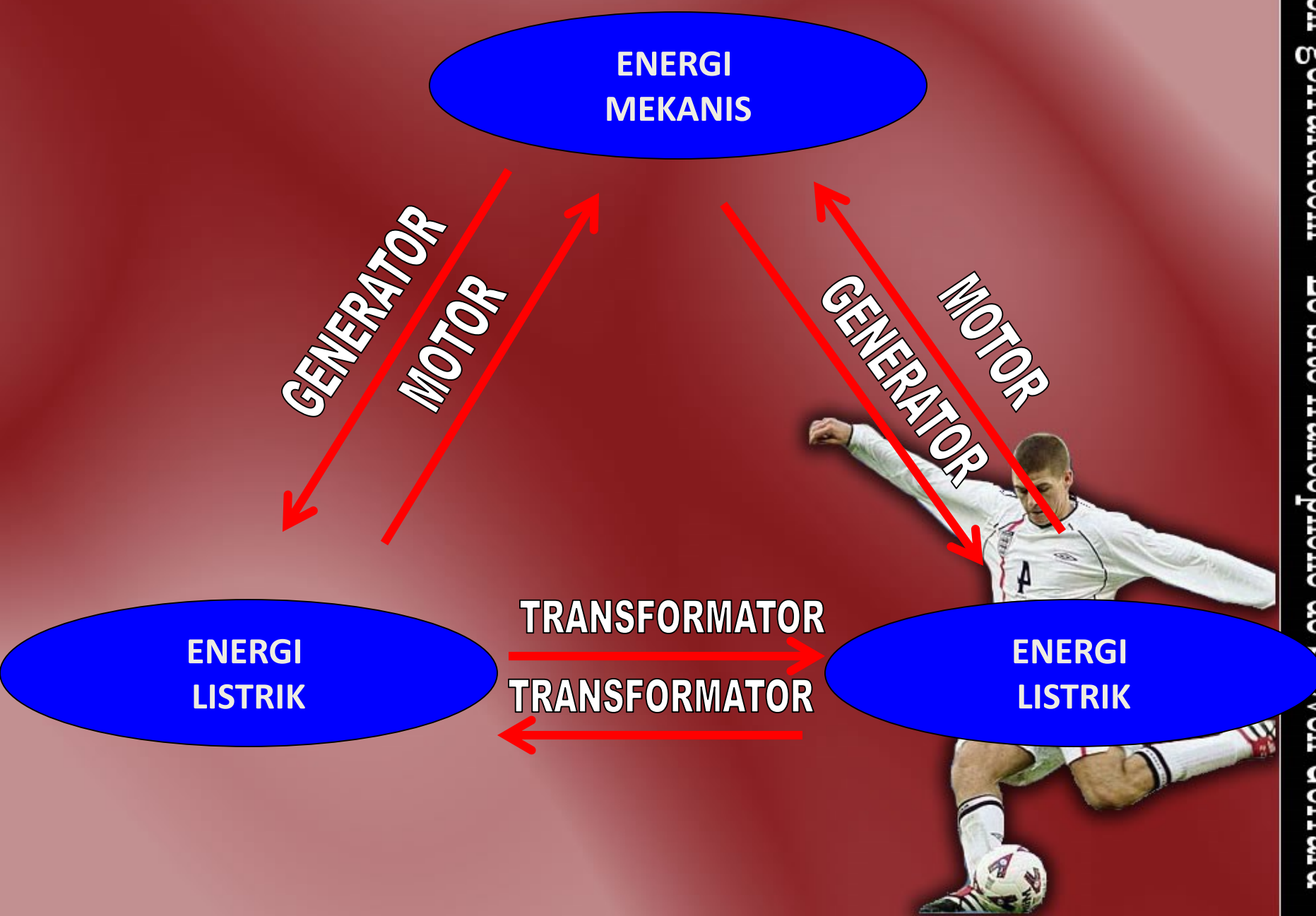
- Eksitasi terpisah
- Eksitasi sendiri
 1. Shunt
 2. Seri
 3. Kompon
 - Panjang
 - Pendek
 - Kumulatif
 - deferensial

Generator AC

- Generator sinkron
 - Kutub menonjol
 - Kutub silinder
- Generator induksi

Motor AC

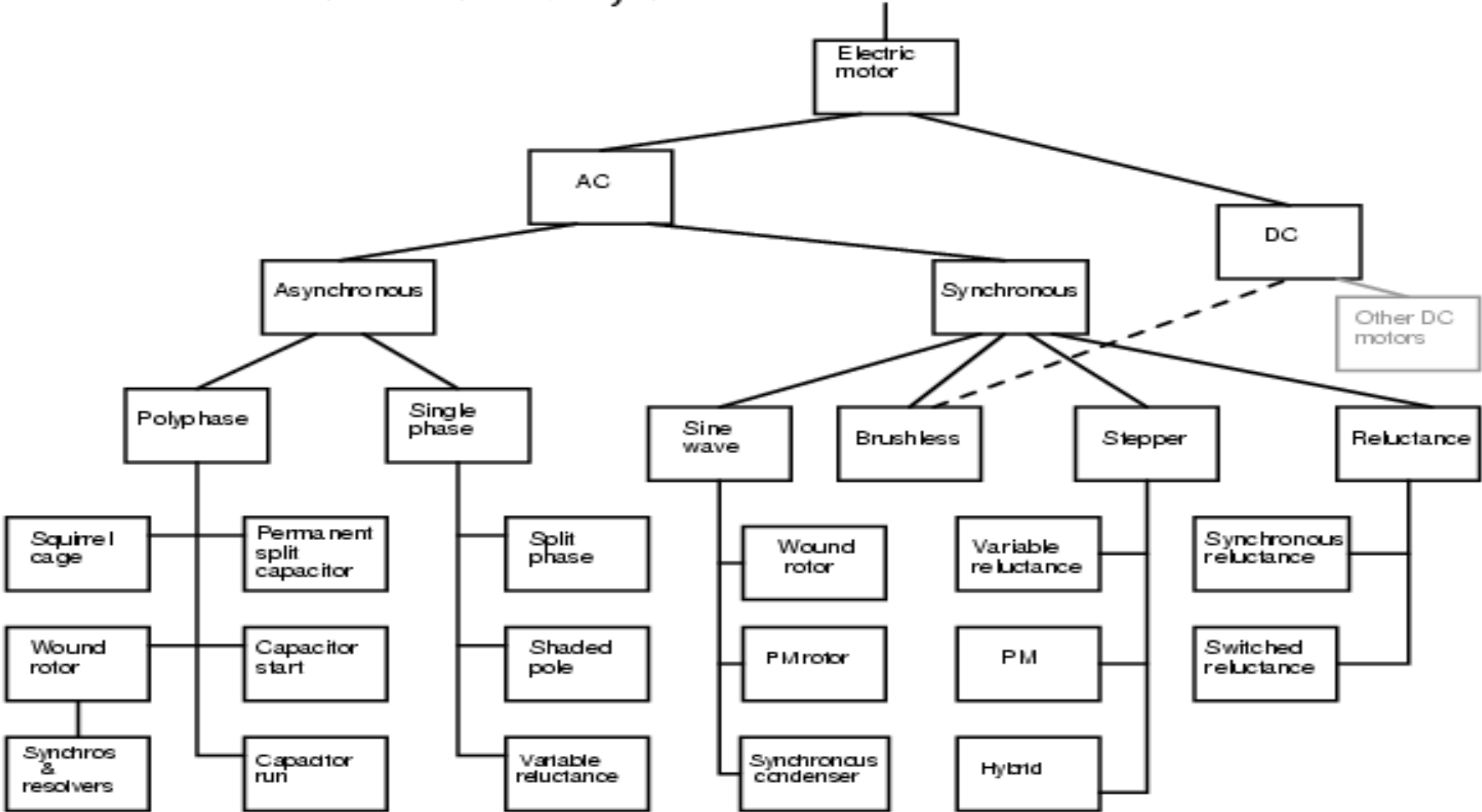
- Motor Sinkron
 - Kutub menonjol
 - Kutub silinder
- Motor Induksi
 - 1 phase
 - 3 phase
 - rotor sangkar tupai
 - rotor liit

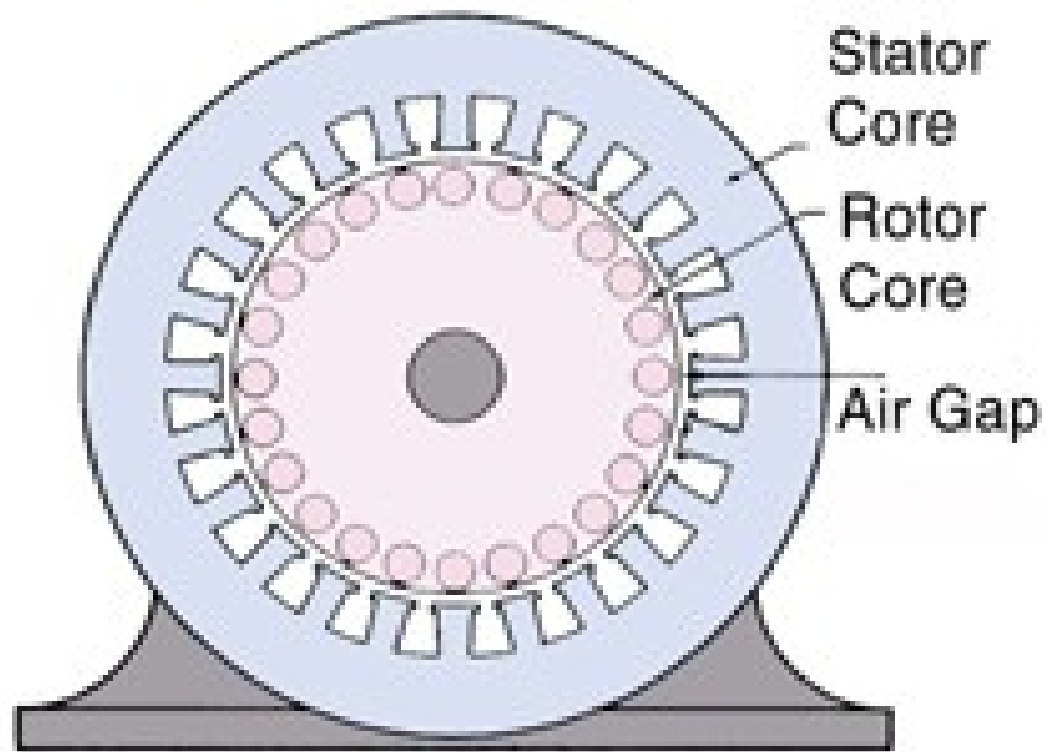




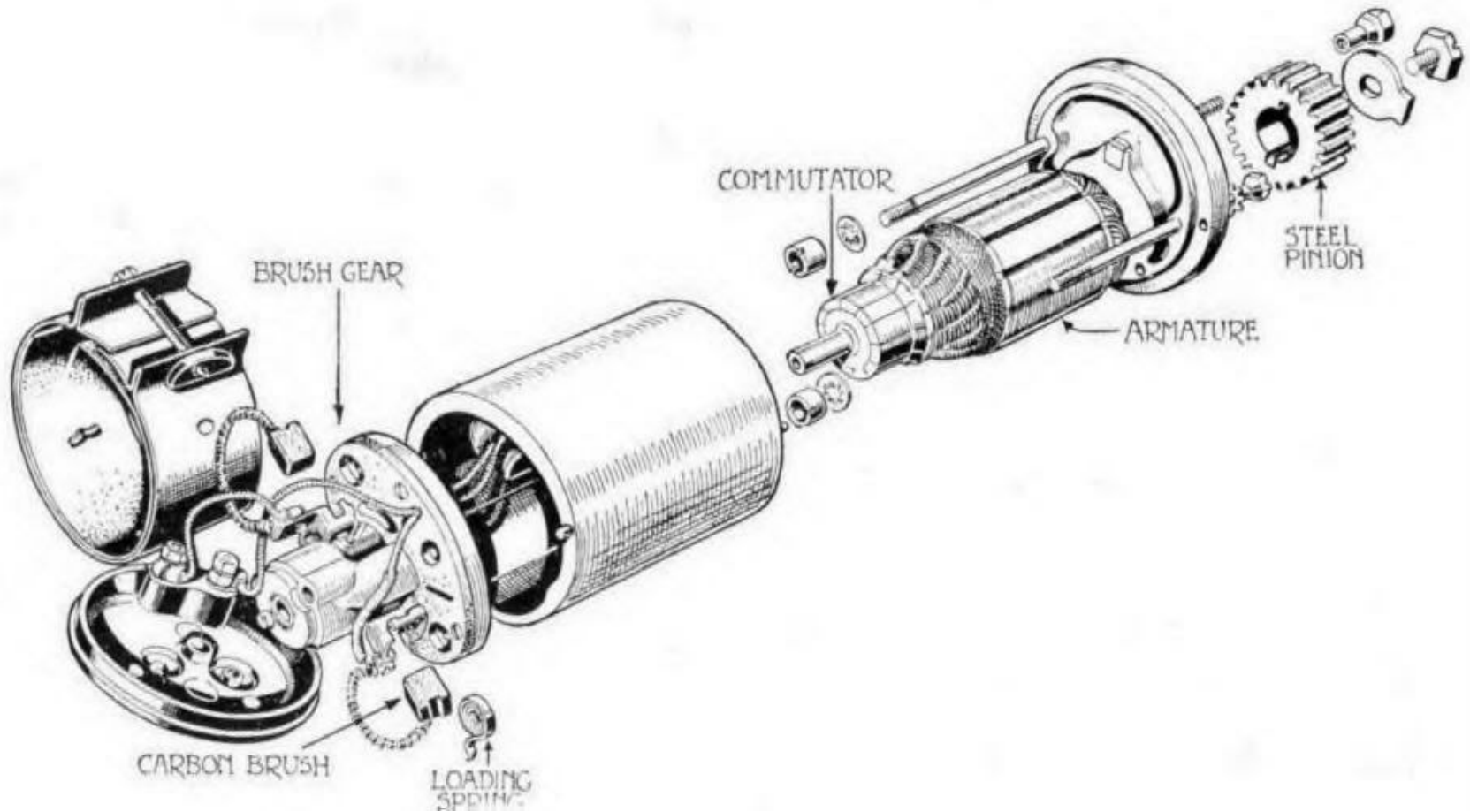
ELECTRIC MOTOR FAMILY TREE

Electric motor family tree

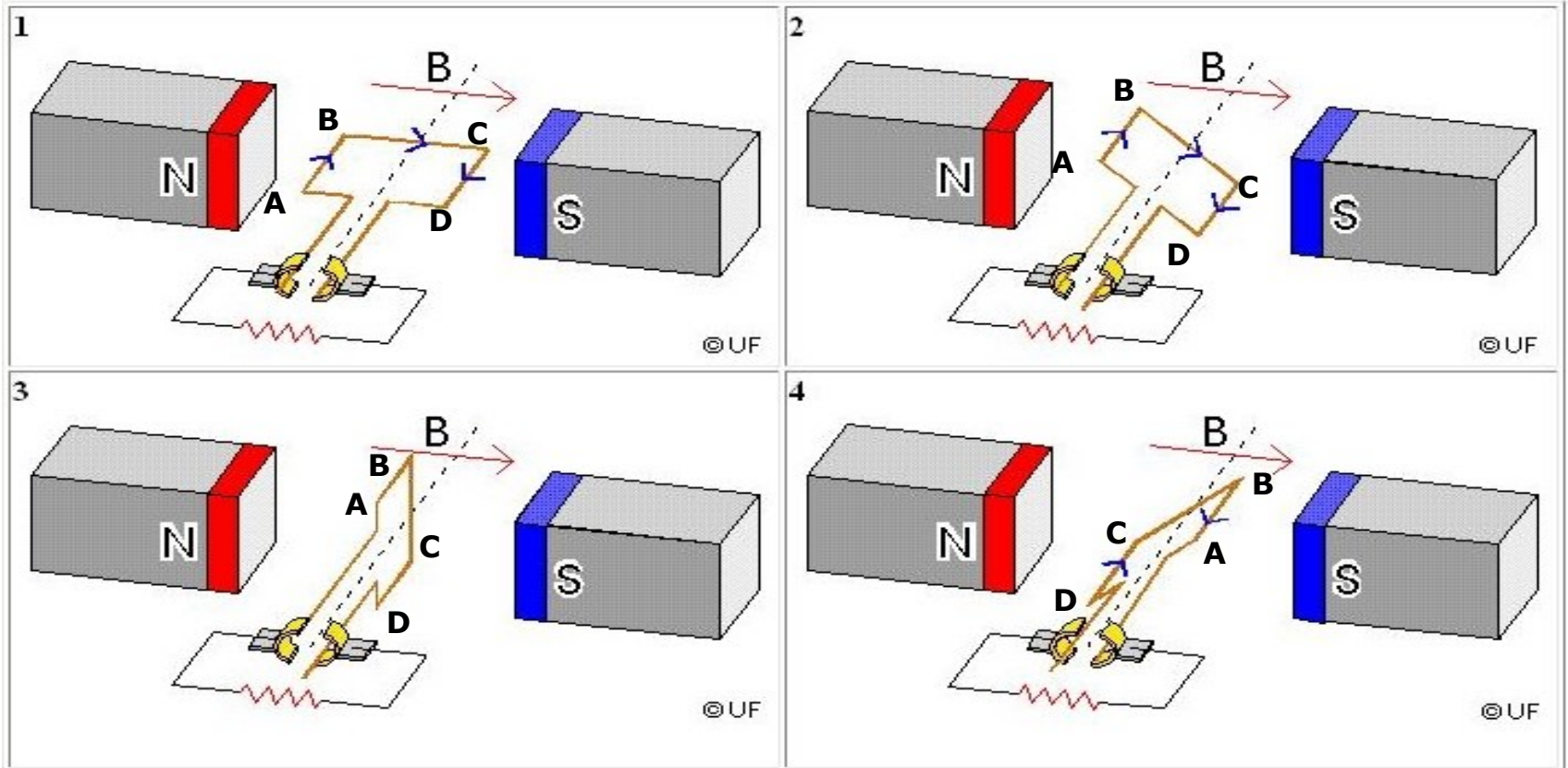


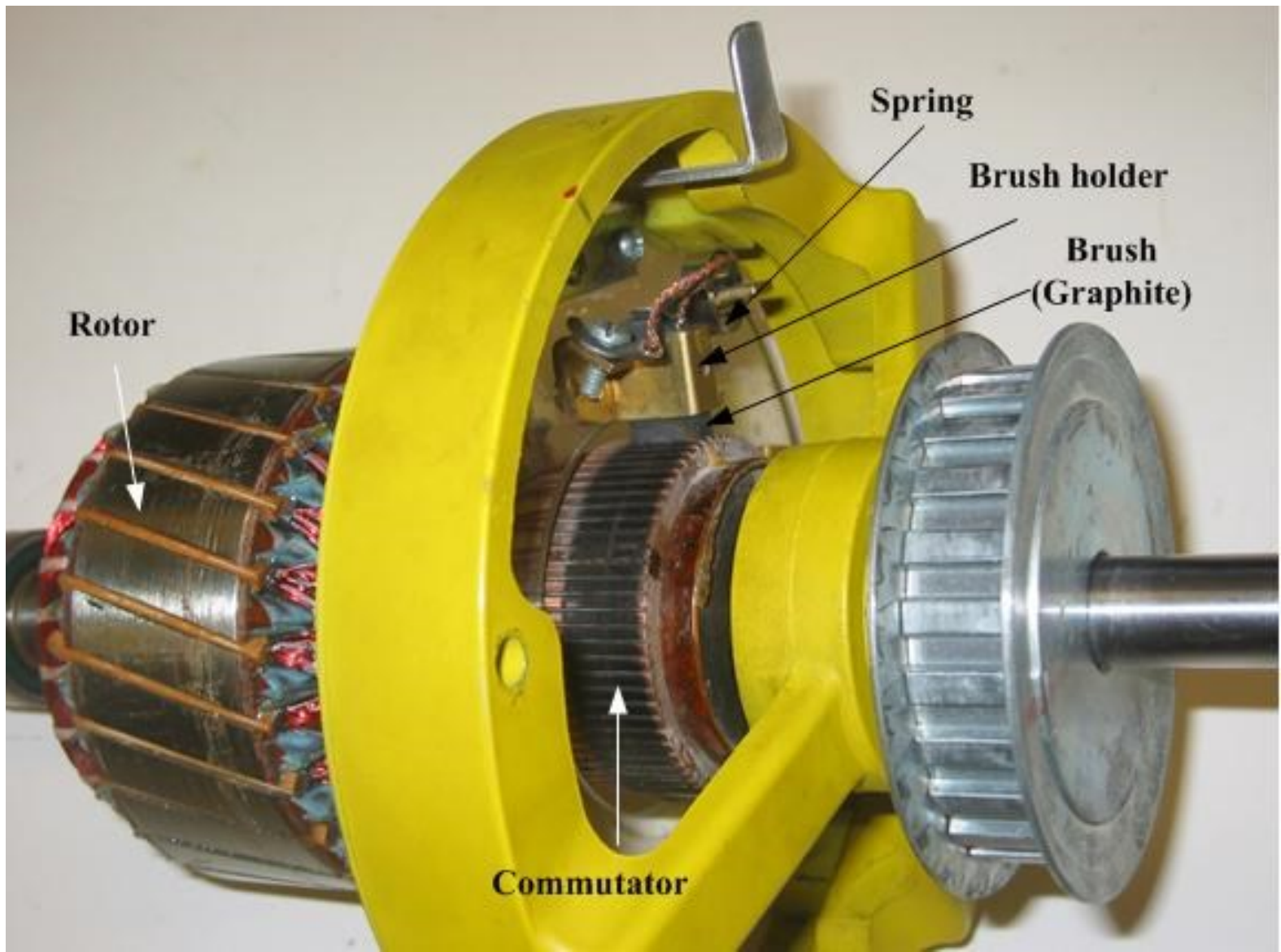


2. Bagian-bagian/Struktur Generator DC



3. Prinsip Kerja ...





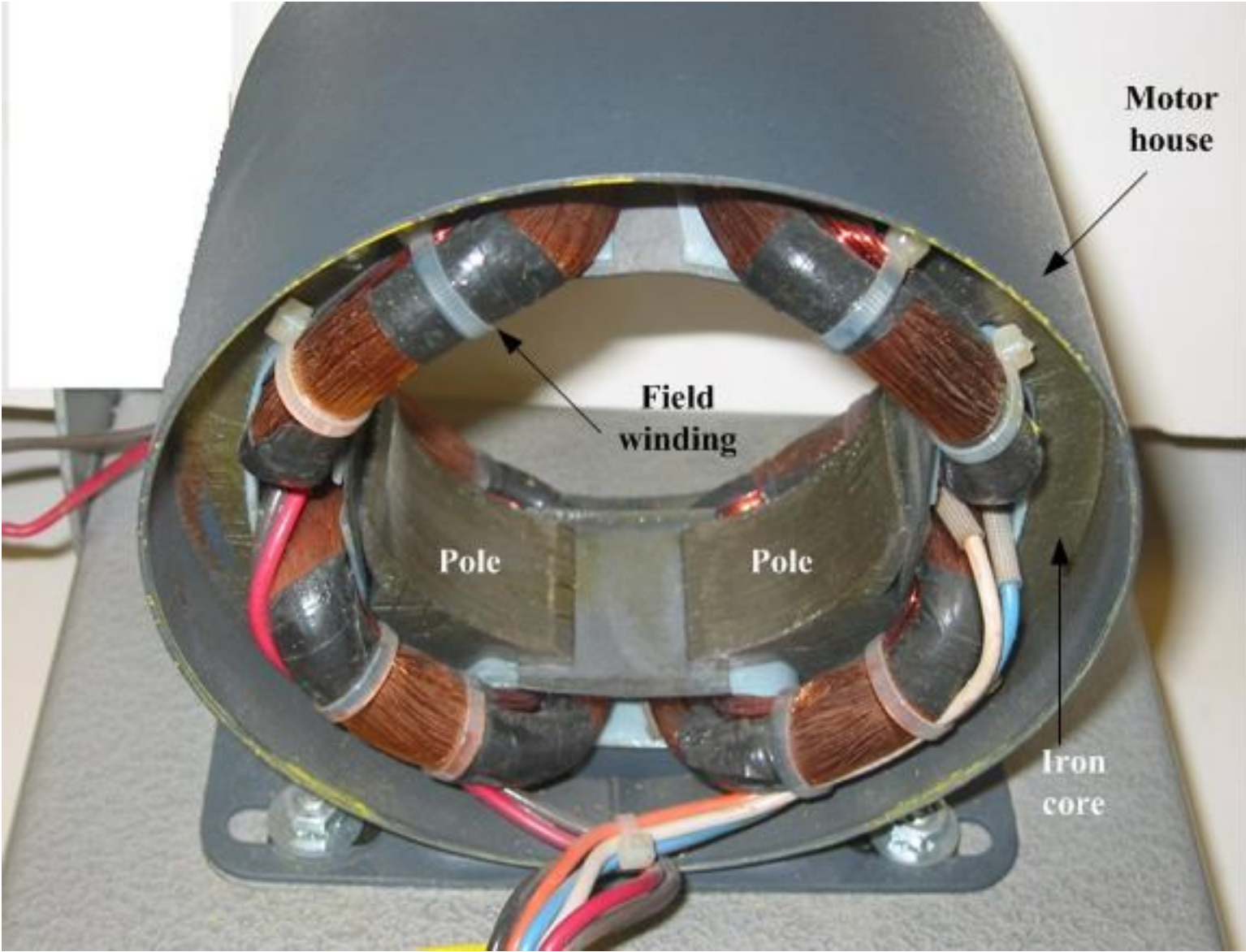
Rotor

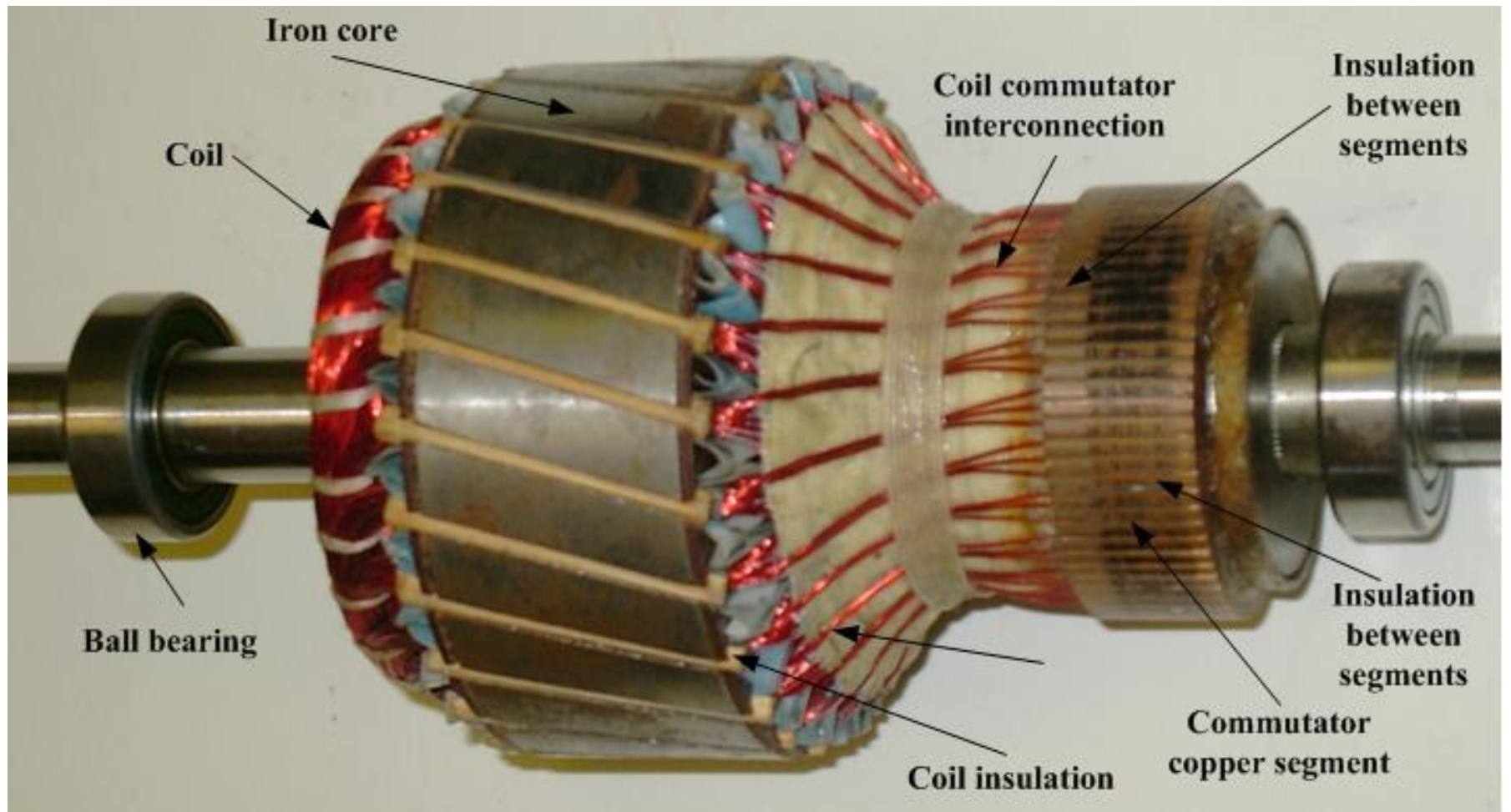
Spring

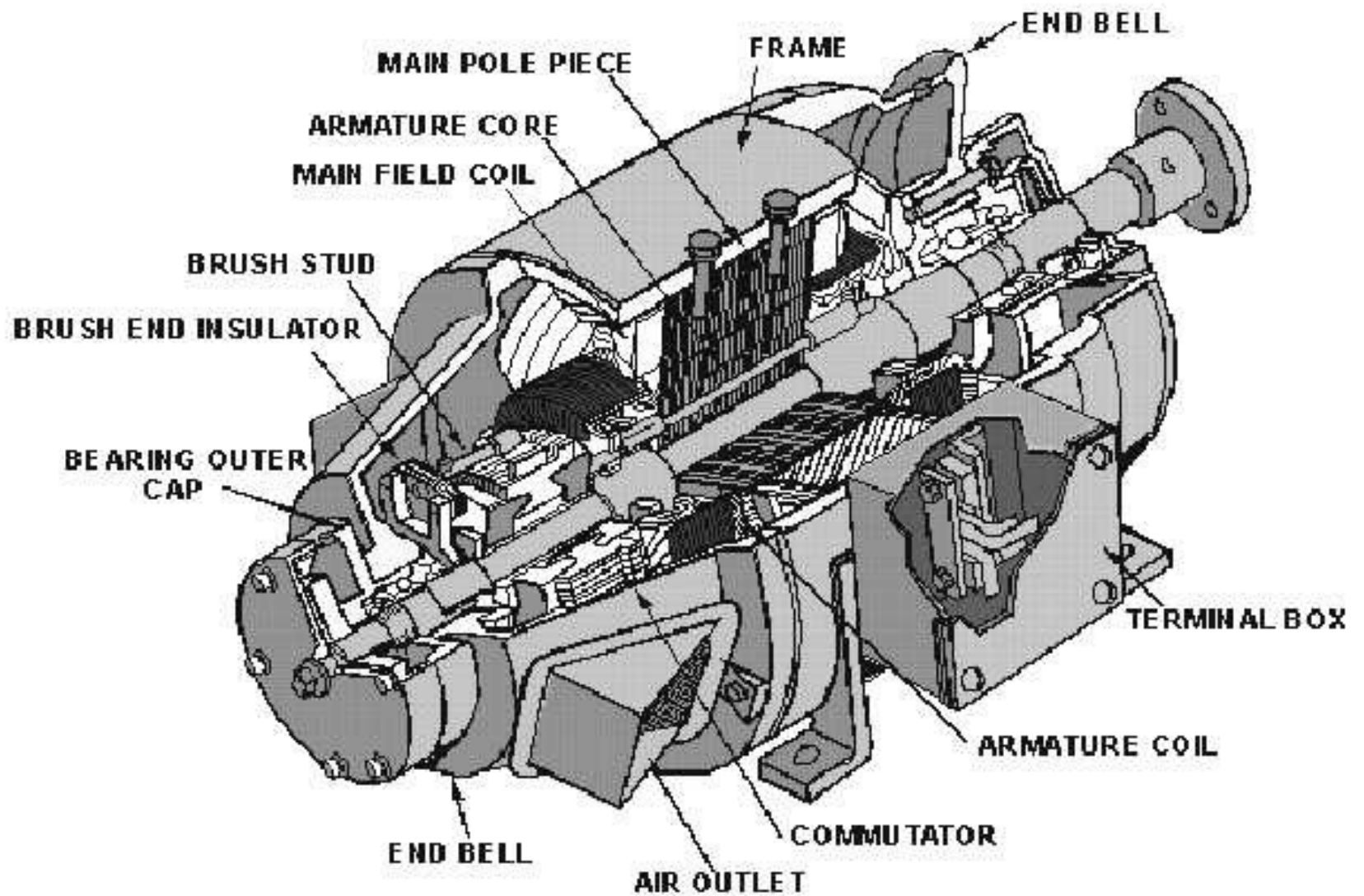
Brush holder

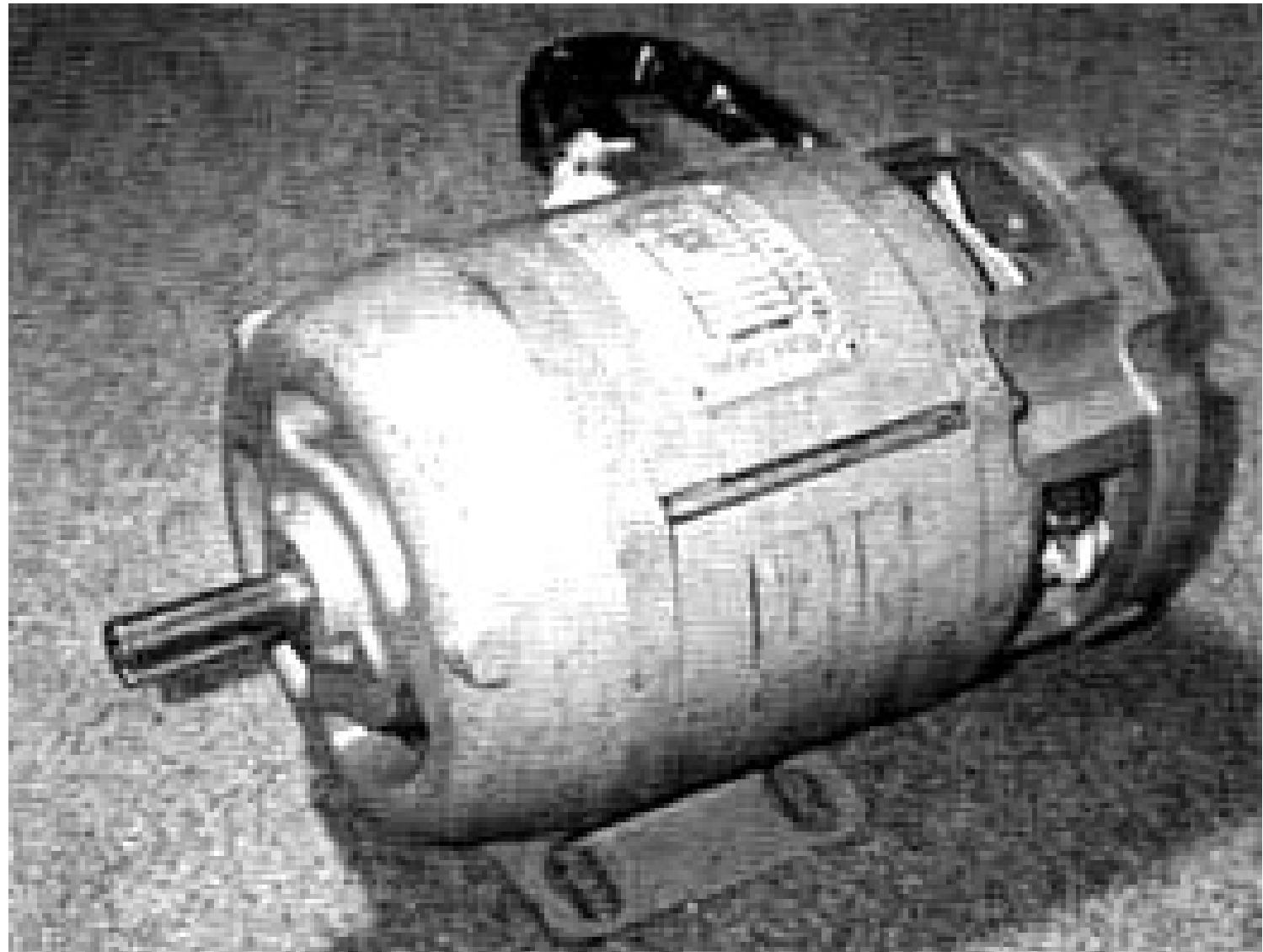
**Brush
(Graphite)**

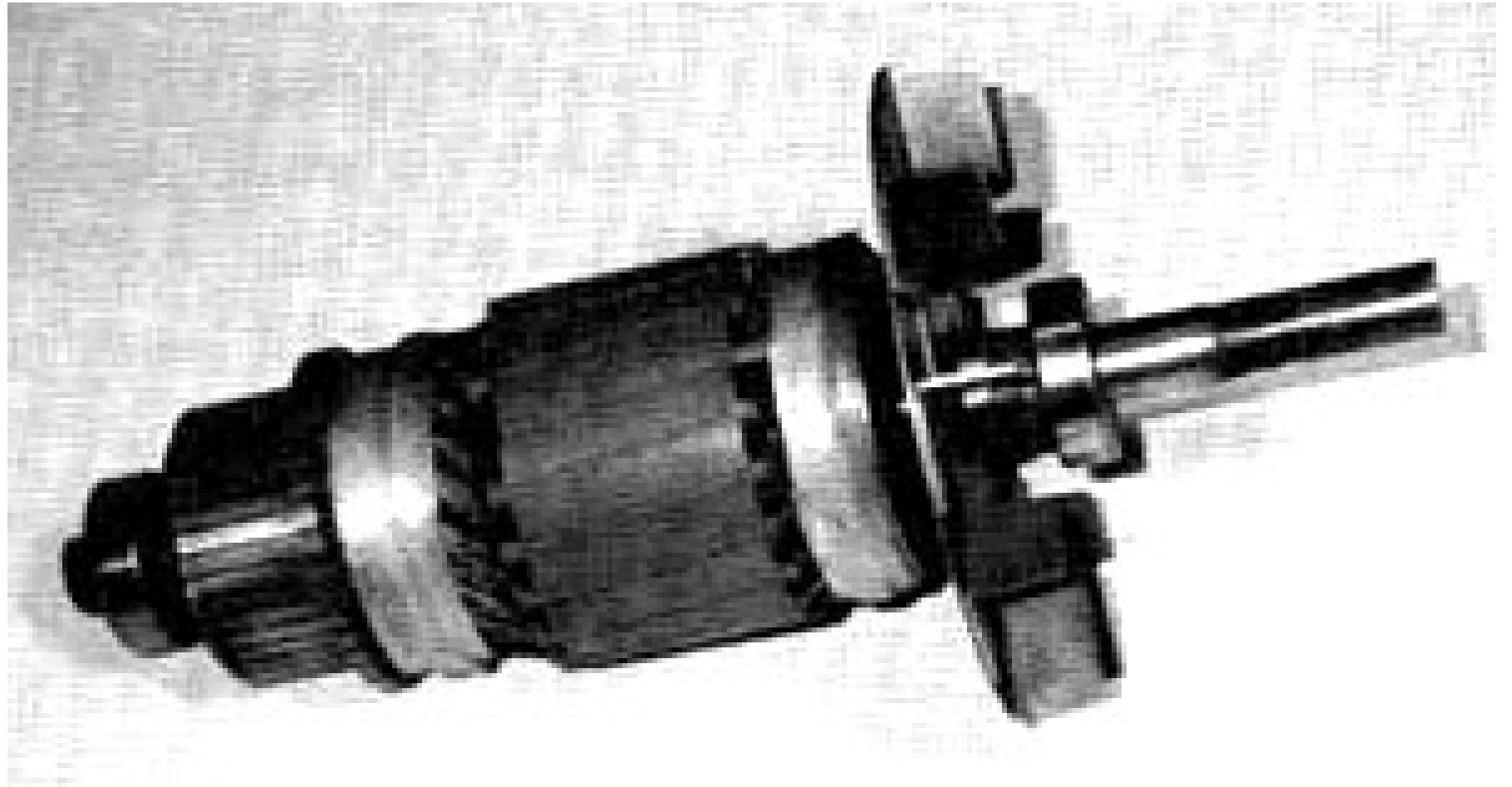
Commutator

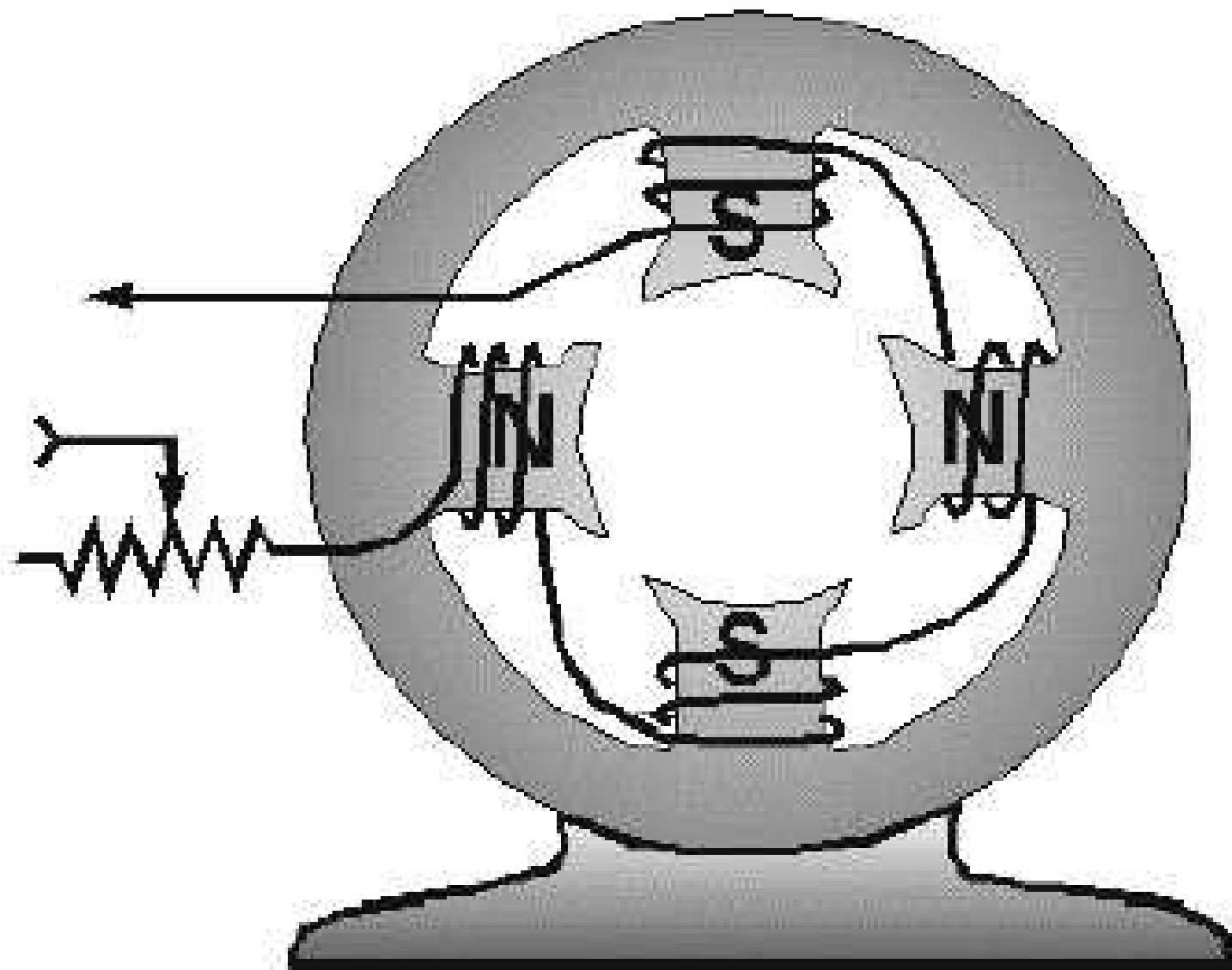


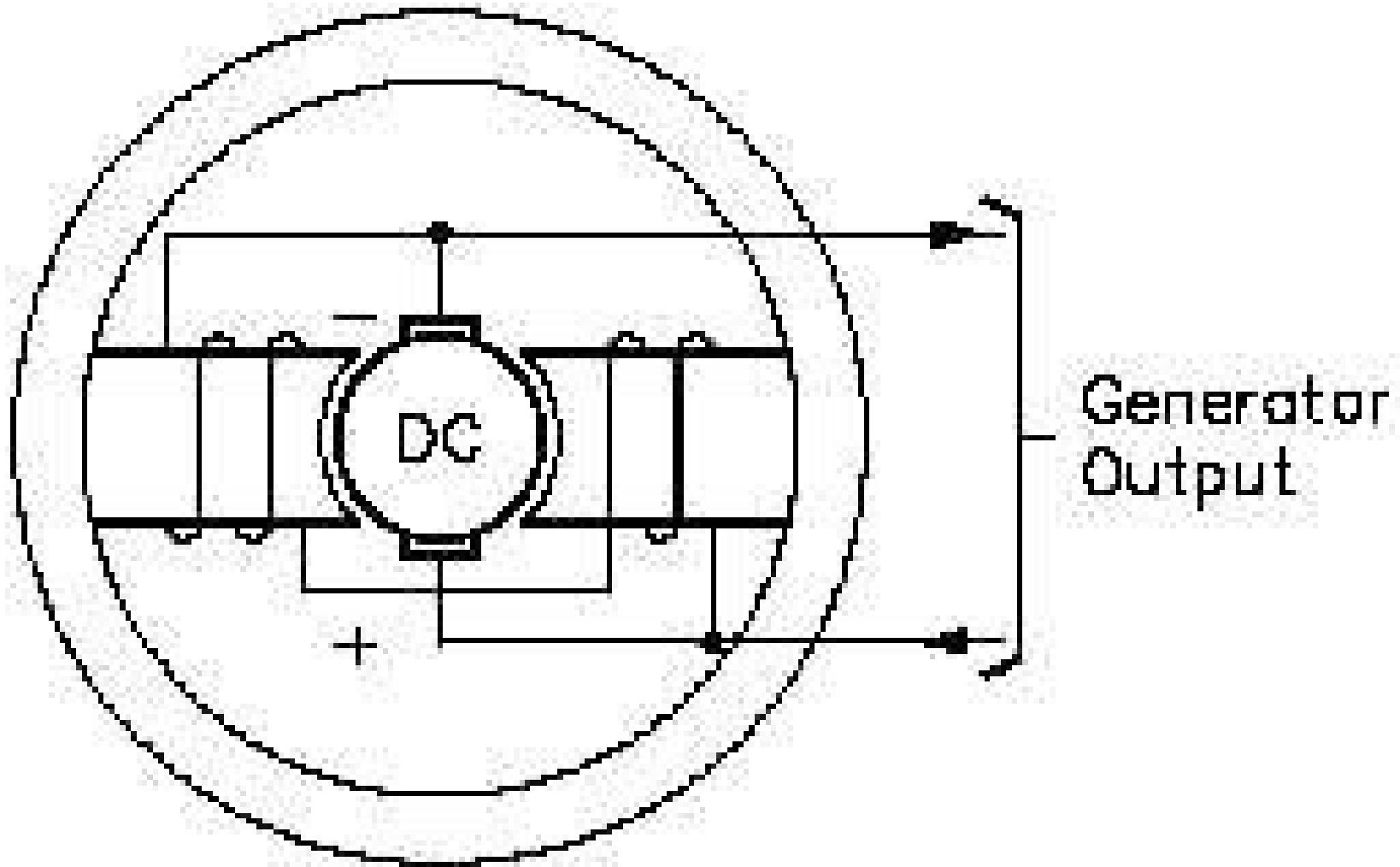






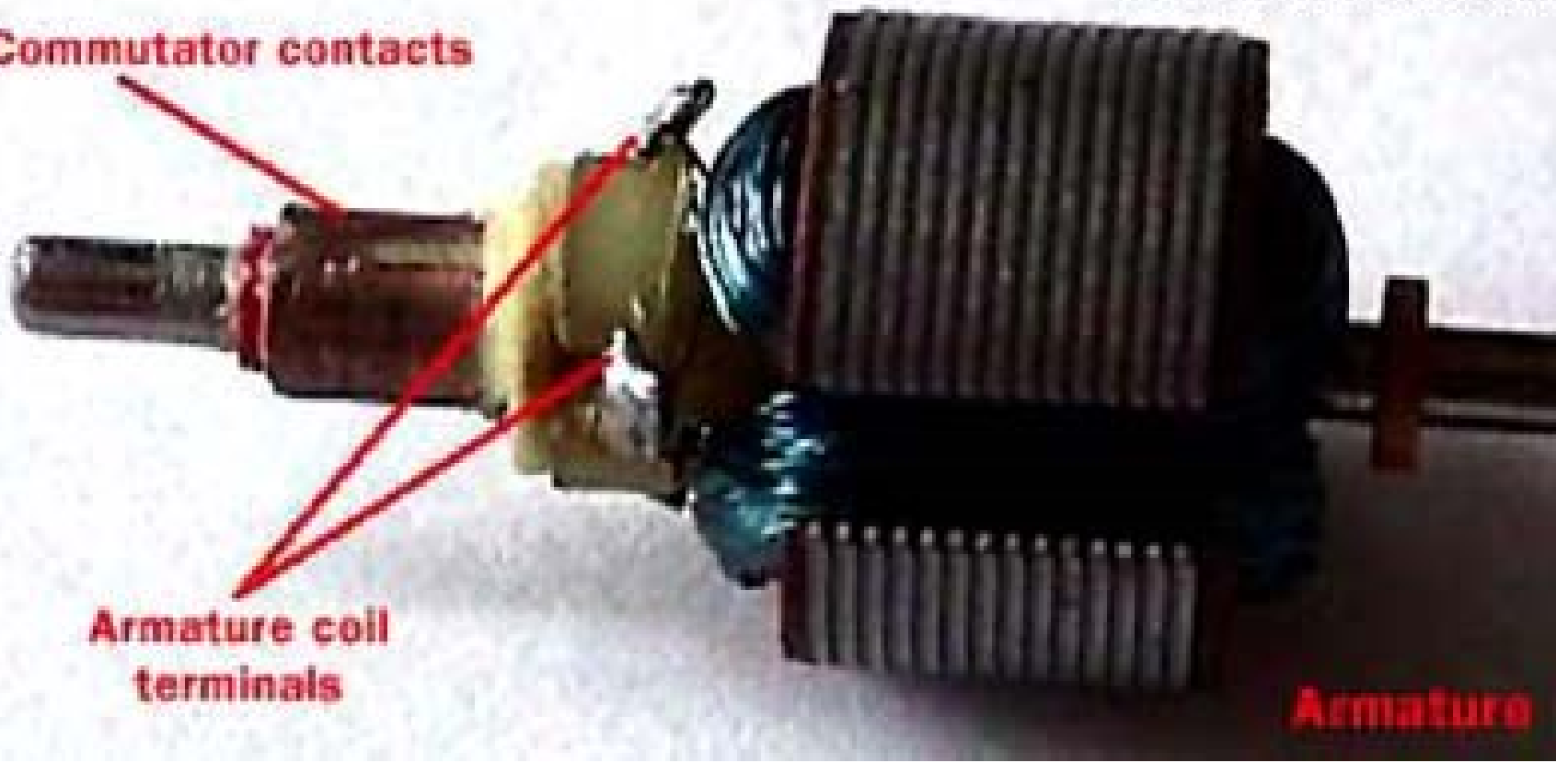






©2003 HowStuffWorks

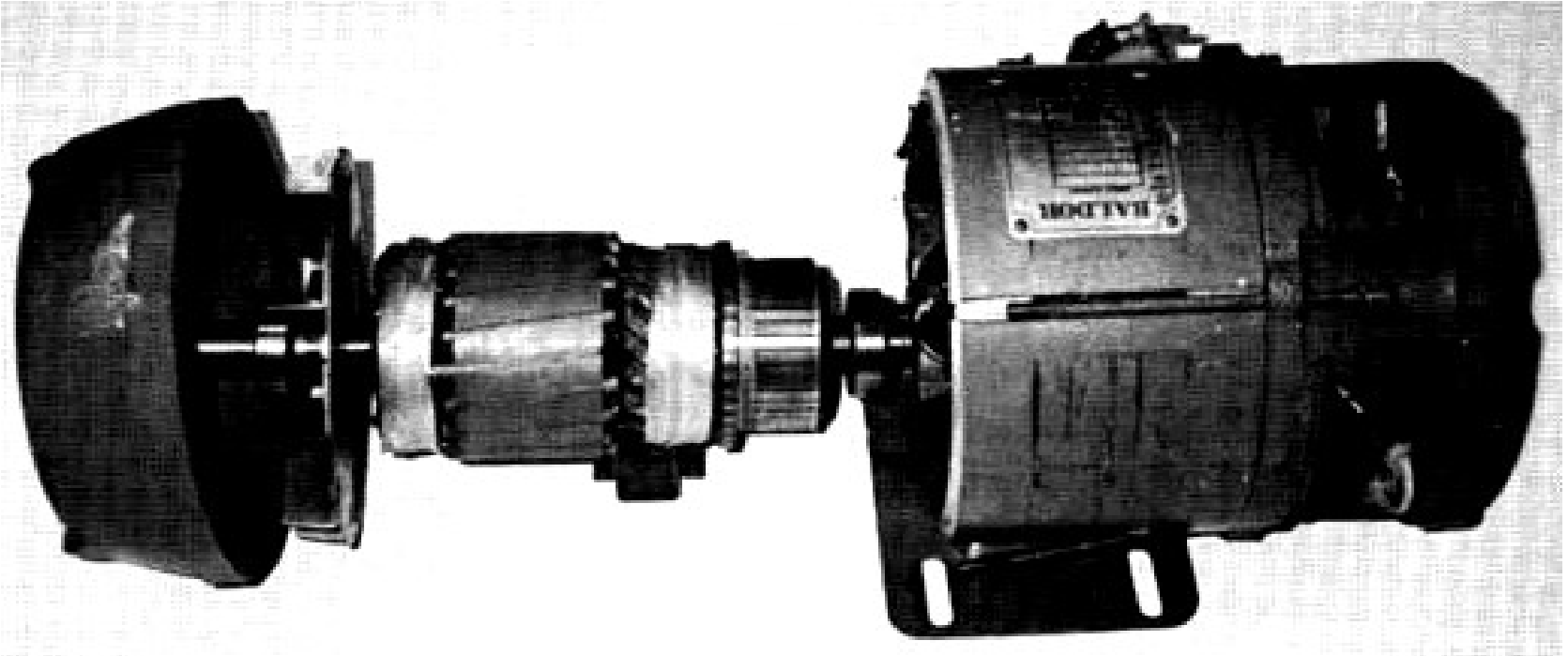
Commutator contacts

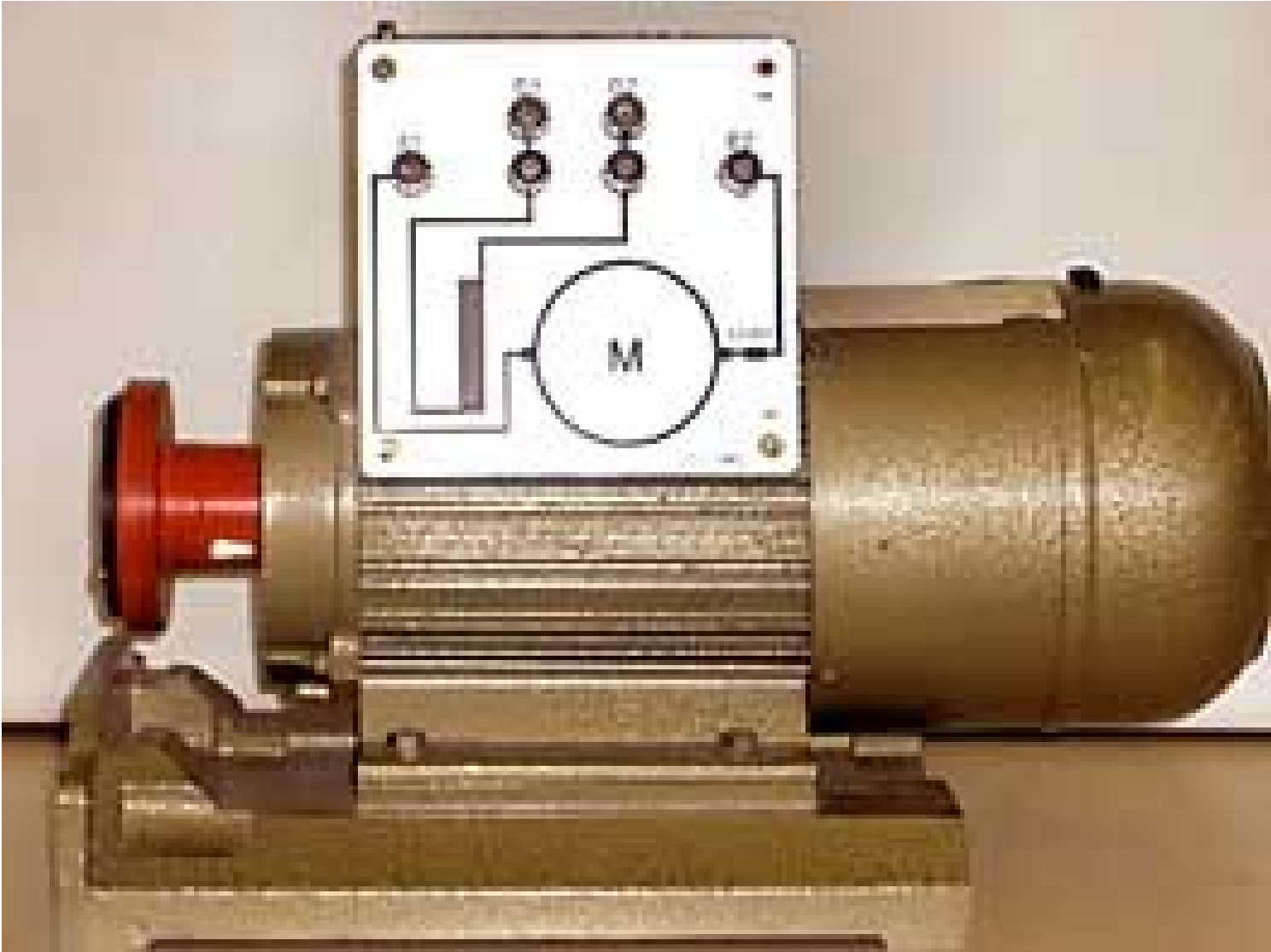


**Armature coil
terminals**

Armature







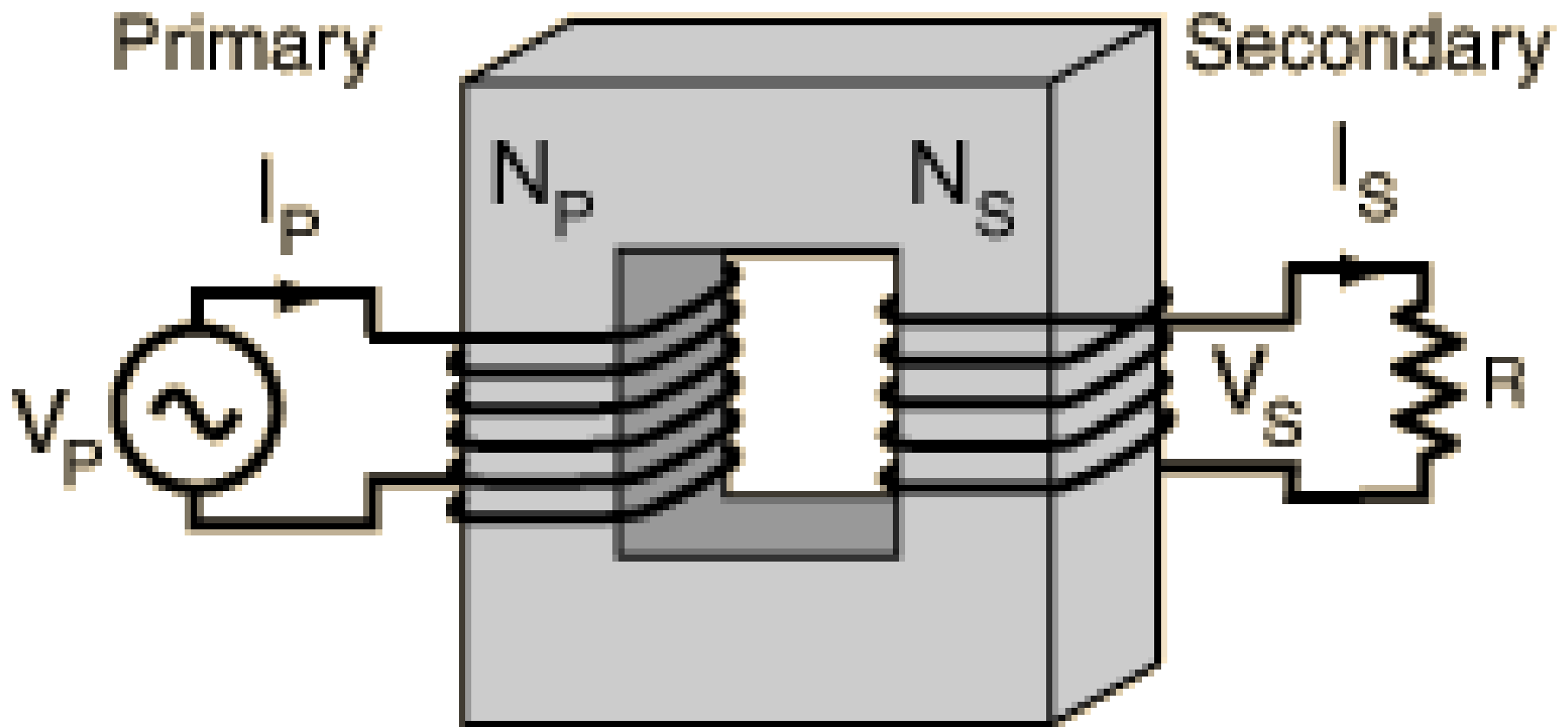




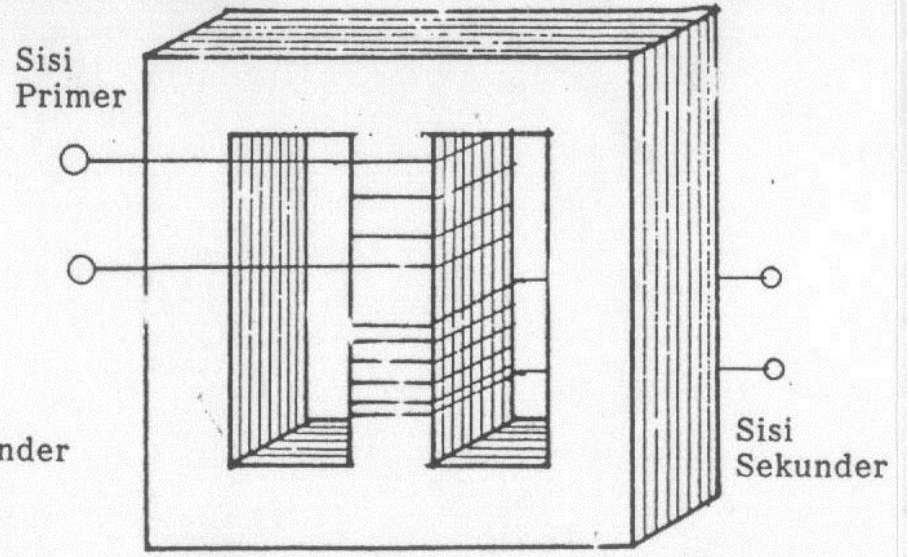
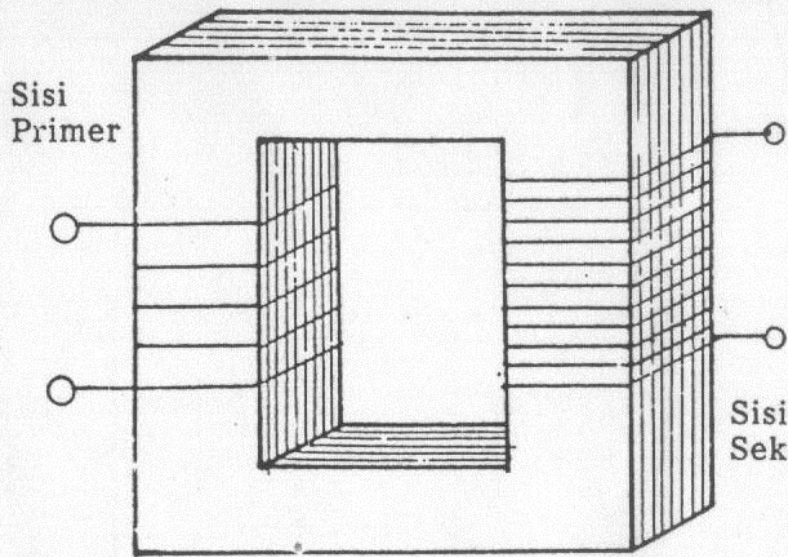




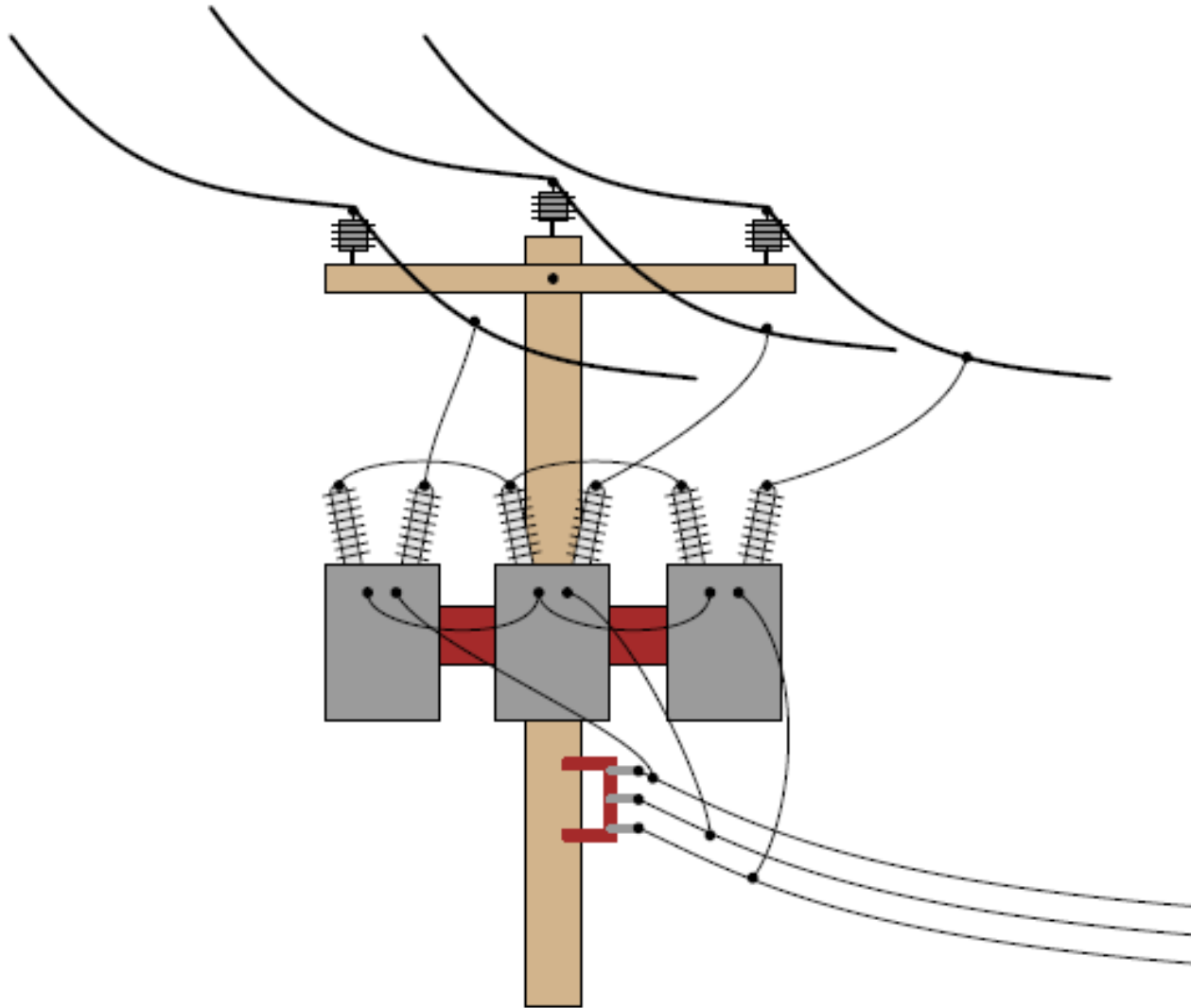




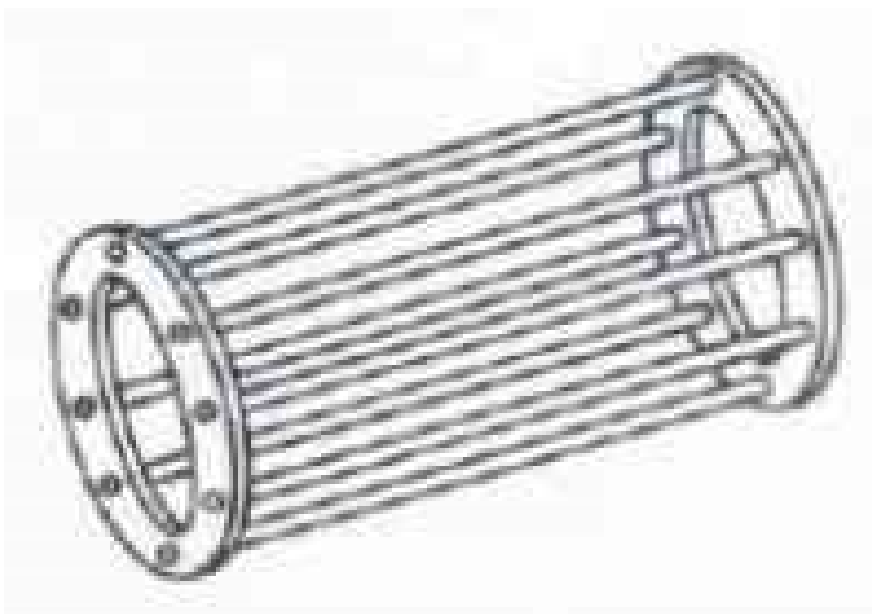




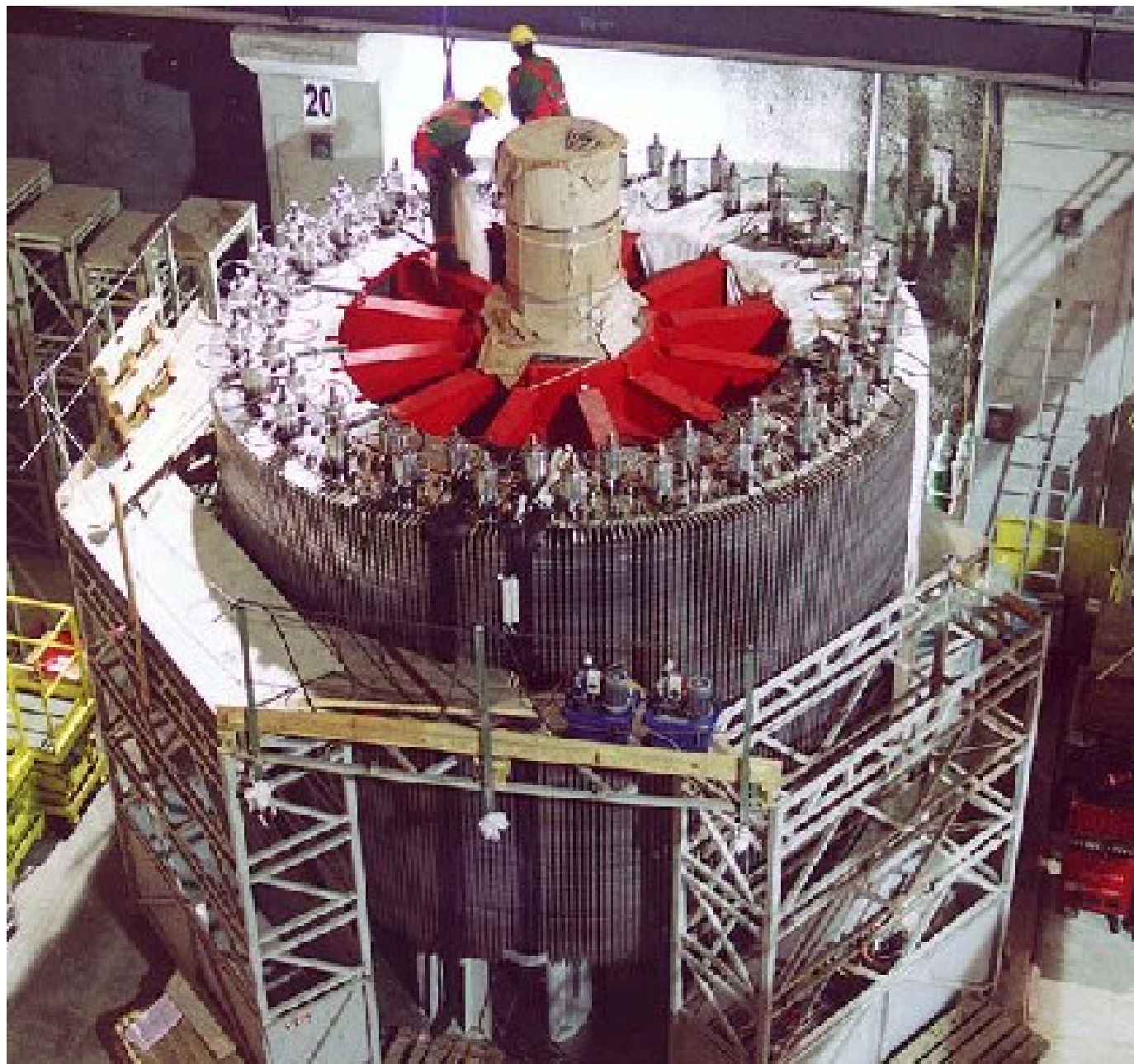














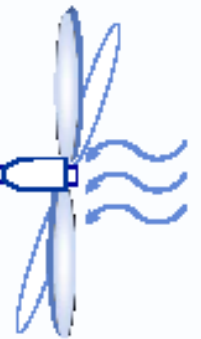
Transformer



SG



Turbine





Reference

- Stolk, J., dan Kros, C., 1984, Elemen-elemen Mesin, Erlangga.
- Begiman, M.L., Armstead, B.H., dan Oswald, P.F., Manufacturing Process, John Willey.
- Zuhal, Dasar-dasar teknik tenaga listrik, Gramedia, Jakarta, 2000
- B.L. Theraja, A text Book of electrical technology, S.chand&Company, 1999
- Berahim, *Hamzah*, 1991, *Pengantar Teknik Tenaga Listrik*, Penerbit Andi offset

Tugas

- Sebutkan dan jelaskan jenis-jenis Mesin Listrik, jabarkan secara rinci pengertian, prinsip kerja, bagian-bagiannya, fungsi, jenis/kategori, dan aplikasinya di lapangan. Kerjakan dalam file ms word minimal 3 halaman, hindari copas minimal ketik ulang. Hindari sumber referensi dari blog, pilih buku sebagai referensi dan cantumkan referensi di Daftar Pustaka.