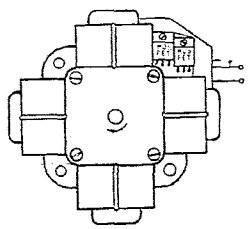
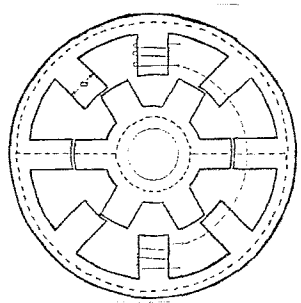
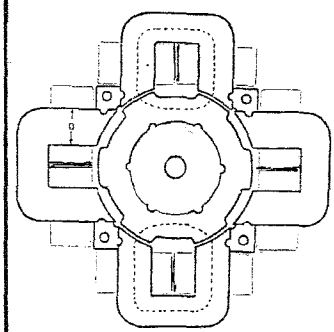
Comparison of 8/6-pole SR-motors

Constitution

Prior art	PLUSmotor
Ring stator with 8 equally spaced salient poles and 6-poles rotor, 4 phase, standard.	4 U-stator yokes with 8 band coils, 8 adjacent poles and 6-poles rotor, 2 phase, flat. 

Magnetic circuit

(see leaflet)

Prior art	PLUSmotor
Redundant iron, inconvenient pole/pole-gap ratio long magnet. circuit 	Best iron use, more winding space, easy mounting. 

Electronics

(See circuit)

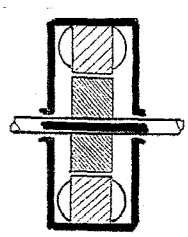
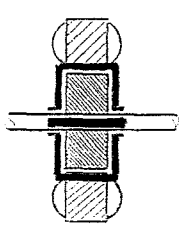
Prior art	PLUSmotor
4 MOSFET transistors advanced logic circuits, cutoff energy back to power supply, 4 Hall sens. - (expensive) -	2 MOSFET transistors simplest control, cutoff energy remains inside the magnetic circuit, (less ripple) 1 Hall sensor. - (low cost) -

Thermal criteria

Prior art	PLUSmotor
Coils inside, the dilatation affects more the air gap.	Easy cooling (great outer surface, coils outside)

Mechanical fixture

(See bold line below)

Prior art	PLUSmotor
At the outer Ø of the stator, long (close tolerances ?) 	Close to the air gap short & stiff. (small deviations) 

Noise criteria

Prior art	PLUSmotor
Usually noisy (sharp commutation, deformation of the stator outer Ø)	Quiet (fixture at the point of minimum vibration, slower current variation)