

Soft-Commutated Direct Current (DC) Motor

Objective

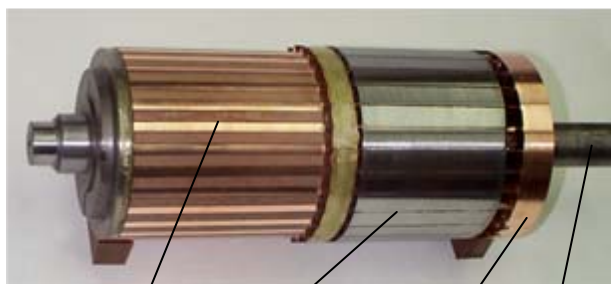
To develop a DC motor that has a higher reliability and less maintenance than traditional DC motors.

Technology Use

The energy associated with the residual current of the commutated coils is dissipated in an attenuation circuit that can be recycled back to the DC power supply. This reduction in spark generation extends the brush life.



ORNL researchers examine the armature of a new soft-commutated DC motor.



Commutator

Rotor core

End ring

Shaft

Technology Application

An inexpensive, more reliable, and quieter drive system for hybrid electric vehicles is possible. A robust low voltage variable speed drive can be built without an expensive inverter or dc/dc converter. The motor also will have high overload capability.

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