



DIY SOLENOID ENGINE

Points:- 40

Pool event

Brief: Build a prototype of a solenoid/electromagnet based reciprocating engine providing a consistent RPM to an attached flywheel.

Description: A solenoid engine works on the principle of electromagnetism i.e. magnetic force is generated when current is passed through a conducting coil. The produced attractive/ repulsive magnetic force is used to harness a reciprocatory motion which is further converted to rotary motion of a wheel with the help of a crankshaft.

Objectives:

1. Working prototype of the engine delivering constant RPM to a wheel (Observably constant).
2. Use the rotating wheel to produce mechanical work in any one of the form mentioned:
 - a. Lifting weight
 - b. Driving a vehicle
 - c. Compressing Air
3. Rest the Engine assembly on a sturdy mount avoiding vibrations to creep in the working.

Materials Allowed

- Current Source: Should not exceed 24V
- No restriction on materials for base, wheel, crankshafts etc.

Presentation (Open to Y17 only)

1. Video depicting the working of respective model
2. Bill of Materials with cost estimation
3. Estimate of efficiency of the engine assembly
4. Assembly of the Engine mounted on a base



**SCIENCE AND
TECHNOLOGY
COUNCIL**

TAKNEEK '17

THE FIGHT TO UNITE

7TH - 10TH SEPTEMBER

Judging Criteria:-

1. Scoring will be done out of 40 points. Out of 40 points , 10 points will be given on the basis of presentation which is supposed to be presented by Y17 only.



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