MAGLEV FAN

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**ABSTRACT**

Friction and noise are the root disadvantages for the traditional fan motors. After long term operation, rubs between the shaft and the inner surface of the bearings cause abrasions, in turn creating noise and sway. This drawback can be solved using the MagLev motor fan, which works under the principles of magnetic levitation. By the use of this mentioned fan, the noise and friction in the fan can be reduced considerably, while making it available at the same cost of that of conventional electric fans. Here, the stator and rotor are physically independent of each other completely. The rotation of the rotor is suspended using the magnets such that the use of ball bearings is eliminated, thereby removing friction. The independent motion of the rotor also helps to attain greater speeds under less power, reducing power consumption. The suspension of the rotor makes the motor noise proof as there are no slipping parts. The heat formation in the motor can also be thus reduced.

On the reporting date, the group has completed estimation of cost for the project, along with a rough out sketch of the design of the working model. Design of the electrical system and finalization of method implemented for speed control also has been fixed. Localized improvement in the design for the increased efficiency and cost reduction has been done and more discussions regarding the design improvement is being conducted. The group now works on designing the electromagnets required for the proper suspension of the rotor.

PROJECT GUIDE

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