

## STRUCTURAL ANALYSIS OF TURBO-GENERATOR IN ELECTRONIC FUZE

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### ABSTRACT

Traditionally storage batteries were used as a power source for fuzes. To overcome their shortcomings like short life, chemical leakages, unreliability etc; a new technology was required. R&D was carried out, which resulted in the development of wind driven turbo generator that could fit inside the fuze ogive. The obvious advantages of such a power source were long life, nonhazardous storage & greater reliability. So, it has become the most preferred choice for use in artillery munitions etc. Turbine and shaft-magnet assembly are the most critical components of the turbo generator. So the accurate designing and analysis of the turbo generator is needed, because failure will lead to high losses. So high priority is given to its testing and analysis. During flight, the projectile experiences varied climatic conditions which changes the stress induced in the rotor that have been successfully analysed. The meshing and static structural analysis is carried out in ANSYS WORKBENCH 14.5 software.

**KEYWORDS:** Turbo-Generator Air Intake Valve Power Sources Design & Analysis Rotor Shaft