

Recent Developments in Aerospace Gears and Gearbox Designs

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Abstract

Aerospace power transmission elements and units like gears and gearboxes are critical components which need to be designed, manufactured and installed for a well performing fail-safe operation. Recent development of such components has seen rather satisfying improvements regarding different subjects like materials, design, manufacturing processes, surface treatment, etc. While cleanliness of material and special alloys help increase the strength of gear material, different design methods help reduce stresses under service loads. Similarly, different manufacturing methods help reduce surface burn like defects while material surface coatings help increase the resistance to wear and pitting like failures of both gears and bearings. Different examples of recent developments in aerospace gears and gearbox designs are provided in this paper to keep readers up to date with the aerospace power transmission technology.

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