Development and manufacturing of a solid propulsion rocket

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Abstract

Solid-propellant rockets have played a crucial role in defense and space exploration since their inception. They are also the most common type of propulsion used in amateur rocketry due to their simplicity, reliability, and ease of manufacturing. Through extensive research, skill development, rigorous testing, simulations, and analyses, the Fénix Rocket Team is now on the verge of launching its first solid-propellant rocket. This article outlines the methodology and key steps involved in developing each of the essential systems that compose a solid-propulsion rocket. Without delving into excessive technical detail, we provide an overview of the five fundamental subsystems: Propulsion, Structures, Avionics, Recovery, and Payload.

Keywords: Rocket, Propulsion, Avionics, Structure, Recovery, Payload

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