

Design and manufacture of a miniature UAV using 3D rapid prototyping

Zahari Taha, Vin Cent Tai, Phen Chiak See

Department of Manufacturing Engineering and Technology Management, Universiti Malaysia
Pahang, 26300 Gambang, Pahang, Malaysia

ABSTRACT

This paper describes the design and manufacture of a Miniature Unmanned Aerial Vehicle (MUAV) using the Stratasys™ 3D Rapid Prototyping (RP) machine. The main motivation for this work is to demonstrate the rapid product development capabilities of the machine. The polymeric material used in this process is Acrylonitrile-Butadiene-Styrene (ABS). Its superior properties allow the MUAV structure to be built accurately to design specifications. The advantage of this approach is the shorter time required for design, fabrication and deployment.

KEYWORDS:

3D rapid prototyping; ABS materials; Computer aided design; Miniature UAV design

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