

PERANCANGAN DAN ANALISA PESAWAT TERBANG *UNMANNED AERIAL VEHICLE(UAV)* BERTIPE *FIXED WING* DENGAN SISTEM PENGENDALI JARAK JAUH

Andika Wisnujati, Sahli Khoirul Anwar
Jurusan D3 Teknik Mesin Program Vokasi

Universitas Muhammadiyah Yogyakarta

Jl. Brawijaya, Tamantirto, Bantul, DI Yogyakarta 55183 telp : (0274) 387656

e-mail : Sahlikhoirul@gmail.com

ABSTRAK

Pesawat *Unmanned Aerial Vehicle* (UAV) merupakan pesawat tanpa awak yang di kendalikan dari jarak jauh dengan sistem kontrol maupun *auto pilot*, perancangan pesawat *Unmanned Aerial Vehicle* (UAV) bertujuan untuk penebaran pupuk, benih dan pembasmi hama, pesawat *Unmanned Aerial Vehicle* (UAV) ini bertipe *fixed Wing* dengan *Tail Section* model *V tail* dan jenis *Airfoil Flat Buttom*, setelah dilakukan perancangan dan pengujian simulasi menggunakan *Solidworks Flow Simulation* 2017 menunjukkan data gaya angkat (*Lift*) dengan angka 32,054 N jika di konversikan ke gram menjadi 3.269 gram dan gaya hambat (*Drag*) ke sumbu $-z$ sebesar -6,719 N.

Kata Kunci : UAV, *Fixed Wing*, *Airfoil Flat Buttom*, *Tail Section V tail*

DESIGN AND ANALYSIS OF UNMANNED AERIAL VEHICLE (UAV) AIRCRAFT FIXED WING TYPE WITH REMOTE CONTROL SYSTEM

Andika Wisnujati, Sahli Khoirul Anwar

Department of Mechanical Engineering Vocational School

Muhammadiyah University of Yogyakarta

Brawijaya street , Tamantirto, Bantul, DI Yogyakarta 55183 telp : (0274) 387656

e-mail : Sahlikhirul@gmail.com

ABSTRACT

Unmanned aerial vehicle (UAV) aircraft is an unmanned aircraft that is controlled remotely with both control system and auto pilot system. The design of Unmanned Aerial Vehicle (UAV) aircraft is aimed at spreading fertilizers, seeds and pest control, this type of fixed wing Unmanned Aerial Vehicle (UAV) with V tail Tail Section model and Airfoil Flat Buttom type,. After designing and testing of the simulation using solidworks flow simulation, 2017 it shows the number 32.054 N converted to grams to 3.269 grams and the drag force to the -z axis is -6.719 N.

Keywords: *UAV, fixed wing, flat buttom airfoil, v tail of tail section*