

EXPERIMENT OF KITE MODEL AS ALTERNATIVE  
PROPULSION FOR BOAT

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**EXPERIMENT OF KITE MODEL AS ALTERNATIVE PROPULSION FOR SMALL  
BOAT**

**By**

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**Research Report submitted in partial fulfillment of the requirement for the degree of  
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**DECLARATION AND VERIFICATION REPORT**  
**FINAL YEAR RESEARCH PROJECT**

It is hereby declared and verified that this research report entitled:  
**EXPERIMENT OF KITE MODEL AS ALTERNATIVE PROPULSION FOR SMALL BOAT** By **MOHD ASYRAF BIN AZME**, Matric No. **UK 17209** have been examined and all errors identified have been corrected. This report is submitted to the Department of Maritime Technology as partial fulfillment towards obtaining the **Bachelor Degree of Applied Science (Maritime Technology)**, Faculty of Maritime Studies and Marine Science, Universiti Malaysia Terengganu.

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## DECLARATION

I hereby declare that this thesis entitled **EXPERIMENT OF KITE MODEL AS ALTERNATIVE PROPULSION FOR SMALL BOAT** is the result of my own research except as cited in the references.

Signature : 

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# **EXPERIMENT OF KITE MODEL AS ALTERNATIVE PROPULSION FOR SMALL BOAT**

## **ABSTRACT**

For the last few years, the crude oil prices increase steadily. The increase of oil prices is a major problem for the operating cost of the boats. The efficient usage of oil for a boat can decrease the fuel cost. Others problems are the smoke which created from engine can create pollution. The large kite may serve to assist ship or boat to reduce the usage of fuel to propel a vessel. This research was carried out to create a model of kite and to setup test for small boat. The comparison of generate power and operating cost of between boat with kite sail and without kite sail was investigated. This research also estimates the amount of fuel consumption. The result indicates that, annual operation cost for boat with kite sail is RM1045.16 while the annual operation cost for boat without kite sail is RM1562.08.

## **EKSPERIMEN MODEL LAYANG-LAYANG SEBAGAI REJANGAN ALTERNATIF PADA BOT KECIL**

### **ABSTRAK**

Untuk beberapa tahun kebelakangan ini, harga minyak mentah semakin meningkat. Kenaikan harga minyak adalah satu masalah yang besar untuk kos operasi bot-bot. Kecekapan penggunaan minyak untuk bot boleh mengurangkan kos bahan api. Asap yang dicipta daripada bahan api boleh membuat pencemaran. Layang-layang besar boleh digunakan untuk membantu kapal atau bot untuk mengurangkan penggunaan bahan api utama sistem enjin untuk menggerakkan kapal. Kajian ini dijalankan untuk mewujudkan satu model layang-layang dan melakukan ujian layang-layang tersebut untuk bot kecil. Kajian ini akan membuat perbandingan kelajuan bot dan kos operasi bot kecil. Ia akan dilakukan dengan membandingkan bot yang digerakkan oleh sistem enjin bahan api dan dengan dibantu layang-layang. Kemudian, kajian ini juga akan menganggarkan jumlah penggunaan bahan api kuasa bot kecil, yang boleh dijimatkan dengan menggunakan layang-layang. Dijangkakan kos operasi tahunan untuk bot dengan belayar layang-layang ialah RM1045.16 manakala kos operasi tahunan bagi bot tanpa belayar layang-layang ialah RM1562.08.