

**RESEARCH REPORT UMP GRANT**  
*Laporan Prestasi Skim Geran UMP*

Final

Progress

Progress Period : \_\_\_\_\_

√ Please tick

**PROJECT DETAILS** (*Keterangan Projek*)

<b>A</b>	<b>Grant No</b>	UIC180803
	<b>Faculty/CoE</b>	FTek
	<b>Project Title</b>	DOUBLE GUIDED ROLLER JIGSAW TABLET (DGTAB)
	<b>Project Leader</b>	HADI BIN MANAP
	<b>Project Member</b>	1. NA

**PROJECT ACHIEVEMENT** (*Pencapaian Projek*)

<b>B</b>	<b>ACHIEVEMENT PERCENTAGE</b>				
	<b>Project progress according to milestones achieved up to this period</b>	<b>0 - 25%</b>	<b>26 - 50%</b>	<b>51 - 75%</b>	<b>76 - 100%</b>
	<b>Percentage (please state %)</b>				100%

**EXPENDITURE** (*Perbelanjaan*)

<b>C</b>	<b>Budget Approved</b> <i>Peruntukan diluluskan</i>	<b>Amount Spent</b> <i>Jumlah Perbelanjaan</i>	<b>Balance Baki</b>	<b>% of Amount Spent</b> <i>Peratusan Belanja</i>
	<b>RM20,000.00</b>	<b>RM 15,481.49</b>	<b>RM 4,518.51</b>	<b>77.4%</b>

**RESEARCH OUTPUT** (*Output Penyelidikan*)

<b>D</b>	<b>NO OF PUBLICATION</b>				
	<b>KPI FOR NO OF PUBLICATION</b>				
		ISI	Scopus	Index Proceedings	Others
	KPI				<b>1 prototype</b>
	Achievement		<b>1</b>		<b>1 prototype</b>
	<i>The contribution of funder (UMP, MOHE, MOSTI, Industry etc.) as the fund provider must be acknowledged at all times in all forms of publications. Please state the grant number (RDU/UIC) and grant name.</i>				
<b>Number of articles/manuscripts/books</b> <i>(Please attach the First Page of Publication)</i>	<b>ISI</b>		<b>Scopus</b>		
	1. Not Applicable 2.		1. Design And Analysis Of A Double Guided Roller For A Jigsaw, ARPN Journal of Engineering and Applied Sciences, VOL. 11, NO. 11, JUNE 2016		
<b>Conference Proceeding</b> <i>(Please attach the First</i>	<b>International</b>		<b>National</b>		

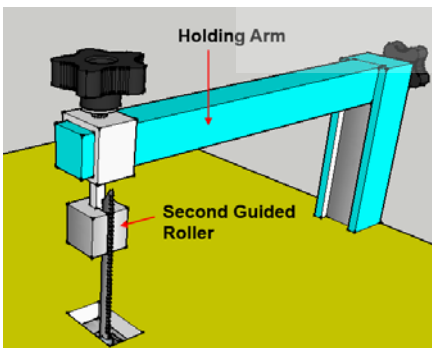
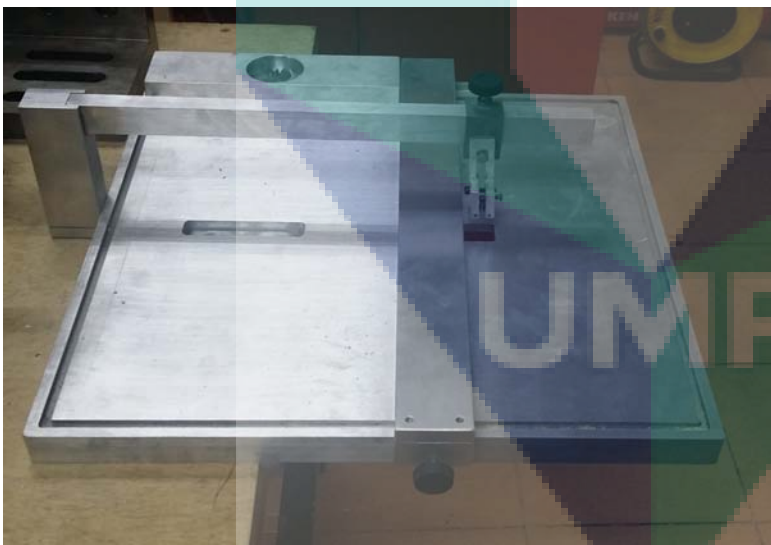
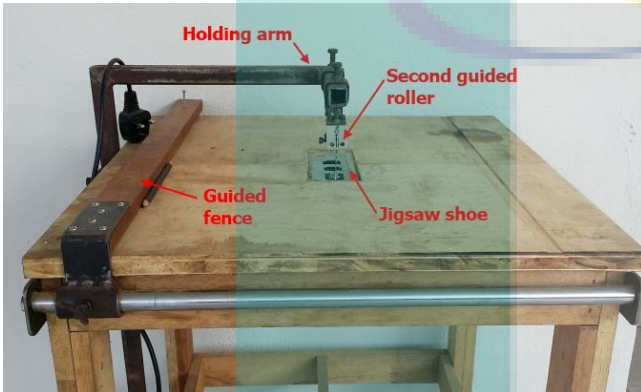
Page of Publication)		1. Not Applicable		1. Not Applicable		
<b>HUMAN CAPITAL DEVELOPMENT</b>						
<b>KPI FOR HUMAN CAPITAL DEVELOPMENT</b>						
		PhD Student		Master Student		
KPI						
Achievement						
<b>Human Capital Development</b>		<b>Number</b>				<b>Others</b> (please specify)
		<b>On-going</b>		<b>Graduated</b>		
Citizen		Malaysian	Non Malaysian	Malaysian	Non Malaysian	Not Applicable
PhD Student						
Masters Student						
Undergraduate Student						
<b>Total</b>						
<b>Name of Student:</b>		Not Applicable				
<b>ID Matric No:</b>						
<b>Faculty:</b>						
<b>Thesis title:</b>						
<b>Graduation Year:</b>						
<b>Name of Student:</b>						
<b>ID Matric No:</b>						
<b>Faculty:</b>						
<b>Thesis title:</b>						
<b>Graduation Year:</b>						
<i>** enter for more space</i>						
<b>INTELLECTUAL PROPERTIES</b>						
<b>KPI FOR INTELLECTUAL PROPERTIES</b>						
Patent, Copyright, Trademark, Industrial Design: _____						
<b>Patent, Copyright, Trademark, Industrial Design ect</b>		Not Applicable				
<b>OTHERS</b>						
<b>KPI FOR OTHERS</b>						
Prototype, Technology, Collaborations etc: _____						
<b>Prototype, Technology, Collaborations etc</b>		Double Guided Roller Jigsaw Tablet (Dgtab)				
<b>ASSET (Aset)</b>						
<b>E</b>	<b>Bil</b>	<b>Peralatan (Equipment)</b>	<b>Model</b>	<b>No Daftar Aset (Asset Tagging No)</b>	<b>Amount (RM)</b>	<b>Lokasi (Location)</b>
		Not Applicable				

**PRODUCT DESCRIPTION FOR UMP R&D DIRECTORY (SHORT & BRIEF)** *Only for Final Report*

**F** Jigsaw machines are common cutting tools and used in a large scale in wood working industries. The main problem with jigsaw usage is imprecision cutting due to blade deflection and human handling method. In this paper, a new design of second guided roller for the jigsaw to avoid blade deflection is introduced. A steel arm which holding the second guided roller and a platform with a guided fence are also presented. The cutting finding with and without using this tool is compared and reported. It is found that the jigsaw paired with this tool is able to cut a better straight line with a smooth cutting surface.

**PRODUCT PICTURE FOR UMP R&D DIRECTORY** *Only for Final Report*

**G**



**SUMMARY OF RESEARCH FINDINGS** (*Ringkasan Penemuan Projek Penyelidikan*)

**H** A new technique to avoid cutting problems using jigsaw especially blade deflection has been developed. The usage of the second guided roller for the jigsaw shows very good cutting result. The quality in term of straight line cutting of the wooden piece is enhanced further by adding the guided fence on the platform. The second guided roller also increases overall performance of the jigsaw and can extend the blade life span. It can be seen that cutting using a jigsaw with a second guided roller produces much better quality cut. It produces straight line cutting with smooth and even cutting surface. Based on this promising result, it has a big potential that this new tool can be commercialized in the near future.

**PROBLEMS / CONSTRAINTS IF ANY** (*Masalah/ Kekangan sekiranya ada*)

**I** No major problem faced.

**Date** : 21 Jan 2020  
*Tarikh*

**Project Leader's Signature:**  
*Tandatangan Ketua Projek*



**COMMENTS, IF ANY/ ENDORSEMENT BY FACULTY** (*Komen, sekiranya ada / Pengesahan oleh Fakulti*)

**J** **Recommend / Not Recommend / KIV / Need Ammendment**

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**Name:**  
*Nama:*

**Signature:**  
*Tandatangan:*

**Date:**  
*Tarikh:*

**\*\* Dean/TDR/Director/Deputy Director**

**COMMENTS, IF ANY/ ENDORSEMENT BY RMC PNI** (*Komen, sekiranya ada / Pengesahan oleh RMC PNI*)

**K**

**Recommend / Not Recommend / KIV / Need Ammendment**

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**Name:**  
*Nama:*  
**Date:**  
*Tarikh:*

**Signature:**  
*Tandatangan:*

