

PROTOTYPE DESIGN COLLECTION

SERIES 1



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CHAPTER 24

Design, Analysis and Fabrication of Portable Table Saw

Dzafran Amani Bin Munir and Ahmad Faidzal Khodori

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PROJECT DESCRIPTION

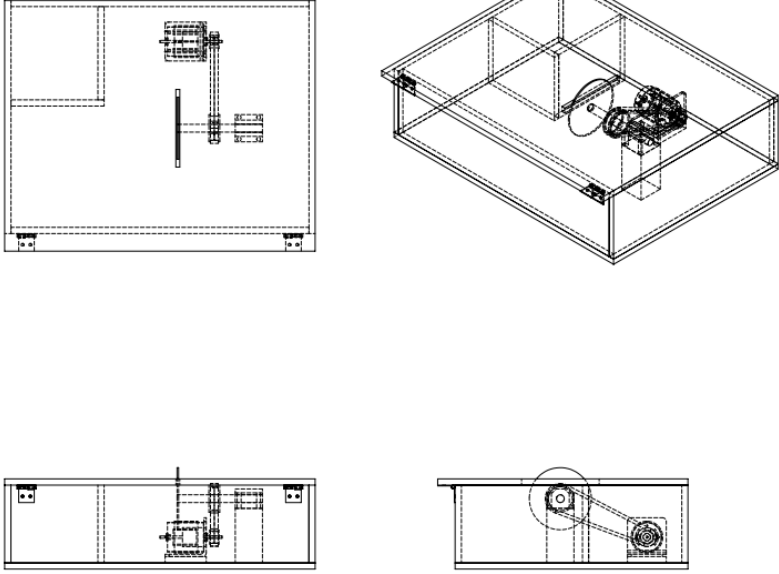
Based on my research, table saws, also known as a circular saw, is a tool used for cutting wood and other materials. It is popular for its versatility. Table saws are versatile saws mainly used for cutting cross and with the wood grain. They are most used to rip. The tool has a very long history of about 200 years. During that time, it has undergone several technological advancements and evolved until the current and is more convenient than ever. The invention of the first circular saw happened in 1777. The invention of the circular saw was first credited to Samuel Miller. He created a metal disk with teeth around its edge and discovered that at fast speeds the disk was very adept at cutting. At that time, it did not use electricity and it was also not portable. However, my project is focused on portability and effectiveness of the machine. The portable saw features a central motor and auxiliary motor as the core of its engine. Although the primary purpose of the portable table saw is for light job site works, the engine is of standard in terms of stability during operation and how long it can perform without losing its efficiency.

Keywords: *Portable table saw*


PROTOTYPE

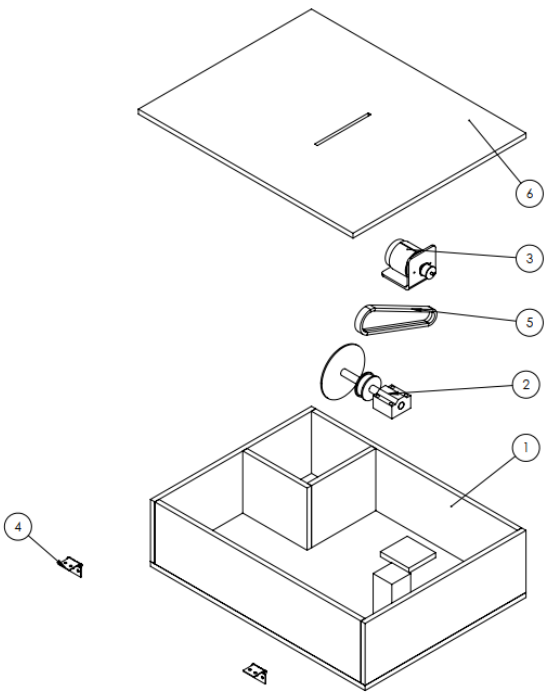


DESIGN PARAMETER




The assemble drawing shows four views of the portable table saw: a top view, a perspective view, a side view, and a front view. The perspective view shows the motor and drive mechanism mounted on a rectangular frame. The side view shows the motor and drive pulley connected to a larger pulley on the frame. The front view shows the motor and drive pulley connected to a larger pulley on the frame. The top view shows the motor and drive pulley connected to a larger pulley on the frame.

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Group: J4EM1105C	
Project Title: Design, Analysis and Fabrication of Portable Table Saw	
Drawing Title: Assemble Drawing	
Part Name: -	
Part No.: -	
Scale 1:4	
Drawn by Dzafran Amani bin Minir	



The exploded drawing shows the six parts of the portable table saw: 1. Frame, 2. Holder Driven Shaft, 3. Motor and Shaft, 4. Hinge, 5. Belt, and 6. Cover Board. The parts are shown in their relative positions as they would be assembled.

ITEM NO.	PART NUMBER	QTY.
1	Frame	1
2	Holder Driven Shaft	1
3	Motor and Shaft	1
4	Hinge	2
5	Belt	1
6	Cover Board	1

	Fakulti Kejuruteraan Mekanikal Cawangan Johor Kampus Pasir Gudang
Course Name: MEC300 - FINAL YEAR PROJECT 2 (SEP - JAN 2021)	
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Drawing Title: Exploded Drawing	
Part Name: -	
Part No.: -	
Scale 1:4	
Drawn by Dzafran Amani bin Minir	