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## Design and Fabrication of Pedal Operated PCB Cutting Machine

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Abstract: This project describes the design and fabrication of a cutter using mild steel for the Printed Circuit Board. The board contains cuprum as a trace to connect the electricity current to electronic component like resistors and capacitors. The Printed Circuit Board was widely used in electronic and electric components. The normal way to cut the Printed Circuit Board is using hand due to its sensitivity. By developing the cutter, it is easy to cut the printed circuit board with more efficient without damaging the board. The performance of the cutter that fabricates using mild steel is only average due to its hardness. It becomes dull very fast. This project presents a simple way of human work will be reduced and accuracy will be improved of cutting the PCB. The system will reduce the chances to getting hurt by the blades using the fabrication and covering by protecting glass Cutting is the separation of a physical object, into two or more portions, through the application of an acutely directed force. Knife and saw are the commonly implemented cutting tools. However, any sufficiently sharp object is capable of cutting if it has a hardness sufficiently larger than the object being cut, and if it is applied with sufficient force.

Keywords: Printed Cicuit Board, Cutter, Pedal, Electric Motor

## REFERENCES

- [1]. Choudhary, R., Titus, S. D., Akshaya, P., Mathew, J.A., & Balaji, N. (2017, August). CNC PCB milling and wood engraving machine. In 2017 International Conference on Smart Technologies for SmartNation (SmartTechCon) (pp. 1301-1306). IEEE
- [2]. Wu, H., & Zhu, H. (2011, October). Research on the Common Causes of Defects and Their Prevention Measures for RCF-Type PCB Mills Production. In International Conference on Computer and Computing Technologies in Agriculture (pp. 28-34). Springer, Berlin, Heidelberg.
- [3]. Basniak, R.,&Catapan, M. F.(2012). Design of a PCB milling machine. In ABCM Symposium Series in Mechatronics (Vol. 5, pp. 1339-1348).
- [4]. Prabhanjay Gadhe, Vikas Jagir, Mayur Yede, WasimUL-Haq "Design and Implementation of PCB Using CNC", International ResearchJournal ofEngineering and Technology, volume-4 February 2017.
- [5]. Chhaya, V. G., Gohil, R.D., Raval, R. R., Viramgama, K. M., Popat, M. N., Khirsariya, N. A., ... & Joshi, A. M. DESIGNAND MANUFACTURINGOVERVIEWOF PCB DRILLING MACHINE.
- [6]. Chirag R. Prajapati, Prof. Dhaval P Patel, Mr. K. S. Parmar "ModellingAndAnalysisOf Frame Structure of PCB Drilling Machine", IJEDR, Volume-4 2016.
- [7]. Noor, M. M., Rahman, M. M., Kadirgama, K., Rejab, M. R. M., Ghazalli, Z., & Hassan, M. A. (2008). Developing a Cutting Tool with Mild Steel for Printed Circuit Board. In 7th UMT International Symposium on Sustainability Science and Management (UMTAS).
- [8]. Zheng, X., Dong, D., Huang, L., An, Q., Wang, X., & Chen, M. (2013). Research on fixture hole drilling quality of printed circuit board. International Journal of PrecisionEngineering and Manufacturing, 14(4), 525-534.
- [9]. Singh, J., Jain, V. K., & Ramkumar, J. (2016). Fabrication of complex circuit on printed circuit board (PCB) using electrochemical micromachining. The International Journal of Advanced Manufacturing Technology, 85(9-12), 2073-2081





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## BIOGRAPHY



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