



# DESIGN AND FABRICATION OF FLATHE TOOL MOUNT USING 3D PRINTING



## A MINI PROJECT REPORT

*Submitted by*

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*In partial fulfillment for the award of the degree of*

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*in*

**MECHANICAL ENGINEERING**

**CHRIST THE KING ENGINEERING COLLEGE,**

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## BONAFIDE CERTIFICATE

Certified that this project work titled “DESIGN AND FABRICATION OF LATHE TOOL MOUNT USING 3D PRINTING” is the bonafide work of THOMSON.M (710420114027), DANIEL.J (710420114016), KRISHNA.P (710420114012), and MANIKANDAN.S (7104201143) who carried out the project work under my supervision.

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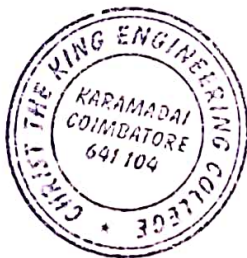
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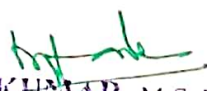
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## ABSTRACT

A Tool post is designed and fabricated with the help of 3D Printer. The fabricated model is used to hold or rest the tool for cutting the rotating work piece. They might differ in design but the process which they are used for the operation is same only. Tool height is rapidly and simply adjusted through means of the supporting elements. This is mainly used for protecting all the tools and constant adjustment is also possible. This is intended to make simpler and amplify the machining efficiency. We can use it simply for many operations. It is feasible to index the cutting tool to one or more in less than one second, by a repeatability of millionth on an edge.

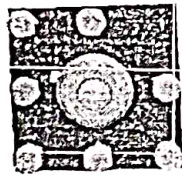


  
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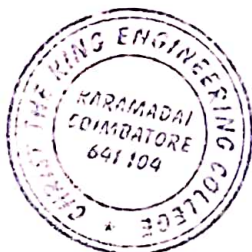
a tool post or turret. The turret can be rotated so that any of the tools can be positioned towards the workpiece.

### Results & Conclusion:

The designed tool posts are fabricated with the help of 3D Printer. The model is shown in the below Figure.



Toolposts for index able holders are made from steel that's machined to the desired configuration and hardened to add strength, toughness, and rigidity. The hardness values of a finished toolholder may be in the range of RC 44 to RC 48. Tool holders can be either external or internal types, as well as right- or left-handed. External types are used for machining outside diameters of a rotating part, while internal tool holders are used to remove material from inside diameters, such as during boring operations. The selection of the toolpost depends almost entirely on the insert chosen, which is, in turn, determined by the machining operation to be carried out. The required feed, speed, depth of cut, and surface finish to determine the type of insert. Once this is known, a tool post design can be selected. Manufacturers' catalogues give very detailed information about the selection of inserts and tool holders, and there's such a variety available that a standard configuration is usually available for almost any application.



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