

VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELGAUM, KARNATAKA- 590 014



A PROJECT REPORT ON

**“DESIGN AND FABRICATION OF VERTICAL BORING FIXTURE
FOR ENGINE CRANKCASE COMPONENT”**

SPONSORED BY K.S.C.S.T UNDER SPP 37th SERIES

**A project submitted to Visvesvaraya Technological University in partial Fulfillment
of requirement for the award of degree**

**Bachelor of Engineering
IN**

MECHANICAL ENGINEERING

Project Associates

AKHILESH B R

2SR10ME004

CHETAN B PATIL

2SR10ME015

DEVARAJA PATEL D

2SR10ME020

JITHENDRA G DODDAMANI

2SR10ME028

Under the Guidance of

Mr. PRASANNA P KULKARNI M.Tech

Lecturer

Department of Mechanical Engineering



2013-14

DEPARTMENT OF MECHANICAL ENGINEERING

SRI TARALABALU JAGADGURU INSTITUTE OF TECHNOLOGY

RANEBENNUR-581115

ABSTRACT

A fixture is a device which holds and locates work piece during an inspection or for manufacturing operation. The fixture doesn't guide the tool. To ensure that the work piece is manufactured according to specified dimensions and tolerances, it must be appropriately located and clamped. Fixture layout is the procedure to establish the work piece fixture contact positioning the clamps and locaters such that the work piece locations errors due to localized elastic deformation are minimized.

In machining of any component, the fixture plays an important role in reducing manufacturing lead time and hence it increases production rate. Mass production aims at higher quantity of production, reduced cost, improved efficiency in process, and interchangeability of components, accuracy, in automotive and automobile sectors.

In the present work, we are concentrating on engine crankcase component and trying to improve the production rate by designing a fixture that can be used on the milling machine for locating and clamping the crankcase component for vertical boring operation.