Manufacturing Technology Training
An IMTMA initiative

Design of Fixtures for Machining Applications - A practical approach
Date : 12 to 14 January, 2026
Venue : IMTMA Technology Centre, Bengaluru

INTRODUCTION

The course is structured with introduction to Fixture Design basics to final design. Design of fixture is key to effective utilization of machine tools. Basics of fixture design if not implemented correctly results in poor productivity & quality problems. Set-up time and cycle time reduction, increased accuracy on components, deskilling the job setting operation are the obvious advantages of a good fixture. Competence in right fixture differentiates excellent organizations.

A complete process of fixture design will be carried out from concept to finish design. Pre-design activities like design input, conceptualization, process planning, accuracy consideration, cycle time estimation, POKAYOKE, 3D modeling of parts and assembly, using popular design CAD tools and preparing the final manufacturing drawings. Design for Accuracy, Manufacturing and Assembly will be addressed during the course. It will be highly interactive and hands on training session and covers entire 360° view on all types of fixture design aspects.

FOCUS AREAS

- Fixture design fundamentals
- Introduction to Jigs and fixture – Basic elements
- Study of component drawing for accuracy, cycle time, location, clamping and manufacturing process
- Design exercise for simple fixtures
- Introduction to hydraulics for fixture
- A complete design project on fixture design for auto component
- Hands on training using one of the popular cad tool
- Introduction and conceptualisation to BIW, Assembly, Welding and Inspection fixtures
- Case studies on all types of fixtures will be reviewed for better understanding

KEY TAKE AWAYS

At the end of the program, the participants shall be able to:

- Comprehensive design knowledge fixture design
- Knowledge on design of simple fixture to complex fixture
- Knowledge on CNC Machine tools
- Hands on experience in fixture design
- Knowledge in systematic approach on fixture design
- Conceptualisation towards BIW, Assembly, Welding and Inspection fixtures

PARTICIPATION FEE

Rs. 6999/-
+18% GST
IMTMA Members/ Micro Companies/ Individuals/ Educational Institutions / Students/ IMTMA Non Members/ Others

USD 280/-
Overseas Participants

Group Concession : 10% for 3 to 5 and 20% for 6 and more delegates being nominated from the same company

PARTICIPANT PROFILE

This programme will benefit practicing Engineers and managers from industry of all segments. Diploma and graduate engineers with more than 2 year experience.

Participants are encouraged to bring their drawings / designs for discussion and problem solving.

FACULTY

This programme will be conducted by **Mr. B L Patil and Maqsood A Khallaq - Industrialist.**

Mr. B L Patil, Former Assistant Director IMTMA Design Institute, He has over 30+ years of Industrial work experience in the field of Fixture Design, SPM Design (Metal Cutting), Process Planning for machined components.

Maqsood A Khallaq, with over 3 decades of expertise in Machine Design and Fixturing. An ex-HMT as Dy. General Manager served the R & D dept. He now runs his own Industry "XL CNC Machine" at Peenya.

For Registration Contact

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REGISTRATION : Prior registration for participation is necessary. Number of participants is limited and will be accepted on 'First Come First Serve' basis. A Certificate of participation will be issued to participants.
Important Information : Participation fee includes, course material, working lunch and tea / coffee. Interested companies are requested to register online by clicking on 'REGISTER' button and by filling up the nomination authority and participant's details in specified form.