Manufacturing Technology Training
An IMTMA initiative

Gear Manufacturing Processes
Date : 27 to 29 April, 2023
Venue : IMTMA Technology Centre, Bengaluru

INTRODUCTION

Gear Manufacturing is a fairly complex metal-cutting process and forms an integral part of many industrial products. Gears and Gear drives are one of the key components of all kinds of vehicles, machine tools, aircrafts, household appliances as well as a broad variety of industrial equipments. Proper understanding about the various Gear manufacturing processes and controlling parameters is essential in order to meet the growing demands for better productivity and quality of gears.

FOCUS AREAS

- **Introduction, Overview of Gear Terminology**
- **Process flow of Gear manufacturing**
  - Gear Machining in soft - Hobbing, Shaping, Shaving
  - Gear Machining in Hard – Grinding, Lapping
- Gear blank preparation
- **Gear Hobbing – Process parameters; Work set up and Hob set up methods; Process optimization and productivity improvement**
- Gear Shaping – Working Principle; Process parameters; Work set up and Cutter set up methods;
- **Shaping of internal and external gears; Industry application examples**
- Gear Shaving – Working Principle; Advantages and limitations; Industry application examples; process capability in terms of gear quality and surface finish
- **Cutting Tools for Hobbing, Shaping, and shaving**
- Gear Heat Treatment
- **Gear Grinding – Need for Gear Grinding; Advantages and limitations; Industry application examples;**
- Types of grinding machines
- **Gear Grinding - Process parameters; Work set up and wheel set up methods; process optimization**
- **Gear Finishing – Bore, Face Grinding, Coatings**

KEY TAKE AWAYS

After undergoing the programme, the participants will be able to -
1. Have an overview of gear manufacturing with process flow from beginning to end.
2. Understand process parameters and optimizing gear manufacturing processes in soft - Gear Hobbing, Gear Shaping and Gear Shaving.
3. Know about heat treatment of gears
4. Learn about Cutting Tools for Hobbing, Shaping and shaving

PARTICIPATION FEE

Rs. 12000/-
+18% GST
IMTMA Members/ Micro Companies/ Individuals/ Educational Institutions / Students/ IMTMA Non Members/ Others

USD 480/-
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 Engineers and personnel involved in design, Production, Process Planning, Manufacturing functions of gear manufacturing industries. Engineers from Machine Tool, Automobile & Auto ancillaries, Consumer Durables, Aerospace, Industry Machinery, Defence & Railway units, General Engineering and other Capital goods manufacturing industries also can participate.

FACULTY

The Program will be conducted by **Mr. Ved Parkash.**

Mr. Ved Parkash comes with over 39 years of domain expertise in automotive industries. He is former Head - Quality & TQM at Ashok Leyland and Head - Quality at Hero Honda Motors. He has a rich experience in Gear manufacturing as well as Gear metrology. He was head of gear plant at Eicher and Associate Vice President at Hi-Tech gears. He set up a green field state-of-the-art plant for Gear manufacturing at Hi-Tech Gears, developed new products for reputed overseas customers like Cummins, GM, Volvo, JCB, Getrag Ford, etc.

Mr. Ved Parkash has done pioneering work at Hero Honda to reduce Gear Noise, establish distortion patterns during Heat treatment. He is a Mechanical Engineer and has been associated with well-known organizations in the country manufacturing 2 wheeler & 4 wheelers viz. Escorts, Eicher, LML, Hero Honda & Ashok Leyland.

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.