**Workshop on Effective Maintenance of CNC Machines for Productivity Improvement**
17 - 18 May 2012, Gurgaon

**BACKGROUND**
A National Survey on reliability of CNC machines conducted by IMTMA highlighted the difficulties confronted by end users in controlling the downtime of CNC machines. Interactions with end users indicated the need to familiarise and upgrade their knowledge base to optimize the usage of CNC machine tools, for higher productivity.

Effective usage of CNC machines is the key to achieve the desired output. With the rapid changes in hi-precision manufacturing process, there is a need to continuously update the knowledge and skills of the ‘Man-behind-the-Machine’. Diagnostics is another important aspect of maintenance, which is most often ignored. Maintenance engineers competent in a particular domain may have limited knowledge or information of other cross functional disciplines, resulting in a fragmented approach to problem solving. With most companies adopting CNC technology, where preventive maintenance is of paramount importance, it is necessary to expose the production and maintenance personnel to various Sub-systems of CNC machines.

In order to address the need of preventive & break-down maintenance, Indian Machine Tool Manufacturers’ Association (IMTMA) is organising a two day workshop on ‘Why & How’ Effective Maintenance of CNC Machines for Productivity Improvement’ on 17 - 18 May 2012 at Gurgaon.

**OBJECTIVES**
This workshop will provide inputs on preventive and break-down maintenance aspects, through simple presentations. The cross-disciplinary approach to problem solving would help engineers do a better job. This three day workshop aims to help participants to:
- Familiarise with various sub-systems of CNC machines; specifically CNC lathes & Machining Centres.
- Assist users to identify faults in various components of CNC machines.
- Report faults correctly to the manufacturer.
- Systematic approach to diagnostics and problem solving.
- Discuss specific problems with faculty.

**FOCUS AREAS**
- General problem solving approach using cause and effect diagrams; Typical problems in Mechanical sub-systems of CNC lathes - Headstock assembly; Turret assembly and ball screw assembly - case studies and examples
- Preventive and periodic maintenance procedures form mechanical sub-systems of CNC Lathes; procedures for correction of geometrical errors
- Typical problems in Mechanical sub-systems of CNC Machining centres - Spindle assembly; ATC assembly and ball screw assembly - case studies and examples.
- Importance of TPM concept and autonomous maintenance for CNC machines
- Typical problems in Electrical and Electronic sub-systems - Power supply, Importance of proper earthing; EMC rules; sensors, limit switches and encoders - case studies and examples; Safety aspects; Alarm messages and alarm history.
- Environmental Management Systems (EMS); Better Practices of Plant Maintenance - case studies and methods

**FACULTY**
Industry experts and renowned manufacturers of CNC Control systems & CNC machine tools such as Ace Micromatic Group, FANUC India, Kennametal India, Renishaw and Siemens will conduct sessions at this workshop. Presentations will be accompanied by practical demonstrations and case studies. The workshop would be highly interactive where participants will be able to discuss specific problems in maintenance and solicit feedback from the expert faculty.

**PARTICIPANT PROFILE**
This workshop is targeted towards managers, engineers and middle management personnel involved in the functions of production, and maintenance of CNC machines from machine tool, automobile and auto ancillaries, tool rooms, aerospace, defence & railway establishments, general engineering and other manufacturing industries.

Note: Participants are expected to have a basic working knowledge of CNC Machines as the constructional aspects of CNC machines will not be discussed in detail in this workshop.

**PARTICIPANT FEES [Non - Residential]**

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<tr>
<th>Types of Organization</th>
<th>Fees per participant</th>
<th>Service tax (12.36%)</th>
<th>Total Participation Fees</th>
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<tr>
<td>IMTMA MEMBERS &amp; SSI COMPANIES</td>
<td>8000/-</td>
<td>989/-</td>
<td>8989/-</td>
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<tr>
<td>NON MEMBERS COMPANIES (Large &amp; Medium)</td>
<td>9000/-</td>
<td>1112/-</td>
<td>10,112/-</td>
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Fees includes participation, course material, working Lunch & Tea/Coffee. Companies interested in participation are requested to return the attached ‘Reply form’ duly filled along with Demand Draft / at par cheque in favour of ‘Indian Machine Tool Manufacturers’ Association payable at Gurgaon to the address mentioned in the reply form.

**REGISTRATION**
Prior registration for participation is necessary. Number of participants is limited and will be accepted on ‘First come First’ basis. A Certificate of participation will be issued to participants.