

SME Calendar



The following events offered by the Society of Manufacturing Engineers will be of special interest to the Gearing Industry. For further information, contact SME Public Relations, P.O. Box 930, Dearborn, MI 48121, (313) 271-1500.

- Nov. 13-15 1984 Gear Processing & Mfging. Clinic*
Netherland Plaza Hotel, Cincinnati, OH
- Jan. 22-24 1985 HOUSTEX Tool & Mfg. Conference & Expo.
Albert Thomas Convention Center,
Houston, TX
- Mar. 18-21 1985 WESTEC '85 Metal & Tool Expo. & Conference
Los Angeles Convention Center,
Los Angeles, CA
(Co-sponsored by SME & ASM)

*GEAR PROCESSING & MANUFACTURING CLINIC

J. Richard Newman, retired coordinator of Gear Tools for National Broach and Machine, Division of Lear Siegler will serve as clinic leader. Mr. Newman has over 40 years experience in gear tool design and application.

Presentations at this clinic will benefit everyone responsible for gear operations, regardless of background. Time will be allocated daily for discussion of specific gear concerns with clinic staff. Attendees are encouraged to bring problem parts and/or drawings for individual attention.

VIEWPOINT

Letters for this column should be addressed to Letters to the Editor, GEAR TECHNOLOGY, P.O. Box 1426, Elk Grove Village, IL 60007. Letters submitted to this column become the property of GEAR TECHNOLOGY. Names will be withheld upon request; however, no anonymous letters will be published. Opinions expressed by contributors are not necessarily those of the editor or publishing staff.

SINGLE FLANKTESTING

Dear Editor:

It was very interesting to see Robert Smith's article on single flank testing of gears. This method of testing is widely used in Britain because it is very fast and allows checking in a fraction of the time that conventional methods take; this has been found to be a tremendous commercial advantage for checking supplies from subcontractors and also allows 100% checking.

Although mainly used here for parallel shaft gears, single flank (or Transmission Error) checking is very useful for matching bevel gears rapidly and for finding the best orientation of worms to their wheels when very high precision drive is required.

In certain cases where misalignment of helical gears occurs, single flank checking has given very useful information on the variation of alignment with load (Ref. 1). Generally it is not possible to carry out advanced vibration development work on high precision gears without using single flank checks. This is because Transmission Error may need holding to less than 5 microns (2/10ths mil) at once per tooth although at least 4 separate tolerances are involved in controlling alignment.

Extension of Transmission Error testing to full load conditions, unlike the inspection stage, has occurred on several rigs already and promises to become a routine part of gear production control giving very much quieter gears.

Yours faithfully,

J D Smith
Cambridge University Engineering Dept.

1. Gears and their Vibration, J.D. Smith, Marcel Dekker, 1983. Ch. 9.