Joe FRANKLIN

Practical Education

Most people know that Henry Ford was an innovator in the development of the automobile and, more importantly, in the process of manufacturing the automobile and all modern manufactured products. Less well known is that Henry Ford believed in the value of education and of the necessity that learning should include a direct link to the real world. He was critical of forcing students to memorize facts and dates.

"Whatever else we may call education, in whatever other schoolrooms it may be pursued, if it does not give experience or help us to analyze and profit by experience, it is not education," **Ford said.**

AGMA offers a full range of education-training courses based on expert instruction and practical, hands-on training. Instruction includes courses for employees responsible for manufacturing and inspection gears; field service workers and gear engineers. They cover the manufacture, failure analysis and design. The courses are designed by the industry for the practical application so of design, manufacture, and problem solving.

AGMA's first training course for gear manufacturers was a week-long course in Chicago. **The Training School for Gear Manufacturing** includes both classroom instruction and a hands-on workshop. This course has been very successful helping train both factory workers and others in the industry. About one-third of the participants have been corporate executives, sales engineers, advertising and public relations staff. The next **Training School for Gear Manufacturing** will be taught in September, see www.agma.org for the details.

Because this school requires the participants to be in Chicago for a week, companies asked for ways to have the **training in their plant**. In response, AGMA established a relationship with the Gear Consulting Group, Inc. (GCG). GCG teaches the AGMA curriculum on site; this allows companies to customize the training on specific areas.

Not every company can justify GCG coming to their plant but does need to educate a few employees. To solve this, GCG teaches Regional Courses several times each year. Regional courses will be offered in October and December.

The most convenient way to learn is to have instruction available on-line. AGMA developed three courses that participants can study at their own pace on any computer with an internet connection: **Fundamentals of Gearing, Inspection of Gears** and **Hobbing**. Each course takes about eight hours to complete and includes a Student Instruction Guide, a sample test and a Certification Exam. As with all AGMA courses, successful participants receive a Certificate certifying their completion of the course and exam.

In addition to basic instruction and training, AGMA offers seminars for advanced engineering, service

and design.

Twice each year, in corporation with consultant Robert Errichello, AGMA offers a **Gear Failure Analysis Seminar**. This Seminar is based on real-world applications with a large number of actual failures for attendees to examine.

Attendees learn about the causes of gear failure and how to prevent it from occurring. This Seminar on Gear Failure Analysis teaches what to watch out for and how to fix it. The gear failure courses for this year have already sold out, but e-mail tech@agma.org to be notified when the 2008 dates are available.

AGMA's **Detailed Gear Design – Beyond Simple Service Factors** was developed by industry consultant Ray Drago. This advanced engineering course is targeted for gear engineers, gear designers, application engineers, people who are responsible for interpreting gear designs who want to better understand all aspects of gear design. The course material includes qualitative descriptions, practical examples, illustrations and demonstrations.

The most recent addition to AGMA's engineering seminars is the **Gearbox CSI: Forensic Analysis of Gear & Bearing Failures - Useful Tools for Optimizing Gearbox Design**.

The objective of this seminar, taught by Raymond Drago, P.E., and Joseph W. Lenski is to provide a better understanding of gears and bearings and educate the designer with the limitation and capabilities of rolling element bearings and the gears that they support, so that the designer can properly apply the best gear - bearing combination to any gearbox, whether simple or complex.

All of AGMA's education courses and seminars were developed by companies in the industry. All include practical examples and are taught by recognized and well respected experts. ☐

We welcome your feedback and suggestions. My direct dial number is (703) 838-0050 and e-mail is franklin@agma.org.