

Help Wanted

Options available for those looking for safe, online/in-person gear knowledge

Matthew Jaster, Senior Editor

By the end of the year many of us can add “Zoom Proficient” to our LinkedIn profiles. Obviously, we’re all doing the best we can under these unusual circumstances—despite more kids and dogs showing up in the middle of these meetings. Still, the show must go on during the pandemic, gear companies need skilled workers (now more than ever) and these skilled workers need the right training and educational tools to broaden their areas of expertise.

Our resident blogger Charles D. Schultz gets frequent calls asking if he knows someone ready to move up. “That is a very inefficient query; many people feel they are due a promotion. Not all of them have the skill set needed by the inquirer. Others have geographical limitations or “defects” in their resumes that disqualify them for the typical “help wanted” ad,” Schultz said in a recent blog entry (www.geartechnology.com/blog/finding-good-candidates/).

“My standard reply is ‘Why not promote someone who already works for you?’ Some of my best hires were machine operators who asked lots of questions and frequently drove their supervisors or my staff crazy. Sound like someone you know? Yes, they were rough around the edges and lacked the “book learning” needed to move into the office. But none of the five or six who were brought in from the shop ever let me down. Sure, they required training, but they understood our system and were determined to succeed.”

Gear drive and gearbox knowledge is at an all-time premium in 2020. Manufacturing—like most other industries—is currently experiencing a roller coaster of economic uncertainty. It is best to keep the employees you value the most engaged, motivated, and continuously learning. Here’s a few upcoming online/in-person courses to consider:



Raymond Drago teaches both the AGMA Gearbox Systems Design and Detailed Gear Design courses.

AGMA Gearbox Systems Design

This course, taught online by Raymond Drago and Steve Cymbala, focuses the supporting elements of a gearbox that allow gears and bearings to do their jobs most efficiently. Attendees learn about seals, lubrication, lubricants, housings, breathers, and other details that go into designing gearbox systems. They learn about the types of housing construction and housing elements, apply drawing practices, learn more on bearing mounting, retention, and sealing and understand the role of gearbox accessories. Attendees will also learn about lubricant selection, application, and chemistry. This live, virtual online training course (2 CEUs) takes place October 13–15, 2020. Register by September 29 here: www.agma.org/education/online/video-training/gearbox-system-design/.

AGMA Detailed Gear Design — Beyond Simple Service Factors

Through support from the AGMA Foundation, the Detailed Gear Design live course is available pre-recorded, online for wider availability. Taught by gear expert, Ray Drago, P.E., of Drive Systems Technology, Inc. Students can get the full experience of the course through 15 one-hour segments and supporting training documents. Detailed Gear Design (2 CEUs) teaches students about gear design and then walks students through carefully crafted “problems” that will demonstrate the practical application of the optimization methods presented in this seminar.

Gear engineers, gear designers, application engineers, people who are responsible for interpreting gear designs, technicians and managers that want to better understand all aspects of gear design would benefit from this course.

The majority of the course material is presented through qualitative

descriptions, practical examples, illustrations and demonstrations, which require basic mathematical and engineering skills. However, some familiarity with gear design and application will enhance overall understanding of the material.

After taking this course, attendees will be able to improve gear designs, better understand gear rating theory and analysis methods, investigate differences in stress states among various surface durability failure modes, discuss time dependent and time independent failure modes related to tooth design, use computer generated graphics to examine mesh action and tooth interaction, and gain new insight into the concepts presented through illustrations and demonstrations. Register here: www.agma.org/education/online/video-training/detailed-gear-design-beyond-simple-service-factors/

Rexnord Falk School

Rexnord Falk School is a three-day course designed to provide students with a basic understanding of the

fundamentals of gear drive assembly and disassembly. It provides a unique, hands-on opportunity for maintenance professionals to learn from instructors with vast field experience. Using step by step instructions, Rexnord instructors make maintaining gearboxes simple, so participants leave with the confidence of knowing how to apply the material to increase reliability and avoid unscheduled outages. Training includes gear drive, bearing, and couplings maintenance procedures, assembly and disassembly of gear drives, how to adjust tapered roller bearings to obtain proper float or preload, how to install bevel gearing and adjust to optimize contact, how to enhance gearbox reliability through continuous monitoring, troubleshooting techniques, and basic failure analysis. The upcoming in-person class schedule in Milwaukee, Wisconsin includes September 15-17, October 6-8, and November 10-12. Classes follow strict social distancing protocols/mask mandates. Register at www.rexnord.com/falkregistration.

TPC Training — Mechanical Drive Maintenance

This online training course covers alignment, particularly coupling alignment. It includes installation and maintenance of mechanical drives, from chain drives to enclosed gear drives. Mechanical Drive Maintenance is available in two formats: online maintenance training and course manual. The online format provides a comprehensive library of online maintenance training with content-rich, interactive courses. The course manual format provides a fully customized courseware including safety training videos/DVDs, and instructor support materials. They also provide customized textbooks for technical schools. Register here: www.tpctraining.com

Investing in the Future

In addition to keeping in-house talent trained and educated, the push for bringing in young talent — college and high school students — continues to gain momentum in STEM fields.

NORD Drivesystems, for example, is investing heavily in training young talent and offers a wide range of entry opportunities into commercial, business, and technical fields. This includes actively participating in internships and college education programs, school factory tours and training fairs. Nord's flexible applications, diverse products, and its continuous technology push helps to engage interest from students seeking a potential manufacturing career path.

For Lenze, a total of 40 new trainees and students will start their professional careers throughout Europe in 2020. The company balances sound technical know-how and the correct handling of hardware and software just as much as team spirit and mutual respect. This year, 40 young people are eager to become part of the



Masks off only for a photo-op at a recent training course at the Rexnord Falk School.

international Lenze team and thus set the course for their professional future. “Vocational training is an important investment in the future—for Lenze as well as for the new colleagues themselves,” said Christian Wendler, CEO Lenze SE.

As an employer, Lenze focuses on innovative learning concepts, individual support, and traditional values such as trust, cooperation, and responsibility. Digitization and automation also play a prominent role at Lenze. Thus, central future topics such as predictive maintenance, digital twin or big data management are already being addressed today. This content is also reflected in the training content and ensures that the new trainees and students have a promising start to their careers.

In 2020, employees would also benefit from a better understanding of Industry 4.0, big data, the digital twin, etc. Preparing your workforce for these IIoT technologies is important today as shop floors transform into factories of the future. Why not take advantage of any downtime to get your workforce up to speed on the changing role of smart manufacturing in your plants?



A pre-pandemic photo of the Rexnord Falk School in Milwaukee, Wisconsin

The Training Continues

Schultz has spent many weeks on the Gear Talk blog (www.geartechnology.com/blog/) covering the importance of training and educating gear personnel.

“Once you really *know* your job you start to wonder about why things are being done in a certain way. Absent a good mentor, you need to do your own research on those topics using books, online resources, and, hopefully, high-quality continuing education. As your knowledge grows, you will start to think about that next step up the ladder,” Schultz said. “No one gets promoted for just doing their job. You can pay for lots of online training for the money you otherwise spend on recruitment fees. Spend time getting to know your team. Identify the training they need.

Sign them up for those classes and give them a chance to shine.”

Employee skill development can't stop during a pandemic. Companies *must* come up with new and innovative ways to bring new talent through the front door and keep the talent they already have. If this means spending more time in a Zoom meeting or wearing a mask during a live gearbox demonstration—so be it. The work never stops, it simply evolves over time. **PTE**

For more information:

AGMA
Phone: (703) 684-0211
www.agma.org

Lenze Americas
Phone: (508) 278-9100
www.lenze.com

NORD Gear Corporation
Phone: (888) 314-6673
www.nord.com

Rexnord Corporation
Phone: (414) 843-3000
www.rexnord.com

TPC Training
Phone: (847) 808-4000
www.tpctraining.com



AGMA offers a variety of online/in-person educational opportunities to enhance the skills of gear employees.

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