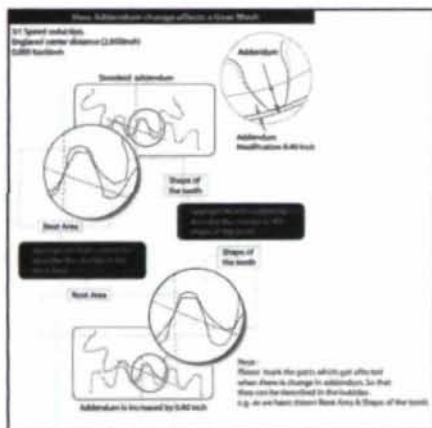


Welcome to our Software Bits page. Here we feature new software products for gear design, manufacturing and testing. To get more information on these items, please circle the Reader Service Number shown. Send your new product releases to: **Gear Technology, 1401 Lunt Avenue, Elk Grove Village, IL 60007, Fax: 847-437-6618.**



Online Gear Training from UTS

Universal Technical Systems of Rockford, IL, has introduced Web-based training for gear designers based on its popular line of gear design software and its basic and advanced gear training curriculum, which the company has used in its in-person gear training programs since 1985.

"What we have learned is that for people who have not worked with gears before, getting a good understanding of the fundamentals and developing meaningful insights into how various parameters impact the gear performance takes quite some time," says UTS president S.M. "Jack" Marathe. "That results in increased design time, and frequently the company is unable to come up with the best designs for their needs."

The online training begins with gear basics such as the involute curve, how

it's generated, and basic gear terminology. Students proceed through an examination of the interaction of such factors as base, pitch, outside and root diameters; line of center and line of action; pitch point and base pitch; addendum and dedendum; working and whole depth; pressure angle; clearance; and backlash.

At the advanced level, students work with actual design examples, such as an electric motor driving a fan and a turbine/alternator reduction gear.

The online gear models are interactive, with both static and animated graphics. The student is able to see immediately how changes in various parameters affect gear performance. "A person sitting at his terminal, wherever he is, can change one parameter and see the effects on the fly," says Marathe.

UTS will offer two courses—*Fundamentals of Gearing* and *Fundamentals of Plastic Gear Design*—on its Website in the first quarter of 2001.

Circle 321



New Gear Analysis Software Package

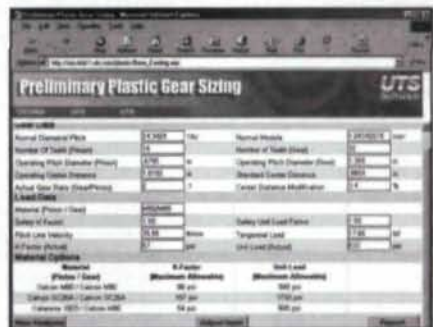
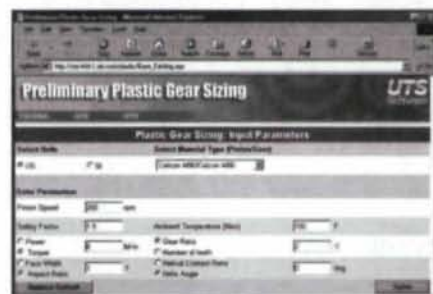
Manufactured Gear & Gage of Elgin, IL, announces the release of its new software package for gear measurement and process control. The software is designed to work with Manufactured Gear & Gage's high-speed automatic and bench-top composite double-flank gear roll testers.

The Windows-based software runs on a personal computer to provide a diagnostic interface to the data acquisition process. The software also includes a customizable database for user configuration of test data, part data, master gear and setting master data and parameters.

The Manufactured Gear & Gage software includes a variety of modules for center distance and lead/taper station tests. Results can be stored and analyzed for automatic calibration, master gear subtraction and statistical process control, including gage repeatability and reproducibility.

For more information about the new software, contact Manufactured Gear & Gage at (630) 377-2496 or send e-mail messages to mgg3@microthought.com.

Circle 322



Plastic Gear Design on the Web

Universal Technical Systems of Rockford, IL, has developed *Preliminary Plastic Gear Sizing*, a Web-based program for the preliminary design of plastic gears. The online tool was developed for Ticona, a manufacturer of plastic materials from Summit, NJ, and UFE, a plastic gear manufacturer in Stillwater, MN.

The application was designed for UFE and Ticona customers, who may not have the experience or software in-house to develop plastic gear designs without help. *Preliminary Plastic Gear Sizing* runs on an ordinary Web browser, without the need to download special software. The customer assumes control of the transaction and does the design over the Web, saving design time and lead time. The vendor saves cost and gets a more complete

customer design requirement right away.

The application asks the user to accept default data or enter data of his own for such parameters as pinion speed, torque, safety factor, gear ratio, helix angle and operating temperature.

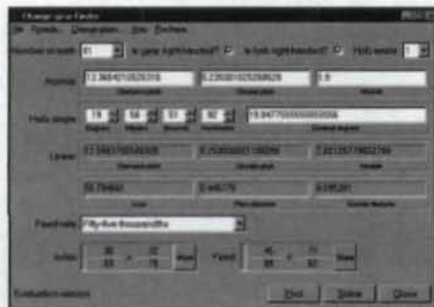
The online application takes the user's input data and performs calculations based on UTS software. UTS has leveraged two of its key technologies—TK Solver and RuleMaster, a rules engine for

the Web—in the development of the product. TK Solver is the environment in which the gear design model is run. RuleMaster is used to mount the model on the Web. The application uses formulas from UTS's gear design program 60-610, *Plastic Gear Geometry and Load Analysis*.

The preliminary design data are displayed in another browser screen. If the user chooses, the data can be packaged in

a separate report form that can be printed. The interface includes links to the Ticon, UFE and UTS Websites.

Circle 323



Change Gear Finder

Helixware Software of Savannah, GA, introduces its *Change Gear Finder* software, used for finding the index and feed gear trains needed to cut helical gears using the nondifferential method on both differential and nondifferential hobbing machines.

Change Gear Finder is a 32-bit program for Windows 95/98/NT and Windows 2000 that finds the most accurate change gears based on user input.

The user enters various information, such as the index and feed constants for the gear hobber, the hob's number of leads and the gear's normal pitch, helix angle and number of teeth. Then the program solves for the best combination of change gears based on the change gears available from the user's inventory.

According to Helixware, the software finds a solution in about a minute on Pentium II or faster machines.

Additional information and an evaluation version of the software are available at www.helixware.com.

Circle 324

Zontec Offers SPC Program for \$999

Zontec has a 32-bit, entry-level SPC program for \$999: *Synergy 2000 LE*. The program provides real-time operation on Windows 95, 98, and NT, as well as 2000-based personal computers and local area networks.

People can use *Synergy 2000 LE* to combine attribute, variable and pareto data

GEAR Burnishing

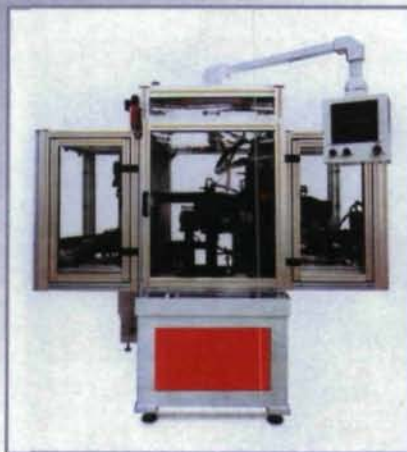
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For additional information on *Gear Burnishing* and/or *Functional Gear Inspection*, visit our website at: www.itwgears.com

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CIRCLE 116

in one databank and to contain processes with samples of up to 25. Also, they can trace using 12 ID fields and record corrective actions using two notes fields.

The program has screen displays that can be customized, can create reports with up to eight charts per page, can receive direct input from measurement devices, and has integrated messaging.

A demonstration program can be obtained by downloading it from Zontec's Website at www.zontec-spc.com or by phoning Zontec at (800) 955-0088 or (513) 648-0088.

Circle 325



New Software Feature Lets CMMs Intuitively Decide Desired Measurement

International Metrology Systems Inc. has a new software feature that lets a CMM intuitively decide desired measurement without operator input. A developer of CMMs and measuring software, International Metrology made available the *Smart Measure* feature in *Virtual DMIS* CMM software.

Built into the software with algorithms, the feature lets a user touch a part with the probe, and *Virtual DMIS* does the rest. *Smart Measure* is valid for point, line, plane, circle, cylinder, cone and sphere and is active on both manual and CNC CMMs.

Smart Measure enables prismatic features to be inspected without traditional personal-computer interaction. Also, when used on articulated arm CMMs, the feature makes it significantly easier to operate those devices, according to International Metrology.

For more information, contact Keith Mills, International Metrology Systems Inc., 37100 Plymouth Road, Livonia, MI

48150, Phone: (734) 591-3800, Fax: (734) 591-3850, E-mail: mills@dmis-cmm.com.

Circle 326

Software Accurately Simulates Resin Flow in a Mold, Companies Say

Composite Design Technologies Inc. and Liquid Process Performance Prediction Inc. announced they teamed up

to provide a solution for accurately simulating complex curvature parts using liquid composite manufacturing techniques.

Liquid composite molding (LCM) includes manufacturing processes that involve injection of resin into a mold cavity filled with fibrous reinforcement, eliminating prepreg tape manufacture and layup.

CDT and L3P's solution consists of two connected programs. *FiberSIM* is

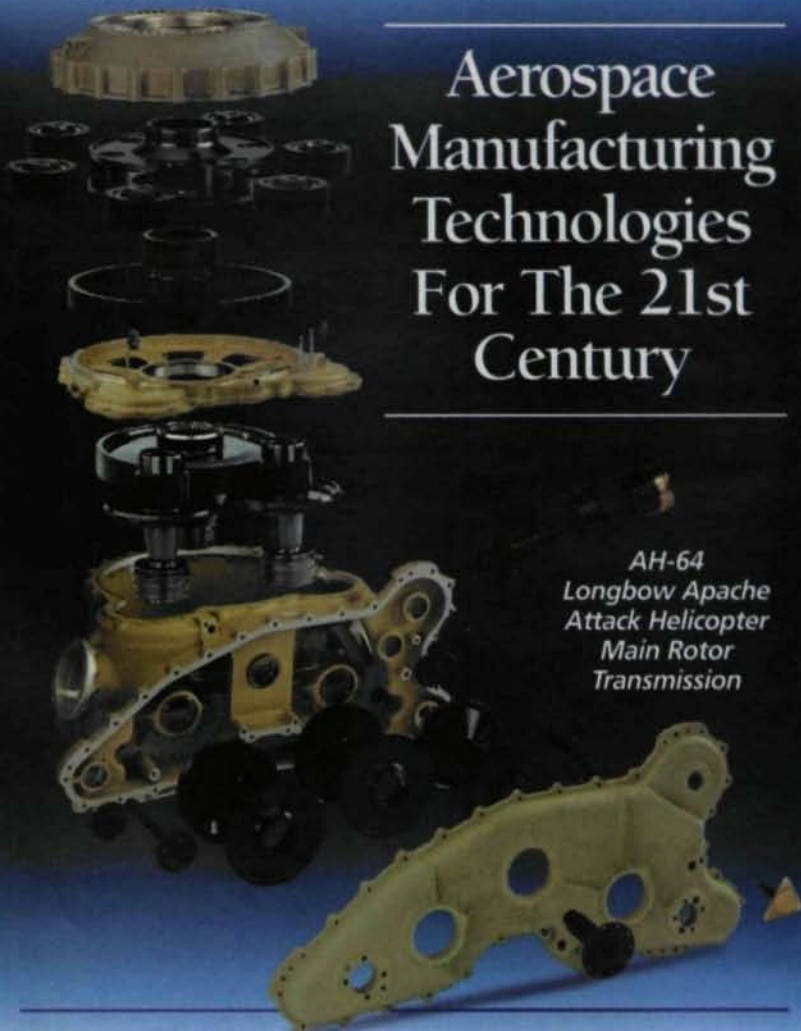


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CIRCLE 125

CDT's CAD integrated composite design software, and *LCMFLOT* is L3P's mold filling analysis software. According to the two companies, the programs are connected so companies using this composite manufacturing method can more accurately simulate the flow of resin through a mold without the expense and time involved in building and testing a prototype mold.

With information from *FiberSIM*, *LCMFLOT* simulates the mold filling

process more accurately today, the companies say, because porosity variations can now be taken into account. Besides calculating spatial variations in porosity, *LCMFLOT* was devised to integrate time variations in porosity because of compressing of the reinforcement, opening of the mold during injection, and other factors. *LCMFLOT* also takes into account resin race tracking around the mold edges, variations of resin viscosity with

time and temperature, resin chemical reaction, and curing.

CDT develops software solutions for composite design and manufacturing. L3P provides commercial software used in composite manufacturing to simulate resin injection through fibrous reinforcements.

For more information about *FiberSIM*, contact Composite Design Technologies Inc. at (781) 290-0506 ext. 300 or visit the company's Website at www.cdt.com. For more information about *LCMFLOT*, call (514) 843-1761 or visit the company's Website at www.l3p.qc.ca.

Circle 327

NEW! NOW YOU HAVE ANOTHER CHOICE...

and it's made in AMERICA!



A/W Systems Co. announces that it is now a manufacturing source of spiral gear roughing and finishing cutters and bodies.

We also can manufacture new spiral cutter bodies in diameters of 5" through 12" at present.

A/W can also supply roughing and finishing cutters for most 5"-12" diameter bodies.

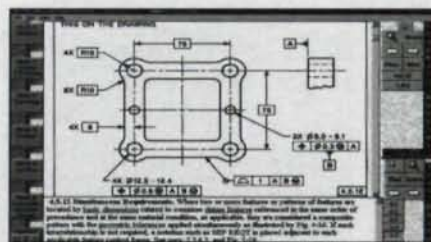
Whether it's service or manufacturing, consider us as an alternative source for cutters and bodies.

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CIRCLE 111



Tec-Ease Provides Electronic Version of ASME's GD&T Standard

Tec-Ease Inc. announced the release of an electronic version of the ASME Y14.5M-1994 Standard on geometric dimensioning and tolerancing (GD&T): *Y14.5M-1994 Standard-Ease*.

A provider of educational materials about GD&T, Tec-Ease describes the version as user-friendly, letting a person quickly find the text and graphics that fit his applications. Using a mouse, he can click on a figure referenced in a paragraph or a paragraph referenced in a figure. The desired figure or paragraph will appear in a separate viewing window.

The version includes other features:

- hotlinks of GD&T terms, paragraphs and figures;
- full search capability, which finds every occurrence of a term;
- split screen of text and graphics;
- pop-up definitions;
- an index;
- ability to zoom in on a graphic to see greater detail;
- previous and next arrows available on graphics and text.

A demonstration program can be downloaded from Tec-Ease's Website at www.tec-ease.com. For more information, call (888) 832-3273.

Circle 328

SolidWorks Has New Product for Making 3D, Interactive Websites

SolidWorks Corp. announced Sept. 25 a new product for creating Web pages with 3D, interactive content: *3D Instant Website*. A provider of 3D CAD software, SolidWorks described the new product as allowing "users to publish interactive 3D images with a single mouse click."

The product has templates for publishing SolidWorks designs. The customizable templates and style sheets use standard XML and XSL conventions to define the Web pages' information and presentation. Also, *3D Instant Website* supports several standard, 3D interactive viewing formats, including eDrawings, CATWeb, Metastream and RealityWave.

For more information and a product demonstration, call SolidWorks at (800) 693-9000 in America or (978) 371-5000 outside America. For an online demonstration, people can visit SolidWorks' Website at www.solidworks.com.

Circle 329

Tell Us What You Think . . .

If you found this column of interest and/or useful, please circle 330.

If you did not care for this column, circle 331.

If you would like to respond to this or any other article in this edition of *Gear Technology*, please fax your response to the attention of Randy Stott, managing editor, at 847-437-6618 or send e-mail messages to people@geartechnology.com.



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Website: <http://www.lecount.com> (includes product specifications)

CIRCLE 170

CORRECTION

The following companies' contact information did not appear correctly in our annual buyers guide, which appeared in the November/December 2000 issue. We apologize for any inconvenience to the companies and their customers. The corrected addresses appear below.

Acme Gear Company
 130 West Forest Avenue
 P.O. Box 779
 Englewood, NJ 07631
 Ph: (201) 568-2245
 Fax: (201) 568-0282
james@acmegear.com
www.acmegear.com

ACR Industries, Inc.
 15375 Twenty-Three Mile Rd.
 Macomb, MI 48042
 Ph: (810) 781-2800
 Fax: (810) 781-0152
www.acrind.com

Becker Gearmeisters Inc.
 235 Harrison Ave.
 Miller Place, NY 11764
 Ph: (800) 423-2537
 or (631) 821-3967
 Fax: (631) 821-3870
EGB4Gears@aol.com

The Cincinnati Gear Company
 5657 Wooster Pike
 Cincinnati, OH 45227
 Ph: (513) 271-7700
 Fax: (513) 271-0049
sales@cintgear.com

Clarke Gear Co.
 8058 Lankershim Blvd.
 North Hollywood, CA 91605
 Ph: (818) 768-0690
 Fax: (818) 767-5577
clarkegear@earthlink.net
www.clarkegear.com

Commercial Steel Treating Corp.
 31440 Stephenson Hwy.
 Madison Heights, MI 48071
 Ph: (248) 588-3300

Fax: (248) 588-3534
www.commercialsteel.com

D.A. Stuart Company
 4580 Weaver Parkway
 Warrenville, IL 60555
 Ph: (630) 393-0833
 Fax: (630) 393-0834
www.d-a-stuart.com

Engineered Heat Treat, Inc.
 31271 Stephenson Hwy.
 Madison Heights, MI 48071
 Ph: (248) 588-5141
 Fax: (248) 588-6533
www.ehtinc.com

Fairfield Manufacturing Co. Inc.
 U.S. 52 South
 P.O. Box 7940
 Lafayette, IN 47903-7940
 Ph: (765) 772-4000
 Fax: (765) 772-4001
sales@fairfieldmfg.com
www.fairfieldmfg.com

General Broach & Engineering, Inc.
 50325 Patricia
 Chesterfield, MI 48051
 Ph: (810) 598-7594
 Fax: (810) 949-8007
tkillop@wei-machinetool.com
www.generalbroach.com

Laser Machining, Inc.
 500 Laser Drive
 Somerset, WI 54025
 Ph: (715) 247-3285
 Fax: (715) 247-5650
tbenson@lasermachining.com
www.lasermachining.com

LMT-Fette
 18013 Cleveland Pkwy, Suite 180
 Cleveland, OH 44135
 Ph: (800) 225-0852
 or (216) 377-6130
 Fax: (216) 377-0787
lmfette@lmfette.com
www.lmfette.com

OSU-GearLab
 The Ohio State University
 206 West 18th Avenue
 Columbus, Ohio 43210
 Ph: (614) 292-5860
 Fax: (614) 292-3163
houser4@osu.edu

Precipart Corp.
 90 Finn Court
 Farmingdale, NY 11735
 Ph: (631) 694-3100
 Fax: (631) 694-4016
sales@precipart.com
www.precipart.com

Precision Gears, Inc.
 N13 W24705 Bluemound Rd.
 Pewaukee, WI 53072
 Ph: (262) 542-4261
 Fax: (262) 542-1592
pgears@excpc.com
www.precisiongears.com

Spline Gauges Ltd.
 Piccadilly Kingsbury Near
 Tamworth, Staffs. B78 2ER
 England
 Ph: (44) 1827-872771
 Fax: (44) 1827-874128
www.splinegauges.co.uk