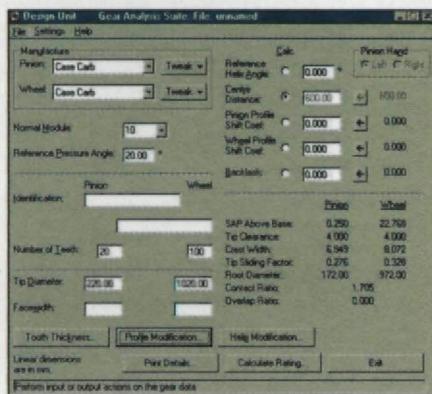


# Software Bits

## Our New Products Special Edition



### Gear Design and Details Software

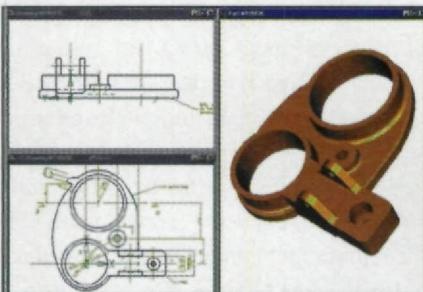
The Newcastle design unit (DU)/Gear Research Foundation's (GRF) Gear Analysis Suite has been created to provide designers and specifiers of spur and helical involute gearing the latest in gear design standards. The Gear Rating module, used for the calculation of gear tooth contact and bending stresses in accordance with the procedures specified in BS/ISO 6336, was tested by the ISO 6336 Project Committee of the GRF. It is based on the format used for the popular DU436 software suite. The Gear Details module, for drawing data in accordance with the British Gear Association's Codes of Practice, is an improved and updated version of a widely used software package. Both sections are Y2K compliant. Together, the two modules allow:

- Gear design data to be saved and retrieved.
- Standard gear design and manufacturing information to be saved and retrieved.
- Input data that causes out of limits outputs to be flagged.
- Easy access to a QuickHelp menu at every stage, and on each data entry box and button.
- Specification of internal gear wheels and epicyclic (planetary) configurations.

- Specification of profile modifications such as crowning and tip/root relief.
- Detailed data output.

These modules are available separately or together. GRF and BGA members are eligible for substantial discounts when purchasing the Ratings section. For further information on the Gear Rating module and Gear Details module, log on to [www.staff.ncl.ac.uk/e.j.myers](http://www.staff.ncl.ac.uk/e.j.myers).

Circle 300



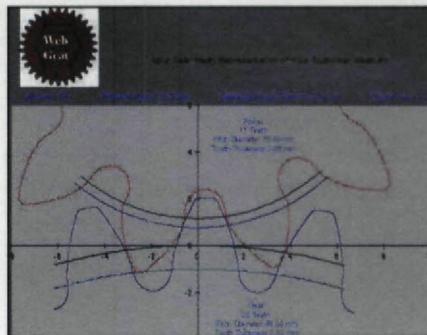
### 3D Designs for 2D AutoCAD Users with Helix Capture

Microcadam, Inc., announces the release of Helix Capture, a new option for Helix Design System mainstream CAD/CAM software that enables design engineers to create solid models based on 2D AutoCAD drawings. "Helix Capture is the fastest way to bring 2D users into the world of solid modeling with all its downstream benefits," said David J. Arens, director of product marketing for Microcadam. The vast majority of CAD data is stored in 2D AutoCAD drawing archives, representing a huge investment in time and resources. "Helix Capture releases this stored equity, allowing AutoCAD users to produce 3D designs in as little as five minutes."

Starting with the AutoCAD program, users are simply prompted to select views for 3D generation. These views are

automatically transferred into Helix Modeling, which creates solid models using powerful AutoSOLID™ and Gen3D™ functions. AutoSOLID uses intelligent algorithms to build models from geometric information in the 2D drawing. If cross-view inconsistencies are detected, Gen3D takes over to complete the model. In some cases, a model can be completed manually. "It's a win-win for the 2D user," says Arens. "Helix Capture not only creates a solid model for you, but also checks drawing accuracy. For additional information log on to [www.helixcapture.com](http://www.helixcapture.com).

Circle 301

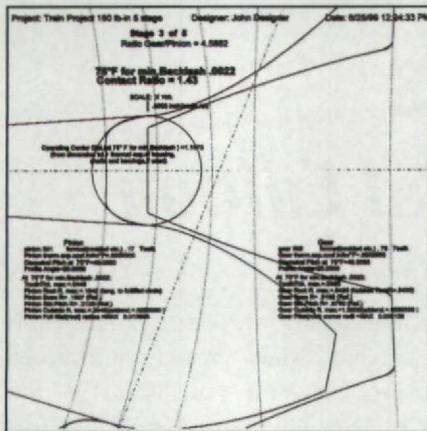


### Web Gear

Web Gear is a gear design software package for use with Microsoft Excel that offers full geometric mesh analysis, plotted mesh views, quick design analysis and immediate calculation results, easy variable input and hard copy output of your data. Three packages are available: spur gears, helical meshes (crossed axis helical and worm gears) and internal meshes.

For more information and demos contact [rei@golden.net](mailto:rei@golden.net) or log on to <http://homepages.msn.com/corporateway/webgearsoftware/webgear.htm>.

Circle 302



### GearDyn: Gear Dynamic Analysis Program

Originally developed by NASA, GearDyn, from Partners in Scientific Computing, Inc., is a powerful analytical tool that can aid you in designing gears with lower dynamic loads and reduced noise without requiring the purchase of either software or hardware. All you need is a pentium class PC and access to the Internet.

GearDyn can determine detailed geometry, dynamic loads, Hertz and bending stresses and surface damage factors. The software can also analyze a variety of epicyclic and single mesh systems with spur or helical gear teeth including external, internal, buttress tooth forms and high contact ratio gears. GearDyn allows the designer to input various types and amounts of profile modifications, crowning and tooth spacing errors and determines the effect they have on the dynamic loads. GearDyn also gives you options for flexible carrier, flexible ring gear, floating sun gear, a natural frequency option and a finite element compliance analysis for helical gear teeth. It also provides for synchronous or phased meshing for epicyclic or star systems.

GearDyn generates tabular data and plots for dynamic loads for each mesh in the system. You will be able to generate dynamic Hertz and bending stresses, flash temperature, pressure velocity, natural frequencies and spectral analysis. Log on to [www.pscico.com](http://www.pscico.com) for more information.

**Circle 303**



### GearTrax

Camnetics' GearTrax for SolidWorks 99 allows you to create all types of gears and sprockets inside SolidWorks. Your gears will be created to industry standards with true involute tooth profiles. Some of the features available include worm, bevel, internal and external spur and helical gears; timing belt/V-belt pulleys and chain sprockets; precise specification of backlash or tooth clearance, auto-draw hubs, bores and keyseats; set screw holes and customized diametral pitch and pressure angle. GearTrax's three modeling options are: create a tooth profile using straight line segments, create a three-segment tooth for "Quick Draws," and create a true involute tooth profile.

Log on to [www.camnetics.com](http://www.camnetics.com) for more information, to download the full version for a free trial, or to request a CD that also contains drawings of racks, belts and tapered bushings with nearly 500 different bore configurations.

**Circle 304**

### cymex Software Sizes and Selects Servo Motors and Gear Reducers

cymex (Cyber Motion Explorer) software from alpha gear drives, Inc., simplifies servo system design and analysis, allowing engineers to more accurately design and specify high-performance systems in less time and at a lower cost.

cymex has a Windows-type graphical interface that guides the user through the program in a simple, intuitive manner, allowing the user to define path/time, allowing the user to define path/time, path/speed and time/speed in any combi-

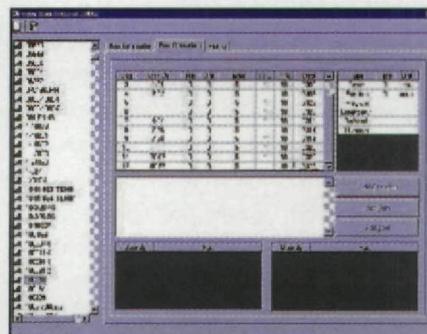
nation or sequence. Using this data, the software calculates the complete motion profile of the system including component inertia based on object type, dimensions and distance from the axis of rotation.

cymex also incorporates the gearbox into the servo system calculations. All the specifications needed to select a suitable motor and gear reducer for an application are stored in the database. Tables and graphics in the program help the user select a gear reducer with the correct properties.

Once the optimum design has been finalized, cymex will list geometrically equivalent motors and automatically select the correct adapter plate and bushing. It can also print out relevant data sheets, output a DXF file that can be imported into drawings and generate orders with the correct part numbers and order codes. If a gear reducer from alpha gear drives is selected, cymex can also print maintenance, mounting and operating information. After calculations are performed, the system configuration can be stored for use in later projects.

For more information on cymex (Cyber Motion Explorer) servo design software, call alpha at 847-439-0700.

**Circle 305**



### ShopWerks—From Purchase Order to Packing Slip

Team Research has introduced ShopWerks, a complete manufacturing management system that runs production and order processing more efficiently, while maximizing net profit and return-on-investment with real-time, activity-based cost accounting.

ShopWerks determines profitability job-by-job, eliminating guesswork by

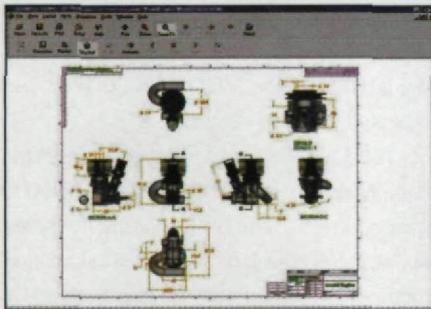
## SOFTWARE BITS

calculating the actual cost of materials, machines and labor. It automatically tracks labor, machine and material use, rewarding productive workers for multi-tasking by automatically splitting work time between the jobs, painting a more precise picture of real labor costs. The software also complements accurate cost accounting and automated data recording by providing optimized, load-balanced production scheduling with a visual, calendar-type interface. The program offers four configurable build strategies: by sales order, economical build quantity, calendar period or number of days.

ShopWerks also streamlines inter-departmental communication. Online, up-to-date information, such as production scheduling, is freely available on the network. Also, ShopWerks provides sales staff with the timely, accurate information they need to close sales and groom customers for repeat sales. Sales people can now pull up orders, look at parts and view the production schedule right from their desktops.

For additional information about ShopWerks, call (800) 619-2055 or visit their Web site at [www.teamresearch.com](http://www.teamresearch.com).

Circle 306



### SolidWorks Announces eDrawings

eDrawings is a new type of compressed electronic drawing file that enables users to create, view, send and receive mechanical design drawings via e-mail. Each eDrawings file includes a self-contained viewer, enabling recipients to start using the drawing information immediately. The eDrawings Publisher is available for existing users of SolidWorks, AutoCAD and any other CAD system outputting a DXF or DWG file.



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CIRCLE 162

eDrawings break down the communication, software incompatibility and drawing interpretation barriers by allowing engineers and designers to easily create compressed electronic drawings and e-mail them to anyone. In addition, the small file size enables fast delivery of eDrawings.

For information, contact SolidWorks 800-693-9000 or visit their Web site at [www.solidworks.com](http://www.solidworks.com).

Circle 307

## Easy 5

Easy 5 is a family of software tools used to model, simulate and analyze dynamic systems containing hydraulic, pneumatic, mechanical, thermal, electrical and digital subsystems. Developed by Boeing, Easy 5 is a commercial product sold and used world wide.

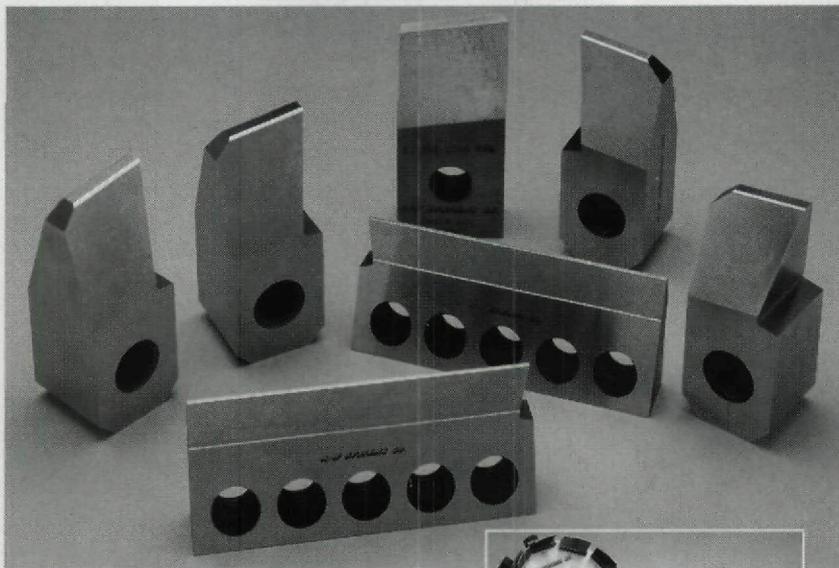
Easy 5 software includes a complete set of control system modeling, analysis and design features. Systems are quickly mod-

eled with functional blocks (summers, dividers, wave generators, integrators, etc.) and/or with predefined components representing physical elements (pumps, gears, engines, etc.), as well as user-defined FORTRAN or C. If required, a virtual prototype of an entire system can be constructed via links to other CAE software used for multi-body and structural dynamics, controls, controller code generation, integrated circuit design and others. Source code is automatically generated to support real-time simulation. For more information, log on to [www.boeing.com/assocproducts/easy5](http://www.boeing.com/assocproducts/easy5).

Circle 308

# 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.

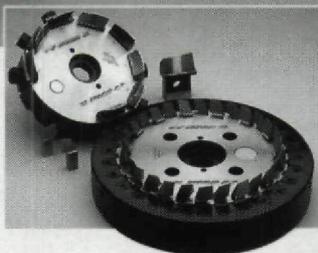
We also can manufacture new spiral cutter bodies in diameters of 5" through 12" at present.

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.

You'll be in for a pleasant surprise.

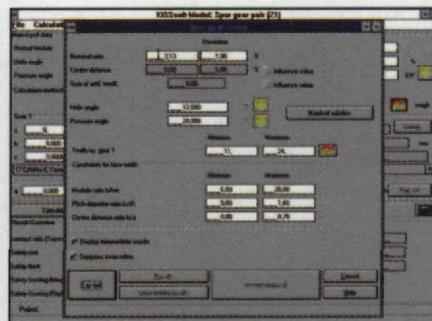
**NEW! Straight Bevel Cutters.**



# A/W Systems CO.

Royal Oak, Michigan 48067  
Tel: (248) 544-3852 • Fax: (248) 544-3922

CIRCLE 103



## KISSsoft

KISSsoft has been developed for engineers and design engineers. It is interactive software for the layout, calculation and optimizing of machine and joining elements, shafts, axles, bearings, gears and gearwheels. The software calculates according to standards (ISO, DIN, VDI, AGMA, etc.) and accepted standard literature.

The software was developed to meet the data retention standards of the ISO-9000 quality system and it is constantly being updated and adjusted to the latest calculation methods. Designed with the user in mind by Kissling, a Swiss precision gear manufacturer, KISSsoft is easy to use with just a few hours of training. Also, it has many interfaces to CAD and NC programs, making it an important part of the CAD-CAE-CAM chain. For more information contact KISSsoft at +41-1-308-97-77 or send e-mail to [info@KISSsoft.ch](mailto:info@KISSsoft.ch).

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