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- Wire Wisdom - Jacketing Material for Cable Assemblies
- Classified Ads - Help Wanted, Excess Inventory & Used Machinery



Omni Aerospace

Providing Innovative Products and Quality Services

Fred Noer

Omni Aerospace owner and president John O'Neill has given himself and everyone at his company what he terms "our big, hairy, ambitious goal" - increase sales in five years from the current \$12 million to \$30 million. Considering the miserable U.S. economy, the bold challenge seems to be a difficult proposition.

Then again, maybe not. The firm is positioned to "easily hit our goal and blow through it," O'Neill said. "We have a lot of product developments in the queue, including products with our name on them that will protect our profits and growth.

We don't want to be a me-too company."

O'Neill, 57, helped found Omni Aerospace in 1994 with three other men, but he bought them out in 1998. The company, which always has been located in Wichita, Kan., manufactures custom wiring harnesses, cable assemblies, mechanical assemblies, power-control systems and parts for aircraft and emergency responder and military ground vehicles.

For O'Neill's company to be a leader instead of a follower, he relies on a combination of factors, but three stand out, beginning with an emphasis on engineering. Rightly so, since O'Neill has a degree in mechanical engineering from

Lean for the Administrative Function

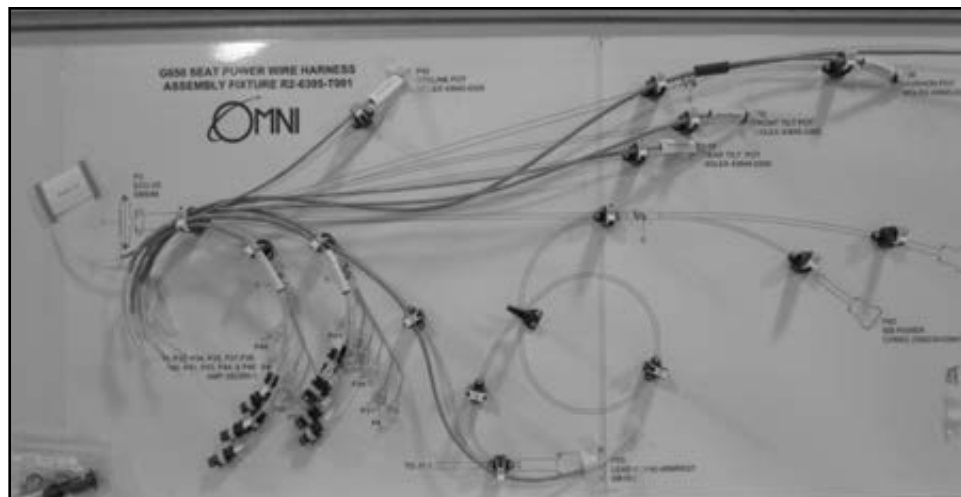
Joe Tito
Wiring Harness News

Larry Rubrich, President of WCM Associates, gave a valuable presentation on Value Stream Mapping at the Wire Processing Expo in Milwaukee last May. WCM Associates is a consulting firm advising companies on Lean Theory implementation. During his presentation, Mr. Rubrich touched on the importance of bringing Lean Theory into the front office. *Wiring Harness News* recently spent some time with Mr. Rubrich to further explore the often ignored necessity of applying Lean to

the administrative function.

Rubrich indicated that 80% to 90% of companies that bring Lean to the manufacturing floor ignore the administrative function. "We've taught them that. We call it Lean Manufacturing, so people think it only applies to manufacturing," he said. He furthered that the mistake most companies make is viewing Lean as a set of improvement tools instead of a mindset for running the business. "This is why, at the beginning of the Lean journey, companies need to learn and do Lean Policy Deployment. LPD is a combination of all the planning, budgeting, and

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Omni's electrical assembly division produces 85 percent harnesses and 15 percent cables that range between a simple coax wire and diode assembly to a harness with 500 circuits.

the University of Kansas, and he heads Omni's engineering department. It has six engineers and will add three more in the next 18 months.

"Our trademark saying is 'We design and provide innovative product solutions,'" O'Neill said. "We design many products, and 80 percent of what is built here is to our drawings. The biggest

change we have seen is the amount of engineering customers have done outside. Companies want to outsource it more and more.

"What we like best is business that is highly engineered and products that are more and more sophisticated," O'Neill

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Randy Olsen Receives "Bud & Gus" Award



Lyle Fanning, WHMA Chairman (left) presented Randy Olsen of Squires Electronics with the "Bud & Gus" award. Randy received the award at the Wiring Harness Manufacturer's Association 2011 Conference and Trade Show held in San Diego, California.

The recipient of this year's Bud and Gus Award for "going the extra mile" is Randy Olsen of Squires Electronics. This highly prestigious award is presented to the WHMA member who has gone "above and beyond" the call of volunteerism in their efforts and contributions to WHMA and the Wiring Harness, Electronic Cable Assembly, and Cordset (WHECAC) Industry.

The originators of the award, Fred Knaack, retired publisher of *Wiring Harness News*, and Dennis Melugin of Lamcor named the award in memory of their fathers—Bud Melugin and Gus Knaack.

Randy Olson started his career with

Squires Electronics, Inc. in 1980. At that time, WHMA was not yet in existence. In fact, a lot of the companies that make up WHMA today may not have been in existence. Thru many years of discussions and meeting with Squires customers and vendors, Randy has been able to forge numerous long lasting relationships within our industry and, like most of you, as the price of copper, silver, and oil continue going up, Randy is losing more hair.

Randy has served as a director of

Continued on page 8



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INSIDE

SEPTEMBER/OCTOBER
2011

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Omni Aerospace has always been located in Wichita, Kansas and manufactures custom wiring harnesses, cable assemblies, mechanical assemblies, power-control systems and parts for aircraft and emergency responder and military ground vehicles.

1 Lean for the Administrative Function

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1 Bud & Gus Award

Randy Olsen of Squires Electronics was awarded the Bud & Gus Award at the Spring WHMA Conference held in San Diego, California.

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CAMI Research Relocates to Larger Facility



CAMI Research's new facility in Acton, Massachusetts.

To handle its rapid growth, CAMI Research acquired a 41,314 square foot building in Acton, Mass. Christopher E Strangio, company president and founder announced that CAMI Research will occupy part of the building and rent the remaining 21,000 square feet.

Currently CAMI Research occupies a 4,500 sq. ft. facility in Acton. The new facility located at 42 Nagog Park, will enable CAMI to handle increased production and will accommodate the engineering, manufacturing, sales, and support staff.


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The move is expected to be completed by October 31, 2011.

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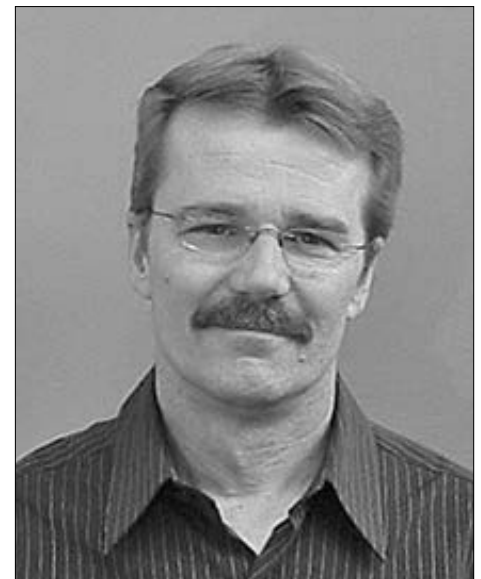
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Len's Skillet: Lessons Learned on a 6 Month Sabbatical

"It's not what you did yesterday that matters. It's what you do tomorrow that matters."

By Paul Hogendoorn



Paul Hogendoorn, OES Inc.

There's a small greasy spoon in a small port town on Georgian Bay, a block from the town dock. It's a great place for breakfast, especially after a night spent on the boat. Over the years, I've noticed that the waitresses are all 30 to 40, thin, tattooed, and looking like that they have had some tough years. Many of them are naturally beautiful though, and despite the evidence of "living hard", there seems to be an emerging joy; a new sparkle in their eyes; a steely resolve to live the next 10 years better than the previous 10 years. Maybe it's all my imagination, but that's how I see it and interpret what I see.

The restaurant is plastered with pictures of staff, of family, of regular cus-

tomers - of people special to the owners. In my mind, I imagine that the owners are older - late 50's or 60's - with a soft spot for women that need a new start, new hope.

So today, at breakfast, we had a waitress that we have never had before, and she fit the same pattern: natural beauty, no make-up, some evidence of living a hard life, and a tattoo. The tattoo was a text, written in Arabic, on the inside of her right arm. I asked her what it said, and she told me: "It's not what you did yesterday that matters. It's what you do

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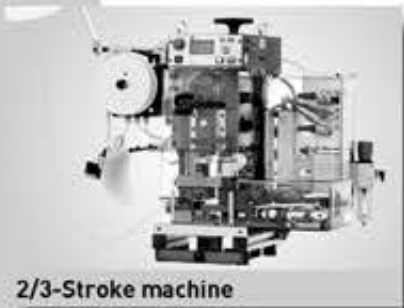
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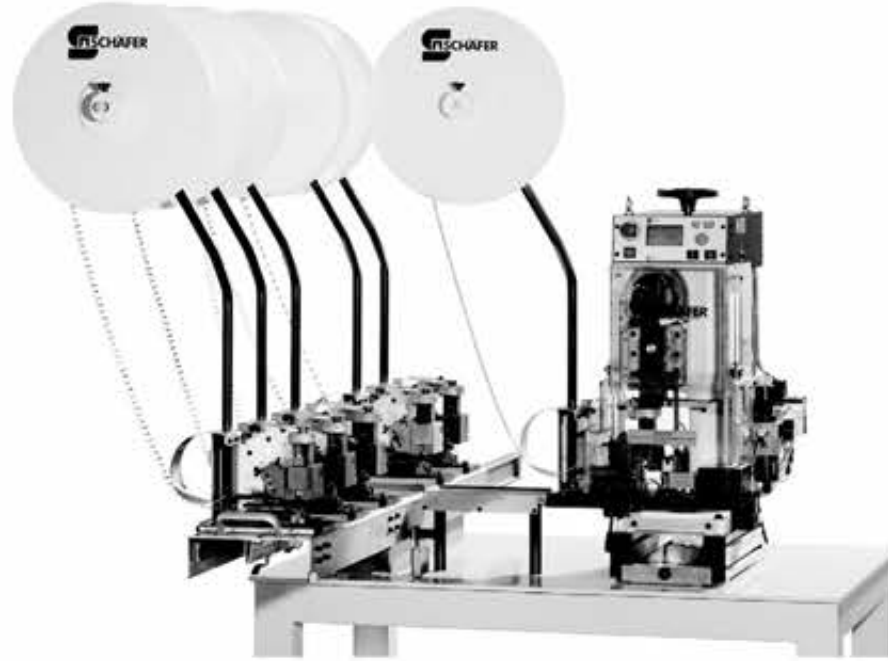
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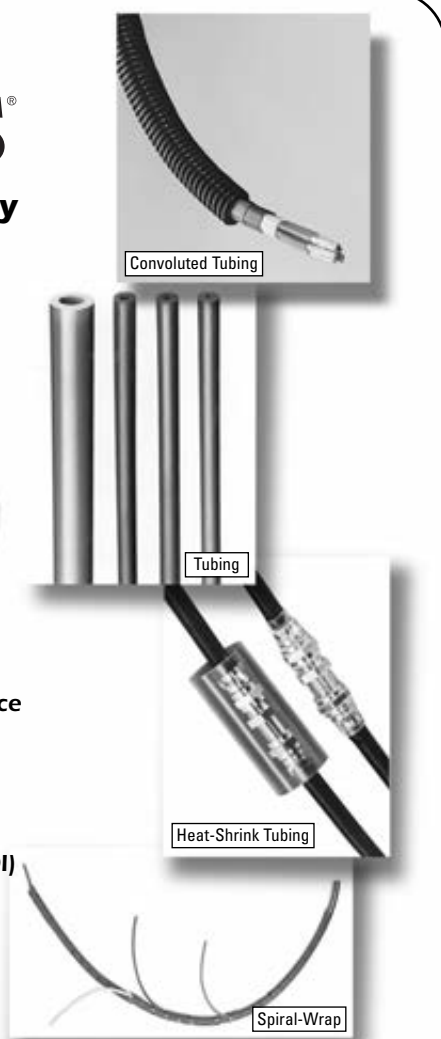
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Len's Skillet: Lessons Learned on a 6 Month Sabbatical

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tomorrow that matters." I asked her "what about "today?", and she said "today I rest, to get ready for tomorrow."

In some ways, I am like that waitress, resting, getting ready for tomorrow. I am just beginning the second half of a six month sabbatical. I am weary from the last 30 years, and as I have recently discovered, I too have a few scars from the toil. The wounds have to heal, and healing takes time, rest, and reflection. As good as I feel about what I accomplished the last 30 years, that doesn't matter as much as what I do in the next five years.

The past, as they say, is history. All the effort up to now simply sets up the present. The next few years set up the future. Although I am often one that advocates looking to the past, looking to the future is more important and critical, especially today when the challenges seem larger, and drastic change is more constant. Planning and strategizing is critical; it cannot change your past, or your present, but it does affect your future. But, before I can plan, or even hope and dream, I have to rest.

Without a "pause" by removing yourself from the day to day action, it's hard to do an honest review of what took you to the place that you are at now, assess the challenges, skills, talents and opportunities before you, and to begin to imagine what it will take to

get to where you want to be in the future. Whether it's a couple weeks, or six months, depends on you and your circumstances. How long have you been battling? How big are the challenges? How much time can you afford to stay on the sidelines? And most importantly, how healthy are your personal motivations to continue working hard?

Len's Skillet, my favorite breakfast spot in small town Ontario. Maybe it's not the place I imagine it to be, but I like thinking of it that way. I like the thought of second chances, and of people giving other people the chance to start again. The world can be a good place, filled with good people. It's not all just misery, mistakes and hardship. There are second chances, and people to help along the way. If there wasn't hardship, there'd be no need for generosity. If there wasn't pain, there would be no need for compassion. Compassion and generosity are two of the things that make us human, "created in God's image", as our western society's Judeo-Christian heritage teaches. When we stop striving to make a difference in our lives, or our companies or careers for that matter, we stop being "human". Most leaders that leave a positive legacy are driven and motivated "to make a difference" in the world that they live in, and that attitude, more than any other popular attitude or teaching of the day, is what has made North America the best place in the world to live.

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What you did yesterday does in fact matter. It's what brought you to this point today. But, what you do tomorrow matters even more, because that is what can change the course of your life, and your company's future too. And as my waitress reminded me this morning, rest

can be a critical bridge between yesterday and tomorrow.

Paul Hogendoorn cofounded OES and OES-A. He is a founding member and past chair of the London Region Manufacturing Council and can be reached at phogendoorn@oes-inc.com

NEWS PLUGS

Schleuniger to Exhibit at the 2011 Assembly & Automation Technology Expo

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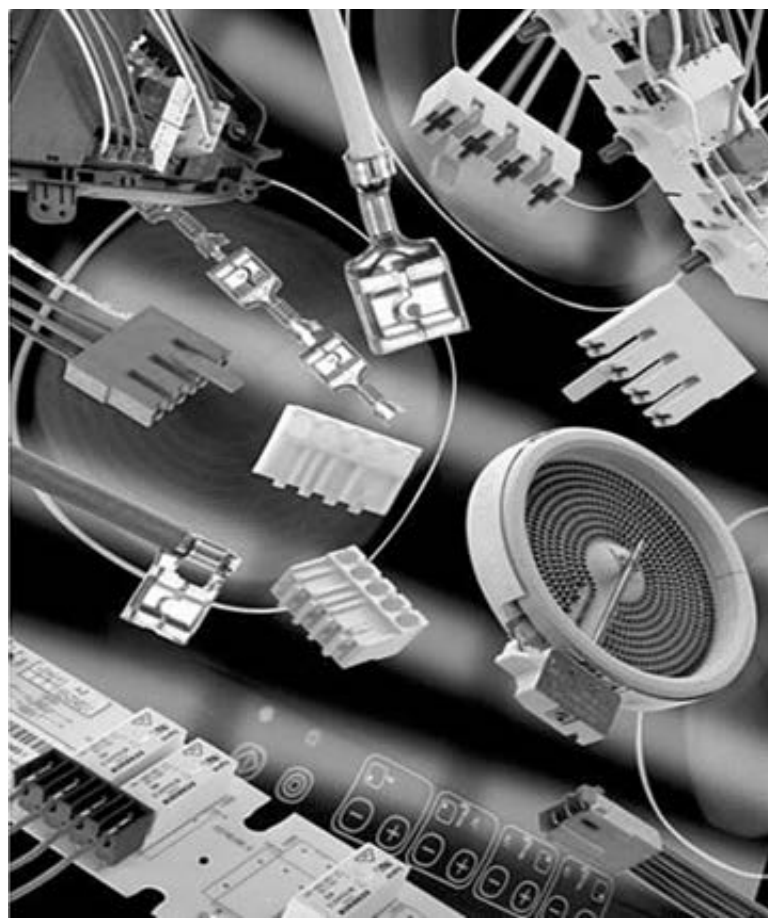
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“Bud & Gus” Award

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WHMA and for the last 3 years has been the association’s treasurer.

Randy is fortunate to have grown up less than 10 miles from Squires location, and still has many friends and family in the area.

Oregon certainly provides plenty of opportunities for bike riding and backpacking, both of which Randy does whenever he gets the chance. And one can never be

around Randy for very long without either seeing by his attire, or listening for more than a minute or two, that he has a passion for the Oregon Ducks! Doesn’t matter if its baseball, basketball or The National Championship Game of the 2010 season, Randy will be quacking wherever he might be! GO DUCKS!!!

Congratulations Randy!

NEWS PLUGS

New Deutsch Industrial Catalog

LADD Industries Inc., the exclusive authorized US distributor for Deutsch Industrial environmentally sealed electrical connectors for critical applications and harsh environments, announces the release of an all-new comprehensive Deutsch Industrial catalog.

Featuring over 150 pages of series overviews, how-to instructions and technical specifications, the new catalog provides in-depth information about Deutsch Industrial connectors, contacts, tools and accessories, as well as LADD value-added products and services.

“We created our new catalog to be an easy-to-use reference source designed to

familiarize new users with Deutsch Industrial products.

We also developed the catalog with current Deutsch Industrial users in mind and provided detailed product information that they will find helpful,” said LADD Industries’ Marketing Manager, Leslie Alderman. “With so many different types of Deutsch Industrial electrical connectors available, this catalog delivers the information that design engineers need to select the right type of connectors for their critical applications that must stand up to harsh conditions.”

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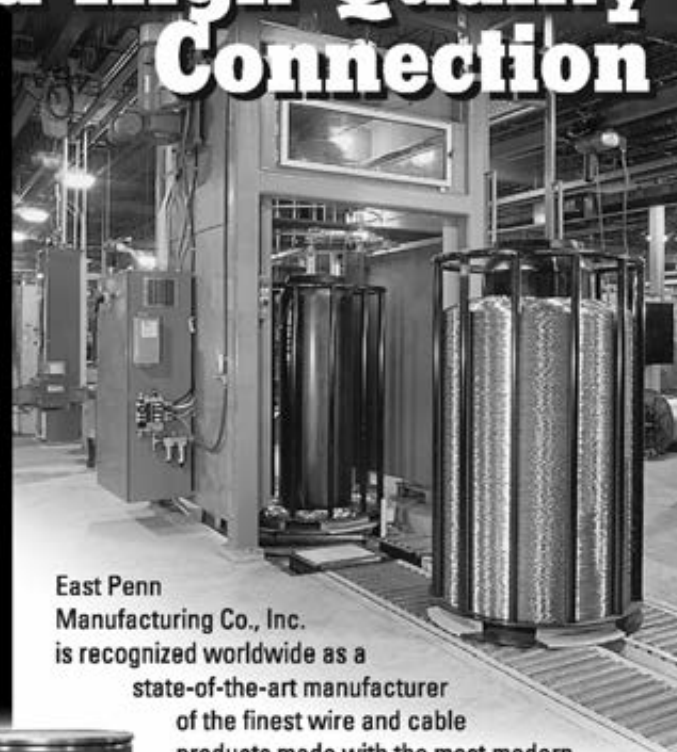
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state-of-the-art manufacturer of the finest wire and cable products made with the most modern equipment. Our products meet rigid quality and performance standards such as Underwriters Laboratories (UL), Canadian Standards Association (CSA), Society of Automotive Engineers (SAE), and RoHS compliance.

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Lean for the Administrative Function

Continued from page 1

strategic processes that link all Lean activities to achieving the organizations goals," Rubrich explained. By not linking organizational goals to Lean activities, he argued, Lean can never be used to the fullest extent.

When instructing a company's leadership team on LPD, Rubrich and his associates advise that deployment occurs in the office and administrative areas simultaneously with manufacturing. To emphasize the importance of Lean in the office, he stresses to his customers that if simultaneous deployment is impossible, administrative areas need to go first. "Additionally, if the administrative implementation is going to include 5S activities, we require the Leadership Team to do this with their areas first," he said. Rubrich was very clear about the absolute requirement for management to lead by example for successful Lean implementation.

The conversation then turned to the differences in implementing Lean in administration versus manufacturing. Rubrich noted that the resistance in manufacturing tends to come from middle management and supervisors; not the shop floor. "These people are used to being cross trained to run different

equipment and do different operations, so there tends to be more teamwork and less departmentalization," he cited. "When you cross into the office, you have little cross training, strong departmentalization, very visible walls, and less visible barriers to teamwork." He described the tremendous amount of resistance that can be met when asking a person who has done accounts payable for 20 years to join an order entry cell, do credit checks, or set production schedules. The key, he contended, is communicating to the employee that their importance to the organization moving forward lies in how many different things they can do.

Rubrich asserted that the biggest breakthrough in establishing a Lean Culture is getting everyone involved in system thinking. He presses his customers to engage in Lean thinking from the time the customer places an order to the time they have received that order. He contended that the departmentalized structure typified by most companies inhibits system thinking. Departments, with their traditional barriers, often make decisions that are good for themselves, but reduce overall system effi-

Continued on page 10

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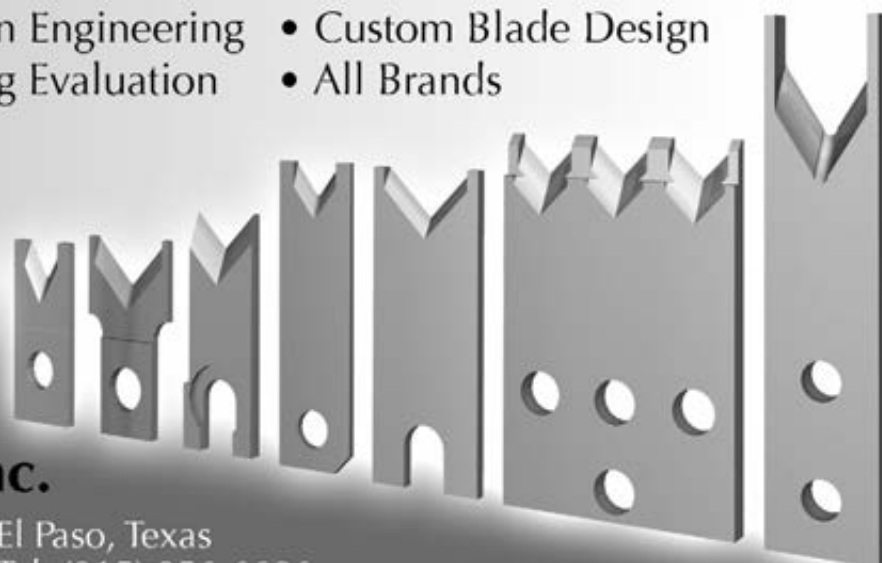
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Lean for the Administrative Function

Continued from page 9

ciency, he noted. Taking an information product, such as an order, across departmental lines promotes inefficiencies. In the lean model he teaches, an accounts payable clerk might be taken out of their traditional role and placed in a cell that is doing order entry. In such a case, that employee might be dotted-lined to the Accounting Manager, but solid lined to whoever is running the order entry cell.

When asked if this new structure causes ambiguity, Rubrich stated "only the first time." He feels strongly that although change is difficult, once employees see that an order entry process that previously took two weeks now takes three hours, they will begin to see the importance of the Lean cells. Ambiguities fade and barriers disappear.

An essential starting point for success, Rubrich described, is to start with volunteers. The volunteers, he noted, are usually very excited about working in a cell. When it becomes evident how well the cell works, and how those employees are enjoying their new responsibilities, buy-in transcends to others. He cautioned that if you put resistant people in office cells, their goal will be project failure. "The good news is," he encouraged, "six

months after starting, people are going to come up to you and say how great the work flow is, how customers are happier, and those frowns will turn into smiles."

The tools used in Lean for administration are virtually the same as those for manufacturing, says Rubrich. The exceptions he noted were TPM (Total Productive Maintenance) and setup reduction, as less equipment is used in the office. "You use the tools in different levels and degrees, though. Cells and 5S apply 100% to administration, along with team building and error proofing." Lean Culture, Rubrich advised, "says no improvement is made anywhere unless it positively impacts the system efficiency."

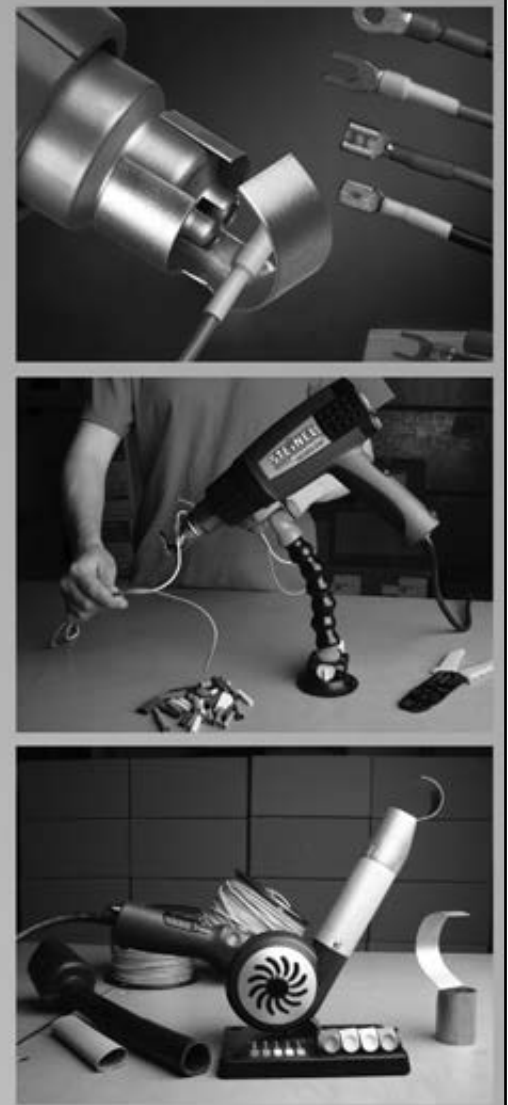
As with manufacturing, however, Rubrich cautions about focusing too much on the tools "instead of focusing on where they need to be as an organization and using the tools a way of helping to achieve those goals." This, he asserted, is the main reason that 70% to 75% of companies using lean in America are making little or no progress. Rubrich has seen many companies do random or "drive-by" improvements. The problem he cited with this approach is these improvements never hit the bottom line. "Six months to a year later, these companies say 'we spend all of this money on train-



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ing and Kaizen events and what did it get us? That's why it is so important to link the lean improvements to overall goals."

Lean culture has to apply to the way administrative employees are compensated, Rubrich affirmed. He explained the way a company deploys its reward systems must be linked to Lean. "You have to be aware of the cultural damage you do when you promote or give raises to people who don't support Lean."

In concluding his remarks on Lean for administration, Rubrich had the following to say:

What's unique about Lean in the office is that even though you get the highest level of frustration implementing Lean, there is the highest level of satisfaction. You get the highest level of appreciation of what Lean does and how people were able to grow. Now

instead of a person only knowing accounts payable, they know production control and purchasing. People appreciate it more because they begin to see that Lean has made them a more valuable employee.

About WCM Associates, LLC

WCM Associates advises organizations across many industries on becoming globally competitive through the implementation of Lean as a business system. They have created a Certified Lean Facilitator Program, along with books on Lean development to help clients develop their own in-house Lean experts.

Larry Rubrich is the President of WCM Associates and can be reached at 260-637-8064 or rubrich@wcmfg.com. Visit their website at wcmfg.com.



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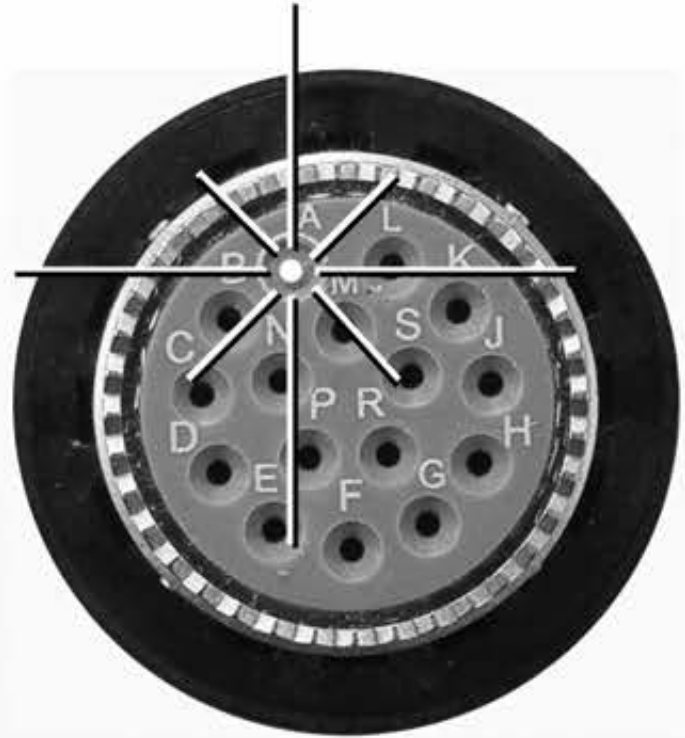
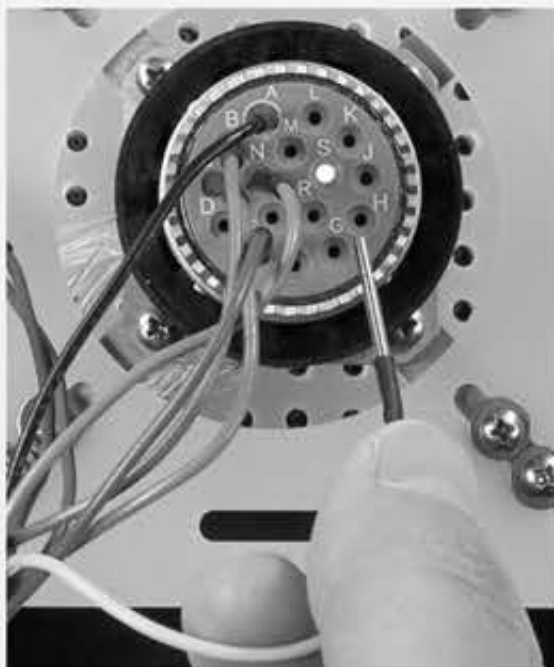
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NEWS PLUGS continued**New Lightweight Backshell Provides Solutions**

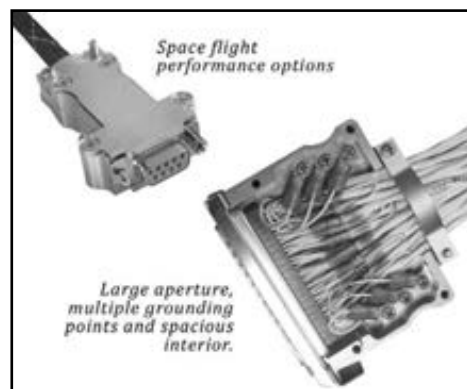
For decades, D-subminiature connectors have been the interconnect of choice in many electronic systems. Over time, these connectors have evolved to meet changing requirements in a wide variety of applications.

In many applications, EMI/RFI shielded backshell offerings have not kept pace with requirements. These types of back shells tend to be large, bulky, and heavy. This is a problem in applications where weight reduction is a growing concern, such as the aerospace industry.

Many EMI/RFI hoods have a limited cable opening size. This creates a problem when high-density contact configurations are used. As an example, shell size 6 D-subminiature connectors offer 104 contacts. Backshells may not have a large enough cable opening to fully support the number of conductors that must be brought into the back shell. This is especially true when the cable includes twisted, shielded pairs that must be terminated inside the backshell. The industry needed an improved EMI/RFI backshell.

To meet these challenges, Positronic Industries developed a new generation back shell for D-subminiature connectors. The "A" series back shell combines a number of features that meet the needs of many of today's most challenging require-

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"A" Series back shell features include:

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- A larger aperture and strain relief which is appropriate for high density wire bundles using twisted, shielded pairs. Cable clamps can be "spooned" to provide strain relief for smaller wire bundles. Wide form factor allows the user to easily meet bend radius requirements.

- Up to six grounding points (depending on the size of the backshell), which are sized and shaped for use with 0.250 inch diameter ring terminals. Multiple ring terminals can be stacked under each grounding screw. Ground screw holes are pre-tapped for ease of installation. Ground screw holes are tapped through the body of the backshell, providing internal or external grounding options.

- Spacious interior is shaped to facilitate wire routing inside the backshell. There are no internal obstructions toward the rear of the backshell which might prohibit wire routing or limit connector options.

- The backshell offers a thumb grip to facilitate installation and removal in tight spaces.

- Back shells are offered with jackscrews as well as a quick disconnect locking systems. Options allow locking for

backshell to board, backshell to panel and back shell to back shell.

- Lightweight back shells are available with various performance levels including options for use in space flight applications.

For more information about Positronic's line of lightweight aluminum cable adapters, visit http://www.connect-positronic.com/product_list/family/6/D-subminiature or visit www.connect-positronic.com.

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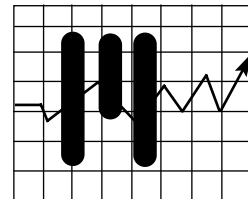
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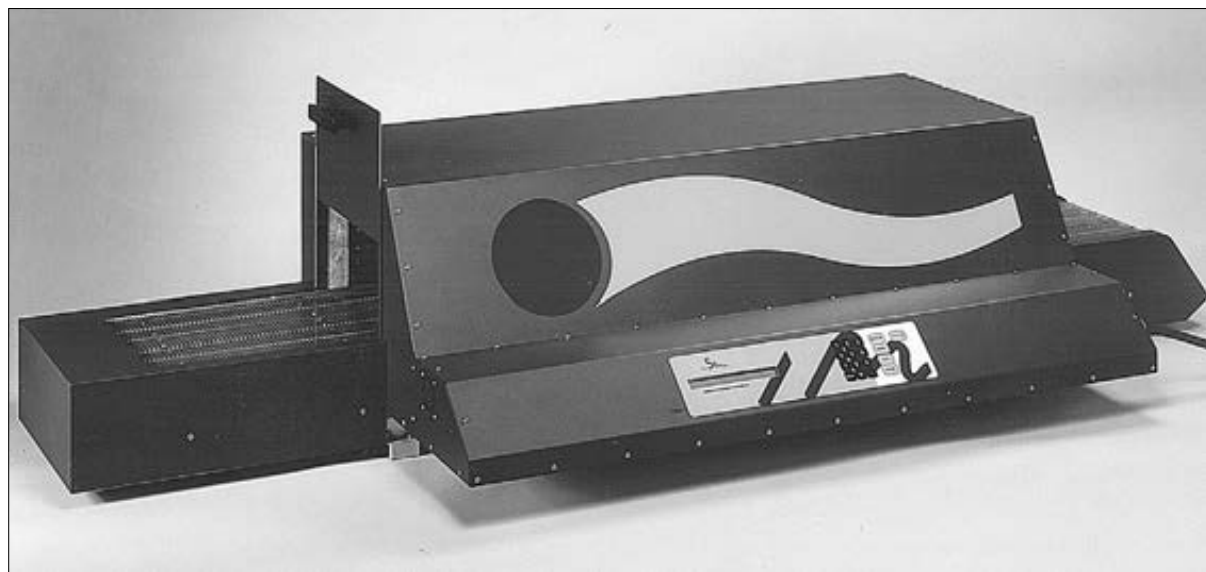
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NEWS PLUGS *continued*



Eraser Model DV1 Twin Wheel Stripper

The D series wheel strippers from Eraser cover many applications for stripping magnet, enamel, and film insulated wires. Round, rectangular, and square section wires with insulations such as Formvar, ML, Dayglass, Isonel, Polythermaleze, and many more can be stripped. The DV1 has an integral dust collection system to trap insulation residue as it is removed from the wires during stripping.

FybRglass® or wire brush wheels may be utilized with the DV1 to strip wires. FybRglass® wheels rotate at

high speed and generate frictional heat that softens the insulation on the wire and the "nap" of the wheel wipes it away. A clean polished surface is produced with no risk of nicking. Wire brushes remove insulation by the cutting action of their many bristles. These are more abrasive than FybRglass® wheels and are recommended for larger wires where a roughened surface aids subsequent



Eraser Model DV1 Twin Wheel Stripper

soldering. Wire brush wheels will also remove glass and fabric insulations. The selection of the correct grade of stripping wheel is critical.

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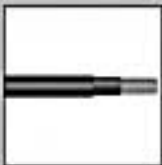
Our decision to become ISO 9001:2008 certified is not only proactive in anticipating the demands of our current and future customers, but further demonstrates our commitment to providing quality products and service to all our customers.

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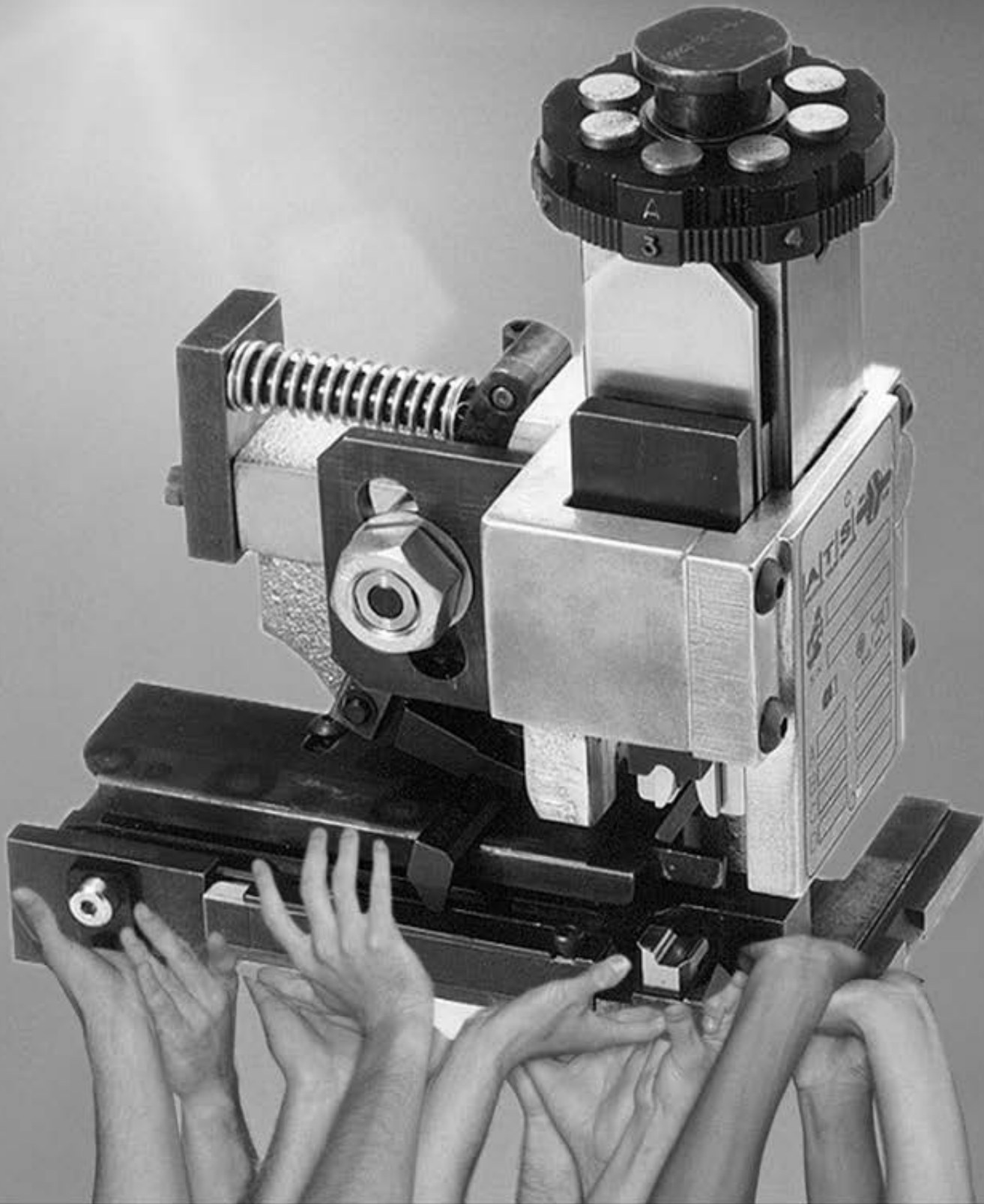
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NEWS PLUGS continued

Denny McGuirk Resigns as President of IPC, Takes Position with SEMI

After 12 years as the president and CEO of IPC — Association Connecting Electronics Industries®, Dennis “Denny” P. McGuirk has resigned to accept a new position as president and CEO of SEMI, a global industry association serving the manufacturing supply chains for the microelectronic, display and photovoltaic industries. His last day at IPC will be November 1.

“Denny has been a tremendous leader and a great friend to our industry. I am sure I speak for the

entire board in saying that he will be sadly missed. IPC is in a great position thanks to his hard work and dedication,” says Robert Ferguson, chairman of the IPC Board of Directors.

In his tenure at IPC, McGuirk steered the organization through two difficult recessions and reshaped IPC into a global organization. When he joined IPC in 2000, the organization had 2,500 members with less than 25 percent located outside of the United States. Under his leadership, IPC’s reach and services significantly expanded onto new continents. Today, IPC has more than 3,000 members of which 38 percent are located outside the United States, and its programs and services are delivered globally. IPC maintains offices in the United States, Stockholm, Moscow, Bangalore, Shanghai, Shenzhen, Suzhou and Beijing. The organization

has 75 authorized training centers in the United States, Asia and Europe and has published 105 translated standards.

McGuirk says, “I have thoroughly enjoyed serving as president and CEO of IPC during this exciting and challenging time. The involvement and interaction with the board of directors, our staff and most importantly, our members around the world has been personally and professionally rewarding for me. I am confident the organization will go on to even greater success in the future and I look forward to following the progress of the organization and all of the friends I’ve made along the way.”

Ferguson will chair a search committee that will conduct a global search for McGuirk’s replacement.

Company Recognized for its Telematics Product Line

Laird Technologies, Inc., a global leader in the design and supply of customized performance-critical components and systems for advanced electronics and wireless products, announced that it has been recognized by the Chrysler Group LLC as Electrical Supplier of the Year for its telematics product line.

Chrysler Group recognized 11 suppliers for their outstanding performance on June 28, 2011, during its 2011 Annual Supplier Meeting and Awards Ceremony at the historic Fox Theatre in Detroit, Michigan. Approximately 1,500 attendees, including top executives from Chrysler Group, Fiat Group Purchasing and Chrysler Group’s global supply base were present for the event — the first of its kind since the Company and Fiat announced their strategic global alliance in 2009.

“We are extremely pleased and honored to be selected as Chrysler’s 2011 Electrical Supplier of the Year. Over the past 10 years, we’ve worked hard to build a strong partnership with Chrysler, so it’s very rewarding to see these efforts recognized,” said Randy Andreen, Laird Technologies General Manager, Telematics & Wireless M2M. “Chrysler’s turnaround in the last two years has been remarkable. We are grateful to be part of the extended team that helped bring to market some really exciting vehicles, and look forward to Chrysler’s continued success.”

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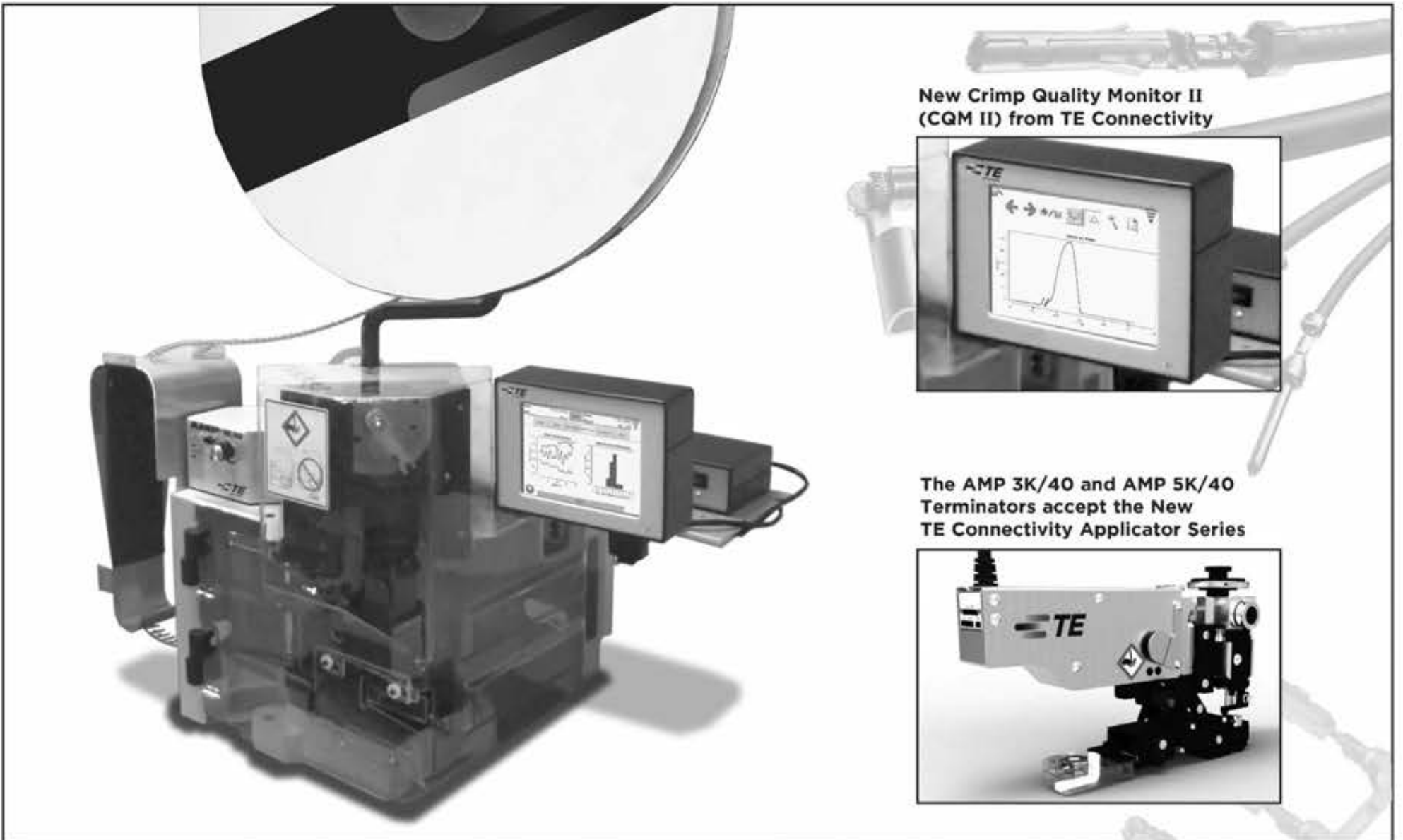
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The AMP 3K/40 Terminator was designed with speed, convenience, and ease of use in mind. The design accepts the new TE Applicator Series, and has the crimp force capacity of 3,000 pounds and is capable of crimping 32-14 AWG wire. A CE Version of the AMP 3K/40 & 5K/40 is available and a stripping module can be added as an option for all versions.

An AMP 5K/40 Terminator is available with a 5,000 pound crimp force and 32-10 AWG wire crimping capability.

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NEWS PLUGS *continued*

Continued from page 16

Award recipients were selected based on an evaluation of each company's External Balanced Scorecard, a rating system that evaluates supplier performance in areas such as quality, delivery, cost, warranty and partnership, and input from Chrysler Group senior leadership.

"Collaboration with our supply base has been a critical component in our ability to bring 16 new or significantly refreshed vehicles to the marketplace in the past year. Without the strong support of our supplier

partners, we would not have been able to accomplish such a feat in such a short amount of time," said Dan Knott, Chrysler Group Senior Vice President of Purchasing and Supplier Quality and host for the ceremony.

Laird Technologies designs and manufactures customized, performance-critical products for wireless and other advanced electronics applications.

Custom products are supplied to all sectors of the electronics industry including the handset, telecommunications, data transfer and information technology, automotive, aerospace, defense, consumer, medical, mining, railroad and industrial markets.

For additional information, visit <http://www.lairdtech.com>



KTK Connectors with Downhole MicroD Pigtails

New Downhole Pigtails on Amphenol KTK Connectors Eliminate Need to Wire and Solder

Amphenol Industrial, a global leader in interconnect systems, has enhanced its KTK connectors with downhole microD pigtails. These new pigtails, manufactured according to customer specification and direction, eliminate the costly and tedious task of wiring and soldering Amphenol's KTKs to microDs, saving both time and money.

Featuring a bi-directional psi of 20,000, Amphenol's KTK high pressure downhole connectors for oil and gas downhole tools offer a high pressure and high temperature sealed connection standard in the downhole industry.

The enhanced connectors are ideal for the roughest applications that require low maintenance, extreme accuracy and dependability while remaining flexible and limiting the risks associated with in-hole loss.

Fully compatible with Kintec and GE Tensor layouts, Amphenol's well-constructed KTK connectors are ideal for use in MWD (measurement while drilling) systems, LWD (logging while drilling) tools and downhole batteries.

Because cable assemblies provide service companies crucial information including the type and severity of downhole vibration, drillstring rotational speed and smoothness, downhole temperature and drill bit torque; durable and consistent connectors that can withstand unforgiving conditions are essential in oil and gas drilling.

Amphenol's KTK downhole connector product line uses machined glass-filled epoxy, a strong thermoset plastic that retains its mechanical properties in extremely high temperatures. The KTK downhole connectors are available in a medium temperature version that withstands temperatures to 170°C and a

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THE MOLEX TAPE-TERMINAL CRIMP MODULE AND TAPE TERMINAL PRESS REDUCE TOOLING INVESTMENTS, LOWER SETUP TIMES AND ALLOW YOU MORE PRODUCTION FLEXIBILITY.

Features and Benefits of the TM-4000™ Universal Crimp Press Include:

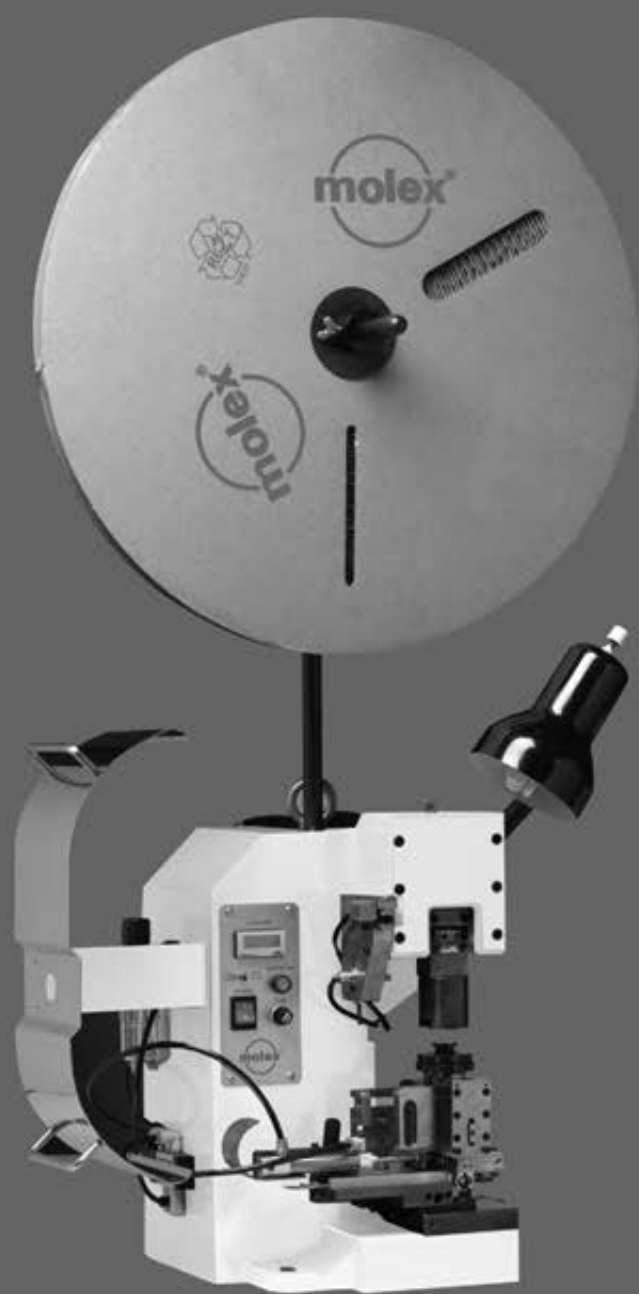
- Provides 3.5 tons (31 kN) of crimp force
- Accepts any Molex applicator and most industry-standard applicators
- Can be used with Molex Tape Module (64016-2000)
- Meets OSHA safety and noise requirements and is CE approved
- Two safety interlock switches attached to the guard prevent press from cycling if guard is open during operation

The **Tape-Terminal Crimp Module** efficiently crimps terminals to wires from 4 to 30 AWG with minimal setup adjustments and achieves optimal cycle rates for mid-to-high volume, semi-automatic operations.

Features and Benefits of the Tape Terminal Crimp Module Include:

- Quick-change modular tooling accepts all existing ATP-201 and ATP-301 die sets
- Used in Molex TM-3000™ and TM-4000™ presses, which accept Molex applicators and most industry standard applicators
- Independent adjustment of insulation crimp height provides flexibility for various wire insulation thicknesses
- Quick tool changeover from die set to die set for increased productivity

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The **TM-4000™ Universal Crimp Press** is an industry-standard, bench-top press that terminates large lug products on Mylar tape up to 4 AWG insulated and some 2 AWG uninsulated, resulting in lower overall applied costs. The TM-4000™ has electrical requirements of 240 AC 50/60Hz.

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Continued on page 20

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Error-proof the insertion of wires/pins into a connector

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- Verify contacts are "locked-in" with force sensing
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Transparency setting lets you "see through" wires and fingers

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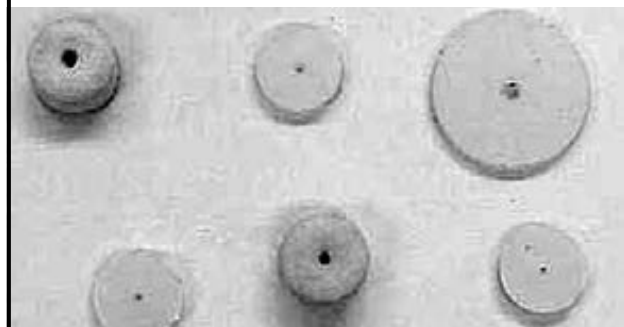
Gauge shows push/pull force

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NEWS PLUGS continued



Continued from page 18

high temperature version that withstands up to 200°C.

To further extend the component's life and prolong mating cycles, the connectors are designed with gold contacts, a Viton O-ring and solder pot connections.

For further information, please visit www.amphenol-industrial.com or e-mail subsurface@amphenol-aio.com

L-com 19" Rack Panels with CAT5e Right-Angle, Keystone-Mount Couplers Offer True 90° Exit from Cable Entry Point

L-com, Inc., a leader in the manufacture of wired and wireless connectivity products, now carries 19" rack panels with right-angle CAT5e keystone-mount couplers. The new rack panels allow users to patch Category 5e cables at 90° angles.

"Saving category 5e cables from sharp bends is the goal of every IT professional who must maintain a wiring closet," said Manuel Martinez, product manager. "I wanted to provide a solution to this problem in a completed rack panel that could easily be installed in any 19-inch rack."

L-com will be carrying the new rack panels in four versions:

- 1 rack unit (1U) unshielded version with 16 couplers
- 2U unshielded version with 32 couplers
- 1U shielded version with 16 couplers and
- 2U shielded version with 32 couplers

For more information about this release, please contact:

Dave Fallon, Internet Marketing Strategist
978-682-6936 x1450, newsletters@L-com.com

L-com, offers a wide range of solutions for the electronics and data communications industries. The

company's product portfolio includes cable assemblies, connectors, adapters, computer networking components, and custom products, as well as the Hyper-link line of wireless products. Trusted for more than 25 years, L-com, Inc. is headquartered in North Andover, Mass., and is ISO 9001: 2008-certified. For more information, please visit: <http://www.L-com.com/>

Kitting Cable Components Saves Space & Time

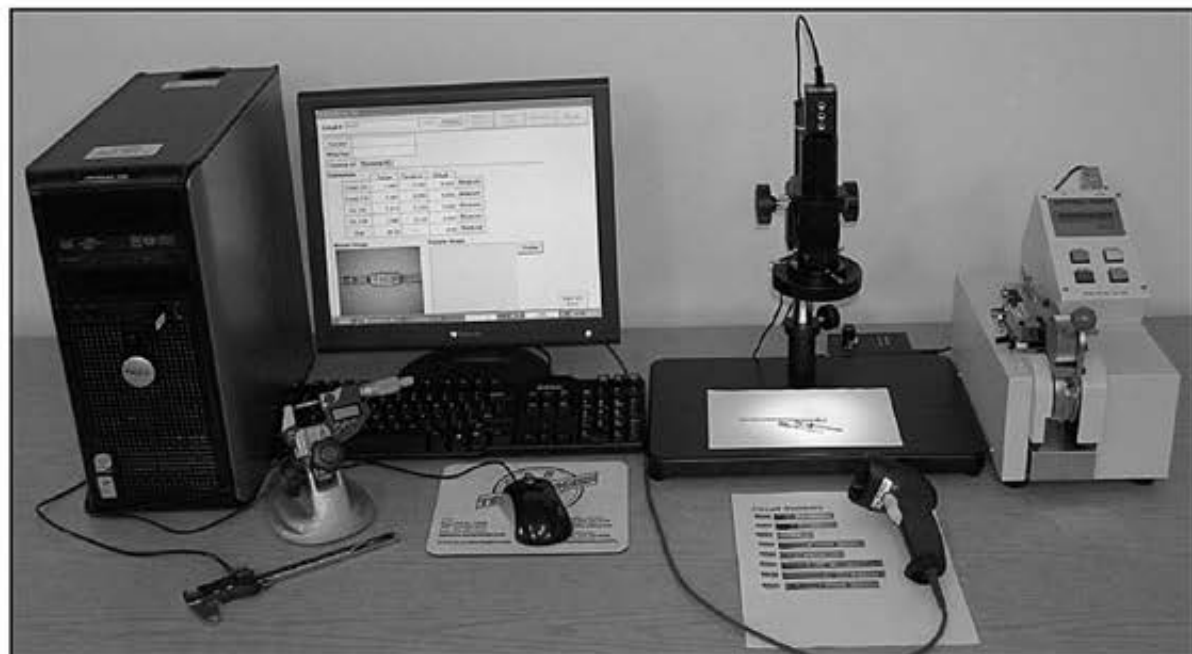
Hendrix Wire & Cable, a provider of high quality overhead and underground power distribution products, announces the offering of a Kitting Solution for Spacer Cable Systems.

Hendrix designs and manufactures complete Spacer Cable Systems including cable, hardware, spacers, and other accessory products. A complete stock of component parts is maintained at the factory. Using Hendrix's Kitting Solution, components necessary to complete the Spacer Cable System can be purchased together, assembled at the Hendrix manufacturing plant, and then shipped directly to a job site or a temporary staging area. Since cables are cut to length for the job, scrap and installation time can both be reduced. There are no short lengths left on the reels at the end of the job, less set ups on the reel trailers, and less splicing. In addition, warehousing costs can be eliminated along with the time to kit the material at the utilities warehouse.

For more information please visit www.hendrix-wc.com or contact overhead@hendrix-wc.com.

Crimp Inspection System

PC based system with bar code scanner, micrometer, caliper, pull tester, microscope and USB camera



First the operator scans the circuit number, his worker number and the machine number. The target crimp specs and master image are recovered from the hard drive and displayed. Using current production samples the operator measures the conductor and insulation crimp heights and widths. The operator measures the pull force. The operator captures an image, either cross section or terminal image. When finished the data is stored in Excel.

Set Up Monitor ver 1.07

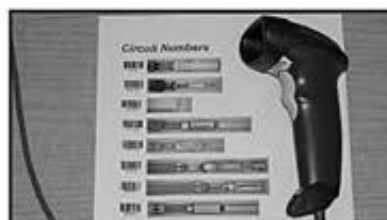
Circuit # WXYZ [Hold] [Release] [Report - Chart] [Report - Sdata] [Master Maintenance] [Quit]

Terminal #1	Terminal #2
Dimension	
Cond. CH	0.033 0.002 0.034 Measure
Cond. CW	0.070 0.002 0.071 Measure
Ins. CH	0.080 0.005 0.080 Measure
Ins. CW	0.088 0.005 0.088 Measure
Pull	20.00 --- 31.18 Measure

Master Image [Shutter]

Sample Image [Shutter]

Save into Excel



Scan the circuit number, operator number and machine number



Measure conductor and insulation crimp heights



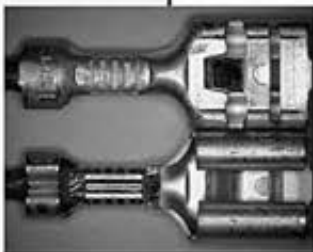
Measure conductor and insulation crimp widths



Measure pull force



Capture cross section image or terminal image



cross section images or terminal images can be captured

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Model 1700



Model 2000

Pneumatic feed mini-style applicators can accommodate terminals with center to center distances up to 2 inches.

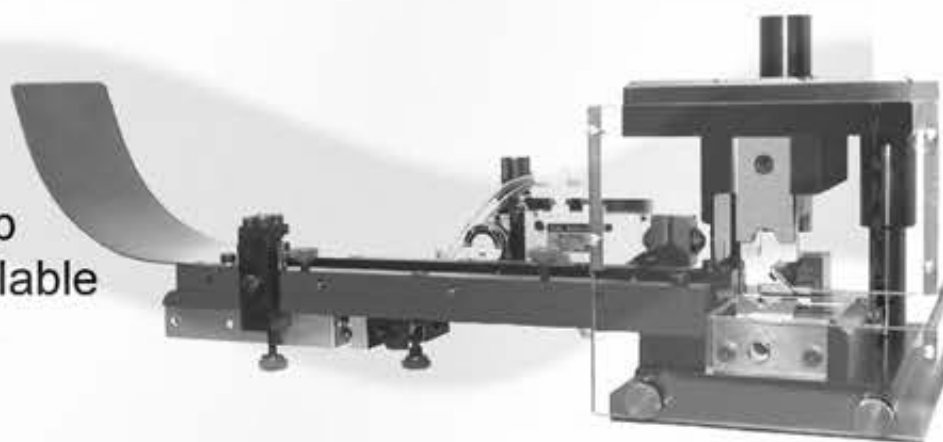


Model 1500



Model 2100

DSA applicators are designed for large terminals manufactured from heavy gage material with center to center distances up to 3 inches and widths to 3.5 inches. Available in left to right, right to left and rear feed configurations.



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NEWS PLUGS *continued*

NEMA Leads Electric Vehicle Supply Equipment Harmonization Efforts

Representatives from the National Electrical Manufacturers Association (NEMA) led a meeting on July 20 to discuss standards harmonization requirements for electric vehicle supply equipment systems (EVSE) in North America.

Michael Mahan, Electric Vehicle Supply Equipment Section chair said, "Electric vehicle manufacturers are looking for certainty in the design and performance of EV charging systems before they move ahead with large scale production and distribution of EVs across North America."

During the meeting, representatives from Underwriters Laboratories (UL), Canadian Standards Association (CSA), Association of Standardization and Certification (ANCE), and various Canadian, Mexican, and U.S. stakeholders focused on how to rapidly harmonize the following UL standards with CSA Technical Information Letters (TIL):

UL Requirements for EV's

UL 2231 Personnel Protection Systems for Electric Vehicle (EV) Supply Circuits: Part 1 General Requirements, and Part 2 Particular Requirements for Protective Devices for Use in Charging Systems

UL 2251 Safety of Plugs, Receptacles and Couplers for Electric Vehicles

UL 2594 Outline of Investigation for Electric Vehicle Supply Equipment

CSA Requirements for EV's

TIL D 33 Interim Certification Requirements for Charging Circuit Interrupting Devices/Line Isolation Monitors rated up to 250v ac for use in Electrical Vehicle Supply Equipment

TIL A 35 Interim Certification Requirements for Electric Vehicle cord sets and power supply cords

TIL I 44 Interim Certification Requirements for off board charging system equipment for recharging the storage batteries of electric vehicles with inputs and outputs rated 600 V or less.

TIL A 34 Interim Certification Requirements of Electric Vehicle connectors/couplers and receptacles/plugs for use in a conductive charging system.

The group agreed that there is an urgent need for these standards and

decided to immediately organize three ad-hoc working groups of technical experts to review and harmonize the requirements of the UL and CSA documents by the end of August 2011. Once this activity is completed, the SDOs will expedite the approval of the drafts so by the end of 2011, the harmonized documents will be available for certification purposes in all three countries. The success of this effort will depend in large part on having active industry participation.

NEMA is the association of electrical and medical imaging equipment manufacturers. Founded in 1926 and headquartered near Washington, D.C., its approximately 450 member companies manufacture products used in the generation, transmission and distribution, control, and end use of electricity. These products are used in utility, industrial, commercial, institutional, and residential applications.

The association's Medical Imaging & Technology Alliance (MITA) Division represents manufacturers of cutting-edge medical diagnostic imaging equipment including MRI, CT, x-ray, and ultrasound products. Visit the NEMA website at www.nema.org.

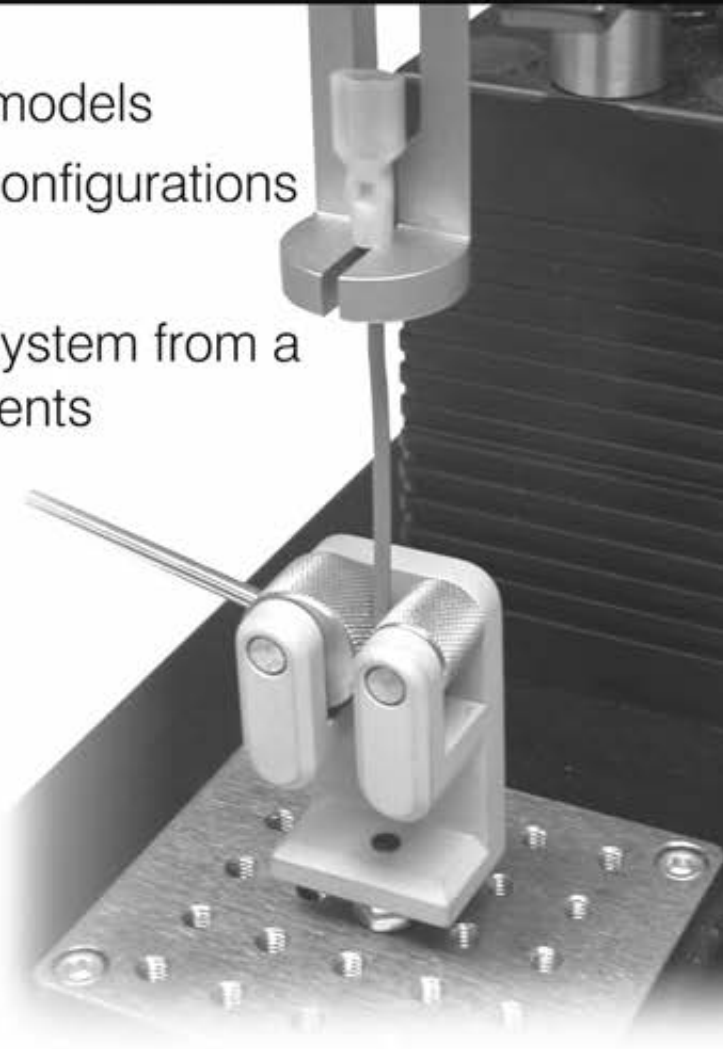
NEW Delphi HES Connectors Compatible with Deutsch HDP

Waytek announces the Deutsch HDP compatible Delphi HES Connection system as their newest line of sealed multi-pin connectors.

The Delphi HES connection system is a drop-in

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Delphi HES connection system - drop-in replacement for Deutsch HDP Connectors

replacement for Deutsch HDP Connectors, and provides higher current capability, improved sealing, higher terminal retention and a significant cost advantage compared to standard pin-and-sleeve systems. The HES connection system includes circular connectors, contacts and a J1939 diagnostic connector.

The stainless steel sleeve terminals provide stability and protection to the contact interface area. The overlapping wing design provides exceptional strain relief and larger outside diameter cable range capability. Tin material in the crimp area results in superior crimp stability over life. HES connectors have superior sealing performance to IP67 standards. The connectors feature a 3-rib design that provides up to 50% better sealing capability compared to existing designs. Recessed ribs maintain sealing properties if a tight wire dress is applied.

Waytek, Inc. is a privately held company which offers quality electrical wiring supplies. With over 6,000 products in stock, Waytek's extensive line includes circuit protection, wire, connectors, relays, switches, cable ties, heat shrink and many more wiring accessories. For further information visit www.waytek-wire.com.

Winsted Corporation Achieves ISO 9001:2008 Certification

Winsted Corporation, a worldwide leader in ergonomic console solutions, announced that it has achieved the ISO 9001:2008 Quality Management System Certificate from the International Organization for Standardization (ISO). The scope of its certification

is for the design, marketing, distribution and installation of control room consoles, furniture and accessories.

The ISO 9001:2008 certification is an internationally recognized standard that defines good management practices. This certification is a significant milestone in Winsted's 48-year history and confirms the company's long-standing commitment to quality management, continuous improvement and the highest level of customer satisfaction.

"Winsted has always been committed to assuring our customers the utmost quality in both our products and services," Randy Smith, president of Winsted Corporation. "The ISO 9001:2008 certification conveys this ongoing commitment to our customers and provides them with

the confidence Winsted will continue to exceed their expectations in the future."

Each of Winsted's three worldwide operations are now ISO 9001:2008 certified, including Winsted World Headquarters in Minneapolis, Minn., Winsted Custom Division in Duluth, Ga., and Winsted Europe in Droitwich, England.

ISO standards have come to be regarded as globally accepted norms for quality assurance and are recognized in 162 countries around the world.

Winsted catalogs are available in print or PDF format by calling 1-800-447-9257 or e-mailing info@winsted.com. For more information visit www.winsted.com.

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NEWS PLUGS continued



Sonobond to Exhibit Two Ultrasonic Units at the Assembly & Automation Technology Expo

Melissa Alleman, Vice President of Sonobond Ultrasonics, announced that the company will be exhibiting two examples of its innovative technology at the 2011 Assembly & Automation Expo in Chicago, September 20-22. In making the announcement, she said, "Visitors to the Expo are encouraged to visit us at Booth #1147. We'll have both our Dual Head SpliceRite™ Ultrasonic Wire Splicer and our SeamMaster™ High Profile Ultrasonic Textile Bonder on display. These machines demonstrate how Sonobond is applying its more than 50 years of ultrasonics know-how to assembly applications. The Dual Head SpliceRite™ represents a major breakthrough in fast, dependable wire splicing. The SeamMaster™ High Profile Ultrasonic Bonder, on the other hand, demonstrates the important role that ultrasonic technology plays in a variety of textile applications, including the assembly of filters, medical disposables, and body armor."

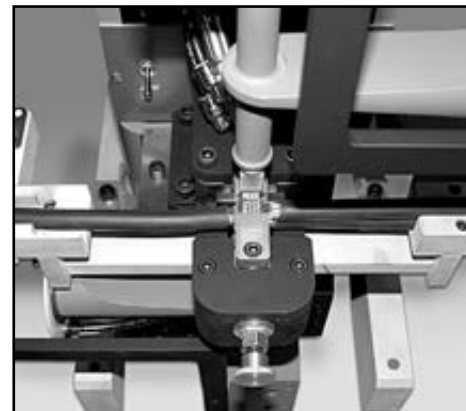
Dual Head SpliceRite™ Provides Largest Ultrasonic Wire Splicing Capacity

The Dual Head SpliceRite™ Ultrasonic Wire Splicer, can easily accommodate wire bundles with cross-sectional areas of 48 to 100 sq. mm. It can even weld tinned

wires up to 60 sq. mm. No other ultrasonic unit can equal this capacity with just one hit. This ultrasonic wire splicer is especially suited for assembling the heavy cables used for cars, trucks, and industrial machinery.

As its name implies, the unit has two welding heads, one on each side of the weld area. Non-ferrous similar and dissimilar metals can be welded with repeated accuracy. The welds produced have excellent conductivity. According to Vice President Alleman, "Manufacturers are discovering that the Dual Head SpliceRite™ offers significant advantages by creating solid-state metallurgical bonds without the need for filler materials or for clipping, soldering, crimping, or dipping. It's an environmentally-friendly, cost-effective process that produces no waste. And it consumes only minimal energy."

Among the many outstanding features of the Dual Head SpliceRite™ are heat-treated, tool steel taper lock tips that can last for 100,000 welds or more. These are designed for quick tooling changes and

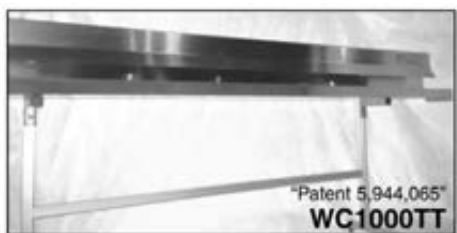


Close up of Dual Head SpliceRite™



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- Designed to collect wires up to 12 feet in length
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fool-proof placement. The unit has a 3,500-watt power supply with a micro-processor that stores and recalls up to 250 jobs. Welds can be controlled by height, by energy, or by time. The entire process is fast and does not melt the material.

SeamMaster™ Bonders: Four Times Faster Than Traditional Sewing Machines

The other Sonobond unit to be exhibited at the Assembly & Automation Technology Expo in Chicago will be the SeamMaster™ High Profile Textile Bonder.

The SeamMaster™ series of ultrasonic bonders is similar in appearance and operation to traditional sewing machines. However, these units use no thread, glue, or other consumables. Instead, they seal, "sew," and trim nonwoven and synthetic fabrics with ultrasonic vibrations. This eliminates concerns about stitch holes and glue gaps. Fraying and/or unraveling of bonded edges and seams are also virtually eliminated.

SeamMaster™ units save time and money for manufacturers by performing several labor-intensive operations in one pass. They operate four times faster than conventional sewing machines and up to ten times faster than adhesive methods. They are frequently used in assembling filters and protective products, including medical disposables that must comply with OSHA regulations for barrier seams. Sonobond offers a variety of interchangeable pattern rollers for slitting, embossing, and "stitching." Among the many other products produced with this technology are window shades, draperies, garments,

blankets, awnings, automotive seats and carpets, athletic accessories, banners, safety garments, ballistic vests, aviation insulation panels, netting, and ribbons.

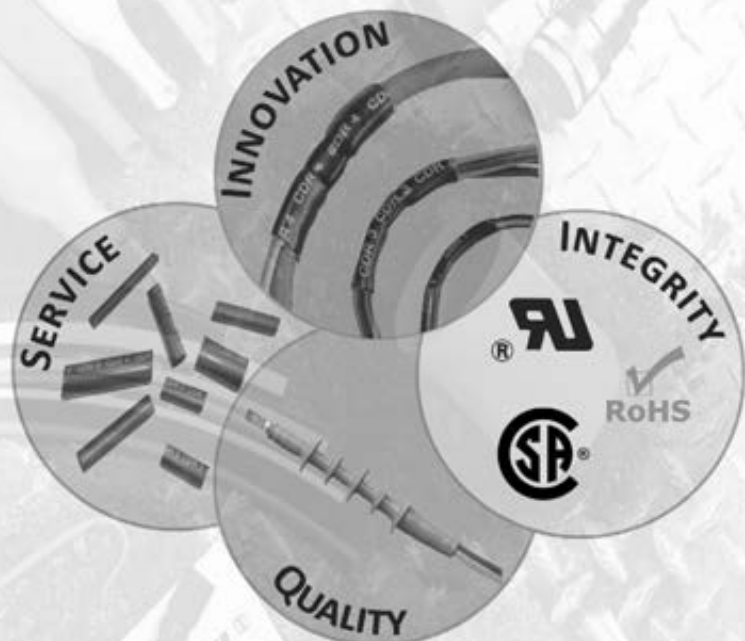
The SeamMaster™ High Profile Ultrasonic Bonder is ideal for hand-guided applications with tight tolerances, for heavy and bulky materials, and for working around curves. That's because it has a higher clearance between the wheel and horn than do Sonobond's other SeamMaster™ units. As a result, the machine is especially useful for specialized applications in the textile, apparel, and engineered fabrics industry. It is available with a special fixture for sewing pleated filters. The machine has the additional advantage of being easily integrated into production lines as a modular unit.

Another important application for the SeamMaster™ High Profile Ultrasonic Bonder is in the assembly of ballistic vests. The unit is highly effective in sealing the outer nylon shell of the body armor with the ballistic-resistant materials inside. This helps manufacturers comply with the latest National Institute of Justice (NIJ) submersion standards (NIJ 0101.06). These standards were recently revised and made more stringent to require a leak-tight seam, even after full immersion in water for 30 minutes. Prior to this, NIJ standards only required protection from a spray shower.

To learn more about the Dual Head SpliceRite™ Ultrasonic Wire Splicer, the SeamMaster™ High Profile Ultrasonic Bonder, visit www.SonobondUltrasonics.com or call 1-800-323-1269.

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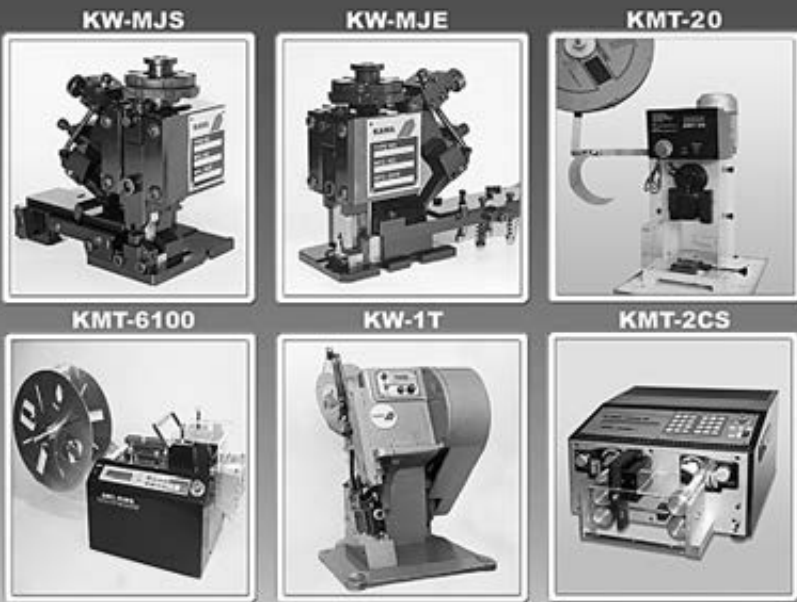
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In every issue of Wiring Harness News Anixter will bring you informative articles about wire and cable technology.

Jacketing Material for Cable Assemblies

Industrial automation applications often require special cables to provide reliable performance in a wide variety of environments and conditions. Custom cables and preassembled cords often make a lot of commercial sense, especially if the application requires rapid deployment of replacement cables or frequent disconnecting and reconnecting. Selecting cables that can provide reliable performance for a given environment can be tricky.

The following is an overview of the characteristics of several common jackets used for cords and cables in industrial automation applications. Because a cord is a type of cable, we'll only refer to cables throughout the rest of this Wire Wisdom.

What is the purpose of a cable jacket?

The cable jacket is the first line of mechanical, moisture, flame and chemical defense for a cable. More specifically, the jacket provides protection for the shielding and conductors. It protects the cable from mechanical damage during

Table 1. Jacket impact on application

Jacket Characteristic	Impact on Application
Flexibility	Ease of use and long-term flex life
Chemical resistance	Life expectancy during exposure to chemicals
Low-temperature flexibility	Suitability for arctic or winter climates
High-temperature survivability	Determines peak and ambient operating temperature and contributes to ampacity rating
Color	Identification, safety and appearance
Surface texture	Ease of handling and installation
Elastic memory	Flexibility and handling, especial in coil cords
Approvals	Suitability for a given application/jurisdiction
Flame resistance	Safety and flame spread
Cross-linking level	Suitability for extreme exposure such as weld splatter



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Table 2. Common cable jackets and their characteristics

Types of Jackets	Impact on Application
PUR (Polyurethane)	Polyurethane is very elastic, with a very high memory, which makes it ideal for coil cord applications. It is abrasion resistant, has excellent flexibility in low-temperature environments, and performs well when exposed to oil and ozone. Other common products made from PUR are Rollerblade wheels and telephone handset cords.
PVC (Polyvinylchloride)	Polyvinylchloride can be formulated to function in a variety of environments and applications. In automation cables, it is usually a low-cost, flexible, fairly rugged, and flame- and oil-resistant material. PVC can be made in either a matte finish or glossy, slick finish. A common product that uses PVC is the jacket material used for portable extension cords used in residential applications.
TPR/TPE (Thermoplastic rubber/elastomer)	Thermoplastic elastomers have excellent low-temperature properties without spending the money needed for a thermoset material. It has good chemical and oil resistance and is also quite flexible. TPR/TPE also rivals thermoset materials in abrasion resistance and surface texture, but it is usually not as rugged as PUR. Common products that use TPR/TPE are athletic shoe soles and industrial-grade portable cord jackets.
Thermoplastic CPE (Chlorinated Polyethylene)	Thermoplastic chlorinated polyethylene is generally a jacket used in very harsh environments. It is lightweight, generally very rigid, and has a mildly rough surface texture and a low coefficient of friction. It's a low-cost material relative to the level of moisture, oil, chemical and UV resistance that it provides. Common products made from CPE are waterproofing membranes and automotive parts.
Thermoset Polyolefins (CPE, CSPE, etc)	Thermoset polyolefins are the only products in this list that are truly melt resistant and in the same family of materials as natural rubber. They are highly elastic with excellent memory. They are known for their ruggedness, low-temperature flexibility, UV stability and heat resistance. For example, they are the preferred material for welding applications. Common products made from thermoset CPE or CSPE are premium inflatable boats and flat-roof membranes.

Continued on page 28

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Continued from page 27

and after installation. Jackets are not intended to replace cable armors, but they can provide a fairly high level of protection. They also provide moisture and chemical protection along with UV and ozone protection. The table below provides information about the characteristics of certain materials often used for jackets for industrial automation cables.

What jacket characteristics do you need?

In most automation applications, a physically robust cable jacket is needed because the environment is harsh and typically industrial in nature. Most automation cables are designed with this in mind. Keep in mind that there are varying levels of ruggedness available in

the market, and you often get what you pay for.

Other common characteristics that may be considered when choosing an automation cable are listed in Table 1.

Types of Jackets

There are many types of jackets available. It's important that the jacket type selected is compatible with the application, connectors and environment. For example, a cable that might be disconnected in an environment with cutting fluids should not be slippery and should be able to survive occasional exposure to the cutting fluid. Likewise, an arctic environment may require cable jackets that remain flexible at extremely low temperatures. Table 2 (Page 27) contains typical characteristics of some of the most common jacket types used for industrial control cables and cords.



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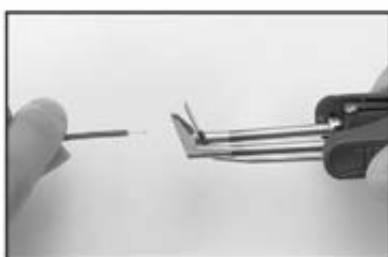
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NEWS PLUGS continued

IEWC Announces Plans to Expand Distribution Services to Brazil

IEWC plans to expand its international distribution services by opening a sales office and stocking facility near Sao Paulo, Brazil. This new facility will allow IEWC to support the needs of its customers in the South American marketplace. David Nestingen, Chief Executive Officer of IEWC, stated that, "in our vision to be the premier global supplier of wire, cable and wire management products, this move will be the fourth continent in which IEWC now does business. Brazil's largest city, Sao Paulo, is a vibrant and modern metropolitan area of 20 million people and it is the manufacturing center for all of South America. We already have strong partnerships with our suppliers in this region and we look forward to bringing our supply chain solutions to the Brazilian marketplace." Ricardo Garcia, President of IEWC Mexico, will be responsible for overseeing this initiative, which is targeted to be complete by the end of the year. Mr. Garcia has been with IEWC for over seven years and was responsible for championing IEWC's greenfield startup in Aguascalientes and, more recently, Monterrey, Mexico. With 20 years of involvement in the wire and cable industry, he is well rounded on the manufacturing, engineering and distribution side of the business. Mr. Garcia has partnered with Gilmar Rodrigues, a sales agent with over 25 years of experience in the automotive and interconnect markets in Brazil. Mr. Rodrigues has been developing customer relationships and sales for IEWC in the country for the past year and will continue to do so through this expansion. IEWC's commitment of resources to the Brazilian marketplace signals its continued strategic focus on worldwide business development.

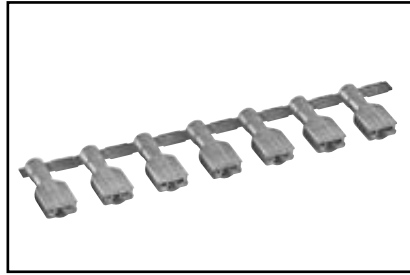
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The Sta-Kon Plastic Strip-Fed Terminals' nylon insulation is UL94V2 flame rated and withstands operating temperatures of 221 degrees Fahrenheit (105 degrees Celsius). The insulation is resistant to chemical exposure, impact and abrasion. Sta-Kon Plastic Strip-Fed Terminals have a maximum rating of 600 volts and are UL listed.

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Omni Aerospace

Continued from page 1

said. "As our name Omni means, we try to be expert in all fields, and our long-term vision is to be all for our customers by providing electrical, mechanical and control in one component - a complete system."

This year, in addition to designing the

next generation of customers' products, Omni is investing in its own proprietary products. For example, the firm has received its first patent for a connector. Such products help to deter competition and build long-term business rather than focusing on individual product contracts, O'Neill stated.

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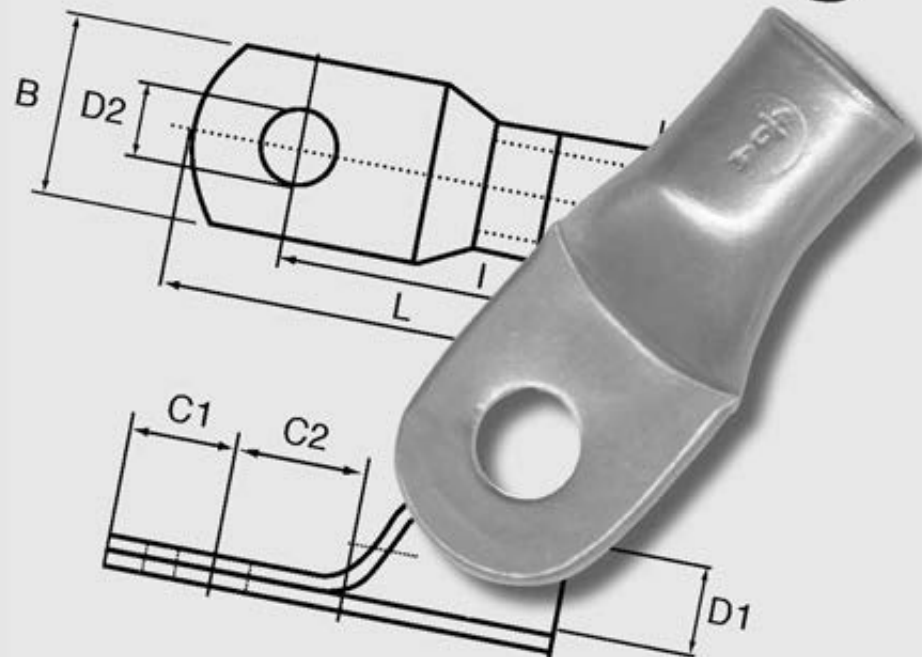
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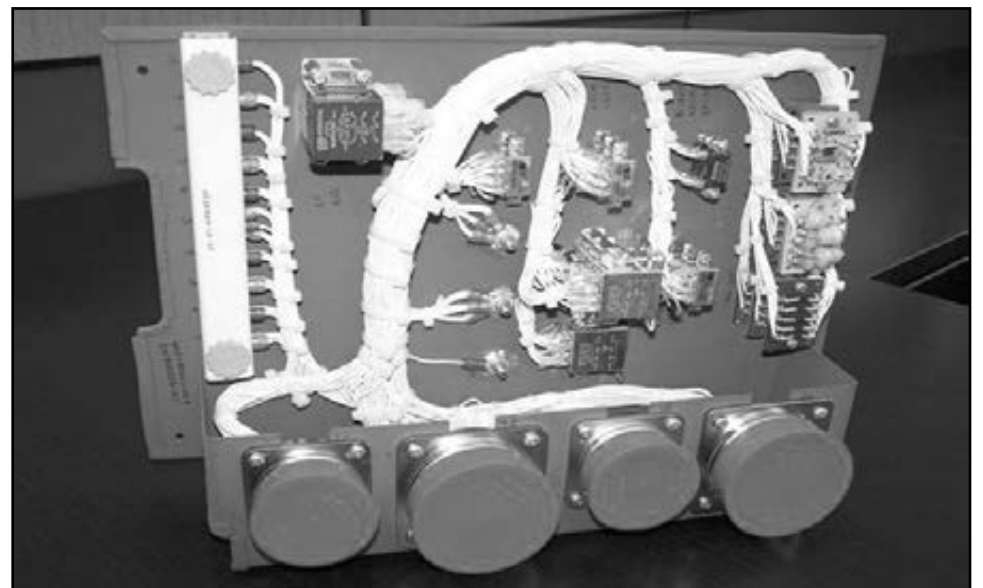
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"We set ourselves apart because we do so much design and engineering," O'Neill said. "Most companies are not a threat to us. We are always aware of competition and try to benchmark ourselves against other companies, but it's rare to be in a bidding war."

Complementing the concentration on engineering at Omni is another important factor in O'Neill's strategy. Each of the 60 persons at the company is required to submit weekly at least one suggestion for improving any aspect of Omni's operations - productivity, safety, quality, customer satisfaction, etc. Each person may take a half hour while at work to conceive of a suggestion.

From all the suggestions managers choose one each month they deem the best. Its originator is honored with a prime parking spot and a gift card. The program was begun six months ago.

"It's been a real eye-opener," O'Neill said. "We get such really good suggestions that it's tough to implement all of them. We don't want to let them languish, and we don't want to leave people disappointed. We make goals to implement them because some take longer than others."

In many respects, the factors of engineering and continuous improvement are driven by the third predominant feature of O'Neill's leadership. He follows the philosophy of Charles Koch as outlined in his book *The Science of Success*. Koch is the CEO of Koch Industries, a Wichita-based private company that is involved in such endeavors as energy, chemicals, manufacturing, trading, investing, ranching and fertilizer and has more than 70,000 employees in 60 countries.

The management style of Koch, one

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of the 10 wealthiest men in the United States, has five main characteristics: vision, virtue and talent, knowledge process, decision rights and incentives. "I have been able to grow our organization with a much higher level of success in the last 10 years due to following Koch's ideas," O'Neill said.

In 2006 Omni had sales of \$4.5 million. They increased to \$6 million the next year and \$9 million in 2008 but dropped to \$7.5 million in 2009 when the U.S. economy slumped, hitting the business-class aircraft industry hard. According to O'Neill, orders by Cessna Aircraft, Omni's largest customer, dropped 75 percent. He noted his company rebounded to \$12 million last year.

Customer orders are filled by 60 staff members, 16 in the front office and 44 in production. Only six people worked

at the company five years ago, and over the next year 20 people will be hired. In 2-3 years 100 will be on staff. Employees are compensated well, O'Neill stated. For example, Omni pays the full amount for an individual's health insurance and part of a family's.

Key employees are Chris Schaefer, vice president of business development (who works from an office in Dayton, Ohio); Doug Leis, VP of sales; Mike Brown, quality manager; Cliff Denis, electrical assembly manager; Jeff Lewis, mechanical assembly manager; Ryan Graf, purchasing manager; Renee Wells, controller; Diego Diaz, senior electrical design manager; and Carl Woody, senior mechanical design manager.

Continued on page 32

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Omni Aerospace

Continued from page 31

O'Neill described the company culture with: "We're all in it together, and we succeed together." Openness is promoted through a monthly meeting with everyone present to hear about financials, goals, improvements, new hires and new programs.

"I'm so proud of the personal development of so many of our employees," O'Neill said. "It's very inspiring to see someone join the company with very little experience and in a short time see how capable that person can become. It's also encouraging to see people work together to achieve common goals, have fun and enjoy what they do."

Omni has 50 customers, most of them in the Midwest. Additionally, they are in other parts of the United States as well as Mexico and Canada. Besides Cessna, customers include Rockwell Collins, Nordam, Hawker Beechcraft and Spirit Aero Systems. More customers are added based on their potential volumes. Omni's goals are to every year add one \$1 million customer and two \$500,000 customers.

Representing two-thirds of Omni's business, the electrical assembly division produces 85 percent harnesses and 15 percent cables that range between a

Continued on page 34



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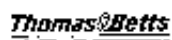
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Omni Aerospace

Continued from page 32

simple coax wire and diode assembly to a harness with 500 circuits. Production runs are between five and 5,000, with 100 most common, and cost is between \$4 and \$2,000.

Manufacture of mechanical products began in the late 1990s and continues to grow. O'Neill predicts in two years such products will be 40 percent of Omni's total sales, matched by electrical assemblies. The remaining 20 percent is the

distribution of aircraft parts.

Omni's sister company is Thunderbird Technical Sales and Service, which is owned principally by O'Neill. Others have minority ownership. The manufacturer's representative company, which is in the same facility as Omni, supplies customers in Arkansas, Iowa, Kansas, Missouri, Nebraska, Ohio, Indiana, Oklahoma and Southern Illinois with products manufactured by Omni and compa-

Continued on page 36



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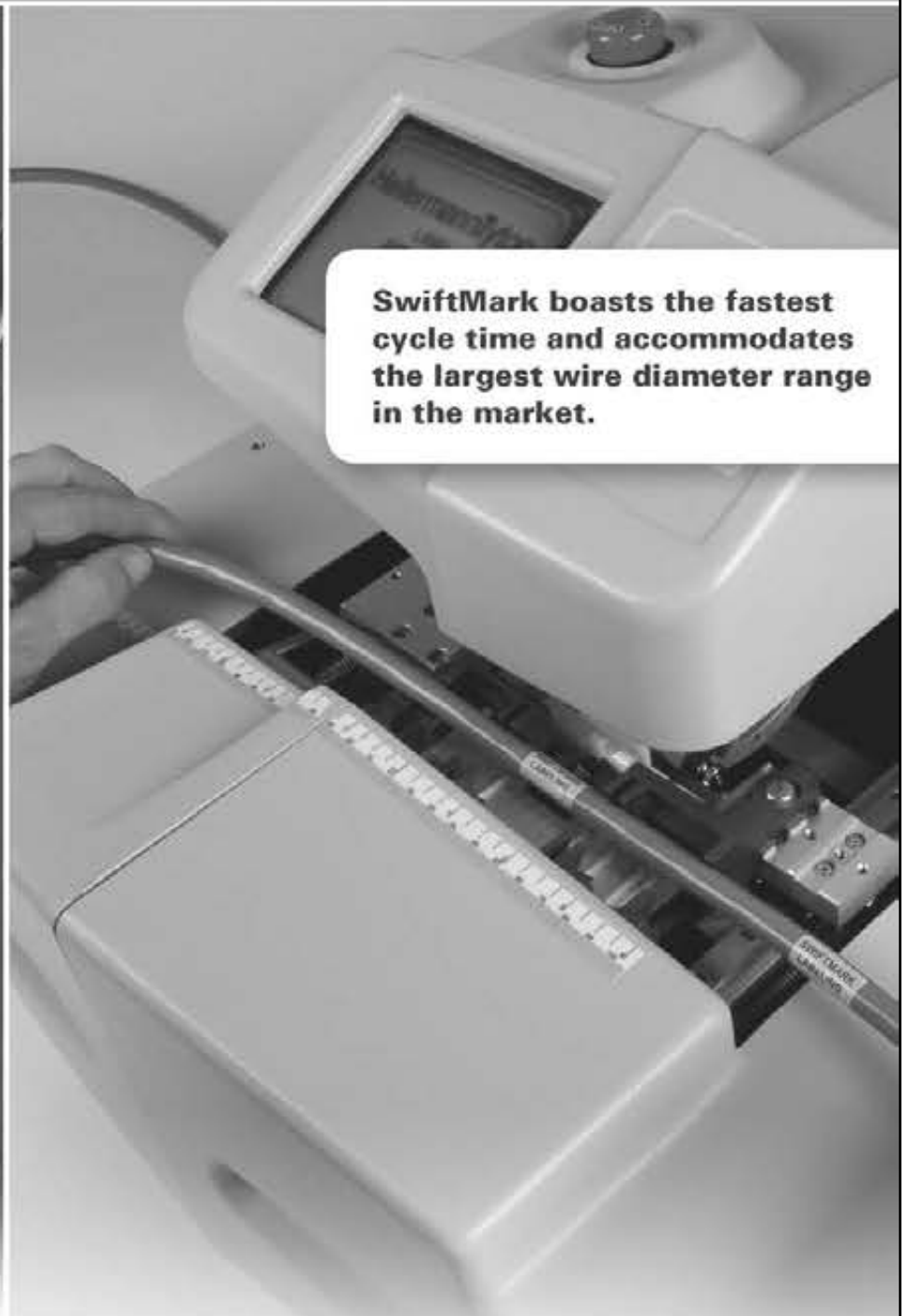
AT2000, AT2060 and ATS3080 Automatic Cable Tie System

Automatic application and consistent tensioning of cable ties for your harness or bundle.

Adaptable – All systems are electric and can be easily converted to hand held, bench mount and overhead configurations to match your changing production schemes

Versatile – A variety of tools that can apply 18-, 30- and 50- pound cable ties for bundles up to 3"

Efficient – The AT2000, AT2060 and ATS3080 Automatic Cable Tie Systems are known for their speed, flexibility and ergonomics



SwiftMark boasts the fastest cycle time and accommodates the largest wire diameter range in the market.

SwiftMark Label Printer and Applicator

Automatically prints and applies labels to wire and cable.

Productivity – Fast cycle time, up to 400% faster than manual application

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Omni Aerospace

Continued from page 34

panies such as Auto-Valve, Zero Manufacturing, Staco Systems, DNA Group and Voltage Multipliers.

Thunderbird was started 50 years ago, and O'Neill joined it in 1991 as a

territory sales manager. Prior to Thunderbird, he worked as a territory sales and service manager for Cadillac Motor Division of General Motors on the East Coast. In 1994 he bought into Thunderbird and became VP of sales.

At first, Omni did no manufacturing

but stocked items from firms Thunderbird represented. Production began in 1996 in response to customers' needs and requests, according to O'Neill. He noted Omni gained ISO 9000 and AS9100 certifications shortly thereafter.

Once designing has been finished on AutoCad Inventor and Catia software, a product is put into the Job Boss enterprise resource program software, and a production planner develops a traveler. It makes various stops in the production process as the order is filled.

"All subassemblies have operators' codes so we can track everything," said O'Neill, who related all employees are trained and certified to standards such as IPC/WHMA A-620. "Operators log in and out, and they know what time is allotted for each step. They are graded on time and quality. If there is a problem, we take corrective and preventive action."

Omni has won the Cessna Stars 2000 supplier award the last nine years. It is based on quality, reliability, on-time delivery and cost. O'Neill pointed out that Cessna gives new business to award winners.

None of the production equipment is more than three years old. "We are not afraid to add new equipment," O'Neill said. "We have done a certain amount of 'build it and they will come.' There's risk involved, but we're OK with it because it is easier to fill the capacity we have than not have it and have to catch up to it."

"I believe in equipment because it has a lot to do with competitiveness,

delivery and quality," O'Neill said. "It can present a challenge with cash flow because when adding equipment large values and costs are involved."

The company has plenty of space for new equipment, having bought and remodeled its current building two years ago. It measures 96,000 square feet, but Omni uses only 60,000 and rents out the other 36,000. It started out in a 3,000-square-foot structure and occupied five locations before the current one.

Omni has 150 suppliers but would like to decrease that number. "We need to do more to grade our suppliers internally," O'Neill said. "Pricing is always a challenge, but we have a very good group of suppliers. As you become bigger, suppliers are more interested in you and give you better pricing agreements."

Growth will be enhanced by the upcoming debut of a revamped company website as well as a direct-order site within a year for harnesses, connectors and accessories. Products also are marketed with Constant Contact, and a news bulletin is published weekly. Print advertising, trade shows participation and direct mail are used infrequently. The internal sales staff has four people, and five organizations are used for territories outside the Midwest.

For more information, call 316-529-8998, e-mail joneill@omniks.com, fax 316-529-8995, visit www.omniks.com or write Omni Aerospace Inc., 3130 W. Pawnee St., Wichita, KS 67213.

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All applicators include:

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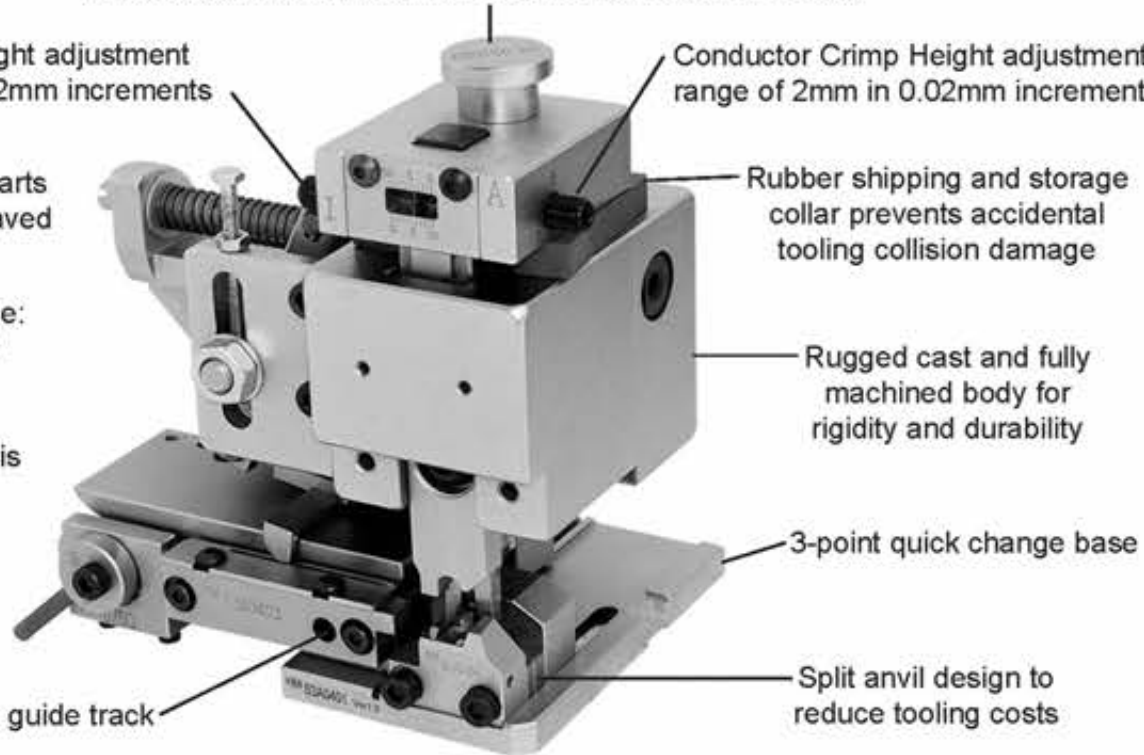
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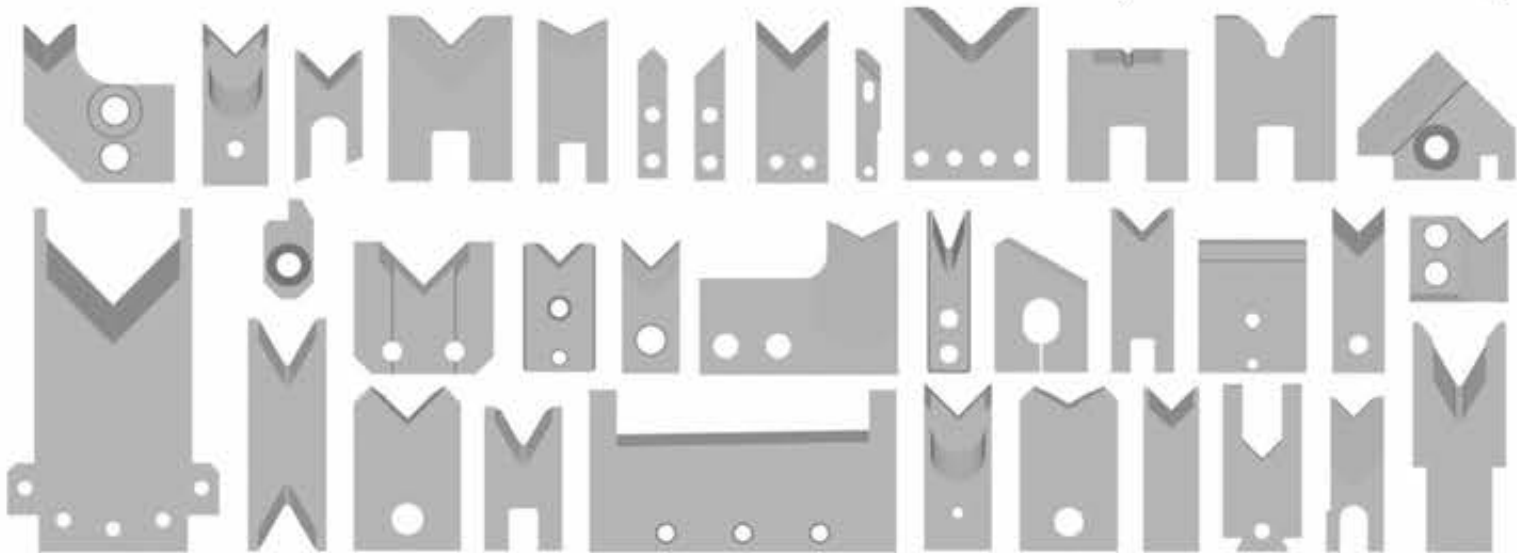
Split anvil design to reduce tooling costs



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| • Eubanks | • KMI | • Komax | • Metzner | • ShinMaywa | • and many others... |



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Mechtrix has designed a number of unique machines to solve specific wire processing problems. These machines range in complexity from our patented center stripping machines to terminal paper winding machines. These machines include:

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| • Automatic & Manual Center Stripping Machines | • Terminal Applicators & Crimping Presses |



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Mando Can Do.



When Armando Zacarias goes out on a Eubanks service call, unusual things happen.

“Once I helped round up a cow that got loose in a customer’s plant.

“Another time, while driving to a customer’s site, our rep’s car caught fire. We eventually arrived there that night and finished the job in time for the morning shift,” Mando reports.

Customers report something unusual too: Mando’s “can-do” attitude.

George Price, vice president of J&M Products, for example, writes how Mando takes time to answer questions, explain machine operation and even gave “tips on stripping some shielded cable that others said could not be done.”

“Can’t be done” is not in Mando’s vocabulary—either English or Spanish. On his own initiative, he solves problems, leads training classes, helps boost plant efficiencies, and makes lasting friendships while doing it.

Mando exemplifies the Eubanks business experience—highest-quality, U.S.A.-built wire strippers and markers backed by dedicated people itching to solve your wire problems.

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NEWS PLUGS continued



New MASTER PROHEAT Plastic Welding Kit Delivers all-in-one Convenience

Everything needed for hot air welding a full range of thermoplastic materials is available in the new and convenient MASTER PROHEAT Plastic Welding Kit Model PH-1400WK from Master Appliance Corporation.

This self-contained, general purpose welding system makes for fast and simple fabrication and repair of rigid and flexible plastics, auto bumpers, tarps, liners, covers, tents, inflatables and more.

The MASTER PROHEAT Plastic



MASTER PROHEAT Plastic Welding Kit

Welding Kit is built around the compact, lightweight MASTER PROHEAT LCD Model PH-1400 Dial-in Electronic Heat Gun. The heat gun's dial-in feature offers 10 degree increment temperature control from 130°F to 1,000°F (50°C to 540°C) and control of airflow from 4 to 16 CFM (113 to 453 l/min).

The exclusive, innovative magnetic key lock-in feature makes it easy to "lock-in" proper temperature and airflow for each welding application. Once saved, they can be used again and again. An electronic control system also prevents over-heating when the heat gun is used with special welding attachments.

Each MASTER PROHEAT WELDING Kit includes an instruction manual, five of our most popular attachments specially designed for welding applications that use heat and pressure: Speed welding, Pendulum welding and Tack welding, and a welding rod starter assortment for PVC, PP, ABS, HDPE and LDPE.

A complete selection of optional welding tips, welding rod and accessories can be purchased individually. This includes the 3-inch (75mm) Spreader, which distributes air evenly over a wide area, to the Seam Roller with ball bearings, ideal for lap welding, edging tape and roofing applications.

Made in the USA, the new MASTER PROHEAT Plastic Welding Kit is available only from authorized Master Appliance Distributors. For more

information and the name of your local distributor, see our website at www.masterappliance.com or contact Master Appliance Corp. at sales@masterappliance.com, by telephone at (262) 633-7791, or by fax at (262) 633-9745.

Smaller-Gauge USB Bulk Cable Enables Flexible USB Cable Assembly Production

L-com, Inc., a global leader in the manufacture of wired and wireless connectivity products, announced the release of USB bulk cable with 24/28 AWG and 28/28 AWG configurations. Unlike L-com's existing USB bulk cabling product, which is 20/28 AWG, the newer versions are more flexible while still providing the USB's superior power transfer.

"Not a lot of companies are providing USB bulk cable right now even though there is a significant demand for it," said Steve Smith, product manager. "We wanted to fill this gap by providing choices to our customers."

The new bulk cable configurations are USB 2.0-compliant and have double shields (braid and foil) to provide maximum protection against data-corrupting EMI/RFI. The 24/28 AWG configuration provides significant power transfer, while the 28/28 AWG version is primarily used for mini- and micro-USB connectors.

Continued on page 40

You Expect More From Coastel



Made in the U.S.A.

The CT4 Coastelmatic Pneumatic Tool Holder

The CT4 Coastelmatic hand tool holder is a device that uses air to activate spring retracted hand tools. The CT4 Coastelmatic is a great low cost alternative to automatic crimping, stripping, and cutting machines. The CT4 Coastelmatic can be set up to work crimpers, strippers and cutters. The patent pending tool holder in the applicator securely holds all tools in place, allowing the operator to use his hands freely. This new and improved cylinder delivers 10% more power through dual activation for tough jobs. Each unit is pre-assembled, tested and ready for use.

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Therefore, this
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Capabilities:

- ✓ Strip Length
- ✓ Wire Position
- ✓ Conductor Diameter
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NEWS PLUGS continued



Continued from page 39

L-com, a global leader in the manufacture of wired and wireless connectivity products, offers a wide range of solutions and unmatched customer service for the electronics and data communications industries. The company's product portfolio includes cable assemblies, connectors, adapters, computer networking components, and custom products, as well as the Hyperlink line of wireless products. For more information, please visit: <http://www.L-com.com/>.

Field-Installable Power Connector Simplifies Installation

Amphenol Industrial, a global leader in interconnect systems, introduces Amphe-BTS, a new power connector designed to provide power from a wireless, mast-mounted base station to a remote radio head. This compact, energy-efficient connector meets the strict requirements set forth by the next generation of base stations.

This reliable, field-installable connector, used by base station manufacturers, telephone opera-

tor technicians, AC/DC power supply manufacturers and related installers, eliminates the need to ship heavy cable assemblies all around the world.

The Amphe-BTS provides 360° EMI shielding with grounding fingers and utilizes a bayonet locking mechanism that guarantees strong vibration and shock resistance. The connectors are lightning resistant due to their excellent conductivity. The receptacle has crimp contacts and the plug has screw termination contacts for easy field installation and replacement.

This circular connector, based on MIL-C-26482 series 2, features a brass shell construction with tin over nickel plating, making it corrosion resistant and compliant with ISO 21207.



New Amphe-BTS Power Connector

The Amphe-BTS has a cable sealing range of 7 mm to 18 mm, a temperature range of -55°C to +85°C and is available in a standard two-way 48 VDC, a two-way reverse gender 48 VDC and a three-way 400 VDC/250 VAC power configuration.

The IP65-rated Amphe-BTS connector is UL and TUV certified.

For more information, please visit <http://www.amphenol-industrial.com>.

Weller Extends Product Line with Introduction of New Electric Screwdriver System

Weller, a global leader in soldering solutions, announced a series of new Weller® High-Precision Electronic and Mechanical Torque Control Screwdrivers for electronic assembly applications.

The innovative system includes electronic and mechanical torque control screwdrivers. The electronic system uses a scalable current reference to run the entire torque range of the tool. This allows greater flexibility and eliminates clutch maintenance, which reduces the long-term cost of ownership. Controllers are offered with digital and analog hardware to minimize cost and maximize application flexibility where needed.

The device has a small controller footprint and weighs less than four pounds -- allowing ease of bench-top positioning just about anywhere. The controllers feature auto-sensing input voltage to minimize SKU management for global end users. A unique power management function conserves energy when the tool is not in use, enhancing facility cost savings. The components in the Weller

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New and Improved Guard and Sensor System!

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crimping press

POWER:
0.55Kw (0.75HP)

FORCE:
2000Kg (4450lb)

STROKE:
40mm (1.57")

CRIMPING HEIGHT:
135.8mm (5.34")

WEIGHT:
41Kg (95.6lb)

DIMENSION (mm):
W 200 x H 580 x D 300

DIMENSION (")
W 7.9" x H 23" x D 11.8"

CONFIGURATION:
manual/automatic

POWER SUPPLY:
to see versions

VOLTAGE:
to see versions

SURFACE FINISHING:
Light grey RAL7038

- Available either in semi-automatic (for bench-top use) configuration or in full automatic (integrated into a cut and strip machine) configuration.
- Very compact and light, its spheroidal cast iron, one-piece structure offers the highest rigidity.
- 40mm Standard stroke (others available upon request).
- Can be used with all mini-style applicators with standard T-coupling.
- CFA can be fixed as an option.
- 135.8mm ± .02mm crimping height.



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screwdriver system feature quick-change connections, making installation simple and quick.

"This line extension demonstrates our ongoing commitment to end users who rely on our brand for enhanced soldering solutions that deliver performance and productivity," said Glenn Schindo, Director of Sales and Marketing for Weller. "The electronic assembly bench can now be outfitted with a complete Weller solution that includes the new electronic torque screwdrivers for a full spectrum of production and repair needs."

The new Weller Screwdriver System offers many advantages, including:

- Electronic torque control eliminates maintenance costs associated with a mechanical clutch
- Self-tapping functionality allows users to tighten and auto reverse the tool
- Higher productivity with tools up to 33 percent lighter than competitive products
- Auto-Sensing input voltage with auto energy shut-off mode
- Hard and soft joint optimization through digital parameter control

As with all Weller products, the screwdrivers are Electrostatic Discharge (ESD) safe and clean room ready.

The new Weller Screwdriver System offers screwdrivers ranging from .4 to 31 inch-pounds. A full line of complimentary accessories, including a torque tester, is available through industrial and electronic distribution channels.

More information is available at www.weller-tools.com

Dow Wire & Cable Changes Business Name

With a growth strategy that moves beyond technology and materials for wire and cable jacketing, insulation, semiconductive and specialty compounds for the power and telecommunications markets, Dow Wire & Cable has made the decision to change its business name to Dow Electrical & Telecommunications.

This is an important step for a business already focused on power and telecommunications cable technology to further fortify its commitment to bring material science solutions to these industries and markets that no other business or company can do in the world. Recent advances in bio-based chemistry have enabled the business unit to

play a larger role in personal electronics, appliance, transportation and building & construction markets.

"Electricity and electrical components are a common denominator across all power and telecommunications resources. After six decades serving these important markets, the time is right to leverage the Dow portfolio in an even wider capacity to bring new technology and products to market," said Tim Laughlin, General Manager, Dow Electrical & Telecommunications. "Beyond this organic growth, we also are exploring several potential alliances with companies whose products and experience enhance or complement our own."

Dow Electrical & Telecommunications, a business unit of The

Dow Chemical Company ("Dow"), is a leading global provider of products, technology, solutions and expertise that sets standards for reliability, longevity, efficiency, ease of installation and protection that the power and telecommunications industries can count on in the transmission, distribution and consumption of power, voice and data. Understanding that collaboration is essential to success, Dow Electrical & Telecommunications works together with cable makers, other industry suppliers, utilities, municipalities, testing institutes and other organizations around the world to develop solutions and create mutual value that will sustain these industries for years to come.

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The BT 3500 Battery-Hydraulic Hand Tool is designed to provide the ultimate in flexibility, modularity, and powered efficiency in a lightweight, ergonomic, powerful crimp unit. It's compatible with SDE dies, CERTI-CRIMP II, Double Action, Large Die C and Heavy Heads, using the appropriate adapters.

Finally, a lightweight tool that delivers the power required for crimping! The small head offers incredible flexibility and the ability to reach into tight spaces. As an added convenience, the crimping head can be rotated to nearly any angle, allowing the operator to identify the most comfortable position for the job.

Despite the lightweight of the power unit, the tool can produce approximately 250 crimps between charges. This is made possible through a ten ounce, 10.8 Volt Lithium-Ion battery that can re-charge in only 25 minutes, thereby giving plenty of time for production.

We are now accepting orders for the BT 3500 Battery-Hydraulic Hand Tool.

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Easy portability and use with the harness, strap and belt accessories.



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NEWS PLUGS **continued****KOA Cicoil High Flex - High Voltage Silicone Wire for Extreme Environments**

Cicoil's High Flex - High Voltage Silicone Wire is durable, flame retardant (UL 94V-0), free of halogens and performs exceptionally well in extreme temperature conditions (-65°C to +260°C). This combination of features makes Cicoil's ultra flexible silicone wire the ideal choice for just about any application.

Cicoil's exclusive crystal-clear silicone encapsulation is tear-resistant, needs no external "armor" or conduit for protection, and will not deform or wear during a lifetime of more than 10 million cycles, even under tight bending radius and high speed flexing conditions. Unlike most other types of wire, Cicoil's unique silicone extruded wire is unaffected when exposed to extreme vibration, water, UV light, weld spark, ozone, radiation, mechanical abuse and most chemicals.

Cicoil's UL Recognized, RoHS Compliant & CE Conforming wire is manufactured in an automated, climate controlled environment, and exceeds the NASA 1124 outgassing specifications for space use and vacuum requirements. The wire is also 100% contaminant-free, as they are rated for Class 1 clean room use.

Standard "off the shelf" High Flex - High Voltage Wire (4 AWG to 30 AWG) is available from stock in continuous lengths, cut to order, or as assemblies, complete with lugs or connectors of your choice, 100% tested and inspected. In addition, Cicoil offers anti-friction, low smoke-zero halo-

gen, custom colors and lower/higher voltage designs by request.

Cicoil has been designing and manufacturing high performance cable assemblies for over fifty years. The company's unique silicon coated flat cables provide high flexibility, extremely long life, and they can withstand temperature extremes from -65 degrees to +260 degrees Celsius. Cicoil's cables are used in thousands of demanding applications; including aircraft fuel control cells, semiconductor automation, and the Space Shuttle. Cicoil designs and manufactures its cable and cable assemblies in an automated facility in Valencia, California. Cicoil's quality assurance system is certified to the ISO 9001 (AS9100) standard. Visit www.cicoil.com for more information.

Speer Awarded Multiple 2010 TTI Supplier Awards

KOA Speer Electronics announces they have earned the TTI Supplier Excellence Award for 2010, as well as the Diamond and Best Quality awards. KOA Speer is once again a Platinum Level recipient of the TTI award, an honor that can only be reached by receiving the Supplier Excellence Award for a minimum of 5 consecutive years. KOA Speer has been an award recipient in 15 of the 16 years TTI has presented this recognition.

The TTI Supplier Excellence Award represents the highest recognition possible of a supplier's performance within TTI. The program is centered on quality measurements that include: on-time delivery, receiving quality, customer-reported quality, administrative quality, operations and business systems. In addition, there are performance measurements such as sales and management support.

In addition to maintaining Platinum status, KOA Speer was also awarded the Diamond and Best Quality Awards. Introduced by TTI this year, the Diamond Award recognizes the company with the overall highest point achievement, while the Best Quality Award is given to the supplier who scores the highest in each of the possible Quality categories.

Chris Forbes, Distributor Sales Manager at KOA Speer, credited their success to the KOA Speer Quality 1st initiative, saying, "We believe the tenants of our Quality 1st initiative, in conjunction with the dedication and focus of our KOA Speer employees, have helped serve our customers at the highest possible level. By focusing on our three main tenants of Manufacturing, Product Solutions and Customer Service, KOA Speer continues to deliver high quality products and services."

Melanie Pizzey, TTI Vice President Global Product Operations, made the announcement. Achievement of this award not only represents the dedication of all KOA Speer Electronics employees to TTI, but also management's commitment and overall operating philosophy for excellence by allocation of resources, allowing employees the opportunity to do the right thing in order to ensure customer satisfaction.

TTI, Inc., a Berkshire Hathaway company, is a specialty distributor of passive, interconnect, electromechanical and discrete components. Headquartered in Fort Worth, Texas, TTI employs over 2,000 with more than 50 locations throughout North America, Europe and Asia.

For more information about TTI visit www.ttiinc.com.

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With Multi/Cable YOU get to choose high quality, specialty cable, and receive exceptional service, and fast turnaround at competitive pricing!

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With off-the-shelf cable products you don't get the chance to decide on many critical features of the finished product such as: design, materials, tolerances, and manufacturing techniques.

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NEWS PLUGS continued**IEWC Announces New Chief Financial Officer**

IEWC, a premier global supplier of wire, cable and wire management products, announced that Jeffrey Siemers has

Joined the company as its Chief Financial Officer.

Mr. Siemers is a 1976 graduate of the University of Wisconsin, with a B.A. in Accounting and Finance. He started his career in 1977 with the accounting firm Deloitte and became a Certified Public Accountant in 1980. Most recently, he served as Chief Financial Officer and Executive Vice President for Serigraph, a market

leader in plastic printing of decorative, functional and brand related graphics. His experiences there included finance, accounting and information technology, as well as general management.

IEWC Corporate President & Chief Executive Officer, David Nestingen, states that "Jeff's financial experience lines up very well with the company's broader, global initiatives. His comfort in many different

business climates will move the company forward in a very cohesive way - a challenge for all businesses at the moment.

Over his career, Mr. Siemers has served in executive positions with Material Sciences Corporation and Orbis Corporation, as well as divisional leadership roles within Brady Corporation. His career has included work in mergers and acquisitions, capital markets, high growth companies and publicly traded companies. Internationally, he has experience in countries such as China, Mexico, Germany, the UK, India, France and Australia.

As IEWC's business expands, the company has placed an emphasis on leadership that makes a difference. In this role, Mr. Siemers will provide leadership to the company's finance and accounting functions, with the goal of optimizing IEWC's already strong financial foundation. Mr. Siemers replaces Kyle Spader in this role, allowing Kyle to focus exclusively on his new role as President of IEWC's US Division.

For further information visit www.iewc.com.

IPC World PCB Production Report Shows 19 Percent Growth in 2010

Worldwide production of printed circuit boards (PCBs) grew by 19 percent over 2009 to nearly \$55 billion, according to the World PCB Production Report for the Year 2010, recently released by IPC — Association Connecting Electronics Industries®. Published annually, the report offers consensus estimates of PCB production value by country and by product category, and analysis on global and regional PCB industry trends. This year's report includes special sections on trends in the HDI/microvia and metal-core PCB markets.

Approximately 2,600 PCB fabricators produced an estimated \$54.772 billion (U.S.) in 2010. PCB production grew in all regions in 2010 as the industry recovered from the recession. Production grew by 6.9 percent in North America, 14.4 percent in Europe and 21.1 percent in Asia, increasing Asia's share of world PCB production to 87 percent. Rigid-flex was the highest growth category. Metal-core PCBs, while less than one percent of world PCB production, was the second fastest growing category in



Solutions for seal processing

You do have choices

When it comes to fully automatic seal applicators, you have a few to choose from. Your choices have just grown as Schaefer GmbH has introduced a new seal module or SSM for fully automatic wire process machines.

Your benefits

One of the many benefits of the SSM is it will work with seal kits that you may already own. The seal size range for the standard track in the Schaefer unit is the widest in the industry. Its narrow construction saves space on your machine table, allowing for a wider variety of other modules. The SSM is designed to achieve maximum process speeds while minimizing space requirements.

Wide range is standard

The new SSM unit can handle seals in a wider range of sizes and shapes. It is user friendly and will process seals with diameters up to 10 mm and 9 mm in length in its standard configuration. This includes many hard shell seal applications. Optional settings are available for large seals with diameters up to 17 mm and 16 mm lengths. The SSM has many other cost savings options available as well.

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2010.

World PCB Production Report for the Year 2010 was developed by the World Market Consensus Committee, comprising the world's leading analysts in the electronic interconnection industry. Using a consensus process, committee members pool their own information and review data from other sources to produce this annual report. The committee members include Michael Gasch of Data4PCB, Mark Hutton of BPA Consulting Ltd., Harvey Miller of Fabfile Online, Hayao Nakahara of N.T. Information Ltd. and Phil Plonski of Prismark Partners.

The report is available only to IPC members free of charge and can be accessed at www.ipc.org/World-Report-2010. Nonmembers may purchase the report for \$1,050 and receive a one-year facility membership in IPC, which includes many other member benefits. To purchase the report, visit www.ipc.org/2010-World-Report. Information on IPC membership is available at www.ipc.org/membership.

For more information on the World PCB Production Report for the Year 2010 or other IPC market research studies and reports, contact Sharon Starr, IPC director of market research, at +1 847-597-2817 or SharonStarr@ipc.org.

Cerro Wire Now Offers SLiPWire® Copper XHHW-2 Featuring Sequential Footage™

Cerro Wire LLC, a leading manufacturer of copper electrical building wire and cable, announces that it now carries

XHHW-2 cross-linked polyethylene (XLP) insulated copper conductors with a SLiP-Wire® jacket and True Sequential Footage™. XHHW-2 is ideal for use in conduit or other recognized raceways for service, feeder, and branch circuit applications as specified in the NEC®. It is a good choice for industrial applications where better insulation toughness and resistance to moisture and heat are required.

XHHW-2 can be used in wet or dry locations at temperatures up to 90°C. The XHHW-2 insulated copper conductors are available in sizes from 14 AWG to 750 MCM, with outer dimensions ranging from 0.120 inches to 1.136 inches. Sizes 1/0 and larger are rated for cable tray (CT) use. The product is available in reels of 1,000, 2,000, 2,500, or 5,000 feet.

SLiPWire XHHW is manufactured using Cerrowire's Self-Lubricating Polymer (SLP®) technology, so it can be installed without a pulling lubricant. SLiPWire XHHW-2 also features True Sequential Footage, which is guaranteed by Cerrowire to be accurate to ±0.5 percent on reels 1000 feet and longer for sizes 1 AWG and larger.

Cerro Wire LLC, a leading manufacturer of copper electrical building wire and cable, supplies its products to wholesale electrical distributors. Cerrowire's Electrical Distribution Division offers building wire for residential, commercial and industrial use. Our operating philosophy focuses on customer service, low cost operations, simplification and innovation. Our employees operate manufacturing

and distribution facilities around the United States. Cerro Wire is a Marmon Wire & Cable/Berkshire Hathaway company.

For more information and a complete description of products and services visit www.cerrowire.com.

CALENDAR OF EVENTS

~ ~ ~ PAGE 57 ~ ~ ~

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NEWS PLUGS **continued****New High Current Power Distribution Vehicle Electrical Centers Save Labor Costs for Wire Harness Manufacturers**

Waytek, Inc., a distributor of electrical supplies, now offers custom high current power distribution vehicle electrical centers engineered and manufactured for your specific application.

Single Vehicle Electrical Centers (VEC) and Dual Vehicle Electrical Centers (DVEC) are widely used power distribution modules for DC powered vehicles. Trucks, buses, RVs, con-ag equipment, marine vehicles, forklifts, electric vehicles and more use the VEC/DVEC for distributing main and auxiliary "add-on" power applications. They are also commonly used as

engine controllers, transmission controllers, and ABS brake system control modules.



Single Vehicle Electric Center (VEC)

The VEC & DVEC offer a customized high current power distribution center in a compact size. They use patented programmable 3D matrix technologies that can be easily modified to accommodate a wide range of applications. Waytek pro-

vides an engineering team to develop a prototype that fits your needs, and gives you a plug and play installation that keeps your labor costs low and tooling costs at zero.

The VEC & DVEC accept standard 2.8mm wide terminals including mini fuses, mini circuit breakers, relays, flashers, diodes and more. They allow you to eliminate external jumpers and splices in wire harnesses that are subject to the harsh environments, and give you a protected centralized unit for power distribution.

The VEC can accommodate up to 2 input connectors – 4 bladed inputs or 2 studs – and 4 output connectors. The DVEC can accommodate up to twice this amount.

Waytek's Customer Service Representatives are available by phone at 800-328-2724 Monday through Friday from 7:30 am until 5:30pm central time.

Orders can also be placed online by visiting www.waytekwire.com.

Waytek, Inc. is a privately held company which offers quality electrical wiring supplies. With over 6,000 products in stock, Waytek's extensive line includes circuit protection, wire, connectors, relays, switches, cable ties, heat shrink and many more wiring accessories.

Learn more about VEC and DVEC at www.waytekwire.com/VEC.html

Capstone Announces Expansion of Carb Emissions Certified Product Line to Operate in Hybrid Electric Vehicles

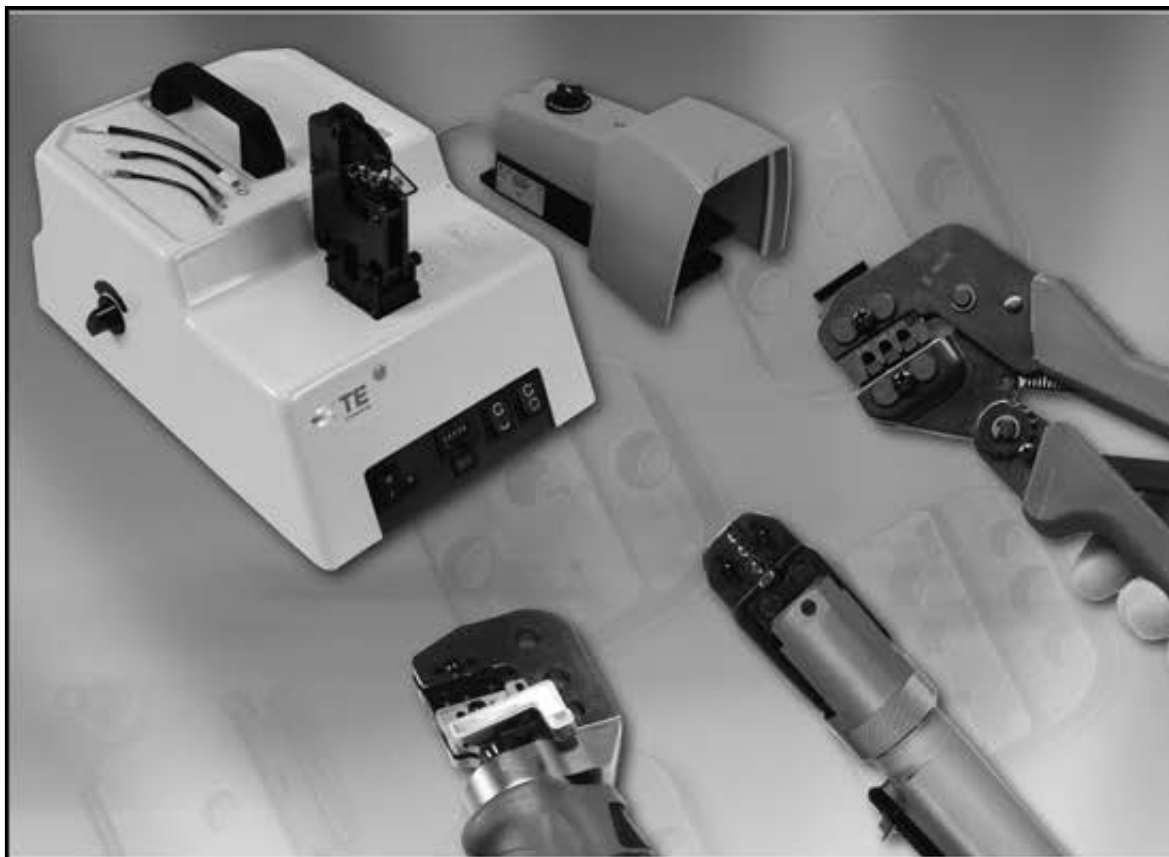
Capstone Turbine Corp., (www.microturbine.com) a world leading clean technology manufacturer of microturbine energy systems, announced that it released the C30 and C65 natural gas fueled microturbines that meet extremely low global emission standards, including California Air Resources Board (CARB) requirements for New On-Road Heavy-Duty Engines for Urban Bus – Hybrid service.

The Capstone Natural Gas fueled microturbines are the only engines certified to the CARB On-Road Heavy-Duty Engine emissions levels for Model Year 2011 that operate with no exhaust aftertreatment.

Test emissions from both the C30 and C65 Natural Gas microturbines measured dramatically less than the emissions levels set forth by the CARB standard including NOX at 75% and CO at 96% less than the required levels. Emissions were achieved using the next generation of Capstone's lean premix combustion technology. No aftertreatment equipment allows Capstone to achieve these emission levels without impact to product efficiency, additional cost or increased vehicle weight.

"Our engineering team continues to improve the microturbine combustion and controls technology to identify simple solutions that address technically challenging environmental requirements," said Mark Gilbreth, Capstone's Executive Vice President and Chief Technology Officer. "Technologies to reduce harmful emissions, increase fuel efficiency, and reduce product cost continue to be the focus of our engineering development activities to advance our microturbine product to be the market leading engine technology."

"Hybrid Electric Vehicle applications are a significant opportunity for Capstone as countries continue to



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Whatever your production volume and job mix, we can offer the tools to get it done. With a full range of tooling from hand tools to high volume, fully automated systems, TE is able to meet manufacturing demands worldwide. Our experience has given us a unique view of the trends and challenges in wire harness and PCB manufacturing. It all derives from our commitment to your manufacturing challenges, giving you the advantage in your marketplace.

- **Hand tools** combine ease of use with reliability and precision.
- **Applicators and tooling** from TE can be your key to productive wire harness manufacturing. These applicators come from a long tradition of quality, reliability, and precision.
- **Insertion Machine platforms** combined with performance enhancing accessories provide flexibility to meet a wide range of customer requirements in the manufacturing of printed circuit boards.

For all your application tooling needs, contact Heilind Electronics or visit www.heilind.com/rpages/gatd

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implement stringent emissions standards," said Darren Jamison, President and Chief Executive Officer of Capstone Turbine Corporation. "The ability to provide clean burning power generation helps meet California requirements today and sets the standard for other nations as they establish emissions requirements," added Jamison.

Capstone Turbine Corporation (www.capstoneturbine.com) is a world leading producer of low-emission microturbine systems, and was the first to market commercially viable microturbine energy products.

Capstone Turbine has shipped over 5,000 Capstone MicroTurbine(R) systems to customers worldwide. These award-winning systems have logged millions of documented runtime operating hours.

Capstone Turbine is a member of the U.S. Environmental Protection Agency's Combined Heat and Power Partnership, which is committed to improving the efficiency of the nation's energy infrastructure and reducing emissions of pollutants and greenhouse gases. A UL-Certified ISO 9001:2008 and ISO 14001:2004 certified company, Capstone is headquartered in the Los Angeles area with sales and/or service centers in the New York Metro Area, Mexico City, Nottingham, Shanghai and Singapore.

Easer Sample Program (ESP) - Finding the Right Fit

When a customer needs to determine which Eraser machine will work best for their application, the Eraser Sample Program (ESP) allows them to send in a sample of their material to be tested.

Once processed, the sample is returned to the customer with an evaluation report and quotation for the Eraser solution. This free service ensures that the customer gets the right machine for their specific needs.

The Eraser Company, Inc., now celebrating its 100th anniversary in business, manufactures a wide range of industrial products including wire, cable, and tubing cutters, wire and cable strippers, wire twisters, wire brush wheels, dereelers, infrared heating equipment, measuring tools, and FybRglass® erasers. The company is ISO 9001:2008 certified. The company offers free E.S.P. (Eraser Sample Program), as discussed above. Send a 10-20 foot sample of your material and Eraser will recommend the best solution for your processing needs from its line of

more than 200 products. For unique processing needs, Eraser will custom design a solution for you. For more information on Eraser's entire product line, visit www.eraser.com, or call 315-454-3237.

New Durable USB Connector Ideal For Challenging, High Stress Applications

Spectrum Advanced Specialty Products announces a new ruggedly constructed USB connector, featuring an enhanced design that meets MIL immersion and



New Durable USB Connector

International Electrotechnical Commission (IEC) seal requirements. Able to connect to USB 2.0 or 1.1 ports, the heavy-duty design of the USB connector is ideal for demanding, high stress applications.

Spectrum's latest USB connector is a Type A, right-angle mounted connector with current ratings of 1.5 Amps, a contact resistance up to 30 mΩ and an operating temperature range between -40°C and +105°C.

Additionally, this connector meets seal requirements of IEC-60529, Code IP67 on PCB side, as well as immersion requirements per MIL-STD-810F, Method 512.4 to 20 meters (unmated).

Ideal for demanding applications in the military, communications, medical, industrial and computing industries, Spectrum's rugged USB connector is also RoHS compliant.

Please contact Spectrum for additional information.

Spectrum Advanced Specialty Products produces coaxial filters & interconnects, advanced ceramics, antennas & assemblies, specialty connectors & harnessing and power filters & film modules. Spectrum Advanced Specialty Products is a Spectrum Control business, which is part of API Technologies Corporation.

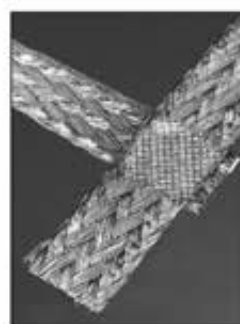
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NEWS PLUGS continued**IPC Releases PCB Industry Results for June 2011**

Association Connecting Electronics Industries® announced the June findings from its monthly North American Printed Circuit Board (PCB) Statistical Program.

Rigid PCB shipments were up 5.4 percent and bookings down 7.3 percent in June 2011 from June 2010. Year to date, rigid PCB shipments increased 4.4 percent and bookings declined 8.9 percent. Compared to the previous month, rigid PCB shipments increased 15.3 percent and rigid bookings increased 10.4 percent. The book-to-bill ratio for the North American rigid PCB industry in June 2011 was slightly below parity at 0.98.

Flexible circuit shipments in June 2011

were down 5.9 percent and bookings grew 30.8 percent compared to June 2010. Year to date, flexible circuit shipments increased 10.1 percent and bookings also increased 10.1 percent. Compared to the previous month, flexible circuit shipments increased 4.7 percent and flex bookings climbed by 21.9 percent. The North American flexible circuit book-to-bill ratio in June 2011 jumped to 1.13.

For rigid PCBs and flexible circuits combined, industry shipments in June 2011 increased 4.4 percent from June 2010, as orders booked decreased 4.2 percent from June 2010. Year to date, combined industry shipments were up 4.8 percent and bookings were down 7.3 percent. Compared to the previous month, combined industry shipments for June 2011 increased 14.4 percent and bookings increased 11.5 percent. The combined (rigid and flex) industry book-to-bill ratio in June 2011 reached parity at 1.00.

"The industry's book-to-bill ratio has returned to parity due to unusually high growth in flexible circuit orders in June," said IPC President & CEO Denny McGuirk. "This indicates strong sales in the flex segment over the next several months. Rigid PCB sales growth is still positive but trending downward due to weaker orders."

The book-to-bill ratios are calculated by dividing the value of orders booked over the past three months by the value of sales billed during the same period from companies in IPC's survey sample. A ratio of more than 1.00 suggests that current demand is ahead of supply, which is a positive indicator for sales growth over the next two to three months.

Book-to-bill ratios and growth rates for rigid PCBs and flexible circuits combined are heavily affected by the rigid PCB segment. Rigid PCBs represent an estimated 89 percent of the current PCB industry in North America, according to IPC's World PCB Production Report.

The Role of Domestic Production

IPC's monthly survey of the North American PCB industry tracks bookings and shipments from U.S. and Canadian facilities, which provide indicators of regional demand. These numbers do not measure U.S. and Canadian PCB production. To

track regional production trends, IPC asks survey participants for the percent of their reported shipments that were produced domestically (i.e., in the USA or Canada). In June 2011, 78 percent of total PCB shipments reported were domestically produced. Domestic production accounted for 78 percent of rigid PCB and 79 percent of flexible circuit shipments in June by IPC's survey participants. These numbers are significantly affected by the mix of companies in IPC's survey sample, which change slightly in January, but are kept constant through the remainder of the year.

Bare Circuits versus Assembly

Flexible circuit sales typically include value-added services such as assembly, in addition to the bare flex circuits. In June, the flexible circuit manufacturers in IPC's survey sample indicated that bare circuits accounted for about 48 percent of their shipment value reported for the month. Assembly and other services make up a large and growing segment of flexible circuit producers' businesses. This figure is also sensitive to changes in the survey sample, which may occur at the beginning of each calendar year.

Interpreting the Data

Year-on-year and year-to-date growth rates provide the most meaningful view of industry growth. Month-to-month comparisons should be made with caution as they may reflect cyclical effects and short-term volatility. Because bookings tend to be more volatile than shipments, changes in the book-to-bill ratios from month to month may not be significant unless a trend of more than three consecutive months is apparent. It is also important to consider changes in bookings and shipments to understand what is driving changes in the book-to-bill ratio.

The information in IPC's monthly PCB industry statistics is based on data provided by a representative sample of both rigid and flexible PCB manufacturers in the USA and Canada. IPC publishes the PCB Book-to-Bill Ratio and the PCB Statistical Program Report each month. Statistics for the previous month are not available until the last week of the following month.



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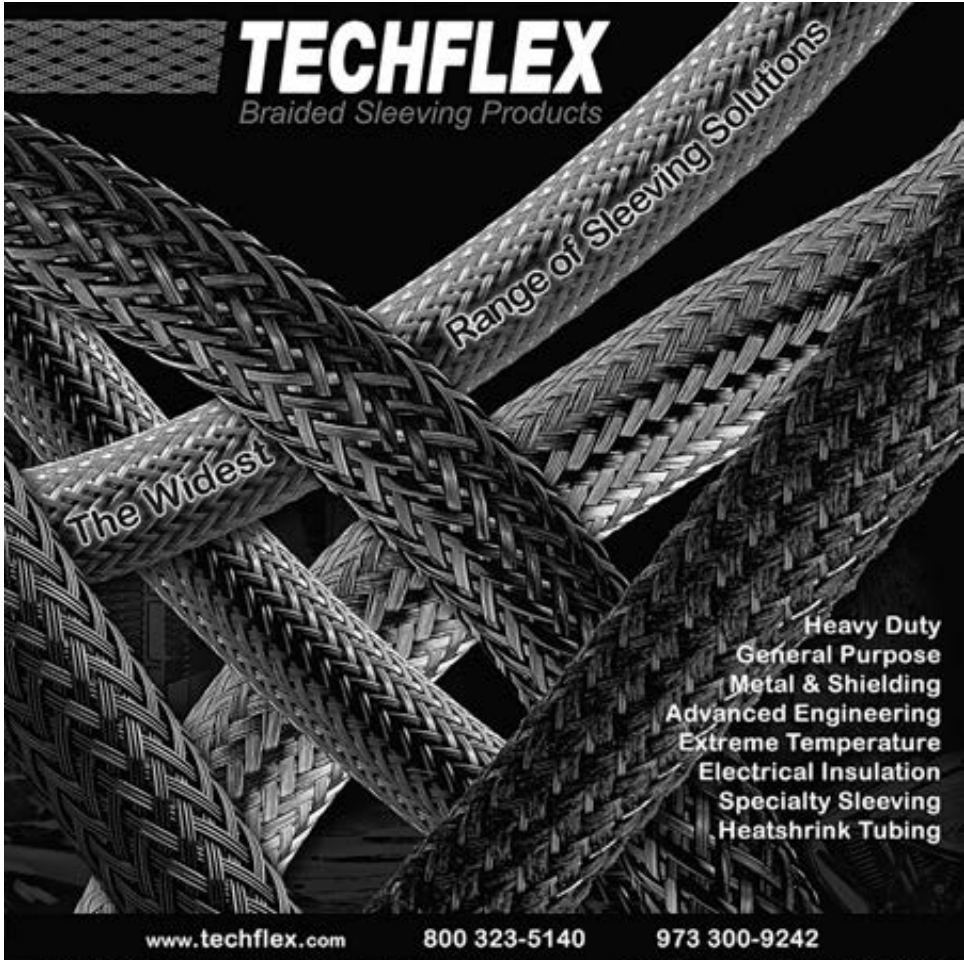
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NEWS PLUGS continued**New Rugged Connector from Amphenol Features High Amperage; Low Mating Force**

Amphenol Industrial, a global leader in interconnect systems, has introduced a new high amperage, single pole, plastic circular power connector for benign environment power applications. The Amphe-PPC is ideal for outdoor power supply, control systems and communications environments in various industrial markets including hybrid and electric vehicle, heavy equipment, outer door LED and factory automation.

**Amphe-PPC Rugged Connector**

The compact, lightweight and cost-effective Amphe-PPC uses silver-plated 5.7 mm RADSOK crimp-termination contacts, with gold-plated available, and can carry a current up to 120A. It features a lower insertion force and temperature rise than traditional contacts, providing longer life and the ability to be used in higher current applications at a given temperature.

The Amphe-PPC comes with integrated, waterproof cable glands, so additional adaptors are not required, allowing it to fit into smaller spaces.

This IP67-rated connector also features rubber seals as well as a molded thermo-plastic housing and insert. Each connector is designed with 90- and 120-color and keyway positions of different polarity to prevent mating mistakes and to ensure safety during operation. The connector is finger-proof in unmated applications to minimize contact with live contacts and prevent risk of shock.

The rugged connector can withstand up to 500 mating cycles at extended temperatures from -40°C to +125°C, salt fog spray to NACI 5% for 1,000 hours as well as shock and vibration of 980 m/s. Maximum operating voltage is 600V AC and contact resistance is 5 million-ohms. Minimum insulation resistance is 5,000 mega-ohms at 25°C.

Amphenol's patented RADSOK technology used in the new Amphe-PPC utilizes the tensile strength properties of flat, high conductivity alloy grid for the high normal forces required for conductivity, while providing a large conductive surface area. This results in a correspondingly low voltage drop and low temperature rise while maintaining low insertion forces. With millions of parts in the field, the RADSOK electrical connection has proven to be extremely reliable, with almost no reported connection failures in Amphenol RADSOK-designed applications.

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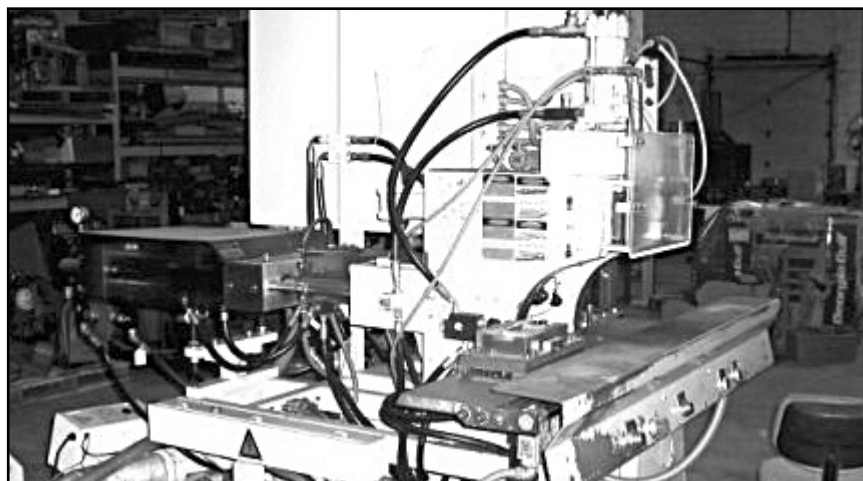
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- Work closely with National Sales Manager on meeting metrics and understanding the direction of MJM Industries.
- Ability to prioritize opportunities that have the greatest Return on Investment.
- Understand key players, applications, requirements, trends and needs as well as MJM's potential and market share within the targeted industry. Become an industry and solutions expert to leverage successes.
- Establish a linkage between the customer's business strategy and MJM's capabilities.
- Monitor the competition to better understand issues and threats and develop plans to respond to barriers.
- Negotiate customer contracts to insure an acceptable return on resources invested.
- Establish individual performance standards, goals and objectives in region.
- Develop written Account Plans for top strategic accounts, including annualized sales potential and resources that will be required to maintain the account.
- Co-Develop, execute and manage regional sales plans and budgets.
- Manage expenses and report on a timely fashion.
- Manage strategic relationships, cultivate new opportunities and monitor competitive activity.
- Other projects/duties as assigned or needed.

REQUIRED KNOWLEDGE, SKILLS & ABILITIES

- Bachelors in Mechanical or Electrical Engineering.
- In-depth understanding of UL/CSA standards.
- Strong inner drive, self-motivation and goal-orientation.
- Broad knowledge of connectors, contacts, wire, cable, and assembly processes.
- Proven track record of generating and qualifying new sales leads and closing opportunities.
- Strong sales, price negotiation and presentation skills.
- Experience in planning.
- Team player in a cross functional environment.
- Proficient in Microsoft Office Suite.

EXPERIENCE

- 5-10 years in wire harness, cable assembly, over-mold product industry.
- Minimum of 5 years in customer-facing role.

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- Interpersonal Skills – Communicates effectively both verbally and in writing. Listens effectively and clarifies as needed. Works well with others in a team environment.
- Principled – Acts in the best interest of the company and demonstrates behavior which values and respects others. Reliable, consistent and a good role model.

Please mail responses and salary requirements to:

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Wiring Harness Manufacturer's Conference February 15-17, 2012

Once a year WHMA sponsors a conference that offers members the opportunity to participate in committee sessions, attend educational programs and check out the industry's latest at the supplier's technology exhibits. *For further information visit www.wbma.org or call (952) 253-6085.*

Swan Resort
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National Wire Electrical Manufacturing and Coil Winding Expo September 19-21, 2011

The 2011 Electrical Manufacturing & Coil Winding Expo is co-located with six other exciting expositions that are sure to bring you new prospects for your products. Both the attendees attracted by these other groups, sharing the same exhibit hall, and the exhibitors in the Advancements in Thermal Management Expo; the Antenna Systems Expo; the Battery Power Expo; the Energy Efficiency Expo; the Remote Site Expo and the new TechX USA Show will attract new prospects for your company. This is the One place for the face to face contacts that build lasting relationships and new customers. *Call 619-435-3629 for information about exhibiting or attending this mega-event.*

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IPC Midwest September 21-22, 2011

IPC — Association Connecting Electronics Industries® will hold its annual IPC Midwest Conference & Exhibition in 2011 at the Renaissance Schaumburg Hotel and Convention Center in Schaumburg, Ill. The event will be produced solely by IPC and will feature a two-day exhibition, a technical conference and industry standards development meetings. "IPC is responding to exhibitors' needs for a regional and cost-effective exhibition and we believe the IPC Midwest Conference and Exhibition in Schaumburg does just that," explains Anthony Hilvers, IPC vice president of industry programs. "The Renaissance Center provides world-class conference and exhibition facilities with easy expressway access convenient for electronics manufacturers and suppliers in Wisconsin, Indiana, Michigan, Iowa, Minnesota and Illinois," adds Hilvers. *For further information visit www.IPCMidwestShow.org.*

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Santa Clara Convention Center
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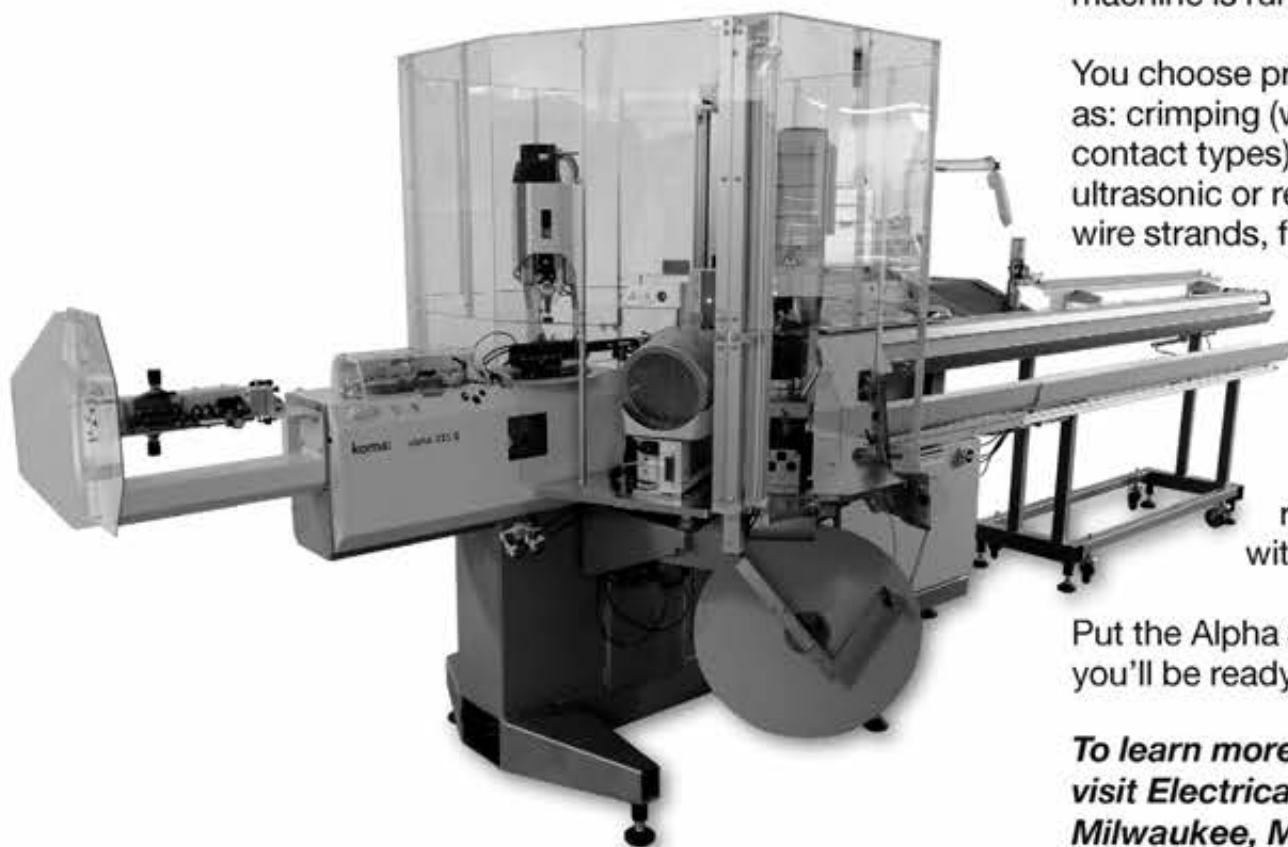
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