



Our Licensing Program Overview

REMINC's and CONTI's licensing history dates back to the early 1960's when the original TAPTITE® fastener was licensed to a small but select group of fastener manufacturers. Since then, our program has expanded dramatically, where we now have more than 100 producers globally, licensed to practice our numerous Patents, and utilize our Registered Trademarks and Confidential Technical Information. The range of licensed products in our portfolio has grown to include TAPTITE 2000®, FASTITE® 2000™, TAPTITE II®, POWERLOK®, REMFORM®, and several other proprietary designs. Each of these products is marketed and sold, not as a fastener item, but rather as a cost reduction to component assemblers.

To maintain quality expectations, we have several heading die and roll-die manufacturers licensed to meet the demand of our fastener licensees with standardized tooling. We are continually working to develop new and improved products in order to meet the challenges of the global assembly industry. Licensee support in the forms of education, training, application engineering, testing and marketing assistance, is another important component of our program. In recent years we have expanded our support capability in a timelier manner by having our own staff in strategic locations in North America, Europe and Asia. REMINC and CONTI will continue to innovate and provide new technology to the fastener industry in order to maintain our reputation for being the Leaders in Lowering the Cost of Assembly.

REMINC STAFF

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**When Designing a Complex Component,
Think of Fastening Early in the Design Cycle**

by Ken Gomes

When car makers decide to design a new Powertrain component, it is the beginning of a long and convoluted process. Decisions such as physical size, material and major component requirements are interrelated and contribute to a complexity unknown to the average consumer. During this multifaceted product design procedure, the method required to assemble the component is often overlooked until the design is near completion.

Too often, the consideration of fastening complex design components is made at a point in time when options become limited and opportunities for cost savings are lost. This article evidences one example of the cost-savings which can be achieved with early integration of the fastener in the overall design process in just one component of a new Ford Vehicle.

In order for Ford to recapture its position in light vehicle sales, a successful 2007 model Crossover utility vehicle (CUV) product launch, a vehicle with desirable features, quality and flexibility, was a must. One of the desirable features required was the ability to provide an All-Wheel-Drive (AWD) model.

Ford decided that the vehicle to help them achieve their goal was the Ford Edge (*see Figure 1*). The Edge is a Front-Wheel-Drive (FWD) design. To adapt the Edge to an AWD model, Ford needed to create a Power Transfer Unit (PTU) with a compact size to fit in the crowded forward location of a FWD vehicle. This task was assigned to Ford's Visteon group.



Figure 1

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R E G I S T E R

PRESIDENT'S PERSPECTIVE **ADHERE TO YOUR CORE VALUES**

by Tim Egan



During the past several weeks, we have been deluged with news articles and media broadcasts about Toyota Motor Corp.'s automotive recalls. To date, Toyota has recalled more than 8 million vehicles for a series of problems which allegedly have caused unexpected vehicle acceleration without any braking capability.

The results of these so far apparent but unexplained mechanical and/or electronic malfunctions have been vehicle damage, driver and passenger injuries and even some fatalities. I shall not delve into the details of this situation; however, from my perspective, there are several lessons to be learned by all of us, irrespective of the industry or position in which we are involved.

- When an apparent problem surfaces, acknowledge it quickly and respond to those affected.
- If a solution is not obvious, state so, but initiate an investigation without delay.
- Communicate with your customers, employees and anyone else affected by the problem.
- Keep them current with your progress in finding a solution or inability to do so.
- When the solution is found, implement it as quickly as possible.

These might be the logical and most obvious steps to take when problems arise; but I suggest looking a bit deeper, to try to identify how and why the problem occurred in the first place.

In Toyota's case, their senior management has admitted that the company made some bad decisions in the past in the interest of obtaining market share, growth and profitability, but at the expense of quality and ultimately product performance.

I have learned from what I have heard and experienced, that when a company strays from its core competence and values, it exposes itself to risk. This premise certainly applies to our program as well. As a licensor of proprietary fastener technology, we continually encourage our licensees to adhere to the following policies.

Once your company's mission has been established, and if it has proven to be successful over time, stay with it.

Don't take extraordinary steps to increase sales, market share or profitability, if doing so has any possible associated risk of adversely affecting your product quality and/or performance. Avoid these temptations.

Promote recognized and proven products on the basis of their cost-savings attributes and benefits, not their price alone.

Expand your business by employing application-engineering to identify new or under-developed market potential.

Be vigilant to maintain your products' quality standards.

Don't cut corners to gain a short-term margin improvement that might cause long-term damage to your record or reputation.

Train your staff to be knowledgeable about your products range, its capabilities, benefits and limitations.

Provide support and service to your customers and solve problems in a timely manner by taking a pro-active approach.

Adhere to those principles and values that have made your company successful, as they should bring continued success if consistently employed.

At this point in time I have no idea what the outcome of the Toyota situation will be, but this could be a pivotal moment in the life and perceived value of a globally recognized brand. I recall that when Audi had similar acceleration problems in the 1980's, it took them 15 years to recoup the sales they lost during the crisis. It will be interesting to see how Toyota's situation plays out. But more importantly, we should all be able to take something positive away from this predicament, some lessons whereby we can prevent bad publicity and damage to our reputation or brand, should a catastrophe someday confront us.

Adhere to Your Core Values!

When Designing a Complex Component, Think of Fastening Early in the Design Cycle by Ken Gomes

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Jim Levitte, a Senior Fastener Engineer at Linamar (formerly Visteon) was assigned the task of designing the fastening required for a smaller PTU, suitable for the Ford Edge.

Levitte's goal was to prevent problems as experienced in the past, lower in-place cost and primarily reduce or eliminate the costs of repair and warranty. In his research, Jim found serious problems had occurred in the assembling of PTU cases, the most significant being that the use of conventional bolts to assemble the two halves of the PTU case resulted in cross threading.

Transfer cases are manufactured from die cast aluminum. Fasteners are either automatically fed and driven into pre-tapped holes or are hand driven. At times, regardless of whether the screws were driven automatically or hand driven, the screws would not properly follow the path of the internal thread, causing the screws to lock up or freeze in the internal thread or destroy the internal thread. This cross threading resulted in repair costs as high as U.S. \$50.00 per fastening site, a significant percentage of the manufacturer's total cost of the unit.

To eliminate any cross threading, Jim and the PTU Engineering Team, along with Application support from the fastener supplier, ACUMENT® Global Technologies, decided to use thirteen M8 x 1.25 x 35 hex flange head TAPTITE 2000® screws, neutral hardened to grade 10 property class, instead of conventional machine screws, to assemble the cover to the case. *(See Figure 2)* TAPTITE 2000® screws form their own internal threads in plain holes upon insertion. Since no internal thread exists on first insertion, it is virtually impossible for the screws to cross thread.



Figure 2

The use of TAPTITE 2000® thread rolling bolts resulted in two primary cost savings advantages. The first was the elimination of all tapping associated costs, since TAPTITE 2000® fasteners form their own internal threads. Several automotive companies have estimated this savings to be approximately 4 cents (U.S. \$0.04) per hole. The second advantage is the reduction in capital equipment. TAPTITE 2000® thread rolling bolts eliminated the need for tapping and cleaning stations, lowering the capital expense of the assembly equipment. Both these cost savings were realized while also obtaining the additional benefit that all the TAPTITE 2000® fasteners could be inserted using automated equipment with no hand starting required.

Knowing the importance of designing the fastener early in this project, Jim turned to the fastener supplier, ACUMENT® Global Technologies, for assistance.

Torque and tension testing and a tightening strategy was developed with input from the fastener supplier, ACUMENT®. This project is an example of how fastener supplier application engineers working with the end-user design team contributed to the development.

This situation revealed another advantage to using TAPTITE 2000® thread rolling screws. Even if a loss of clamp load were to occur in the four locations, the TAPTITE 2000® screws would not back out. This was due to the inherent prevailing torque provided by TAPTITE 2000® screws. Prevailing torque is the torque required to rotate a screw even when the head is not seated. It is considered a measure of resistance to vibrational loosening.

From a fastener-related perspective, it is evident that Jim Levitte and his team at Linamar approached the design and development of the PTU unit on a proactive basis. By making the decision to use TAPTITE 2000® thread rolling bolts at an early stage in the design process, the development process was able to accommodate all the required parameters of the fastener, fastening site and fastening equipment at an appropriate time in the development cycle. This progressive approach to fastening used by Linamar has resulted in cost savings, consistent performance and a high quality unit.

REMINC Training / Brochure Request Form

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Please Check:

- Contact me regarding a training visit
- REMINC General Products Catalog
- TAPTITE 2000® Products Application Guide
- TAPTITE 2000® Product Brochure
- REMFORM® Product Brochure
- TRU-START® Product Brochure
- FASTITE® 2000™ Product Brochure
- "54 Ways TAPTITE 2000® Fasteners Lower the Cost of Assembly" Request Form
- Receive Newsletter by e-mail

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