

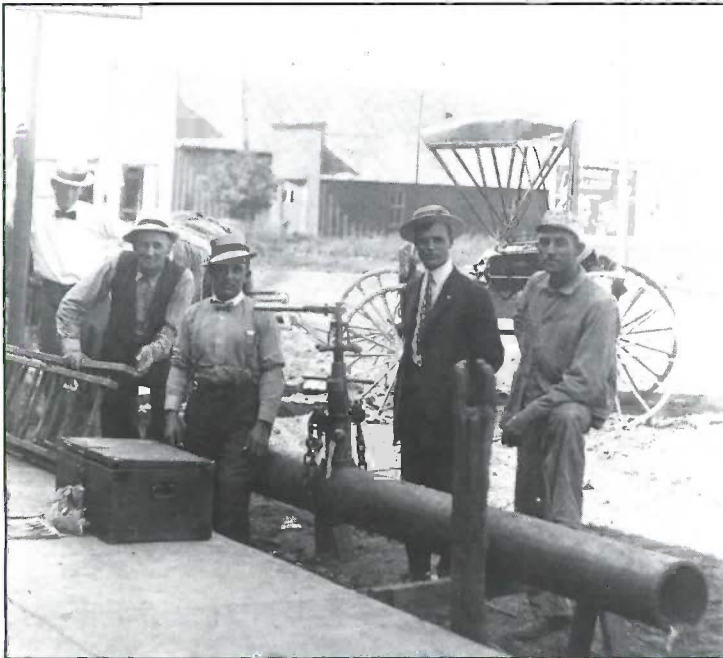
The

# Pipeline

SPRING 1993 VOL. 6 NO. 2

A Newsletter for Employees of the Tyco Family of Companies

## Mueller's "On the Road Again"



"Selling tapping machines in Kansas," circa 1880's.

The photo shows one of the first Mueller products, a drilling and tapping machine, set up on the dirt street of a Kansas cattle town. The caption reads simply, "Selling tapping machines in Kansas."

Today, the "Mueller Road Show" travels in a 16-foot long fifth wheel trailer laden with more than a ton of equipment. Two trained instructors take turns driving the show from city to city, each on the road for about a month at a time and the show is on the road continuously from March through December. When not with the show, the instructors work as customer service representatives in Mueller's Decatur Customer Service Center and conduct in-house seminars.

This year, the show will host more than 4,000 customers, averaging about 50 people per day-long session. Groups include managers, purchasing agents, engineers, and maintenance crew members -- anyone who can benefit from having a clear understanding of the advantages and proper application of Mueller products.

( More about Mueller inside on page 3 )

◆ Virtually everyone has applied the wisdom of the old adage "A picture is worth a thousand words" when trying to explain something new. When that "something" is an entire product line consisting of tens of thousands of items, even pictures can be inadequate especially when many of those products are part of highly technical procedures designed to allow work on drinkable water or natural gas distribution systems without water or gas escaping.

That's why at Mueller Co. there is a corollary: a demonstration is worth a thousand pictures. Each year, Mueller conducts live demonstrations of its products in several cities in almost every state of the United States. No one knows for sure when the practice started. An old photograph from the Company's archives, dated in the 1800's, suggests it has been a part of Mueller's selling technique almost from the Company's founding in 1857.

### inside this issue

#### FOCUS :

Education and Training  
...Cover,3-14

WORD PUZZLE ...7

PROJECTS:  
Update on Suntec City ...15

CENTER:  
Reader's Survey ...Pull-out

ACHIEVEMENTS: ...16-17

MOVING ON;  
Twitchell ...19

HEALTH WATCH: ...20

## From The Top



**L. Dennis Kozlowski,  
Chief Executive Officer**

◆ In 1985, Tyco demonstrated its commitment to education by developing an education center at our headquarters in Exeter, NH. It is at this center that we conduct employee and customer training programs. These give attendees from around the world the opportunity to share new ideas with colleagues, visit headquarters and meet with company officials. In addition, by moving all our training facilities to one location, we're now able to utilize the services of one workshop administrator, Jan Truebner. Jan has gained a tremendous amount of knowledge about Tyco and our products and services. A representative of Stamford, Connecticut, USA-based Learning International, Jan also shares expert insight and proven strategies with program attendees.

The programs offered through Tyco's employee training center focus on every aspect of our business, such as employee development, sales and marketing, department management and product training. Our goal in providing the programs is to teach new strategies and sharpen the existing skills of program attendees, adding to Tyco's continuous improvement efforts. Our management program, in particular, motivates Tyco

leaders to improve total quality, encourage innovation, inspire initiative and build productive teamwork.

With the assistance of our educational counselor, Bob Stuart, we provide our employees with the information and resources they need to make proactive decisions regarding education.

Each month, we publish Education & Opportunity, an employee newsletter that offers timely information on a range of topics, from college profiles, vocational training, basic reading and writing skills, learning opportunities and listings of upcoming workshops, to money saving tips and valuable financial aid guidance.

To support the information shared in Education & Opportunity, we've also established Education Resource Centers in more than 25 locations throughout the U.S.A. These centers make available materials on financial aid and private scholarships, colleges and universities, vocational programs, career options and alternative educational opportunities.

Finally, to support our commitment to maintain an educated work force, Tyco has created a tuition reimbursement program that provides employees with extensive options to pursue their educational goals. Not only do we reimburse full-time, salaried employees for courses that will impact their performance at Tyco and lead to advancement opportunities in some cases, we also reimburse courses that help employees grow personally and round out their educational background.

At Tyco, we are convinced that our future depends upon a well-educated, properly-skilled work force. We need associates who can compete worldwide. To achieve this, we have worked to promote the benefits of continuous education to all employees. Through Tyco's worldwide informational programs, we hope to help our most valuable asset - our employees - to successfully face the business and personal challenges in years ahead. ■

### Pipeline Committee

Candy Baselice, Exeter  
Terri Blouin, Exeter  
Kerry Briggs, Simplex  
Robin Carter, Exeter  
Lou Chiesa, Exeter  
Rose Dougherty, Exeter  
Sandy Horton, Australia (Wormald)  
Peggy Fleckenstein, Mueller/Albertville

Pat Fleetwood, Mueller/Decatur  
Michele Hebert, Simplex  
Barbara Jacques, Exeter  
Susan Lane, Allied/Harvey  
Don Lanier (Nancy Martin), Statesboro Mfg.  
Lily Legenza, SS/Toronto, Canada  
Scott MacArthur, Brussels  
George Mathis, Mueller/Chattanooga

Helene Muha, Canada (Canvil)  
Gary Nadolny (Jim Cox), Ansul/Marinette  
Fred Pecora, Cleveland/Rowan  
Jim Phillips, Henderson Mfg.  
Margaret Pixley, Ludlow/ Homer  
Nancy Ross, Exeter  
David Rovetto, Exeter  
Katharine Stockman, Exeter

Mary Sullivan, Exeter  
Janet Van Hirtum, Exeter  
Viviane Vanovermeire, Brussels  
Daniel Wirth, Columbia PA

The Pipeline is published at 3 Tyco Park, Exeter, NH, USA, 03833



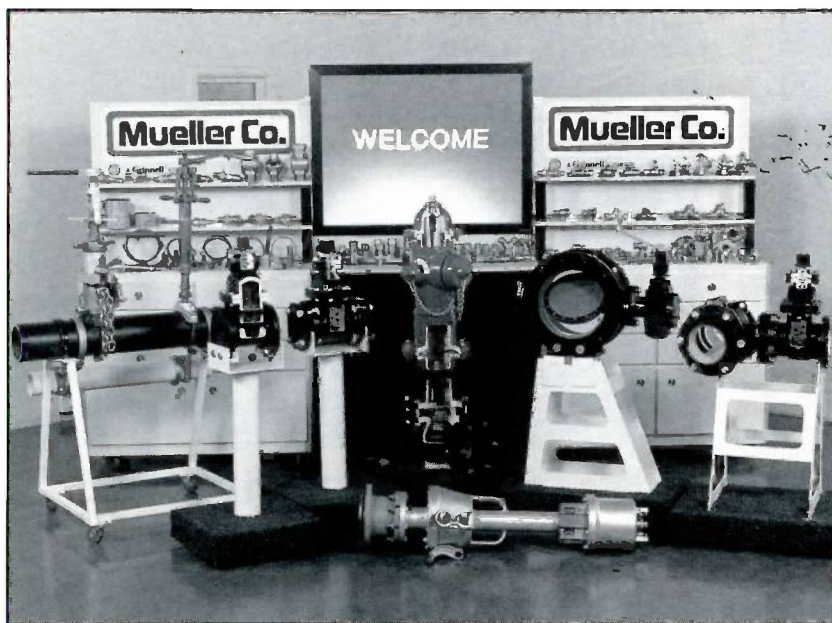
Please address all inquiries and articles to: **The Pipeline**, 3 Tyco Park, Exeter, NH, USA. 03833.

The Tyco family of companies includes

Armin Corporation, Grinnell Corporation, Ludlow Corporation, Simplex Wire & Cable, and Tyco Printed Circuit Board Group



*(The continued story on Mueller from the cover page)*



the road by late afternoon. Often the cycle starts over again the very next evening.

According to Mueller management, the road show is the best, most cost efficient method for reaching large numbers of customers and new prospects. Just as important, it reinforces Mueller's reputation for providing the best customer service in its industry, and demonstrates the company's leadership.

From the volume of appreciation letters Mueller receives, the benefits to Mueller and to its customers grows as the show moves from town...to town...to town. ■

**The program gives customers an opportunity to see and touch virtually every type of product Mueller makes.**

A typical session includes step-by-step demonstrations of key products and installation procedures, application hints, introductions of new products, and discussions tailored to the specific needs of each audience. Hands-on exposure to Mueller products is emphasized, and the audience is encouraged to ask questions or step forward to inspect a product more closely at any time. The needs of the audience come first, and there's no such thing as a "set" program.

The only thing that is set is the tight schedule the show has to keep in order to meet its commitments. There is always a backlog of requests for the show. Typically, the show arrives at a location and is set up at night. It starts the next morning and ends by mid-afternoon. Immediately, the show is taken down, repacked on the trailer, and is back on



**The Mueller Road Show travels the continental US in this custom built trailer.**



Ansul students involved in foam quality testing.

## Ansul U.S.A. takes training seriously!

◆ The Ansul fire school is probably the most famous school of its type in the United States and attracts hundreds of students each year. Students who want first-hand experience find that fighting 30 different types of fires with hand portable and wheeled dry chemical extinguishers brings new meaning to the term hands-on. During their 3-day stay in Marinette, Wisconsin, USA the school will expend approximately 10 tons of dry chemical, 1,200 gallons of gasoline, 300 gallons of propane, and over 200 cartridges to operate the extinguishers.

Less well known, but equally important, is Ansul's commitment to product training. As part of their authorization to sell Ansul products, a distributor must complete a comprehensive training program on the design, installation and maintenance for each of the products they will be selling.

Supporting this training requirement is a staff of applications engineers in Marinette, Wisconsin, USA who design the programs, determine the audio visual requirements, and then conduct the actual programs. Eleven separate training programs have been developed and are conducted for product lines ranging from system to protect restaurant kitchens, systems to protect off-road vehicles, and foam systems which protect any number of hazards.

Training programs run from two to three days each depending on the complexity of the product line being covered and, like the Fire School, include a good deal of actual hands-on exercises. For example, students in foam programs conduct foam quality tests, set up and adjust

foam monitors, in addition to designing systems and preparing bills of material for a number of different hazards.

Each program requires the students to complete a final exam before a certificate of completion is awarded. Ansul then follows up by issuing recertification exams at 2-year intervals so that students can maintain a current certificate of factory training.

How popular are Ansul's product training programs? Last year approximately 450 individuals from the United States and abroad participated in these programs. ■

## Cologne-- Foam Training and Applications

◆ Forty-two representatives of eleven European countries met in Cologne, Germany on the 25th and 26th of January, 1993 for a Foam Training Course. Keith Olsen and Dave Pelton of Ansul Marinette ran a varied program of lectures, films and demonstrations, which were both instructive and enjoyable. John Philips of Ansul International and Bob Whiteley of Ansul U.K. gave the European foam picture to complement Keith and Dave's program.

Participants were led through all aspects of the foam business and learned about the different types and applications of foam concentrates, hardware selection and conceptual system design. Throughout, they were shown where new business opportunities lie; those which may previously have been overlooked. To ease the intensive lecture schedule, Keith and Dave gave several demonstrations of the fire-extinguishing capability of the Ansul foams. Participants even got hands-on experience and a feel for the foam concentrates from testing samples.

Total Walther Feuerschutz (TWF) and Grinnell Europe hosted the course, which was truly international. There was simultaneous translation from English into French and German and literature was available in all three languages. Behind the scenes, Rudolf Bussem and his team at TWF ensured the smooth and efficient use of two very full days.

Training is the first step in a European drive to promote foam sales. Through training, course participants are now aware of foam business possibilities and have the technical background to sell with confidence. Just as important, Keith and Dave have met the people who will sell their products and understand their needs. ■





## SPC TRAINING AT SIMPLEX No Day At The Beach

◆ Simplex Wire and Cable Company, located in Newington N.H., USA has customized and enhanced an off-the-shelf SPC (Statistical Process Control) training program and made it available to all employees.

Statistical Process Control offers something for everyone. It's not just for Engineers or Quality Technicians. What does SPC mean in a manufacturing environment? In very simple terms it means drawing conclusions based on numbers to control a process; making decisions using factual information rather than opinions. These days, businesses can't afford to "shoot from the hip" and hope they've solved a problem or made the right decision. Sound accurate decisions in most circumstances need to be justified with hard data.

At Simplex (like most companies), the word statistics alone tends to "turn off" the average employee whose background doesn't include advanced math. However, those employees soon find out that advanced math skills aren't necessary. The program is designed to review basic math skills, while concentrating on methodology, language and interpretation. Later in the training the focus is on learning the many "tools" and techniques used in gathering and analyzing data. By customizing an off-the-shelf program, Simplex was able to meet the needs of the Company and its employees.

They completely reconfigured the 32- hour program; added homework assignments, encouraging participants to use work-related data; designed quizzes to follow each major section; and prepared case studies for participants to analyze using specific "tools," techniques and methods learned throughout the training. With these enhancements, they managed to incorporate some fun into a concentrated 16-hour SPC Training Program, offering it to all employees.

We developed the "train-the-trainer" concept among a core group of cross-functional employees from varying departments, who initially conducted classes. This core group of trainers volunteered to conduct 8-week classes, at 2 hours a week, over and above their normal job responsibilities.

As SPC training continued throughout 1992, they successfully continued developing the "train-the-trainer" concept among interested participants including hourly production personnel. Simplex is very pleased with the results of this creative method of developing and delivering this training program. Most of all they believe this method enhanced not only the transfer of information from trainer to trainee, but the retention of information as well.

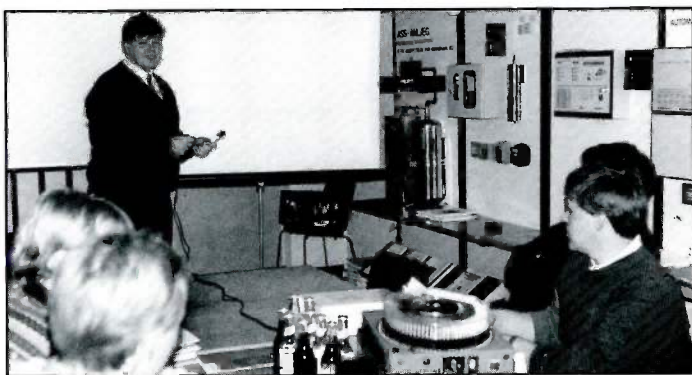
As for SPC training, it doesn't end in the classroom. They now plan to focus on implementation throughout 1993 and verification that an investment in training enhances educated decisions that positively affect product quality, Company productivity, and personal performance. ■



Upon completion of SPC Training, participants receive a Certificate of Accomplishment and a scientific calculator. Pictured are a group of manufacturing operators who successfully completed SPC Training.

(Front row left to right) Sue Goodwin, Claudette Nickless, Sarah McInnis.

(Back row left to right) Glen Holden, Jr., Nicholas Mitropoulos, Lee Nashem, Michael Bean.



Egil Orndal from Wormald Signalco A/S Norway is seen here instructing technical staff in Wormald Denmark's show-room.

## The Know-How of New Techniques-Denmark's Seminar

◆ Development within electronics is taking place very rapidly these days. The equipment, which a couple of years ago was produced using relays and transistors is now produced using advanced micro computers. As a result of this development, work with computer programming has become a natural part of an electronic technician's work.

The equipment which is used in modern fire detection systems today also utilizes advanced micro computers, which makes it possible to get more information from each individual fire alarm detector than it was the "old fashioned way."

This development places far more demands on personnel than previously. Individuals must have the know-how and general technical knowledge and experience of the specific systems, in order to optimize the benefits of these new techniques.

Know-how is a necessity for all those who contribute to the construction of a fire alarm system right from design, engineering and installation staff to the commissioning, service and maintenance engineers.

A seminar was held in Denmark during the third week in January, 1993 concerning fire alarm system PBS-16/ PBS-2, panels consisting of detection and communications units which monitor and control field devices. The seminar was for the technical staff who work with the system on a daily basis, for engineers, electro technicians and electrical crew.

The seminar included the following subjects:

- System philosophy
- Component knowledge
- System communication
- Software training
- Cause & effect programming
- Text programming of the messages from the panel
- Testing of programs
- Service and commissioning

Because of heavy competition in the market, our quality motto "make things right the first time around," is of vital importance in order to achieve our planned increase of the market share. One basis for reaching our quality motto is providing our staff with the necessary know-how to perform this work effectively.

Relevant education is seen as an investment towards better earnings for the Company and personal satisfaction for the employees! ■

## Tyco/Grinnell Training at the GEC

◆ Grinnell's training programs, held at the Education Center (GEC) in Exeter, N.H., USA began back in 1985. Since that time the schedules have varied from year to year but there is usually a combination of product training and sales/management training offered. Approximately 600 Grinnell employees have attended one or more of these seminars so far.

Examples of the Grinnell training offered this year are:

**Employee Development Programs;** Strategies for Successful Presentations,

**Sales/Marketing Programs:** Sales Orientation, Professional Selling Skills, and Account Development Strategies/Added Value Selling,

**Management/Supervisory Programs;** Interpersonal Managing Skills, and

**Product Training Programs;** Process/Industrial Products-Basic & Intermediate, Mechanical Marketing Package, Pipe Hanger/Power Strut.

In addition, over the past years several other seminars have been conducted for employees:

- Managing in a Changing Economy - a two day seminar attended by Flow Control Branch and Plant Managers; (more about Tyco/Grinnell Training on page 8, column 2)



# Allied (Harvey) Manufacturing Gets Help From A Local Community College

◆ There are a number of activities occurring at Allied Manufacturing Harvey, Illinois, USA that are laying the foundation for future success. Two of these are Basic Skills Training and the actions of an Ad Hoc Literacy Committee.

In early December 1992, Allied received great news. The State of Illinois approved a request for grant money by a local community college, South Suburban. This money is targeted to provide 45 hours of instruction in basic skills/tools to about 125 Harvey employees. An "assessment of skills" is the first step in getting the training to the workforce. The assessment is a paper and pencil way to get a "snapshot" of the participant's vocabulary and math skill level. There are 25 word and 25 math questions covered. The results of the assessment will be used for two purposes. First, a training program in basic skills will be tailored by South Suburban to maximize the benefit of those taking the training. A long term use of the information is to have it used in the planning of other training and education courses for all Allied personnel.

Members of the Ad Hoc Literacy Committee (left to right) Tyrone Rogers, Victoria Schooler, Brian Kahn.



Twenty-two 1 hour assessments were scheduled for the manufacturing workforce during the week of January 25th. The information obtained from these assessments will be valuable in tailoring the course of instruction through South Suburban College. Vijay Patel, Vice President of Manufacturing, has committed to paying participants to attend this training. The college has committed to scheduling this training at the most convenient times for all 3 shifts at Allied. Training will begin late in February or early March, 1993.

Another activity at Harvey is the formation and actions of an Ad Hoc Literacy Committee. This group was formed during a January 18, 1993 meeting at Harvey with Mr. Bob Stuart of Grinnell's Education Center. After a discussion on the perceived need for literacy training at Harvey, the group took on the challenge of investigating some of the approaches available to combat illiteracy. Their work is still in progress, but the group has been to a Michigan paper product manufacturing plant to see a program that is working. Soon the group plans to have gathered all the information, to have compared various approaches available and to make a recommendation to Vijay Patel and Bob Stuart. ■

## Education and Training Word Jumble

Unscramble each line to make a word. Then take each letter that is in a circle and combine those letters to form two new words that will fit into the boxes below the quote.

S T T U E A D I T    ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

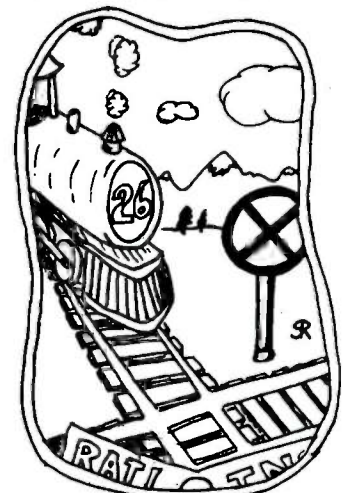
C U T O A D I N E L A    ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

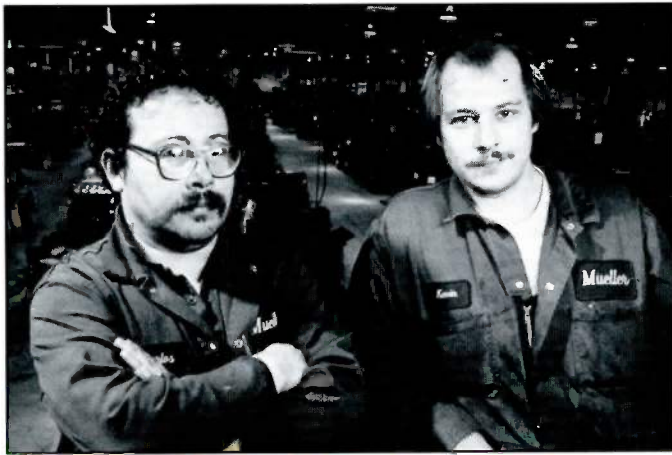
P X U E E R S O    ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

E S L A V I E T R    ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

"Steam roll a competitive edge into your company by supporting this among your employees."

☐ ☐ ☐ ☐ ☐    ☐ ☐ ☐ ☐ ☐





Carlos Castro, left, one of Mueller workers to take an English class, also signed up for a computer course. Co-worker Kevin Bobbitt is taking the computer course also.

## Old Dog - New Tricks

◆ Our global economy, changes and innovations in technology and a strong world-wide competition all call for businesses to prepare their workforce to be smarter and to be ready for the unknown. Firms that face this unknown with comprehensive employee training programs and the conviction that smarter workers with strong skills in English, math, and computer literacy are investing in their own success.

Wendall Gillis, Human Resources Manager for Mueller Canada, Inc., is drawing on the training offered by ACT (Adult Computer Training) Centers. The ACT Centers were created by the Halton (Canada) Board of Education through the continuing and adult education departments. Courses in English-As-A-Second-Language, Women's Leadership Skills and "Train-the-Trainer," which are workplace-oriented, have been offered to businesses in an effort to prepare workers for the challenges facing them now and in the future.

Mueller Canada held its first ACT Center computer course in December, 1992. Because of its popularity, they had to run it three times. Other popular courses are Math and English, geared toward the workplace. Cleverly, the English classes use the Employee Manual, Routing Sheets and manufacturers' descriptions of tools as their teaching materials.

Employees take the courses on their own time, and Mueller pays the tuition fees. This is an arrangement that the employees like. Carlos Castro, an assembler on the plant's brass line, took the English and Lotus 1-2-3 courses. These courses have inspired him to continue his English-As-A-Second-Language at a local high school

three nights a week as well as taking more ACT Center courses. Kevin Bobbitt is an assembler on the valve line at the plant. The Lotus 1-2-3 courses he took have spurred him on to learn more about computers and computer programming.

Mr. Gillis said that Mueller Canada's workforce is multi-racial and English is not everyone's first language. In an industry where quality is very important, language barriers can cause problems on the shop floor. Instructions may not be clearly understood by everyone. Also, what most workers learned in school is not relevant to their work anymore. Businesses have come to realize that they need to keep their employees' skills current and to offer retraining.

Currently, ACT Centers have approximately 20 programs in 15 companies across Halton. The Ministry of Canada, through the Ontario Basic Skills in the Workplace program, provides \$100,000 in funds to the Centers annually. The employers match that amount, making the total \$200,000 worth of training annually. ■

*(the continuation of Tyco/Grinnell Training At The GEC from page 6)*

- Sales and Service Process - a two day seminar focusing on the customer service process, attended by all (approx. 180) of the Flow Control inside sales persons;
- Designer Training - three weeks of hands-on basic design for new fire protection engineers without previous experience in fire sprinkler piping design (approx 25 designers attended);
- CPR (Cardiovascular Pulmonary Resuscitation) - offered to any interested headquarters employee;
- GDS (Grinnell Design System) - using the CAD (Computer Aided Design) program, more than 100 design engineers have been trained to draw their sprinkler systems with the computer rather than a pencil and drawing board and to have the bill of materials produced automatically and transmitted electronically to one of our fabrication plants;
- FACTS AS/400 - Grinnell Fire Protection finance and purchasing staff from all over the US were trained on a new computerized accounting and purchasing system at week long sessions during one year; and
- Grinnell Flow Control AS/400 - More than 100 Flow Control employees received three day sessions on the computerized Sales Distribution System.

The trainees always seem pleased to have the opportunity to come to Exeter, to see Corporate headquarters, meet employees from other locations and learn new skills. There is the added advantage of visiting some of the seaport attractions and enjoying the local seafood. Their excitement is contagious. ■





## The What, How, and When of Education and Training

♦ (This article was contributed by Robert Stuart, Educational Consultant for Tyco Employees)

In my travels to Tyco locations throughout the country, I have found a strong interest among employees for education and training. We all underestimate the need and interest in this type of support. What many employees seem to lack is **the what, the how, and the when** of pursuing further education and training.

**What** do I need to learn? Many employees want to improve their career opportunities by developing their skills and continuing their education. What they lack in many cases is an understanding of the skills and knowledge they need for new job opportunities within Tyco. We need to make this information more accessible. "Job fairs" for employees to learn more about other jobs is one option for some companies.

**How** do I go about improving my knowledge and skills? Many employees haven't found the information on how or where they can take courses to develop their knowledge and skills. Hopefully, Education Resource Centers and the support of Education Committees and Human Resource personnel will make more and more of this information available.

And, **when** can I possibly find the time to take these courses? On-going efforts to bring courses on-site could mean that employees would not have to forfeit much more time away from their family to advance their careers.

Several new educational programs are designed to support all Tyco employees and their families. Credit for

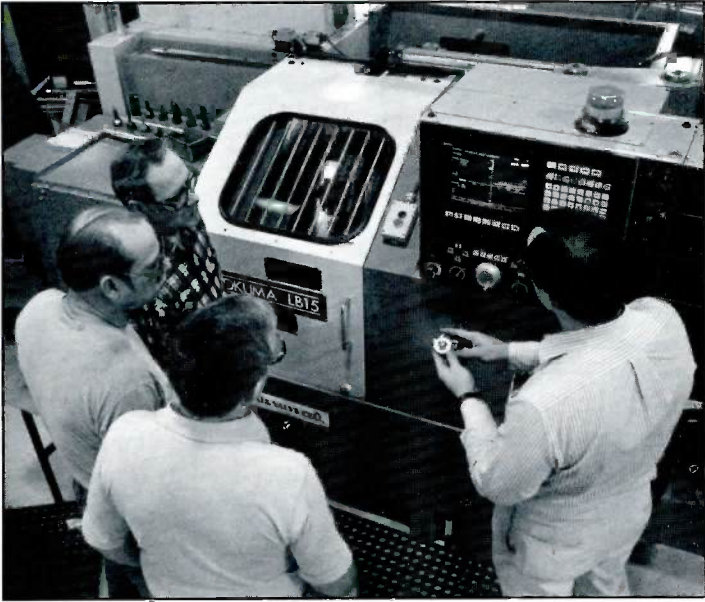
these positive initiatives should be given to Tyco's Chairman and Chief Executive Officer, Dennis Kozlowski, who has a strong commitment to all employees as well as the wisdom to see that Tyco will grow only as fast as each individual employee grows. Tyco's tuition reimbursement policy is comparable to the best policies of other leading, forward-looking companies. It lays down a solid foundation for the growth of each employee and for the Company as a whole.

There is a difference in my mind between training and education. Training ensures short- and medium-term success. Education ensures long-term success. Training shows short- and medium-term rewards. Education shows long-term rewards. Training will succeed in the short- and medium-term when combined with a solid base of education. Through training, we learn skills. Through education, we learn the skills to learn more. I am very encouraged to see the growing efforts to address issues of education and training. I am equally encouraged to see efforts to bring family members into this education. It is a very appropriate role for this Company. I am encouraged to see employees throughout a plant talking about these issues and asking to become involved in Education Committees. I am encouraged to see a growing number of employees from all parts of the company recognize how much these increased efforts in education and training will benefit us all.

Thanks to the efforts of people like Steve Kruzich and Vijay Patel in Harvey, Illinois; Rick Hutchison and Bert Rauleson in Statesboro, Georgia; Trudy Kamps and Paul Gregoire in Marinette, Wisconsin; Bob Jacques in Philadelphia; Mary Ellen Kerr and Bob Taylor in Cranston Rhode Island; and Nancy Smith, Bob Durham, Doug German, Dave Stewart, Bill Lindgren, Kevin Burke, Tom McGeorge, and Cristy McEldowney in Decatur, Illinois, and many others, Tyco Laboratories has made significant steps in very positive directions to address some of our needs in the area of employee education. ■

**Bob Stuart,  
Educational  
Consultant for  
Tyco Employees**





Team technicians (l to r, Luis Gordillo, James Jackson, Ron Brunner and the instructor John Jackson) are receiving machine tool training.

## Cellularization Project Decatur Plant

◆ Mueller Company's Decatur Plant has embarked on a transformation of their manufacturing operation which involves changing their traditional batch manufacturing to continuous flow manufacturing utilizing cellularization. The project, named "Vision 2000," affects the machining, assembly and test of water and gas valves and fittings. The "old" batch manufacturing methods involved lot sizes ranging from 200 units to 15,000 units and setup times for equipment ranging from 4 to 12 hours. Annual requirements for some products are as high as 150,000 units. The "new" continuous flow manufacturing method will allow the production lot sizes to be reduced by 90% and will yield an average setup of 15 minutes. Internal manufacturing leadtime will be reduced from 7 weeks to 2 weeks. These reductions will substantially improve flexibility and responsiveness to customer demand.

Continuous flow manufacturing involves establishment of manufacturing cells that produce a specific product family from the first operation to the last without interruptions or wait time between operations. This requires a major change in the processes and equipment used to manufacture the parts. The \$8.7 million investment in equipment and processes includes CNC (Computer Numerical Controlled) metal cutting machines, automated assembly processes and sophisticated test equipment, which will replace the old manual lathes and assembly equipment. The old process required 182 pieces of manual equipment. Much of this equipment was new in the 1940's. The new process will require 83 pieces of equipment that require higher technical capability to operate.

A project of the magnitude of "Vision 2000" requires a means to assure the proper amount of attention is given to detail. To accomplish this, an implementation team was developed to establish direction and track progress. This team is comprised of representatives from each functional area of the operation, research and development, the Union Bargaining Committee and Sales and Marketing. Project management is accomplished with a time-phased master schedule and detail task schedules that break each task required for successful completion into small elements that are easily tracked and have high visibility. The progression of these tasks is tracked weekly by the implementation team.

The key element to the success of "Vision 2000" is the need to prepare the employees and help them in the transformation process. The production approach is changing from individual incentive to relying on a focused team in a non-incentive environment to operate each workcenter. The focus shifting from units of output emphasis to quality units produced by teams with greater employee involvement. Training, education, and upgrading of skills are the key factors in the success of this transformation.

The development of the technical training requirements in 1991. Training prerequisites were established for entry into the new positions in the cell founded on a company sponsored training program. Prior to entry into the technical training program employees are given a skills assessment test to determine that their reading and math capabilities are at a level where they may be able to complete the technical training. If employees need help they are provided individual tutoring via a skills enhancement program that will also prepare them to take their GED test (Tests of General Educational Development) if they wish. This technical training program, developed in conjunction with the local



*(Cellularization Project continued from the facing page)*

Community College, is designed to enhance the skill level of the employees in machining and CNC equipment operation. The training program, offered to all employees, is comprised of four courses, totaling 120 hours. The courses are:

- Machining Fundamentals
- Advanced Machining
- CNC Fundamentals
- Advanced CNC
- Tooling
- Product Review
- Performance Feedback
- Communications
- Continuous Improvement
- Customer Relationships (Internal/External)
- Problem Solving (Total Quality Transformation)
- Setup Reduction

Upon successful completion, the employees are awarded college credit and are eligible to submit a preference (bid) for one of the new positions.

The new equipment also requires that the technical skills of the skilled trades be enhanced. An independent study training program has been implemented for each of the skilled trades. This training program utilizes a combination of correspondence and classroom training.

An in-house training program has been developed to address other issues that will aid employees in making the change to the new environment. This program covers:

- Specific Workcenter Equipment Training
- Team Building
- ISO 9000
- KanBan Process Control
- Safety
- Ergonomics
- DNC (Direct Numerical Control)

The in-house portion of the training is on-going. Topics such as teamwork training are structured such that formalized team building exercises and activities will be provided to reinforce the team effort.

Employees have been very receptive to the training programs. The technical training classes have been offered since September, 1991. Currently there are 223 production employees that have either completed or are currently participating in the voluntary technical training classes.

Pat Fonner, AIW, Local 838, Committeeman has taken the training and responds, "The instructors and material for the technical training are good. The classes help those people who have a need. The in-house training was good. The teamwork exercise shows the need for teamwork and how the teams will have to work together."

Mueller's Decatur operation chose training and education to be the foundation to build upon their vision, their success not to be measured in only units of output, but in the quality of the product and the quality of the environment in which they are produced. ■



"Vision 2000" project implementation team meeting with (l to r) Tim Erwin, John Norman, John Funnell, Mel Kent, John Jackson, Jim Auth, George Shindler, Jerry Schnelzer, Christy McEldowney

## Education and Training Word Jumble Answers

u i a r t

s s o r c

e l i t a s r e  
e r n s o d x e  
l a u o i t a c n p e  
s e p u t i t t a

## SALES & CUSTOMER CARE Priorities In Our Asia Pacific Region



Staff from our Sydney operations attending a recent training course.

### Sales

♦ The new Managing Director at Tyco Laboratories Asia Pacific region David Meldrum, has shifted the focus for training toward sales and contracting skills. Advanced negotiation and sales training will receive a high priority as will value-added selling, presentation skills and customer service.

With an objective to double the region's business over the next three years, it is essential that employees sharpen their skills in all areas that will enhance sales opportunities. Broadening employees' awareness to a full range of products and services will also receive priority so that they can promote themselves more effectively with clients to capture an increased level of refurbishment and service work. This is vital at a time when new major building work is at a standstill and major building investments are still looking scarce for the next two years.

### Customer Care

A little over 12 months ago Tyco Laboratories Asia Pacific region embarked on a Customer Care training program. The purpose of the training was to provide all staff, who are in contact with our clients, with a positive attitude towards service, as well as a range of Customer Care skills. Each employee who participates attends a half-day session each month for three consecutive months. This provides ample opportunity to practice the new skills learned between sessions.

The program includes sessions on:

- What hinders good service
- Customer Care on the telephone
- Taking responsibility for Customer Care
- Handling customer complaints

Managers attend an additional session to assist them in ways to "Keep the pot on the boil" long after the training sessions are completed.

More than 150 half-day sessions have been completed involving 700 staff members from our manufacturing, supply and contracting operations throughout Australia and New Zealand. Training at the remaining locations will be completed early this year and they look forward to an ongoing customer focus in this region. ■



The new management team of Tyco Laboratories Asia Pacific is shown above at their strategic planning conference. The team has established a vision for the business to double its size through growth in Asia. TLAP is now taking on the challenge of achieving its vision.

From left to right-

Randy Cheung: General Manager, GSS-South East Asia

David Banks: Contracting Director, Region 2

Harry Sonnenberg: General Manager, Contracting-S. East Asia

Peter McDonald: Marketing Director

David Meldrum: Managing Director

Edward Federman: Finance Director

David Robinson: General Manager, Wormald Technology

Barry Lee: Technical Director

Cliff Britton: Contracting Director, Region 1

Vince Gatto: Manufacturing Director





## DIFFERENT LANGUAGES Demand Unique Training

♦ Is decentralized training uncommon? Training and education in Europe is necessarily decentralized because of the diversity of countries, languages and cultures. Practically speaking, it is very difficult to develop a standardized program for Europe as the logistics of combining the different language groups would prove too difficult.

An example of the difficulties in developing a standard training program is the Annual Managers Conference. The entire presentation is translated simultaneously for more than one language. A team of four translators, using infra-red telecommunications directed to the listeners head sets, translates the presentation catering to approximately 130 people. This process requires a considerable amount for forward planning and technical support. But even the most well organized and thought out plan can encounter a snag or two. Two year's ago, the auditorium was set up for this simultaneous type of translation, however the infra-red rays connecting the listeners and translators then proceeded to disrupt the connection between the slide projector and the infra-red slide changer. You can imagine the results!

While the English language tends to be the prime usage among the management team, it is not insisted upon and very often meetings will take place with an interpreter

assisting people with the translation. One should bear in mind that even people reasonably fluent in a second language sometimes have difficulty following the meeting, simply because of the speed with which other people talk and also the technical jargon that is used. This is all further complicated when you get the various dialects and accents of the respective languages.

Out of respect for our colleagues, we learn to prepare presentations and discussions more thoroughly. Also, when dealing with people who are working in their second language, we become more sensitive to talking slowly and eliminating mixed metaphors and slang. To help overcome these language barriers, Grinnell Europe strongly encourages the development of language skills by way of sponsoring the training program in second languages for personnel who operate with foreign entities. During the past two years, this initiative has been broadly supported by individuals, on a voluntary basis. After an initial sponsored training period, if they wish to continue with the program, the Company assists on a expense-sharing basis.

As a result of this decentralized language training program in Europe, we have all become a lot closer in understanding each others priorities, and we're more sensitive to the communication process, thereby facilitating more meaningful understanding. ■



Awards are held by (Front l to r) Alan Whitehead, Alistair Smith, (Back l to r) Mark Malcolm Reade, the Safety and Training officer Alan Uren, Jason Mareno, and Stephen Limley.

## Education and Training at Wormald Ansul (UK)

♦ Wormald Ansul (UK) Ltd. is one of the dwindling number of UK companies who offer a full engineering apprenticeship to Technician Engineer Standard.

The apprenticeship includes a complete four year in-house training program, which is monitored by ENTR (Engineered Training Authority or Independent Training Authority), and is allied to academic achievement of Higher National Certificate in Engineering. The program leads to a National Vocational Qualification (NVQ) Level 4 -- a qualification recognized throughout Europe.

The NVQ Level 4 indicates a competence in a broad range of complex technical and professional work activities in a wide variety of situations, often with supervisory responsibility for others and for the allocation of resources.

Wormald's apprentice successes in 1992 include NVQ 4 Certificates for Stephen Lumley, Alistair Smith, and Malcolm Reade. In addition, "Best in Year" awards for academic achievement were won by Mark Capper (2nd year), Jason Moreno (3rd year), and Alan Whitehead (4th year). The awards ceremony took place at a special dinner held on January 22, 1993 at Oldham College. ■



Terry Hall, Vice President, Chief Financial Officer.

## A Scholar, a Lawyer, a Welcome!

♦ What do a Russian scholar, a government prosecutor, a private lawyer, a Fortune 500 leveraged buy-out player, and the Vice President and Treasurer of United Airlines all have in common?...Terry Hall. And now we welcome Terry Hall to Tyco Laboratories as Vice President, Chief Financial Officer.

Terry hails originally from Minnesota, USA and more recently from Chicago, Illinois, USA. Terry is coming to Tyco with extensive experience in the management of debt and equity offerings, corporate acquisitions, global foreign exchange, and in the buying and selling of billions of dollars worth of commercial aircraft. He also brings his wife, Vera, originally from Rio de Janeiro, Brazil and their ten year old son, Rod. Terry and Vera are fluent in several European languages and Rod is bilingual in English and Portuguese.

The Hall family is eager to get settled in their new surroundings in New Hampshire, USA, as Little League season will begin soon. "As long as Rod can play baseball, everything will be fine," says Terry. Rod is a baseball fanatic, looking to the major leagues himself someday - like father, like son.

When not pitching to Rod, Terry enjoys skiing, hunting, fishing, and field trialing springer spaniels; he owns three himself. Vera, who grew up amidst mountains and oceans, is very much looking forward to coming to the coast of New England. And then there is the Red Sox for Rod! It seems as though the Halls have come to the right place. Tyco thinks so too. ■



## Update on the Suntec City Project

♦ The Summer 1992 issue of the Pipeline introduced the mega-project, Suntec City in Singapore. Suntec City, Singapore, is a S\$1.7 billion (US\$ 1.7 billion) development comprising the World Class Singapore Convention and Exhibition Centre, four 45-story office towers, one 18-story office block, an extensive retail podium, an impressive fountain and two basements with parking facilities for over 3,100 cars.

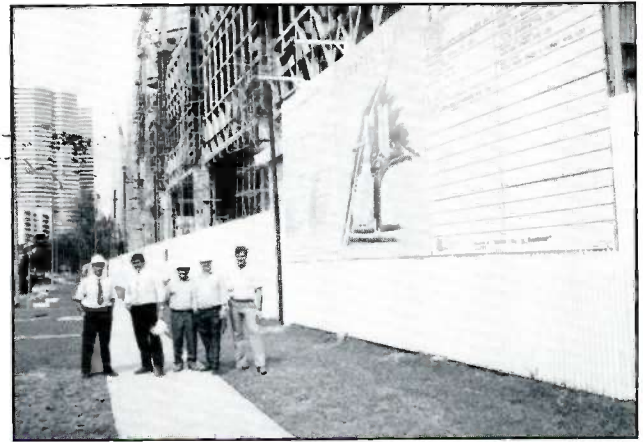
The largely Hong Kong financed project is due for completion in 1996 and is being constructed in the heart of the prestigious Singapore Marina Bay District.

A division of Tyco Laboratories Asia Pacific Pty. Ltd, O'Donnell Griffin, is a 47.5% shareholder in LSK/O'Donnell Griffin/Kentz (S) Pte Ltd (LOK) a Singaporean (5%), Australian (47.5%) and Irish (47.5%) joint venture to carry out the M&E&F (Mechanical, Fire Protection & Electrical) works with another of our operations, Wormald Fire Systems, Singapore who are the main subcontractor for the Fire Protection works.

The TEAM under the leadership of Harry Sonnenberg (Chief Executive, Contracting SE Asia) includes John Gullan (Assistant Project Director), Frank Zalmstra (Planning Manager), Tony George (Fire Protection Manager), Rodney Jones (Procurement Manager) and Construction Managers Paul Egan, Colin Murphy and Rodney Williams, also Singapore Home Office personnel Roy Rowe (General Manager) and Tim Harris (Marketing).

The M & E & F construction contract was awarded to the LOK Joint Venture in March 1992 with Phase 1 due for completion Mid- 1994 (ie. Convention and Exhibition Center, 18-story office block and all main electrical, fire protection and air conditioning and mechanical ventilation systems ready for occupation) and Phase 2 due for completion Mid-1995 (ie. two 45 story office towers and retail podiums). The package for the remaining two 45-story office towers has yet to be awarded, however we are hopeful of securing this by July 1993.

This LOK Joint Venture working in South East Asia is a challenging new market with many long term opportunities. This project is the cornerstone to our expansions and this project will put Singapore in the forefront, as the world lead Convention/Exhibition country well into the 21st century.



Project staff stand in front of the project's site.

Some current statistics of the project:

- Total contract value S\$185 million.
- Construction manhours in excess of 2,000,000
- Maximum workforce approaching 1,000
- Total gross floor area approx. 490,000 square meters
- Electrical works include:
  - High voltage switchboard & cable installation
  - Transformer/emergency generator installation
  - Extensive LV busway and cable systems
  - Main, submain and distribution boards
  - Extensive lighting systems
- Fire protection works include:
  - All pipework for dry, wet and hosereel systems
  - All pumping, valving, tankage and control systems
  - All sprinkler heads and fire alarm systems
- ACMV works include:
  - Chilling capacity of 18,000 tons
  - Approximately 3,000 tons of A/C, ventilation & extraction ductwork
  - Major & minor pipework runs to 1,200mm maximum bore

The success of this job has led to further successes in SE Asia and our three operations based in Singapore, viz, Grinnell Supply Sales, Wormald Fire systems and O'Donnell Griffin, will all benefit from our success with this prime project.

**GOOD LUCK & CONGRATULATIONS TYCO LABORATORIES ASIA PACIFIC PTY.LTD. ■**

# Achievements

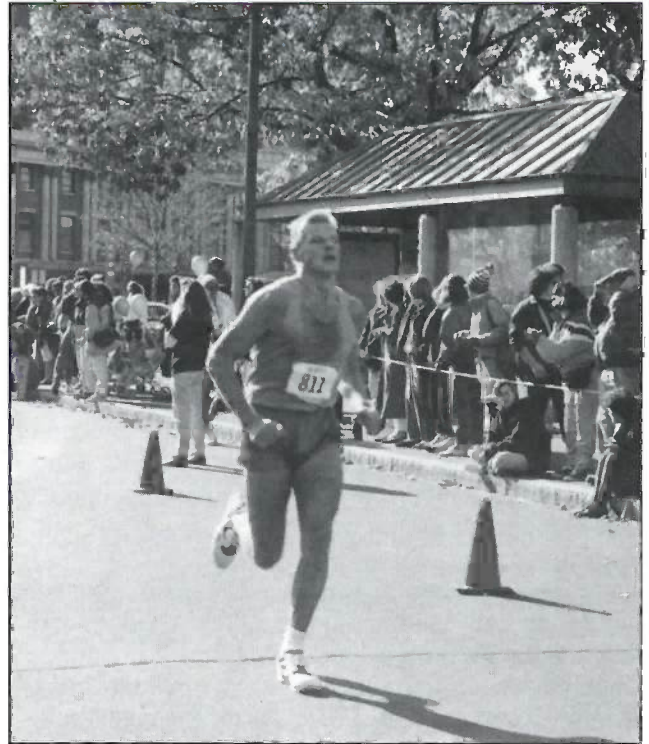


Sue Scott wins an award for outstanding performance in her trade.

## CONGRATULATIONS TO A YOUNG ACHIEVER

♦ Sue Scott, an electrical tradesperson working with O'Donnell Griffin in Sydney Australia is about to visit the United Kingdom as an award for outstanding performance in her trade. The award is provided by the "Big Brother Movement," an organization set up to foster historic links between Australia and the U.K. Each year, 8 young Australians who have excelled in a technical area are awarded \$3,500 to assist in traveling to the U.K. where they are expected to undertake 3-4 weeks' work experience.

Sue was selected for an award as a result of her outstanding trade course results, as well as her on-the-job performance. She has worked in the Fire Alarm Department of O'Donnell Griffin for the past five years. In that time she has carried out all facets of Fire Alarm installation including field wiring, fitting out and panel installation. Her current duties include testing and maintaining fire system, emergency lighting and emergency evacuation system. ■



Peter Nadhazy just can't stop.

## Man on the Run

♦ What makes someone push themselves to near exhaustion when their body and mind tells them to stop? Peter Nadhazy, a 41 year old Project Engineer, at Research and Development Cranston, RI, USA, says it is the pure joy of seeing his body perform to its peak. Peter, originally from Hungary, completed the Rhode Island Marathon (26.2 miles) on November 1, 1992, achieving a time of 3 hours 20 minutes. This qualified him to enter the prestigious Boston Marathon. In April, 1993, he will be competing in Boston with the finest athletes in the world. His goal is not to win, but to do better than he has done before, to go beyond what he thought he could ever achieve. Whatever the outcome of the marathon, Peter is already a winner. ■





## People To People Student Ambassador

♦ Virginia Pettis, a member of the finance group in the Cranston, Rhode Island, USA Grinnell Fire Protection office, is very proud of her daughter, Jennifer. Jennifer is an eighth grader at St. Peter School, Warwick, Rhode Island, USA and has been chosen to participate in the People To People Student Ambassador Program. At the end of June, 1993 she will travel with other students to the former Soviet Union.



**Jennifer Pettis, daughter of  
Virginia Pettis, Cranston  
GFPS, Rhode Island, USA**

People To People was founded in 1956 by US President Dwight D. Eisenhower to promote world peace and international understanding through direct contact between private citizens. Since 1963, People to People Student Ambassador Programs, the sponsor of the Friendship Caravan, has been sending students abroad to destinations around the world and students receive school credits for successfully completing the program. The People To People Friendship Caravan allows student ambassadors to explore regions of the world in a way never before possible.

On Jennifer's trip the students will experience the many contrasts between the old communist state and the emerging republics as they caravan between cities such as Moscow, St. Petersburg, Minsk, Vilnius and others. During the 21-day trip Jennifer will be visiting Russian students, meeting government officials, spending time on farms and in the homes of Russian families. All of this is an opportunity to get to know the people of the country as individuals and as a culture in a manner and to a depth never before possible. ■



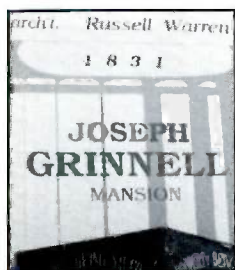
Brian Morrison, Toronto Service Manager, is shown handing a \$1,000.00 check to Elaine Bernard representing the Toronto Hospital for Sick Children. This money was provided by the fine friends at Grinnell Fire Protection in Atlanta, Georgia, USA who had backed their major league baseball team, the Atlanta Braves, against Toronto's major league baseball team, the Toronto Blue Jays in the 1992 World Series. Atlanta GFPS raised the \$1,000.00 through employee contributions in order to make good on the bet.

The Toronto people who participated are pleased to have been able to support this worthy cause and hope to do so again next October.

# Built To Last - Just Like Our Sprinklers

## GRINNELL FAMILY MANSION

### *GFPS gives gift for elderly housing*



**Sign marking the Grinnell Mansion.**

♦ Joseph Grinnell (founder of Grinnell Corporation) was the great uncle of Frederick Grinnell. Joseph Grinnell built a mansion in New Bedford, MA, USA between 1831 and 1832. The mansion remained in the Grinnell family until Horatio Hathaway purchased it in the 1880s. Twelve years later

Frederick's wife, Mary Brayton Page Grinnell, bought the mansion back from Mr. Hathaway. In 1894, Frederick and his wife and children moved from Providence to live in the Grinnell Mansion, where Frederick resided until he passed away in 1905. The house remained in the Grinnell family until 1940 when it was conveyed to the Diocese of Fall River. The Waterfront Historic Area League (WHALE) in New Bedford purchased the mansion in 1987.

WHALE, in a joint venture with the Interchurch Council Congregate Housing, Inc. is now restoring the Grinnell Mansion as a home for the elderly. In the hope that Grinnell Fire

Protection would become involved with the installation of the fire protection system, Therese Kelly, executive director of WHALE, contacted Al Girard, District General Manager at Grinnell Fire Protection, Cranston, R.I. After discussing the project, Mr. Girard, in consultation with

Exeter management, decided to donate all system materials and installation costs. The anticipated cost to install this life safety system, consisting of approximately eighty Aquarius pendent and sidewall residential sprinklers installed throughout the three story structure is about \$18,000.

The work will begin in June to convert the mansion into a home with 17 bedroom apartments including kitchens for elderly residents. The former living room will become a social area and its dining room will become a common dining area.

As Al Girard stated for The Standard-Times of New Bedford, MA, "We are very delighted to give this fire protection system to be used in an historic home linked to our founder. There's been a great deal of enthusiasm here for this installation." ■



**The mansion as it stands today, awaiting restoration, in New Bedford, Massachusetts, USA.**

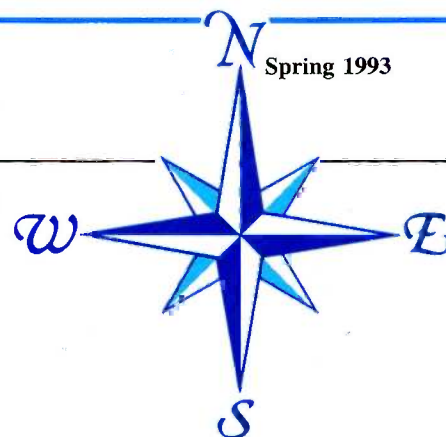


**WHALE saves the Grinnell Mansion.**



## Moving On

*This is another in a series of articles to help us understand the make-up of the Tyco "family" of companies*



## TWITCHELL.....YOUR CHOICE BY DESIGN

◆ Twitchell is a division of the Ludlow Corporation and is a significant contributor to the overall success of the Tyco Family of Companies. The Company was founded in 1922 by E. W. Twitchell in Philadelphia, Pennsylvania, USA to supply paper fabrics to the automotive industry. It then moved to Dothan, Alabama in 1953 in order to supply paper fabrics to the furniture industry and was later acquired by Tyco Laboratories in 1981.

Twitchell has been located on Ross Clark Circle in Dothan, Alabama since 1957 and currently occupies 310,000 square feet on 34 acres. Twitchell employs 350 people and manufactures three different product lines, a PVC coated polyester yarn fabric called Textilene<sup>®</sup>, various woven and knit paper products and custom coating services.

Textilene<sup>®</sup> is an exclusive trademark of Twitchell. It is used primarily in the manufacturing of outdoor furniture, awnings and umbrellas. This brand of fabric is the finest available and is extremely durable, easy to clean, resistant to fading and abrasions, soiling and mildew and is also flame retardant. If you are in the market for outdoor furniture be sure to look for the Textilene<sup>®</sup> tag to insure a quality product.

Due to the need to conserve energy, awnings and sunscreen shades have recently become very popular. Twitchell manufactures Textilene Sunsure<sup>®</sup> brand fabric, used in making these shades. The material is very unique in that it allows for continuous airflow, unlike most canvas and vinyl fabrics which trap the heat and air underneath.

The woven and knit paper products are manufactured under various trade names. KaneKraft<sup>®</sup> is a woven knit paper fabric used to cover clothes hampers, creating an appearance of bamboo, cane and wicker while providing the properties that prevent splitting and splintering. NyloKraft<sup>®</sup> is another familiar paper fabric used in the manufacturing of the "Cool Cushion," a vehicle seat cushion that allows free circulation of cooling air behind the driver.

One of Twitchell's primary products is Health Gard2 or HG2. It is a no lint, light-weight fabric, coated by Twitchell, which is now being used by major protective garment converters nationwide. The fabric offers special features exclusive to HG2, including heat-sealable and fire retardant additives and HG2's unique anti-static additive to name just a few.

Tyco has recently approved a new state of the art Computer Aided Design (CAD) System for Twitchell. The system allows colors and designs for print, Jacquard, specialty, and plain weaves to be shown on a computer screen. The system prints each design out on paper, thus allowing customers to select a variety of patterns and colors much more easily. The new CAD System will also allow selected patterns to be shown on simulated chairs and umbrellas. This greatly enhances Twitchell's current design sampling methods and the subsequent delivery times for samples to our customers.

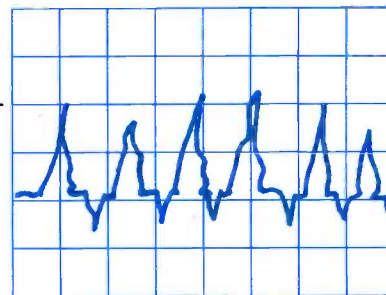
Twitchell continues to add to its already extensive textile lines of papers, woven polyesters, knitted reflectives, specialty yarns and non-wovens. Twitchell is truly the premier choice of product designers and continues to lead with innovative technology, trend setting designs and custom requirement solutions.

**Twitchell.....your choice by design. ■**



Casual furniture made from Textilene<sup>®</sup>

# Health Watch



*The Pipeline's Health Watch column is devoted to helping you improve your overall health and fitness. Being healthy makes for a happier life. It also helps you and the Company control the cost of providing a good benefits package.*

◆ Spring is here. Ahh-ahh-ahh-chooooo! (sneeze) And many people will be affected by allergies, commonly known as hay fever. But hay fever is not caused by hay and it does not cause the sufferer to have a fever. This and other common allergic conditions do account for about 9% of all visits to the doctor, however.

Symptoms of hay fever allergies include itchy, watery eyes; runny nose; nasal congestion; sneezing; itchy ears, nose, and throat; and respiratory problems, such as wheezing or (occasionally) asthma. Some people mistake hay fever for a cold, or the other way around. A cold lasts for a limited period of time while allergies last as long as you're in contact with the irritant. Colds cause only two or three sneezes at a time while an allergy may cause up to a dozen sneezes in a row. Drainage from a cold is usually murky while drainage from an allergy is clear and thin.

Hay fever allergy symptoms come as reactions to pollens from trees, grasses, and ragweeds; mold spores; animal dander; and a variety of cosmetic ingredients. They can be year round or they could be only seasonal.

How can you control (ah-ah-ah-choooo) the symptoms of hay fever? The first step is to try to find out what you're allergic to and then try to avoid it. Ask yourself "At which time of year, time of day, where and during which activities are my symptoms most prevalent?" Try to stay indoors when ragweed and other pollens are most abundant-between 5 a.m. and 10 a.m. EST. Use an air conditioner in your car and home but remember to keep the filter clean or the allergens could just get blown around more. During pollen seasons, plan vacations in places where allergens are not as abundant: near the ocean; in high altitudes; or in dry regions with little grassland. Avoid alcohol, which aggravates nasal congestion, and smoking and smoky environments.

If you can't determine the cause of your allergies or eliminate them, then symptoms can often be controlled with over-the-counter antihistamines. Most allergy medicines have side effects for certain persons, especially young people and the elderly. Consult a clinician first, particularly if other medication is being taken at the same time.

Allergy medication of any sort should never be taken without first consulting a clinician if the person has:

- heart disease
- high blood pressure
- diabetes
- an overactive thyroid or
- glaucoma

If you are pregnant or breast-feeding be sure to consult an obstetrician or allergist before taking any hay fever medication.

If allergy symptoms are severe, consult your physician or allergy specialist. Allergy shots may be recommended. Injection therapy is aimed at building an immunity to the irritants, reducing or eliminating the allergy symptoms. The injections may be a last, time-consuming, resort taking repeated treatments over five or six months.

Allergies can be very debilitating. Take them seriously. ■

