

**CABLEGRAM**

PACKARD ELECTRIC

**PACKARD ELECTRIC**



*Excellence*

**IS EXCEEDING  
YOUR CUSTOMER'S  
EXPECTATIONS**



#### On the cover:

This new plaque represents the Excellence concept as it will be applied at Packard Electric. See related stories on Pages 3-5.

Cover photo by Richard Clapp,  
Richard Clapp Photographic, Inc.

## Excellence

## Pages 3-5

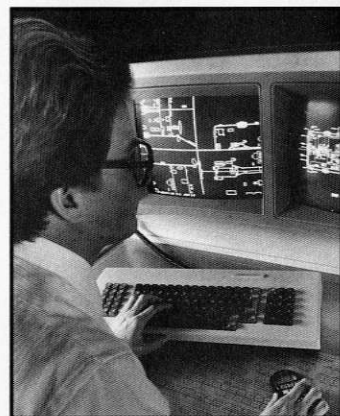
Applying this concept division-wide will be crucial to Packard Electric's future success. As the division's director of Excellence, Bill Wehmer will mold Excellence into the Packard culture.



## CAD/CAM

## Pages 6-7

Bernardo Escudero works with the Warren Operations' Computer Aided Design/Computer Aided Manufacture experts to help Packard's Mexican Operations move forward in using the latest tools.



### Packard Electric Cablegram

Published for  
employees and retirees  
of Packard Electric Division of  
General Motors, P.O. Box 431  
Warren, Ohio 44486

An equal opportunity employer

Vol. 48, No. 4 Sept./Oct. 1986

## Temperature's Rising

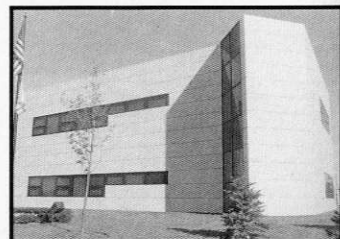
## Pages 8-9

GM's desert proving grounds in Mesa, Ariz., prove to be the division's hottest frontier for temperature testing of Packard's power and signal distribution systems. Two Packard engineers spent several weeks there this summer.



## Excellence Training Center Page 10

Packard Electric's Ridge Road office facility will soon be transformed into the Excellence Training Center. It will serve as the focal point for the division's training and Organization Development activities.



Patti Reilly, editor  
Beth Magee, Mississippi editor  
Michael Hissam, senior editor  
Patricia K. Hawkins, executive editor  
Phone: (216) 373-3029  
GM Network: 8-531-3029

# Excellence: **Applying this concept division-wide will be critical to future success**

Packard Electric's future depends on applying the concept of Excellence. General Manager Elmer E. Reese delivered that message to the division's more than 200 managers this week; more than 40,000 employees worldwide will be critical to its success. A new culture will propel Packard into the 1990s.

In his management conference address in late September, Reese zeroed in on major steps toward creating Excellence as a way of life at the division:

- the appointment of William C. Wehmer as director of Excellence, reporting to the general manager

- the placement of divisional training activities under the Personnel Department, to be coordinated by the manager of Training and Development

- the designation of the Ridge Road office building in Vienna Township, Ohio, as the center for the division's training and conference activities, to be called the Excellence Training Center

Explaining the need for these bold steps, Reese declared, "Excellence is a change in the way we do business and satisfy our customers. Excellence is a habit — a way of life — a culture, not another program."

The division's exploration of the Excellence concept began with pursuit of World-Class Quality. By participating in GM's Cross Industry Study, Packard saw 11 companies which achieved quality competence. The goal was to see how their mechanisms for achieving World-Class Quality could be adapted to Packard Electric.

Other factors influenced the division on its path toward Excellence, including the book *In Search of Excellence* by Peters and Waterman, and attendance at Crosby's Quality College by many Packard managers. With stiffer competition than ever in the global marketplace, Reese saw the need for a divisional theme to ensure Packard could compete with the best in the automotive industry. That theme had to go beyond the World-Class Quality concepts taught by Crosby, which are directly associated with the product, not the person.

## **Corporate culture**

"We sought a concept broader than product. We wanted a concept that would involve all our people. We wanted a concept that would apply to everyone and everything we did," Reese said. "A crystallization process was finally beginning to take shape. And the natural outgrowth was 'to strive for and ultimately achieve Excellence in EVERYTHING we do.'"

That concept is Excellence — a concept which will become apparent in every aspect of Packard's business. Reese cited Disney World as an example of a company currently maintaining a culture which fosters Excellence.

"Training is essential at Disney World. The potential employees are immersed in the culture they are about to step into," Reese continued. "Their employees understand the history, tradition and environment that were started by Walt Disney. They are carried on every day."

Employees who believe in their role in the organization have an enthusiasm that comes from more than just training, according to Reese. It stems from a socialization process based on principles guiding the company's existence.

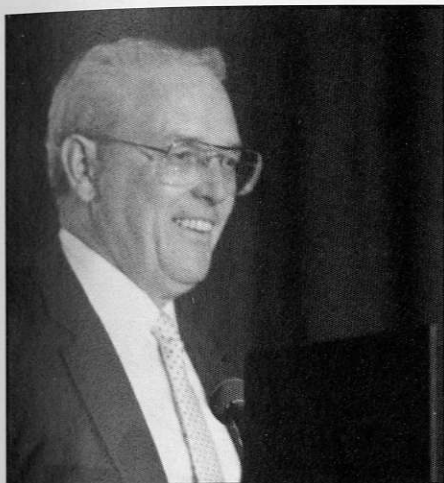
Why should employees accept these principles and make them their own? It is the only way to ensure Packard's survival as a business, Reese stated.

"My vision is to fashion an organization second-to-none. It's a vision that Packard Electric will become the most innovative, customer-responsive organization in the industry. A vision that Packard Electric is THE LEADER in producing the highest quality product at the lowest possible cost.

"Excellence is the way to make this vision a reality. THAT will be our true job security — yours and mine."

With his appointment of Wehmer as director of Excellence, Reese expressed confidence that Wehmer would outline the path toward Excellence for all employees.

"Bill Wehmer is my personal representative to help you understand the concept of Excellence, and to help you overcome any roadblocks you may encounter," Reese concluded.



"Excellence is a change in the way we do business and satisfy our customers."

— General Manager  
Elmer E. Reese



# The Absolutes of Excellence

## As the division's director of Excellence, Bill Wehmer will mold Excellence into the Packard culture

Charged with mobilizing Packard people to set in motion the concept of Excellence, Director of Excellence William C. Wehmer believes success rests on just a few basic principles. Those principles will be decisive in determining the division's ability to create a culture that fosters Excellence. Excellence, as previously defined by General Manager Elmer E. Reese, is "exceeding your customer's expectations."

In a message to top managers gathered for the division's management conference held in Warren, Ohio, Wehmer pinpointed six Absolutes of Excellence. These absolutes will be crucial in molding Excellence into the Packard culture. Wehmer outlined the six absolutes as follows:

### **Customer**

"The customer is the focus of Excellence. The customer is the user of your service or product. We need to be responsive to them because we exist only if we please them."

### **Do it right the first time, every time**

"This must become the performance goal of everyone at Packard. We should be careful not to discourage risk takers, however we must strive to do it right every time. If a customer tours our plants and sees a dirty floor, he immediately knows — fairly or un-

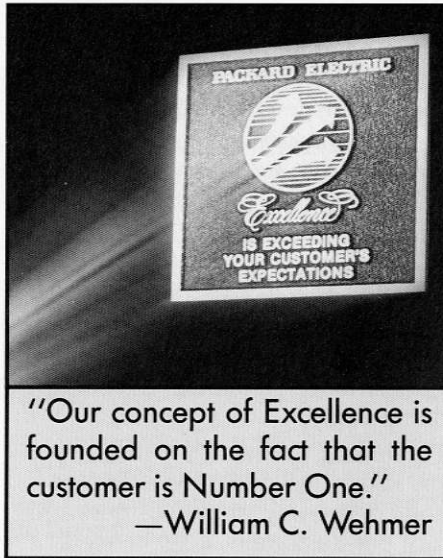


Photo: Richard Clapp

fairly — that we can't make a quality product."

### **Innovation and continuous improvement**

"This is the method by which we will move toward Excellence. Never give up. Keep seeking better, innovative ways. For example, the cutter banks in our Mississippi plants show innovation and improvement in lead prep. Visual controls started in our Mexican plants which are now expanding throughout Packard are innovative ways of highlighting improper conditions quickly. SPC charts that are acted upon are steps toward continuous improvement."

### **Customer feedback**

"It is the control of Excellence. It may be humbling if we hear something we don't expect, but it is the only way to measure our progress toward

Excellence. Customer feedback is a key point for continuous improvement, customer satisfaction, and therefore Excellence."

### **Caring**

"We not only mean caring about our people, we also mean caring about our jobs, our efforts, what we do. This is the REAL mark of Excellent companies. People who care don't give up. When we don't give up, we improve."

### **Recognition and security**

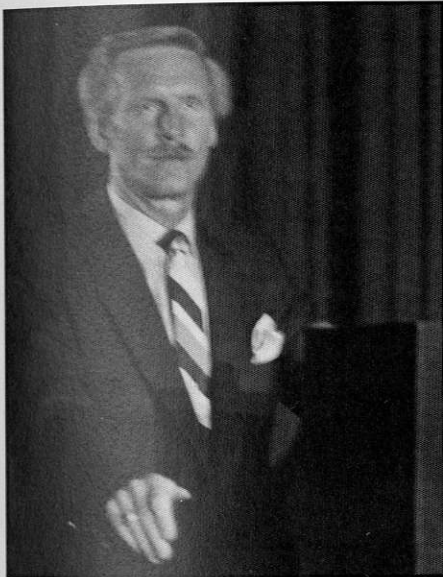
"It is the reward of Excellence. You must know why you are embarking on this Excellence concept. Recognition may be as simple as a patent award, or a 'Ten Most Wanted' plaque, or a 'thank you' and a pat on the back. It can be any or all these things. The only real security is growth, expansion and jobs."

These six Absolutes of Excellence can be absorbed into the Packard culture only if they are understood by everyone in the organization. To achieve this, top-down direction will flow from each staff head to supervision, and then to the floor and offices. Ten Steps Toward Excellence will guide the division as each staff area takes action in creating Excellence.

Wehmer defined those steps, and the questions employees must ask themselves in progressing through those steps:

— Identify your customers. (Who are the internal and external customers?)

— Define customer expectations. (What does the customer want?)



"Never give up." — Wehmer

— Agree on attainment. (How can the customer's needs best be satisfied?)

— Define measurements. (What measurement systems will result in an Excellent performance?)

— Determine performance gaps. (What gaps exist, and which should be closed first?)

— Develop an action plan. (Does the plan strive for doing it right every time?)

— Implement an action plan. (How can the plans be communicated, and actions prioritized?)

— Obtain and provide feedback. (What is the customer's reaction?)

— Reward Excellence. (How is Excellence best rewarded?)

— Seek continuous improvement. (What else can be made better?)

Wehmer stressed that the Ten Steps Toward Excellence must become a way of life for all Packard people. He pointed to the designation of the Excellence Training Center (ETC) in Vienna Township, Ohio, as the focal point for training in Excellence and job requirements.

"We expect you to start internalizing the definition and absolutes of Excellence right now," Wehmer emphasized. "Talk about them. Take time to understand them. They need to become a part of your culture."

Staff areas need to define their customers, services and job requirements by the end of the year, according to

Wehmer. Attaining and measuring customer satisfaction by the new Excellence definition should occur by April, 1987. Wehmer added that the division needs to close any gaps between where it is and where it needs to be by the beginning of the 1988 model year. The remaining Steps Toward Excellence will be accomplished during the 1988 model year.

"Some people will proceed faster than others on these steps. No one should hold off on trying to satisfy their customers," Wehmer said. "All of you must realize that this cycle won't end. Remember that we want continuous improvement — don't stand still. Our customers' expectations will rise, which forces change and improvement."

"Our concept of Excellence is founded on the fact that the customer is Number One," Wehmer concluded. "As director of Excellence, my job will be to assist you in implementing the concepts, absolutes and steps that I've outlined today. You will be key in putting the foundation in place."

# CAD/CAM

Bernardo Escudero works with the Warren Operations' Computer Aided Design/Computer Aided Manufacture experts to help Packard's Mexican Operations move forward in using the latest tools

Use of Computer Aided Design/Computer Aided Manufacturing (CAD/CAM) technology has greatly aided Packard Electric in the design of automotive power and signal distribution systems. As Packard continues its worldwide growth, CAD/CAM technology will be an important support tool to each of the division's operations.

To ensure success in its implementation of CAD/CAM, the Mexican Operations has assigned Bernardo Escudero as CAD/CAM Coordinator, Mexican Operations, on a full-time basis. He is currently working with CAD/CAM experts in Warren, Ohio, to gain the technical knowledge that will help the Mexican Operations establish its own CAD/CAM operation.

CAD/CAM involves the use of a graphics terminal to design and modify drawings, showing them in two or three dimensions. A central processing unit stores a multitude of information about Packard's business — everything from part numbers, sizes, colors and shapes, to manufacturing tools and layout.

#### Teamwork

Escudero, who worked in Manufacturing Engineering in Mexico, indicated that his assignment in Warren is necessary to meet the technical needs of the future. His presence in the Warren Operations' Product Engineering area shows the integration of Manufacturing and Product Engineering to make CAD/CAM work. "Part of my training includes meeting and dealing with the right people who I will depend upon for

information when I return to Mexico. The teamwork we develop here will help support the project when I return to Mexico as the liaison."

CAD/CAM will allow engineers from different locations to modify prints on the system and electronically transmit information in both directions. This will eliminate premium transportation for bulky hard-copy prints.

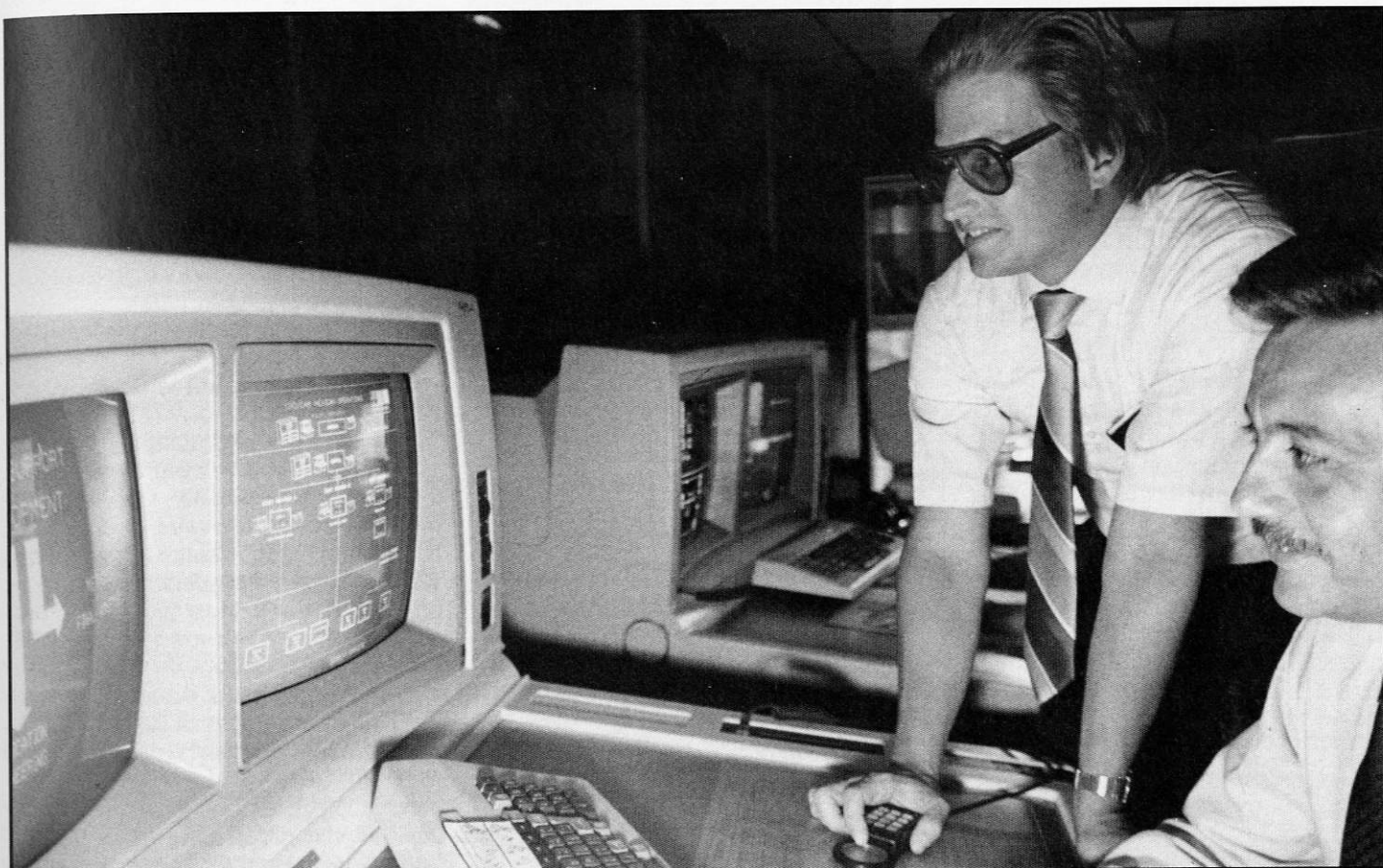
"Information that used to take three or four days to arrive can be communicated in hours with CAD/CAM," Escudero said.

Escudero will help the Mexican Operations establish priorities for its new CAD/CAM operation before the system is in place. Some of the improvements he is hoping to gain include more consistent and up-to-date prints, more control over what kind of information is received, and fewer errors.

"We're not looking for a quick fix," Escudero pointed out, noting that he will spend a full year training in Warren in order to get a general view of the systems and how they work. He is then expected to expand upon those systems for use in Manufacturing in Mexico.

Dave Beare, a Senior Project Engineer for Application Engineering's Assembly Design System, added, "Another advantage in Bernardo's working with us in Warren is that the Mexican Operations can build on software already designed by Product Engineering. Warren-designed support software will be used at the start of Mexican CAD/CAM. Mexico will then





Dave Beare, left, senior project engineer, and Bernardo Escudero, CAD/CAM coordinator, Mexican Operations, discuss support and development plans.

photo: Reilly

expand the system to achieve local requirements."

#### **An effective tool**

"One of the main reasons to use CAD/CAM systems will be to support Packard Electric's quality requirements," Escudero declared. "It's a practical move as we support the division's Mexican facilities."

Succeeding with CAD/CAM in Mexico will depend on the cooperation of areas including Plant Layout, Application Engineering, Divisional Methods Lab and Final Assembly. EDS will provide support and maintenance for the system. They will also

help the Mexican Operations update and customize their software.

"Bernardo is here to learn what tools are available so he can expand on those tools to help him perform effectively in Manufacturing Engineering in Mexico," Beare pointed out. "For example, we have more than 16,000 active component part numbers in our Assembly Design Systems. The Mexican Operations can take that information and modify it for their own purposes."

Such information could be used for development work on board designs.

#### **Support**

Escudero is receiving help in his

quest for knowledge from Beare and Nick Forte from Application Engineering; Dave Stewart and Denny Reichert from Plant Layout. He is also contacting other areas which utilize CAD/CAM systems to determine additional possibilities for usage. Perhaps the biggest support of all was provided by Escudero's supervisor, Bob Kovach from the Mexican Operations, who had the foresight to sell Escudero's one-year training period in Warren.

"That's quite a commitment on the part of the Mexican Operations," Beare said. "Of course, we're also learning a lot from Bernardo!"

# The desert: Hottest frontier for test

by Patricia Reilly

You're cruising down the interstate at 55 miles per hour in 100 degree heat en route to a vacation — that cooling water on your left is only a mirage.

You're sweating in bumper-to-bumper city traffic — average speed is five miles per hour; air conditioning on "max," the big meeting starts in 10 minutes and you're still six exits away.

You're towing the family camper up an incline that snakes six miles up and around some mountain in West Virginia — the kids are bickering in the back seat.

Your car is hitting on all eight cylinders. It's getting hot in that engine — possibly 400 degrees or better. The last thing you want to see is the temperature gauge creep toward the red.

As the customer you expect your vehicle to perform flawlessly, even as your components roast in the summer heat. That's why Packard Electric conducts high temperature vehicle testing in sun-parched Mesa, Ariz.

"We take cars through some of the toughest loads, looking for a tempera-

ture peak where a failure may result," said Carl Vanden Wymelenberg, Product Assurance. "We take temperature readings at as many as 70 different points on the car."

Knowing the vehicle's hotspots allows engineers to design, modify or re-route parts to protect against high temperatures. Some areas tested for temperature include spark plug boots, the electric cooling fan, the headlamp connector, coil power connectors, ignition coil, cruise control and the battery cable.

## Failure prevention

Packard subjects the vehicle to abnormally high temperatures in order to protect the car owner from failures under unusual circumstances.

It's not uncommon for the division's vehicle testers to allow a car to soak in the sun for a couple of hours; then dump sacks of gravel in the trunk and take it for a 70 m.p.h. jaunt with the air conditioner on full. It doesn't take long for temperatures to climb in the engine compartment.

"It takes time and temperature to make something fail," said Vanden Wymelenberg, explaining the premise of Packard's desert testing. "Our computer creates a temperature survey graph of the different checkpoints. We send this information to the designers."

Vehicle testers work with the division's Application engineers to determine which areas of the car might cause a concern — especially if there are new parts to consider. Temperature testing in current models is helpful; temperature testing in future models is crucial. General Motors' car divisions arrange for Packard to test prototype vehicles in conjunction with their own heat testing.

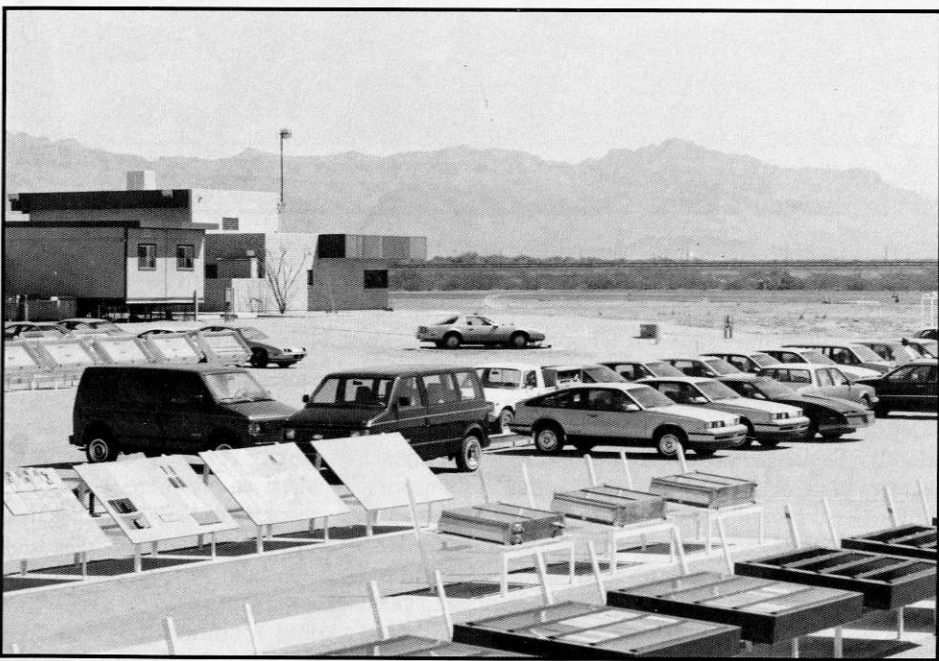
Temperature information gathered by heat sensors is relayed to magnetic tapes and is eventually graphed and outlined by vehicle and product. A compilation of the results forms the division's yearly Component Temperature Survey Book. Most General Motors divisions have their own versions of such a book.

## Getting the details

"We generate a lot of detailed information about Packard's products, but we also look at the competition," Vanden Wymelenberg pointed out, noting that the division ran temperature testing on a Honda vehicle last year. "Our old way of testing involved a lot of trial and error. Now we can tie in our field experience with some of the testing we've done lately."

Packard Electric conducted its first formal, computerized temperature study in 1979. Since then the testing has become more sophisticated with the addition of a new datalogger and newer reduction techniques — so the information makes sense to the people who need to understand it. Temperature testing alerts the division to potential problems that could be avoided through modification, such as the insulated aluminum shielding added to Turbo J-car spark plug boots.

"Our goal is to help the engineer design wiring that works under even the hottest conditions," Vanden Wymelenberg concluded.



A variety of temperature tests are performed on cars at GM's Desert Proving Grounds in Mesa, Ariz.



# Temperature testing

## A day at GM's Desert Proving Grounds

After spending four hours wiring yet another General Motors vehicle for temperature testing thermocouples, the two Packard engineers are ready to hit the road. They glide out of the air-conditioned garage into the 105-degree dry heat.

Brian Bachman dons his sunglasses. The cloudless sky offers no relief against the sun's glare at GM's Desert Proving Grounds in Mesa, Ariz.

Bachman, associate engineer, and Dave Sykes, experimental engineer, both of Product Assurance/Product Evaluation, spent several weeks at the Grounds this summer conducting temperature testing for the division. Each summer since 1977 Packard has subjected its power and signal distribution systems to a variety of tests designed to determine just what temperatures its wiring and components can withstand. Rest assured some enthusiastic vehicle owners are already putting their cars to the test.

Packard wants to do one better by testing under the hottest likely conditions.

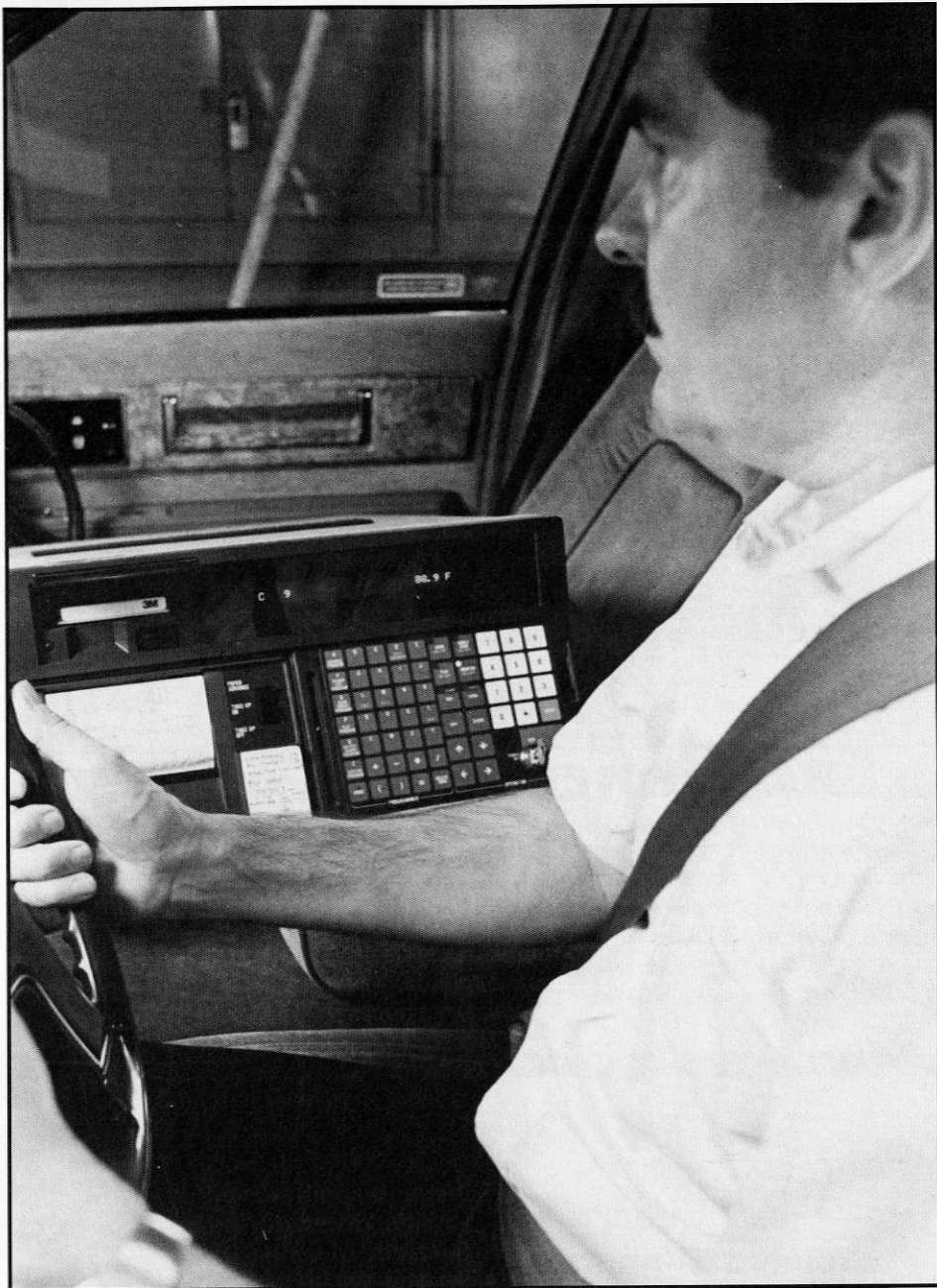
It doesn't get much worse than July in the desert.

"We go down in July because that's when we're likely to record our hottest temperatures," Sykes explained. "It's one of the hottest spots in the nation. I'm told the only place that gets much hotter is Death Valley."

Heat is relative, but, just the same, Bachman and Sykes prefer to do most of their preparatory work indoors. That includes arranging to get vehicles for testing through the Chevrolet-Pontiac-GM of Canada and the Buick-Oldsmobile-Cadillac car groups. With early morning devoted to wiring 70-100 thermocouples, the testing itself begins during the hottest part of the day.

They begin with the equivalent of a wind sprint or 100-yard dash — in automotive terms that's 70 miles per hour around the five-mile track. Sykes monitors engine compartment temperatures every 30 seconds. They're climbing.

Packard's datalogger equipment records the information. The tempera-



Dave Sykes, experimental engineer, works with a Datalogger to record temperatures.

tures are high. Bachman guides the vehicle toward a block wall and idles. The air flow has halted. Temperatures climb still higher.

Next, they pull into a garage, shut the doors and kill the ignition. The car's fan no longer cools the engine. Sykes monitors temperatures that could just about broil a steak.

Finally, Sykes and Bachman pull out and start the city driving course. They start. They stop. They signal. They turn, repeating the cycle.

Now certain temperatures go up; others fall. They may finish the day pulling a contraption that simulates a 7.2 percent grade — a nasty hill. Unless there is special testing to be done, all

that remains is to return to the garage and spend another hour taking all the thermocouples off the car. Each day brings a new vehicle.

"Most of the future models are available at the Desert Proving Grounds, although we have to dovetail our requests with the needs of the car groups," Sykes said.

Back home, thinking ahead to an early winter in Warren, Ohio, Sykes recalls weeks spent shielding himself from a blazing sun — concerned only with temperature testing and guarding against dehydration.

"They were long days, sometimes nine or ten hours," he admits.

"But I'm ready to go again!"

# **The Excellence Training Center: creating an environment conducive to Excellence**

General Manager Elmer E. Reese is confident that attaining Excellence will assure Packard Electric's ability to compete in the global battle shaping up for automotive suppliers. Supporting that confidence is his designation of a facility dedicated to training. This facility is the Ridge Road office building, adjacent to the Ridge Road plant in Vienna Township, Ohio.

Work is already underway to transform the vacant office building into the "Excellence Training Center." Scheduled to open in early 1987, the facility will offer training in nine essential skill areas. It also will provide rooms for offsite meetings.

"We're trying to create an environment that supports the Excellence concept," explained Nancy Brown-Johnston, manager, Training and Organization Development. "We are designing training programs to aid

Packard people in achieving Excellence on the job. We are determining the essential skill needs of our employees and will design courses to meet those needs."

Along with training, Organization Development consulting services are available to help organizations implement the steps toward Excellence. In addition to the nine essential skill areas, which are currently being finalized, other skills focus on job specific or technical categories that will be designed and conducted within the plants and staff areas.

Each staff will offer classes in areas of their expertise, such as Statistical Process Control given by Quality Control, Just-in-Time inventory given by Materials Management and journalism given by Public Relations.

After determining the type of training needed, the Training and Organi-



Bochum-Grumme is scheduled to begin production in October.

photo: Courtesy Kabelwerke Reinshagen



zation Development team will swing into action from their new headquarters at Ridge Road. Classes and meetings will begin immediately to help the Excellence concept take hold.

"We need to conduct meetings and training events in an appropriate setting," Brown-Johnston noted. "When people walk into our conference or training rooms, they will have everything they need, whether it's a chart stand, overhead or VCR."

Having the facility available for meetings customarily held off-site should reduce costs, she added. The building houses three large training rooms, four medium-sized conference rooms, and five small conference rooms.

To serve the division's varied needs, the center will be open from 7 a.m. to 5:30 p.m. during the week. Extended hours will be offered if needed. "We plan to run an operation that is customer-sensitive and customer-oriented," Brown-Johnston said. "The Excellence Training Center is to be a divisional resource of both Training and Organization Development services."

Individuals from Employee Development and the Quality Training Center will staff the Excellence Training Center. Their resources are being combined to create a library with more than 500 books and videotapes on Excellence, management, quality, personal develop-



The Excellence Training Center will be located in Packard Electric's Ridge Road office facility in Vienna Township, Ohio. It will be the center for the division's training and Organization Development activities.

photo: Reilly

ment and other topics. A newsletter will publicize a schedule of classes and events. Catalogs describing available books, videotapes and audio cassettes will be published.

General Manager Elmer E. Reese, commenting on the new facility, explained, "Our purpose is to provide

training which is essential to a broad spectrum of our people, as well as training which is specific to a particular job.

"We must provide our people with the tools, the skills and the knowledge they need to understand their roles in creating excellence as a way of life at Packard Electric."

## Looking ahead

*Reinshagen meets the increasing demands of the auto industry and prepares for future growth by opening a facility at Bochum-Grumme*

### by Brigitte Pfeiffer, Reinshagen

Meeting the increasing demands of the automotive industry recently spurred Kabelwerke Reinshagen to lease a new factory in Bochum-Grumme, according to Volker Zinsser, plant manager, Bochum Linden and Grumme. This expansion leaves Reinshagen poised for future growth in the European automotive wiring market.

"We urgently needed another facility for additional manufacturing of all types of wiring harnesses, including anti-skid, engine compartment and central locking systems," explained Zinsser. "We were bursting at the seams trying to keep up with the demands of the car industry. This particular plant

will be a production and service facility."

Bochum-Grumme's new plant will accommodate current production needs, and will also provide reserve capacity for future growth. Production at the facility will include power and signal distribution systems for Daimler-Benz and the new Cadillac Allante two-seater.

It has 10,000 square meters (107,650 square feet) of production floorspace, and 2,500 square meters (26,900 square feet) of office space. The facility has almost completed its extensive renovations to the office and production areas.

This expansion could create as

many as 250 new jobs, Zinsser said. So far 200 employees have transferred from Linden to the new site in Bochum. Those who have transferred have begun training for their new positions.

"We expect to be done with our moving and rearrangement sometime in October," stated Grumme Plant Manager Rainer Windhaus. "We should have 700 employees ready to begin production by then."

Linden Plant Manager Peter Wolfram estimated 800 employees would remain at the Linden Plant.

"This represents a considerable expansion for us," Zinsser added. "But it was a necessary move in order to satisfy our customers."





**PACKARD ELECTRIC DIVISION, GM**  
Warren, Ohio U.S.A. 44486  
**RETURN POSTAGE GUARANTEED**  
*Address Correction Requested*

U.S. Postage  
**PAID**  
Permit No. 210  
Warren, Ohio  
Zip Code 44486

**Third Class Mail**