



PACKARD ELECTRIC

Cablegram

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Season's Greetings



Newsbriefs

GM sales drop temporary

Howard Kehrl, GM vice president, recently referred to GM's November new-car sales decline as only temporary. Kehrl said that any falloff in GM sales now was the result of successes throughout the year, combined with two strikes which set back attempts to renew depleted inventories.

"Look at the supplies of our cars," he said. "They're pretty short, especially the most popular models. Don't read anything into or beyond that based on only one month's sales. If this goes on for six months, we'd have to come up with another answer, but we are short of cars now, and that's the reason (for the sales decline)."

U.S. buyers favoring U.S. cars

A recent Dun & Bradstreet Corp. survey indicates that 76 percent of owners planning to buy new cars within the next six months intend to buy an American-built car. The survey also noted that 85 percent of American car owners plan to buy another U.S.-built auto, while 51 percent of current imported-car owners intend to switch to American. Nearly six million owners responded to the survey.

Powerhouse project begins

Ground was broken last week for a new state-of-the-art steam and power generating plant to serve Pontiac operations of three General Motors units—the Chevrolet-Pontiac-Canada (C-P-C) Group, Central Foundry Division and GM Warehousing & Distribution Division. The new powerhouse will be completed in mid-1986.

OPEC changes price

A key committee of the Organization of Petroleum Exporting Countries (OPEC) has agreed on changes in the group's pricing policy to realign the prices of the various light and heavy grades of crude oil produced by OPEC members. The \$29-a-barrel benchmark price will remain the same. The **New York Times** reports the question of price differentials has threatened OPEC pricing and production levels recently, when the group's 13 members set a new output quota to shore up falling prices.

Packard Electric Cablegram

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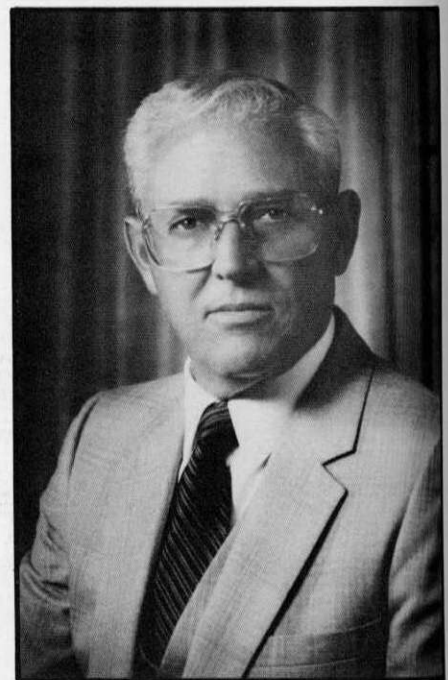
At this holiday season I wish all Packard employes and their families a very warm and merry Christmas and the happiest of new years. Christmas is traditionally a time of family, friends and festivities. Christmas is also a time when we show our care and concern for each other.

In keeping with the Christmas spirit of peace on Earth and good will, I am particularly proud of the way Packard employes share with those in the community who have special needs.

It is my fondest hope as the new year approaches that as members of the Packard Electric family we continue to work together to insure that 1985 will be a prosperous and joyous new year for all of us.

E. E. Reese

E. E. Reese
General Manager



He's riding 10 white horses!

by Patricia Reilly,
Public Relations intern

If Packard Electric had a job classification titled, "Knight on white horse" Dave McCafferty, forklift operator, Dept. 949, would be well qualified. He owns not one but 10 white draft horses which make frequent public appearances.

McCafferty and his horses

appeared in this year's Macy's Thanksgiving Day Parade. "My dream now is to appear in the Rose Bowl Parade pulling Cinderella's coach."

Many local parades have featured McCafferty's horses, including one in which they pulled Packard's Cortland Plant float. This year their appearance in the Pro Football Hall

of Fame Parade served as a springboard to the Macy's invitation. The horses were also used recently to give Santa Claus and local children a ride around courthouse square in downtown Warren.

"Although we take home our share of ribbons and prize money from fairs and parades, I show them to allow people to see and enjoy these rare horses," he said. "They pull the wagon for many hayrides on my farm and we often travel around the area giving rides to children and adults at community picnics and benefit programs. On occasion I use a fancy one-horse cart to transport brides, prom attendants and important local people on their special days."

Now that winter is arriving McCafferty's horses will begin pulling sleighs and bobsleds, in addition to plowing neighborhood driveways. They will also haul logs from nearby woods.

"My horses earn their keep," he said. "On my farm, the horses pull the plow, disk, mowing machine, corn planter, grain drill, binder and slip scraper. But during the show season they get a daily bath to keep them white and shining."

"Horses have always been a big part of my life," he said. "To the best of my knowledge, the white horses I breed are the only horses of this nature in the world."

Breed associations do not recognize white horses, so McCafferty cannot breed register his animals. Instead, they are color-registered with the American White and Cream Association.

"I decided to begin my experimental breeding project in 1973 when I purchased Dottie, a six-year-old Belgian mare in foal. Dottie gave birth to a Belgian filly. I later bred my white stallion Silver Star to Dottie," he explained. "Eleven months after that the first pure white draft horse was born. She was a beautiful filly which I named Silver Bell."

McCafferty hopes to eventually attract a sponsor who will help him show the horses.



Dave McCafferty and two of his 10 draft horses give rides around Warren's Courthouse Square to children visiting Santa Claus.

Successful Packard distributor program results in additional product availability

by Michael Hissam

Ability to service customers, reduction of Packard order processing costs, and gains of more than 300 new customers for Packard products have combined to spell success for the division's distributor program.

Dick Steines, product manager, Distribution, reported, "The distribution program has proven to be an outstanding success. It's an important part of Packard's marketing strategies, and current efforts include expansion of the number of Packard products available to customers through distribution."

Packard began the distribution program in 1982 with a limited number of cable products being made available to customers through Anixter Brothers, Inc., a Chicago-area firm. Less than one year later, Pioneer-Standard Electronics, Inc., headquartered in Cleveland, began distribution of some Packard component lines. "The goal was to more effectively handle our business—reducing our costs in the sales and distribution area and satisfying customers who want to buy our cable and components, not final assemblies of wiring harness products."

An additional goal was to locate more customers for the Packard-built product, Steines said. "Anixter and Pioneer essentially have one product: service. They earn their business by selling products from an ever-present inventory, and ship their orders within 48 hours. They perform no manufacturing relative to Packard's products."

"Their sales forces became an extension of Packard's sales force. Combined, the sales forces of Anixter and Pioneer total 450, serving the United States, Canada, Mexico and other locations throughout the world. In addition, they advertise extensively that Packard products are "in stock" and available for immediate shipment. Their ads have appeared in **Electronic Buyers Guide** and currently the issues of **Automotive News** contain a full-page spread describing the Packard / Anixter relationship. Thousands of product brochures have been mailed to customers and prospects throughout the country, and videotapes for product knowledge are being supplied to the sales forces of the distributors," he stated.

Nearly 2,300 orders a month for Packard-made products are processed by the two distributors. "I expect that level of activity of business to double by this time next year."

"When this program began, we were in a recession. Cars weren't selling, business was down. Now that things have picked up, we're asking ourselves 'What would we have done to maintain service for all these customers that our distributors now handle?'" Steines added.

Competitive considerations

Distribution offers opportunities for improved service, but there is an additional cost that the customer must pay for that service. "For Packard, it means that we must strive all the harder to reduce or stabilize the costs and prices of our products. We realize that in some cases, the extra charge for the Packard products that may be obtained through the distributors has priced individual products beyond the reach of some customers," Steines declared.

Selling Packard cable

Packard cable has become an "ace" for Anixter Brothers, Inc., a Chicago-area firm with a

distribution center in Solon (Cleveland).

Tony DeFranco, operations manager at Solon, said Anixter's customers "give the firm an A plus for our distribution of Packard-made cable."

He explained, "Customers at first hardly believed our speed of service. Now, they believe what we told them, and we've developed a very loyal group of customers wanting the Packard product."

Service to nearly 300 smaller customers by Anixter means about 12 to 15 million feet of cable sales each month for Packard, DeFranco said. "We're expecting Packard business to grow about 50 percent. The majority of our sales of Packard wiring is for automotive applications by customers who center their activities in the final assembly of automotive wiring systems. They are specifying Packard cable, and for them, price and service are very important."

Growth may also mean additional exposure of Packard product to the foreign market, DeFranco

Anixter's sales engineers work to gain new markets for the Packard product, he stated. "We expect growth in Packard business."

Component distribution

Pioneer-Standard, Packard's component distributor, sees addition of the Packard line as key to its participation in the burgeoning component industry—\$20 billion today, an estimated \$55 to \$60 billion by 1990.

Gerry Buddenbaum, vice president, Pioneer-Standard, stressed his company continues to invest in the Packard Electric market base "because there are so many doors that can be 'opened' with Packard products—its potential is unlimited. Packard is part of our expansion plans, and we feel we are part of the Packard family."

Buddenbaum explained that his organization can more effectively service the small-to-medium-volume customer. "Packard is geared for the huge volumes. We can better handle a company's day-

to-day need, serve that company on their terms. Yes, they pay extra for the service. But, we're willing to work with the new and developing customer, including 'risk developing' in the area of credit."

Pioneer-Standard's Ron Carpenter, general manager, noted that Packard's 56-Series of terminals and connectors represent more than 40 percent of their Packard product sales. "New markets are opening for Packard's Weather-Pack connection systems and your Metri-Pack is starting to roll. We're looking to tripling our total dollar volume through inclusion of other Packard products. We want to expand the number of Packard parts that we can offer as we enter new markets. We already are getting some non-GM customers back into the market for certain Packard components."

Drawing card

Packard's emphasis on quality is a "drawing card" for business, according to Carpenter. "Packard quality is recognized in the marketplace, but the market also realizes there is a price premium in acquiring Packard components through distribution. Pioneer can offset those costs through the other efficiencies we offer."

Carpenter listed those efficiencies:

- same day shipment,
- reduced on-hand customer invoice costs,
- smaller minimum order.

"Service does not cost more in the long run—it saves!"

One of those efficiencies is expediting an order. During a tour of the Pioneer-Standard Packard facility in Warrensville Heights (Cleveland), this **Cablegram** writer saw an order arrive by computer for slightly more than 1,000 blanked out (individually cut from the reel) terminals. That order was processed, and weigh-counted terminals were sent out the door to a customer in Oregon in the time span of 12 minutes.

Buddenbaum added that there is more service available to the small customer than just quick dispatch of components. "There is also the quick translation of customer wants into Packard designs for new products. We're in contact with Packard's marketing and engineering groups."

Pioneer-Standard, as a Packard "supercustomer" is quite happy with the division's delivery efforts. "Your (Packard's) delivery is outstanding to the point that we can gear our inventory lead time to Packard production," Buddenbaum said.



Ken Huml, (top) warehouse supervisor at Pioneer-Standard Electronics, Inc., holds a shipping manifest for small quantities of Packard terminals destined for Freightliner Corp. in Portland, Ore. (Bottom) Ticket on barrel at Anixter Brothers, Inc. warehouse indicates the amount of cable remaining after filling small orders.

pointed out. "We are servicing to New Zealand and Australia, and our Canadian offices have begun pricing Packard cable for possible sales there."

Anixter's efficiency in dealing with less-than-barrel quantities—less-than-standard pack—boosts its ability to move Packard cable to the smaller customer, according to DeFranco. "We're talking one-day service; order in, cable out the same day."

Each barrel's remaining footage is logged on an inventory ticket as small orders are filled. Tickets reveal that a barrel of cable may be divided at least eight or nine times prior to depletion.

Quality of Packard cable has become an additional selling point for Anixter, he stressed. "Our customers know that Packard is quality, and they demand quality."

Among Anixter clients receiving Packard cable are GTE/Sylvania, Coleman Products, Auto Assemblies and many GM divisions, DeFranco noted.

Servicing customers with Packard cable also paves the way for additional business for Anixter. "We can also sell them other products that we carry, such as products related to computers and telecommunications."

Team approach for better quality

Packard quality teams set goals

by Mark Rollinson and Patricia Reilly

Packard Electric Division's Quality Improvement Plan was outlined Oct. 1 to nearly 180 of the division's managers at the Packard Management Conference by Bill Wehmer, director of Reliability and Quality Control.

Wehmer explained that the division's Quality Improvement Plan is designed to attain the quality goals established for the division which include a significant reduction in field warranty problems by the 1988 model year, and 100 percent conformance to specifications by Dec. 1985.

Action teams

This plan is based on action teams in twelve key improvement areas throughout the division. Each team is headed by a coordinating "owner."

This action teams focus on eight vehicle improvement areas including crossed wires, disconnects, lead prep, bulbs, misidentification, product damage, routing and harness protection and unseated terminals.

"If we can address these eight areas, we can effectively deal with 90 percent of our customer dissatisfaction problems," emphasized Wehmer. "These are the 'big hitters'. These are the things which constantly plague our customers and cause them grief."

Four other action teams concentrate on systems-

related concerns including Cooperative Involvement, Just-In-Time inventory, Statistical Process Control and Suppliers quality programs.

"The systems areas are important because they help you get the product problems solutions defined and solved," explained Wehmer. "They're the tools."

He added that the teams are not temporary but ongoing. "Quality improvement in these areas will probably be forever."

Quality improvement

According to Dale Johnson, manager of Reliability and Quality Assurance, the focus of the Quality Improvement Plan is to discover what can be done within Packard Electric to improve quality.

He noted that GM customers experience too many electrical and wiring warranty incidents each year which cost the Corporation millions of dollars to diagnose and repair. "Each incident causes our customers dissatisfaction with our product," Johnson said. "To be competitive we need to prevent warranty incidents."

"What we must do is to design our products right and we can work at the vehicle design level to make certain that our products are in protected yet accessible locations."

Emphasis on competition

He stressed that the vehicle program designated

as the GM-10 helped set the stage for the formation of the Quality Improvement Plan. The GM-10 project concentrated on GM's competitors with direct emphasis on lowering warranty incidents across the Corporation to attain World-Class status. Johnson commented, "World-Class says 'superior' to the best in the world."

Based on current domestic and foreign vehicle warranty information the GM-10 project provided challenging direction. Johnson explained that GM must become about five times better in warranty incidents during the next three years in order to beat the competition.

Quality Improvement Plan

He explained that Reliability and Quality Assurance addressed the wiring warranty challenge of the GM-10 project by compiling a list of 27 common electrical problems from throughout the division.

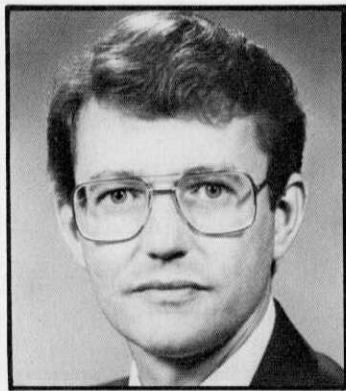
Support data was then gathered on the problem areas from warranty information, plant studies, Product Evaluation Program (PEP), customer complaints and quality index reports. This data, according to Johnson, was used to quantify the frequency and severity of each problem area.

The next three issues of the **Cablegram** will focus on the eight product and four systems action teams.

Quality improvement teams look to future

Unseated Terminals

Glenn Reeser, director of Packard's Mississippi Operations and "owner" of the unseated terminals improvement area, cites the enthusiastic and systematic approach of his action team as the key for success in dramatically reducing unseated terminals within the division.



Reeser

Together with Dave Meyers, manager of Manufacturing Engineering for the Mississippi Operations, Reeser compiled his unseated terminals action team.

In addition to the main unseated terminals action team there are local action teams each headed by the main action team members. These local teams focus on individual areas relating to unseated terminals.

Action team functions

The local teams then report back to the main action team. "You need the information from the short-term solutions to use as the base for establishing the long-term direction," Meyers explained. "It's a two-pronged effort."

Meyers estimated 50 to 60 Packard Electric people are working on the problem of unseated terminals by serving on the main action team and the various local teams.

He also claimed that one of the biggest advantages of the Quality Improvement Plan action teams is the representatives' input from the various staffs. "Where we have representatives from each of those organizations you get a much better feel for where these problems are."

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Routing and Harness

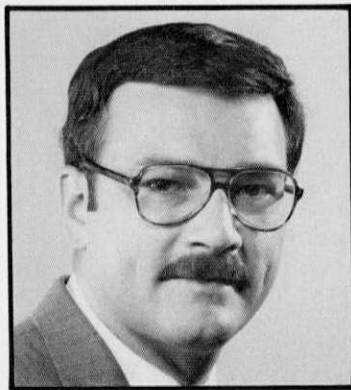
Dave Schramm, Packard's manager of Future Vehicle Systems, considers his role as "owner" of the Routing and Harness Protection action team as logical.

He explained that Future Vehicle Systems makes plans for the location of Packard Electric harnesses in vehicle designs long before they go into production.

Coincidentally, noted Schramm, the major thrust of the Routing and Harness Protection action team is to utilize vehicle design for protection of the wiring system. The only way to insure the protection of a harness is to design the harness into the car before the clay is hardened."

Planning for today and tomorrow

"When you have a vehicle already designed it's tough to go back and



Schramm

change sheet metal. It's easier if you design (wiring protection) into the vehicle from day one. If we can get the space allocated for the wiring and get a place formed, then we've got our spot because a body style tends to last about six years between major model changes."

While Schramm considers planning for future vehicle designs as his team's main focus, he notes that enhancements to today's vehicle designs are also important. "Enhancement gets to be the secondary part. If you come up with a new, innovative idea to use in future vehicles, can you put it on a vehicle that exists today?"

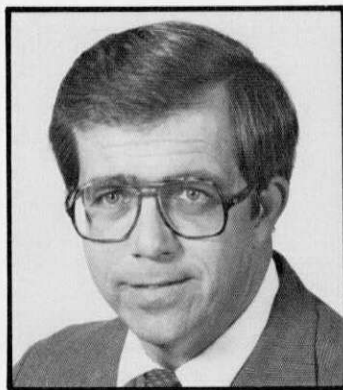
Team selection

The structure of Schramm's team

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Lead Prep

Packard Electric's challenge to achieve World-Class quality in lead prep operations resembles the challenge a professional football team faces when attempting to reach the Super Bowl. Just as championship-caliber football teams need to position talented players throughout their ranks, so does Packard need to spread



Crawford

its current World-Class quality technology in lead prep throughout the division.

"We think we have process and technology today that is World-Class, but our problem is that it exists in bits and pieces throughout the division," said Lee Crawford, manager, Warren Assembly Operations. "Our objective is to reach World-Class quality in lead prep by focusing the division's efforts."

Data collection

Ongoing systematic data collection represents one means of focusing the division's efforts on particular problems. Packard Electric has never before collected a broad, applicable base of data concerning lead prep quality, according to Jim Herman, superintendent, Manufacturing, and coordinator of the Quality Improvement Plan for lead prep.

Useful data on lead prep quality will help Packard Electric identify current performance, as well as problem areas. Begun in Plants 12, 17 and 18 and later expanded to include Plants 13, 14 and 16, this data collection system will soon be put to use in the branch plants, and even-

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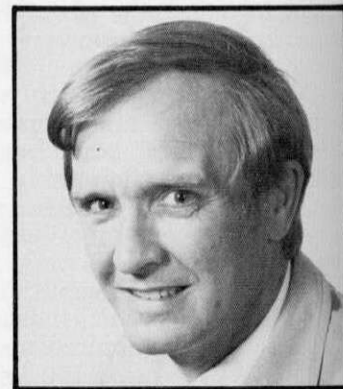
Disconnects

Packard Electric's wiring assembly disconnects come in many varieties; any one of which is too many for the customer.

Packard hopes to significantly reduce the number of disconnects appearing at both the assembly division and final customer levels in accordance with the division's Quality Improvement Plan.

"There are a lot of different connectors involved, and there doesn't seem to be any particular pattern to what causes the disconnects," said Jim Crouse, chief engineer, Cable, Components, and Ignition Systems and "owner" of the Quality Improvement Plan action team for disconnects.

The disconnects action team intends to establish design and assembly specifications and a system to assure compliance, according to Crouse. This will result in connections that provide electrical and



Crouse

mechanical quality, performance, reliability and durability consistent with customer expectations.

Current reliability information shows 21,000 disconnect incidents per million vehicles at the assembly plant level and 121,000 per million vehicles at the final customer level. By the 1988 model year the disconnects action team hopes to reduce these figures to zero incidents per million vehicles at the assembly plant level and 18,000 per million vehicles at the final customer level.

Serviceability problem

"Of all of our quality problem areas, disconnects is one of the few identified as greater at the final buyer level than

(Continued on Page 5)

Unseated Terminals

(Continued from Page 4)

Additionally, noted Meyers, Packard's Quality and Reliability staff has two representatives who serve all of the Quality Improvement action teams. "I've asked them to keep abreast of what's going on within the other major action teams so we can make sure we don't overlap and so we can make sure we're aware of where they are with their problems."

Meyers explained that the first and one of the biggest challenges facing the unseated terminals action team is contending with the many different quality measuring systems in place throughout the division. "Our first step is to get consistency."

Packard Electric's quality performance is measured at three levels. "Our performance is being measured at the internal level, at the consumer level and at the intermediate level (the

GM car divisions)," said Meyers.

Both Reeser and Meyers placed unseated terminals within the top three major warranty problems within Packard Electric. "From our customers' standpoint it definitely is very high ranking," explained Reeser, "because if you have an unseated terminal it means something is nonfunctional—it's a critical defect!"

Reeser explained how the product is becoming more complex. "You look at a 28-pound IP harness that might have 1,000 terminals in it," he explained, "and you have 1,000 opportunities to unseat a terminal. It's dramatic."

World-Class Quality

"Right now our incidence of unseated terminals is dramatically higher than some of the competition. We'd have to get 10 to 12 times better to be considered World-Class as far as unseated terminals are concerned."

Meyers added that the Unseated

Terminal action team is looking at and gathering information about competitive component designs.

"Our group's opinion is that World-Class quality is a moving target," said Meyers. "As we get better our competition is going to get better also."

Reeser indicated that the quality goal of his action team is for Packard Electric to attain World-Class quality in unseated terminals by 1988. "Our customers want zero unseated terminals from us," explained Reeser.

"When you look at where we are today and what our perceptions of World-Class quality is in dealing with those numbers," explained Meyers, "you have to tell yourself that the target has to be zero to get the improvement that we need."

Finding the problem

Design and packaging are two areas being examined as sources of unseated terminals.

Reeser cited an example where implementation of a pull-to-seat designed connector recently eliminated a problem in a cigar lighter.

Meyers noted advancements are expected in Packard packaging. "Somewhere in the realm of 25-30 percent of our terminals go through some type of tang distortion the way we are packaging right now off the cutter to be shipped to final assembly," said Meyers. He noted that studies have shown that about 95 percent of the tang distortion problem could be eliminated through the use of different types of retainers being studied by the division such as a stretch wrap for holding prepped wires.

Optimistic approach

"I'm optimistic that the group is charged up. We're going to make a significant impact on unseated terminals," predicted Reeser. "I'm fortunate that I've got a committed group."

Routing and Harness

(Continued from Page 4)

differs from many of the other Quality Improvement Plan action teams. In addition to representatives from various Packard Electric staffs, the Routing/Harness Protection action team also receives support from

outside the division. Both GM Design Staff and GMAD have representatives on the Routing and Harness Protection action team.

Schramm explained that the Design Staff representative is responsible for all of GM's generic vehicle electrical design. "This is good because we want to get into the

generic vehicle and the generic concepts. This is how we get into the car before the clay is hardened."

"The Council is comprised of representatives from all the GMAD divisions that get together monthly to talk out common problems," explained Schramm. "This is how we find out what problems GMAD has across all the assembly plants with putting our systems into their vehicles."

Focusing on the problem

"If you can control the routing and protect it you can reduce about one-third of our warranty."

He estimated that 28 percent of Packard's warranty problems can be eliminated by redesigning components. "If I have a design where there is a channel in the car body and the wiring fits in that channel, or if I have a hard channel and it only fits one way—you can only install it one way. You take all the variables out."

Goals: near and long range

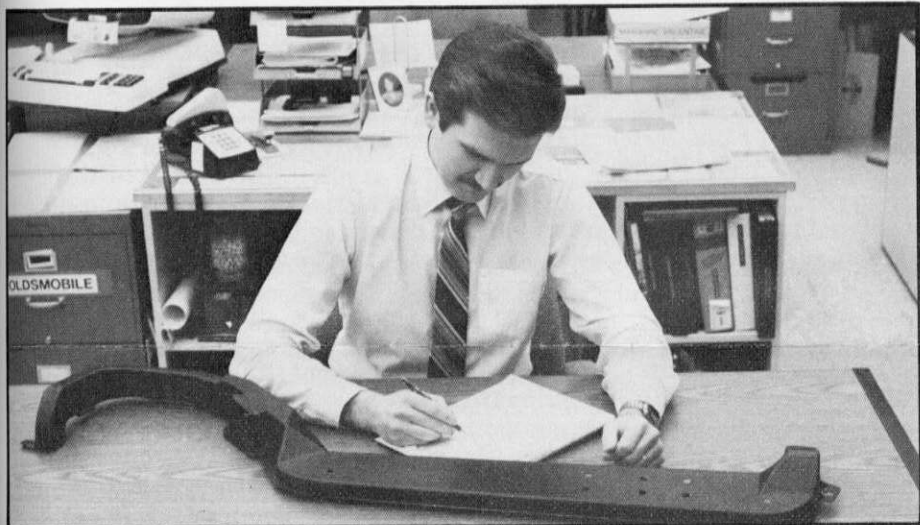
"Our near term goal is to get to where there are no more pinched, cut and chafed wires by designing (harness protection) into the vehicle. That's my objective. There is no other acceptable goal," he stressed.

"Longer term I want to look at vibration, abrasion, corrosion, thermal and EMI (electromagnetic interference) and RFI (radio frequency interference)."

How can Packard insure wiring protection in the passenger area of a product which is constantly being reduced in size, where there is an increasing amount of wiring content and where instrumental panel space is in high demand? "We need to find places where we can put the wiring that isn't competing and the only way to do that is to design it in from day one."

The Routing and Harness Protection action team has already investigated some new areas where future wiring can be located. "There are places in the vehicle today between the inside and the outside fender that nothing goes into. We're working on some concepts as to how to get wiring in there in a channel. It would be totally protected by a fender on both sides."

Other areas being investigated by the Routing and Harness Protection action team include air conditioning ducts and molding channels into the instrument panels.



Greg Kochendorfer, project engineer in Application Engineering, examines a dash wiring channel for the 1986 Oldsmobile E-K car.

Lead Prep

(Continued from Page 4)

tually in Mississippi and Mexican Operations.

"We're getting more and more sophisticated at data collection. This information not only tells us how to prioritize, but it tells us internally where our gaps in quality are," Herman said. "Getting that data will allow us to identify problems to track from a divisional standpoint."

For example, systematic data collection has pointed to a problem in the ability to meet height, width and pull requirements for lead prep.

"We then want to learn if this problem is related to any particular process. A good data base will tell us which processes are causing the most problems," Herman added.

Initial indicators gleaned from this new data collection system show lead prep with 7.8 percent non-conformance at the internal level. According to Herman, Packard hopes to bring that figure down to one

percent by the 1988 model year.

Crawford added that the division will eventually improve overall lead prep performance by:

- updating equipment,
- using automatic technology,
- and eliminating bad product designs and defective materials.

"On a certain piece of equipment there might be one thing that is perfect, but it exists only on that tool," Crawford said. "We need to proliferate our current level of knowledge so that everybody has up-to-date tools, equipment and technology."

He added that Packard Electric will improve its lead prep quality with the help of existing action groups such as the Terminal Application Committee, headed by Reliability Manager Dale Johnson and the ad hoc CIS (Computer Information Systems) enhancement committee, run by tool engineering.

Concluded Crawford, "We need to instill in everybody — hourly, salaried, engineering and manufacturing — a basic discipline to do the job right the first time."

Disconnects

(Continued from Page 4)

at the assembly division level," Crouse said. "Therefore, it's obvious that this is more than a Packard problem — it's an assembly plant serviceability problem too. We need to get the assembly plants involved in order to solve this problem, and we're going to do that."

Packard Electric identifies disconnect problems at the assembly division level through use of Product Evaluation Program studies and the cooperative involvement program.

"We recently visited Lordstown to talk about two specific incidents to try to get some feedback from them as to what the causes are," Crouse explained. "We plan to do more visitations as we see the need."

Disconnects Quality Improvement Plan action team members have set up four sub-groups to address principal concerns of the team. These

groups include:

- Data Acquisition and Evaluation, headed by John Malie, superintendent, Component Reliability, coordinates the collection and analysis of data concerning disconnects.

- General Motors Assembly Division involvement, headed by Jerry Gilley, superintendent, Reliability, is responsible for getting Packard Electric and GMAD to agree on system and component designs to eliminate disconnects at vehicle build.

- Current Activity, headed by Roland Hill, manager, GM-10, assesses impact of current design activities on the GM-10, enhancement and component division programs.

- Service, headed by Don Cordner, assistant staff engineer, Application Engineering, evaluates and proposes actions to eliminated disconnects as a problem during servicing.

"It's not a problem that can be solved by Packard Electric alone," stressed Crouse. "It's going to take a lot of coordination and dedication."



Joyce Walker, senior GMI student in Component Engineering, compares a 56 Series cruise control brake switch (left) with a 1985 J-car Weatherpack connector (right) featuring a "T-lock."

Revoir discusses Packard-EDS arrangements

Management decisions regarding informational (data) systems at Packard Electric became the responsibility of Electronic Data Systems (EDS) on Nov. 1. Jim Revoir, divisional account manager for EDS, recently discussed preparations being made including arrangements for 121 Packard Electric employees in Warren, Mississippi and Mexican Operations who will make the transition to EDS—GM's newest subsidiary. Revoir, formerly Packard's Director of Information Systems, will be one of the 121 Packard employees making the transition to EDS which will be completed by Jan. 1, 1985.

Revoir, who will continue to report to Packard Electric General Manager Elmer E. Reese, noted that nearly 10,000 GM employees nationwide will join EDS.

Cablegram: Where are the 121 Packard employees located?

Revoir: There are 115 people in Warren, four people in Mississippi and two in El Paso. This does not affect international (Packard Overseas Operation).

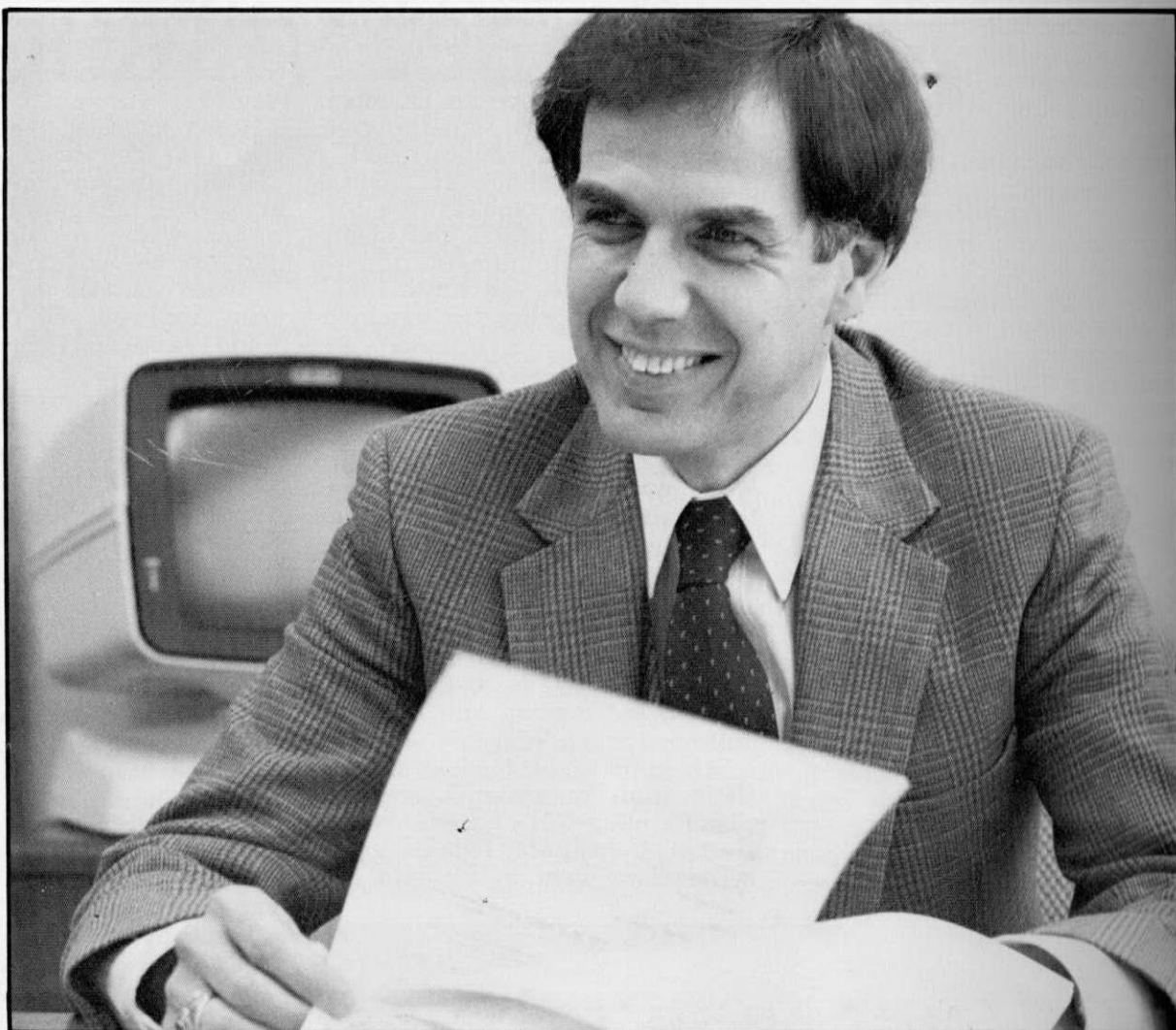
Cablegram: What effect will this changeover have at Packard Electric?

Revoir: The reason Roger Smith and Ross Perot (founder and chairman of EDS now serving on GM's board of directors) negotiated this deal was not only for EDS to manage the information systems function for General Motors, but to take advantage of the tremendous opportunities going forward in marketing systems that have been developed within General Motors. What we have is a marriage of some very highly technical MIS (Management Information Systems) people within GM with the most successful computer service bureau in the world.

Cablegram: Will the 121 new EDS employees be physically relocated from their present locations as a result of their new affiliation with EDS?

Revoir: No. The people who are working here at Packard are going to continue in their present positions and jobs until other opportunities open up for them. That's one of the keys. There are going to be opportunities within the General Motors project and outside the General Motors project within EDS as time goes along. Our number one goal right now is to make sure that Packard Electric's MIS needs are taken care of first.

Cablegram: Have the 121 new EDS employees been informed of their benefits?



"What we have is a marriage of some very highly technical MIS people within GM with the most successful computer service bureau in the world." — Jim Revoir

Revoir: They have been apprised of all their benefits, including how they will participate in the receipt of GM Class 'E' common stock issued in connection with the EDS acquisition. Their GM service carries over. The Class A Product Discount is part of the benefit package.

Cablegram: What are the benefits to Packard Electric Division as a result of working with EDS?

Revoir: The benefits are mostly long-range. There are going to be personal opportunities for people within MIS. We're going to have better, higher quality and more consistent systems for Packard

Electric and General Motors. We will eliminate the redundancy of computer systems. For example, we need one state-of-the-art scheduling system for all of Warren Operations.

Cablegram: Does EDS have any additional people at Packard?

Revoir: At the current time we have twelve additional people here in Warren. They are all permanently assigned to EDS here at Packard Electric. Jim Hall, who works for me, has 15 years experience with EDS. He is currently coordinating transition activities.

Printed circuits fit into division's future

As today's cars shrink in size, flexible printed circuits have helped fill the need for more complex power and signal distribution systems while accommodating increasing space restrictions. With the help of Toolroom Engineering, CAD/CAM (Computer Aided Design/Computer Aided Manufacture) will permit Packard Electric to produce printed circuits more efficiently.

Packard Electric supplies most of the flexible printed circuits used in General Motors vehicles. The AC Spark Plug Division represents Pack-

ard's biggest customer for flexible printed circuits.

Going 'high tech'

"Currently the calculations to design printed circuits are done manually," said Vitaliy Pechenuk, Toolroom engineer. "Now, we plan to go high tech."

"For example," explained Al Gould, Toolroom engineer, "we get a two-dimensional paper print of an instrument cluster case from AC Spark Plug, and manually figure all the distances needed for the actual three-dimensional flexible printed circuit."

Gould added that CAD/CAM provides a three-dimensional view of the instrument panel case. "We design the circuit over that view. There is a flat patterning routine on the Intergraph (CAD/CAM) system that can unfold the circuit. Once it is unfolded, we have all our flat dimensions for the tool design and program routines."

As a result the Packard-designed circuit will fit the case contour without designers having to calculate each distance manually.

Time savings/fewer errors

Watson predicted that Packard's printed circuit designers will experience more time savings and fewer errors as they continue to produce more complex printed circuits for the

division on the Intergraph system.

"When we're able to work with the three-dimensional model we'll be able to overlay the circuit right on the model and it will minimize corrections," Pechenuk pointed out. "It will allow us to do things more automatically."

Gould added that Packard's Intergraph computer will soon be able to communicate directly with AC Spark Plug graphic system which will transfer design data directly into Packard's database.

"We're in the experimental stages," Watson said. "When we get our own Intergraph work stations we'll be working these things into regular production of printed circuits. That will allow us to move faster."



Al Gould, project engineer, inspects a three-dimensional view of an instrument panel cluster case sent to Packard from AC Spark Plug.

Three Clinton heroes receive recognition

Not everyone has the opportunity to become a hero. But Packard's Clinton plant has not one but three to be thankful for at this holiday season. Guy Barbee, senior Methods Lab operator, James Carson, preplanning engineer and Bob DePerro, general supervisor of Production Control, received the GM Lifesaving Award Dec. 17 for their actions involving an incident where a co-worker was trapped in a car sinking in a pond.

Catherine Collins, a lab operator at the Clinton plant, was driving to the plant on July 20 when she

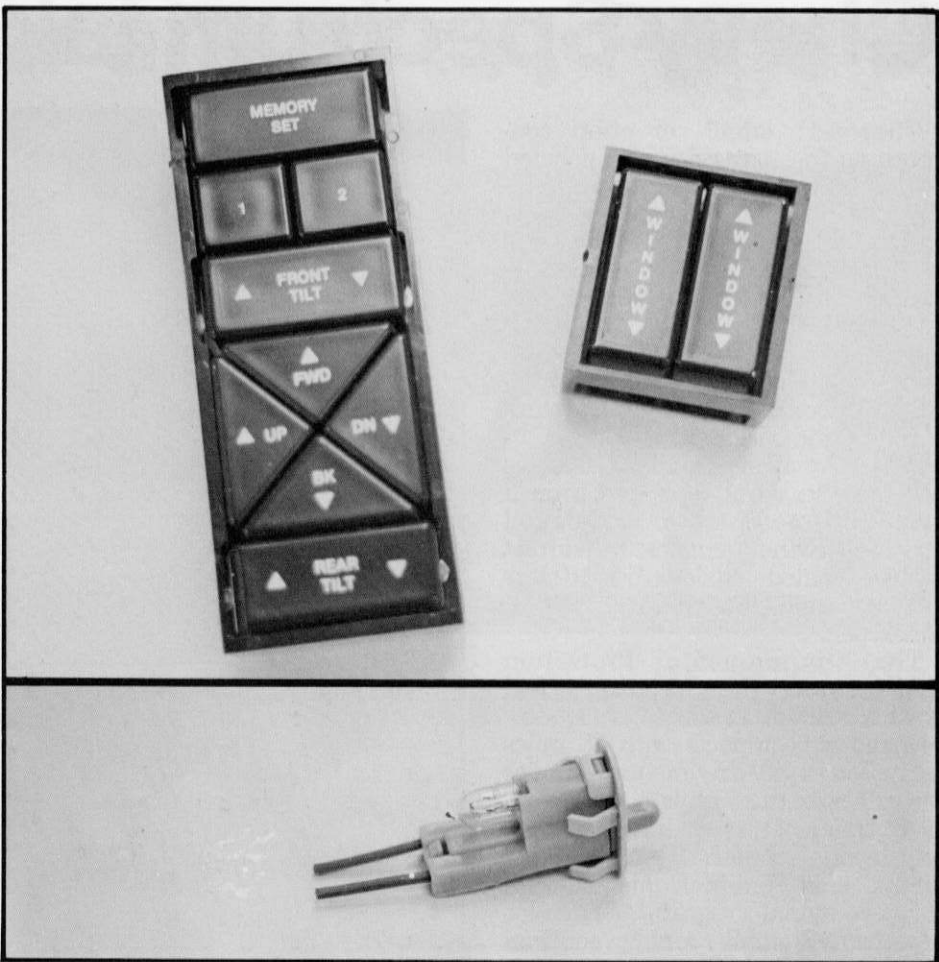
lost control of her car. With the accelerator wide open, her car went off the end of the Plant 21 parking lot, over a railroad siding and into a pond.

The three co-workers went to Collins' aid by floating the sinking car into shallow water and rescuing her.

The awards were presented to Clinton's trio of heroes at a luncheon and presentation at the University Club in Jackson by Ben Cieslik, Corporate director of Occupational Safety and Ergonomics Activity.



Sidney Lu, Advanced Engineering, (above) and Brad Williamson, cooperative student at Youngstown State University, hold power radio switches located in a prototype steering wheel. (Upper right) Prototype of seat power option switches are shown. (Lower right) Glove box switch will be used in 1985 Oldsmobiles.



New products for Packard

Product planning team helps mold future

by Patricia Reilly,
Public Relations intern

At Packard Electric the adjectives "new" and "improved" are not advertising gimmicks meant to sell repackaged goods. Rather, these adjectives indicate that Packard's New Products Planning Team has done its work well.

The team is one of five units constituting the Strategic Planning Council, and as such it helps the division mold its future.

General Sales Manager Bill Turner and Jack Olin, director, Advanced Engineering, serve as co-chairmen of the New Products Planning Team. "Like the four Strategic Business Units, the New Products Planning Team has representation and support from all staff areas," Olin pointed out.

Mission and objectives

"The mission of the New Products Planning Team is to support div-

isional growth and technology goals by developing new products that will enable us to grow in markets that we do not now penetrate," said Turner. "These could be products that support our existing product line, or they could be products that are outside of our existing product line but that meet a market need." Although the New Products Planning Team has been active for some time, it has only recently formulated a clear mission and objectives. According to Olin the team has two objectives:

- to address Packard's need for developing new automotive products of strategic importance to divisional success in signal and power distribution systems and,
- to pursue new product development for the purpose of growth and diversification.

Product opportunities

Specific strategies for attaining

team objectives include market- and technology-driven identification of new product opportunities.

"New product development at Packard Electric is primarily market-driven, with Marketing and Sales playing a strong leadership role in identifying future opportunities," Olin said.

Turner defined a technology-driven opportunity as one in which technology advances allow the division to develop a product for possible introduction in the marketplace. He contrasted this with market-driven opportunities, in which "there's an environment out there that's crying for a certain kind of product, and Packard tries to satisfy that need."

The Advanced Systems and New Products section of Advanced Engineering supports new product concept development. Jim Orsine, assistant staff engineer, serves as the coordi-

nator between this section of Advanced Engineering and the New Products Planning Team. The team remains a planning tool, while Advanced Engineering helps bring its concepts to fruition.

Future products

New Products Planning Team efforts have recently helped launch several new products, such as the glove box lamp switch in the 1985 Oldsmobile Calais and the remote control radio switch in the horn pad of a future Pontiac model.

"In addition to supplying the traditional wiring system, we're now getting into a portion of the switch business," Olin added. "We're going to supply switch assemblies with integrated electronics for option controls. The electronic components will be supplied to us by Delco Electronics."

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GM execs give impressions of Packard

Donald J. Atwood, GM executive vice president, and Edward P. Czapor, GM vice president and group executive in charge of the Electrical Components Group, recently participated in a strategic business review with Packard Warren Operations officials.

The GM executives heard presentations regard-

ing Packard Electric's four Strategic Business Units (SBUs) - Ignition Products, Wire and Cable, Components, and Wiring Assemblies. They also received information about Packard's international activities, Growth Task Force, the division's Business Plan and a facilities update. Also during their one-day visit they viewed new technology and innovations at the Warren Operations' Engineering and Research Building.

Cablegram: What impressions do you have of Packard Electric as a result of this visit?

Atwood: I'm very impressed with what I see at Packard Electric. I'm very free with my praise when I say that I think Packard has done an outstanding job in the whole area of business planning. "I've been here before in the past and I think that Packard Electric has also been doing an outstanding job technically."

Cablegram: You recently visited Japan. What impressions do you have of Japan and its workforce that might be of interest to Packard people?

Czapor: I have been to Japan six times, and I've seen nothing in Japan in terms of machinery that really gives us a disadvantage. In fact, our machinery puts us in a competitive position.

In each successive visit, I see an adjustment where the Japanese are becoming more like we are in terms of lifestyle. The Japanese workforce attitude is such that they have put tremendous demands on themselves to catch up. Their

workforce has a discipline that is awesome at times. We have every bit as much talent, but it's how we apply that talent.

Cablegram: What changes and opportunities can we expect at Packard as a result of the recent restructuring of the GM car and truck divisions?

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Donald J. Atwood



Edward P. Czapor

Chevy Spectrum takes on small car world

Chevrolet's small car effort continues as the new Spectrum debuted in 16 Eastern seaboard states in mid-November. The Spectrum is available at more than 1,500 Chevrolet dealers in Connecticut, Delaware, Florida, Georgia, Maine, Maryland (including the District of Columbia), Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Vermont and Virginia.

All Chevy dealers in these 16 states have service, parts, tools and trained technicians necessary to provide full service for the vehicles. Chevrolet dealers located outside this 16-state area can make standard repairs or adjustments.

The Environmental Protection Agency rates the Spectrum's fuel economy the best among gasoline-powered subcompacts with 38 miles per gallon in city driving and 43 miles per gallon on the highway.

"In terms of size we have only one vehicle smaller than Spectrum — the Sprint," said Tom McDaniel, Director of International Programs, Chevrolet. "Spectrum is smaller and lighter than the Chevette, but still has ample room to seat four comfortably."



Chevrolet Spectrum

Czapor and Atwood praise Packard

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Atwood: One of the things that I think is going to manifest itself out of all of this is a greater degree of cooperation and participation by all of the component divisions including Packard. No longer will it be the car divisions or one of the car divisions trying to outdo another car division. Packard will be looked upon as just one of many possible suppliers. Packard will now, as will all of the other component divisions, get in on the ground floor and participate in the design and the development of these new products. I think it's going to be a great innovative approach for the component divisions and for the Corporation.

Cablegram: You recently said that "winners will be those companies who are the most aggressive, creative and successful in implementing advanced technical concepts." How does that apply to the employees of Packard and the other divisions of

the Electrical Components Group?

Czapor: It applies to us whether we're building the product or working the financial numbers or doing any other job. What we've got to do is use the best innovative tools to do our job. The word quality applies not to just the product, but to the person. The way we defend our lifestyle and grow in that lifestyle is through innovation.

If we do that right, we're going to have new jobs, we're going to grow. The avenue to new jobs is growth!

Cablegram: What changes in automotive technology do you see that will affect Packard Electric and its products?

Atwood: I think the biggest change that is coming is the tremendous growth in the utilization of electronics in the automobile. With that growth comes a great necessity for more interconnections. We need to get on with the task of multiplexing.

That's the technological challenge that I think Packard Electric faces in the coming decade.

Cablegram: Why are you so positive about Packard Electric?

Czapor: I've had the opportunity to view Packard from the outside, and also as a customer. I've seen Packard face all the challenges of the business it's in and really solve their problems. I've seen you survive while others have fallen along the wayside. I've seen you take on the Japanese challenge, and do it with enthusiasm.

I've seen you reach for the outside business that has given you the growth. I think you're doing all this by getting your people involved. I am seeing that happen today in a real exciting way through your strategic business planning. You're making yourself a sound, strong, really competitive organization. I'm proud to be a part of such an organization.

Team develops concepts

(Continued from Page 7)

"We have identified specific areas on which we want to concentrate our efforts," Turner said. "We think that the switch business presents a good opportunity for us to diversify in an area that is outside of our traditional wiring business."

After the New Products Planning Team has developed the concepts for products and the division commits itself to them, they then transfer the products to the care of an existing

Strategic Business Unit. Packard could also assign a new Strategic Business Unit to a particular product or line of products.

"The New Products Planning Team is forcing us to think outside our traditional product lines," Turner said. "We've got to look at other areas in which we can grow."

"It's important that the new products we are planning are consistent with Packard Electric's long-range business interests," Orsine said.



Pontiac Fiero has had a busy season on the racing circuit in 1984. Charles Bates of Medford, New Jersey campaigns his Fiero in Sports Car Club of America's show room stock competition.

General Motors body designations

	Chevrolet	Pontiac	Oldsmobile	Buick	Cadillac
A body	Celebrity	6000	Ciera	Century	
B body	Impala, Caprice	Parisienne	Delta 88	LeSabre	
C body			Ninety-Eight	Electra	DeVille, Fleetwood, Limousine
D body					
E body			Toronado	Riviera	Eldorado
F body	Camaro	Firebird			
G body	Monte Carlo	Bonneville, Grand Prix	Cutlass	Regal	
J body	Cavalier	2000	Firenza	Skyhawk	Cimarron, Seville
K body					
N body		Grand Am	Calais	Somerset, Regal	
P body		Fiero			
T body	Chevette	1000			
X body	Citation				
Y body	Corvette				

Car family designations are applied internally by General Motors and refer to cars which share body and chassis. For example, the one body shared by all divisions is the J body, which the chart shows is Cavalier, 2000, Firenza, Skyhawk and Cimarron. Trim, interiors and ornamentation may differ and they may have different engines, but all the cars listed in each body class share the same body and chassis.