

PACKARD ELECTRIC

Cablegram

Volume 43, Number 6

June, 1981

Model change — 1982

Model change overview

"We have tried in all phases of model change to look at all systems we have to insure quality," Bill Dunham, manager of divisional Manufacturing Engineering, said.

"We have made changes to improve the capability of our tooling to make a better quality product. We have worked closely with Product Engineering to make sure that from a product design standpoint and a process (tooling) and methods standpoint we can achieve this quality. The execution of model change has been carefully coordinated with hourly and salaried personnel on the floor.

"This year we will have a delayed model start for the A and F-cars. These cars are totally new from a design standpoint. However, with the design of a new car there are always changes to be made which we have to respond to while operating at the same level of quality and performance. Our customers require it and we have to be responsive to our customers," Dunham emphasized.

He continued, "There is no question that as the complexity of vehicles increases, the size and complexity of model change becomes more extensive each year. There are more demands on the organization to coordinate an effective model change while keeping cost at a minimum.

"We still have to provide operating units with the most innovative methods and processes so they have maximum opportunity to build the highest quality product at a competitive cost.

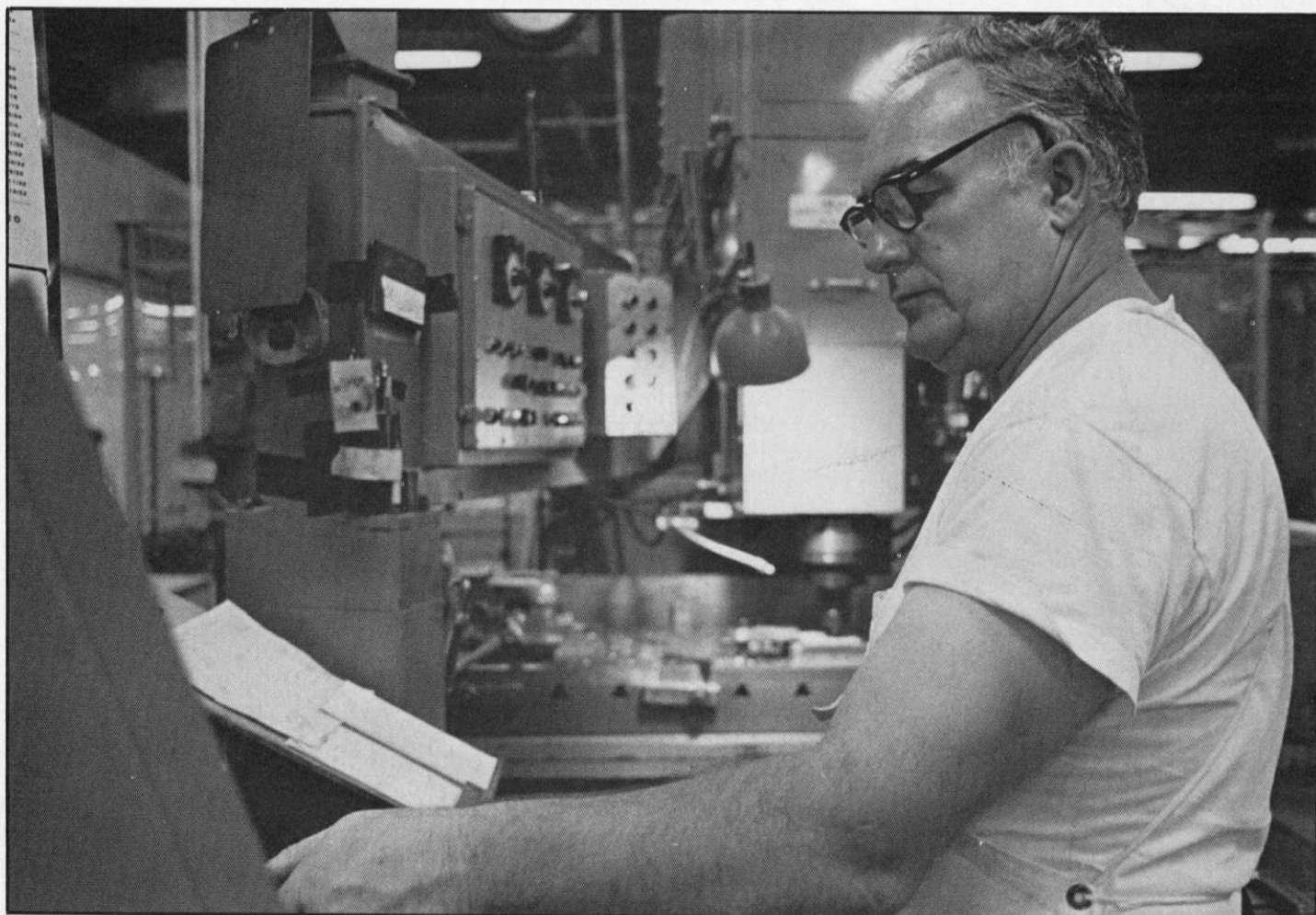
"In order to accomplish this, we are changing the way we design, develop and release tools and equipment. From product review to methods, tools and equipment, the whole system is being changed to facilitate the building of a quality product. Improvements such as the injectible hard-shell grommet and on-line solid state testers are some of the major changes.

Plant 3

"The 1982 model change will impact greatly on our plastic molding area," Lou Parrott, Plant 3 superintendent said.

"We will see quite a few new part designs and associated tooling. In total, there will be 123 new part numbers and 140 new tools. This results from the A and F-car changes along with changes to the 'X' and 'J' for 1982.

We are continuing to modernize and rearrange the molding area. This includes revised machine layouts which allow us to incorporate the latest molding technology, such as material feeding and drying, sprue and runner extraction and beside the press grinding. We are currently 75 percent complete in our rearrangement and modernization.



MILLING AROUND — Dan Lynch, Dept. 552 tool and die maker, mills an experimental plate for the Printed Circuit area using a numerically controlled milling machine.

"The High Energy Ignition area (HEI) will be affected by minor layout and product revisions. In the HEI area, we will have quite a few new HEI assemblies to accommodate the wide variety of different engines that will be built. Along with this, we will not only modernize some of our conveyors in the area, but reuse a few to meet the product demands for 1982.

"The rubber mill will also see some minor layout and product changes. This will include minor equipment relocation and a few new cable designs and compounds for 1982."

Printed Circuits

"Noticeable revisions" will occur in the Printed Circuit area of Plant 3 this model change, including major rearrangements to provide additional floor space for new equipment, according to C. J. Martens, business manager, Printed Circuits.

"All 'A' and 'F' printed circuits have been totally redesigned and they incorporate much new technology into Packard's flexible printed circuit business. This new technology consists of a three-way connector attachment to the circuit, and is a giant step forward for possible expansion of printed circuit applications. We estimate a 30 percent increase in work content for these car lines," Martens said.

"For 1982, 44 percent of our part

numbers will be totally new. This, coupled with a 30 percent increase in active part numbers, will result in the largest single model change ever undertaken by the Printed Circuit team.

Plant 8

Plant 8 will undergo a significant model change in its harness assembly area, according to Bob Jason, superintendent.

"Four A.H.P. assembly lines will be relocated from Plant 12 to Plant 8. Two of these lines produce the rear door power harness for Cadillac. The other two lines will produce power harnesses used by B and C-body cars. The Cadillac lines started up on June 1, and the 'B' and 'C' lines are scheduled to start on July 6.

"The stationary board portion of the plant's business will also experience significant changes. During the 1981 model year, this area produced approximately 40 different part numbers. These assemblies are both internal and external harnesses used with the torque converter control, and various electronic spark control harnesses. Seven of these 40 part numbers will change due to changes in the assemblies for the 1982 model year. Two of the part numbers will not carry over, and five new part numbers (assemblies) will be introduced. In addition to these

changes, a package which produces the A-body power vent harness will be relocated from Plant 12.

"The net effect this will have on the hourly personnel in Plant 8 will be an addition of approximately 75 employees," Jason concluded.

Plant 10

The magnet wire and clutch coil areas are about to embark on their first major model change in a number of years, according to Plant 10 Manager Carl Dzapo.

"A new smaller coil using lighter gauge aluminum wire with a new insulation and a new bond coat will be introduced. Application will be in the new E-car, scheduled for introduction in the spring of 1982. This weight-saving coil and compressor will subsequently be used in most General Motors cars," Dzapo said.

"A new extruded stripe will be introduced to cross link cable in August. The extruded stripe will not rub off, thus providing better identification for assembly and subsequent identification when it is in the automobile for awhile. Extruded stripe cross link cable is a 'first' in the industry.

"Extruded rip cord, re-introduced to Plant 10, will lead the way for our new emphasis on quality, and reduce scrap.

(Continued on page 3)

News- -briefs

Temperature guidelines

General Manager Blair Thompson recently signed into effect divisional building temperature guidelines. According to the guidelines, temperature control devices in Packard facilities should be set no lower than 78 degrees Fahrenheit for cooling and no higher than 65 degrees Fahrenheit for heating. However, controls should be set to achieve the most economic operation for each system. In addition, the guidelines state that thermostats for domestic hot water used in cleaning and personal hygiene should not be set above 105 degrees Fahrenheit. These guidelines will yield substantial savings in heating and cooling energy.

Energy booklet distribution

An energy booklet provided by Exxon Corporation is being distributed to all Packard employees, according to John Good, energy coordinator. Delivery of the booklet was delayed due to budgetary cutbacks. Warren employees who have not received a copy through their department may pick one up at the Public Relations office on Dana Street. Mississippi employees who have not received a copy may contact Bill Games (ext. 219) in Brookhaven, or Wes Lepard (ext. 322) in Clinton.

Fire extinguishers

Packard's Fire Protection Section is making available to all Packard employees a leaflet concerning fire extinguishers. These leaflets contain information concerning the proper use of extinguishers. It is Packard policy that any employee be permitted to use an extinguisher in the workplace. The leaflet will familiarize employees with the general principles of a fire extinguisher use.

AFL-CIO accepts UAW

The AFL-CIO has formally accepted the UAW. AFL-CIO President Lane Kirkland sent UAW President Douglas Fraser a two-paragraph letter that the federation's executive committee had voted unanimously to issue a certificate of affiliation to the UAW. It will take effect July 1. By joining with the 1.2 million-member auto workers' union, the AFL-CIO's membership will total nearly 15 million.

Japan hurting over aluminum imports

"Japan is crying 'ouch' over a torrent of aluminum imports from the U.S., and the Japanese industry is urging restraint on American producers," says the Associated Press. There's an extra twist to the irony: Among the biggest users of aluminum in Japan are the auto and electronics industries, reports the wire service, American plants, which have cheaper energy costs, produce aluminum for about 50 to 60 cents a pound, as compared to about \$1 a pound in Japan.

Packard Electric Cablegram

Published for employees and retirees or Packard Electric Division of General Motors, P.O. Box 431, Warren, Ohio 44486
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Employee earns \$10,000 award

Suggestion saves on heating oil

A Dept. 553 employee is the latest winner of the maximum \$10,000 suggestion award under Packard's suggestion program.

Fred Dziedzic, a powerhouse engineer, earned the award for a suggestion to convert the Number Three boiler in Plant Three from oil to natural gas. The boiler will now run on either oil or gas according to Dziedzic.

Dziedzic, a 14-year employee of Packard, said the suggestion resulted in no downtime for the boiler last year. "Gas is practically maintenance-free," he said. "Plus, it's much cleaner all around."

In addition, he noted that gas was cheaper this past year than oil. "There was a large increase in oil prices this year. We didn't use the boiler on oil this last heating season; just gas," he pointed out.

Dziedzic said he made the suggestion "a little over three years ago," but had been thinking about it for "about eight years now. I talked to Andy Kocjan and asked him why we couldn't just convert 'Number Three' over to natural gas."

"The biggest part of the job was putting in the gas line. Otherwise, everything was practically there, and the electricians just had to do a little wiring."

Dziedzic also noted that North River Road converted to natural gas. "We weren't allowed to use gas at North



SUGGESTION AWARD WINNER Fred Dziedzic explains his boiler conversion idea to General Manager Blair Thompson.

River Road at the time of the suggestion because it was scarce," he said. "When they got permission, they figured it for North River Road."

Was Dziedzic confident about the \$10,000 award? "No way, no. They paid me part before and said you might get more, you might not. So I more or less forgot about it. Then," he recalled, "they re-evaluated the suggestion based on the savings" which resulted in the

maximum award.

Dziedzic recalled that he earned a suggestion award of \$75 about 14 years ago at North River Road, and has had "two or three down here."

"For me now, the suggestion program is great."

Dziedzic's plans for the money? He said, "We've got a six year-old at home, and we're figuring on putting it away for her education."

Three employees become citizens

Fireworks displays, parades and all the festivities associated with the Fourth of July Independence Day celebrations have a special meaning for Packard employees Manu Anand, Dominic Y. Seto and Shao-Chung Hsieh.

For each of these employees, it marks the first Independence Day holiday as a citizen of the United States.

Anand, a reliability engineer, was born in New Delhi, India and came to this country in 1975 after he married Madhu Mathur, who had resided in the U.S. for 18 years, and who was a student at North Carolina State. "My wife wanted to complete her studies and I wanted to continue my own studies in the states," said Anand, explaining his reason for coming to the U.S. "I liked the states so much, I decided to stay. It really is a great place."

Anand, a Packard employee for more than two years, added that he was impressed with the form of government in this country. "It is set up to insure a free system and I agree with that philosophy. The people in the states are extremely friendly and helpful and the educational systems in the U.S. are super!"

Seto, who came to Packard in 1980 as an electronics engineer, recalled that his arrival in this country in 1974 was part of "a family plan."

"My parents wanted us (two sisters and one brother) to have a better education. It was decided that we would leave our home in Hong Kong and go together to the U.S. I felt after five years in this country that I really wanted to do something for it by becoming a citizen. I now can really enjoy the freedoms found here," Seto said, adding, "I am so impressed with this country that has come so far in its

200 years. What impresses me most about the government is its structure — the division of powers among the executive, judicial and legislative branches."

Hsieh also came to the U.S. as part of a family plan, but with a "return ticket guarantee."

"The rest of my family had been in the United States for some time and they had been encouraging me to leave my home in Taipei, Taiwan to join them. My mother even offered to pay for my return flight to Taiwan if I decided not to remain in the states. All she said about the country was 'just take a look at it.' Once I arrived, I liked what I saw and decided to go to school, recalled Hsieh, an associate design

engineer who has been at Packard for two years.

"The freedom of choice this country offers is very important to me," Hsieh added. "Each person can speak what they want to speak."

Each of the three admitted that the upcoming Independence Day holiday holds special meaning.

"I am going out to see a local parade. I will now be participating as an insider," advised Anand.

"For me, it means how glad I am that America does exist. Without it, I couldn't see my future," noted Hsieh.

"It's great, I expect to enjoy that day, and I will be flying my American flag, a present from my co-workers," exclaimed Seto.

Smith informs stockholders on labor, competitive cost handicap

"Of all our cost problems, the most serious is our labor costs," according to Chairman Roger B. Smith.

"Over the years, the earnings of U.S. auto workers have gotten too far out of line with foreign competition. As a result, labor costs place us at a great disadvantage with our Japanese competitors," he noted. "Our U.S. auto workers earn \$8 per hour more than their counterparts in Japan. Put together with the pay for time not worked here in the U.S., this is too great a differential to overcome — even with our new plants and new products. All our great technology and even the

magic of robots can't make up this difference."

"Unions and management already are working together to reduce absenteeism, to improve quality, to increase productivity. But that is not enough. We must reduce this huge labor cost handicap we have in America if we are to avoid losing more jobs to the Japanese. Some basic changes in our wage structure must occur. We have suggested that a profit-sharing plan — in place of some portion of current wages and benefits — would assure that our employees retain their jobs and share in the future with us."

Model change — 1982

Plant 10 (Continued)

The cable portion of Plant 10 went through the biggest model change in its history for the 1981 model year. It had us scurrying throughout the model year. This coming year's more normal model change will give us a chance to consolidate and apply what we learned last year to improve quality. Consistent quality with better packaging will be the 1982 model year's major goal."

Plant 11

Model change for 1982 will see Plant 11 continue its move toward component operations, George Kralovich, plant manager reported.

"All Pontiac forward lamp and Pontiac 'B' instrument panel assembly packages will move out of Plant 11. However, Pontiac 'G' instrument panel harness business will remain in this plant. Final assembly, lead preparation and cutting areas associated with this package will undergo a significant facelift," Kralovich said.

Other rearrangements planned for Plant 11 include the relocation of the component assembly store from Plant 41 and the rearrangement of Dept. 1146 to provide for a more cost-competitive opportunity, he added.

"Significant changes will be introduced into the Metra-Pak terminals and the volume of those terminals produced in Plant 11 will increase significantly. This is another step towards Packard's product of the future: smaller in overall size and thinner in gauge. This product, along with Weather Pack and a soon-to-be-introduced header terminal series, are products we can sell to many new customers, and that creates more component jobs for Plant 11.

Plant 12

Plant 12 will undergo a "major rearrangement involving about 50 percent of the plant over the next three months," Jerry McCarthy, Plant 12 manager reported.

He said there are two goals for the current model change: to provide floorspace for the expansion of the power area and new S-truck business, and to modularize existing miscellaneous business.

"During this three-month period, we will be adding more than 350 new or revised stationary boards and three new conveyors to build the 235 new part numbers assigned to the plant for 1982.

"The need for expansion in the

power area is due to a new product line called 'Crossover Power Harness.' This product, which will be used on the 1982 A, F and X-cars, combines into one harness the traditional cross-car harness with both the left and right power harnesses. These three new conveyor packages will be located in Depts. 1206, 1216 and 1218. As a result, a portion of the business now located in these three departments will be relocated to Depts. 1202 and 1205, meaning that about one-third of the plant will be devoted to the power harness business," McCarthy explained.

He noted that the bulk of the Plant 12 model change efforts have gone into a plan to modularize the various miscellaneous assembly packages which had been occupying about half the plant. "In the past, new miscellaneous assemblies tended to be placed wherever there was open floorspace, regardless of whether there were similar-type harnesses being built in that department. By grouping harnesses of similar business packages, stereo speaker, dome lamp, gas gauge and so on, we will realize savings in floorspace and also better tool utilization in both the lead preparation and final assembly departments. This modularization will also provide an opportunity to reduce costs through technical and social change," McCarthy stated.

Plant 13

The 1982 model change will involve more than 40 percent of Plant 13, according to Manager Jim Love. "A few packages will be moving out, and a few new packages will be moving in. The largest change will come from expanding existing business," he said.

"The X-car jumper in Dept. 1344 is designed out next year, so that line will be gone. The rest of the cruise control business will be moving out of Dept. 1342. The X-car air conditioning in Dept. 1309 and part of the A-car in Dept. 1314 will also be moving out.

"Among the packages coming in 1982 will be S-truck air conditioning in Dept. 1309 and the 3-C (Computer Command Control) Past Model Service business in Dept. 1354.

"The packages expanding in 1982 will be all three J-car lines, which include the heater line in Dept. 1306, the air-conditioning line in Dept. 1303 and the console line in Dept. 1344.

Some of the J-car will not be expanding until mid-year, but we are

going to make room for the expansion during the 1982 model year changeover," Love explained.

"Among other moves in the plant is the move of the F-car air-conditioning in Dept. 1303 to Dept 1309. This allows room for the expansion of the J-car in Dept. 1303. There will be various stationary board moves within the plant to accommodate expansion needs and to gather similar harnesses in like areas. The existing area of Dept. 1345 will be used for expansion of the POU store and the board building area of Dept. 915 which will be moved from its present location. The area that is presently occupied by Dept. 915 will then be used for expansion of Dept. 1354. There will also be some J-car accessory harnesses moved from Dept. 1354 to Dept. 1342, because of the increased J-car volumes.

"Another major move in the plant is the creation of Dept. 1315 in the area that is presently part of Dept. 1314. This new department will make E-car harnesses and will be a stationary board area.

"1982 model change will be a more lengthy changeover period, and some of the moves will not be completed until late into the fall. While all of the rearrangement causes a lot of commotion, it is also an opportunity to improve the material flow in all the departments that are being rearranged. This is something we look forward to."

Plant 14

Plant 14 will undergo major changes once again for 1982, according to Manager Andy Matey. The remaining forward lamp final assembly packages in Depts. 1434, 1435 and 1438 will move out of the plant, he said. "This business will be replaced by two conveyors for the S-truck 4-cylinder and V-6 engines, increased volume on the J-car engine, and increased volume on Chevrolet truck diesel engine and Oldsmobile 'B' and 'C' diesel engine."

"The new A and X-cars for 1982 will use the same engine harnesses. The redesign of these harnesses adds approximately 30 percent more work content. This increase in work content results from improved routing of harnesses in the engine compartment. The 'A' and 'X' package will consist of one line for the 2.8 liter V-6 engine and three lines for the 2.5 liter 4-cylinder engine.

"Cadillac TBI splits into two

packages in 1982, one for 'C' and 'D', and one for 'E' and 'K' cars. The two conveyors for these packages will have a more compact board design to reduce the amount of reaching and bending required of the operator.

"Plant 14 will also be producing fuel tank jumper harnesses for AC Spark Plug. These jumpers are required on all vehicles with a TBI system, which in 1982 are 'A', 'F' and 'X'. Production of the jumpers will eventually increase to corporate volume as the TBI system expands.

"The J-car C-3 will have an engineering change coming up around August 15. The change will take approximately two days to implement, but there will be no model change rearrangement associated with the engineering change.

"New to Plant 14 will be the J-car for Adam Ope which is scheduled to start up in November."

Plant 21

"Our model change takes on a whole different dimension than it has for the last eight years," Ed Zuga, Plant 21 manager said.

"For the last three years we have been in the process of changing from assembly to component manufacturing," he said. He noted that the change was complete in April of 1981.

"We now manufacture leads for suppliers. For the 1982 model year, we will be providing about 2 million leads per day to seven different suppliers.

"Because we are no longer assembly oriented, model change will be evident primarily in wire lengths and new terminations."

Plant 22

Manager Jim Crouse reported that Plant 22 has been preparing for model change for many months. He said, "Our major activity has been the expansion of our cable and plastic molding operations in preparation for next year's expected volumes.

"We have increased our cable making capacity from 11 million feet per day to more than 20 million feet per day, and in the plastic molding area we will be able to run all of our 162 machines versus our current level of approximately 112 machines."

He noted that actual model change activity centers around debug and

(Continued on page 4)



HIGHS AND LOWS — Tool and die maker Bruce Durst, Dept. 552, inspects a revised printed circuit die for high and low spots.

Model change — 1982

Plant 22 (Continued)

cycling of new plastic parts for the 1982 models, particularly the A, F, and X-cars, and the S-Truck. "This is the first year we have taken on a substantial share of debugging tools which will be running here. Also, our tool room has had a significant amount of revision and tooling work related to the '82 model year.

"Other major areas of model change activity are our Autofuse area and the component assembly area. In autofuse, new fuse blocks for S-Truck and other new models this year have required revisions in our printing area. The component assembly business is getting

more complex, and we are assembling clips, pal nuts, T-nuts and other metal components for fuseblocks and bulkheads.

"New car programs are requiring component plants to have significant model change activity just as the assembly plants do. Plant 22 should reach maturity going into the '82 model year if projected volumes hold true.

Plant 23

"The Brookhaven model change will significantly affect Plant 23,"

according to John Lambert, manager.

"Two quads, (half the plant) will have all their IPS conveyors torn out and replaced with HAC conveyors.

Because the harnesses have grown so complicated and large, and because the demand for better quality forces tighter controls on board design, the IPS board is no longer functional. So, Quads two and three will see all new HAC conveyors next year. This means Quad four will have the only IPS technology operating at Packard.

"The hard Shell Grommet, Solder Reflow and 22 gauge cable are new items of interest for '82 in Brookhaven. Also to be introduced will be the Weather Pack terminals and seal assemblies.

"Complicating the model change will be the transfer of the Olds 'A' business from Brookhaven to Klinger Industries in Morton, Mississippi. Our plant worked significant amounts of overtime this past year. The moving of the Olds 'A' package will enable us to satisfy our customers requirements at the outset of model change without a lot of overtime."

Lambert continued, "The Brookhaven plant will maintain its lead prep responsibilities for the Olds 'G' package in Prentiss as well as the Olds 'BC' package which is moving to Prentiss this year.

"Our model change will occur in two distinct phases this year. The B, C, D and E-body cars all happen in June whereas the A, X, and F-body cars will happen in July and August. Almost all of our packages are single line packages, so our build-out and build-up capabilities are really stretched.

"Our people really get involved during model change and take on large responsibilities which enable us to accomplish a lot more than we would otherwise."

Lambert summed up Brookhaven's model change philosophy saying, "Brookhaven, with the help of everyone, will come through this difficult model change on the run and perform effectively throughout the 1982 year."

Plant 24

Plant 24 started the 1982 model year early with the recent addition of four conveyors in Dept. 2421 to build J-car instrument panel harnesses for Chevrolet, Pontiac and Cadillac, according to Talmadge Portis, Jr., plant manager.

Future plans for the J-car area include the introduction of TBI for the Pontiac J-car in November and a cost study to evaluate incorporating the J-car console wiring into the instrument panel harness, Portis noted.

"The Buick 'X' instrument panel business in Dept. 2431 will undergo a major change for the 1982 year. In Packard's continuing effort to downsize and reduce weight in its product lines, the Buick 'X' harness will convert approximately 20 percent of its circuits to 22 gauge and incorporate a newly redesigned injectable hardshell grommet that is more compact and less expensive from a material standpoint.

"The Buick 'X' area will also feature Pilot Cable Scan, a solid state programmable harness tester for use on the future instrument panel conveyor lines.

"The Cadillac 'CD' and 'EK' instrument panel area, Depts. 2441, 2442, 2443, 2444 and 2449 will undergo several changes for the 1982 model year. The changes include the addition of tone generator circuitry and the removal of a portion of the requirements for twisted cable, previously needed for EMC protection. The Cadillac assemblies will continue to downsize with the additional use of 22 gauge cable.

"The Corvette instrument panel area, Dept. 2411, will complete model change in Plant 24. The most significant change is the use of seven-strand cable versus the current 19-strand construction."

Plant 41

"Plant 41 filled up during the 1981 model year after seeing Hubbard-Plant 42 start up in Thomas Road two years ago and Cortland-Plant 45 start up here one year ago." Jim Herman, superintendent, said.

"In the IPS side of the plant, the eighth IPS department, Dept. 4106, will start up in July to build 'A-X' air-conditioner jumpers. Three IPS departments, 4104, 4102 and 4103, have carry-over door lock business in 1982. Dept. 4104 will shift to 'G' air-conditioner jumpers in 1982. Dept. 4105, which makes 'A' power window will pick up additional 'G', 'B' and 'C' power window assemblies.

"Dept. 4107 also gets additional part numbers as the result of the G-car and some power assembly combinations. Dept. 4108 will also continue 'A' cross car and additional part numbers associated with new models. IPS will reach its full complement of approximately 220 people by September. Some IPS departments will require downtime during July and August due to the shutdown of some 'A' and 'A Special' plants to change over to the new 'G' model.

"The carburetor solenoid, Dept. 4121, business was completed in Plant 41 in March. The oxygen sensor, Dept. 4122, jumper becomes a much simpler assembly in 1982 for all but Cadillac and non-GM users.

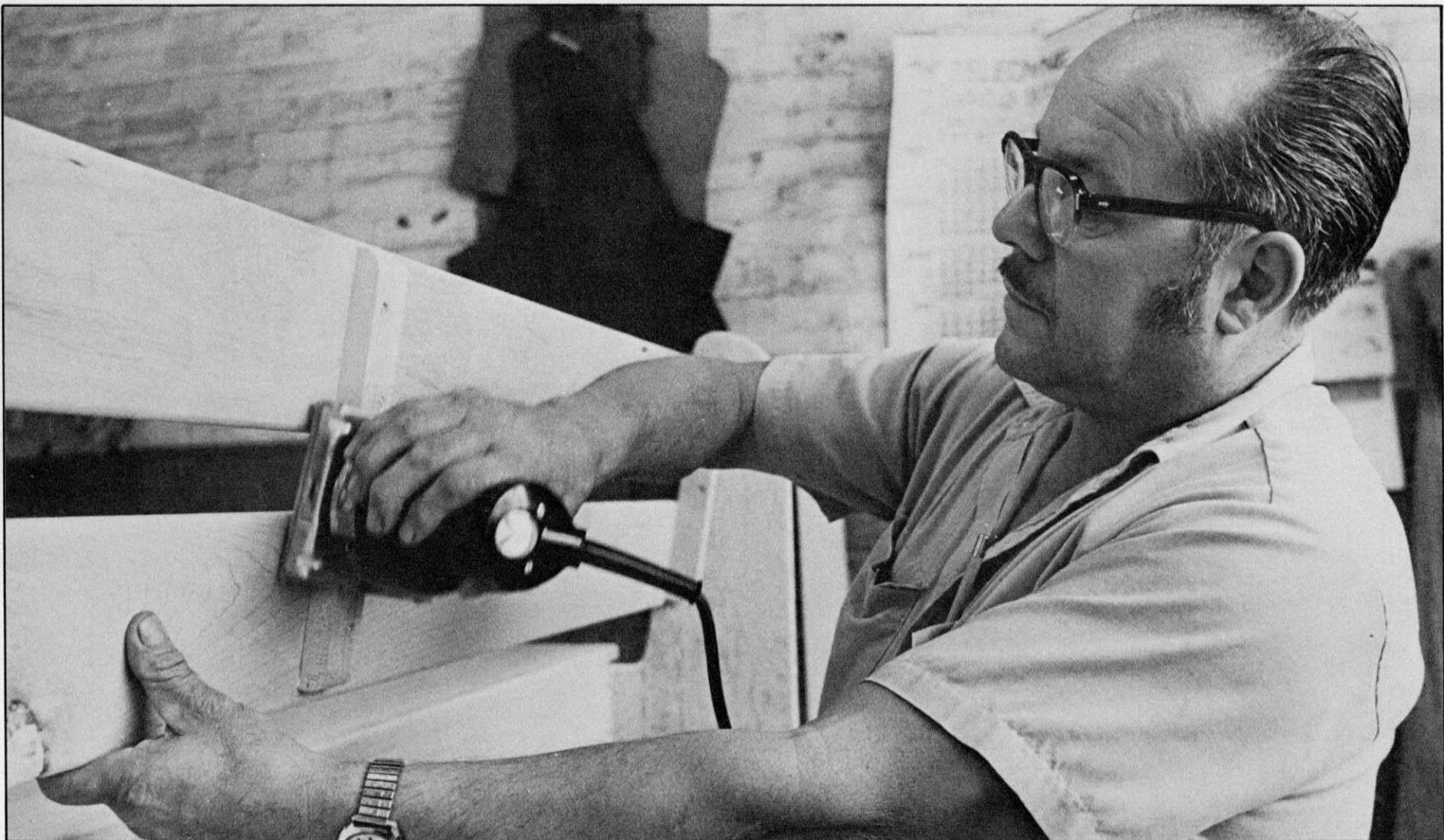
"In the C-3 departments, Plant 41 will build '82 Chevy V-8 engine controls initially. However, by September or October, Plant 41 will be building J-car (Continued on page 5)



SPARKS FLY as millwright Don Grayem welds a harness board stand.



MAKING A POINT — Pete Cooper, Dept. 516 millwright begins work on a wire packing machine.



CARPENTER Joe Senk puts the finishing touches on one of the benches he built for model change.

Plant 41 (Continued)

engine control assemblies.

This will require a major rearrangement in the engine control area. New solid state electrical ringout features on the C-3 lines will significantly improve our assurance in shipping the excellent quality our customers deserve. The C-3 business as now planned will require approximately 200 people."

Herman continued, "Plant 41 is committed to improved quality in each of our final assembly areas, and improved tooling, additional training and increased awareness are all included in our start-up plants.

"In addition, Plant 41 will add a central store for the IPS area. This addition will improve component inventory levels for the miscellaneous and power business. The engine controls side of the plant has operated successfully in reducing inventory with an MRP store for the past year."

Plant 42

In Hubbard, according to plant Superintendent Paul Romer, the number of lines and employees in the north end of the plant will remain the same, but the product lines will undergo a significant change.

"In 1982, all lines will build TBI harnesses for the Pontiac 'A' and 'X' 2.5 liter engines. The most significant change between the 1981 C-3 harnesses and the 1982 TBI harnesses concerns the firewall grommet," he noted. "The 1982 TBI harnesses have a loose-piece grommet that is built onto the harness on the line. The grommet is then injected with glue. The glue provides a waterproof seal which prevents water from entering the passenger compartment from the engine compartment.

"Our number one priority in this area for 1982 is quality improvement. Our objective is to make it right the first time. In order to accomplish this objective, the program for 1982 start-up will be heavily oriented toward increasing quality awareness and providing more instruction on the exact methods to be followed. The HIPS operators and their supervision will receive a special quality training session

called 'Q.C. College'. This will help them better understand the product and quality specifications for their particular harnesses. In addition they will receive information sessions regarding Quality Index and GM Product Compliance Procedures (GMPCP)."

He continued, "In the south end of the plant — which is the stationary board area — our business will undergo a major change. We will continue to produce harnesses for Olds 'E', Buick 'E' and some of the F-cars. A portion of the F-car volume and the Corvette will change from C-3 to TBI in 1982. Two new packages will be added to this area — a C-3 package for the new S-truck engine and another C-3 package for the Buick A-body 3 liter engine.

"Our objective in this area is twofold: to reduce the cost of the product and at the same time maintain the existing number of people. To accomplish this objective, we are installing automatic cutters and LFT cutters, which eliminate the cost of terminating and assembling Weather Pack seals in the lead prep area. The reduction of lead prep operations and the associated floor-space permits us to convert this space to final assembly stations. This in turn allows us to be able to pick up the new S-truck and Buick 'A' business. The addition of this business will enable us to maintain the same number of people that we now have."

Plant 43

Rootstown-Plant 43 will be least affected by the 1982 model change due to the nature of its business package, according to Superintendent Lewis Humble.

"Plant 43 basically handles the 'aftermarket' business, along with service business and work for non-allied customers. Because that type of business does not change to a great degree, Rootstown will not see any major changes for the 1982 model year," Humble concluded.

Plant 44

"The 1982 model year will introduce a milestone at Plant 44," according to Superintendent George Sletvold.



EYE ON QUALITY — Carol Barthlow of Dept. 1440, inspects the quality of leads cut by one of the new LFTs in the department.

"We have a 40-hour start-up aimed at attaining a smooth and cost-effective start-up and improving the quality performance. The program will be conducted for all HIPS line starts. Input for the program was gathered by looking at the problems we found last model year, and looking for ways to overcome them this year," he stated.

"We are currently putting together another program scheduled for the lead prep index lines and quality people. It will contain much of the same content, but will be distributed over a longer period."

"All 1982 Buick C-3 6-cylinder engine harnesses will be built in Austintown's west half, Sletvold said. The harnesses will be used mainly in the Buick LeSabre and Regal, Pontiac Grand Prix, Oldsmobile Cutlass Supreme and Chevy Monte Carlo. Since the Buick Century and other A-body cars will be utilizing front-wheel-drive, the harnesses have been dropped

from A-body car lines.

"The model change is considered to be moderate even though internal design changes on the 1982 harnesses reduced the work content by 20 percent.

"The major design changes were elimination of shielded cable and twist cable which involved heavy concentration of work in the traditional lead prep and index departments.

"All the Buick lines will be tooled with completely new boards utilizing 100 percent solid state testers to check for continuity and shorts in the circuitry. Extra time has been pre-planned into each HIPS operator's station to provide sufficient time to properly check their work and the components they use for defects.

"Forecasted requirements project that five HIPS Lines, manned two shifts will be needed to supply the customer. The Buick business will support

(Continued on page 6)

Model change — 1982

Plant 44 (Continued)

approximately 340 employees for the bulk of the 1982 model year at projected volume."

Sletvold noted that the east end of the plant will be running the Olds V-8, C-3 engine harness and the Chevy V-6 and V-8, C-3 harness.

"Olds for 1981 required two lines and four crews of production. For 1982, there will be one line and two crews located in Dept. 4424. In Depts. 4426, 4434 and 4436, we will be running the Chevy 'B' and G-body C-3 harnesses. Chevy has requested six crews worth of production daily.

"In Dept. 4431, lead prep, we will be reducing the number of employees due to internal changes on the 1982 harness. Our index areas, Depts. 4423 and 4433, will stay just about the same as 1981, based on current prints and releases.

"Our model change should be complete by October 30, 1981."

Plant 45

Plant 45's product lines will undergo a "significant change" for the 1982 model year, according to Fred Griffiths, superintendent of the Cortland facility.

"Computer Command Control (C-3) systems that Plant 45 had been supplying to X-car 4-cylinder engines converts to the new Throttle Body Injection (TBI) system for 1982 and will also be supplied to the 'A' cars in addition to the 'X' vehicles.

"While the new TBI harness is a critical element for engine performance, its construction lends itself to somewhat simpler methods of manufacture than did the 1981 version C-3 version. The new TBI system will feature an injectible hard-shell grommet instead of the molded-on grommet used for 1981," Griffiths noted.

Plant 45 will also manufacture C-3 assemblies for 'A', 'X' and 'F' 6-cylinder engines, and the T-car 4-cylinder engines. "The construction of these C-3 assemblies is simpler than the 1981 version and that should result in simpler manufacturing techniques. The 'A', 'F' and 'X' 6-cylinder C-3 assemblies will feature the new injectible hard shell grommet, while the 'T' 4-cylinder assembly will retain the more traditional molded-on application," Griffiths pointed out.

"Plant 45 looks forward to a smooth model change and continued outstanding performance in the areas of quality, customer delivery and labor efficiency, thus improving our competitive position on the highly-sophisticated engine control product line," he added.

Maintenance and Construction

Maintenance and Construction groups are now involved in model change efforts which will see the bulk of their activity in Plants 12 and 14, according to Russ Myers, manager, Plant Engineering and Skilled Trades.

"About 80 percent of the activity at North River Road will be in Plants 12 and 14. This model change will last into October," he said.

Myers noted that the process of model change approaches a year-long effort. "The first production prints are made available to our group in November of the previous year. Methods Lab people then build a sample harness and then have a peg-board review with representatives of Construction, Reliability and Production Engineering."

"The sample harness and prints are then given to construction electricians and board people to facilitate the construction of the boards which will be needed for the lines. The harness boards will subsequently be evaluated at the Methods Lab, where further

changes may be made. From those master harness boards in the lab, a sample harness will be made and sent to the customer for evaluation, something that could mean even further changes here at Packard," Myers explained.

"After the master harness board is released, duplicate harness boards will be ordered to meet expected volume requirements.

"Maintenance and Construction personnel begin to tackle the more visible aspects of model change in early March," Myers stated.

"Massive rearrangements will take place shortly thereafter in each department. Millwrights, tinnies, carpenters, electricians and pipefitters become involved in the efforts to lengthen or shorten assembly lines. The important thing to remember is each line is set up for a different product and different method of assembling the product . . ."

Department 552

Dept. 552, located at Dana Street, deals with molds and dies used for the production of plastic parts, metal components and printed circuits, Myers noted.

"For the '82 model change, we are dealing with the Metra-Pak" components — plastic that takes a small terminal. Dept. 552 has processed several molds to deal with these parts.

"There are also redesigned plastic parts with secondary locks to prevent terminals from pulling loose. Our people have been working on the molds for these for some time.

"One '82 model-year project has been the preparation of molds to produce the plastic tilt-out fuseblock on the new J-cars. The newly designed fuseblock offers the car operator much easier access when replacing fuses," Myers stated.

He also reported model change activity in the section of Dept. 552 devoted to assisting the Printed Circuit area. "The Bostomatic area, which machines printed circuit dies has completed nearly 90 dies for model change. Several of these dies were existing dies that were revised and resulted in a savings of money and time for the department."

Department 952

Dept. 952 toolroom members can look at their contribution to model change as significant.

"Dept. 952 employees built revised and debugged Metra-Pak terminal make dies. This was a major make die program that involved the combined efforts of 952 journeymen and tooling engineers. A build-up plan was incorporated that allowed the sequencing of these dies in and out of production to meet the needs for many part numbers.

Department 954 & 956

Each of these toolrooms, located at North River Road, began its work on the model change project long ago, Myers said.

"For 1982, the group in Dept. 954 was involved with the index lines for Plant 14. They also worked on assembly tooling and Moslo molds for various other areas at North River Road."

Myers added that in Dept. 956, the Process Laboratory Toolroom, work continued on the development of products and improved processes for future applications. "In Dept. 956, employees work closely with engineers to hand-make new style terminals, connectors or necessary machinery to assemble a new product."

Packard probe

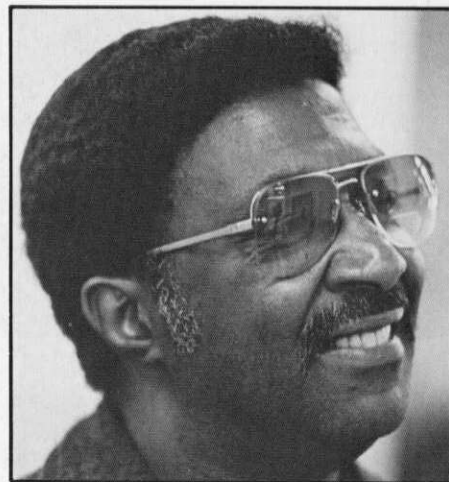
QUESTION: What are your feelings about the major league baseball strike?



Kagy

Ellen Kagy
Dept. 545

"The players make enough money, and I missed a game because of the strike."



Hughes

Bob Hughes
Dept. 508

"I side with the owners. Baseball is getting out of proportion with the players money-wise."



Genova

Ray Genova
Dept. 812

"Ballplayers are overpaid. I take the owners' side in the strike."



Petercik

Michael Petercik
Dept. 874

"I think the darn baseball players are just getting too damned much money for what they're worth."



Everly

Carla Everly
Dept. 859

"I hope the strike goes on and on. People would then get more interested in doing family things such as being outside, and they would forget about watching TV."