



FAIRCHILD WESTON

Schlumberger

FAIRCHILD WESTON SYSTEMS, INC.  
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NEWS ABOUT DATA SYSTEMS DIVISION

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## LARGE CONTRACT AWARDED FOR FLIGHT TEST SYSTEM

A large contract, valued at over \$4.6 million, was awarded to Data Systems Division of Fairchild Weston Systems, Inc., in late September by McClellan Air Force Base, Sacramento, Calif., for a Flight Data Acquisition and Processing System (FDAPS).

The FDAPS equipment will be used in testing of the F111 aircraft.

"This contract is one of the largest single orders we have had in many years, and matches our capabilities extremely well," said Frank Bost, Manager of Applications Engineering. "When completed, this system should be a showpiece for flight test systems."

Included in the contract are over \$1 million in standard products, plus substantial amounts of outside purchased equipment, considerable software, and special systems effort.

The equipment to be supplied includes three Airborne Data Acquisition Systems. Each airborne system contains a purchased PCM Data Acquisition System, special units to be designed and built by Fairchild (including some cockpit control panels) and an analog tape recorder.

In addition there will be two Ground Checkout Systems, to be used for flight line checkout of the airborne systems. These systems contain our Model 708 and purchased test equipment, and will be mounted in transportable carts provided by the Air Force.

The Ground Data Processing System contains a VAX 11/780 computer and peripherals, and a variety of our telemetry units, including 11 Model 726's, 12 Model 710's, and three Model 715's, plus eight Model 287's, Model 429, a Sabre X, time code equipment, nine Model 760's, several special units, and three graphic display terminals and three alpha-numeric display terminals.

Members of the Program Team are: Wiley Dunn, Program Manager; Hal Roberts, Jack Cain, Dave Lyon, and Mike Hutchinson. Among the major contributors on the Proposal Team which helped to win this contract were Art Kelley, Frank Bost, Wiley Dunn, Gary Schumacher, Mike Hutchinson, and Larry Edwards, of our Cupertino Sales Office.

Currently, the main work on the contract is preparing for the preliminary design review and interface with the contractor. Impact in Production areas will begin early in 1983, after the design details for the complex system are firm. First shipment is scheduled in 18 months.

## NOVEMBER 6 IS THE DAY FOR THE FAMILY PICNIC

It's Picnic time. The Data Systems Division of Fairchild Weston Systems will host our annual Family Picnic on Saturday, November 6, at the Royal Coachmen Resort, East Laurel Road, south of Sarasota. The hours are 12 noon to 5 p.m.

Our Picnic Planners have added special new features this year. There will be a Fairchild Weston cap, imprinted with the Fairchild logo, for each employee who attends the Picnic.

Also, the Picnic Committee has lined up a fine cast of volunteers for the famous Dunking Tank, starring some of your all-time favorite members of management. (Intensive pitching practice has already begun.)

There will be lots of food, games, prizes, beer, soft drinks, plus swimming, the big Tug of War challenge, horseshoes, Bingo, miniature golf, and Midway games for the kids.

Tickets are available in advance of the Picnic through Supervisors. Tickets will not be available at the Picnic. All employees and the immediate members of your household are cordially invited to attend.

There's still time to volunteer to lend a hand. Please call Roy Hollifield, Ext 553, if you would like to make the Picnic even better by helping for a short time on Saturday afternoon. In case of rain on Saturday, the alternate day is Sunday, November 7. See you at the Picnic!

## KEEP UP THE GOOD WORK!

As PULSE goes to press, our employees have gone 400,000 hours without a lost-time accident. Safety awareness helps all of us to stay free of painful injuries. Nice going, everybody. Can we make it to 1,000,000 hours?

An Equal Opportunity Employer M/F/H/V

# INTRODUCING THE EMPLOYEES IN . . . DATA RECORDERS FINAL ASSEMBLY AND TEST

The Data Recorders Final Assembly area, supervised by George Phillips, is responsible for assembling sophisticated instrumentation recorders. In this area, recorders develop from subassemblies into state-of-the-art instrumentation equipment.

These recorders will be used to store data for technical investigation and analysis in fields such as the aerospace industry (including the Space Shuttle), medical research, nuclear power, defense applications, and industrial research, to name a few. Our portable and laboratory recorders are found throughout the world, fulfilling customer requirements.

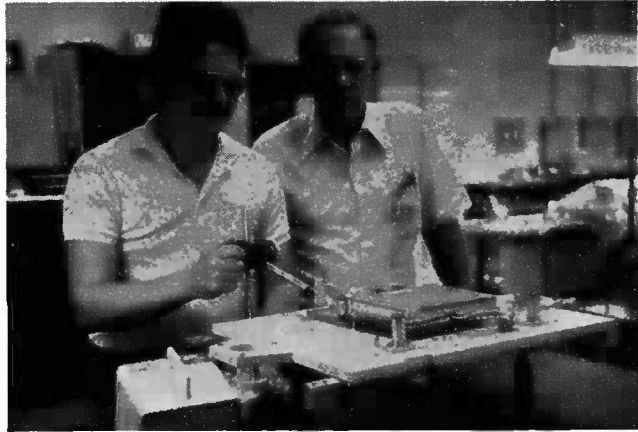
The Data Recorder Final Test area, supervised by Phil Ingram, is responsible for set-up and testing the various recorders, as well as adding and testing any customer options or modifications. Test time can vary from a week for some portable models to as much as three weeks for some of the laboratory models. Data Recorder Test Technicians must keep abreast of the various units and the latest changes in order to be able to work on all the various recorders.



Bernie Dorobkowski, Joanne Mixon, and Group Leader Judy Boyd with a Sabre X Recorder during final rack assembly.



Rita Balleroni, Hans Kaiser (Manager of Manufacturing Final Assembly), and Betty Cobb are shown with a Sabre X logic chassis in the Data Recorders assembly area.



Greg Williams (left) with Supervisor George Phillips during the precision operation of indicating the tape path on a Sabre X tape deck. Missing from photo is Vic Letterman, who also works with this precision operation.



Etta Williams, Rose Routsong and Joyce Williams are pictured with a Sabre X power supply during the final wiring operation.



Supervisor Phil Ingram, Jim White, Robin Speidel, Paul Muenster, Jacque Matthews and Terry Hurst are part of the Data Recorders Test group. They are pictured with a Sabre 80 Portable Recorder.

## DATA RECORDERS ASSEMBLY AND TEST

(Cont'd from Page 2)



Grouped around a Sabre X Laboratory Recorder are Cat Holmes, Loy Dunkel (Manager of Manufacturing Final Test), George Bennett (in foreground), Bob Carlson, and Joe Yourkoski, of our Data Recorders Test area.

### **APPLY FOR SCHOLARSHIPS**

Has your son or daughter applied for a Schlumberger Scholarship? If your child is a senior in high school, or comparable preparatory school, and is planning to enter college for the first time, it's not too early to apply for consideration for a Schlumberger Scholarship.

Application forms must be requested in writing via the Schlumberger Scholarship Committee, and CEEB Scholastic Aptitude Test scores need to be in the Committee's hands by March 31.

For details about eligibility, please consult the special booklet on Conrad and Marcel Schlumberger Scholarships. Call Personnel, Ext. 353, to obtain a copy of the booklet.

### **SECURITY IS IMPORTANT**

Employees will be noticing some changes in a number of areas involving our facility security. There will be some changes in fences and traffic patterns in our parking lots, as well as other improvements in security.

"We will be advising employees about these changes as they occur," said Security Manager Bill Shaw. "Improved security can benefit all of us by making our Company eligible for additional government business. So our compliance with the security requirements will be vital"

## SIGNIFICANT ORDER BOOKED FOR SABRE 80 RECORDERS

An order for 20 modified Sabre 80 magnetic tape recorders was awarded to the Data Systems Division of Fairchild Weston Systems this month. The contract, valued at nearly \$900,000, is for a quantity of tape recorders to be delivered during 1983 and early 1984.

"This order is the result of two years of effort on the part of many Fairchild Weston employees, both in the field and in Sarasota," explains Bill Kessler, Recorders Program Manager. "Bob Kellett and Francis Wozniak were part of a team that delivered a modified recorder enclosure to the customer about a year ago. Subsequently, George Prozzo, Frank McGowan, and others modified the electronics of another Sabre 80. Both units underwent successful testing by a U. S. Government agency, and helped set the stage for this contract."

With the award of the order, a second important phase begins. Modifications are being developed in the laboratory, and preparations are underway for production in the factory, Kessler noted.

Employees are already engaged in the design effort. Roy Kitaoka heads the design team, which includes John Traxler, Mike Hackathorn and Francis Wozniak.

The initial three units, to be delivered during the second quarter of 1983, will be a cooperative effort between Manufacturing and the Engineering Laboratory, thus permitting quick delivery to satisfy the customer's needs. After the initial units, the remainder of the order will be filled through regular Production efforts.

"We are convinced that, with everyone's cooperation, this will be a very good machine and will satisfy our customer to the extent that more orders will result," Kessler said.

### **WE'LL BE THERE; COME AND SEE US**

Enterprise '82 -- an exhibition of Sarasota County businesses demonstrating what they make or do -- is scheduled at Roberts Arena in Sarasota October 29 and 30. We'll be there.

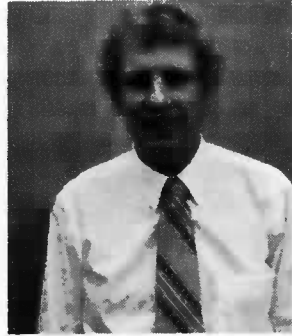
The Data Systems Division display booth will tell the story of who we are and what we do. Sarasota County high school seniors will visit the exhibition on Friday, October 29. On Saturday, October 30, the general public is invited to see what business does to provide jobs and help our economy. Employees, your family, and friends and neighbors are invited to stop in Saturday, October 30, 10 a.m. - 6 p.m.

Representing us at our booth will be Dexter Nash, Jim Horvath and Roy Hollifield. There's no admission charge. Y'all come.

## CONGRATULATIONS ON OCTOBER SERVICE ANNIVERSARIES



These four long-time employees are observing some major service anniversaries this month. Tom Toler and Margaret Dill are each marking a quarter of a century of service. At right, Ruth Gentzler and Len Zeiler complete 20 years with the company during October.



Mark Stone (left) and Bill Bishop are both completing five years of service during October.



Celebrating major service milestones this month are (seated) Dick Bridgman (10 years); Russ Phillips and Edie Raynor (5 years each). Standing employees are all observing five years of service: Eric Hogberg, Rita Balleroni, Fred Hittel, Rita Jeannette, Lloyd Miller, Betty Hunt, John Dezzi, and Dianne Hammond.

### BENEFICIARY CHANGES

Want to change your beneficiary for your life insurance or Growth Plan? Please see Wendy Schroyer in Personnel.

### GROWTH PLAN

December 1 through 22 is the time period to notify our Benefits Office (Wendy Schroyer) that you want to increase or decrease your contributions to the Schlumberger Contributory Investment Growth Plan—or, begin contributing again, if you discontinued contributions for more than 12 months. Please call Wendy on Ext. 526.

### COULD YOU . . .

find an extinguisher fast in an emergency and use it? If you have any doubts, the time to learn is now. Fire extinguishers are great, but only if you KNOW WHERE THEY ARE and HOW TO USE THEM.

Please check with your safety committee representative if you have questions.



## MODEL 732 OPENS WAY FOR MORE BUSINESS

Introducing a new product, called the EMR 732 Buffered Data Channel -- also known as a Telemetry/Computer Interface.

This new high-speed interface for Gould SEL Computers will open up new avenues of business opportunities for our telemetry products and systems, by providing the link-up between our telemetry equipment and the SEL computers. Many of our telemetry/computer systems have been linked with DEC computers through the Model 760. However, some customers are committed to SEL computers.

"With this new SEL computer interface, we will have more opportunities to bid on jobs for our telemetry equipment to be combined with the SEL computers," explained Art Kelley, of Telemetry Applications Engineering. Customers can also buy the EMR 732 as a product.

Our company has been a pioneer in buffered data channels (the interface between telemetry units and computers) -- a factor which has been instrumental in making us Number One in the telemetry/computer systems business.

Back in the mid-sixties, Multiplex Channels were developed for the EMR (AS) 6000-series and 6100-series computers. Some of these early Multiplex Channels were used in our large C5A and L1011 telemetry/computer flight test systems. Other special interface units were developed for one-time specific customer needs. Later the Model 2763 and Model 760 Buffered Data Channels were developed for interface between DEC computers and telemetry front-end equipment.

Now the new Model 732 has been added to the distinguished line of telemetry/computer interface units. Development of the Model 732 was headed by Principal Engineer Jack Cain, of Telemetry Systems Engineering, in cooperation with SEL personnel who loaned us an SEL computer. Gary Snyder, Russ Phillips, Bob VanderVliet, Marc Polley, Donna Watkins and Mary Peterson all contributed toward the successful completion of the new product.

### TALKS AT MJC

Quality Circle Facilitator Dexter Nash addressed an MJC Quality Assurance Department group on the subject of Quality Circles on October 4. The audience was made up of 85 members of the MJC faculty and student body who were interested in learning more about Quality Circles.

### INSURANCE COVERAGE

Please inform the Personnel Department of any changes in marital status or the number of dependents -- increase or decrease. When your dependents are no longer eligible for the insurance coverage, your premium cost may be reduced, so please let us know.



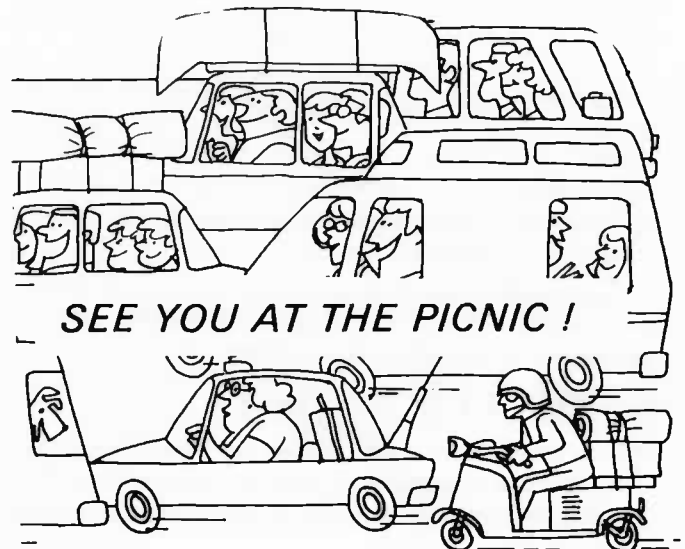
Gary Snyder (left) and Jack Cain with our new Model 732 Telemetry/Computer Interface.

## FREEDOM FROM SMOKING SESSIONS PLANNED HERE

Occupational Health Nurse Debbie Graham participated in a special two-day training seminar in Punta Gorda this month to prepare for sessions to assist employees who are smokers to be free from the smoking habit.

The Discussion Leader Clinic for Freedom From Smoking was presented by the American Lung Association and is based on a system which was tested and tried by the ALA for five years.

"The seven-session Freedom From Smoking course requires a real commitment on the part of the participants," Debbie Graham said. "I hope we will be able to offer it to interested employees next February, in connection with Heart Month." Announcements about the Freedom From Smoking course will be forthcoming.



## FAST RESPONSE HELPS IN FIELD

When a customer buys our complex equipment, he knows he can count on quality equipment ... and good service when it's needed. Here's a report from Field Service about the teamwork that goes into that good service.

On October 4, NASA Wallops notified Jim Matthews, Eastern Telemetry Service Supervisor, that their Model 714 Compressor was down. This was a critical problem because a missile launch was scheduled for October 7, 10 a.m. Jim dispatched Jim Apperson, of Field Service, to Wallops the following morning. Jim Apperson's troubleshooting found a bad delay line chip. There was no spare chip, and it was not carried in any local shop.

Jim Apperson called the plant with the IC number, part description and part list number. Sharon Ames and Jack Cain came up with the EMR part number, and the part as well. Meantime, Jim has jerry-rigged the unit around the bad chip and found it was 99% operational, which verified his diagnosis.

Janice Maus determined that the fastest way the part could get to Salisbury, Md., was by Federal Express, so she took the part directly to the Sarasota airport, and Apperson picked it up in Maryland later the same day. The chip was installed at 8 a.m. on October 7. A quick run of the diagnostics showed that the 714 was 100% OK. NASA then ran the system for the preflight checkout of the payload and missile. Success!

A postflight checkout by Apperson was again successful. Jim sent his personal thanks for the support and fast response, and the customer was pleased with our performance in an emergency situation.

## AT FARNBOROUGH SHOW

Peter Simmons represented us at the Farnborough Air Show in the United Kingdom during the first week in September. This was the show at which the B-1 Bomber was on public exhibition for the first time.

Peter was on hand to assist our Sales Representatives in providing potential customers with information about our SWIMS Wind Shear Alert system. (SWIMS stands for Surface Wind Monitoring System.) The system was represented on both the Enertec Schlumberger booth and the International Airadio Ltd. booth.

During October Peter again presented his paper on Wind Shear and the SWIMS system at the Air Traffic Control Association Conference in Atlantic City.

## CONGRATULATIONS

TOM TATMAN, and his wife Glenda, are the proud parents of a son, Andrew Wayne, born on September 28, weighing in at 7 pounds. Tom is stationed at the Plumbrook NASA Station, Sandusky, Ohio.

## QUESTIONS & ANSWERS ABOUT OUR BENEFITS

Q. Does our medical insurance plan cover Chiropractor visits?

A. Yes, our plan covers these visits at 80% (after your deductible). However, there is a visit LIMIT. The first 25 visits for a particular illness are covered. Any visits after the first 25 are usually NOT COVERED.

Q. What about psychiatric coverage?

A. Our plan covers visits to a Psychiatrist at 50% (after your deductible) for up to a maximum reimbursement of \$1,000 a year. Employees often ask if visits to a social worker, counselor, or psychologist are covered. These visits ARE NOT COVERED.

Q. I had an operation recently. My hospital bill was covered at 100% for the first \$3000. Why are the lab costs handled differently?

A. Lab work done by hospital personnel is listed on your hospital bill. However, many lab tests are done by outside medical laboratories which rent space in the hospital to perform their lab services. This is a convenience for you to have the tests done in the hospital. The outside medical lab which provides the service will then bill you separately. That bill will therefore be separate from the hospital bill and is covered differently, as follows:

If no other lab bills have been submitted for you for that year, coverage is 100% for the first \$100. The remaining lab test costs are subject to your \$100 deductible and are then covered at 80%.

## NEW BADGES COMING

New badges are being issued to all employees, via the Personnel Department. Thanks to the cooperation of many departments, the task is approximately 50% complete. Photos are currently being taken of employees in Manufacturing cost centers, and each department will be notified of when your picture-taking appointments are scheduled. A big "thank you" to all who have helped make it a smooth operation.

## LET US KNOW, PLEASE

Keeping your records up to date is important. Please help us keep your records current. If you change your marital status, move, change your telephone number, acquire new dependents, or wish to change your beneficiary, please notify the Personnel Department. Failure to do so could result in problems in administering your benefits.

# SABRE IV DATA RECORDER HELPS IN HEART RESEARCH



Our thanks to Steve Hoff, of Data Recorder Sales, Conroe, Texas, for sending in this report about some interesting heart research which uses our Sabre IV High Density Recorder.



At Washington University School of Medicine in St. Louis, a Sangamo Sabre IV high density recorder (HDR) is being used as the central data storage facility in an innovative heart mapping system.

Sudden death associated with disturbances in the rhythm of the human heart account for approximately 800,000 deaths per year in the United States. This figure is about twice the number of deaths due to cancer per year in the United States.

The heart's chief function is to pump blood, and this activity is coordinated by a complex network of heart cells that carry the electrical synchronization signals. These sudden cardiac deaths are largely due to the abrupt termination of this normal electrical synchronization and its replacement by rhythms that are incompatible with pump function. This results in the death of the individual if the abnormal rhythm is not quickly terminated.

Researchers at Washington University School of Medicine, Department of Cardiology, together with other institutions around the world, have been trying to determine the mechanisms responsible for the abrupt onset of these malignant cardiac rhythms, with the hope of intervening to prevent their occurrence or limit their malignant potential.

One approach is to obtain information concerning the electrical activity of heart muscle from multiple electrodes sites simultaneously. These sites are located both on the inside and the outside of the heart and, in the present system, amount to 240 channels of information. Since transmission and subsequent analysis would be impossible in analog form, an amplifier was designed that measures 3.5" high, 1" wide, and 12" long that transforms this analog information into a digital data stream. The amplifiers for all 240 channels fit into a single standard rack panel. The data stream that emanates from this array contains one 12-bit word every 2 usec, and requires storage of this information continuously for periods up to 1 hour. There is no digital storage system made, other than HDR tape recorders, that can handle this monumental storage problem.

The digital data is then played back at a reduced speed and small areas of interest are transferred to a digital computer for subsequent data manipulation.

The net output is a color picture of the actual electrical activity of the heart which allows, for the first time, clear visualization of areas from which the abnormal rhythms originate. This system is currently being utilized in both the experimental animal laboratory and in the cardiothoracic operating room.

## WE CAN BE PROUD OF ITC SHOWING

"Our equipment was very, very well received at the ITC Show."

That's the consensus of the Data Systems Division personnel who attended the International Telemetry Conference in San Diego, Calif., September 28-30.

At the prestigious technical conference, we introduced our new 8000-series PCM telemetry product line, and the new SABRE 9 Recorder/Reproducer.

In addition, the Data Systems Division was represented, in depth, through six technical papers which were presented at technical sessions during the conference. These technical papers provide an opportunity for our company's expertise to be demonstrated before a professional and technical audience, including potential customers. The papers and their authors are:

"Single Channel Protocol for Telemetry Setup and Control" by Karl Hahn

"System Design Methodologies" by Mike Kelly

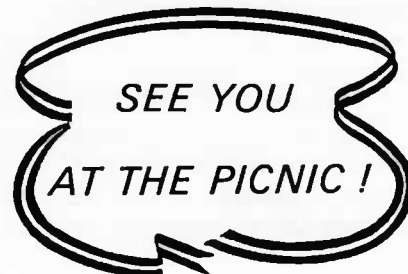
"The Effect of Premodulation Filters on Bit Error Rate Performance" by Pavlo Bobrek

"Software Processing for the Real Time Data Acquisition System (RDAPS)" by T. N. Tucher, of U. S. Army, Edwards Air Force Base, and Michael P. Hutchinson.

"The Efficient Use of a VAX Computer in the Real-Time Telemetry Environment" by Robert B. Robbins

"Modular Telemetry Software for Real-Time Applications" by O. J. "Jud" Strock

Congratulations to the authors on this fine technical achievement. Six technical papers from one company at the International Telemetry Conference may be a record!



## **BICYCLING IS FUN, HEALTHFUL, AND A CHALLENGE**

Frank McGowan, of Data Recorders Engineering, came to Sarasota in 1978 with the Sangamo Data Recorders employees who transferred here from Springfield, Ill. He works on special tape recorder design, quotations to customers, and assistance to Production. He has been with our company since 1963.

Frank has been interested in bicycle racing for about 10 years, and has collected some trophies. He is a member of the United States Cycling Federation which is a racing organization. In the 1982 USCF North Florida District races for the Grand Masters category, he placed second in the 25 mile time trial and third in the 34 mile road race. He and his wife helped with "The Great Sarasota Bike Race," sponsored by the Sarasota Bicycle Club on October 24. He averages one bicycle race a month, but constantly challenges himself.

"In a race, complete concentration on pedal rate and strategy are a must," Frank explains. "It takes you out of yourself and away from daily concerns."

Frank bought a frame and components and built up a special 12-speed unit, with Campagnola "Nuovo Record" components. The bike weighs 21 pounds. Here's Frank's story:

*Why do I ride a bicycle 5000 miles or more a year? The answer goes back to why I ride at all. Ten or 12 years ago my knees were very arthritic. They had been injured in various athletic endeavors while I was in my teens and 20's.*

*Quite by accident I decided to ride a son's 10-speed and found I enjoyed it, so I decided to enjoy it often. After riding a few weeks, in easy gears of course, I found that my knees were giving me much less pain during my normal day's activities. This prompted me to get my own bicycle.*

*Then, I decided that instead of walking to work and carrying a lunch, I'd just ride to work and go home for lunch. It was less than a mile each way, but it apparently was having an effect because my knee problems disappeared, and I only had recurrences of trouble when weather kept me off the bicycle for a week or more.*

*Soon I was riding about 30 miles most weeks, and, after a few weeks, I had another revelation. I no longer needed to flop in front of the boob tube every night to rest. If I came home feeling run down and tired, a 30-minute bicycle ride made me feel like I wanted to do other things. I felt better, was more alert, and excess weight was beginning to disappear. Exertion, which earlier left me breathless for an extended time, only left me breathing hard for a few minutes.*

*Boy, this was great. So I began to ride even more. My mileage average moved up to 50 miles a week or more.*



*My wife and I started attending weekend bicycle races in the Springfield, Ill., area. After watching for a while, I decided to join the fun. I was too old and too slow to be truly competitive, but I enjoyed it. Now in Florida, I'm trying to get myself in good enough shape to be competitive, at least in my own age group. With over 17,000 miles logged during the past 36 months, I'm succeeding.*

*To sum it up, I enjoy riding. Riding has made me healthier in mind and body, and I enjoy competing.*

*Frank McGowan*

## **A PROGRESS REPORT ON QUALITY CIRCLES**

Our seven Quality Circles are continuing their regular weekly meetings, with the groups nearing completion of the formal basic study/training period. This training includes various "tools and techniques" of operating within the Quality Circles concept -- such things as brainstorming, cause and effect diagrams, graphs, and effective management presentations, according to Quality Circle Facilitator Dexter Nash.

Several Circles are ready for Management Presentation training, and will soon be giving a presentation to members of the Advisory Committee and project-related staff. These Circle Management Presentations include reports on projects the Circles have developed. The Circles will give their recommendations and solutions for approval.

Preparations are underway for a new Quality Circle in the Fab Shop area. This will be the eighth Circle at Data Systems Division.

The Monthly Leader Training meetings for Circle Leaders will be expanded to include those employees who participated in the Quality Circle Leader Workshop. Invitations will be sent to all individuals who were part of the Quality Circle Leader Workshop in July, 1982.