ACQUAINTING WITH ASROC — Navy Capt. R. E. Odening (center), newly assigned commanding officer of the USS Norfolk, visited Librascope last month for a familiarization look at the ASROC fire control system with which his ship, the Destroyer Leader (DL-1), is equipped. Here he meets with S. E. Burroughs (right), Vice President-Military Relations, and J. C. Whistler, Senior Military Representative. Capt. Odening is the first officer from the Navy's Postgraduate School at Monterey to take part in the fire-control familiarization program which Burroughs is trying to establish for prospective commanding officers and gunnery officers ordered to ships equipped with Librascope systems.

# Outline Reveals Future Plans For Management Study Group

Plans for Management Study Group activity during the next seven months were given in outline by the group's steering committee this month, through chairman M. L. Foster, Glendale branch.

At the same time the committee announced that participants in the group will change at the end of each program cycle, to bring the benefits of participation to more employees in the branches and division office. Membership has been held to 100 because of space limitations and the steering committee's desire to have the group's initial efforts attain maximum effectiveness.

**THE MANAGEMENT** Study Group, brought into being last December, is the outgrowth of a series of management training seminars conducted by faculty members of the California Institute of Technology for Librascope management leadership last year. The group's formal objectives are:

- To improve communications within the company.
- To provide training in management techniques, with the goal of improving capabilities of the individuals comprising the management team.
- To develop a general understanding of the company's policies and objectives.

Officers, in addition to Foster, who is Manager of Glendale's systems and procedures section, are:

**VICE CHAIRMAN** — C. P. McKeague, Director of Employee Relations; Second Vice Chairman — M. G. Ettinghoff, Director, Electronics Engineering Section, Sunnyvale Ground Systems Dept; Treasurer — A. C. Krein, Jr., Controller, Aerospace branch; Secretary — W. E. Blackburn, Director of Applied Research.

The group's first dinner meeting is scheduled for Tuesday evening, May 16, at the Five Horsemen Inn, Burbank. Max Skousen, well known management consultant, will be the featured speaker. His topic: "Motivation."

**SCHEDULE AND THEMES** for the remainder of the year, is as follows:

June 13 — "Employee-Centered Management;" July 11 — "Communications Problems Within an Industrial Organization;" Aug. 15 — "Operations Research;" Sept. 12 — "Advanced Research and Product Development;" Oct. 17—"Evaluating and Exploiting a New Product Opportunity"; and Nov. 14—"Financing the Industrial Organization."


# LIBRAZETTE

LIBRASCOPE DIVISION GENERAL PRECISION, INC.

AN EXCHANGE OF NEWS AND KNOWLEDGE

Vol. 8, No. 10 May, 1961


# Appoint Holmes To Manage New Short-Run Dept

Creation of a new Short-Run Production Department in the Glendale Branch, with former Magnetics Section Supervisor W. T. Holmes as department manager, was announced last month.

The new department, established from what had been the Magnetics Section of Glendale Industrial Engineering, will be specifically geared to the production of low-cost component equipment.

Holmes, as head of the department, will report directly to Harlan Buseth, Branch Production Manager.

All assembly personnel within the section (A-15), located on Providencia Avenue in Burbank, have been transferred to the new unit.

Holmes joined Librascope in March, 1960, when the Magnetics Section was initially organized and was the first supervisor to head the operation.

At one time manufacturing manager of the Electronics Component Division of Telecomputing Corp., Holmes is among the leading figures in magnetics design and manufacturing on the West Coast.

He has held positions as director of engineering for the Alectra Division of Consolidated Electro-Dynamics and vice president of manufacturing at Electronic Industries, Inc.

## *Air Force Awards Link $6 Million in Contracts*

GPI's Link Division was recently awarded two new Air Force contracts, totaling more than $6,000,000, according to Link President William W. Wood Jr.

One contract, received from the Air Materiel Command, calls for the delivery of flight simulators for pilot training for the most modern versions of the C-130 cargo transport.

The second contract provides for development and manufacture of a new visual simulation system to be attached to Air Force simulators for various types of aircraft. The new system will permit pilots to experience a wide variety of aerological conditions during a simulated flight.

PROGRAM PLANNING—Rear Admiral (Ret.) George T. Mundorff and Dr. William Bloom (both standing), look over material under development by workshop group during recent Line of Balance seminar which they conducted. Seminar presentation by the two GPI officials is part of a program to standardize this management control technique among all divisions of the corporation.

# 'Line of Balance' Seminar Conducted for Librascopers

"Line of Balance," a management control technique adopted by GPI for all of its divisions, underwent week-long scrutiny recently, when presented to a Librascope production and engineering management team.

The five-day seminar was conducted by Rear Admiral (Ret.) George T. Mundorff and Dr. William Bloom, Manager and Assistant Manager, respectively, of Corporate Systems and Procedures for GPI.

**RESPECTED AUTHORITIES** in the field of management systems, Mundorff and Bloom recently coauthored a book under GPI sponsorship, entitled "Managing a Development Program."

As outlined in the seminar, the Line of Balance technique is a tool for the proper planning of a job and the means of measuring the performance against the original plan, once the job is in operation. It has already proven to be an effec-

(Continued on Page 8)

## Travel Insurance

A new travel accident policy, insuring employees against accidental death and dismemberment while traveling on company business, is now in effect, according to A. R. Pederson, Employee Benefits and Services Supervisor.

Expense of the travel accident policy is borne by Librascope, with all employees receiving automatic blanket coverage.

In addition to the new policy, public conveyance insurance continues to be available to Librascope employees, Pederson pointed out. The policy provides death and dismemberment benefits covering trips anywhere in the world while riding as a fare-paying passenger on any conveyance licensed to carry passengers for hire.

Employees interested in rates and applications on this insurance should contact Evelyn Bergman, ext. 1127.

# May 26 Date Of Blood Drive

The first Blood Bank Drive of 1961 will be sponsored by the Precisioneers, May 26, at Griffith Manor Park on Flower Street.

All Librascopers are urged to register now and join the campaign to keep Librascope's Blood Bank solvent. Registration cards can be obtained from all Precisioneer officers and building representatives.

F. J. Killips, Glendale Materiel Control, Drive Chairman for the Precisioneers, reports that 41 pints of blood from the company's supply have been used during the first four months of the year.

Said Killips, "Librascopers set a mighty fine record for donations in 1960, and we are hoping for another good turnout this year to replace the blood employees have needed."

The Red Cross Bloodmobile will be in operation from 12:30 to 5 p.m. in the park fieldhouse just east of Bldg A-02.


LOCS STUDY — C. F. Winter, (left) Staff Assistant to the Chairman of the Board and President at GPE, tours LOCS facility in Bldg. A-01 with W. L. Kruse, LOCS Group Supervisor. Winter's current visit at Librascope is one leg of his tour to each division of GPI, in which he is checking data processing capabilities and requirements. Here at Librascope, Winter is making a study both of LOCS and the Data Processing Dept. under Manager P. E. Mobley.

LIBRAZETTE

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## Seat Belts and Your Safety

Very recently a party of three employees on company business, were victims of a car crash in which their vehicle was struck broadside by another car which dashed out of a side street. One escaped with a shaking up; a second was tossed about inside the car, suffering severe bruises and suspected cracked ribs, is now wearing a tape corset.

The third was not so lucky. He was tossed out of the car to the pavement and knocked unconscious. Hours later, at the hospital, doctors were relieved to find that he had suffered **only** a fractured collar bone, a broken upper arm, concussion and a possible fractured skull. He was hospitalized for a week, is now able to get around with the arm and shoulder in a cast and brace.

To a man, all agree that had they been using seat belts their injuries would have at least been held to a minimum and possibly they might not have been hurt at all. Certainly, the victim who was hurled from the car would have been held to his seat.

The same belief is held by three other Librascopers who have been injured in car accidents in the past year. One, who suffered almost fatal internal injuries and spent months in the hospital, is certain he would have escaped with minor injuries had he been using a seat belt.

The purpose of this editorial is to point out that the streets and highways are not becoming any safer, as more and more cars crowd into the available space. Also, that driving at a conservative speed is no guarantee of accident prevention. Accident records show that the majority of injury-producing crashes occur **at speeds of less than 25 miles an hour.**

A number of tested and approved safety belts are on the market. Standards vary considerably and the wary buyer will be careful of what he invests in. In a separate story in this issue of LIBRAZETTE, our safety coordinator reports on what to look for and what prevailing prices are. He also cautions regarding proper installation.

As a footnote, this item of news: Librascope is installing safety seat belts, in front and back seats, on all company-operated cars.

# *Man-Made Communications: LGP-30 Now Writer*

*(R. M. Worthy is a graduate in philosophy from USC, whose prime interest is linguistics, the study of language and its component parts. He has taught at his alma mater, now is a research aide in Advanced Research, working on man-machine communications.)*

AUTOBEATNIK POEM NO. 41
INSECTS

All children are small and crusty.
An Iron can saw all dragons,
and all pale, blind, humble waters are cleaning,
and flying woefully is like closing sweetly,
a insect, dumb and torrid, comes of the daddyo,
how is a insect into this fur?

**By R. M. WORTHY**

In an article on computers in LIFE of March 3, 1961, it was reported that, "In Glendale, Calif. a certain computer even thinks it is a Beatnik poet. Having been taught a few rules of grammar and given a vocabulary of 500 words of the type Beatnik poets frequently employ, this robot has clanked out works such as the one printed above."

The LIFE article goes on to say, "Some Auto-Beatnik 'poems' were read by a bearded scientist to unsuspecting denizens of a Los Angeles coffeehouse who 'became quite stirred up with admiration.' One especially appealing line which the computer likes, is 'AH, I AM NOT A MACHINE.' The Beatnik computer is not a stunt. Its masters are using it to study how to build better computers that can communicate in the English language."

As many have guessed, that "certain computer . . . in Glendale . . . " is a Librascope computer (an LGP-30, as a matter of fact) and "its masters" are members of Hal Hamilton's Advanced Research Department.

Although many of the "poems" are amusing (some are also unprintable because the computer is completely uninhibited in its selection of words), the Auto-Beatnik project is a serious undertaking, as the LIFE article suggests. To the Advanced Research group, this project is only the first of a series of experiments which, it is hoped, will throw some light on the important problems of man-machine communications and machine linguistics.

In essence, the Auto-Beatnik poetry writer is a program which contains a vocabulary of English words arranged into several dozen grammatical and structural categories, and groups of patterns of the various categories. A "poem" is generated by randomly choosing a series of patterns and then randomly choosing words from the categories to fill out the patterns.

It was observed that one of the unifying threads that seems to tie the lines of a real poem together is the repetition of key words, usually subject nouns, their pronouns, and action verbs. A stochastic selection routine is incorporated as part of the poetry writer in an attempt to achieve a semblance of continuity in a machine poem by biasing the choice of certain key categories. The random selection of the other categories were unbiased. Thus, a measure of controlled "continuity" is achieved while maintaining the novelty inherent in random selection.

If a computer is presented with an English vocabulary arranged into the parts of speech and is also given rules for ordering these words, then the validity of the rules can be tested by having the computer generate sentences. Anyone with a knowledge of English can then easily detect inadequacies in the structure of the grammatical model in question.

The Auto-Beatnik poetry writer, was first conceived as a tool for testing certain syntactical or grammatical models of the English language. We were trying to ascertain the extent and nature of the semantic content that might be inherent in any purely structural grammatical model of a natural language. By using a computer as our sentence generator, we were assured that the sentences generated would be the product of the model in question and there could be no unconscious compensation (by the human experimenter) for defects in the grammar.

Since we were primarily interested in syntax and grammar, in this first experiment, the lines generated by the computer have no significance or meaning. These grammatically correct but semantically empty sentences seemed to us to resemble lines of modern poetry — hence the nickname, the Auto-Beatnik poetry writer.

Ultimately, of course, we are interested in the problems of semantics and of mechanizing meaning. We humans would like to be able to tell the computer what to do in **our** language rather than in special codes. Communicating with a machine in a natural language would not only be easier for humans, but the natural language would hopefully extend the computer's problem solving ability and flexibility. A computer that understands and responds in English would enable anyone to use a computer to solve a wide range of problems without special training and without spelling out in advance every step the computer must take.

Aside from helping to ameliorate the life of the computer programmer (or possibly eliminating the need for him altogether), there is a more fundamental reason for investigating and mechanizing language processes. It is the contention of the Advanced Research group that one of the most exciting, and ultimately one of the most rewarding, scientific frontiers which faces research workers today is the broad area variously called "artificial intelligence," "automata studies," "cybernetics," "bionics," etc. And it is generally believed by those in these research areas that there is an intimate and necessary relationship between natural language and human intelligence. Thus, it is easy to see that if one could mechanize language processes, then we would be much closer to the greater goal of the mechanization of creative thought processes.

# Profile: *James H. Paquin*

Because of its classified nature, the major portion of work performed by the Glendale branch has received very little public notice. We know the work is going on; but most of it is behind closed doors. Names such as Polaris, ASROC and SUBROC crop up occasionally, but until a project becomes declassified they are merely vague references to the outside observer.

And because these projects are under security wraps, the engineering and design teams working on them often find themselves beyond the pale of public notice and acclaim. With a wary eye on a tight time schedule, the work is accomplished and deadlines are quietly met. For all concerned, there is an abundance of anxiety and pressure in meeting the rigid requirements of quality and time.

High on the list of pressure performers for the Glendale branch is Jim Paquin, Technical Director for the Glendale branch Engineering Department.

A comparatively new face at Librascope (April '59), Paquin (pronounced Pay-Kwin) has played a major role in the successful development of both the ASROC and SUBROC projects. When the occasion arises, he, like so many of his colleagues at Glendale, has extended his work-day long into the evening when due-dates or last-minute revisions have cropped up on these top-priority programs.

The long work day, however, is nothing new to Jim Paquin. It dates back early in his first year at Lafayette High School in his home town of Red Lake Falls, Minnesota. Filled with a native curiosity to tinker and explore, he spent his after-school hours and week-ends working at the local radio repair shop. It put a little spending money in his pocket, but more than that, it meant an early education in the field of electronics.

Following high-school graduation in 1940, Paquin worked for a local radio repair shop, then moved to Chicago to enroll at the Illinois Institute of Technology. His studies, however, were interrupted by the outbreak of World War II.

Enlisting in the Signal Corps Reserve, Paquin spent 14 months on active duty, much of the time in military classes in electronics. While attending a school in Omaha, he met Roselle Cagle who, shortly after, became Mrs. Paquin.

Following discharge, Jim returned to his studies, this time back in his native state at the University of Minnesota. An honor student, he received his BSEE in Communications in 1947.

Paquin spent the following three years with electronic firms in the Minneapolis-St. Paul area. It was also the period when the long, harsh Minnesota winters caught up with the Paquin clan that now included three sons (Mark, Don and Bryan). "It was the winter of 1950, when we had 40 straight days of snow, that finally sold us on the idea of moving west," Paquin said. "The daily tunneling out of the house, plus a little rheumatism that began to bother me, were the deciding factors," he added.

The exodus from the cold country brought the Paquins to Southern California and for Jim an assignment with what was then Consolidated Engineering in Pasadena. He was assigned to work on mass spectrometers and analog-digital converters.

Shortly after joining Consolidated, a decision came down to add a computer to the company's line of products. A half-dozen senior engineers, including Paquin, were put to the chore. Three years later, the small group had become its own division and, a short time later, a new company —Electrodata Corp.

The talent and capabilities of the organization and its members spread throughout the electronics industry, and in 1956 it was purchased by Burroughs Corp. By the time Paquin left in 1958, it had grown to more than 1000 employees.

The following week, Paquin moved on to Space Technology Laboratory where he served as a member of the technical staff, assigned to the development of instrumentation for space probes. This work was satisfactory but commuting to and from Arcadia was intolerable.

In April of 1959, following several conversations with Librascope employee and friend Dave Hartig, Paquin joined the company as a staff engineer to Lane Wolman in what was then Special

**(Continued on Page 6)**

AID TO CANCER—Industrial artist Richard E. Wilson (seated), Chairman of Librascope's Aid Club, presents a check for $5,514 to American Cancer Society officials Howard C. Eells (left) and Leslie M. Holtz. The large donation resulted from employee participation in the Aid Club.

# Company Shows Computer Display at Glendale College

Librascope went to college last month to participate in "Career-O-Rama," an annual event on the campus of Glendale College where students learn of opportunities for careers with area business and industry firms.

Librascope's display, a pictorial sequence of our various computer lines, drew considerable interest from the school's engineering students.

Both G. W. Seltzer, Engineer Employment Supervisor, and B. E. Larson, Employment Interviewer, were on hand throughout the day at the display booth to answer questions for students.

Seltzer also presented a special talk earlier in the school's "Career Week" program before a group of honorary students who are members of Alpha Gamma Sigma, a State Scholarship Society. Seltzer spoke on the history of Librascope in the electronics field and future career possibilities with the company.

Coordinating Librascope's "Career-O-Rama" display was D. L. Sanson, Assistant Advertising Manager in the PR&A Dept. The display was held over for an extra audience in the evening in connection with the "Public Schools Week" open house at the college.

# Exhibits Readied For Los Angeles Computer Show

Librascope products, from commercial items to fire control system computers, will be displayed during the Western Joint Computer Conference, May 9 through 11, at the Ambassador Hotel—in Los Angeles.

Scheduled to go on exhibit from the Burbank Branch are the recently-developed Digilog-1011 converter and Model 791-S electromechanical converter, various mechanical components, and a major portion of the Branch encoder line.

**FIRE CONTROL** computer systems from Glendale will be displayed in mock-ups and scale models. A representation of computer components will also be shown.

Named to the Public Relations Advisory Council for this year's conference is F. E. Bristow, Librascope Press Relations Manager. Prior to the conference, the Council is scheduled to conduct a special seminar for the Los Angeles press to acquaint news media representatives with some of the latest developments in the electronics field.

**THEME OF** the 1961 WJCC is "Expanding Man's Intellect." Approximately 60 companies, primarily from the West Coast, will participate.

## San Marcos Progress

Construction of the new building for Aerospace Branch in San Marcos is scheduled to begin its skyward movement early this month with the emplacement of the first concrete wall blocks.

All footings are now in place and grading at the building site has been completed, reports C. E. Dahl, Division Plant Engineer.

Currently underway is the installation of the pre-cast concrete bents, the structural members for the 24,000-square-foot building.

WHEEL OF PROGRESS—A working model of the "lazy-susan" assembly station, designed by Methods Improvement Group to cut component mounting time on circuit boards, is put through its paces by Electrical Assembler Mary Jane Jesse. Proposed for use in the Glendale Branch Processing, Wiring and Assembly Bldg. A-19, the rotary device would replace present bench assembly methods.

**Cost Reduction**

# 'Lazy-Susan' Unit Speeds Circuit Board Production

Roy M. Johnson, Methods Improvement Group, Glendale Industrial Engineering, walked into the Bldg. 1 Tool Room recently carrying two bicycle wheels (one 24-inch and one 26-inch), a restaurant table pedestal, and a rack from a music stand.

When he walked out he had a model of Librascope's latest innovation for time-saving in circuit board assembly. It was given the title of "individual rotary assembly station."

The unique device, which works similar to a "lazy-susan," has already proven capable of chopping circuit board assembly time 30% of present bench methods.

**PRELIMINARY STUDIES** on the rotary method reveal that a production line of five of these stations, costing approximately $650, could pay for itself in 2½ average days, Johnson said.

One working model of the "lazy-susan" station has been installed and is in use at Bldg. A-19, Glendale Branch Processing, Wiring and Assembly.

In construction of the model, two bicycle wheels were mounted horizontally on an axle extending from top of the pedestal. Attached to the rim of the shorter wheel were 13 flexible circuit card holders. On the rim of the larger wheel pre-formed components were arranged in regulation small parts bins.

**THE SHEET MUSIC** rack mounted in the center of the wheels served to hold component mounting instructions (MI's).

Time savings with the rotary or "lazy-susan" method is based on memory retention capabilities of the assemblers, Johnson explained. With the new method, assemblers memorize MI's for a group of three or four components, and then go ahead and mount this group on all the boards on the wheel before referring again to instructions.

In contrast, using the present bench method, assemblers mount components individually in a certain order referring each time to the MI until one board is completed.

**BY THE TIME** the assembler gets back to the first component on a new board, he has been through a whole range of components and varied instructions. Rarely can he remember the individual mounting procedures he learned on the previous board, so he again must refer to the MI for each component.

The Methods Improvement Group, during investigation of this assembly problem, eliminated other types of "lazy-susan" stations installed on work benches in favor of the pedestal type.

*EMPLOYEE BENEFITS:*

# Law, Librascope Join for Better Benefits

**(This is the third in a series of articles outlining policies, scope and value of the benefits Librascope provides its employees —Ed.)**

The benefits program at Librascope results from a combination of management decision plus both state and Federal legal minimums guaranteeing certain benefits to every employee.

**DURING 1960,** Librascope paid out $1,095,956 in legally-required benefits—an average of $274 worth of benefit money spent by the company for each of us.

Included in this group of benefits are Social Security, State and Federal Unemployment Compensation, Workmen's Compensation and State Disability Insurance.

To make a better benefits program for its employees, Librascope's policy has been to exceed these legal minimums.

**FOR EXAMPLE,** the Workmen's Compensation Law benefits do not go into effect until the eighth day of work-loss. But Librascope pays up to a maximum of 40 hours of wages at our base rate beginning the first day we're off work.

The company policy is to eliminate any financial hardship for employees while we wait a week or so for the first WC check to come through.

Like other benefits, the legally-required group has been increasing steadily over the years. In 1960, this group accounted for approximately 15 per cent of the cost of Librascope's entire benefits program.

**What Librascope Contributed in 1960 For Legally-Required Benefits**

| | |
|---|---|
| Social Security | $ 583,920 |
| Unemployment Compensation (State and Federal) | 365,916 |
| Workmen's Compensation | 74,393 |
| State Disability Insurance | 71,727 |
| Total | $1,095,956 |

**SOCIAL SECURITY** tax, which began in 1937 at the rate of 1% of the first $3,000 in wages, was planned for periodic increases and now stands at 3% of the first $4,800 for employee and employer alike. Under present law, the tax is scheduled to rise to 4½% by 1969.

The tax could very well be increased before then, especially if bills go through providing added medical care for the aged.

Whatever the rate, Librascope matches each employee's contribution to Social Security, and increasing costs to the company are virtually assured.

**UNEMPLOYMENT** compensation (required by both state and Federal law) and Workmen's Compensation (coverage against loss of work due to on-the-job injury) are both financed entirely by Librascope.

Both are on the upswing, quadrupling in cost on a nation-wide basis since 1945.

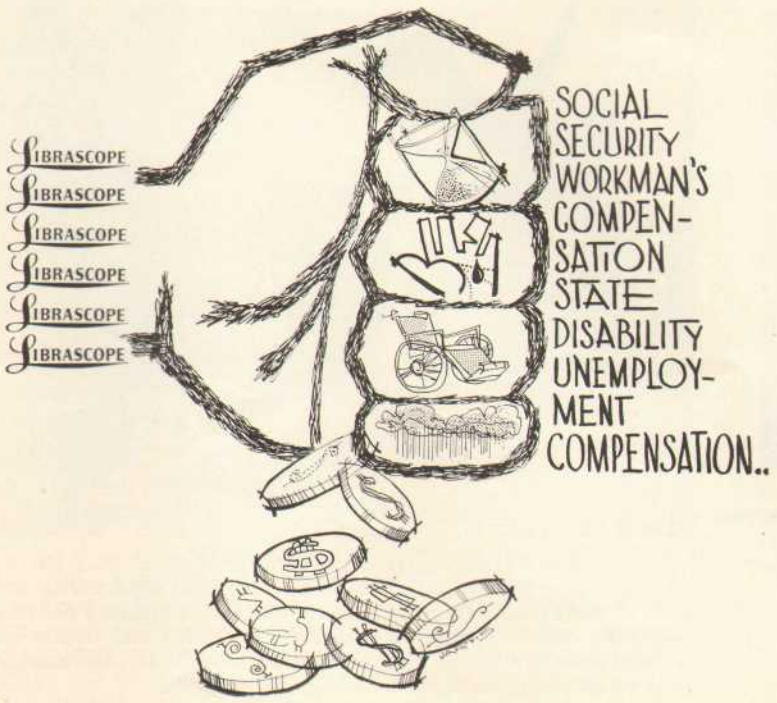
The State of California has also added a Disability Insurance requirement, for cases where loss of work is due to disabling injury incurred while not on the job.

**STATE LAW** provides that employees must pay 1 per cent of the first $3,600 in earnings to the State plan, but also allows Librascope to establish a private plan if the benefits are greater than the State plan and the cost is no greater to employees. This Librascope has done so that we may have more benefits on disability at no greater cost.

We've come a long way as employees since the dark days of the Thirties—a long way since the unsettled days of the Forties.

Benefit programs to insure our security in times of old age, sickness, injury or unemployment are increasing every year.

**PRIVATE INDUSTRIES** like Librascope are shouldering the increasing burden of cost for these programs to provide a safe and secure life for each of us.




## Deposits Due

**Time is drawing short for deposits to be made on the 10-day Precisioneer-sponsored September vacation tour to Mexico, according to Eileen Brown, Precisioneer Store Manager.**

**"We would like to have trip deposits as soon as we can, so that we can have a more accurate head count and confirm our chartered flight," Eileen said.**

# The Many Methods of Printing

TIMELY DEBUT—Latest equipment to be added at Reproduction Services is this new offset printing press. Its first job—printing the 1960 Annual Report. Here, Ken Mandeville inspects sample of the product. The new press, which can handle pages up to 11 by 17 inches, offers expanded capabilities in printing for the section.

ALL IN ORDER—Gary Buss demonstrates the Collator, a mechanical device which aids in arranging stacks of printed material into proper sequence. With the Collator, the operator can gather as many as 20 pages at one time, all in the right order.

## 'Repro' Unit Thrives On Paper Work

Publication of President W. E. Bratton's "Annual Report to Employees" is a yearly project requiring the concerted effort of several sections and staffs. For the final important step — that of printing — Librascope turns to its General Reproduction Services in Bldg. A-26.

Reproduction's job is to produce an exacting and attractive printed package — the final touch to the report's many publication steps coordinated by the Internal Communications Section of Employee Relations.

Success of previous effort, such as the art work, page layouts and copy negative work by sections of the Glendale Publications Dept., hinges on an effective printing job.

Under Supervisor F. J. McDonald, Reproduction Services gave the 1960 report a special treatment this year. A new offset printing machine was added to the shop's line of equipment just in time to handle the report's press-run of over 4,000 copies.

But Reproduction is one section that thrives on "paper-work." A part of W. R. Greer's Division Office Services, its function includes printing and reprinting the myriad of office and business forms used in the daily operation of the company.

Last month's figures show this section turned out over 450,000 reproductions varying from "while you were out" pads to printed vellums for budgeting in sizes up to 11 by 17 inches.

McDonald's 11-man crew, which includes a swing shift, now has facilities and equipment for four different reproduction processes — offset printing, spirit duplication, verifax and blue-line reproduction.

The section keeps on permanent file several hundred master sheets for all types of office forms which can be quickly reproduced upon request.

Average paper stock on hand offers over 60 different weights and finishes for many different printing requirements.

### Grease and Water Don't Mix

**Offset Printing, more properly called "offset lithography," is based on the fact that water and grease do not mix. In the process, images to be printed are imposed photographically on a metal sheet or special paper. These images are represented as a hard grease, and when the entire sheet is thoroughly wetted, only the grease images attract ink (which is also a grease). The image is first printed on a rubber roller and then transferred (or offset) onto paper.**

AT THE HELM—Supervisor Frank McDonald heads the 11-man General Reproduction Section. Here, with the section's clerk and receptionist, Pat Hansen, McDonald inspects a metal master sheet used in the offset printing process.

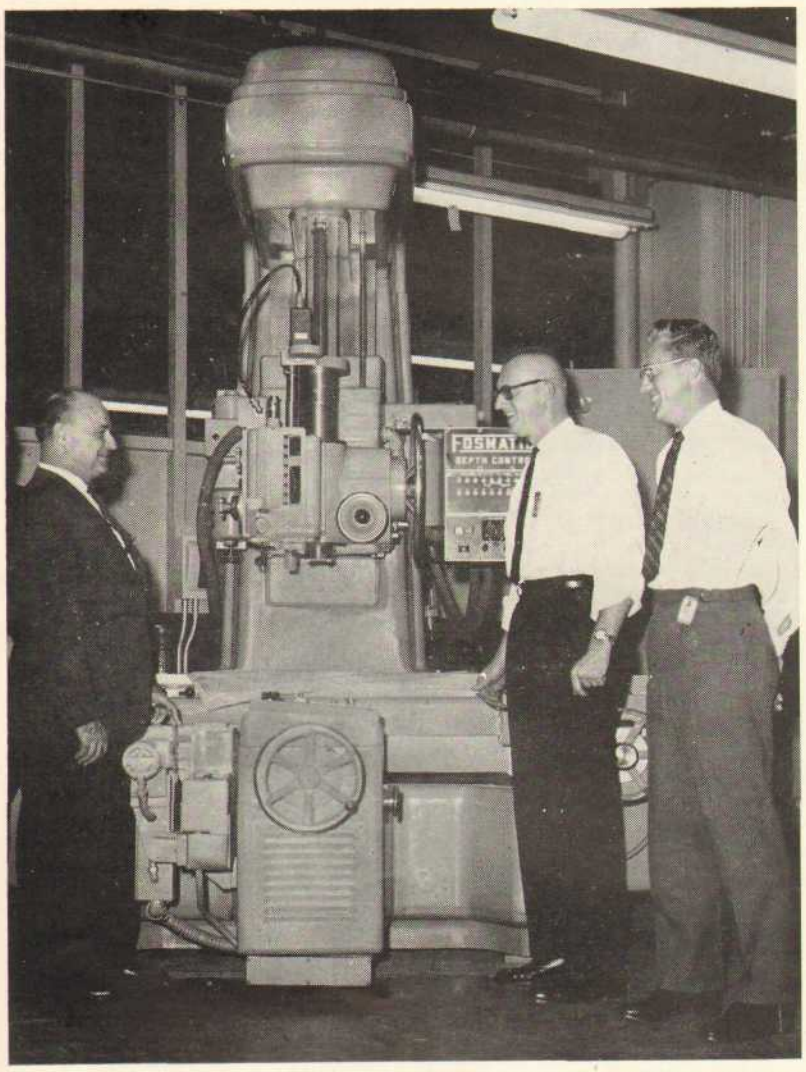
PERMANENT TOUCH—Group Leader Jerry Schweigert finishes a permanent master sheet for the offset process by adding lacquer to form the printing surface on a metal base. Metal master sheets permit a multitude of reprintings without loss of clarity, and they can be easily stored for future use.

POWDER FOR PRINTING—The Zerox camera process, handled by Jerry Schweigert (left) and Don Brown, produces the Master Sheets for each page to be printed. In the process, fine powder clings to an electrically-charged plate corresponding to each line or character on the original paper. After a trip through the Zerox oven, the powder becomes a permanent, hard grease which, in offset printing, is the equivalent to pieces of type used in other processes.

PLATE-MAKER—John Strout readies a negative for the plate-making machine. Impressions are transferred to a metal sheet on which lacquer is applied to produce the printing surface.

## *'Report' Takes Shape*

WITH THE ARTISTS—Art Services Supervisor P. C. Kane (center) goes over page-layouts for the 1960 Annual Report with artists J. R. Norwood and Margo Jarvis. Here at the Glendale Publications Dept., the report receives its shape and format. Final step is added at the Photo Lab where a copy negative is made of each completed page prior to preparing the offset printing plate.



NEW ACQUISITION — Out from his Cincinnati home office came Frank J. Fields, President and General Manager of Fosdick Machine Tool Co. (left), to be on hand for the recent installation of his Model 54-P Jig Borer in Bldg. A-01. Discussing with Fields the many applications of the new numerically controlled machine, are Glendale branch Shop Superintendent L. C. Somerfield and Industrial Engineer J. G. Leighton.

# Second Numerically Controlled Machine Ready for Production

The Fosdick Model 54-P Jig Borer, the Glendale branch's second numerically controlled machine tool, arrived early last month, ready for work on both tooling and production items. The new machine is housed in Bldg A-01, in the same area as the Burgmaster Turret Drill Press, Librascope's initial piece of N.C. equipment.

**THE VERSATILE,** 28,000-pound Fosdick machine was shipped from Cincinnati to Glendale on a special truck to safeguard against any accident or mishap that might affect its guaranteed accuracy of tolerances to within 1/10,000 of an inch.

The numerically controlled jig borer is operated by a one-inch, eight-channel tape which automatically positions the equipment on three axes and selects any one of 16 spindle speeds and any one of eight feeds. And although the machine is tape controlled, the operator can dial additional information into the console or it can even be operated manually.

The work load presently scheduled for the Fosdick is both in tooling fabrication and production. It is expected to substantially reduce costs and increase accuracies over present methods due to the automatic positioning and selection of feeds and speeds.

**COMMENTING ON** the selection of the Fosdick equipment, Ivan Franklin, Manufacturing Planning Supervisor, said: "We considered many machines and control systems before deciding upon the purchase of the Fosdick jig borer. Following a careful survey of the field, we found that the Fosdick machine offered the highest guaranteed accuracy and the least complicated control system. These factors, plus its reasonable price and ease of maintenance, formed the basis for our selection. Our sister division, Kearfott, has a similar Fosdick machine, and is extremely pleased with its performance."

"Librascope is the first company in the Southern California area with this type of machine," Franklin added. "We feel, that with its acquisition, we are furthering our competitive position as a leader in the manufacture of precision parts and products."

**PRIOR TO** the arrival of the Fosdick equipment, C. C. Krone, Methods Analyst, Glendale branch, and R. A. Neill, Building Maintenance electrician, went to Cincinnati to attend programming and maintenance courses at the Fosdick Machine Tool Co.,

Programming and tape preparation for the jig borer will be handled in Manufacturing Planning in much the same manner as those prepared for use on the numerically controlled Burgmaster, in operation since last December.

Operators assigned to the new equipment are jig bore machinists C. C. Pierson and W. C. Lewis. They recently completed an in-plant training program under the supervision of Earl Ballard of Fosdick Co., who was also in charge of machine installation.

## Exhibit '4000' At Tokyo Show

An RPC-4000 electronic computing system, produced at the Burbank Branch, is currently in Tokyo, Japan, where it has been on a three-week exhibit at the 4th Tokyo International Trade Fair.

Highlighting the exhibit were demonstrations showing the capabilities of the RPC-4000 in engineering problem-solving and data processing applications.

The 4000, which is marketed by Royal McBee Corp., is being sponsored at the fair by the Mitsubishi Electric Manufacturing Company of Japan.

The successor to Librascope's LGP-30, the RPC-4000 is a completely solid state system. Its basic unit is a desk-size digital computer with an 8008-word memory capacity.

# Insurance Lends a Hand, Aids Injured Douke Youth

Today, Tom Douke is a 15-year-old sophomore in high school. In his right hand he carries the strength of a normal boy—he can move his fingers so well that playing the saxophone comes easy.

**IT'S BEEN** a long, rough road to regain the use of that hand. But a series of operations by specialists to transplant and repair severed tendons and nerves have miraculously succeeded in undoing the damage caused by the explosion of a home-made rocket on Jan. 31, 1960.

Of the tough pull back to recovery, Tom's father, Edward Douke (pronounced Doo-kee) said, "At least, we didn't have to worry about the financial cost."

Douke's Group Insurance from Librascope paid over $1,700 in medical expenses and hospitalization.

**"THE ONLY COST** to me was about $100," Douke, a Production Grinding Leadman in the Glendale Machine Shop, told the LIBRAZETTE. "If it hadn't been for the insurance, I could see a loan against my property and I'd still be paying."

Douke vividly recalls that Sunday afternoon in 1960. He was watching television when he heard the blast in the basement of the family's Highland Park home.

Tom and two friends had been working feverishly on their home-made rocket. Tom's job was to load the booster. With a hammer and nail, he tamped sulphur from match tips into a large CO-2 cartridge.

**WHEN THE CARTRIDGE** exploded, the palm of Tom's hand took the full force of the blast.

The doctor worked on Tom over six hours that day. But shortened tendons and severed nerves left the boy with little use and feeling in his hand.

Eight months and many therapy treatments later, specialists were able to perform another operation transplanting tendons and nerves from other parts of his arm, and Tom was on the way to recovery.

**"HE NOW CARRIES** with him a small sponge-rubber ball to exercise his fingers," Douke said, "and, remarkable as it seems, I think he has more strength in that hand than ever before."

## Jaeger Promoted At FAA Center

Recently promoted as Librascope Area Manager at the FAA Experimental Center in Atlantic City, N.J., is Richard A. Jaeger, of the Sunnyvale Branch Ground Systems Department.

**JAEGER, FORMERLY** supervisor at the FAA facility, now directs the activity of all Librascope personnel who install and maintain various components of the Air Traffic Control Data Processor System.

He reports to M. G. Ettinghoff, Director of the Dept's Electrical Equipment Section.

A Librascoper since August, 1959, Jaeger came to the company from Jet Propulsion Laboratory, Pasadena, where he was responsible for the design and building of unique transistorized digital and analog data acquisition devices for JPL's wind tunnel and rocket cell instrumentation systems.

**AT ONE TIME** Jaeger was an instructor in basic electronics for Philco at the Army Guided Missile Center, Fort Bliss, Texas. Earlier, while with Convair, he was a telemetering instrumentation technician working out of Edwards AFB on experimental flight programs of the F-102 and -106.

Born in Berlin, Jaeger grew up in the Quincy-Alton area of eastern Illinois. He attended Antelope Junior College in Lancaster and Naval schools in Gulfport, Miss., and Chicago.

## *In Memoriam*

### *Robert M. Wright*

The many friends he had made in his year and a half at Librascope, mourned the passing last month of Robert M. Wright, Sub-Contracts administrator, Glendale Materiel Dept. He died April 17, victim of a gunshot wound, suffered while cleaning a .38 caliber automatic pistol, part of his extensive weapons collection. Bob, who was 41, was a native of Richmond, Va. Memorial services were held April 22. He is survived by his widow, Mrs. Lillian Wright.

### *Jack R. Evans*

Jack R. Evans, a Librascoper since Sept 1953, died at his home in North Hollywood April 16, after an illness of four months. Cause of death was heart disease. Well-known and well-liked throughout the organization, Jack was a parts inspector in Quality Control for most of his years with the company. Burial services were held in Kingston, Pa., Evans' former home. Fellow employees, through the Precisioneers, sent a floral tribute.

### Unknowns! Step Forward

The two most wanted people at Librascope, as far as the Precisioneers are concerned, are the club's vice-presidents who served during the years 1951 and 1952.

Louise Morton, current vice president, needs the names of these two people to complete a Precisioneer Hall of Fame album honoring all past officers and directors of the club.

Anyone knowing the identity of the vice presidents who served under J. E. Riddle and W. D. Newcomer during these two years are asked to contact Louise at Ext. 1036.

## Pool Appointed To APD Group

Appointment of Ernest T. Pool as Senior Engineer on the staff of the Glendale branch Advanced Projects Dept, was announced this month by Dr. A. L. Stanly, APD director.

A graduate of the University of California at Berkeley, Pool holds a BS degree in Physics, also has taken graduate work in Engineering Psychology at George Washington University, Wash., D.C.

Prior to joining Glendale, Pool was a Senior Engineer in the Bionics and Astronautics group of Melpar, Inc., of Falls Church, Va. Earlier, he was a staff physicist and project director with Man-Machine Systems, Alexandria, Va.; a research associate with Psychological Research Associates, a division of the Matrix Corp.; and with the University of California Radiation Laboratory at Berkeley and Livermore.

At Glendale, Pool will work on operations research and human factors analysis for advanced shipboard systems. He will report to Charles Gonia, project manager.

Pool is a native of Wichita Falls, Tex., married and the father of three. His family will be joining him after the close of the current school year.

NEW HEIGHTS IN MAINTENANCE—Demonstrating capabilities of the new electric-hydraulic lift recently purchased by Glendale branch for maintenance duty, George Kirby takes a sky-ward trip to change light bulbs. Observing from the ground is Charles Hilgert, Bldg Maintenance Supervisor. A control box on the side of the lift cage allows the man aboard to lower and raise the platform as needed. The caged enclosure and wide platform jacks to steady the lift make it considerably safer than a ladder for the growing amount of maintenance work, Hilgert says.

READY TO GO — The new catalog of servo-module designs developed at the Glendale Branch, gets a final going over before distribution. From left are T. W. Higgens and R. A. Chambers, Applications Engineers; J. A. Mesch, Staff Assistant, Customer Relations; and D. E. Dufford, Branch Military Sales Manager.

# Glendale Branch Plans Release Of New Servo-Module Catalog

A comprehensive listing of the some 200 servo-module designs which have been developed at the Glendale Branch, make up a new Servo-Module Catalog which goes out for limited distribution this month.

The 400-page catalog documents for the first time under one cover, Branch capabilities in the field of military specification servo-components and assemblies for analog and analog-digital system applications.

**A MAJOR PORTION** of this first press-run of the new catalog will be distributed to technical people outside the company; the balance to go to Librascope's own designers and engineers.

External distribution will be handled by D. E. Dufford, Branch Manager of Military Sales, along with Applications Engineers T. W. Higgens and R. A. Chambers.

**"THE NEW CATALOG** promises to be a valuable aid outside the company to introduce people to what the Branch has done in the servo-module field," said Dufford. "Internally, it should prove a valuable reference in acquainting our own people with what has been done and is being done within the company."

The project to compile the catalog material was coordinated by H. C. Applegate, Director, Branch Technical Planning, and J. A. Mesch, Staff Assistant, Customer Relations. Chambers and H. E. Rhoden Jr., electronic technician in the Analog Computing facility, worked with the writers to assure technical accuracy.

**FLEXIBLE IN** its loose-leaf form, the catalog will be expanded and updated as needed. This first printing represents the branch status in the module field through July, 1960.

## New Bldg Reps

**Three new building representatives for the Precisioneers were voted into office during the club's regular meeting in April.**

**They are Jean J. Jones, Bldg A-26; Margaret C. Baumgarten, Bldg A-15; and J. C. Lincoln, Bldg A-18.**

# Computer Checkout of Army Tanks Told in Tech Review

Electronic computers used to check-out the operation of engines and transmissions in Army tanks may be the key to a revolutionary change in the future of vehicle maintenance.

COVER PICTURE: M-48 IN ACTION

Such is the subject of the feature article in the Public Relations and Advertising Dept's latest edition of TECHNICAL REVIEW just off the press.

**IN THE ARTICLE,** Senior Writer A. P. Sorenson explains how the Army Ordnance Corps is modifying a Libratrol-500 control computer to develop an automatic check-out system for M-48 General Patton tanks.

The TECHNICAL REVIEW, under Editor J. O. Robinson, is a quarterly magazine informing readers outside the company of Librascope's many activities in the fields of research, development, design and production.

**CURRENT CIRCULATION** for the quarterly is approximately 11,000. Copies of the REVIEW are available to all Librascopers at the Engineering Library in Bldg. A-16.

Other features of the latest edition include an article by J. L. Deitz and J. E. Riddle, from Glendale Branch Engineering, on "Packaging a Submarine-Borne Digital Computer." Selection of this story for publication earned both men awards in the Librascope Writing Incentive Program.

An interview between Frank Hill, Project Director for Royal Precision products at the Burbank Branch, and R. L. Eklund, TECH REVIEW staffer, explains the RPC-9000 Electronic Data Processing System for REVIEW readers.

**NEW DEVELOPMENTS** in Shaft Position-to-Digital Encoders, an article on Reliability, plus a pictorial introduction to the Sunnyvale Branch round out this colorful, latest edition of the REVIEW.

## Bowlers Begin

The Summer Bowling Season for approximately 200 Librascopers gets underway May 18 at the Grand Central Bowl. The company is expected to field two 10-team mixed-men-and-women leagues for the Thursday night contests.

The league season, which runs through August, is open to all employees, their families and friends.

# Lindahl Appoints R. L. Clancy as Audits Director

Robert L. Clancy, former senior accountant with the Internationally known accounting firm of Price, Waterhouse and Company, has been appointed to the newly-created position of Director of Audits by Vice-Pres and Treasurer M. L. Lindahl.

Concurrent with Clancy's appointment, the Audit department was divided into two sections: Financial Audits, concerned with those departmental and branch operations involving both internal and external financial transactions, and Subcontract and Operational Audits. Financial audits are a direct responsibility of the new Director; Sub-contract and Operational Audits are the responsibility of General Auditor W. F. Bell. Both audit sections are under Clancy's direction.

A native of Toledo, O., Clancy received his early education there. He attended Ohio State University and the University of Toledo, received his Accounting degree from the College of Commerce of the University of Southern California.

With Price, Waterhouse, Clancy was the senior accountant on the Librascope account, also functioned on the IBM, Warner Bros., Paramount and Underwood Corp. accounts.

The new Director of Audits is married to the former Miss Anne Pettegrew of Westwood. They have three children, Patricia, 6, Cynthia, 4, Stephanie, 2.

## We Stand Corrected

**Interviewing by telephone saves time, but it can produce error, as it did last month in a story about Mary Lugo's group insurance claim for her son, Tony. Mrs. Lugo did say she was grateful for the protection Librascope provides . . . but she didn't say she'd have had to borrow from the bank if group insurance hadn't paid most of the claim. What she did say was that she'd have had to visit the bank . . . to draw on her savings . . . if the insurance hadn't existed. We're sorry for the mistaken impression our story conveyed.**

# Burbank Names Schlingensiepen

Paul W. Schlingensiepen has been named to the newly created position of Production Control Manager at the Burbank Branch.

Schlingensiepen will handle both material and production control for the Branch operation, reporting to H. M. Harrison, Production Manager.

A native of Paterson, N. J., he came to Librascope from the Ramo-Wooldridge Division in Canoga Park where he had also been manager of production control. Previously he had been with California Remote Control and National Cash Register.

During World War II he served three years in the Marine Corps. A technical school graduate in electronics, Schlingensiepen has attended both USC and UCLA Extension Courses in Business Administration.

He and his wife and three children make their home in Garden Grove.

# Profile . . .

(Continued from Page 2)

Devices. He was assigned to the logical design work on the buffer console for the FAA computer.

After several months on the FAA project, Paquin transferred temporarily to the Glendale branch to lend assistance to the ASROC program, which had run into some difficulty. Eight months and many 60-hour work weeks later, the ASROC team had successfully phased-out the program. By April 1960, the Librascope system was in-fleet and operational.

Following a brief return to Special Devices, Paquin was recalled to the Glendale branch for work on its top-priority SUBROC program. Again pressed by deadlines, Paquin and the rest of the Glendale team performed yeoman duty in successfully hurdling many of the program's obstacles.

Now a permanent addition to the Glendale staff, Technical Director Paquin is helping to guide the SUBROC program through its final stages.

When he does find some leisure time, Jim Paquin likes to make the most of it. A more than adequate do-it-yourselfer, Jim has recently completed a sizeable remodeling job on his Arcadia home, adding a new garage and work shop, while remodeling the former garage into two bedrooms. (Since the move to California, the Paquin family has two more members — daughters Nancy, 7, and Anita, 5.)

Up until recently, there were two parts of the day that weren't as productive as Paquin would like. It was the period of time spent in driving to and from work. But thanks to his do-it-yourself education with the Spanish language, Jim has found the filler.

"I always tune in on one of the Spanish speaking radio stations while I'm driving," he said. "I find it quite interesting and I'm learning slowly."

With his driving time put to good use, Jim Paquin's day is now complete.

IT'S A FACT—A Flexible Automatic Circuit Tester (FACT), recently acquired cost-cutting machine for final check-out processes, is readied for operation at Glendale's Bldg. A-17. Integrating FACT into the Branch system are (from right) Supervisor C. D. Bryant, Engineer R. H. Arnold, and Technician R. B. Babcock, from the Production Test Equipment Section. Shown here during circuitry test on a Mark 130 digital computer, FACT's capacity permits checking 2,4 separate wires from information fed to the machi on data processing cards.

# *Twenty-One New* Libravets *Join the Ranks*

**P. M. Kreinbring**
Glendale

**W. P. Gelbert**
Glendale

**R. L. Andrews**
Glendale

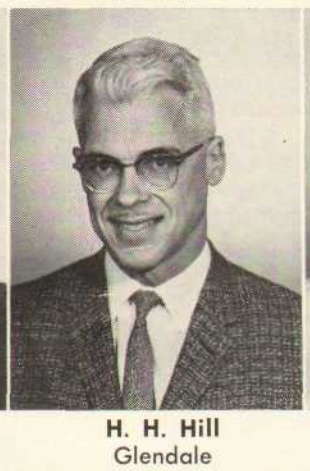
**O. W. Schreiber**
Sunnyvale

**Geraldine Lichty**
Sunnyvale

**Kenneth Howard**
Burbank

**W. F. Wade**
Burbank

**P. E. Mobley**
Division



**H. H. Hill**
Glendale

**M. T. Allison**
Glendale

**V. L. Olson**
Glendale

**Wilna Onthank**
Glendale

**V. B. Wilkie**
Glendale

**R. D. Bartlome**
Glendale

**R. A. Potter**
Glendale

**G. L. Whiteford**
Burbank

**J. L. Deitz**
Glendale

**Zelma Sawtelle**
Glendale

**G. W. Seevers**
Division

**R. E. Simpson**
Glendale

**W. H. Miller**
Burbank

*Machines Improved:*

# *Toolmaker Solves Eyeletting Problem*

Tiny metal eyelets, about the size of a husky ant, have long been problem children for Glendale circuit board production.

The tiny eyelets, which serve as rims in cricuit board holes, had a lengthy record for jamming eyeletting machines used in the Processing, Wiring and Assembly operation.

But no more. Continual improvements in the machines by Tool Maker Walter Marcy, of the Glendale Tool Room, has eliminated the cause of much of the delinquency.

**TWO MACHINES** in the eyeletting section of Bldg. A-18 have been equipped with Marcy's latest innovations, and the changes have proven successful. Others will soon be similarly modified.

The eyelet's history of trouble stemmed from the time they were placed in the hopper at the top of the eyeletting machine.

Here the eyelets, several thousand strong, were juggled about the hopper by revolving brush sweepers until they landed upright on their flanges and fell, one by one, through a hole leading to the machine's raceway. By gravity they were fed down the raceway into the stamping or inserting part of the machine.

**WORKING ON** the law of probability, the theory of the machine design was that of all these little eyelets dancing around in the hopper, one was bound to light the right way and slip through the hole often enough to keep the machine running.

But some days the law just couldn't seem to keep up.

The eyelets would either jam the hole or fail to come out fast enough.

The problem was somewhat understandable, however, since the hole demanded that the eyelet come out sitting upright on its flange, a position of rather precarious balance.

**TOOL MAKER MARCY** theorized that if the eyelet was having

**WALTER E. MARCY**
An Eye for Eyeletting

trouble balancing on its flange, he would cut a groove in the bottom of the hopper to catch the eyelets in the opposite position (flanges up). The groove would then serve to guide them in a steady flow to the raceway.

This created another problem. The eyelets in the groove were in the wrong position to go into the stamping part of the machine.

So Marcy's next step was to put a half-twist in the raceway to allow the eyelet to invert its position on the way from the hopper and be ready for stamping. This process worked!

**OTHER IMPROVEMENTS** by Marcy for the eyeletting machines include brass raceways for faster and smoother travel by the eyelets on their journey from the hopper. Raceways were also modified to include adjustable tracks for eyelets of many sizes.

The tool maker is now working on a variation for the brushing apparatus inside the hopper which will further decrease possibilities of an errant eyelet fouling the machines.

## *Management Training Course Now Underway*

A 14-week course in "Management Leadership" is now underway at Librascope for some 34 supervisors and managers representing all Branches of the company.

The course, presented Tuesday evenings after work, features eight lecture sessions by Max B. Skousen, founder of the Skousen tax service firm, and one of the leading specialists in the field of management development.

Other sessions are being conducted by members of the Training staff.

Purpose of the course, said W. P. Strong, Training Director, is to provide "practical examples and applications on how the manager can get his job done effectively and economically."

The course covers a wide area of management problems such as delegation of responsibility, motivation, communications, and cost control.

Sessions are scheduled to be completed late in June.

### Sales Office Moves

Librascope's Los Angeles Area Sales Office has changed locations, taking residence in a new building located at 5730 W. Manchester Ave., Los Angeles 45. New phone number for sales manager F. C. Milner and his staff is ORegon 8-3715.

Also taking occupancy at the Manchester address are the regional offices for GPI, Kearfott and Link, thus giving a central location for each of the GPI area offices.

## Biloon to ASW Staff at Glendale

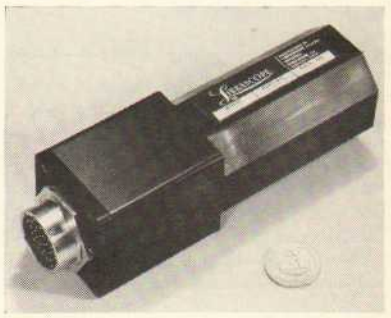
A new engineering addition to the Glendale branch is B. R. Biloon, named Senior Engineer on the staff of Dr. A. L. Stanly, branch Director, Advanced Projects. He is assigned to ASW and navigation problems and advanced proposals.

A native of New York city, Biloon attended City College of New York, where he received his BS in physics in 1956, then went on to the University of Illinois where, under a teaching fellowship, he completed his work toward a Master's degree in physics.

Prior to joining Librascope, Biloon spent 18 months with Autonetics Division, North American, where he worked in Inertial Navigation as a computer analysis engineer. Formerly, he was with Sperry Gyroscope Co., as an engineering writer.

## 791-S Converter In Recent Debut At IRE Meeting

A new, miniaturized electromechanical converter for analog-to-digital conversion, was one of two new products developed by the Burbank branch which received



public introduction at the recent IRE conference held in New York City.

**THE CONVERTER,** designated Model 791-S, is designed primarily for low-speed conversion of linear data into digital form. It is easily adaptable to a wide range of functions in process control, navigation and fire control systems, according to M. C. Hirsh, Burbank Sales Manager.

In addition, the low-cost converter can be modified to perform as a digital servo, converting nonlinear data into digital form, and to perform digital-to-voltage conversion functions.

**DEVELOPED BY** the Burbank branch for the Laboratory for Electronics, Boston, the design of the new converter stresses miniaturization of component parts and packaging. As a result, the Model 791-S converter weighs only 18 ounces, is 7 inches long, 1⅞ inches deep, and 1⅞ inches wide.

# Burbank Branch Appoints Three New Engineers

Three applications engineers, John B. Bunnell, Courtland S. Ross and Charles W. Smith, are new additions to the roster of the Burbank branch, according to M. C. Hirsh, branch Sales Manager.

Bunnell, for nine-years with Norden Division of United Aircraft Corp., has been named applications engineer, Eastern Region and, following an indoctrination period at the Burbank branch, is scheduled to open a new regional office in the Boston area.

Bunnell is a graduate of Princeton University, where he received his BS in Mechanical Engineering, and the Harvard Graduate School of Business, with an MBA in Business Administration. He is married and presently makes his home in Glendale.

Applications engineer Courtland Ross, also a new addition to the Burbank sales staff, will work with the entire line of shaft position-to-digital encoders, computers components and accessories.

A native of Evanston, Ill., Ross is a graduate (BSEE) of M.I.T., where he majored in electrical engineering and economics. Before joining Librascope, he was with Westinghouse, specializing in the requirements of electric utilities. Ross holds membership in the American Institute of Electrical Engineers and the American Marketing Association.

Charles W. Smith is no new face to Librascope, having worked for the past two years in the Electro-Mechanical Equipment section of the Sunnyvale branch.

In his new assignment, Smith will be responsible for applications and sales of electrical mechanical products including integrators, X-Y plotter and accessories, differentials, flow computers and other components.

Smith is a graduate of USC with a BS degree in mechanical engineering.

### Hours Changed

Operating hours for the Precisioner Store have been changed and the store is now closed all day Tuesdays and also from 12:30 to 1:30 on all other weekdays, according to Manager Eileen Brown.

SVEN HITS TEN — Sven Gustavson (second from right), Leadman, Machine Engine Lathe, receives his 10-year Libravet pin and congratulations from L. C. Somerfield, Superintendent of the Glendale Branch Production Machine Shop. Looking on are co-workers (from left) William Carter, Harold Engle, Norman Wisbaum, John Loux, James Piletti, Pat O'Gorman (partially hidden), and Harry Garrison.

# *Gustavson Joins 10-Year Rank, Retires in June*

A six-month visit in his native country of Sweden will introduce Sven Gustavson to a life of leisure-living when he retires from Librascope June 1.

Gustavson, a recent 10-year Libravet, is a machine engine lathe leadman in the Glendale Branch Machine Shop. He joined the company in April, 1951, and has been a leadman for the past nine years.

He and his wife plan to leave California June 8 and fly to Sweden to visit Sven's brother and sister who live near Kristianstad. Enroute they will stop off to visit friends in Chicago.

It was in the Windy City that Gustavson settled after coming to the United States at the age of 16. There he met and married his wife, Gunhild. The couple moved to California when he started at Librascope and now make their home in North Hollywood.

When they return from Sweden, the Gustavsons are planning a quiet life of leisure, if, as Sven says, "we can take it."

# Summer Fashion Show Scheduled for June 7

A Summer Fashion Show for all Librascopers has been scheduled by the Precisioneers for Wed, June 7, at the Verdugo Oaks restaurant in Glendale.

Tickets for the show and the accompanying dinner, priced at $3.10 each, will be on sale soon from all Precisioneer officers and building representatives.

The fashion show and dinner will begin at 7:30 p.m., preceded by a cocktail hour at 6:30.

Louise Morton, Precisioneer vice president, reports that show officials will be featuring fashions well within the price range of all working girls.

# Line of Balance . . .

(Continued from Page 1)

tive management yardstick in measuring up problem areas and taking timely corrective action.

**FORMERLY USED** to monitor production contracts, LOB has now been extended into such diverse areas as development engineering, inventory control, and the phasing-in of a new product line.

Already in effect at Librascope, LOB has been employed successfully on ASROC, CP-209 and Mk-17 projects and, more recently on FAA and SUBROC. The program has been coordinated through O. H. Shoemaker's Production staff. It has also met with considerable success in monitoring a number of important Link and GPL operations.

**THE ROSTER** of attending Division personnel included: M. L. Cowan, C .C. Gould, Mildred L. Huggins, P. G. Gudal, W. K. McAboy, E. E. Pearson, C. D. Nixon and C. S. Vance.

The Glendale branch had the largest representation, including: H. C. Applegate, D. H. Augustine, S. F. Chaney, J. J. Ciochetto, C. W. Cisco, C. R. Donley, Shelby Drucker, O. S. Dwire, E. R. Ellenhorn, I. G. Franklin, W. T. Giles, R. C. Graham, Edward Grossman, W. R. Henson, R. H. Hofgren, W. T. Holmes, R. F. Jennings, Al Leto, B. W. Long, P. J. Metzger, W. S. Presho, R. H. Price, A. J. Smith, K. K. Wright and W. A. Young.

Burbank branch personnel listed at the seminar included: E. P. Abele, R. A. Day, J. R. Garrett and C. K. Krill.

# Buy Seat Belts, But Be Sure to Get Good Ones

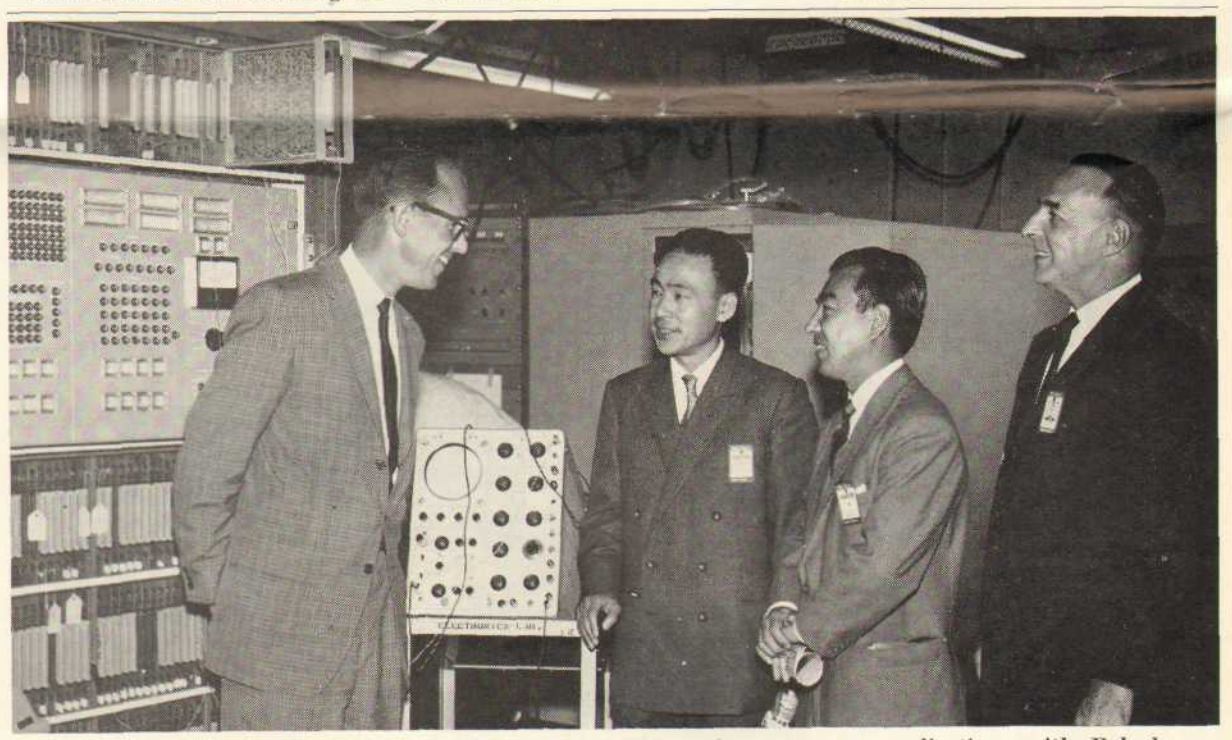
(See editorial, Page 2)

A proper seat belt in your car can prevent many injuries and minimize others when your car is in an accident, Safety Coordinator W. E. Hamrick told LIBRAZETTE this month, but the driver in search of protection should be careful of what he buys.

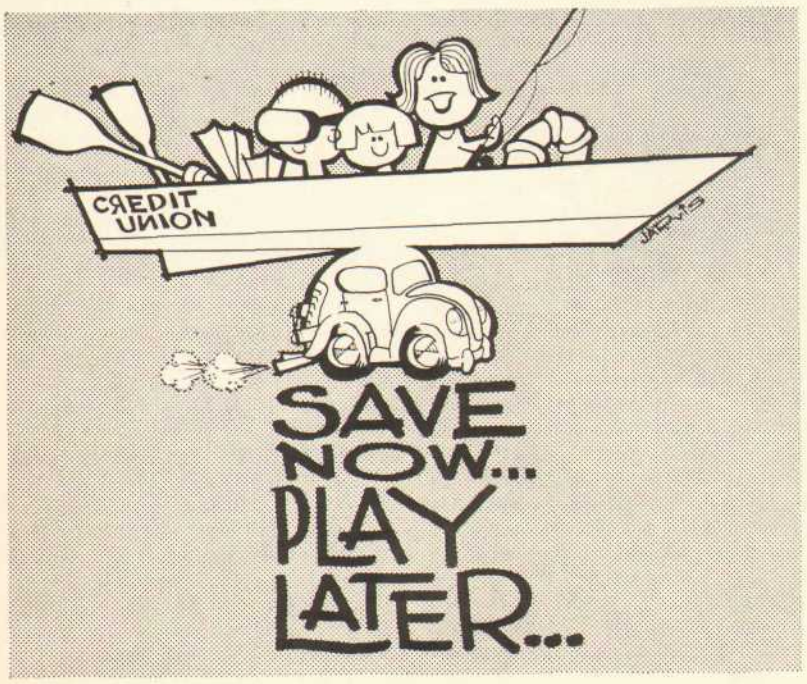
**"YOU NEED** a belt capable of holding you in place when your car tries to turn you into a bullet to pierce the windshield," Hamrick said. "Your belt should withstand a pull of 5,000 pounds, because that's the forward thrust exerted on a driver when his car hits a solid object while traveling at the low speed of 21 miles an hour. Most injury-causing accidents occur between 20-25 miles an hour, incidentally."

The ideal belt has a metal-to-metal buckle, is easy to slip on and off — to encourage use — is made of nylon with nylon stitching, and is anchored through the floor, not to the seat. It should be rated at not less than 5,000 pounds. Belts made to the specifications of the California Highway Patrol and the General Services Administration of the Federal government, meet these standards, Hamrick said.

**PRICES OF** belts now being sold vary greatly, ranging from $5 to $12 each, and not all meet the 5,000-pound standard. Currently the Precisioneer store in Glendale will deliver a 5,000-pound strength belt for $4.98, with anchoring gear, if orders for 100 are received. Literature describing other belts also is available.



COMPUTER CONVERSATION—Teluo Fukuda (second from left), President of "Wing," a leading Japanese aviation magazine, stopped by Bldg C-11 during his recent Librascope visit to inspect Sunnyvale's computer for Air Traffic Control's Data Processor Central. Discussing computer applications with Fukuda are C. M. Lekven, Staff Engineer, Ground Systems Department (left); Akira Takei, Los Angeles branch representative of Mitsubishi International Corp.; and J. G. Russell, military advisor for Sunnyvale-at-Glendale.

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