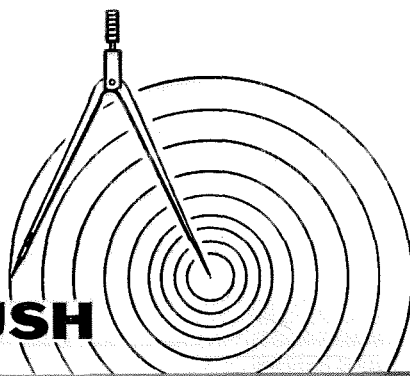


**ENGINEER
WHO'S
"ARRIVED"**

at
DUNHAM-BUSH



E. L. DISBROW
Tri-State College, Angola, Ind. '51

ED DISBROW exemplifies the opportunity to grow with a young, growing company. Now District Manager of the Dunham-Bush Minneapolis office, he supervises widespread engineering activities of a group of sales engineers representing a multi-product technical line.

Engineering degree in hand, Ed went to work for Heat-X (a Dunham-Bush subsidiary) as an Application Engineer. Successive steps in the Dunham-Bush main office and as Sales Engineer in the New York territory brought him to his present managerial capacity.

A member of Belle Aire Yacht Club, Ed leads a pleasant life afloat and ashore with his wife and two boys.

Equally satisfying is Ed's job. In directing calls on consulting engineers, architects, plant engineers, wholesalers, contractors and building owners, he knows he's backed by the extensive facilities of Dunham-Bush laboratories. You can see him pictured above on a typical call, inspecting a Minnesota shopping center Dunham-Bush air conditioning installation.

Ed's success pattern is enhanced by the wide range of products he represents. For Dunham-Bush refrigeration products run from compressors to complete systems; the range of air conditioning products extends from motel room conditioners to a hospital's entire air conditioning plant. The heating line is equally complete: from a radiator valve to zone heating control for an entire apartment housing project. The Dunham-Bush product family even includes highly specialized heat transfer products applicable to missile use.



**AIR CONDITIONING, REFRIGERATION,
HEATING PRODUCTS AND ACCESSORIES**

Dunham-Bush, Inc.

WEST HARTFORD 10, • CONNECTICUT, • U. S. A.

SALES OFFICES LOCATED IN PRINCIPAL CITIES

Personals

1921

John D. Lyon writes that "I grew oranges for 40 years in Glendora, and was on the boards of the Glendora Citrus Association for 30 years, and on the Glendora Fruit Exchange and the Upland Citrus Board since January 1958. My new address is San Luis Rey Heights, Fallbrook, where I grow avocados along with *Frank Capra '18*, and *Douglas Stromsoe '23*. I'm also vice president of the San Luis Rey Mutual Water Company.

1924

Harold O. Springer died in his sleep on March 5 at Santa Rosa, Calif. He was 61. Harold was making an automobile tour of the country after retiring in January as senior engineer from the Bridge Department of the City of Los Angeles. He had worked for the City since 1924.

1926

Daniel G. Dinsmore died on February 22 in Downey of acute coronary occlusion. He was secretary-treasurer of the Christie Electric Corporation in Los Angeles and had worked for the company since 1930. He left his wife and a son and daughter.

1929

Andrew V. Haeff, MS, PhD '32, has retired as vice president of the Hughes Aircraft Company and director of their research laboratories, and is now doing independent research and consulting work in electronics and physics.

1931

Edward H. Uecke is now chief engineer of the newly-created developmental engineering department of Capitol Records, Inc., in Hollywood. He will be responsible for advancing the technological position of Capitol in sound recording, reproduction, and other manufactured products.

1932

Brian O. Sparks, MS '33, MS '40, has been appointed deputy director of Caltech's Jet Propulsion Laboratory. He was formerly general manager and acting director of the space and missiles division of the Interstate Electronic Corporation in Anaheim.

1939

James C. Ritchey, department manager of the Firestone Tire & Rubber Company of California's guided missile division in Los Angeles, recently received a 25-year service pin and a check for \$100 from the company. The Ritcheys and their three children live in Downey.

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Engineering and Science



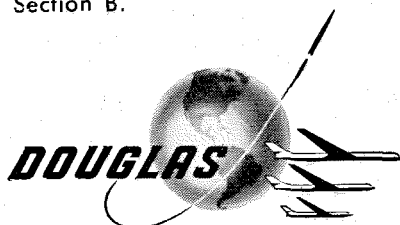
Robert Johnson, Missile and Space Systems Chief Engineer, reviews results of a THOR-boosted 5000 mile flight with Donald W. Douglas, Jr., president of Douglas

Missile is space veteran at the age of three

The Air Force THOR, built by Douglas and three associate prime contractors, shows how well a down-to-earth approach to outer space can work. Since its first shoot in 1957, it has had more than *fifty* successful launchings... at a variety of jobs from re-entry vehicle testing at ICBM ranges to placing satellites in orbit.

Initial planning for THOR included volume production tooling, ground handling equipment and operational systems. This typical Douglas approach made the giant IRBM available in quantity in record time, and THOR has performed with such reliability that it has truly become the workhorse of the space age.

Douglas is now seeking qualified engineers, physicists, chemists and mathematicians for programs like ZEUS, DELTA, ALBM, GENIE, ANIP and others far into the future. For full information write to Mr. C. C. LaVene, Douglas Aircraft Company, Inc., Santa Monica, California, Section B.



MISSILE AND SPACE SYSTEMS ■ MILITARY AIRCRAFT
DC-8 JETLINERS ■ CARGO TRANSPORTS
AIRCRAFT ■ GROUND SUPPORT EQUIPMENT

Personals . . . continued

1942

Robert E. Anderson writes from Guatemala that "after completing four years of active duty in the Navy following graduation, I joined the Signal Oil and Gas Company as a geologist in 1946. For the first ten-plus years, I spent most of my time in California, with brief sojourns in some of the other western states. Following a few months in Oklahoma in 1957, I was assigned as chief geologist to our Venezuelan subsidiary, first in Maracaibo and later in Caracas. About a year and a half ago, I was transferred to Signal Exploration de Guatemala as manager of operations.

"We are enjoying foreign living, particularly here in Guatemala. This is a scenic country, but one of contrasts. It is hot and tropical along the coasts and in the north and much of it is covered with dense, sparsely populated jungle, as compared to the highlands studded with magnificent volcanic peaks and lakes and the eternally springlike climate.

"Fortunately, Guatemala City is situated in the latter province, although trips to the jungle areas are required frequently. To this setting, add the ancient Mayan culture, the happy descendants thereof, quaint villages and modern cities, marimba music and a multitude

of crafts, and you have the ingredients that make up Guatemala.

"I'm married to Ruthelen List, Stanford '41. We have no children but we have a medium-sized parrot as a pet which answers to the name of Pica (short for Picarillo or 'little rogue') which he is.

"I'm a member of the Guatemala City Lions Club. I received an MS in petroleum engineering in 1955 at USC. And I'm a devoted but not very good bowler."

Emerson L. Kumm has resigned from his position as technical engineering manager at Curtiss Wright's Santa Barbara facility to take a technical staff position in the preliminary design department of the AiResearch Manufacturing Company in Phoenix, Arizona. The Kumms are building a new desert home in Paradise Valley near Phoenix where they and their two children, Keith, 10 and Karen, 8, will try to keep cool with a swimming pool during their first summer in the desert.

1943

Arthur B. Pardee, MS, PhD '47, professor of virology and biochemistry at UC in Berkeley, recently received the Paul-Lewis Laboratories Award in Enzyme Chemistry, sponsored by Paul-
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Our Tactical Systems Laboratory applies advanced techniques to the design and development of airborne and ground-based digital data processing systems. If you have at least 2 years of design, system integration, testing or production experience in digital systems, your talents may find application in the solution of our technical problems. Write to Mr. S. L. Hirsch.



LITTON INDUSTRIES Electronic Equipments Division
Beverly Hills, California

Personals . . . continued

Lewis Laboratories, Inc., in Milwaukee, Wis. Arthur is credited with outstanding research on the complex factors controlling conversion of food to products that support cell growth. He was co-discoverer of "enzyme repression" and "feedback regulation," two principles involved in the suppression of enzyme synthesis in the body. He has been at UC since 1949.

1944

Rufus B. Pearce, Jr., writes that "I'm presently assigned as chief of the aerodynamics sciences section of the missile division of North American Aviation. My other activities include being scoutmaster for Fullerton Troop 11, treasurer for the Fullerton Tennis Club, and enjoying recreational tennis and skiing. We have two boys - 13 and 6."

Maurice E. Ford, Jr., has been manager of the Escondido Mutual Water Company since April 1956. The Fords have four children - 3 girls (Marilee, Judy, and Gale) and one boy (Dennis).

1947

Robert B. Harris, MS, associate professor of chemical engineering at the University of Michigan in Ann Arbor,

was appointed secretary of the Column Research Council last year and has also been elected 1960 vice president of the Michigan Section of the American Society of Civil Engineers.

Sam Naiditch, PhD, is now president of Unified Science Associates, Inc., a basic research and development company in Pasadena.

1948

Richard A. Ferrell, MS '49, is on a sabbatical leave from the University of Maryland where he is professor of physics. He is spending most of his time in Geneva, Switzerland, where the European Organization for Nuclear Research (CERN) has recently inaugurated the largest particle accelerator in the world, a 29-Bev proton synchrotron.

R. J. S. Brown, research physicist at the California Research Corporation (Standard Oil of California), writes that he still lives in Fullerton with his children, Eleanor, 6, and Sid, 5. He's working on nuclear magnetism oil well logging.

1951

Harold F. Martin, project engineer with the IBM Corporation in San Jose, is now technical assistant to R. G. Mork,

director of development engineering for the IBM World Trade Corporation in Paris. Harold was married last September to Miss Sarah Ann Schaeffer of West Hartford, Conn.

1952

Robert E. Stanaway is now plant manager of the West Coast Components division of the Fairchild Controls Corporation in Pasadena.

Boyd P. Israelsen, MS '53 is now doing research and development on low-noise traveling wave tubes at the Watkins-Johnson Company in Palo Alto. He was formerly a research assistant at Stanford Electronics Laboratories. Before getting his PhD at Stanford, Boyd was a senior research engineer at Caltech's Jet Propulsion Laboratory, where he worked on components for missile guidance systems.

1953

Fred Storer, MS, has been working as reactor physicist at the Societe "Belgonucleaire" in Brussels, Belgium, since April 1956. Last October he was sent to Detroit by contract to work with the Atomic Power Development Associates on the design of the Enrico Fermi Fast Breeder Power Plant in Monroe, Mich.

David J. MacDonald, Jr., MS '54, received his PhD in chemistry at UCLA in January and is now doing postgraduate work there under *Clifford S. Garner, '35, PhD '38*.

1955

Richard N. Wagenseller, MS '56, design engineer at Dynamic Research Inc., in Los Angeles, was married on April 9 to Joan Hawkins at Oneonta Congregational Church in South Pasadena.

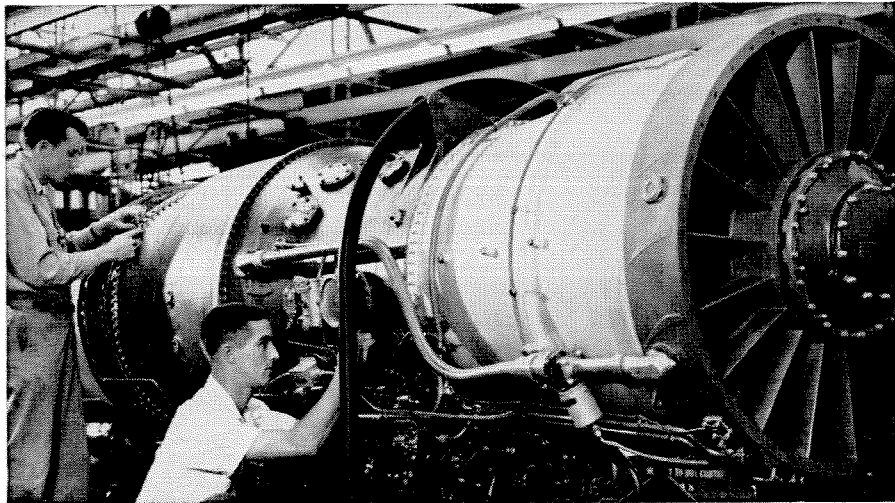
1956

John Howell writes that "I am in my first year of medical school at Stanford. There seems to be a Caltech-at-Stanford up here - Techmen all over the place."

Alan M. Poisner will receive his MD degree from the University of Kansas School of Medicine in June, and in July he will start a year's internship at the University of Illinois Research and Educational Hospitals in Chicago.

1959

Andre J. P. Fossard, MS, writes that "after leaving Caltech ten months ago, I took a long and wonderful trip through the States and Canada with three other French fellows. Back in Paris, I worked for two months with the Generale Aeronautique Marcel Dassault, the biggest French aircraft company, in the servomechanisms department. I left France last November to serve in the air force in Morocco and I am training to be a pilot just now."



Fafnir Ball Bearings help turbojets set new performance records

A recent article in a leading newspaper quoted airline executives to the effect that Pratt and Whitney Aircraft jet engines are proving to be the most reliable ever put into commercial planes.

In designing these jet engines, Pratt & Whitney Aircraft looked to The Fafnir Bearing Company as a major source for main rotor thrust bearings, generally regarded as among the critical engine components, and one of the most exacting to produce. Each ball bearing is custom-built and rigorously tested. Tolerances are held to the millionths-of-an-inch.

P&WA turned to Fafnir because of Fafnir's long experience in the design and development of aircraft bearings. Fafnir established an air-

craft division thirty years ago, the first in the industry, and through it, is keeping pace with the revolutionary changes in aircraft design.

To help solve this and other ball bearing problems, Fafnir maintains the most up-to-date facilities for metallurgical research, and bearing development and testing. Fafnir may be able to help you some day. Worth bearing in mind. The Fafnir Bearing Company, New Britain, Connecticut.



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