

Robert Johnson, Missile and Space Systems Chief Engineer, reviews results of a THORboosted 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 been the booster for programs like *Pioneer, Discoverer, Explorer, Transit*, and *Delta* and has launched more than 87% of all successful U.S. space satellites.

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, SKYBOLT, GENIE, ANIP, SATURN, MISSILEER 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

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Personals

1920

Harry P. St. Clair, consulting planning and operations engineer at the American Electric Power Service Corporation in New York, died of a heart attack on December 31. He was 65.

Harry was on the eve of retirement after 36 years with the power company. He planned 76,000 miles of power lines which serve 2,300 communities in Indiana, Michigan, Ohio, the Virginias, Kentucky, and Tennessee.

He was president of the New York chapter of the Caltech Alumni Association in 1944-45. He leaves his wife, two sons, and a daughter.

1922

Clyde R. Keith has retired from the Bell Telephone Laboratories after 38 years. For the past 10 years he has been working on the development of telephone answering and announcing machines in Murray Hill, N.J. Clyde is now assistant secretary of audio-visuals at the Presbyterian Board of National Missions in New York. He is producing filmstrips, records, and sound films for use in Presbyterian churches throughout the country.

1927

Hallam E. Mendenhall, PhD, executive assistant at Bell Labs in New York, writes that he is still in charge of university relations, as well as being ever on the alert for scientific and engineering PhD's from Caltech and elsewhere.

1935

John C. Stick, Jr., formerly chief log analyst at the Lane-Wells Company in Houston, Texas, has taken a new position after nearly 24 years with Lane-Wells. He is special assistant to the director of the instrument division at the Perkin-Elmer Company, Inc. "In my new job," writes John, "I carry out all forms of liaison with a newly-acquired affiliate, the Atomium Corporation in Waltham, Mass. Incidentally, the president of Atomium is Hugh F. Stoddart, '50, not only a Caltech alumnus, but from Blacker House to boot.

"We're really getting a great kick out of Connecticut — notwithstanding 12 inches of beautiful but highly impractical snow. We have a delightful contemporary house on 2½ acres of land with a small stream, cave, and all the trimmings — and only 15 minutes from work."

Frank J. Malina, MS, AE '36, PhD '40, writer and artist in Paris, is now a deputy director of the International Academy of Astronautics, founded by the International Astronautical Federation. He is also chairman of the Lunar International Laboratory Committee in

Stockholm, an organization devoted to the study of technical problems related to the construction of a scientific research laboratory on the moon. Theodore von Karman, professor emeritus of aeronautics at Caltech, is the first director of the Academy of Astronautics.

Frank is known in Paris for his paintings which are luminous, mobile, and controlled by electricity — a unique combination of art and science.

1938

Roland C. Stone, partner in the Superior Honey Company in Whittier, writes from Cuernavaca, Mexico, that the company has decided to expand operations to include a wax processing plant there. "I moved to Cuernavaca last July," writes Roland, "and returned to the States in August to bring my wife, my son, Mike (15), and my daughter Kathy (10) back with me. We have rented a nice home here, and the children are in school.

"Jack (John R.) Baker, BS '38, is also in Mexico trying to start a plant for Baker Oil Well Tools in Mexico City."

1941

Brigadier Gen. Charles H. Terhune, Jr., AE, deputy commander for ballistic missiles of the Air Force Command and Control Development Division in Bedford, Mass., has received the Legion of Merit, second highest peacetime award, for his outstanding service as deputy commander for ballistic missiles of the Air Force Ballistic Missile Division in Inglewood, Calif., from 1954 to 1959.

1943

Fred H. Tenney is on the staff of Project Matterhorn at Princeton University. "Got a PhD in physics at the University of Rochester in 1953," he writes, "and have been in Princeton ever since. Taught physics for two years and then joined my present project. We have 3 children; Stephen, 8; David, 7; and Susan, 5. For the past two years we've been putting our spare time to use in helping found the Ethical Culture Fellowship of Princeton. It is a religious group, and a small group, so I have many titles, such as trustee, program director, and assistant director of religious education."

1945

Charles E. Lamar, manager of sales at the Southern Pipe Division of U.S. Industries in Azusa, has been named vice president of marketing. He has been with the company since 1951. In addition to his responsibilities at the home plant in Azusa, he also has charge of marketing at the Division's Hawaiian

Personals . . . continued

pipe-producing facility near Honolulu.

1947

Alfred B. Brown, Jr., MS, PhD '50, writes that he is still on the technical staff of the Bell Telephone Laboratories in Murray Hill, N.J., working on data communication system development. He has been with Bell since 1956. He has two children – Alan, 3½, and Caroline, 18 months.

David Hagelbarger, PhD, is in the systems research department of the Bell Labs. He has been with the company since 1949. The Hagelbargers have two children – John, 6, and Ann, 3.

Frank Estabrook, MS, PhD '50, has been named chief of the physics section at Caltech's Jet Propulsion Laboratory. He was formerly a research group supervisor in the same section.

1948

Thomas H. Stix, associate head of the experimental division at the Plasma Physics Laboratory (formerly Project Matterhorn) at Princeton University, is spending a year's leave at the Weizmann Institute of Science in Rehovoth, Israel. He is on an NSF postdoctoral fellowship. "Israel," he writes, "is an intriguing combination of the climate of southern California, the mysticism of the Levant, the industry of Glendale, the pioneer spirit of the early West, the sophistication of Princeton, and the archaeology of the Old Testament."

Robert Heppe, senior project engineer at the ITT Federal Laboratories in Caldwell, New Jersey, is active in the United Federalists and is a member of the N.Y. State Executive Council of UWF. The Heppes have three children.

Frank F. Scheck, attorney and counselor at law, has been named a member of the firm of Pennie, Edmonds, Morton, Barrows and Taylor in New York.

1949

Herman S. Dichter, MS, is senior project engineer at the Hughes Aircraft Engineering Division in Culver City. The Dichters have three children – two girls, 1 and 6, and a boy, 3.

Carl Price, associate professor of plant physiology at Rutgers University, writes that he now has a fourth child—Christopher. The Prices are enjoying the quiet village life of a part of New Jersey that is still rural.

1951

Thomas W. Connolly, MS '52, engineering section head for computing and data reduction in the systems engineering department (Marine) of the Sperry Gyroscope Company in Long Island, is co-author of Analog Computation in Engineering Design, published last year by McGraw-Hill,

1953

Frank A. Ludwig is now associate manager of the chemical research de-

partment of Electro-Optical Systems, Inc., in Pasadena. He is responsible for direction of the division's fuel cell program and for assistance in the continued development of the company's chemical research capabilities. He has been with the company since 1958.

Commander William M. Pardee, AE, is now commanding Carrier Anti-Submarine Air Group 53 in San Diego (composed of VS 21, VS 29 – both use 52 F aircraft and HS 6 – using ASW helos.) His former billet was as commanding officer of Air Anti-Submarine Squadron 37, which went on to win the Com. Nav. Air Pac E as top VS squadron, the CNO Safety Award for VS, and the Isbell Award for VS – a clean sweep of top awards.

1954

Ronald Ratney is now assistant professor of chemistry at Hood College in Maryland. After receiving his PhD from Yale in 1959, Ron worked two years as research chemist at the Trubek Laboratories in New Jersey. The Ratneys have a son and daughter.

1957

Gerd Tuchen, MS, a member of the technical staff of the Bell Telephone Laboratories, is working on the repeater for the 1-MC submarine cable system. He graduated from Bell Labs' communications development training program in 1960 which automatically gave him an "MEE" degree from N.Y.U.

Thomas W. Cooper is now working for the Bechtel Corporation as a field engineer on the construction of a chemical plant in New Castle, Delaware. He was married to Joy Oursler of Palos Verdes on November 25.

Richard W. Michte is now assistant professor of astronomy at the University of California in Berkeley. He received his PhD in astronomy from Princeton last June. The Michies have an 8-monthold son, David.

Charles W. Stephens, MS, has been appointed associate manager of the advanced power systems division of Electro-Optical Systems, Inc., in Pasadena. He has been with the company since 1958.

1959

Richard A. Baugh, MS '60, electrical engineer at Hewlett-Packard Company in Palo Alto, was married to Marcia Davidove on December 27.

Alan G. Bodine, MS, entered the Army in October and is now assigned to the Army Garrison at Fort Detrick, Maryland.

1961

Marvin Chester, who will receive his PhD from Caltech in June, is now a physicist in the solid state division at Electro-Optical Systems, Inc., in Pasadena.



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beginning at 8:30 a.m. on the Caltech campus

Dinner at 6:30 at the Huntington-Sheraton Hotel