

Martin Orlando Plans Expansion

A \$2,500,000 expansion program which includes construction of a 7,800 square foot center was announced by G. T. Orlando, president and manager of Martin Orlando Division.

1/21/66

Work Force Increase Due

Martin Lands 'Walleye'

Martin-Orlando landed the Walleye Friday.

The Naval Bureau of Weapons announced award of a \$12 million contract for qualification weapons and initial quantity for operational use plus options for production in future years.

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Pershing Shot Is A Milestone

2/16/61

CAPE CANAVERAL

Ready for Navy Soon

More-Lethal Bullpup Developed by Martin

A more lethal Bullpup air-to-surface missile that will have greater range and cost less to manufacture is now in production and will soon be available for delivery to the fleet, the Navy said yesterday.

Now operational with the Sixth and Seventh Fleets, Bullpup was developed by

Station in Yuma, Ariz. this
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12/4/57

Martin Opens New Division

The Martin Company offi-

Martin Wins \$11 Million RADA Contract

5/20/65

ORLANDO — The Army today awarded an \$11 million contract aimed at com-

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J.S. Army Elec-
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5/4/60

Martin Air Def Setup P

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FOR THE RECORD

Martin opened its Orlando Division in the winter of 1957-1958. Its mission was to conceive, develop, and produce missile and electronic systems for our country's armed forces. Now, nine years and eight major prime contracts later, the Division has grown to the point where over 8,000 people are working on more than 150 government and company-funded projects — making Martin Orlando the largest commercial enterprise in the state, and Florida's largest single employer.

This growth was not based on one or two large projects. The Orlando Divisions expansion was due to a series of major contract awards: MISSILE MASTER, LACROSSE, BULLPUP, AGM-12A, PERSHING, BIRDIE, RADA, SPRINT, WALLEYE.

- ☐ The Orlando-built PERSHING missile ranks as one of the Nation's top performers. Out of 56 firings: 48 complete successes and 6 others partially successful.

- ☐ Martin Company has developed and produced more aerospace ground support equipment than any other company in the industry.

- ☐ Activation date for the PERSHING missile system was set four years in advance. Martin Orlando met every major milestone and delivered the first operational systems one month ahead of that schedule.

- ☐ Martin Orlando is the Nation's largest producer of tactical missiles.

- ☐ Orlando-built MISSILE MASTER and BIRDIE anti-aircraft coordination and control systems have a proven reliability of over 98% in operation in 29 principal metropolitan areas.

Recent contract awards, including one for production of the WALLEYE weapon reflect a continuing recognition of the Division's ability to take on new and diversified programs.

To a large degree, Martin Orlando's success was due to outstanding engineering and managerial performance. Examples of this performance are shown in the columns to the right and left.

On the following pages you will find descriptions of the programs, organization, and engineering facilities that have contributed to the Division's present position of leadership in the aerospace industry... and perhaps see a place where your education and background can qualify you for a position on Martin's creative professional staff.

☐ The Navy considers BULLPUP so reliable that it has eliminated planned missile preflight checks. BULLPUP is simply treated as a round of ammunition.

☐ Since its establishment, Martin's Orlando Division has delivered over a billion dollars in goods and services at less than 1.7 per cent variance from cost estimates.

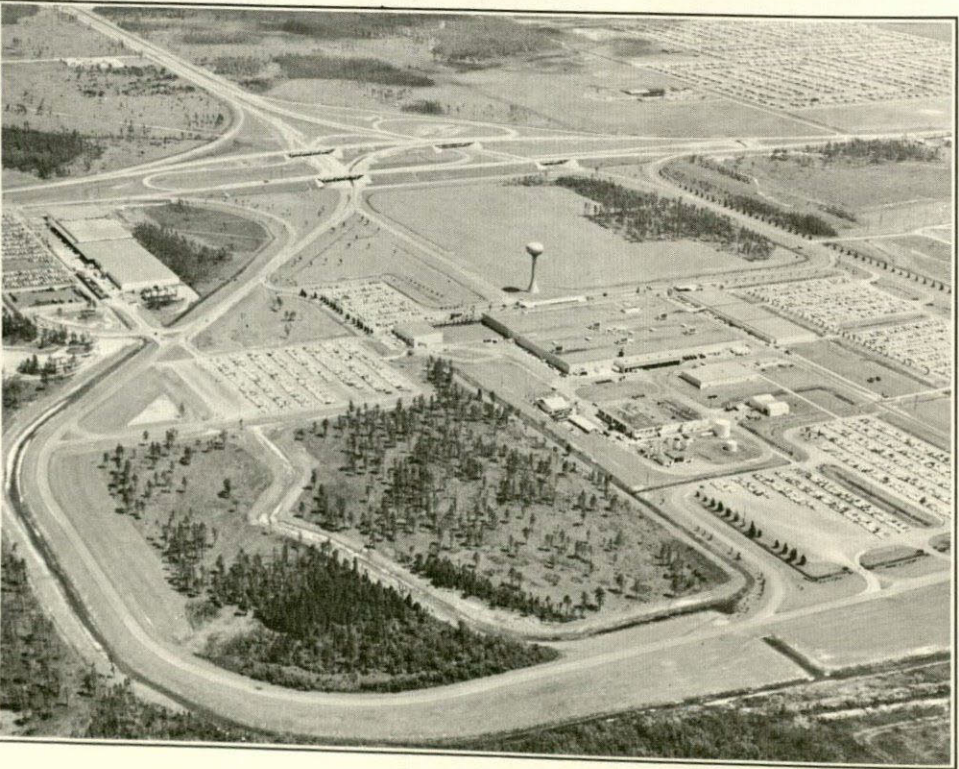
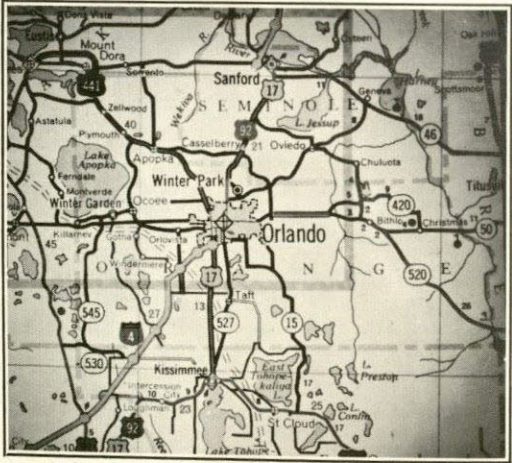
☐ One-third of all missiles launched from Cape Canaveral have been built by Martin.

☐ Martin Orlando's record of seven prime missile and defense contracts in the first five years of its operation is unequalled in the entire defense industry.

☐ In August 1963 research scientists at Martin Orlando significantly advanced laser technology with the successful demonstration of the free world's largest and most powerful pulsed gas laser.

ENVIRONMENT

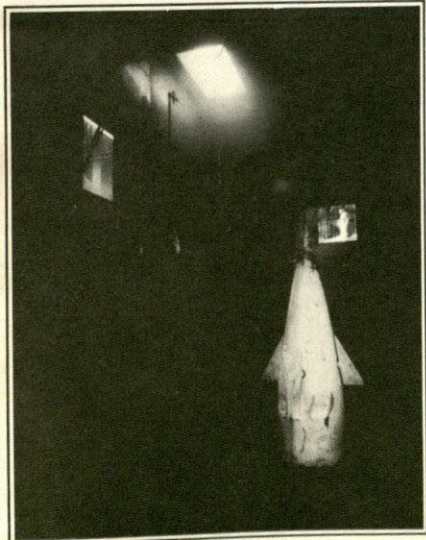
Located in Central Florida, 45 miles west of Cape Canaveral, the Orlando Division's \$28 million facility is one of the most modern in the country. The main plant complex contains an integrated research-development-production facility capable of meeting the most challenging defense needs.



Orlando—Hub of Sunshine State

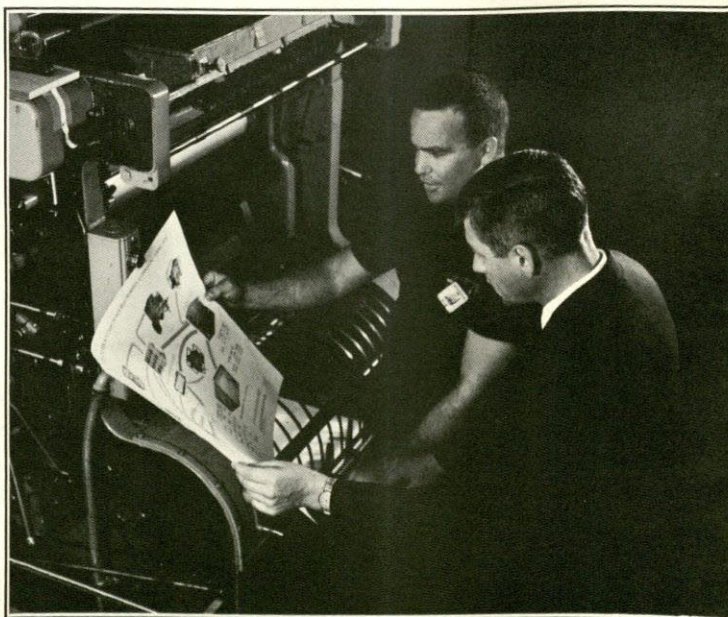
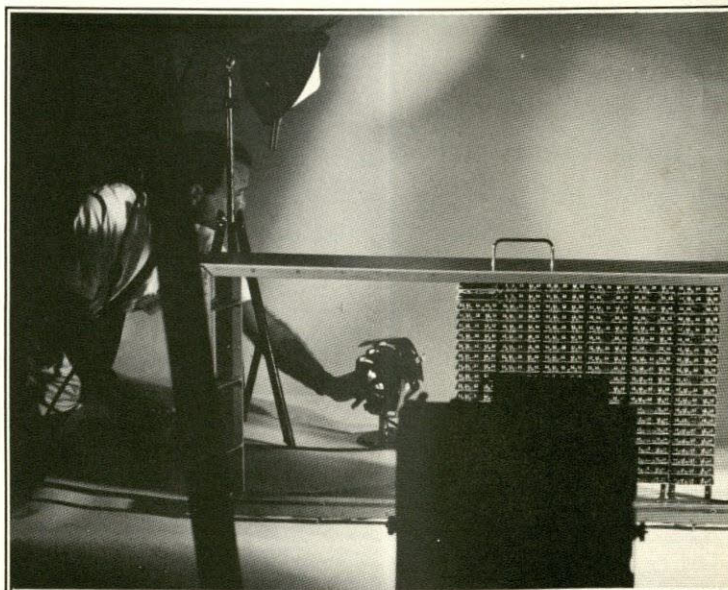
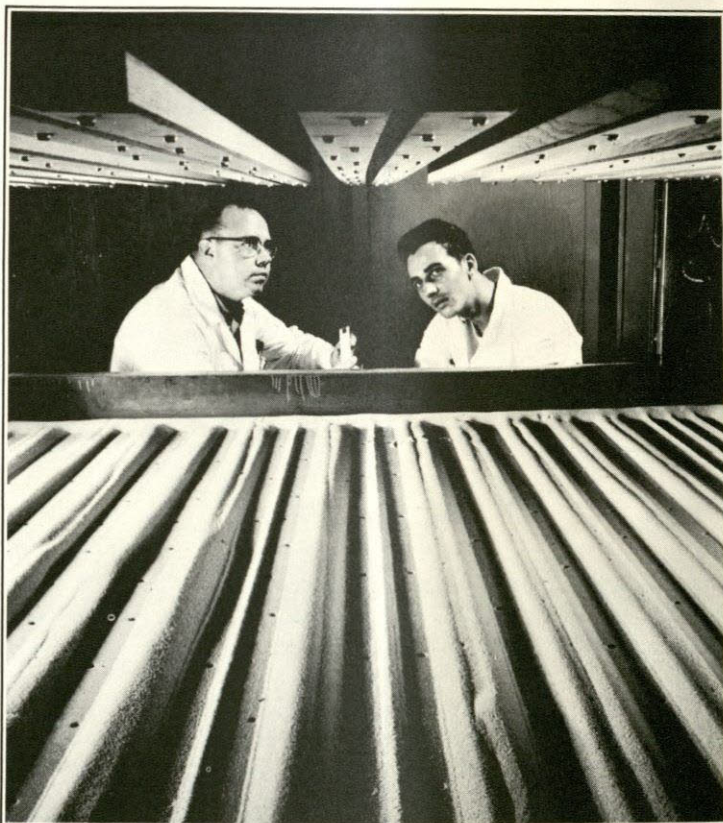
Orlando, Florida, one of the nation's fastest growing cities, is strategically located in the geographic center of the state. Its rapid growth is primarily due to its proximity to the Cape and Martin's huge Orlando complex. The large number of major railways, highways, and airline routes passing through or near the city is also an important growth factor.

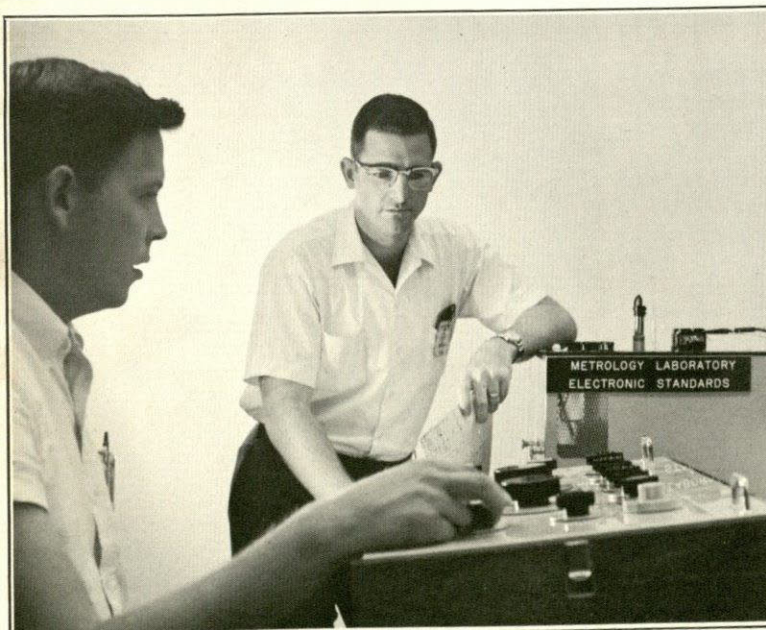
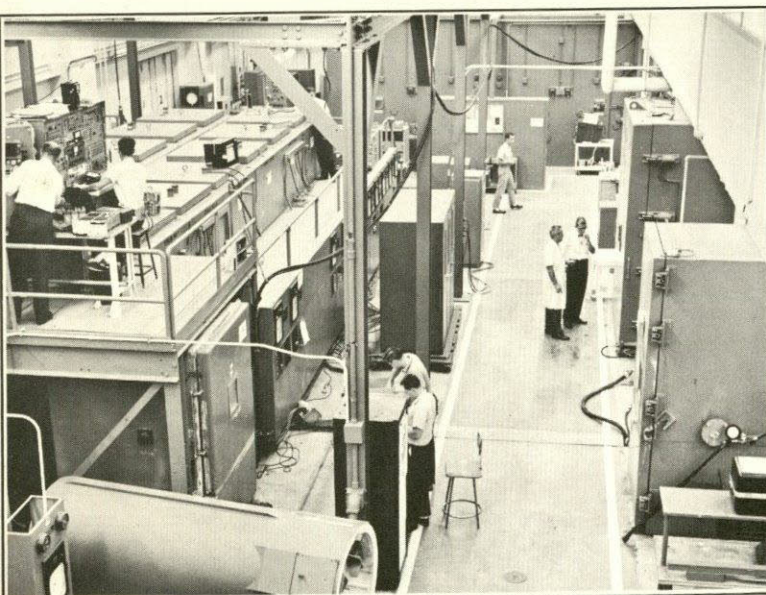
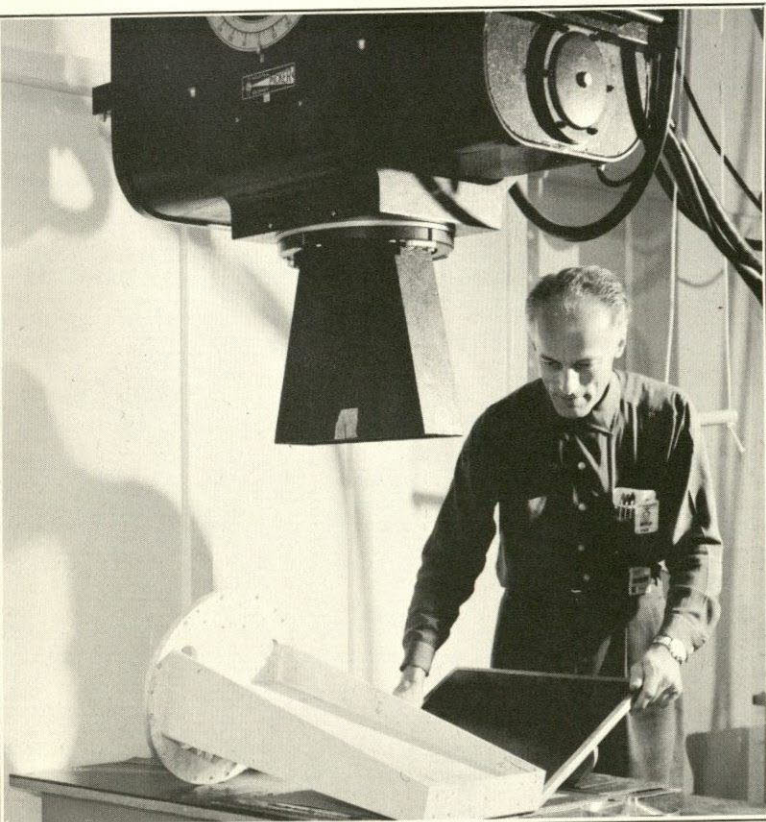
Each month, several hundred persons move into Greater Orlando and discover that an area wonderful for a vacation is even better for year-around living. The same things that lure vacationers—mild climate (average temperatures—61 winter, 81 summer); excellent health, recreational, and educational facilities; plus pleasant surroundings—also serve to attract permanent residents.



ENVIRONMENT

So complete is this defense-oriented complex that the engineer or scientist rarely has to leave the grounds for any type of support service. Whether it be environmental testing, computer services, materials evaluation, prototype models, technical information, report production, or the more personal services such as a late dinner or a passport photo...he will find modern, up-to-date facilities within the Martin Company's Orlando Division.





IN-PLANT ENGINEERING SERVICES

Art Services
Chemistry Laboratory
Computer Laboratory (analog & digital)
Dynamics Laboratory
Environmental Laboratories
Editorial Services
Inertial Guidance Laboratory
Library
Manufacturing Laboratories
Materials Laboratories
Microwave Laboratory
Model Shop
Motion Picture Services
Pilot Manufacturing Facility
Photographic Laboratory
Printing Plant
Prototype Laboratories
Quality Test Laboratories
Research Laboratories
Technical Information Center
Thin Film Laboratory
Standards Laboratory
Structures Laboratory
X-Ray Laboratory

BUILDUP

Planned Program Diversity

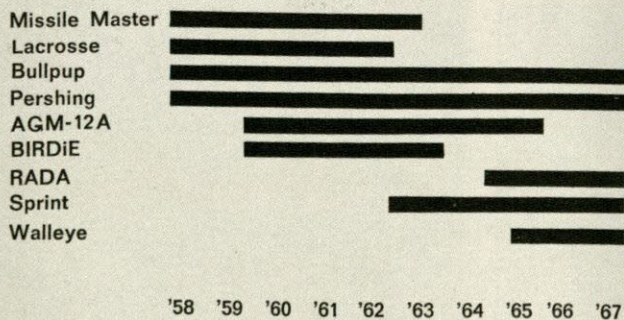
Florida Firm Nation's Top Tactical Missile Producer

The Orlando Division of Martin Marietta's aerospace operations is not only the largest producer of tactical missiles, it also has the reputation for producing the most reliable missiles in the industry—a combination hard to beat.

Now in its ninth year of operation, the Division has produced well over \$1 billion worth of defense hardware including the MISSILE MASTER and BIRDIE air

defense systems, the Army's PERSHING, LACROSSE and SPRINT missile systems, the Navy's BULLPUP missile system and the Air Force's AGM-12A missile system. Winning the contract for the Navy's WALLEYE air-to-surface weapon system, plus other current and projected business indicate continued strong engineering and manufacturing activity through 1970.

CURRENT AND PROJECTED PROJECT ACTIVITY



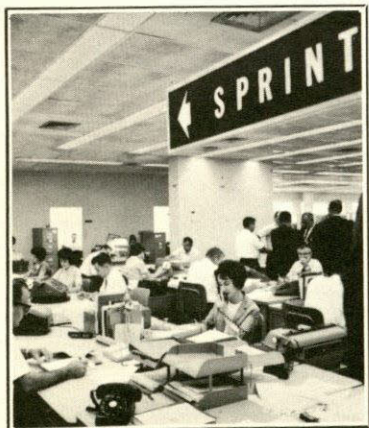
SPRINT PROGRAM

The Army approved selection of Martin-Marietta Corporation as development contractor for the SPRINT missile, planned as a major component of the Army's NIKE-X anti-missile system. Work on SPRINT will be done at Martin's Orlando, Florida, plant.

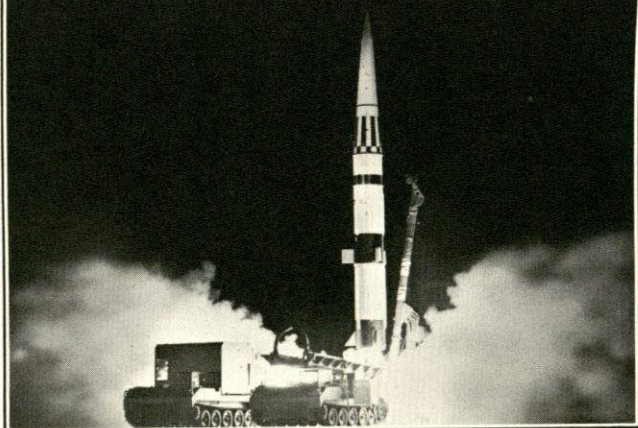
Martin-Marietta joined the NIKE-X development team as subcontractor to Bell Telephone Laboratories which has responsibility for system design and development.

The decision to develop the SPRINT missile was announced in January 1963 by Secretary of Defense, Robert S. McNamara, who indicated that the NIKE-X system would incorporate the SPRINT missile, advanced radars, and components of the current ZEUS system.

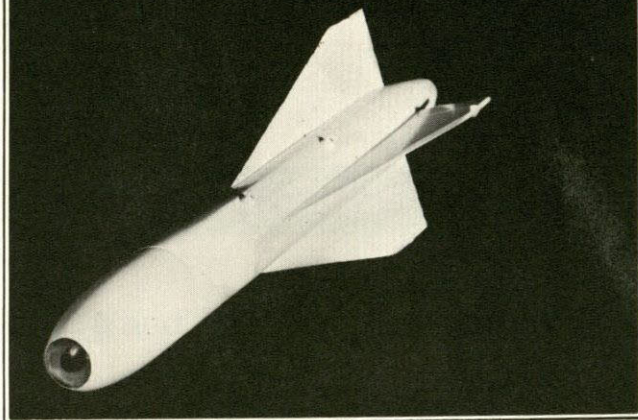
A major feature of the SPRINT design is the emphasis placed on extreme acceleration characteristics enabling the SPRINT missile to reach intercept altitude in less time than the current ZEUS missile, which, with its 450,000 pound thrust first stage booster, is already the fastest air defense missile developed in the Free World.



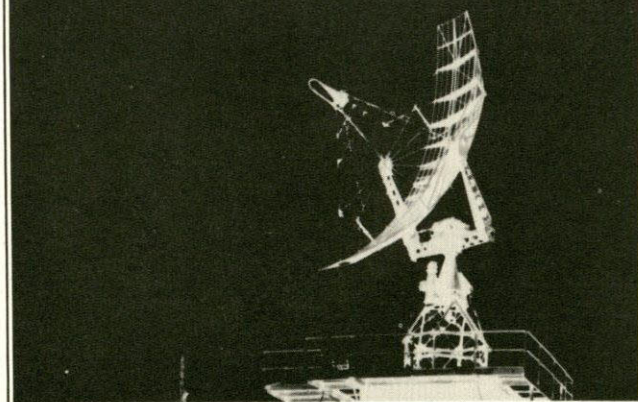
PERSHING PROGRAM



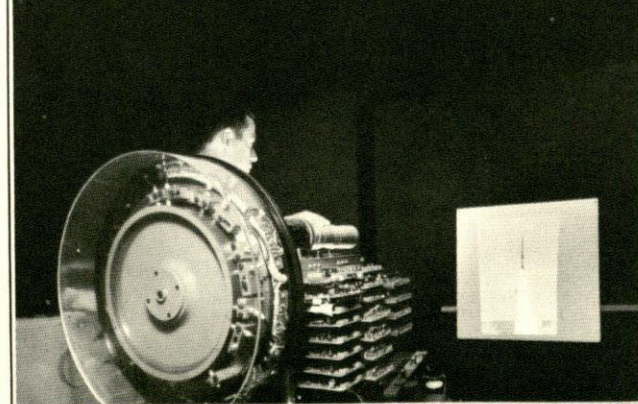
ASM PROGRAMS



GENERAL PROGRAMS



ADVANCED PROGRAMS



Designed, developed and produced at the Orlando Division, this highly reliable system is now in the field with artillery units of the U. S. Army. Though it already features the finest launch record of any missile tested at Cape Canaveral, Martin Orlando engineers continue to conduct design and study efforts to improve reliability, reduce costs and develop advanced

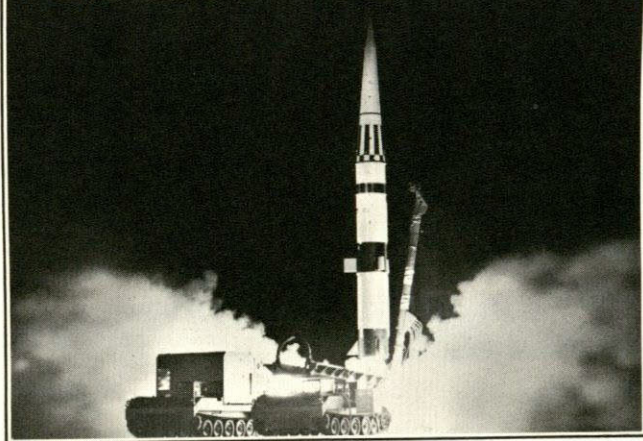
This program division is responsible for producing WALLEYE, a self-guided air-to-surface weapon system for the Navy and Air Force. Martin will produce both qualification and operational weapons. The glide weapon, designed by the Navy for use against tactical targets, provides the pilot with "launch and leave" capability since he can take any necessary evasive

This program area encompasses a wide range of communications, command and control activity. Of prime importance are development programs and studies currently being conducted in communication systems. One such project is RADA (Random Access Discrete Address) which Martin is now developing for the Army. RADA is a portable tactical communication system in which voice, teletype, facsimile and data transmission and reception can be handled simultaneously on narrow-band frequencies. All the capabilities of

Tomorrow's business is the business of today at the Orlando Division. Current new product activity is divided into seven departments within Advanced Programs — Aerospace Defense, Tactical Missiles (air-to-surface), Tactical Missiles (surface-to-surface), Command and Control, Communications, Exploratory New Business, and New Concepts. The first five study new business possibilities for existing program areas — the

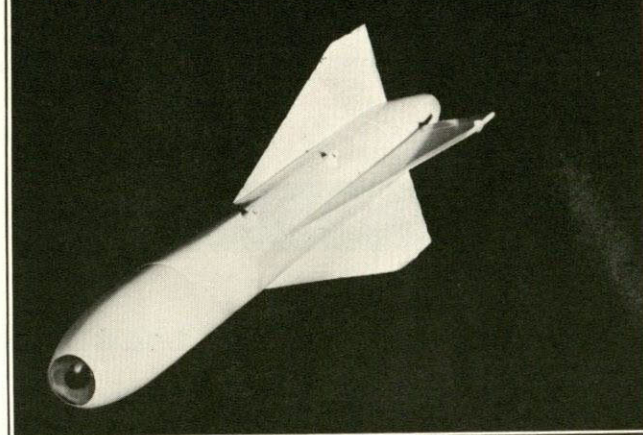
systems components. Current tasks include: range variation projects, advanced human factors studies, field testing, maintainability investigations and many others. The system is also under study for non-tactical uses including its possible service as a low-cost space booster. PERSHING is currently Martin Orlando's largest engineering program.

PERSHING PROGRAM



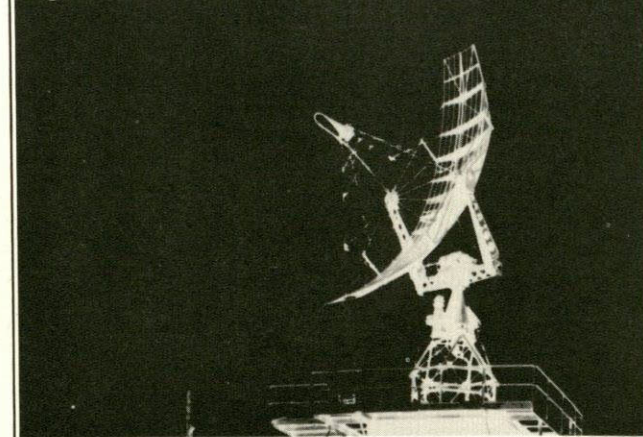
action after launch. A television monitor in the cockpit permits the pilot to lock the weapon on target, and a self-guidance system directs it. The electric and hydraulic power to operate the controls and guidance system are provided by a ram-air turbine. All new ASM projects and all small tactical missile programs contracted by the Orlando Division come under this program area.

ASM PROGRAMS



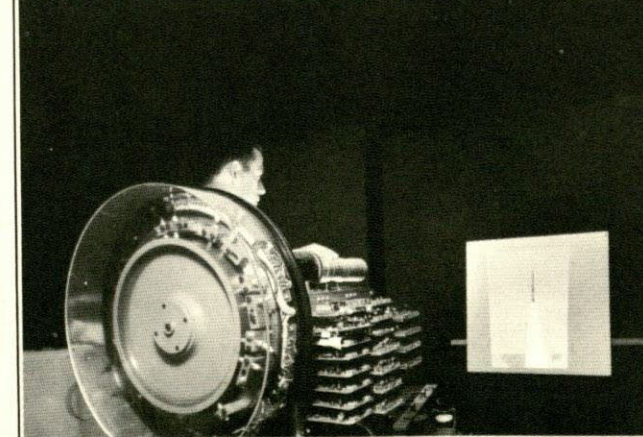
a dial telephone system, but without the need for fixed switching centers or wire-laying, can be provided by RADA. Martin's operational and highly reliable BIRDIE and MISSILE MASTER air defense systems are products of General Programs. Production of transmitters, ground-handling equipment, TV trainers, test equipment and other aircraft-mounted electronic components for the Navy's BULLPUP weapon system are responsibilities of General Programs.

GENERAL PROGRAMS



sixth and seventh investigate new areas not included in the Division's current program organization. Current product studies include: planet defense, satellite intercept, satellite communications, multi-service land based missiles, training missiles, tropo communications, satellite defense, BW-CW delivery systems, air defense suppression missiles, and many others.

ADVANCED PROGRAMS



ORGANIZATION

Project/Functional Engineering

The Orlando Division's engineering community is organized along project/functional lines. From a systems engineering viewpoint, this type of organization provides the best of two worlds.

The project organization exercises tight systems control and directs design, development and production phases of the program — conversely, the functional organization provides the technical manpower and specific engineering skills essential to maintaining the performance level our customer demands. Coordinating this delicate balance of project operation and technical function is one of the most experienced and successful management teams in American industry.

MANAGEMENT

This project/functional organization gives the Martin engineer two avenues for professional advancement. Through the functional organization, the engineer has the advantage of remaining in his own environment (or technical home) while finding the opportunity to work on a wide array of program tasks. When he completes a task on one project, he moves on to apply his improved skill to a new task—either on the same project or an entirely different one. If the engineer prefers the program-management side of the Division's organization, he will find equal opportunity for growth and development on any one of the five program staffs.

SPRINT PROGRAM

PERSHING PROGRAM

ASM PROGRAMS

GENERAL PROGRAMS

ADVANCED PROGRAMS



Research

Structures & Mechanical Sciences
Aerosciences
Electromagnetic Sciences
Physical Sciences
Information Sciences
Material Sciences

Advanced Systems Engineering

Air-to-surface Weapons Systems
Surface-to-surface Weapons Systems
Aerospace Defense Systems
Command & Control Systems
Communications Systems
Operations Analysis
Systems Applications

Design and Development

Electromagnetics
Electronics
Structures & Mechanics
Aerothermodynamics
Guidance & Control
Documentation
Presentations

Reliability, Test and Evaluation

Mechanical Laboratory
Electronics Laboratory
Materials Laboratory
Program Reliability, Test & Evaluation
Reliability & Test
Engineering Laboratory

Logistics Support

Program Support
Logistic Technology
Field Operations
Publications
Material Support
Maintenance Engineering

RESEARCH

Defining the Technologies

5/18/63



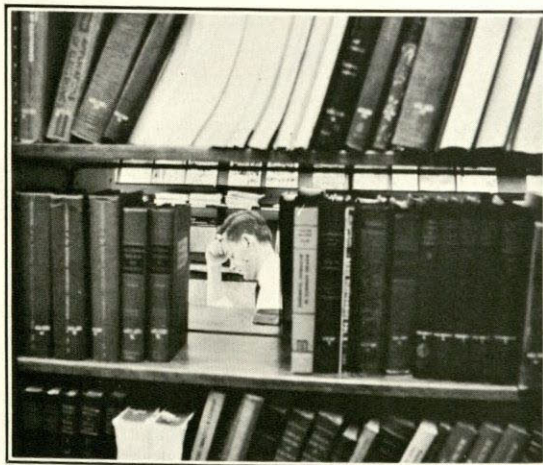
New Research Center Opens

ORLANDO, Fla. — The traditional silver ground-breaking shovel slipped into antiquity yesterday. Space-age technology was called upon to turn the first earth for Martin-Orlando's new \$2½ million research center. A detonation triggered by bouncing a laser beam off a water tower lifted the earth to symbolize the start of construction.

In opening remarks, John Butterfield, Executive Director of Technical Operations, said that the Martin Center will contribute to the proposed extension of the university graduate level technical school in east central Florida.

Martin Orlando's aggressive general manager, G. T. Willey, further stated that without research, industry cannot survive. "This increased emphasis on research reflects a significant trend in Martin-Marietta corporate philosophy."

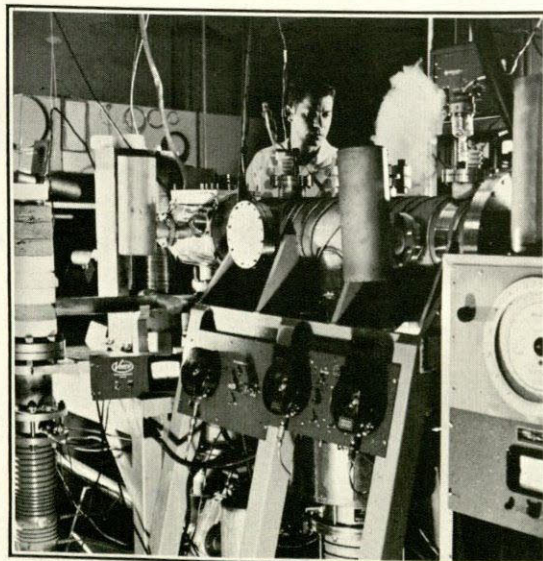
Martin Orlando research is directed at assigned and potential new product areas. Like other technical functions within the Division, Research serves all program areas. But, by the very nature of its scientific services, the greater part of these activities is in support of the Orlando Division's new business objectives. Examples of this long-range technological backup include the development of a programable vector computer, laser ranging devices, new materials for hypervelocity vehicle development, new circuit cooling crystals for thin-film circuits, and a host of other devices and techniques applicable to the Division's five program areas.

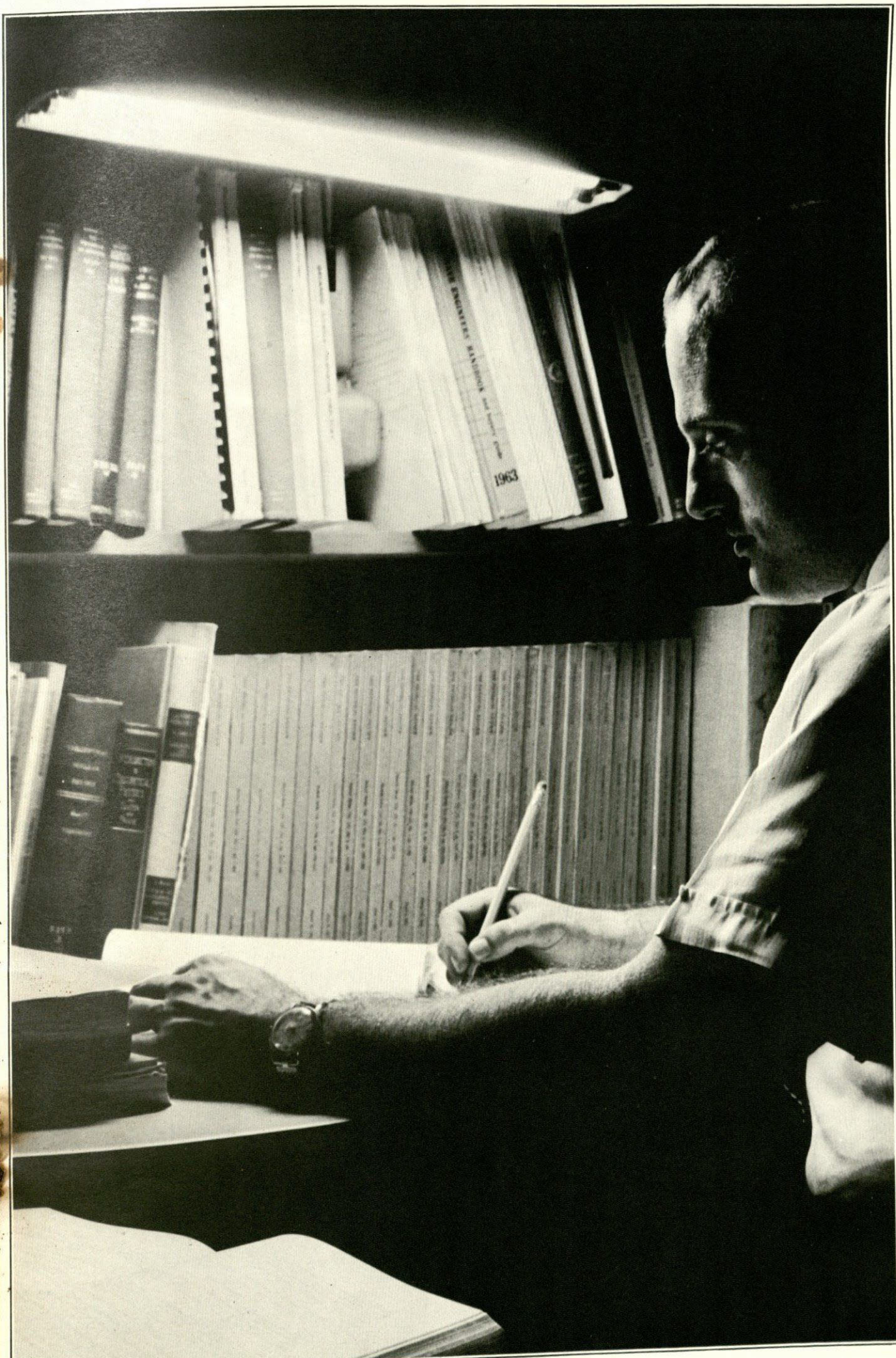


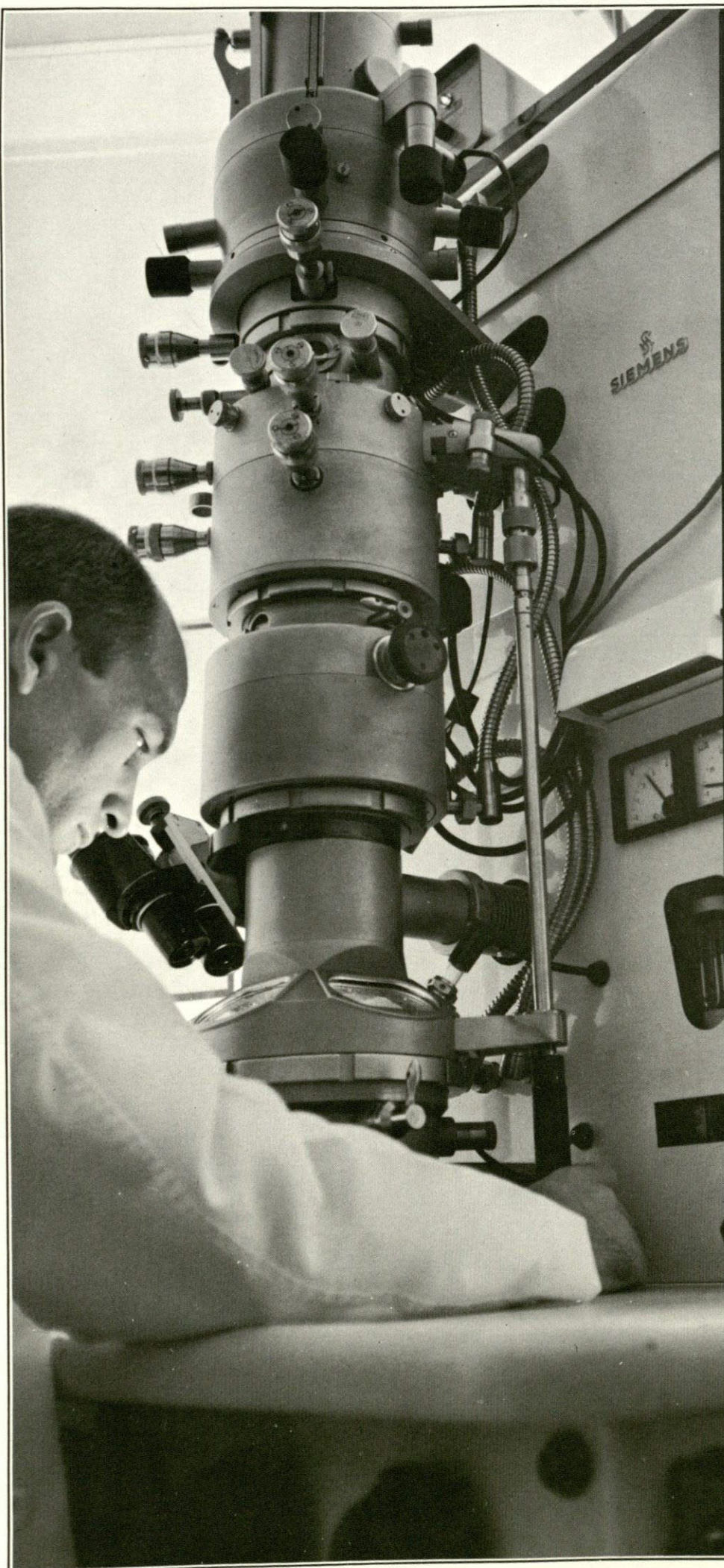
Comprehensive engineering library with staff of seventeen offers wide range of research services.

High-resolution radar and special antenna techniques are under study by the electromagnetics staff.

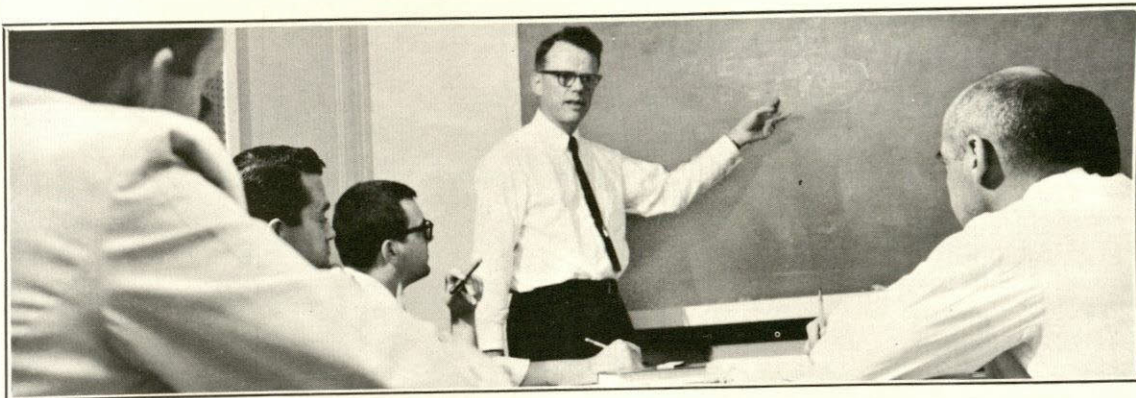
Contracted maser studies include this Army-funded, molecular beam device.



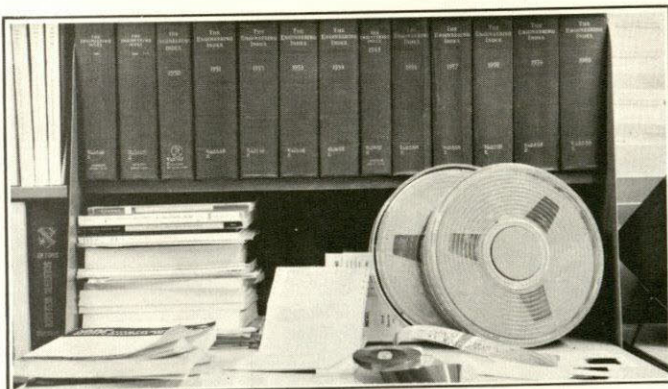




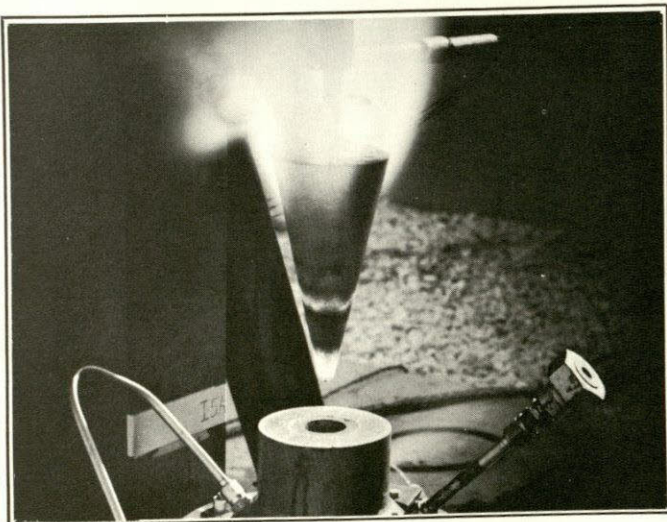
Electron microscopy — used extensively in detection of image imperfections in crystalline materials and physical defects in non-crystalline materials. This electron microscope, one of two in the State of Florida, is capable of resolving imperfections no larger than 10 Angstroms.



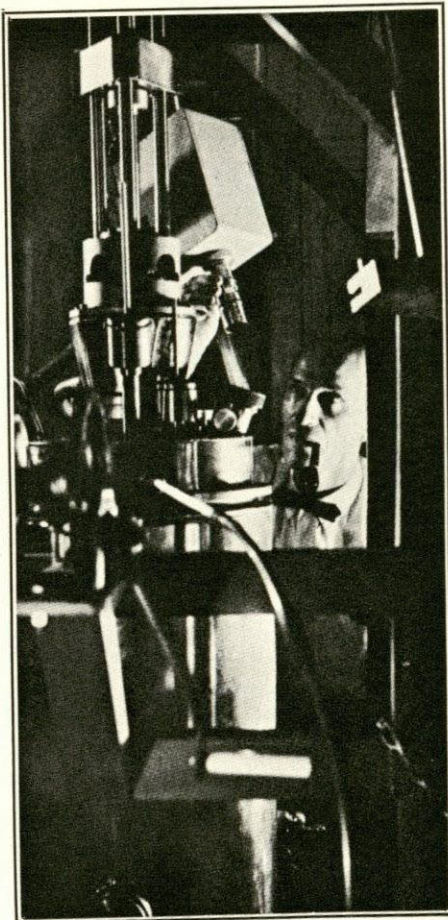
Graduate Studies—
masters degrees
in physics and
engineering available
at near-by colleges
and universities.



Technical Information
Center—provides high-
speed information
retrieval on topical
articles, technical
papers, professional
journals, and
engineering reports.



Materials research—
advanced studies
are conducted on heat-
and blast-resistant
materials.



Crystallography — re-
search staff is currently
creating new materials
in support of thin-film
and optical maser proj-
ects.

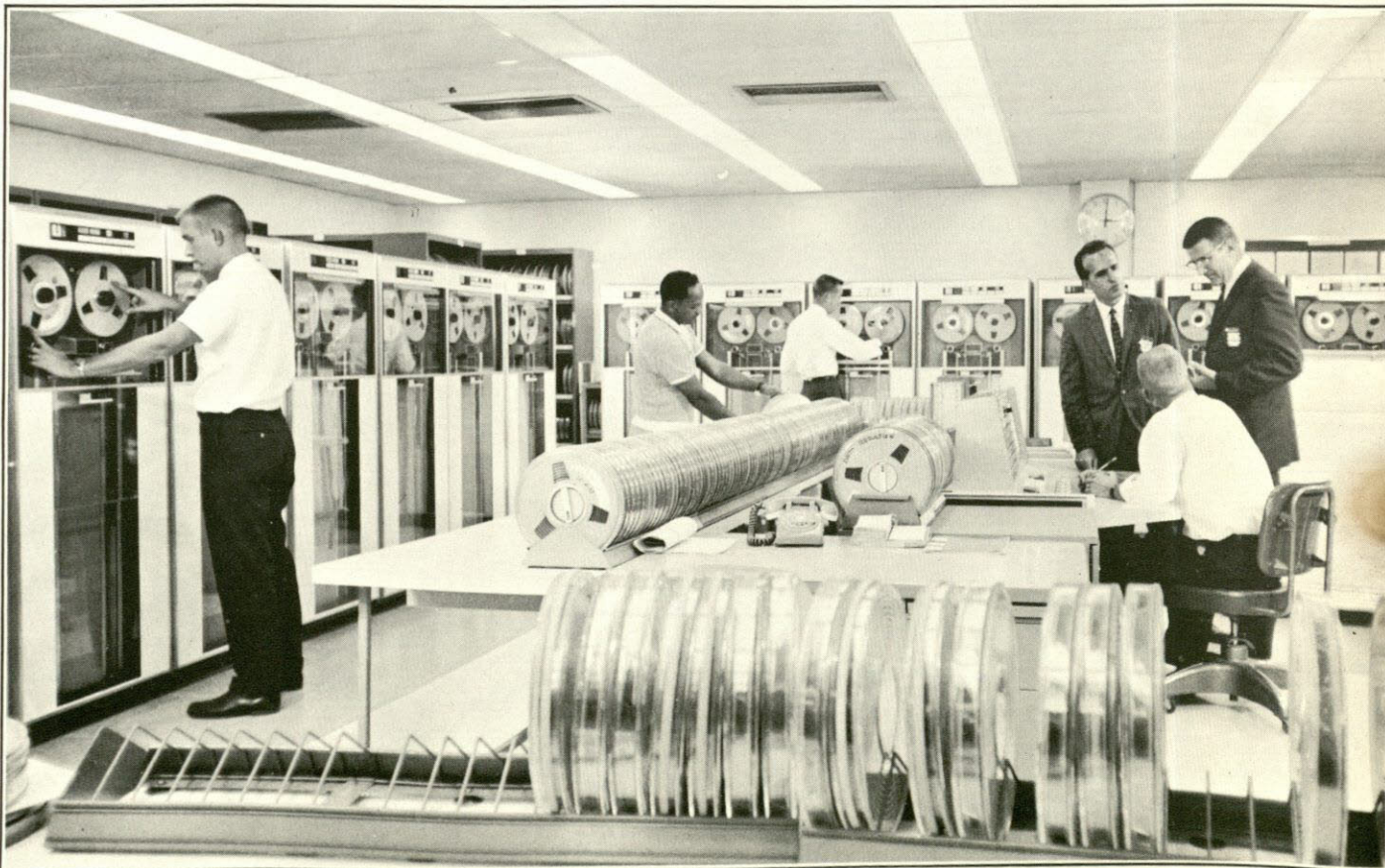
Current research studies cover a wide range of government and company-funded projects in such areas as fluid dynamics, structural mechanics, kill mechanisms, materials, physical chemistry, physics, electromagnetic sensors, information sciences, and micro-electronics. In all, over 150 research programs are active at this time.

ENGINEERING

Applying the Skills



The largest engineering staff at Martin Orlando is found within the Design and Development function. This group, along with Advanced Systems Engineering; Reliability, Test, and Evaluation; and Logistics Support, make up the balance of the Division's functional organization. This combined effort represents the almost unlimited pool of technical talent and services assigned to the Orlando Division's program areas.



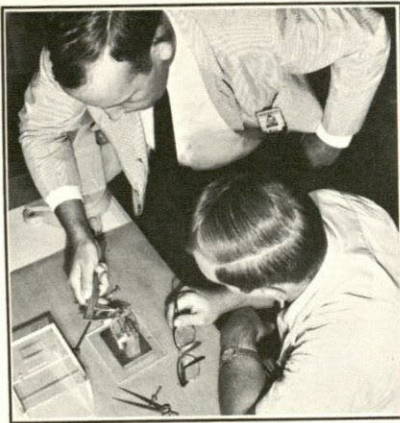
One of the country's most complete scientific computer centers services all Division engineering functions. Equipment includes—IBM 7094, 7074, 1400 series and GEDA.

Two rf darkrooms provide interference-free environments for antenna test on Orlando missile programs.





Special test studies of ceramics under extreme heat and pressure are conducted by Reliability and Test staff members.



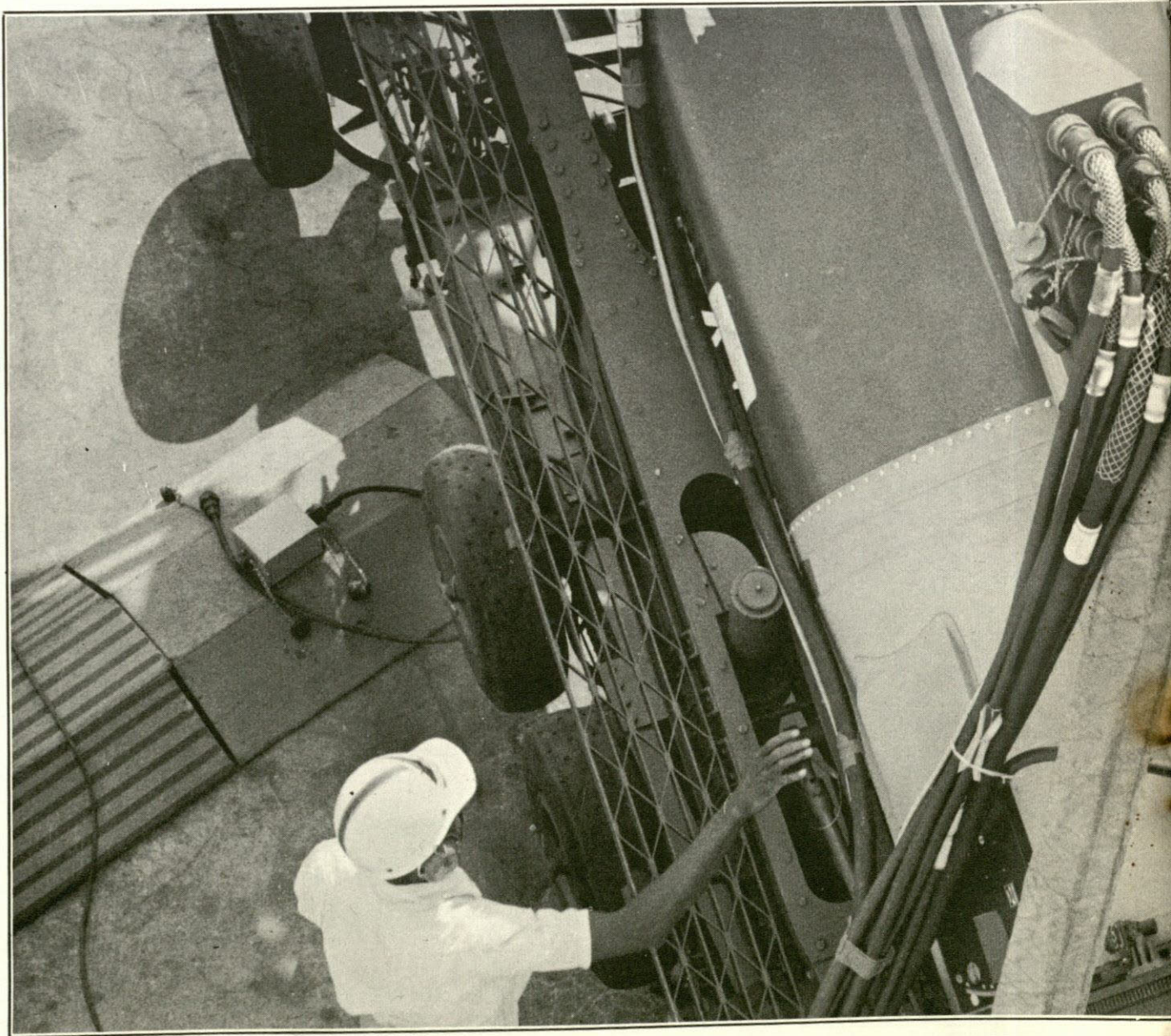
One of industry's largest, most versatile prototype laboratories provides comprehensive model engineering for the Orlando design engineer.

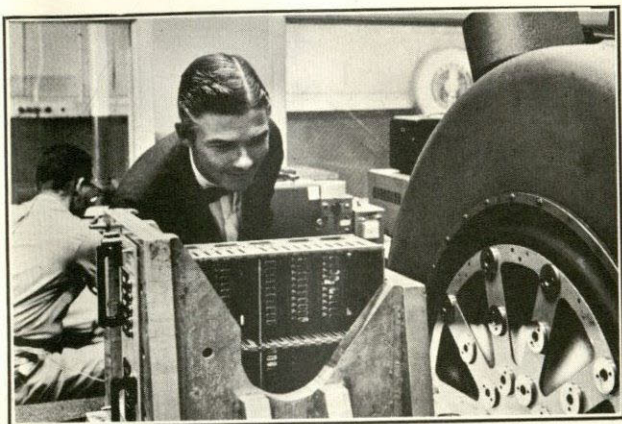


The RADA communications systems are being developed for a variety of applications.

ENGINEERING

All programs are provided tailor-made test and checkout facilities to assure that no quality or reliability factor is overlooked prior to delivery.



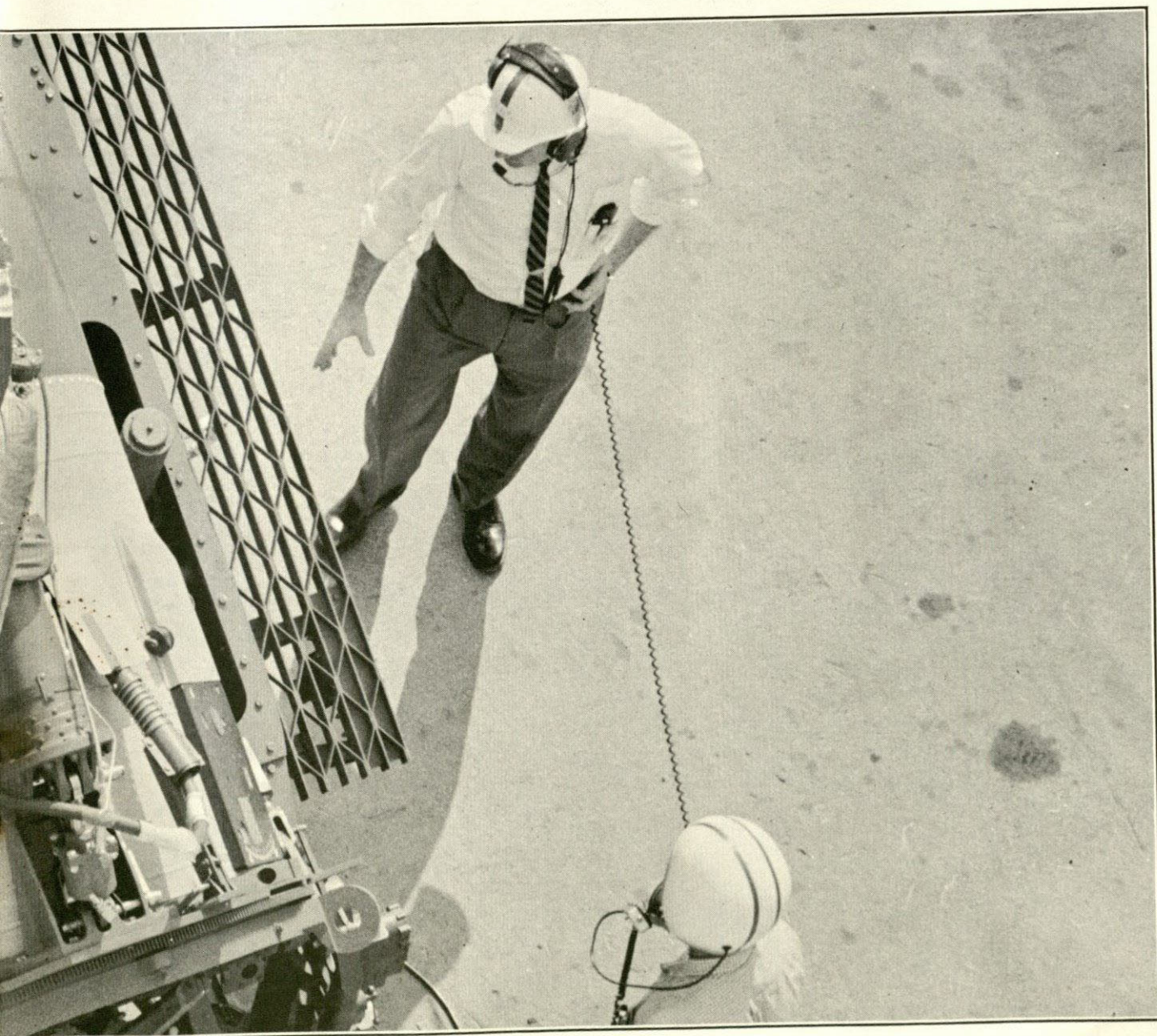


Structures and Dynamics Laboratories offer convenient vibration, shock and stress checkout on all Orlando-designed components.



Extensive human factors engineering is conducted by program teams working in close liaison with an experienced Logistics Support staff.

The list of skills and technologies covered by Engineering's functional organization is almost endless. Multiply this list by the Division's active project tasks and you find an almost overwhelming array of assignment possibilities for the Martin engineer. The photos on these pages present a sampling of these tasks and the extensive service and facility backup provided our professional staff.



ENGINEERING

1/25/66

President Describes Goal of Space University

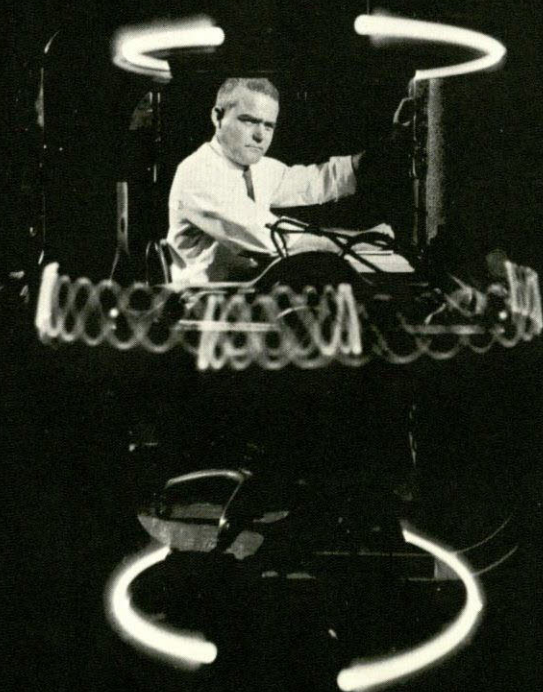
ORLANDO, Fla. — Dr. Charles N. Millican, president of the new state university to open near Orlando, said Monday "accent on the individual" will be the one basic philosophy of the school.

Addressing the Orlando Jaycees, he said, "We will be deeply concerned with every individual that comes to our campus."

He explained that actual construction of the new university will begin this fall or "no later than January" with an initial outlay of 6.9 million dollars.

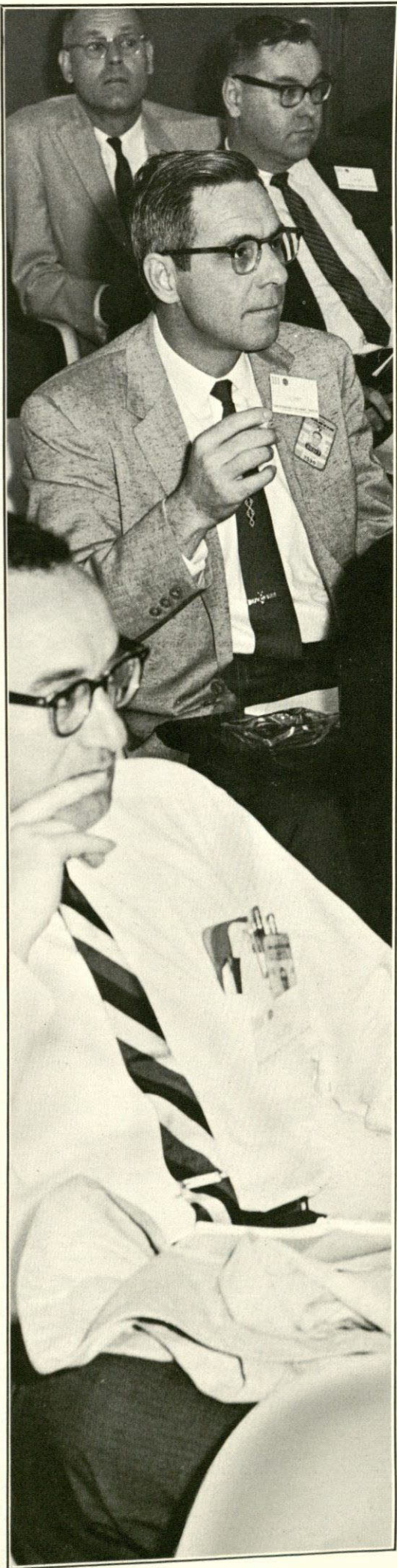
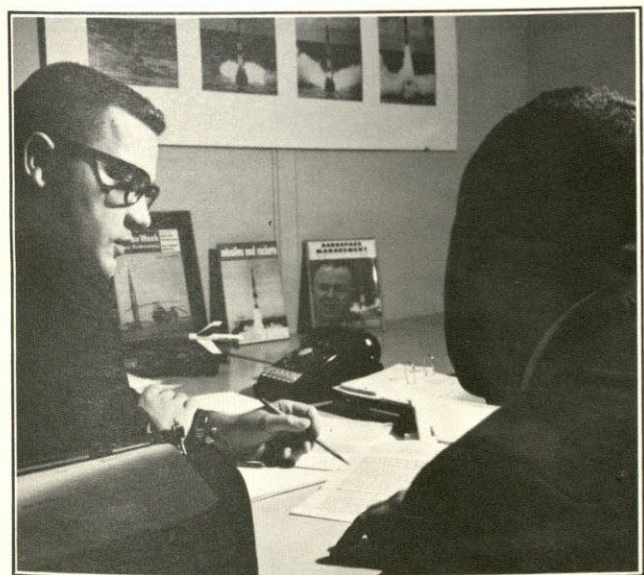
The campus will be arranged that the library be the center of the campus with all other buildings

The GEDA analog computer "flies" missiles before they leave Martin drawing boards.



The functional organization, with its stress on technical vitality, ensures rapid technological development for the Martin engineer. Extensive educational facilities support this growth. Almost one hundred engineering courses, from advanced radar principles to group theory, are conducted throughout the year by Martin Education and Management Development Department alone; and graduate level programs are offered through neighboring colleges and universities. Graduate degrees in Electronics Engineering, Physics, and Engineering Management are available in the Orlando area through Rollins College and University of Florida.

Activity in professional societies is encouraged. The Orlando Division sponsors (jointly or alone) dozens of technical seminars and symposia throughout the year. An active technical article program offers editorial as well as preparation and placement services to the contributing writer. Technical article and patent awards programs encourage individual initiative on the part of the Orlando engineer. In short, everything possible is done to ensure his technical and professional advancement.



- ☐ **Eight Major Contracts —** Walleye, Sprint, Pershing, Bullpup, AGM-12A, BIRDIE, Missile Master, RADA.

- ☐ **Diversity —** Missile Systems, Electronic Defense Systems, Communications Systems, Computer Sciences, Materials Development, Radar & Microwave Studies, Thin Film & Micro Packaging and many others.

- ☐ **Laboratory Facilities —** Environmental, Microwave, Structures, Materials, Manufacturing, Quality, Standards, Chemistry, Crystallography, Laser & Maser, Guidance & Control, Computer, Microminiaturization, X-ray & Photo, Dynamics, Thin-Film, Prototype, Electronic, Communications, etc.

- ☐ **Facility —** A \$28 million company-owned facility housing over 8,000 employees. Current expansion includes: \$2½ million Research Center and new 99,000 sq. ft. Engineering Center.

INVITATION

We hope this brief survey has given you a better understanding of Martin's Orlando Division, its growth picture, its organization, and its people. Some of the more salient points have been repeated in the borders to the right and left. Run through them, and if you still find that some area has been overlooked, drop us a line and we will be happy to expand on the point in question.

If you feel that you can qualify for a position on Martin Orlando's professional staff, and wish to investigate specific openings, send a brief resumé including your principal areas of interest to: Director of Professional Staffing, Martin Company, Orlando 1, Florida 32805

Current openings include...

AERO

Stability and Control Analysis
Trajectory Analysis
Air Loads
Experimental Aero
Hypersonic Aero Research

THERMODYNAMICS

Aero-thermo Studies
Heat Transfer Research

STRUCTURES

Structural Dynamics
Stress Analysis
Weights
Structural Methods
Missile Structural Design
Advanced Structures Analysis
Structural Materials
(ablative, ceramic, etc.)

PROPULSION

Propellant Chemistry
Gas Dynamics
System Design

COMPUTER SCIENCES

Logic Design
Analog and Digital Circuit Design
General and Special Purpose Programming
Peripheral Equipment Concept and Design
Software Development

ELECTRONICS

Guidance and Control
Command and Control
Displays
Communications
Radar Systems
Infra-red
Instrumentation

OTHER

Applied Mechanics
Design Integration
Environmental Engineering
Human Factors
Missile Flight Test and Checkout
Missile Launch Complex Design
Model Engineering
Operations Research
Ordnance/Explosive Devices
Physical Sciences Research
Pneumatic/Hydro-Mechanical Controls
Proposal Writers/Editors
Reliability Engineering
Systems Engineering

☐ **Technical Information**—Technical Information Center and Library services offer extensive backup on technical activities.

☐ **Recognition**—Complete Technical Article services provided for engineering staff. Active Article and Patent Awards Programs.

☐ **Education**—Company sponsored Education Program extending to Area colleges and universities. University of Fla. to open Graduate Engineering School in immediate area.

☐ **Project / Functional Organization**—Ensures technical development, a variety of task opportunities, and open avenues for advancement.

☐ **Company Benefits**—Company Paid Retirement and Health Plans, Group Life Insurance, Housing Coordinator, Relocation Assistance, and others.