

Marshall Star

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NASA George C. Marshall Space Flight Center — Huntsville, Alabama

October 4, 1961



BREAK GROUND—Dr. Wernher von Braun (left), MSFC director, teams up with Sen. Robert S. Kerr, chairman of the Senate Committee on Aeronautical and Space Sciences, to break ground for MSFC's new Central Laboratory and Office Facility. The brief ground-breaking ceremony was held Saturday morning.

FOR CENTRAL LAB, OFFICE FACILITY

Kerr Joins von Braun in Ground Breaking Ceremony

Senator Robert S. Kerr, chairman of the Senate Committee on Aeronautical and Space Sciences, teamed up Saturday with Dr. Wernher von Braun, MSFC director, in breaking ground for the Center's new Central Laboratory and Office Facility.

The brief ceremony, which took place north of present Marshall facilities near Huntsville, was attended by some 50 Washington, Huntsville and Marshall Center officials. A chrome-plated spade, used by Sen. Kerr in the ground-breaking, was presented to him as a memento of the occasion by Dr. von Braun.

\$4 Million Building

The nine-story, \$4 million building, to house 1,200 engineering and administrative personnel, is scheduled to be completed in the fall of 1962.

In addition to the ground-breaking, Sen. Kerr and his party were briefed Friday night and Saturday morning by Dr. von Braun on

the Saturn rocket program and toured Saturn development facilities at Marshall Saturday.

Others Present

Accompanying Sen. Kerr were: D. A. McGee, president, Kerr and McGee Oil Industries, Inc.; Everard H. Smith, Jr., chief counsel, William A. Reynolds, professional staff member and Miss Rhea Bowman, secretary of the Senate Committee on Aeronautical and Space Sciences.

Abraham Hyatt, director of NASA's Office of Program Planning and Evaluation; O. B. Lloyd, director. (See KERR on Page 4)

13 MSFC Employees Will Participate in ARS 'Space Report'

Thirteen persons from the Marshall Center, including Director Wernher von Braun, will participate in the American Rocket Society's "Space Flight Report to the Nation" in New York next week, Oct. 9-15.

Dr. von Braun is chairman of the ARS Space Flight Report to the Nation Committee and will participate in a discussion before the Society on "The US and USSR Space Programs: A Critical Evaluation," Oct. 12 at 7:30 p.m.

In Coliseum

The ARS function, which will include an Astronomical Exposition and meetings of a number of (See REPORT on Page 2)

Aerodynamics Group Meeting at MSFC

Twenty-three members of the NASA Research Advisory Committee on Missile and Space Vehicle Aerodynamics are visiting the Marshall Center this week for the committee's regular bi-annual meeting.

The group is headed by Dr. H. Guyford Stever, committee chairman and professor of aeronautics and astronautics at the Massachusetts Institute of Technology, Cambridge, Mass.

Host for the two-day meeting which opened yesterday is Dr. Ernst Geissler, head of MSFC's Aeroballistics Division and a committee member.

Three Fold Purpose

The Research Advisory Committee on Missile and Space Vehicle Aerodynamics was organized by NASA with a threefold purpose: to conduct research on problems related to reentry heating, lift and drag, stability, deceleration, trajectory control and recovery of satellites and other spacecraft; to (See GROUP on Page 3)

More Than \$40,000 Given In MSFC UGF Fund Drive

Nine Offices Pledge Over Their Quotas

At the close of the second week in MSFC's UGF drive, a total of \$40,294.45 had been collected, marking 54 per cent of the Center's goal in the 1961 effort, reports L. G. Jackson, UGF finance and reports chairman.

Of this amount, \$35,190.35 was designated for the Madison County-Huntsville UGF campaign; \$5,104.10 was designated for other agencies.

Considering pledges as well as amounts actually collected, the Center had raised \$57,700.31—77 per cent of its goal.

65% Participation

Overall participation, including pledges, now stands at 65 per cent, or 3,490 employees. Of these 3,490 employees, 51 per cent were fair share givers.

Nine Marshall offices and divi-

sions had pledged over 100 per cent in the fund drive. Largest among these was the Fabrication and Assembly Engineering Division, with 106 per cent of its quota pledged.

Smaller organizations pledging over 100 per cent included: Management Services Office, 101 per cent; Procurement and Contracts, 130 per cent; Technical Program Coordination Office, 116 per cent; Operations Analysis, 152 per cent; Office of the Director, 103 per cent; Future Projects Office, 161 per cent; Patent Counsel, 105 per cent; Industrial Relations Office, 113 per cent.

Percentages Collected

Considering funds actually collected, two offices have exceeded their quotas: Procurement and Contracts with 102 per cent, and Operations Analysis with 127 per (See DRIVE on Page 7)

Belgian Ambassador Slates MSFC Visit

The Honorable Monsieur Louis Scheyven, Belgian Ambassador to the United States will visit MSFC Friday.

Among those accompanying him during his visit will be Dr. L. Groven, scientific counselor; L. Steyaert, embassy counselor; Albert Tellier, counselor general; Lt. Col. Pierce Dethioux, commander, Belgian Nike Battalion, Ft. Bliss, Tex.; and Maj. Boudouil van Remoortere, assistant military attache, Belgian Embassy.

REPORT

(Continued From Page 1)
technical committees, will be held in the New York Coliseum.

Scientists and engineers from all over the country will participate in the meeting. They will come from private industry, colleges and universities, the military and NASA.

A list of other Marshall people scheduled to participate includes Dr. Ernst Stuhlinger, director of MSFC's Research Projects Division. Dr. Stuhlinger will moderate a panel discussion on "Electric Propulsion." This session is set for Oct. 9 at 7:30 p.m. He will also give a paper on "Long Range Programs of Electric Propulsion Development" before a session of Electric Propulsion Missions, Oct. 11 at 9 a.m.

Launch Operations

Dr. Kurt H. Debus, director of Launch Operations Directorate, will participate in a panel discussion Oct. 11 at 2:30 p.m. on Space Flight Report—the Vehicles. He will report on "Launch Operations."

Hermann Heinz Koelle, director of Marshall's Future Projects Office, will give a paper on Oct. 11 on "How Much Space Flight Can We Afford?" This report is set for a meeting on Missiles and Space Vehicles at 9 a.m.

K. K. Dannenberg, deputy director of the Saturn Systems Office, will give a "Development Report on Saturn" on the NASA Program Report, Oct. 12 at 9 a.m.

Dr. Ilmars Dalins, nuclear physicist in the Research Projects Division, will give a paper on "Basic Data on Surface Ionization and the Implications for Ion Generation in Cesium Ion Rockets." This is set for Oct. 9 at 2:30 p.m. during the Electrostatic Thrust Generation session.

J. W. Keller, Research Projects Division, will give a paper on "Uncertainties in Space Radiation Shielding Calculations" before a session on the Human Factors and Bioastronautics, Oct. 10 at 2:30 p.m.

Julian S. Hamilton, Launch Operations Directorate, will give a paper on "Large Booster Recovery Techniques," Oct. 9 at 9 a.m. during a meeting on Logistics and Operational Problems of Very Large Booster Systems.

Five persons from Marshall's Structures and Mechanics Division will participate:

Dr. Helmut Krause and Rowland E. Burns will have papers

DALEY DESCRIBES WELDING PROCESS AT AWS MEETING

A technical paper on an automatic fusion spot welding process now under development here was reportedly "well received" at the fall meeting of the American Welding Society in Dallas, Tex. last week.

The paper, "High-Quality Aluminum Gas-Metal-Arc-Spot Welding for Launch Space Vehicle Applications," was presented by D. M. Daley, Fabrication and Assembly Engineering Division. It described the "MIG" process developed here in the F&AE Division around basic concepts first formulated by William M. McCampbell and James C. McCaig.

The process has been under study by McCampbell and McCaig for about two years. Patents have been applied for and plans are now to use the process on new aluminum alloys in future generation Saturns.

McCampbell is chief of the Electronic Controls and Automation Unit and McCaig is in the Methods Research and Development Branch of F&AE.

given during a session on Astrodynamics, Oct. 9 at 2:30 p.m. Dr. Krause's paper is entitled "General Theory of Multistep Rockets and Performance Theory of an N-Stage Satellite Carrier With a Specific Turning Program."

Burns's paper is entitled "Correlative Survey Report on Powered Flight Trajectory Optimization Including an Extensive Critical Bibliography."

Rodney Stewart will participate in the ARS Section Management Forum, Oct. 9, at 9 a.m.

W. H. Straly will give a paper on "Utilizing the Chasing Technique in Rendezvous" before the Post Injection Guidance Considerations meeting, Oct. 13 at 9 a.m.

Robert Gay Voss will give a paper on "Vehicle Recovery and Reuse" at a meeting on Missiles and Space Vehicles, Oct. 10 at 9 a.m.

SIDEREAL. A measurement of time. A sidereal day, for example, is the time it takes the earth to make a complete revolution measured from the stars. A sidereal day is four minutes shorter than our day (which is called a solar day).



FASTENERS FOR SPACECRAFT—A group of industry representatives visited the Marshall Center last week for a one-day conference on procurement, manufacture and quality control requirements necessary to obtain premium quality fasteners for spacecraft use. During the session they met with Sonny Mitchell (at head of table on right) of Quality Division, and Roy Hill (at head of table on left) of Procurement and Contracts Office. A joint effort supported by Mitchell, Hill and Tom McCullough of Structures and Mechanics Division, the meeting was held for the purpose of improving the quality of fasteners in use at MSFC.

Carnegie Course Set in Huntsville

A "Dale Carnegie Course" will be taught in Huntsville beginning next Wednesday night with a free demonstration period, James Dowdy, MSFC Training chief, has announced.

The class will meet one night

each week for 14 weeks. The demonstration session will be held Oct. 11 at 6:30 p.m. at the Sahara Motel. Classes are limited to 44 persons.

For more information, Dowdy states, contact Joe Steeley at 539-7411. The MSFC Training Section is a part of the Personnel Branch of the Management Services Office.



RIFT REVIEW — Representatives from the Martin Company, Lockheed Missiles and Space Co., Douglas Aircraft Corp., and General Dynamics Astronautics Division met with W. Scott Fellows, head of MSFC's Nuclear Vehicle Projects Office, last week for a review of progress in the RIFT program. All four companies are conducting RIFT design studies under the contract with MSFC. In addition, the Martin Co. representatives—Dr. W. T. Whitson, Dr. C. Kober and W. Savage—toured MSFC facilities. Shown in front of the Saturn booster in the Fabrication and Assembly Engineering Division are, left to right: Savage, director of nuclear studies, Baltimore, Md.; Fellows; Dr. Kober, director of advanced programs, Denver, Colo., and Dr. Whitson, vice president, Denver. The RIFT (Reactor-In-Flight-Test) vehicle is a planned nuclear upper stage for Saturn-class vehicles.

The MARSHALL ★ STAR

The Marshall Star is published every Wednesday by the Public Information Office at the George C. Marshall Space Flight Center, National Aeronautics and Space Administration.

Contributions should be submitted not later than Friday noon to the MSFC Public Information Office (M-PIO), Bldg. 4488, ext. 876-1959 and include originator's name, connection with the center and telephone number.

The Marshall Star does not publish commercial advertising.

NASA Picks Atlas Agena B For 1962 Mariner Launch

NASA last week announced plans to launch a Mariner spacecraft on an Atlas Agena B rocket for a mid-1962 flight to the vicinity of Venus.

The mission will take advantage of the first opportunity for a Venus flight—when the earth and Venus are in the most favorable relative positions—and provide an early test of basic equipment which will be used in later interplanetary flights.

The Atlas Agena B rocket program is under direction of the Marshall Center. Prime systems contractor for the rocket is Lockheed Missiles and Space Co., Sunnyvale, Calif., which supplies Atlas Agena B's to NASA through the Air Force Systems Command.

A Centaur-launched Mariner probe had been scheduled for mid-1962. The change in launch vehicles is being made in the interest of increased reliability to be expected from the greater number of Atlas-Agena B rockets which will have been fired before the Venus flight.

The modified Mariner spacecraft to be launched on the Atlas-Agena B will weigh about 400 pounds.

Under study for inclusion in the probe are a fluxgate magnetometer to investigate magnetic fields in space; radiation experiments to detect and count energetic particles from the sun and from outside the

solar system; a micrometeoroid detector, and a radiometer to scan the surface of Venus for temperature distribution.

Von Braun to Visit Ala. Fair Tomorrow

Dr. Wernher von Braun, MSFC director, will visit MSFC's space exhibit at the Alabama State Fair in Birmingham tomorrow, marking his "day at the fair."

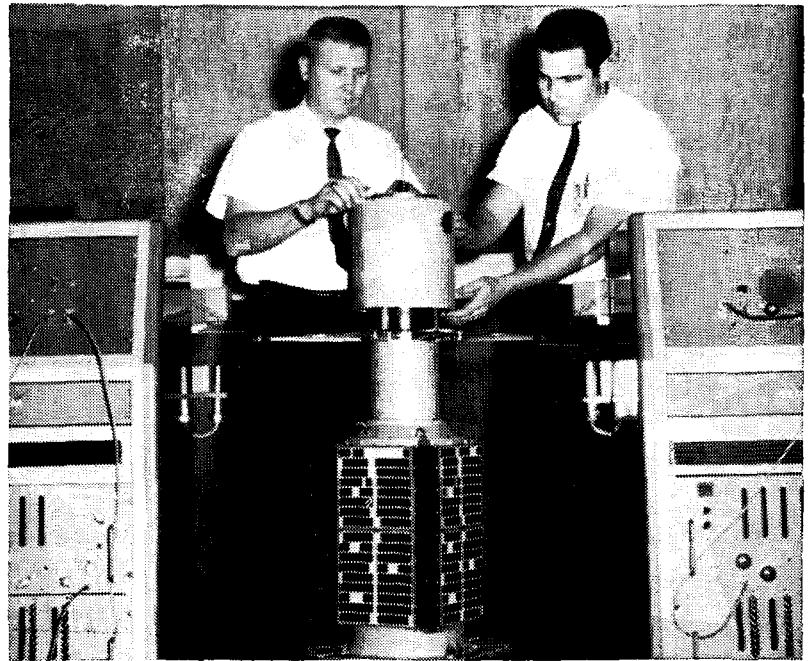
Planned around the theme "Man to the Moon," the MSFC exhibit depicts efforts of the Marshall Center to develop the launch vehicles that will one day carry man to the moon and the planets.

The fair opened Monday and will continue through Saturday.

MSFC displays include an array of satellites, a spacesuit and spacecraft, a rocket-guided gyroscope, and frictionless air bearings, as well as illustrations and precision built models that show just how a trip to the moon can be made.

A Mercury-Redstone rocket, complete with spacecraft, is located at the main gate.

Unfortunately, MSFC is unable to display its greatest home-built prize—the 162-foot Saturn rocket which is now on the pad at Cape Canaveral awaiting its first flight. However a one-tenth scale model of the Saturn—which is not so small itself—is on exhibit.



NOW SHOWING—Gene T. Carpenter (left), and Dan Meredith, Stability and Weight Section, Structures and Mechanics Division, make adjustments on an Explorer XI satellite which is being shown this week at the Marshall exhibit at the State Fair in Birmingham. The equipment at left and right determines how stable a satellite or spacecraft will be in orbit. The fair, which opened Monday, will run through Saturday.

JPL Translator Among Visitors

Visitors at MSFC last week included Joseph Zygielbaum, technical translator from NASA's Jet Propulsion Laboratory, who specializes in Russian translations.

Zygielbaum toured the Fabrication and Assembly Engineering and Test Divisions Wednesday.

On Tuesday, Col. Henry H. Rogers, commanding officer of the Photo Interpretation Center, Ft. Holabird, Baltimore, Md., accompanied by Major William R. Phillips and Robert U. Scott from the Army Ordnance Missile Command, toured F&AE and Test Divisions.

More than 30 attendees from a NATO Antitank Guidance Conference, including representatives from Canada, United Kingdom, Germany, France and Belgium, toured F&AE and Test Thursday afternoon.

Alan D. Sutherland, head of the Engineer Division of the Research and Development Department of Sperry Electronic Tube Division, Sperry Corporation, Gainesville, Fla., visited the Structures and Mechanics and Guidance and Control Divisions on Friday.

MARSHALL ☆ STAR

Suggestion Winners Take Home \$510 In Recent Awards

"The receipt, investigation, committee action and financial processing on suggestions turned in by MSFC employees takes time, but many employees have found the waiting period well worthwhile," reports James R. (Jim) Johnson, executive secretary of the Incentive Awards Committee, Personnel Branch, Management Services Office.

Recent awards, reports Johnson, have totaled \$510. These include:

Clyde T. Scott, G&C	\$ 25
Franklin B. Johnson, F&AE ..	\$ 25
John C. Darmer, OTS	\$ 35
LaVerne D. Goodwin, OMS	\$ 25
Billy J. Prosser, OTS	\$135
W. P. Richardson, QUAL	\$ 25
Maxine A. Parrish, F&AE	\$ 15
Leland A. Sanders, S&M	\$ 75
Hoyt Cordes, G&C	\$ 10
Theodore T. Bledsoe, G&C	\$ 55
William C. Musgrove, F&AE ..	\$ 15
Frank M. Harper, F&AE	\$ 15
Thurmon E. Yeager, QUAL	\$ 15
Talmage J. Pearson, F&AE	\$ 15

In addition, a \$25 award was shared by Gerald F. Gibbs and William E. Smith, co-suggestors

GROUP

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conduct research on aerodynamic heating, stability and control, performance and related problems of ballistic, anti-ballistic and other types of guided missiles; and to study aerodynamic problems of missiles, launch vehicles and space vehicles during launch and flight in the atmosphere.

Other Attendees

Others attending the meeting include: Ralph W. May, committee secretary, from the Office of Advanced Research Programs, NASA Headquarters, Washington, D. C.; Dr. Mac C. Adams, associate technical director with the Research and Development Division, Avco Corporation, Wilmington, Mass.; Prof. Seymour M. Bogdonoff, professor of aeronautical engineering and head of the Gas Dynamics Laboratory, Princeton University, Princeton, N. J.; K. J. Bossart, assistant to the vice president-engineering, General Dynamics, San Diego, Calif.; George S. Graff, assistant chief engineer, McDonnell Aircraft Corporation, St. Louis, Mo.

Robert B. Hildebrand, Dyna Soar staff engineer, Aero Space Division, Boeing Airplane Co., Seattle, Wash.; Maxwell W. Hunter, assistant chief engineer, Space Systems, Douglas Aircraft Co., Inc., Santa

from F&AE.

Johnson states that he is pleased with the increased participation in the awards program. "The next list of awards," he says, "will be larger and include those for inventions."

Monica, Calif.; Otto Klima Jr., manager, aerodynamics and space mechanics Missile and Space Vehicle Department, General Electric Co., Philadelphia, Pa.; Prof. Lester Lees, professor of aeronautics, California Institute of Technology, Pasadena, Calif.

Ronald Smelt, chief scientist, Missiles and Space Division, Lockheed Aircraft Corp., Sunnyvale, Calif.; Dr. George E. Solomon, director, Aeromechanics Laboratory, Space Technology Laboratories, Inc., Los Angeles, Calif.; James J. Fagan, chief advisor to Assistant Chief of Staff, Research and Development, Army Ordnance Missile Command, Redstone Arsenal, Ala.; Capt. Robert F. Freitag, Bureau of Naval Weapons, Department of the Navy, Washington.

Dr. R. E. Wilson, aeroballistics program chief, U. S. Naval Ordnance Laboratory, Silver Springs, Md.; Col. J. L. Martin Jr., Office of Missile and Satellite Systems, Office of Secretary of the Air Force, Department of the Air Force, Washington; William E. Lamar, chief, Dyna Soar Engineering Office, Directorate of Systems Engineering, Wright Air Development Division, Wright-Patterson Air Force Base, Ohio.

John Becker, NASA Langley Research Center, Langley Field, Va.; H. Julian Allen, NASA Ames Research Center, Moffett Field, Calif.; Eugene J. Manganiello, NASA Lewis Research Center, Cleveland, Ohio; Hubert M. Drake, NASA Flight Research Center, Edwards, Calif.; Harris H. Schurmeier, NASA Jet Propulsion Laboratory, Pasadena, Calif.; M. A. Faget, NASA Space Task Group, Langley Field.

S&M Bowling League Plays Each Tuesday

The S&M Men's Bowling League, made up primarily of employees from MSFC's Structures and Mechanics Division, began its season of play on September 19. The league bowls every Tuesday night at 8:30 at the Pin Palace in Huntsville.

League officials include Warren Straley of S&M's Future Projects Design Branch, president; Alex D'Agostino of S&M's Structures Branch, vice president; and Fred Bramm of S&M's Propulsion Mechanics Branch, secretary-treasurer.

Results of play as of September 26 are as follows:

Team	Won	Lost
General Precision, Inc.	8	0
Team No. 7	7	1
Catha's Toy & Hobby Center	7	1
Team No. 8	5	3
Southerland Blueprint	5	3
Team No. 4	4	4
Team No. 10	3½	4½
Friden Furies	3	5
Batts Apothecary	2	6
Team No. 1	2	6
Dusters	1	7
Howard Associates	½	7½

200 Games: Wayne Ivey; Cary Rutland.

KERR

(Continued From Page 1)
tor of NASA's Office of Public Information; Don McBride, special assistant to Senator Kerr; Jim Gehrig, special assistant to Sen. Stuart Symington of Missouri; Robert Donihi and Alton Frye, special assistants to Sen. Thomas J. Dodd of Connecticut, and Miss Carol Wilson, staff assistant to Sen. Styles Bridges of New Hampshire.

To Visit Other NASA Centers

The party was scheduled to be briefed at Redstone Arsenal by the Army Ordnance Missile Command on its Nike Zeus anti-missile missile system before departing to visit other NASA research facilities in California.

Also invited to attend the ground-breaking were nine members of the Marshall Center's Community Advisory Committee: Harry M. Rhett, Jr., Committee chairman; Huntsville Mayor R. B. Searcy; Sen. Dave Archer, Rep. Roscoe Roberts and Rep. Luke Reynolds of Madison County; Jack Giles, chairman of the Huntsville-Madison County Chamber of Commerce's Marshall Center Committee; Roy Stone, chairman, Madison County Board of Commissioners, and Will Halsey, president, Huntsville Industrial Expansion Committee.

REACTION ENGINE. An engine in which thrust is generated by expelling a stream of moving particles rearwards.

LOD, L&M Organize Strikes and Spares

A mixed bowling league, called the Strikes and Spares, composed primarily of MSFC employees from the Launch Operations Directorate and the Light and Medium Vehicles Office, is competing each Thursday night at 6 p.m. at the Plamor in Huntsville.

Dave Cramblitt of LOD is league president. Robert Moore, LOD is league vice-president, and Mrs. Kathlene Clark of L&M is league secretary-treasurer.

Teams in the league are to be named shortly. Results to date are as follows:

Team	Won	Lost
No. 4	13	3
No. 3	10	6
No. 1	10	6
No. 7	9	7
No. 2	7	9
No. 6	6	10
No. 8	5	11
No. 5	4	12

200 games (Sept. 28): G. Huffman, 220; F. Clark, 214; O. Sparkman, 202.

GYRO & STABILIZER BOWLING LEAGUE

September 28, 1961

Team	Won	Lost
Research	14	2
Calibrators	13	3
Pinnuts	12	4
AB-Fives	11	5
Astro-Space	8	8
Brownies	7	9
ABMA	7	9
Networks	7	9
Navigation	6	10
Demods	5	11
Bendix	4	12
Chrysler	2	14

200 Games: Ronnie Driver—234; Harry Reid—226; F. Edwards—211; Dale Dugal—201; Ken Yamashita—201; Erskine Marsh—200.

High Series (Scratch)—Ronnie Driver, 588.

Outstanding spare pick up—Vic Heilers, 6, 7, 10.

NASA MEN'S BOWLING LEAGUE

September 28, 1961

Team	Won	Lost
Ensor & Dunn Realty	12	4
Alley Cats	10	6
Eclipse Pioneers	10	6
Maulers	10	6
Murray Company	9	7
SPACO	9	7
FEB	7	9
Penhall National Homes	7	9
Tom Pogue	7	9
Hayes Corp.	6	10
AASLI	5	11
B. E. Jones Garage	4	12

High handicap series—Adcock, 721; high handicap single game—McGrady, 274; high scratch series—McGrady, 578; high scratch single game—McGrady, 255.

200 Games: Cobb, 208; Adcock, 204; Counts, 212.

Salute Goes to Secretary In FMO Accounting Branch

"Funds" and "finance" are everyday words to Mrs. Martha Marsh, secretary to the chief of the Accounting Branch in MSFC's Financial Management Office and recipient of this week's Star Salute.

The Branch's responsibilities include development, operation and

maintenance of the financial accounting system including maintenance of records and control of funds, preparation of financial reports and information, property accounting and payroll activities.

Wide Variety

Carrying out a wide variety of secretarial duties for the Branch, Martha prepares reports and correspondence, maintains files, and acts as control clerk for all mail received at her building.

In addition, she serves as alternate cashier for the Center, taking over cashier duties whenever the regular cashier is not available.

Books Must Balance

"When I perform this duty, Martha relates, I am accountable for the Center's operating funds—making cash payments and advances, and receiving all cash collections and effecting proper distribution of these funds. When the regular cashier returns, the books must balance."

A native of Huntsville, Martha was graduated from Huntsville High School and attended Florence State College at Florence, Ala. She began work at Huntsville in May, 1956, as a clerk general in the Fabrication and Assembly Engineering Division. In July, 1960, she assumed duties as secretary in the Accounting Branch.

Beta Sigma Phi

An active member of Beta Sigma Phi, an international business women's sorority, she is vice president of the Gamma Beta Chapter—one of four Huntsville chapters.

Martha is married to Norman F. Marsh Sr., a Brown Engineering Co., draftsman working under contract to MSFC's Launch Operations Directorate.

"Norman was a co-op student from Auburn when we met," Martha explains, "and he is now completing his studies at the University Center in Huntsville."

They reside at 2119 Lynn Circle in Huntsville and have one son, Norman Jr., who is two years old.

Bowling, Swimming

Both Norman and Martha enjoy bridge, bowling, and swimming, and both have participated in bowling leagues. "However we aren't league bowlers this year," Martha explains, "since Norman is taking courses at the University Center and chasing my son keeps me pretty busy."

The daughter of Mr. and Mrs. Bruce Patton of 213 Longwood Drive S. E. in Huntsville, Martha has three sisters: Mrs. Jimmy (Barbara) Chandler, who also works in the Financial Management Office; Mrs. Ronald (Linda) Henry, who is employed with the Control Office at the Army Ordnance Missile Command, and Miss Catherine Patton, nine years old.



JOURNAL VOUCHER — Mrs. Martha Marsh, this week's Star Salute, prepares a journal voucher—one of her many duties as secretary to the chief of the Accounting Branch in MSFC's Financial Management Office. She has been working at Huntsville since 1956, and with the Accounting Branch since July 1960.

S&M Mixed League Bowls on Fridays

The S&M Mixed Bowling League began play September 22, composed primarily of Structures and Mechanics Division employees and their wives. Competition is held each Friday night at 6 p.m. at the Pin Palace.

League officials include Bill Corcoran, president; Larry Salter, vice-president, and Hal Coldwater, secretary-treasurer. All three are employed in S&M's Structures Branch.

Results to date are as follows:

Team	Won	Lost
Parkway Cities Service	7	1
Meadow Gold	6	2
Batt's Apothecary	5	3
Town & Country Realty	4	4
Adam's Distrib. Co.	3	5
King's Inn Restaurant	3	5
Monroe Calculators	2	6
Ragland Realty	2	6

Liquid Hydrogen Testing

Liquid hydrogen tests have begun at the Marshall Center's recently completed liquid hydrogen test facility, operated by the Experimental Mechanics Section of the Propulsion and Mechanics Branch, Structures and Mechanics Division.

The facility first underwent a checkout period with liquid nitrogen to assure proper operation with the potentially more dangerous liquid hydrogen—a rocket fuel slated to propel upper stages for Saturn and Nova space vehicles. Liquid hydrogen tests began August 30.

The new facility is designed to familiarize MSFC personnel with liquid hydrogen, a highly explosive propellant with an approximate boiling point of -420 degrees Fahrenheit. Studies will include temperature stratification, draining and sloshing problems, pressurization methods, and operation of launch and space vehicle components in connection with liquid hydrogen. Tests are being conducted in a double-wall aluminum test chamber, one foot in diameter and three feet in length, which was fabricated by the Development Shop Section.

In the photos are seen:

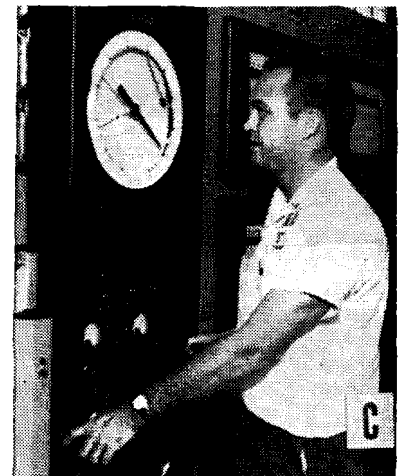
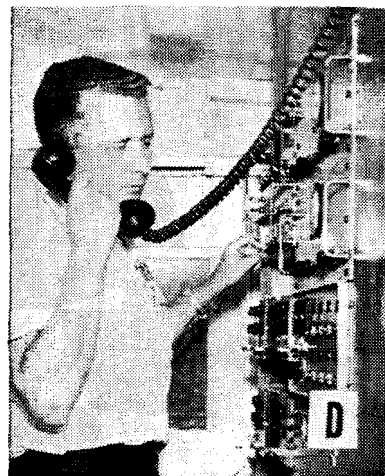
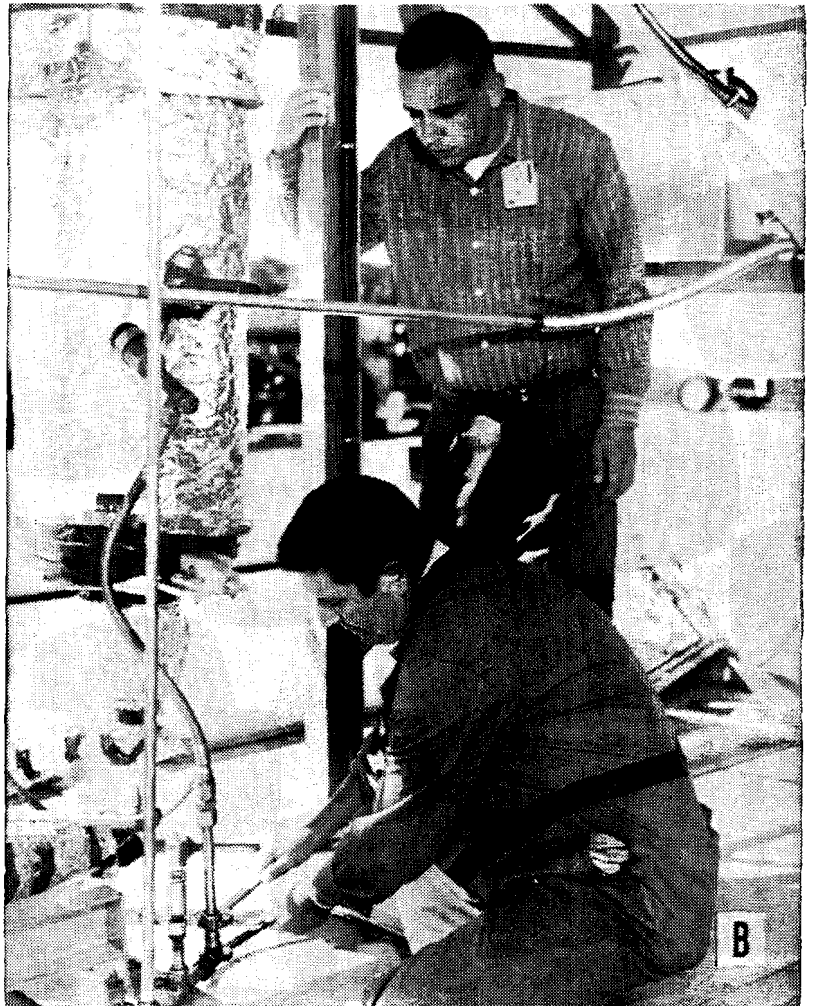
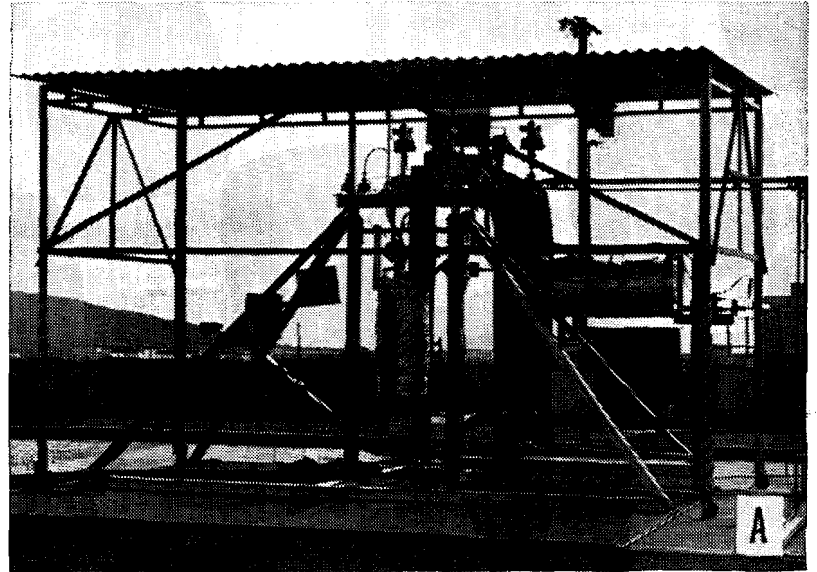
A) The liquid hydrogen test pad, located west of Bldg. 4623. The test chamber is in the center of the stand, which is built on a 25x75 foot reinforced concrete pad. Also at the site are special containers for liquid hydrogen, a vacuum pump, and an eight-foot measuring trailer.

B) Mike Walsh (standing), test engineer, watching Harvey Pope, guided missile mechanical installer and repairer, adjust a fitting in piping leading from the test chamber.

C) William R. Young, electronic equipment maker installer and repairer leader, checking out operation of a gas analyzer used to analyze contents of the test chamber prior to addition of liquid hydrogen. Prior to a test the chamber is purged with nitrogen to eliminate all oxygen, and then with hydrogen gas to eliminate the nitrogen.

D) Bob Edwards, unit chief, in the measuring trailer at the test site, discussing test preparations with personnel in the control room located some 540 feet away in Bldg. 4623.

E) Charles D. Hoover, guided missile mechanical installer and repairer, operating a remote control panel in the control room to initiate purging of the test chamber. In the background, C. R. Hammon, technician, readies recording equipment for a test.



Publication Of 'Handbook' To Take Place This Month

McGraw Hill Book Company of New York City has announced forthcoming publication during October of the "Handbook of Astronautical Engineering," edited by Heinz H. Koelle, director of MSFC's Future Projects Office.

A total of 43 MSFC employees are contributors to the volume.

The book, states McGraw-Hill, is the first summarization between two covers of the present state of the space flight technology. It has been prepared by a team of 150 specialists from government agencies, industry and universities and is the culmination of three years' work.

Other Contributors

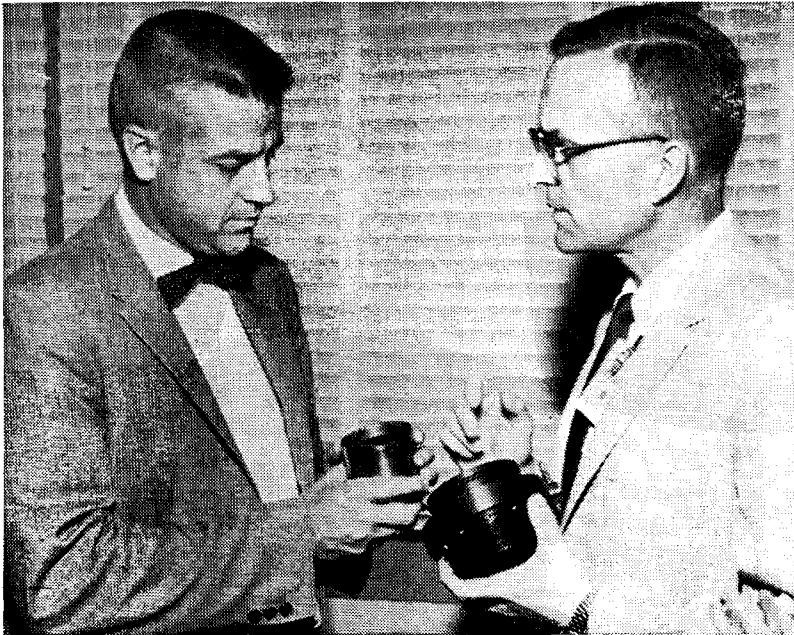
In addition to Koelle, contributors to the book include: Dr. Wernher von Braun, MSFC direc-

tor, who served as chairman of the editorial board and wrote the forward; Thomas F. Dixon, director of the Office of Launch Vehicle Programs, NASA; Dr. Walter R. Dornberger, vice president, director of engineering, Aerospace Division, Bell Aircraft Corp.

Krafft A. Ehricke, program director, Centaur, General Dynamics; Dr. Ernst Stuhlinger, director of MSFC's Research Projects Division, Prof. Hermann Oberth and Prof. E. Saenger.

Six Parts

The Handbook covers all areas of practical astronautical engineering and is broken into six parts; fundamentals of astronautical engineering, astrodynamics, astronics, propulsion systems, space vehicles and space flight operations.



DR. CANNON'S VISIT—Dr. Robert H. Cannon, Jr., (left) of Stanford University examines portions of a disassembled air bearing gyro with Dr. Walter Haeussermann, director of MSFC's Guidance and Control Division. Dr. Cannon expressed his appreciation for his visit at MSFC in a recent letter received by Dr. Haeussermann.

Stanford Professor Expresses Thanks For Recent Visit

Dr. Robert H. Cannon Jr., associate professor of aeronautical and electrical engineering at Stanford University, Palo Alto, Calif., and a recent visitor at the Marshall Center has written the following in a letter to Dr. Walter Haeussermann, director of MSFC's Guidance and Control Division, and host to Dr. Cannon during his visit:

"The first time that one visits an activity the improvement in one's perspective is usually quite marked even though the visit be a short one. Never has this been more true for me than on my trip to Huntsville last week. I had, of course heard much about the contributions of your group to the field of vehicle control and guidance. However, the depth of your organization, its singleness of purpose, and the uniformly strong team spirit were qualities which can be sensed only by visiting personally and talking with many people.

"I was also impressed with the comprehensiveness of the activity at Huntsville—the determination to exploit new technology and to incorporate it into the program. This singleness of purpose and dedication of your people make yours, I believe, the most efficient large-scale team I have seen. Your effectiveness is, of course, well known. As a technician, I am most impressed. As a citizen and a taxpayer, I am grateful.

"One is, of course, terribly impressed by the first view of the Saturn standing upright. Even though one knows all the dimensions, the awesome size cannot

LANGLEY SLATES OCT. 7 OPEN HOUSE

NASA's Langley Research Center will open its aeronautical and space research facilities to the public in an open house to be held Saturday, October 7. The Center's last open house was held two years ago.

Floyd L. Thompson, Langley director, has announced that the public is invited to visit the west area of the Center from 10 a.m.

really be grasped except at first hand."

to 4 p.m. on that date. The occasion will be in observance of the third anniversary of NASA, which was established by Congress on October 1, 1958.

Tours, Exhibits

Tours, exhibits and demonstrations will include Langley research in support of the national effort to land a man on the moon and safely return him to earth by the end of this decade, para-glider rocket booster recovery systems, research applicable to Echo and other satellites, vertical take-off and landing aircraft, modern electronic computing equipment, facilities for aircraft and spacecraft structures and materials research, a one-fifth scale model of the Saturn booster, a

duplicate of the Explorer IX satellite, a space station used for research purposes, wind tunnel demonstrations, and a plasma acceleration demonstration.

STG to Participate

The NASA Space Task Group, which has its headquarters at Langley, will participate with an exhibit illustrating various aspects of the manned space flight program.

The open house held by Langley in October 1959 was the first since the Center was established in 1917. This year's open house will illustrate NASA's research results during the past three years and describe some of the plans for the future.



FRENCH INSTITUTE VISITORS — Hermann W. Kroeger (holding model), deputy director of MSFC's Guidance and Control Division, shows a rocket model to Brig. Gen. Jean Louis Rivals, chief of the French National Institute of Armament. Gen. Rivals, accompanied by students and faculty from the Institute, was a recent MSFC visitor.

RCAA Members Slate Talks On 'Life on Other Worlds'

Five members of the Rocket City Astronomical Association—three working at MSFC, one from the Army Rocket and Guided Missile Agency and one from the Army Ballistic Missile Agency, are delivering public presentations entitled "The Search for Life on Other Worlds," sponsored jointly by RCAA and area astronomy clubs.

MSFC participants include Malcolm H. Smith, an employee in the Graphics Engineering and Model Studies Branch, Management Services Office; Ronald D. Ferdie, a Chrysler employee working in the Structures and Mechanics Division, and Larry J. Beck, a Chrysler employee in the Guidance and Control Division. Other participants include William B. Green from ARGMA and Ernest H. Wells from ABMA.

Florence Presentation

The group will deliver one presentation tomorrow night at the Wesleyan Auditorium in Florence, Ala., in a public meeting sponsored jointly by the RCAA and the Tri-Cities Astronomy Club. Another appearance is scheduled in Birmingham on October 17, sponsored jointly by RCAA and the Birmingham Astronomy Club. This public program will be held at the Alabama Power Company Audi-

torium.

In the presentations, Beck introduces the speakers and acts as master of ceremonies. Green talks on "What Makes an Intelligent Being." Wells discusses "Man's Search for Life on Other Worlds," while Ferdie's presentation is entitled "The Origin and Development of Life in the Universe." Smith's original art work illustrates the talks.

Talk Tonight

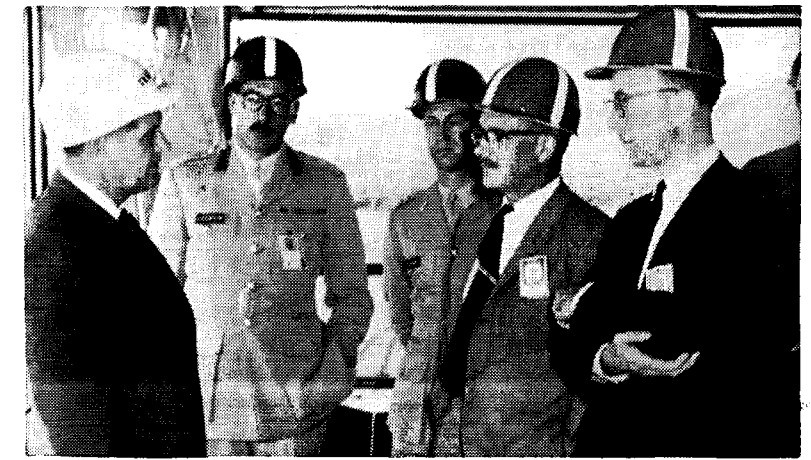
In addition, Ferdie, assisted by Smith, will speak tonight on "Communications with Life on Other Worlds" at a joint dinner meeting of ARGMA writers and editors and National Security Industrial Association representatives at the Albert-Pick Motel at 7 p.m.

INJURIES RISE DURING AUGUST

MSFC injuries were on the upswing during the month of August, according to figures from the Center Safety Office.

Fifty-seven injuries were reported during August while 42 were reported during July. There were, however, no disabling injuries recorded during August. Two of the July accidents were classified disabling.

The Center's accident record for



ON TEST STAND—Left to right, B. R. Tessman, MSFC Test Division deputy director; Col. Stanley Dickinson and Lt. Col. William D. H. Blackman, British Army liaison officers; Cecil John Carter and David Cavanaugh, British Embassy, discuss MSFC test programs during a tour of the Center's static test tower. Carter, director of guided weapons and electronics, Defense Research Staff, and Cavanaugh, assistant director, toured MSFC facilities last Wednesday, and were also briefed on the Center's programs.

the year now totals 404 injuries in 8,254,861 manhours. Nine disabling injuries have been recorded.

August injuries were distributed as follows: Guidance and Control, 8; Structures and Mechanics, 2; Financial Management, 1; Quality, 2; Management Services, 2; Fabrication and Assembly Engineering, 11; Test, 13; Technical Services 14; and Launch Operations Directorate, 4.

One fire was reported during August. It was recorded in Aeroballistics. Damage was estimated at \$15.

AUBURN U TOPS IN GRADUATES HIRED BY MSFC

Recent reports from the Personnel Branch, Management Services Office, show that 109, 1961 graduates from 48 colleges or universities have been hired or committed by Marshall since the first of the year.

These figures include only graduates in engineering and physical sciences.

Auburn University graduates lead in the number hired with a total of 12. The University of Alabama is a close second on the list with 11. Both Alabama institutions are tied, however, in the number hired or committed with 15.

DRIVE

(Continued From Page 1)
cent.

Other percentages based on amounts collected as compared to established quotas were: Patent Counsel, 88 per cent; Office of the Director, 86 per cent; Financial Management, 83 per cent; NASA Auditors, 75 per cent; Fabrication and Assembly Engineering, 74 per cent; Weapons Systems, 69 per cent; Future Projects, 69 per cent; Structures and Mechanics, 66 per cent; Reliability, 65 per cent; Management Services, 57 per cent; Quality, 56 per cent; Launch Operations Directorate, 49 per cent; Test, 48 per cent; Aeroballistics, 46 per cent; Industrial Relations, 46 per cent; Computation Division, 45 per cent; Technical Program Coordination, 44 per cent;

Legal, 37 per cent; Guidance and Control, 35 per cent; Public Information, 34 per cent; Technical Services, 33 per cent; Saturn Systems, 30 per cent; Research Projects, 29 per cent; Light and Medium Vehicles, 27 per cent.



REPEAT PERFORMANCE—The Traffic Management Branch, Management Services Office, shown above, has gone 100 per cent fair share in this year's UGF drive—just as it did in last year's campaign. "Good work," says Vic Sorensen, Management Services UGF chairman, in congratulating branch employees on their contributions. They are, left to right: first row, Billy C. Neal, Nina Perry, Gladys W. Justin and Mildred B. Bobo; second row—Annie B. Bridges, Virginia D. Scott; Ruth E. Gorum, Dannie Ogle, Carolyn Beeler and Linda Pailloz; third row—Jane Lokey, Luther Bishop, William A. Geiger and Albert J. Williams. Also in the Branch, but not pictured, are Richard Fillmore, Guy Cannon, Doris McGraw and Jimmie Butler.

S&M Sets 'Pledging Day' In UGF Campaign Effort

"Organization and cooperation were key words in the unique and successful UGF campaign conducted in the Structures and Mechanics Division," explains W. A. Mrazek, division director.

At the end of the first week of the campaign, the division had achieved 90 per cent of its goal pledged, with 83 per cent participation.

The division accomplished this record by setting aside a special pledging day—September 19. All employees were urged to make their pledging decision on that date, with participation encouraged by colorful posters located throughout the division.

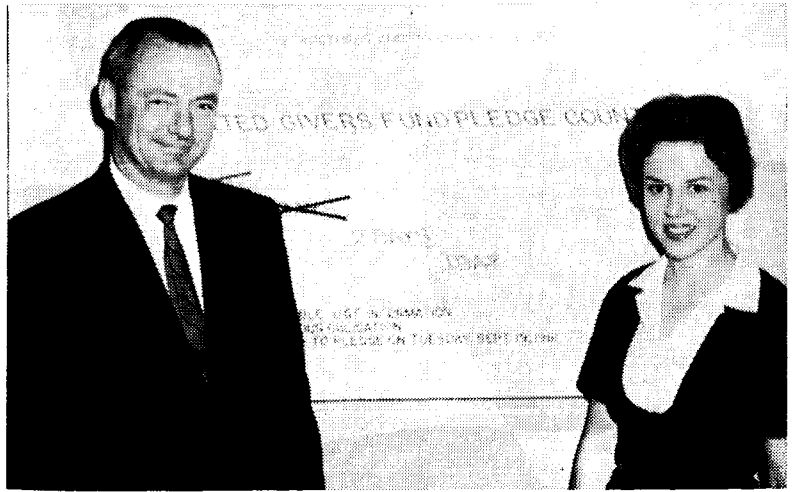
In announcing pledging day, Mrazek urged all employees to read all UGF information, de-

termine their responsibility and be prepared to pledge on pledging day. He noted, however that employees were not required to pledge on September 19, but only encouraged to do so if they could.

At the close of pledging day, Mrazek extended congratulations to division employees, noting that in last year's campaign it had taken four weeks to achieve the participation that the division had accomplished in one week this year.

Al T. Flynn, S&M administrative officer, served as vice-chairman for the campaign.

Branch coordinators for the effort included Conrad Swanson, Harvey Mossawir, Eugene Kirkland, John Welzyn, Dr. Karl Pschera and Gordon Ricks. Agents



PLEDGING DAY—Mrs. Judy Fikes, Structures and Mechanics Division, and L. G. Jackson, UGF finance and reports chairman, pause for the Star photographer during a discussion of posters used to emphasize "Pledging Day" in the S&M UGF effort.

included branch, section and office chiefs.

WANTADS

The Star's want-ad section is provided as a personal, non-commercial service to Marshall employees. Listings are limited to personal type services, such as car-pool requests, and the exchange of small personal items. Contributions of not more than 20 words should be submitted in writing not later than Friday noon to M-PIO, Attention: Mrs. Ivey.

WANTED: Ride or join car-pool from Glasgow Rd. NW. Yarbrough Estates, 3rd Addition to Bldg. 4488. Hrs. 8:00-4:30. Call Southland 376-7571 or 536-5326.

WANTED: Ride from Meadow Hills (Atkins Drive) to Bldg. 4487. Hours 7:15 to 3:45. Call Taylor 876-4781, 534-9640.

FOR SALE: Portable-Webcor stereo 3 speaker 2 detachable less than 1 year old. \$65.00. Phone 876-5520 or 536-3210.

WANTED: To join car pool from N. Pkwy. (Valley View Estates) to Bldg. 4484-4488. Work hours 7:30-4:00. Call Earl Hoffer 876-6179.

FOR SALE: Portable sewing machine, fully automatic. Like new condition. \$125.00 Mrs. Cothren, 876-1743.

FOR SALE: Omega D-2 Enlarger, 2 1/4 x 3 1/4 speed graphic, flash attachments, cut film holders. Both for \$75.00. Call 536-0471, 876-6392, Mr. Susko.

FOR SALE: 5 pc. dinette set and new box springs and mattress, not used. Robert Schow 876-8657 or 539-4280.

FOR SALE: Maroon sofa. Very good condition \$50.00. Call 536-4735. Stephen F. Hein.

WANTED: Riders to share plane expenses to Albuquerque,

N. M. and vicinity. Depart Nov. 10, return Nov. 19. Call 876-6872. O. Y. Reece.

FOR SALE: Tennessee Walking Horse. Seven year old stallion. Perfectly trained and gentle enough for children. Call 536-2474 from 8:00 to 4:30.

FOR SALE: Hunting Bow—50 lb. pull, arrows, quiver, glove, arm guard, \$40.00. Trade for shotgun or 22 pistol. Gilmore 539-3726.

FOR SALE: Kenmore 30" gas stove, 2 years old, excellent condition, has full oven and pan cake grill, \$25.00. Call 539-8394 or 876-5009.

New Orleans C of C Gives Correct Way To Say Michoud

Of late, there has been some question about the proper pronunciation of a certain Louisiana manufacturing plant called the Michoud Ordnance Plant.

Some call it MyShoud (as in shroud). Others say Me-Shoud (still as in shroud). Then there are those who have had a semester or so of French in school who prefer to say Me-Shu (with emphasis on Shu).

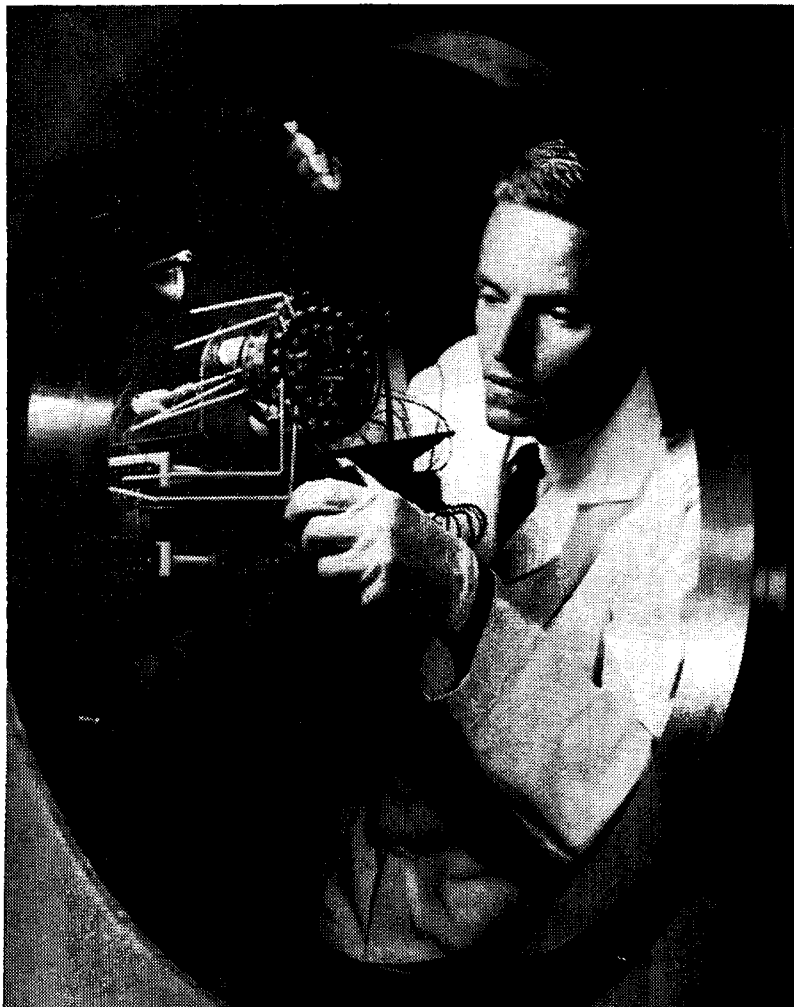
They are all wrong.

According to the natives who live in the area—about 16 miles east of the heart of the Crescent City—and the New Orleans Chamber of Commerce, it's correctly pronounced thusly:

Mee-Shu (emphasis on the Mee).

MADE WHERE?

A Mercury-Redstone rocket standing at the main gate of the Alabama State Fair grounds for several days has been the target of only one "inscription" and most MSFC workers probably won't appreciate what some public scribbler saw fit to pencil on this history-making rocket—"Made In Japan."



ION ENGINE—An experimental ion engine, which many scientists say may be the ultimate form of propulsion for long trips into space, is readied for a test run in simulated space by a technician at Hughes Aircraft Company's Research Laboratories at Malibu, Calif. Hughes, which is developing an ion engine under contract with MSFC, demonstrated operation of an experimental ion engine to newsmen, science and technical writers last Wednesday. NASA's Lewis Research Center is also developing an ion engine. Initial flight test of both engines is scheduled for late 1962.