

Decision Announced To Man Apollo 204

The decision to fly Apollo/Saturn 204 manned was announced last week by NASA Headquarters following completion of a design certification review board meeting at the Office of Manned Space Flight. A/S 204 launch date has not been determined.

Crewmen for the first manned Apollo flight are Virgil I. "Gus" Grissom, command pilot; Ed-

ward White, senior pilot; and Roger Chaffee, pilot. Backups are James McDivitt, command pilot; David Scott, senior pilot and Russell Schweikart, pilot.

Apollo 204 will be an earth orbital flight lasting up to 14 days to demonstrate spacecraft and crew performance in earth orbit. Launched by an uprated Saturn I, the spacecraft will consist of Apollo command and service modules 012. The Lunar Module is not included in the A/S 204 stack.

The two-stage uprated Saturn I launch vehicle was developed for the Apollo program. The first stage develops 1.6 million pounds thrust with eight RP-1/LOX H-1 engines. The S-IVB second stage develops 200,000 pounds thrust with its single liquid hydrogen/liquid oxygen J-2 engine.

A/S 204 will be the fourth for the uprated Saturn I. A/S 201 on February 26 and A/S 202 on August 25 tested the Apollo command module heatshield in suborbital flights, and A/S 203 on July 5 tested the behavior of liquid hydrogen fuel in orbital flight. All unmanned Apollo/Saturn test flights were successful.

Saturn I, forerunner to the uprated Saturn I, had ten successes in ten launches.

New Citizens To Hear Hodge

Naturalization ceremonies for 100 to 120 persons will be held November 11 at 11 am in the MSC Auditorium with Judge Joe Ingraham of the US Southeast Texas District Court administering the oath of citizenship.

John D. Hodge, chief of the Flight Control Division, will deliver an inspirational talk to the new citizens during the ceremony. Former Briton Hodge was naturalized in November, 1964.

In the group will be Rowland Burton Cour-Palais, 17-year-old son of Burton Cour-Palais of Space Science Division. Rowland was born in London, England. His father was naturalized in May, 1966.

Gemini XII Spacecraft Begins Pad 19 Testing

Prelaunch testing and pad operations for the November 9 launch of Gemini XII were on schedule this week as the Agena rendezvous vehicle for the mission was mated to its Atlas Standard Launch Vehicle on Sunday. The Gemini spacecraft Tuesday was mated to the Gemini Launch Vehicle at

Launch Complex 19. Electrical interface testing followed.

Immediately following Atlas/Agena mating, Booster Flight Acceptance Composite Testing was begun. Joint composite tests of the mated vehicles were scheduled late this week.

Prior to mating of the Gemini spacecraft to the GLV, the extravehicular work stations were installed in the equipment adapter where Gemini XII pilot Edwin Aldrin will spend part of his two-and-one-half hour umbilical EVA. Aldrin will also do two stand-up EVAs during the mission. The previously-scheduled evaluation of the Astronaut Maneuvering Unit has been deleted from the mission flight plan.

Systems tests on the Gemini spacecraft last week were conducted concurrent with tanking tests on the GLV and the Atlas. The Agena was in functional validation tests at Kennedy Space Center Hangar E during the same period.

At MSC, flight controllers in Mission Control-Houston were well into their cycle of flight simulations this week with in-house network simulations (Sim-Net-Sims) and reentry simulations scheduled.

Flight controllers assigned to stations in the Manned Space Flight Network late this week deployed to the tracking stations for a series of full network simulations prior to working the four-day Gemini XII mission.

Berry Receives Jeffries Award At AIAA Meet

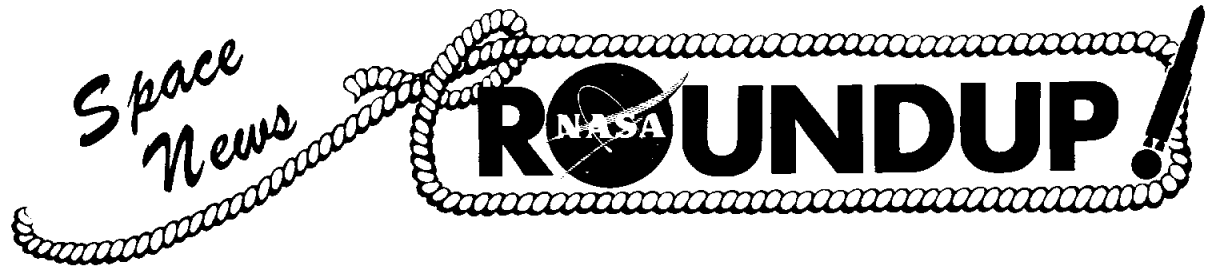
Dr. Charles A. Berry, MSC Director of Medical Research and Operations, last week received the American Institute of Aeronautics and Astronautics 1966 John Jeffries Award for outstanding contributions to the advancement of aeronautics through medical research. The presentation was made at the AIAA Military Aircraft Systems Meeting in Dallas.

The award cited Berry as having been principally responsible for making the decision to extend manned spaceflight to 14 days, and crediting his medical judgment for the knowledge gained from the two-week mission (Gemini VII).

The Jeffries Award was established in 1940 to honor the memory of the American physician who made the earliest recorded scientific observation from the air.



CREW AT WORK—Vacuum chamber tests last week were run at Kennedy Space Center of the Apollo spacecraft 012 scheduled for flight on the Apollo/Saturn 204 mission. Seen through the command module side window are A/S 204 crewmen Virgil I. "Gus" Grissom, and Roger Chaffee.



VOL. 6, NO. 1 MANNED SPACECRAFT CENTER, HOUSTON, TEXAS OCTOBER 28, 1966

Men and Hardware Prepare For 1st Manned Apollo Flight

Manned altitude chamber tests with both prime and backup Apollo 204 crews this week were conducted in the vacuum cham-

ber at Kennedy Space Center's Manned Spacecraft Operations Building. Prime crew Virgil Grissom, Edward White and Roger Chaffee completed sea-level and altitude runs, but altitude runs by backup crewmen James McDivitt, David Scott and Russell Schweikart were delayed pending replacement of a failed oxygen regulator in Apollo spacecraft 012. Chamber runs at altitude and at sea level were made prior to the manned tests.

Egress training for both the prime and backup Apollo 204 crews was held Wednesday and Thursday in the Gulf of Mexico. Each crew underwent an up-righting from Stable II (apex down) to Stable I (apex up) before egressing Apollo boilerplate 1102 into one-man life rafts. Helicopters from the US Coast Guard station at Ellington AFB made sling pickups of the crewmen.

Chamberlin Gets Toronto Alumni Engineer Medal

James A. Chamberlin, Manager of Special Design and Analysis in the Engineering and Development Directorate, last Friday was presented a medal by the Engineering Alumni of the University of Toronto for outstanding achievement in the field of applied science and engineering. The presentation took place at the triennial reunion of the Engineering Alumni Association.

Chamberlin's award was one of two made by the Association. The other medal was one of two made by the Association. The other medal went to Beverley S. Shenstone of British Overseas Airways Corporation.

ber at Kennedy Space Center's Manned Spacecraft Operations Building. Prime crew Virgil Grissom, Edward White and Roger Chaffee completed sea-level and altitude runs, but altitude runs by backup crewmen James McDivitt, David Scott and Russell Schweikart were delayed pending replacement of a failed oxygen regulator in Apollo spacecraft 012. Chamber runs at altitude and at sea level were made prior to the manned tests.

direction of Landing and Recovery Division while crew procedures were directed by training specialists of Flight Crew Support Division. In other Apollo activities, post-landing ventilation tests last week were completed under simulated adverse sea conditions in a water tank in Bldg. 260 using three test subjects in Apollo spacecraft 007.

Moonglow '66

Performance dates for Moonglow '66, this year's MSC variety show, are being changed from November 10, 11 and 12 to dates as yet undetermined. The change was necessary because of conflict with the Gemini XII mission.

For a preview of Moonglow '66, see rehearsal photos on page 5 and story on page 7.

The egress training was supported by the NASA Motor Vessel Retriever under the

MSC's Mail Room Keeps as Busy as a Small City's Post Office



CROSSROADS—All of the Center's internal, incoming and outgoing mail at one time or another passes through the mail room on the second floor of Building 2—almost 12,000 pieces daily. Inter-Center mail is picked up from and delivered to some 300 points around the center on 10 separate delivery routes. In the left photo, Rodney McSwiney and Bill Partridge sort through incoming Post Office mail and mark each piece with the proper

Center routing codes. Internal mail, center, is sorted into bins for each MSC organization before it is loaded into carts for distribution. At right James Sims, John Edgley and Clifton Carr prepare to leave "on their appointed rounds" behind hand carts. Some of their routes call for many loadings and unloadings of mail from the carts into panel trucks during an eight-hour day.

Were You There When . . .



. . . Crystal Marshall and Susan Benton won the trophies for the 11-15 age group in the dance competition at the MSC Annual Picnic October 1. Handing out the hardware was Astronaut Joseph Kerwin.

Were You There When . . .



. . . it was every man for himself when it came to shoveling in the grub at the MSC Picnic? Meals served totaled 8,426, and more than 4,000 cars were parked on the grounds at Galveston County Park.

Lunar Style Show



SUIT BRIEFING—Rep. George P. Miller (D-Cal), chairman of the House Science and Astronautics Committee, is briefed by Crew Systems Division Chief Richard Johnston on Apollo lunar suit development in the centrifuge room in Bldg. 29. On Miller's left are Paul Purser, special assistant to the MSC Director, and Robert F. Freitag, Director of Field Center Development, Office of Manned Space Flight. Standing, left to right, are BR-N suit subject Vince Gennatiempo, Johnston, Aleck Bond, E&D Systems Test and Evaluation Manager, Paul Kiehl, Crew Systems Division, Astronaut Scott Carpenter and Arthur Hinnners, Jr., Chief Systems Test Branch, Crew Systems Division. Miller was in Houston to speak to the Clear Lake Chamber of Commerce.

Were You There When . . .

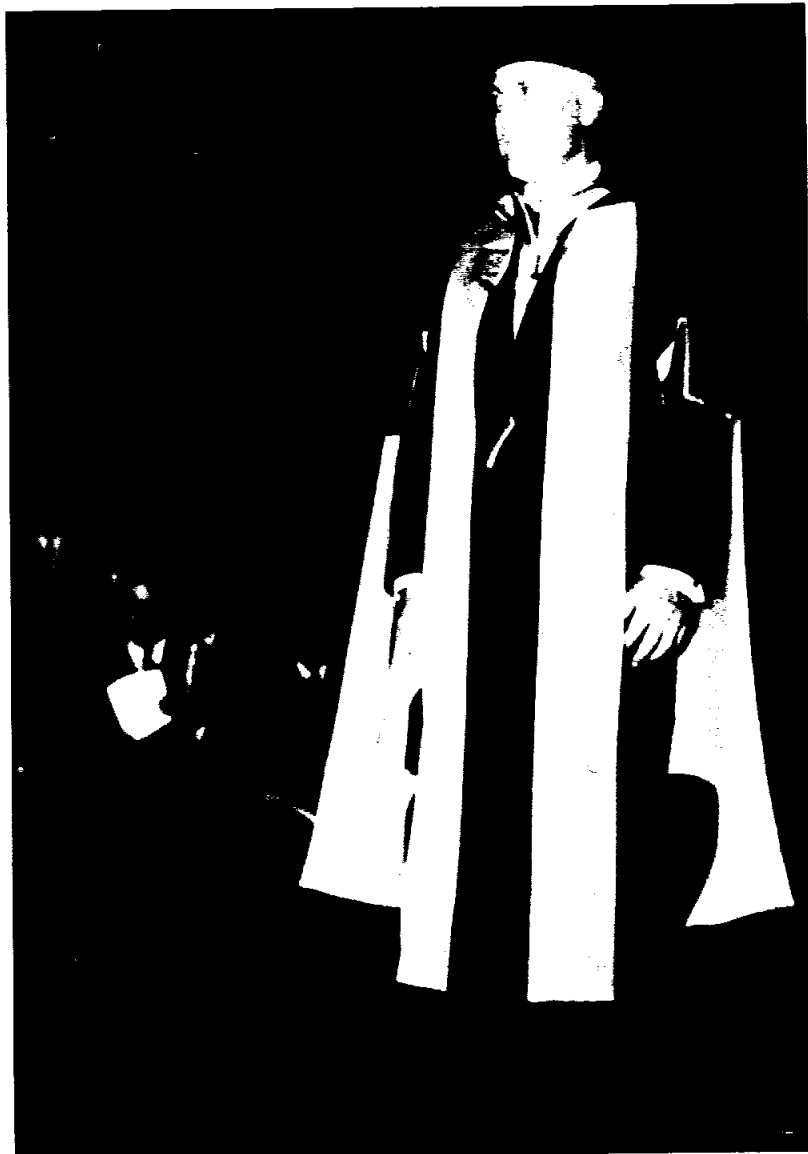


. . . MSC Picnic Committee Chairwoman Evon Collins tacked up wanted posters all over Galveston County Park? The posters offered rewards for various scallywags, rustlers and hoss thieves at large in the park.

Inspection by the Admiral



CINCPAC VISITS MSC—Flight Director Glynn Lunney describes the functions of the third-floor Mission Operations Control Room to Admiral Roy L. Johnson, commander-in-chief of the US Pacific Fleet, right, during the Admiral's visit to MSC October 13. In the Admiral's party, left to right, are Navy League National Director Fred Drew, Lunney, American Construction Company president William Kinney, Jr., William Kinney, Sr., CINCPAC Public Affairs Officer LtCmdr W. S. Graves, Navy League Houston Chapter president Linwood Fanley, Houston US Naval Reserve Training Center commander Capt. John C. Allman, Admiral Johnson, and Houston Kiwanis president Charles F. Hanson.



DOCTORAL ROBES—John Hodge stands tall in his morning coat, gold-and-crimson robes and billycock hat in the Royal Festival Hall as City University of London confers upon him an honorary Doctor of Science degree.

TRW to Build Mars Mariner Power System

NASA has selected TRW Systems of Redondo Beach, Cal., for negotiations on a contract to design, fabricate and test the power subsystem for the unmanned Mariner flight to Mars in 1969.

laboratory has project management responsibility for the two-spacecraft Mariner-Mars mission.

Total value of the work on the power subsystem is estimated at \$3 million. The contract calls for flight hardware for both Mariners and associated ground checkout

and test equipment.

Mariner's power subsystem will include four solar panels for each spacecraft, batteries and power conditioning equipment. Solar cells will be the prime source of power, converting solar energy into electricity. Chargeable batteries will be used during peak power loads and when the solar panels are not facing the Sun. Conditioning equipment will regulate the power for use by the spacecraft's other subsystems.

Hodge Gets Doctorate In London Ceremonies

The City University of London, England, October 13 conferred upon John D. Hodge, Chief Flight Control Division, an honorary Doctor of Science degree. Conferral was made by Prof. G. A. Tokaty, head of the University's Department of Aeronautics.

In presenting the degree, Professor Tokaty said, "... we are

proud that one of our former students, Mr. Hodge, now plays a leading role in the historic efforts of a country so friendly and so close to Great Britain."

Hodge graduated from City University in 1949 with a BS in aeronautical engineering. He spent three years with the Vickers Corporation before joining Avro Corporation in Canada. In 1959, he immigrated to the United States to join MSC's predecessor, the Space Task Group at Langley AFB, Virginia. He was named chief of the Flight Control Division in November, 1963 and has been a flight director on six Gemini space-flight missions. Hodge became a United States citizen on November 4, 1964.

Hodge's parents, Mr. and Mrs. J. C. Hodge of North London, attended the ceremony.

MSC BOWLING ROUNDUP

MIMOSA MEN'S LEAGUE

Standings as of October 20

TEAM	WON	LOST
Whirlwinds	17	7
Roadrunners	19	9
Technics	15	13
Fabricators	15	13
Weightless Wonders	14 1/2	13 1/2
Strikers	14	14
Real Timers	13	15
Foul Five	13	15
Agitators	11	13
Alley Oops	12 1/2	15 1/2
Chizzlers	11	17
Hustlers	9	19

High Game: Bill Holton 271, H. Ferrese 264.

High Team Game: Chizzlers 1086, Whirlwinds 1051.

High Series: Bill Holton 728, H. Ferrese 713.

High Team Series: Whirlwinds 3077, Roadrunners 3077.

MSC Monday Men's League

Standings as of October 17

TEAM	WON	LOST
Humbugs	19	5
The Wheels	14	10
Alley Cats	12	12
Rompers	11	13
Toos	10	14
Hi Hopes	6	18

High Game: G. Keith 215, B. Marlowe 210.

High Team Game: Toos and Humbugs 858.

High Series: B. Marlowe 588, C. Mitchell 581.

High Team Series: Humbugs

2457, Toos 2355.

On September 12, Clarence Johnston of The Wheels picked up the 3-6-7-10 split, and on October 10 he picked up the 4-7-9 split.

Fireball in Oils

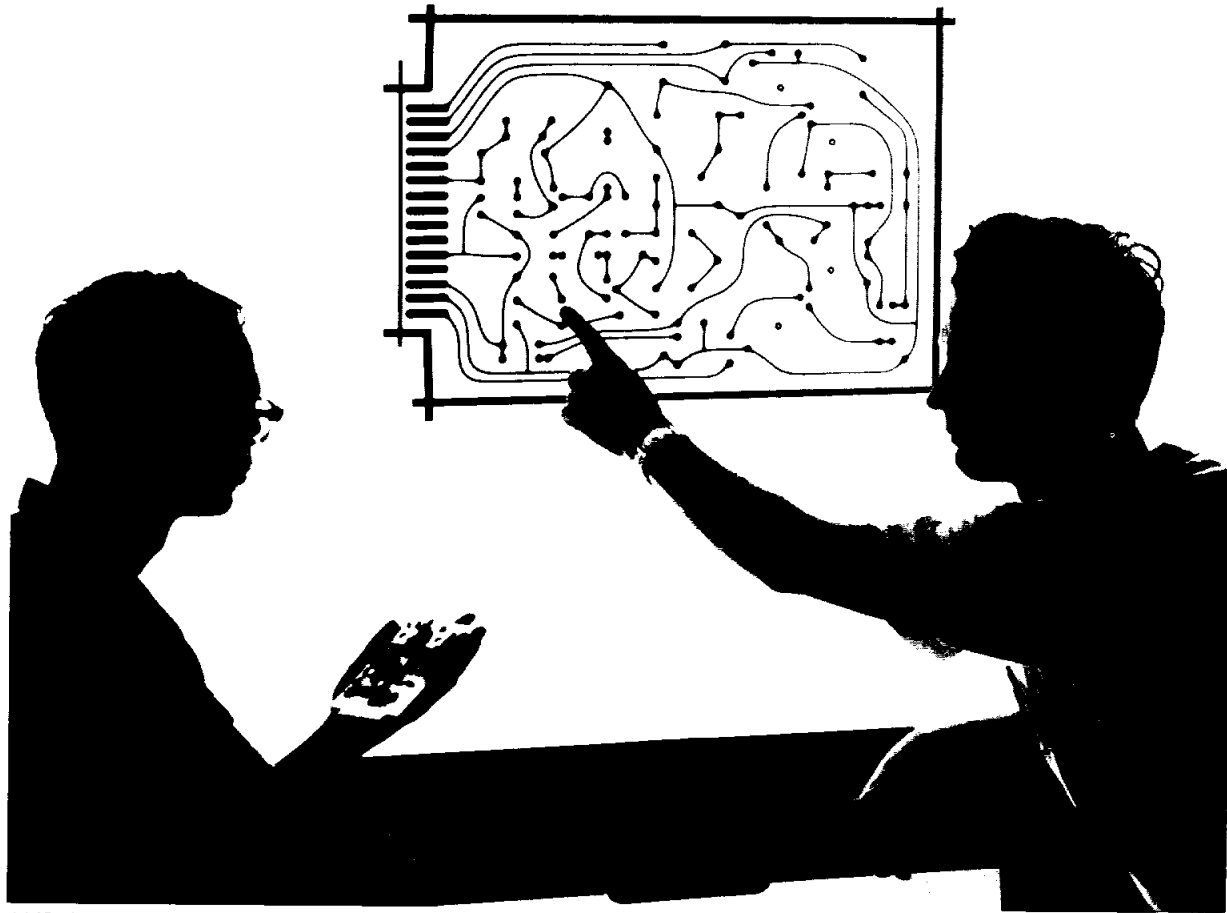


MOMENT OF TRUTH—Houston Aerojet General Corporation representative Harry J. Jennings presents to Alan B. Shepard, Jr. an original oil painting by artist George Mathis of Gemini launch vehicle staging. Shepard commented that the painting was very much like the real thing. "The only detail lacking is the debris that comes off the two stages as separation. I am very pleased to accept the painting," said Shepard. "It will be good start for our library." (Flight crew library in Building 4.) Aerojet builds the engines for both stages of the Gemini Launch Vehicle.

1000th Person Finishes First Aid/Fire Course

The one-thousandth person to attend the MSC Fire Department's course on first aid and fire prevention today completed the course held at the Fire Station. The course included instruction on the use of fire extinguishers, mouth-to-mouth resuscitation, and use of pressure points to stop bleeding.

The courses are conducted periodically by the MSC Fire Department for MSC and on-site contractor employees.



AND IT COMES OUT HERE—Electronic Technician John Ivers relates the circuitry of a blow-up of one of the HF transmitter printed circuits to a prototype circuit board held by Apprentice Electronic Instrument Maker Alan Riley. Art work for printed circuits is prepared many times the size it will be when it is reduced photographically and etched onto the circuit boards.

IN-HOUSE ECONOMIZING —

Transmitters Built From Scratch

Four high-frequency transmitters, designed and fabricated in-house by the Technical Services Division, will play a big role in a series of world-wide communication tests beginning within the next several weeks.

The transmitters will be used by Landing and Recovery Division's Operational Evaluation and Test Branch starting in November. The test is part of LRD's continual investigation of improved location aids for use in pin-pointing the exact landing spot of a spacecraft after reentry. The transmitter has the capability of 20 watts peak envelope power in the voice single-side-band mode, five watts in the voice AM mode and five watts in the beacon mode.

The HF transmitter will radiate signals identical to that of an Apollo spacecraft during post-landing on a frequency of 10.006 megacycles. Transmitters will be located at Pago Pago, Samoa Islands; Lima, Peru; and Tananarive, Malagasy Republic. Voice and signal transmissions will be made from the three locations on an hourly basis and Department

of Defense worldwide high frequency direction finding stations will report to the NASA on quality of the transmissions and how well they were able to make a fix on the transmission.

Dale Moore, Operational and Evaluation and Test Branch, said that during recent tests readable signals were received up to 8,000 miles. Moore said the TSD transmitters are capable of sending signals around the world.

The Electronics Branch of Technical Services Division was chosen for the job when Landing and Recovery was unable to locate a transmitter with the required capabilities on the commercial market. Immediate need for the transmitter precluded requesting contractors to design and build the required equipment.

Landing and Recovery prepared their preliminary circuit design and requirements and looked to the Electronics Branch for assistance.

Jim Clarke, Electronics Branch, TSD, said his people began with a schematic and then step-by-step prepared printed circuits. The next step was mounting the numerous capacitors, coils and transistors onto the nine circuit boards which make up the transmitter.

Clarke said while the electronics people were working on the finer details of the transmitter, down on the main floor of TSD's building 10, machinists were building the chassis for the transmitter. Carved from a solid block of aluminum, the chassis makes the transmitter a rugged unit.

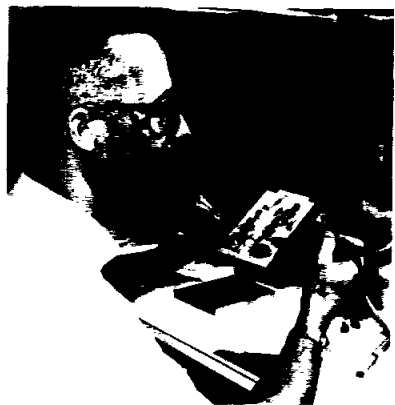
After assembly of the components and rigid testing the completed item was turned over to the landing and recovery people. Each unit weighs 22 pounds and

is no bigger than an attache case and can be carried easily.

The four units cost approximately \$5,000 each, Clarke said. This includes 2,000 manhours for the design, tooling, fabrication, assembly and testing and the cost of the electronic components.

Moore said it would have cost in excess \$10,000 each to have the transmitters designed and constructed outside. He said the savings is not just in dollars and cents.

Test people were able to work with the electronics people on a day-to-day basis without interruptions in regular daily work schedules. This close working relationship permitted realtime decisions on problem areas, Moore said. "If we wanted to make modifications we could do it very simply."



ACCURACY—Precise soldering techniques are required of Apprentice Experimental Electronic Instrument Maker Bill Sigafosse as he solders transistors, diodes and other components onto a printed circuit board.



CHECKOUT—Circuit schematics are cross-checked against a "bread-board" circuit by Bob Pace of Technical Services Division Electronics Branch. A finished circuit board lies on the table.



COMPACTNESS—Machinist Paul Moravek checks dimensions of a transmitter case against the drawing held by Electronics Technician Mike Surrency. The transmitter cases were machined from solid billets of aluminum in the Technical Services Division machine shop. The printed circuit boards slide into slots machined into the rear portion of the case.



PROOF PUDDING—Surrency, Ivers and Pace run a check of a completed transmitter using test equipment in the Technical Services electronics shop to measure signal strength, frequency and other performance parameters.

MSC's 1966 Variety Show, Moonglow '66, Goes Into Rehearsals



CHORUS LINE—Instructor Phala McKeown coaches the Astronettes in one of the routines they will perform in Moonglow '66. Left to right, they are Charlotte Maltese, Pat McBride, Sharon Brenan, Marilyn Lamb, Gayle Porter, Suellyn Johnson, Karla Garnuch and Rita Reyes.



OPERATIC OPERATION—Opera singers Joe McGrady and Terry Slezak review the music and libretto from a difficult scene in Giuseppe Verdi's "Otello."



FLAPPER—Dorothy Szopski, straight out of the Roaring Twenties, rehearses her "Music, Music, Music" number.



THREESOME IN UNISON—Betty Midgett, Helen Patterson and Wanda Slack synchronize their vocal cords for their trio numbers in Moonglow '66.



'HELLO' GIRL—MSC's Chief Telephone Operator Helen Ragsdale does a comic monolog in the role of — you guessed it — a telephone operator.



COLOR ME BARBRA—Betty Midgett does a Barbra Streisand medley.



FLYING FINGERS—Folksingers Dale Webber (with banjo) and Ron DuVal (on guitar) make their instruments smoke as they polish their performance.



TEN OVER EIGHTY-EIGHT—Pianist John Boynton is scheduled to perform a medley of songs from Julie Andrews musicals "Mary Poppins" and Sound of Music."



FOLK DANCERS—Thom Cammack and L. C. (Max) Krchnak are shown in the traditional Greek costume for one of the folkdance routines in Moonglow '66. At right are McGuire Sisters parodists Joseph Thibodaux, Art Hinners and Dan Loposer. (Photos this page by Terry Slezak/PTL)



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A Bit of Horn-Blowing

Not that anybody ever pays attention to the dateline under the front page *Roundup* "flag," but this issue is Volume 6, No. 1. It was on November 1, 1961 that the *Space News Roundup* made its debut.

The five-column headline on page one of the first issue read, "STG Renamed; Will Move." Other headlines inside included "Apollo Bids Studied After Presentations," "Hammack and Heberlig Give Report on Mercury Program," "Educational Co-Op Program for MSC Being Stressed," and a pictorial centerspread touted the advantages of Houston living. Volume 1, No. 1 has become somewhat of a rarity; the *Roundup's* archives count only three copies in captivity.

Five years and four editors later, 15 manned spaceflights have gone over the hill. The second US manned space program is one flight from its conclusion, and the third and most ambitious program, lunar exploration by Apollo, draws nearer its first manned flight.

Indulging in a bit of blowing its own horn, the *Roundup* feels that it, too, has grown along with the manned space flight program. An occasional typographical error escapes the red pencil or someone's name is misspelled, but on the whole the *Roundup* has put in a satisfying five years.

It will be interesting to look back upon volumes six through nine when Volume 10, No. 1 is published in November, 1971.

-The Editor

Space News Of Five Years Ago

October 29, 1961-NASA announced that the first Mercury-Scout launch to verify the readiness of the worldwide Mercury tracking network would take place at Atlantic Missile Range.

October 31, 1961-Launch of Mercury-Scout cancelled at T minus 10 seconds at Atlantic Missile Range because of mechanical difficulties.

November 1, 1961-An attempt was made to launch Mercury-Scout 1 into orbit with a communications package further to qualify the radar tracking of the Mercury global network prior to manned flight. Shortly after liftoff, the launch vehicle developed erratic motions and attending high aerodynamic loads, and was destroyed by the range safety officer after 43 seconds of flight. No further attempts were planned. The Mercury-Atlas 4 mission and the successful Mercury-Atlas 5, flown on November 29, 1961 disclosed that the network met all requirements.

The Space Task Group, the organization charged with directing Project Mercury and other manned spaceflight programs, was redesignated the Manned Spacecraft Center with Dr. Robert R. Gilruth as director.

November 3, 1961-NASA announced start of a nationwide recruiting drive for 2,000 talented scientists and engineers.

November 6, 1961-N. Varvorov, in Soviet newspaper *Ekonomicheskaya Gazeta*, denounced the United States space program as using outer space for military purposes and cluttering the cosmos with an unnecessarily large number of satellites. Especially critical of the Dis-

coverer series, the article said: "... the United States in pursuing an intensive arms race, is setting up an elaborate system of cosmic military intelligence communications and navigation. . . . Actually, this is banditry on an international scale."

November 9, 1961-Former President Dwight D. Eisenhower at speech at Case Institute, said: "I for one do not fully understand why, in the midst of a plethora of necessary and costly activities, our nation should be required, urgently, to develop a capacity to put men on the moon and challenge our principal opponent in doing so . . ."

November 10, 1961-In reviewing NASA's communications satellite programs, Administrator Webb pointed out that it had been speculated that the satellite system "may have progressed enough by 1964 that we shall be able to watch the Tokyo Olympic Games on television at home."

NASA Offers Patents

NASA has made available a list of abstracts of various NASA-owned inventions for foreign licensing.

The list was published in accordance with the NASA Foreign Patent Licensing Regulations, which were issued recently. Copies of the Foreign Patent Licensing Regulations are now available along with the list.

Inquiries and all requests for licenses should be addressed to the Assistant General Counsel for Patent Matters, Code GP, NASA Hq. Washington, D.C. 20546.

OUT OF TEXAS' PAST

Texans Were Slow in Accepting That Cajun Delicacy, l'Ecrevisse

All roads to colonial, revolutionary and republican Texas passed through or began in Louisiana. All shipping lanes to old Texas touched *la belle Louisiane* or began at New Orleans. This is one of the reasons Texans feel at home on the Bayous Teche, Vermilion and Lafourche, while Acadians feel equally *bienvenu* in "Beaumawn," "Port Artoor" and "Oustawn."

Another reason is *l'ecrevisse*, the crawfish.

Ask any restaurateur in the Bayou Country, and he will tell you that Texans eat more crawfish than anybody except Acadians. Tradition says it was the Texans who created the big demand for Louisiana crawfish in the first place.

"At first the rich Texans

taunted the poor Acadians for eating mudbugs," explains a New Iberian food dealer. "But the Cajuns smacked their lips and said loudly: 'Regard the poor, ignorant *Texiennes*, who are unable to enjoy this rare delicacy.' At last the Texans got curious and tasted the ditchbugs, and, sure enough, they were delicious."

Woody Marshall, of Breaux Bridge, the world's first crawfish-racing commissioner, says an ancestor of his, Narcisse Thibodeaux, was the first human being ever to eat a crawfish.

One day while fishing, young Narcisse dipped a bare foot into the bayou, and a big crawfish nipped the boy's toe. Jerking his foot out of the water, Narcisse accidentally flung the big *ecrevisse* into a pot of cat-

fish courtbouillon that his mother had simmering over a fire nearby.

Fearing he had ruined the courtbouillon, Narcisse waited for an opportunity to remove the crawfish without his mother's knowledge. By the time he was able to do this, the mudbug was well cooked.

Then, to keep his mother from discovering what he had done, he decided to eat the evidence.

Imagine his astonishment when he discovered that the despised *ecrevisse* tasted more delicious than anything that had ever come out of the Bayou Teche before!

Furthermore, when the family ate the courtbouillon, everybody pronounced it the greatest ever.

Narcisse became a secret gormandizer of crawfish, but because of the difficulty of disposing of the shells, his secret was discovered. Soon everybody in Breaux Bridge was eating crawfish by the thousand. The freshwater crustacean's popularity spread throughout Southern Louisiana and eventually to Texas.

The ceiling of the postoffice in St. Martinville actually is decorated with a symbolic painting of a crawfish. Andre Olivier, of that charming little city, says Acadians honor the crawfish above all creatures and believe that it, and not the bald eagle, should dominate the Great Seal of the United States.

"Put an eagle and a crawfish on a railroad track," says Andre, "and observe what happens when a train approaches. The eagle will fly away in fear, but the courageous crawfish will rear back on his tail, raise his claws in combat and try with his last strength to stop the oncoming train."

Louisiana folklore acknowledges the valor of *l'ecrevisse* in song and story:

*Crawfish won't back from a four-mule team,
But he'll back from a Cajun
whenever he see him!*

Woody Marshall says he got the idea for Breaux Bridge's annual crawfish races one day while he was eating boiled crawfish at Guidroz's restaurant, and somebody put a live one on his plate. "When I started to eat it," he said, "it took off like a jack-rabbit."

And no wonder. Another old song says:

*What makes a Cajun grow
so tall?
Cause he eat the crawfish,
hull and all.*

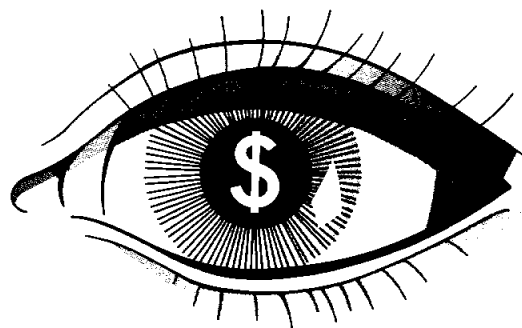
A few years ago the Louisiana Department of Health warned that crawfish head-fat, which makes the *bisque* and the *etouffe* taste so wonderful, was toxic.

"How about that?" a worried Texan asked an Acadian cook who was boiling him some red-claws.

"*Pas rien!*" exclaimed the Cajun. "W'at they know about crawfish up in Batawn Rouge, yeah?"

-Sigman Byrd

KEEP YOUR EYE



ON COST REDUCTION

Health Benefits Rates To Increase January 1

Increased premium rates will be placed in effect January 1 by 30 of the plans participating in the Federal Employees Health Benefits program. The increases will be brought about by improved benefits and higher costs of hospitalization and medical care.

Improved benefits for mental health care will be offered by 27 of the participating plans.

An unlimited open season, during which eligible unenrolled employees may enroll in a plan and enrolled employees and annuitants may change plans,

options, or type of enrollment, has been scheduled for November 14-30.

Before the open season, employees and annuitants will receive new brochures showing benefits and premiums for the various plans.

The Civil Service Commission has pointed out that some annuitants who have subscribed for high options and who have full Medicare protection for themselves and their spouses may want to consider changing to the less expensive low options which generally will supplement Medicare adequately.

'BETTER THAN LAST YEAR'—

Moonglow '66 Show To Select New Dates

Moonglow '66, MSC's Variety Show, has been postponed because of a conflict with the date of Gemini XII, according to producer-director Juanita Bower. The new dates will appear in the *Roundup* as soon as they are determined. Jim Gorman of Personnel Division again will be the show's master of ceremonies.

Among the acts in Moonglow '66 are Dorothy Szopski of the Engineering and Development Directorate in a pantomime routine; a parody of the McGuire Sisters by Art Hinners, Crew Systems Division. Joseph G. Thibodaux, Jr., Propulsion and Power Division, and Dan Lopusser of IBM; a vocal trio by Betty Midgett, Procurement and Contracts Division. Helen Patterson, Experiments Program Office, and Wanda Slack, Apollo Spacecraft Program Office; and the Blue Grass instrumental group made up of L. C. "Max" Krechnak, Computation and Analysis Division, Ken Cashion, Space Science Division, Indulius Saulietis, Guidance and Control Division, and Laren Wigginton.

The Center Festival Folk Dancers, of whom Krechnak and Paul Rickter of Computation and Analysis Division are members, will perform authentic folk dances of Mexico, Greece and Scotland. Accompanying the folk dancers will be an orchestra made up of Dr. Henry Decell and Allan Feiveson, Computation and Analysis Division, Mark Larsen, Instrumentation and Electronics Systems Division, Dr. Edward Dodd, Lockheed, James Ostrum, TRW, Dr.

Bridge Club Plans Pair Matches Nov. 1-2

The MSC Duplicate Bridge Club Open Pair Championships will be held on November 1 and 2. Master points and a trophy will be awarded to the winners of this two-session event.

Winners at the special master point game on October 11 were: North-South, Art Manson and Paul Nielson, first; Juanita Brandt and Leona Kempainen, second. Bob Wiley and Fred Brandt tied with Bill DeGeorge and Paul Swanzy for first place East-West.

The October 18 game was won by Max Cone and Mark Powell, with Edith Reid and D. Leighton, second.

Song of the Open(?) Road

Seen on NASA Road 1 in the midst of inbound morning rush traffic to MSC: One middle-aged lady driving a European "bug" while rehearsing a song in a songbook she had spread out across the steering wheel. In view of the bumper-to-bumper traffic and the slight protection Mickey-Mouse auto body shells offer in a collision, we trust that she was singing "Nearer My God To Thee."

Emerson Hawley, Texas Medical Center, and Judy Carswell, Univac.

The Astronettes again this year will be one of the featured groups in the show. They are Rita Reyes, Sandra Burdsal, Karla Garnuch, Suellyn Johnson, Gayle Porter, Marilyn Lamb, Sharon Brenan, Pat McBride and Charlotte Maltese. Performing with the Astronettes will be Chuck Shelander, Pat McLaughlan, Chuck Heald, Joe Davis, Ernie Smith, Phil Stallins, Jerry Bailey and Jack Larks.

Moonglow '66 tickets will be available from cast members and from EAA representatives. Tickets will also go on sale in the cafeteria. Mickey Stoneking at 3086 (Room 116, Bldg. 419) is handling ticket distribution.

EAA Reserves Shrine Circus Kiddie Tickets

A special children's performance of the annual Arabia Shrine Circus will be held Saturday, November 5 at 10 am, in the Houston Coliseum. The Employees Activities Association (EAA) has reserved 750 tickets for MSC and contractor employees at a discount price of \$1 each.

Four chaperoned buses will leave MSC Gate 1 at 8:30 for the Coliseum, and return around 1 pm.

Parents are invited to attend. Get your tickets now from Barbara Bickers — Bldg 2 (Ext 5241), Rachel Guerrero—Bldg 7A (Ext 2961), Diane Bell — Bldg 16 (Ext 2766), Connie Turner—Bldg 45 (Ext 3246), or Becky Long—Bldg 314, EAFB (Ext 7283). Deadline for buying tickets is Friday, November 4th.

Roundup Swap-Shop

(Deadline for classified ads is the Friday preceding Roundup publication date. Ads received after the deadline will be run in the next following issue. Send ads in writing to Roundup Editor, AP3. Ads will not be repeated unless requested. Use name and home telephone number.)

FOR SALE—Houses

4-bdr 2-bath white brick colonial in Glenbrook Valley, across from Lewis Elementary. 2-car garage, den, living room, separate dining room, breakfast nook, built-in kitchen, 2250 sq ft. \$24,000; 25-year 5 1/2% loan. T. M. Carney, MI 4-4809.

3-bdr brick in Bay Colony, 2-car garage, wood fence, 1770 sq ft, access to Bay pier, launching ramp and swimming pool. Low down payment, assume 5 1/4% GI loan. R. W. Bricker, GR 1-2999, 3902 Bonita Lane.

120x150 lot in El Lago Estates, many trees, cleared of brush, well drained. \$5700. J. C. French, GR 4-2457.

3-bdr 1 1/2-bath brick, 2-car garage, air conditioned. But equity and assume \$111/mo payments (includes everything). James C. Weaver, 932-2371 League City.

Lease 3-bdr 2-bath on one-acre lot in Friendswood, built-ins, dishwasher, disposal, 2-car detached garage, separate dining area, washer/dryer connections. \$175/mo, references required. Josephine Washek, HU 2-7680 after 5.

3-bdr 2-bath brick colonial in Sun Valley, 3 years old, 2050 sq ft, paneled den, double garage, central air/heat, Westinghouse built-in oven, range w/venthood, dishwasher, disposal, breakfast bar w/4 stools, carpets, draperies, 3 walk-in closets, fenced yard, large aluminum-roof patio, 1 block from elementary school junior and senior highs nearby, Pasadena school district. \$1500 equity, assume \$149/mo. H. S. Cobb, HU 4-6855.

To settle estate: 3-bdr 2-bath brick contemporary, 2400 sq ft, detached 2-car garage, central air/heat, GE built-in kitchen, cedar fence, trees, in Wildwood/Seabrook. \$23,200. Lorraine Steinhardt, GR 4-3300.

FOR SALE—AUTOS

1964 Chevrolet Impala super sport, all super sport equipment including bucket seats, Daytona blue w/light blue interior, 327-hp engine, power glide, power steering and power brakes, tilt steering wheel, factory air, tinted glass, AM-FM radio. W. G. Pratt, Kemah 877-2954.

1965 Pontiac GTO htdp, 389 cu. in, 3-2 bbl carb., 3-speed trans., 32,000 miles, \$2,150, Otto Schellberg, HU 4-7994.

1962 Chevy BelAir sedan 4-door, automatic, 31,000 miles, white w/red interior, good tires, xclnt condition. \$1050. Lee Adams, GR 3-6185.

1959 Ford, xtra clean. \$395. Nelda Rhoades, HU 8-0080, Ext 19 or WI 5-6860 Texas City.

1965 Pontiac LeMans, automatic, floor console, power steering, 6-cyl, clock, bucket seats, 2-speed wipers, hvy-dty shocks, new WW. \$1995. R. Gagliano, HU 3-3698.

1966 Sunbeam Tiger, British racing green, 6000 miles, full warranty. \$3200 or \$100 and take up payments. J. W. Colburn, MI 9-6361.

1964 Falcon Futura 4-door V-8, automatic, air, radio, belts, tinted windshield, washers. \$1295. Jim Cooper, 877-1836.

1963 Corvette conv with 1965 body, 340-hp, 4-speed, racing green, AM/FM. \$2195. Noel Willis, MO 4-4877.

1959 Buick Electra, clean good condition, all power, new tires. \$450. Gene Reed, PA 9-3908.

1966 VW, 8000 miles, radio. \$1600. Paul Bailey, HU 4-1710.

1966 Mustang, silver-blue, white vinyl top, air, automatic, 6-cyl, tinted glass, bucket seats, wire wheels, white walls, radio, other extras. \$2300. G. Shrum, 877-3109.

1966 Impala, white, SS, autotrans, air conditioning, big engine. Contact Col. Edward White, ext. 2221.

FOR SALE—MISCELLANEOUS

Pink floral boudoir chair \$10; 2 pink pictures \$5; pink double bedspread \$5; 3 pink pillows (tri-shade) \$1 each. Mrs. W. R. Kelly, HU 2-7053.

Size 12 full-length imitation fur coat, xclnt condition, \$25. Joyce Van Dyke, 932-3905.

Four 5.5x13 Goodyear Bluestreak sports-car specials, two 5.50/5.90x13, two slightly used 5.20x13, \$60. Also four 5.5x13 60-64 Corvair Greenbriar rims (new) can be adapted to any 13" wheel spider for above tires, \$30. One 5.50/5.90x13 HD tube, \$5. J. W. Colburn, MI 9-6361 evenings.

Lionel HO-gauge train, accessories, 4x8 folding table, includes trains, track, 1 1/4-amp power pack, switches, lights, houses, uncoupler station, etc. Retail value over \$80; asking \$50. W. C. Muhly, GA 1-3762.

Delta Homecraft power saw, 1/2-hp motor \$40. Dave Lang, 877-4171.

Ebonite Pinto child's bowling ball, \$8. Bob Gordon, HU 4-2682.

Size 8 lace wedding gown, \$50. Carol Yeager, GR 7-1354.

WANTED

Professional seamstress, reasonably priced. Mrs. Clauder, HU 7-1183.

Share 2-bedroom apartment in Colony Oaks. Tom Stern, HU 8-3300, Ext 410 or 591-2385.

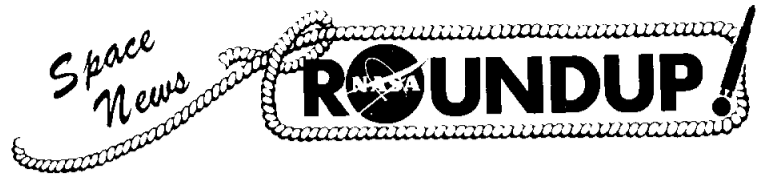
Used keel sailboat, 20 to 22-foot class, must be reasonably priced and in good shape. Bob Hymer, MI 9-0416.

Pay rider wants ride from Broadway and Detroit (close to Bwy Apts. 4114 Bdwy) to MSC, shift 8 a.m. to 4:30 p.m., starting November 7, Mary Lopez, MI 4-0795.

Car pool or will pay from 2607 Cedar Drive, La Marque to Bldg 419, 7:30 a.m. to 4 p.m., Evelyn Villeneuve WE 5-3878.

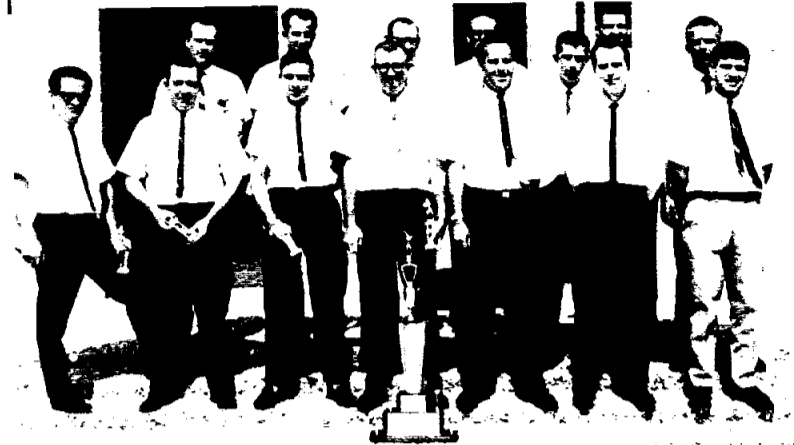
Will pay or trade rides from Long Drive/Telephone area to Bldg 4, 7:30 to 4, MWF. J. W. Colburn, MI 9-6361.

Want drivers for car pool from 8600 Gulf Freeway to Bldg 30, 8 to 4:30. Judy Mitchell, HU 6-2050.



MANNED SPACECRAFT CENTER, HOUSTON, TEXAS EMPLOYEE NEWS

Diamond Champions



FAST-PITCHERS—Winners in the 1966 MSC/EAFB Fast-Pitch Softball League was the Philco/WDL team. Left to right, they are: Front row—J. Dupuis, M. Gerdes, G. Corne, J. Vigare, G. Wegmann, L. Adlis and J. Smith. Back row—E. McLaren, E. Dale, C. Wall, D. Sullivan, R. Snodgrass, K. McAllister and R. Staudenmayer.

Bay Area Chorus to Sing At Tree Lighting Ceremony

A three-part concert by the Bay Area Chorus will be presented in the MSC Auditorium December 11 as a part of the Center's Christmas Tree lighting ceremony. Chorus Director Paul Ofield said that the musical selections will range "from the sacred to the secular, light to dramatic, and traditional to contemporary compositions."

Scheduled during the afternoon before the tree lighting, the Chorus performance will include Fred Waring's "Twas the Night Before Christmas" with orchestral accompaniment for the children in the audience. Concluding the program will be two familiar excerpts from Handel's "Messiah."

The MSC Tree Lighting Ceremony is a community event sponsored by the Clear Lake Junior Chamber of Commerce.

The same program will be presented December 10 at the LaPorte High School auditorium under the auspices of the newly-formed Bay Area Fine Arts Association, a group dedicated to sponsoring, presenting and coordinating cultural activities in the Bay area. The Chorus is a member of the Association.

Rehearsals for the Christmas program began Tuesday at the Clear Lake City Recreation Center, and rehearsals will continue weekly until the concert dates. Director Ofield urges anyone who wishes to sing with the chorus or play an instrument in the orchestra to contact Clarke Hackler at Ext. 2237.

25-Years Service



Henry Carleton
RASPO-Bethpage

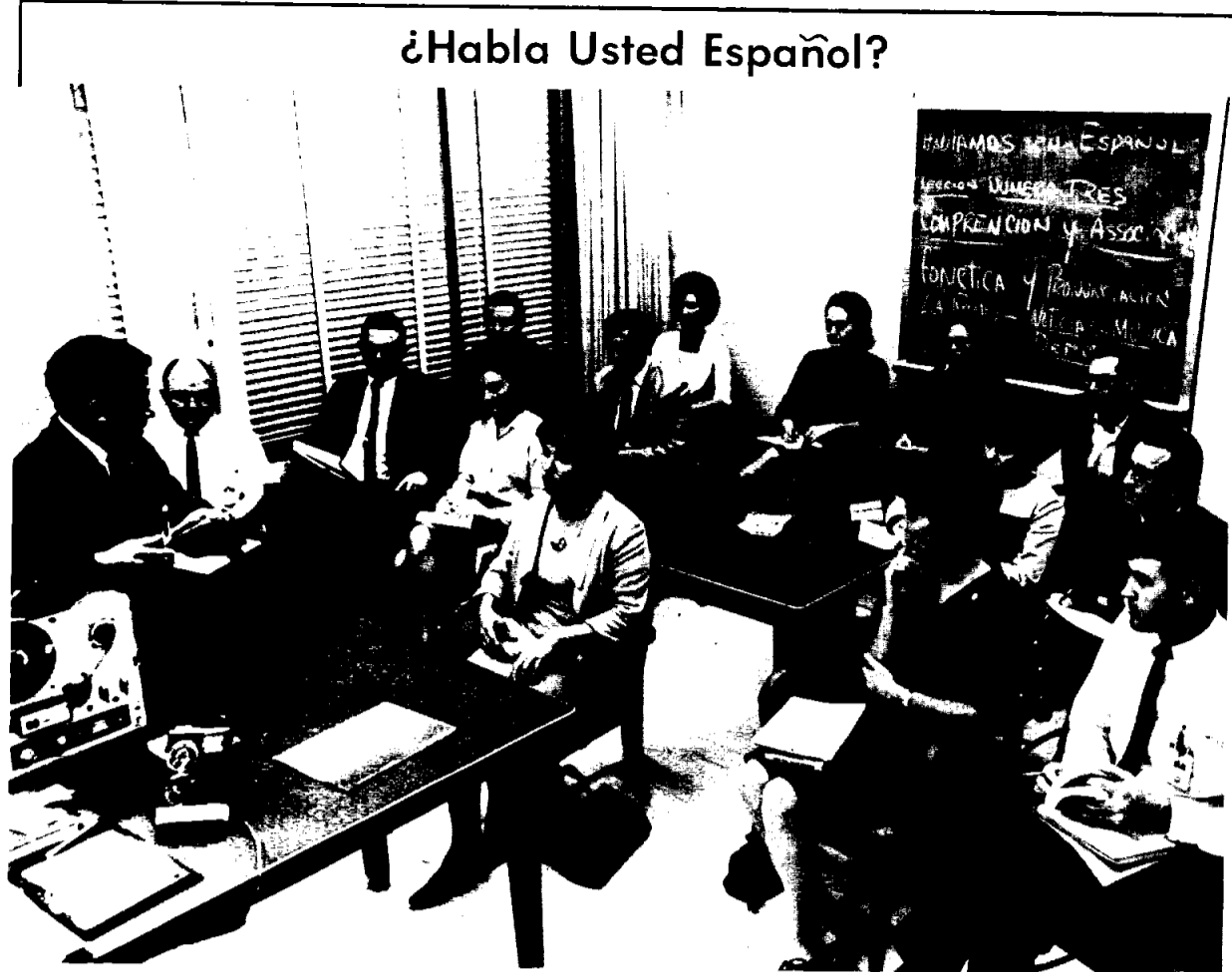
1966 MSC/EAFB Flag Football League

Standings as of October 21

American Division			National Division		
Team (No.)	WON	LOST	Team (No.)	WON	LOST
CAD (2)	4	0	Philco (20)	4	0
MPAD-G&P (3)	4	0	USCG (21)	4	0
IESD (5)	3	0	IBM (17)	3	0
FSD (4)	3	1	TRW (19)	3	1
Lockheed (6)	2	1	747th (22)	1	1
P&PD (1)	1	1	SMD (13)	1	3
2578th (11)	1	1	FCD (14)	1	3
Grumman (9)	1	3	P&PD (15)	1	3
Link (7)	0	4	NAA (18)	1	3
Philco (8)	0	4	SSD (12)	0	2
ANG (11)	0	4	MPAD/FSD (16)	0	3

A record total score of 65 points was rolled up in the October 11 American Division game when MPAD-G&P defeated ANG 45 to 20. In an October 19 game Glenn Dohm ran an intercepted pass back 78 yards for a touchdown, and Bill Keever, also of Philco ran 71 yards from line of scrimmage for a touchdown. MPAD-G&P defeated Grumman 54 to 0.

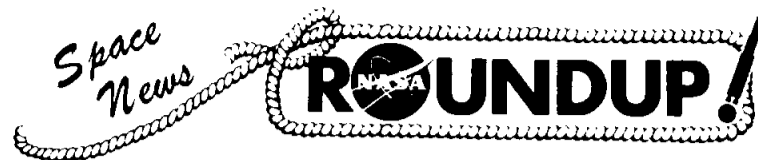
¿Habla Usted Español?



LANGUAGE LEARNERS—Nick Reyes, instructor for the EAA-sponsored Spanish courses held Monday and Friday nights in Building 1, uses tape recorders and other aids in teaching conversational Spanish to 14 students in the Monday night group. The two courses will run for 10 weeks. The groups attended a performance of the Ballet Folklórico at the Jones Hall of the Performing Arts.



?COMEREMOS?—Appetites at the ready, members of the EAA-sponsored Spanish classes had dinner at Molina's Mexico City Restaurant before curtain time at the Ballet Folklórico. Instructor Reyes stands at right.



SECOND FRONT PAGE

NASA, Brazil Complete Sounding Rocket Tests

A series of Nike-Cajun sounding rockets bearing acoustic grenade payloads has been launched from Natal, Brazil and Wallops Island, Va., completing an international series of experiments for meteorological research in the upper atmosphere.

The launchings were carried out under an agreement concluded in 1965 by the Brazilian Space Commission (CNAE) and NASA.

Purpose of the experiments launched last week-end was to study variations through the day in winds, temperatures, densities and pressures at 20 to 60 miles above the Earth in equatorial and middle latitudes.

Five rockets were launched from Natal at six-hour intervals, beginning early on October 1, and four from Wallops beginning at local solar noon (when the Sun is at maximum elevation), on September 30. The final rocket was launched Sunday, October 2.

The series of experiments was scheduled close to the time of the equinox, when the distribution of daylight and darkness is nearly equal in the northern and southern hemispheres. Data gathered from the experiments sent aloft from the launch sites will be compared to determine if diurnal variations in the upper atmosphere are greater in equatorial regions—where solar heating is constantly greater—than in the higher latitude regions.

The grenades—special explosive charges—were ejected and detonated during the rocket flights through the 20-60 mile region. Data on the atmospheric conditions were obtained by accurately locating each detonation in space by electronic tracking, and recording the directions and arrival times of the sound on arrays of sensitive microphones located near the launch sites.

Results of the experiments will be made available to the world scientific community.

The launchings were carried out under an agreement concluded in 1965 by the Brazilian

ERC Facility Ground Breaking Set for Nov. 10

A \$1,071,205 contract for foundations for the first phase of construction of NASA's Electronics Research Center, Kendall Square, Cambridge, Mass., was awarded today to Coleman, Bros. Corporation of Boston.

The award was made by the U. S. Army Corps of Engineers, New England Division, construction agents for NASA.

At the same time, James C. Elms, Director of the NASA Center, announced that ground-breaking ceremonies will be held November 10 to begin construction of the \$60 million permanent site.

The contract to Coleman Bros. is for construction of concrete-filled pipe pile foundations for a 26-story tower building, a three-story Microwave Radiation Laboratory, a three-story auditorium-cafeteria building and support facilities.

Solicitation of bids for the superstructures is scheduled next January and a contract award is expected in March.

UofH Historians Write Project Gemini History

MSC has contracted with the University of Houston for the preparation of *A Chronology of Project Gemini* and *A History of Project Gemini*, and a three-volume chronology of the development and unmanned flight phases of the Apollo program.

This research and writing effort will cover a two-and-one-half-year period, ending in December 1968. The estimated cost of the contract is \$97,000.

Three professional historians have been assigned by the University of Houston to execute

the terms of the contract. They are Dr. Peter J. Vorzimmer, a graduate of Cambridge University in England; Barton C. Hacker, a doctoral candidate of the University of Chicago; and Mary Louise Morse, a graduate of Columbia University. Dr. Loyd S. Swenson, Jr., serves as the Institutional Representative and Coordinator.

James M. Grimwood, Chief of the MSC Historical Office, is the Technical Manager of the project.

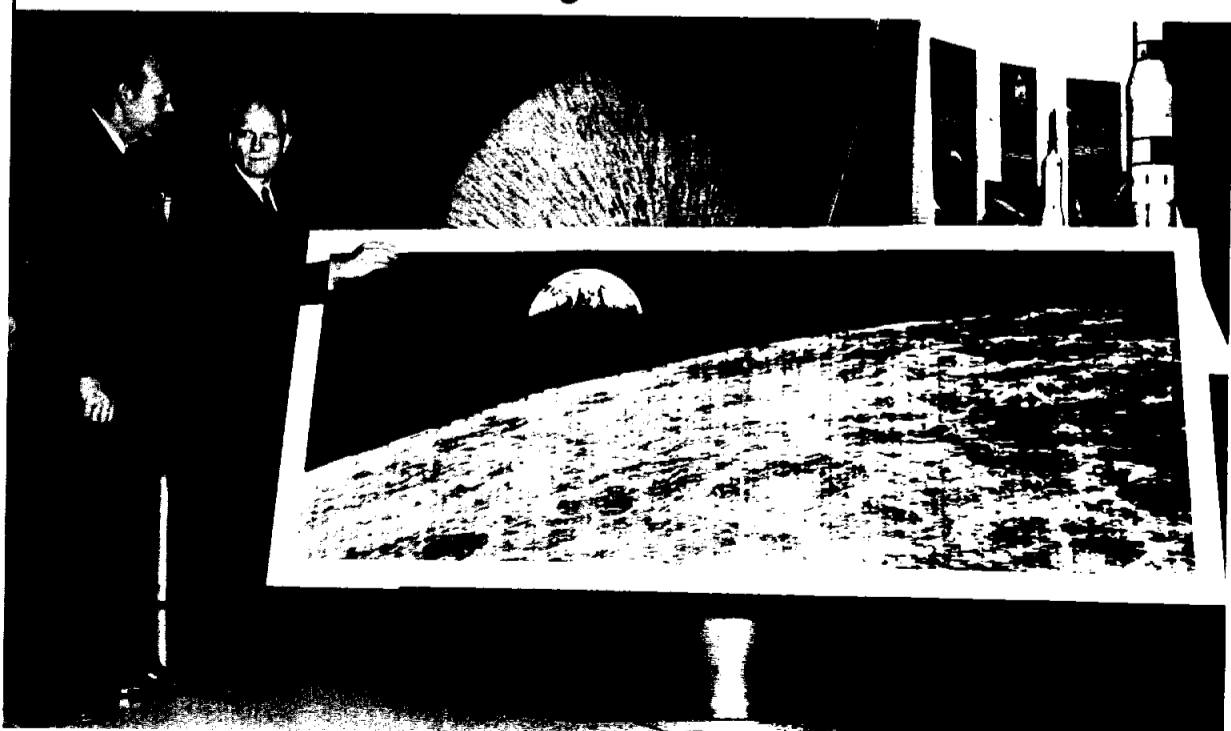
MSC and the University of Houston participated in a similar research and writing effort for the history of Project Mercury, the first U. S. manned space flight program, entitled, *This New Ocean: A History of Project Mercury*. This volume is now being printed by the Government Printing Office, with December 1966 as the anticipated publication date.

President's Mission

Safety 70 Program

Passing: Always pass traffic with care, So you'll always pass the graveyard.

A Long Look Back



EARTH PORTRAIT—Boeing Company Lunar Orbiter program manager Robert Helberg presents to Special Assistant to the MSC Director Paul Purser a 4 by 10-foot enlargement of the first photo ever made of the entire sphere of the earth. The photo was made during the Lunar Orbiter mission as the spacecraft came from behind the moon's backside August 23 in its sixteenth orbit. Boeing is prime contractor for the Lunar Orbiter and the program is managed by the NASA Langley Research Center.