SPACEPORT NEWS

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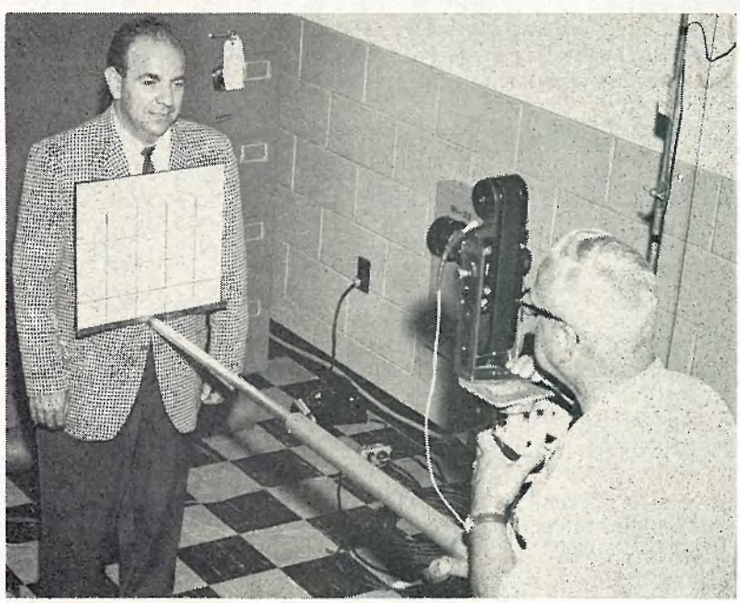
COOPER - SIXTH AMERICAN IN SPACE



GETTING SNAPPED for a new Launch Operations Center identification badge is Jim Russo, Chief of LOC's Technical Information Office. The badges will be issued to all NASA personnel within the next few days.

All NASA-Cape Employees To Receive Badge ID Cards

On instructions from NASA Headquarters, all Centers will adopt a combination badge - identification card which will incorporate a color code to identify level of clearance.

NASA personnel at Cape Canaveral will receive their badge-ID cards within the next few days.

On the front of the new badge will be a color photo, the job title of the bearer, and the name of the Center the individual represents. Also on the badge front will be a color bar designating level of clearance and the word "Cape."

The Air Force has agreed to accept the new badges for current Cape use, and they will be used when LOC moves to the MILA Area.

Use of color bars directly on the badge and color photos, which are aids to identification, are LOC innovations. Also a detachable clip which converts the badge to an ID card for carrying in a wallet is an LOC adaptation.

There is a possibility these features may be adopted for NASA-wide use.

It is anticipated that combination badge - identification cards will expedite security processing of NASA personnel visiting other Centers.

Under development is a badge for NASA contractor personnel, and reciprocal agreements with the Air Force for acceptance of each organization's badge, once LOC moves to MILA.

Astronaut Leroy Gordon Cooper became the sixth American to enter the vast void of space yesterday when his Faith 7 craft was hurled into orbit atop Atlas 130-D.

Liftoff time was 8:04 a.m.

If all goes well, Cooper will be far into the second half of his 34-hour trip this morning. If he completes all 22 orbits, as planned, he will travel a total of 575,000 miles.

Retrofire would then be initiated about 170 miles southeast of Kyushu, Japan, causing the spacecraft to land about 80 miles southeast of Midway Island.

Press Conference

Cooper is to remain aboard an aircraft carrier in the Pacific for a 48-hour rest and debriefing before returning to Canaveral via Honolulu for a press conference Sunday before more than 700 newsmen.

The 36-year-old Air Force Major came within 12 minutes of launch Tuesday morning before a radar failure at Bermuda caused a one day postponement.

Main objectives of MA-9 are: to study the effects of approximately one day orbital flight on the astronaut; verify that man can function in space as a primary "system" aboard the spacecraft for an extended period of time, and evaluate the combined performance of the astronaut with a Mercury spacecraft modified for a full-day mission.

Other Objectives

As secondary objectives, NASA hopes to obtain the astronaut's in-flight evaluation of the operational suitability of the spacecraft with its supporting elements, and to assess the effectiveness of the Mercury Worldwide Tracking Network and mission support forces during an extended manned orbital flight.

Underlying the entire MA-9 mission is the continued refinement of equipment, sys-

(See SIXTH, Page 8)

Capsuled Countdown Comments

Candid observations during the MA-9 countdown:

Perhaps the most impressive sight of all was the brilliantly lighted pad 14 before dawn. Banks of high candlepowered searchlights drenched Atlas 130-D and its service structure, giving the complex area — from a distance — the appearance of an over-decorated Christmas tree.

The front of Hangar S, also set aglow by strings of floodlights, was a busy place at 4:30 a.m.

Lt. Col. John "Shorty" Powers, Chief of MSC's Public Affairs Office, stepped to a microphone in front of the Hangar to brief newsmen. He said Cooper, when asked if he was ready, said "you bet."

Cooper breakfasted on orange juice, scrambled eggs, filet mignon and toast, with fellow astronauts Wally Schirra and Deke Slayton.

After a physical exam and a suit fitting, he emerged from Hangar S at 5 a.m. on the nose.

Cooper wore a broad smile along with his space suit and

(See CAPSULED, Page 8)

THE INSIDE STORY

SPOTLIGHT

EXTRA $$ VALUE

The recent formation of the Aerospace Research Applications Center should bring a smile to even the most reluctant taxpayer.

This new group, blessed by the government and private business, will attempt to derive industrial benefits from the multi-billion-dollar U.S. investment in space research.

NASA is so enthusiastic about the project it has contributed $150,000 to help get it going.

At an organizational meeting, held last month in Bloomington, Indiana, industry representatives considered ways for specifying what their companies need from space research.

These needs will be spelled out at panel meetings later this year and will be matched against space program innovations that have been spotted by NASA officials at the various space centers.

NASA has already demonstrated that space research can be of use in solving industrial problems.

Space agency technicians, for instance, in welding parts for the Saturn rocket, employed a glass fiber tape that kept the inside seam smooth while the outside seam was being welded. At the urging of Midwest Research Institute, a furnace and air conditioning manufacturer adopted the tape and cut its welding costs in half.

There are dozens of similar applications now known, and surely hundreds more to be discovered.

The formation of the Aerospace Research Applications Center is a sound step toward giving Joe Taxpayer more for his money.

And, after all, he's the guy who foots the space research bills. Why shouldn't he benefit by the knowledge gained?

A VOTE OF CONFIDENCE

A California taxpayer who felt he was getting his money's worth from America's space explorations, sent the following poem to NASA's Western Operations Office in Santa Monica:

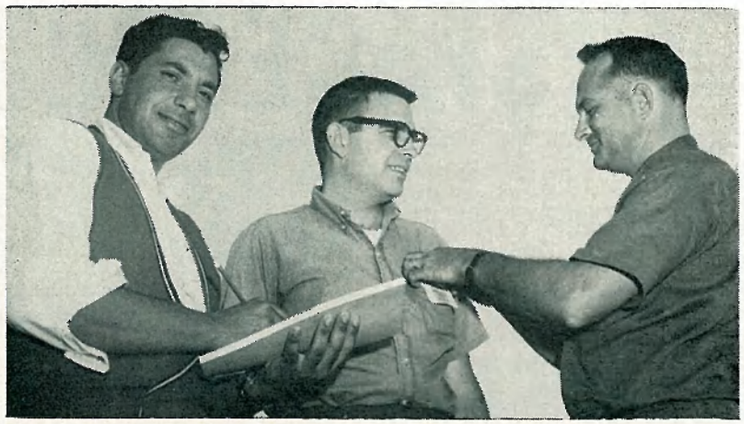
"The National Aeronautics and Space Administration,
Draws from us thanks, and our admiration;
Their knowledge of facts, and their imagination,
Are combined in achievement by sheer determination.

They've improved our communications,
They've improved our navigation,
They've made an art of observation,
To help mankind and the nation.

They've taught us that a Gyro is not for gyrations,
They've made life more comfortable for its duration.
May they work long and hard on space exploration,
And we'll be content with more appropriations."

SPACEPORT NEWS

Published each week by the National Aeronautics and Space Administration's Launch Operations Center, Cape Canaveral, Florida.



NASA HAS THREE members in the Titusville Jaycee club, and all three were elected officers recently. New director Jim Lovan of Audio/Visual, right, affixes nameplate to vice president Sam Beddingfield of MSC, as secretary Steve Pantano of Audio/Visual records the occasion in his minutes.

TIROS V SATELLITE SHUTS WEATHER EYE

The NASA Tiros V meteorological satellite has closed its weather eye in space after setting a record of 10½ months of continuous operations, a lifetime longer than any previous Tiros.

During this lifetime, the satellite not only operated longer than any other Tiros, but also transmitted more earth cloud cover pictures.

Through orbit 4,579, which occurred May 4, when pictures of excellent quality were received, Tiros V had sent more than 57,857 earth cloud cover pictures.

More than 80 percent were useable for meteorological purposes.

The U.S. Weather Bureau sent 396 storm advisories to nations around the world based on Tiros V cloud cover pictures including two hurricanes and four typhoons observed last August.

Tiros VI, launched September 17, 1962, continues to provide cloud cover pictures of excellent quality. Since April 1, 1960, six Tiros spacecraft have been successfully orbited out of six attempts.

SPACE ALMANAC

A CHRONOLOGY OF EVENTS IN SPACE EXPLORATION AND RESEARCH.

Five Years Ago

May 15, 1958 — The USSR announced the launch of Sputnik 3 with a payload of 7,000 pounds.

Three Years Ago

May 9, 1960 — The first production model of a Mercury spacecraft was launched to an altitude of 2,540 feet from Wallops Island. It parachuted to a landing and was picked up by a helicopter and returned to Wallops Island 17 minutes after launch.

May 13, 1960 — An Echo satellite, a 100-foot passive reflector sphere, failed to orbit after launch from Cape Canaveral.

May 15, 1960 — The USSR announced the launch of Sputnik 4. The payload was said to be 10,000 pounds.

May 19, 1960 — Tiros I spotted a tornado storm system in the vicinity of Wichita Falls, Texas.

JAYCEES SEEKING BEAUTY ENTRANTS

The Eau Gallie Jaycees are looking for pretty, talented, single girls between the ages of 18 and 28 (who isn't?).

Jaycees need the gals as entrants in their second annual Miss Eau Gallie Pageant June 8th — a preliminary to the Miss America Contest.

Candidates must live within the Eau Gallie mailing district. Prizes for the winner include a scholarship fund, a free weekend at the Eden Roc Hotel in Miami Beach and a trip to Sarasota to compete in the Miss Florida finals.

If you are interested, or know of someone who would be, call AL-4-4247.

A REGAL SMILE was worn by Evelyn Swartz of LOC's Technical Library staff as she was crowned Miss Indian River Jubilee recently in Cocoa. Her escort for the evening was Joe Whitley of Brown Engineering.

MILA Construction Projects Estimated At $33 Million

The U. S. Army Corps of Engineers has called for bids on two construction projects connected with NASA's Saturn V Moon exploration complex at Merritt Island. The two jobs have a price tag estimated at $33.5 million.

The larger contract calls for furnishing and erecting the structural steel for the Launch Complex 39 Vertical Assembly Building, a 524-foot-tall structure where the Saturn V will be assembled in an upright position and moved vertically to launch pads several miles away.

Estimated cost of the steel work is $32 million. Subsequent contracts will call for foundation preparation, outfitting the Vertical Assembly Building, and other phases of construction on the massive complex.

Bids will be opened June 25 on the steel erection part of the job.

On May 28 bids will be opened on launch umbilical tower areas 1 and 2 and Saturn barge unloading docks at Merritt Island. Cost of this work is estimated at $1.5 million, according to Army Engineers.

Some 50,000 tons of steel will be used in construction of the VAB, the largest building in the United States south of the Washington Monument. The VAB is a single structure, composed of low and high bays. The high bay will be 418 by 513 feet at the base and 524 feet tall. The low bay is 256 feet by 429 feet at the base and 190 feet tall. The contract will require the successful bidder to start delivery of steel within 120 days after the contract is awarded and complete the erection of the steel work by Oct. 9, 1964 with various intermediate completion dates.

The smaller contract for the launch umbilical tower areas and barge unloading facilities will require that the work on the LUT areas be completed by Oct. 1, 1963 and all remaining work on the barge facilities by Jan. 1, 1964.

Inlet Closure

Army Engineers in Jacksonville also announced that bids will be opened on a contract calling for closing an inlet which was opened in March, 1962 between the Atlantic Ocean and Pecks Lake in east Martin County. Involved in the $300,000 project will be dredging of a dike to close the new inlet located 3.7 miles south of St. Lucie Inlet. The contractor will be required to complete the job within 60 calendar days.

The Corps of Engineers also announced the award of four contracts totaling $1,852,280.

The largest contract, costing $819,000, was awarded to Gahagan Dredging Corp. of Tampa, Fla. for dredging fill material for a 7½-mile-long causeway across Indian River connecting U. S. Highway 1 and NASA's Manned Lunar Landing area at Orsino. The road will tie in with a causeway already under construction from Orsino to Cape Canaveral. Later contracts will be awarded for paving the causeway and providing a bascule-type bridge across the Indian River, route of the Intracoastal Waterway.

Mars Possible Target For Post-Lunar Flight

Study contracts are being let to various companies which are working on ways to get the astronauts beyond the moon into the far reaches of the solar system.

Such a project, says Dr. Joseph F. Shea, NASA's Deputy Director of Systems, Office of Manned Space Flight, is no short-range plan, but is aimed at the very earliest mission date possible — in the 1970's or 80's.

There will be many unmanned probes before men are sent out in spacecraft for a closeup view of one of the planets.

Dr. Shea told the second manned space flight meeting in Dallas, Texas, recently that the long-range planners have been considering a lot of alternatives in planetary missions.

He expects Mars to be the first probable target for a manned planetary flight, because "it looks like the most comfortable target."

IT'S COLONEL COOPER NOW, SUH!

SUBJECT: General Order Number: 1757A conferring the highest appointive rank of

COLONEL, C. H. C.
upon the distinguished citizen,
L. Gordon Cooper

in grateful recognition of his exemplary service to his nation through courage, dedication, comprehension and curiosity.

WHEREAS: L. GORDON COOPER has so dedicated himself to the purpose of keeping America first in the international space race, he is therefore commissioned a full colonel in the Confederate High Command to enjoy the benefits attendant to the dedicated "Men in Grey" who fought the noblest of battles for a cause in which they sincerely believed.

WHEREAS: L. GORDON COOPER has proved his own unswerving dedication to the contemporary cause in which he believes, he is therefore caused to be a Colonel of the Greys.

WITNESSETH: My hand and seal this 25th day of April, 1963

Commanding, Salling Brigade and Space Forces

Lieutenant General Neil Vanderpool

TINY TV CAMERA TRANSMITS COOPER PICTURES

For the first time during any Mercury flight, project engineers are literally able to "take a look" at progress while Astronaut Gordon Cooper circles the globe.

From a tiny ten pound television camera, electronic pictures of the pilot, his instruments, and experiments are being telemetered back to Cape Canaveral's Mercury Control Center.

Because conventional television equipment is tremendously massive, scientists developed a special transmission method to allow dramatic bulk and weight reduction.

Unlike commercial TV which broadcasts 30 pictures each second, NASA's capsule camera produces only one picture every two seconds. Not only is the result something jerkier than old-time movies, it is impossible to "freeze" a picture on the screen for study.

Realizing that it would be extremely useful to effect immediate detailed visual evaluation of TV signals transmitted while MA-9 was orbiting, Mercury engineers asked LOC's Audio Visual Branch to invent a way of quickly translating the TV pictures into ordinary still photos.

Though modifications would be necesary, it has long been possible to record TV transmissions on motion picture film by actually photographing a screen. This much of the request was filled easily, but the engineers had to look at still prints in the shortest time possible.

Normal Processing

Normally it would be necessary to process the motion pictures in one laboratory, enlarge individual shots in another, and then process the prints through several chemicals prior to viewing.

Under conventional methods this process takes about three and a half hours, much too long if engineers were to gain information in time to be useful to evaluate problems during the flight.

LOC's photo technicians tackled the problem and discovered that the time could be cut more than half (to 1 hour and 20 minutes) by combining equipment in one lab close to Mercury Control. Still too long said the Mercury engineers; by that time the capsule would have circled the earth again.

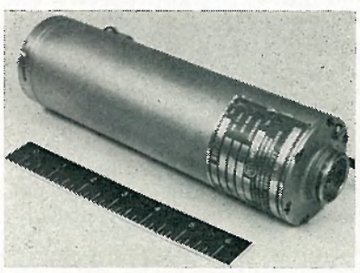
Further investigation revealed rapid processing devices seemingly ideal for telescoping lag time between transmission and evaluation saved even more time.

The J. A. Maurer Co. made an ingenious compact device which could turn out completely processed motion picture film in five minutes.

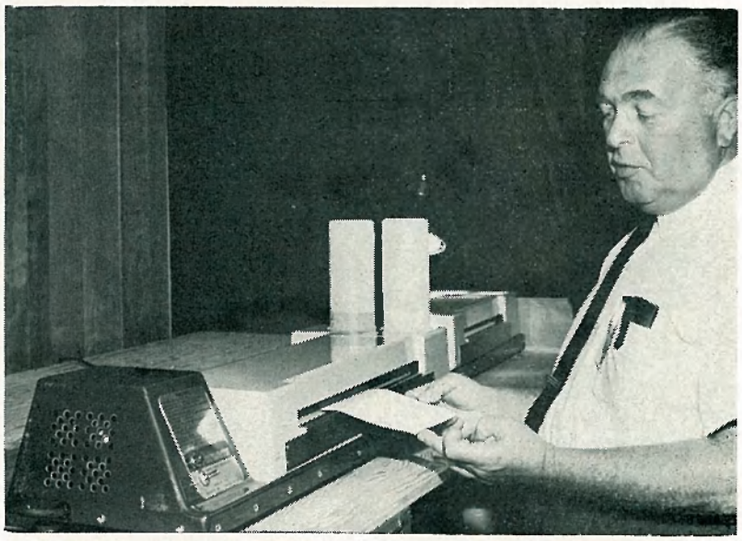
Another small machine, the Foto-Rite, is capable of processing still prints in only eight seconds. (Conventionally, it takes 45 minutes.)

The still equipment, now also miniaturized, and was placed in a trailer outside Mercury Control.

The final result? Mercury engineers were handed finished photographs originally taken by Astronaut Cooper in space only 25 minutes after the shutter clicked.



THIS DIMINUTIVE television camera is being used by Astronaut Cooper to send pictures back to earth during his flight.



JOE KOLBER, LOC Audio Visual Branch, demonstrates the remarkable photo processor which develops a print in seconds. The device is being utilized during Cooper's flight to provide engineers with quick still prints of television pictures sent from Faith Seven in orbit.

Flight Records Processed Via Fast Neoflow Camera

Flight records on Astronaut Gordon Cooper's MA-9 trip are being processed through a new, $30,000 camera in LOC's Reproduction shop, and made available to engineers in record-breaking time.

The neoflow camera — specially-tailored for NASA's needs at the Cape, is capable of processing 100 feet of records in 11 minutes.

Any type of copy may be run through the camera, and a paper negative, either the same size as the original, or reduced to desired size, is made.

This paper negative can then be reproduced rapidly by conventional means.

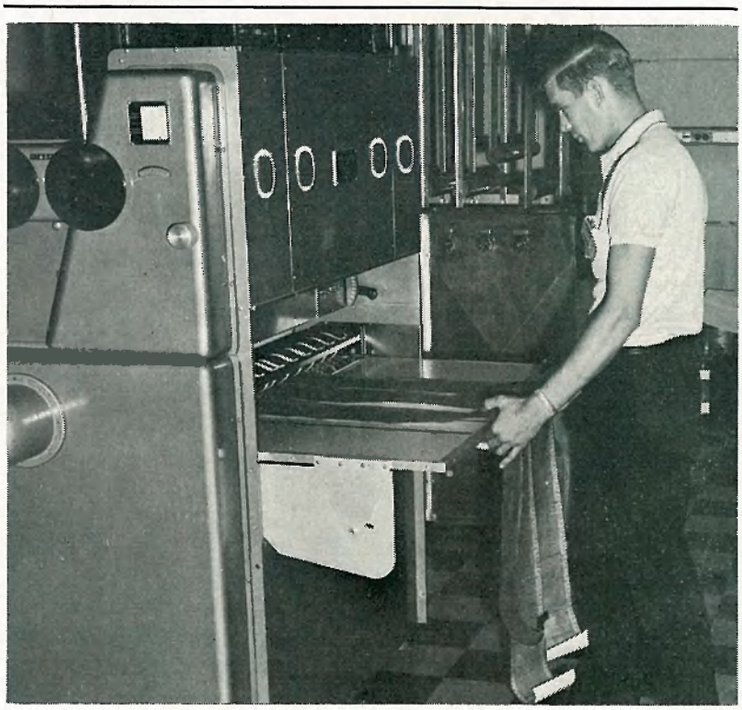
Cooper was the first astronaut to carry a 40-foot roll of positive film — processed through the neoflow camera. On the film were detailed mission instructions.

The camera is a product of Pam Manufacturing and Sales, Inc., of Pittsburgh. LOC Audio/Visual Chief Ron Crain met with the manufacturers to list several innovations needed for the workload it would handle at the Cape.

One of its unique features is the ability to produce a negative either the same size as the master, or reduced down to one-sixth the original.

Considerable file space is saved, for instance, by reducing engineering and mechanical drawings.

The biggest saving, however, is in time. Reproduction officials estimate the camera saves 40 man hours a week now, and they predict it will save even more in the future.



HOWARD LEESER of Reproduction feeds three sequences of records into NASA's neoflow camera at the same time. Officials estimate the speedy new device saves 40 man hours a week.

ARTIST'S CONCEPT of the MA-9 launch sequence shows liftoff, booster and tower jettison, sustainer and vernier engine cutoff and spacecraft separation.

PRIME COMMUNICATION and recovery vessel for the MA-9 mission is the USS Kearsarge. It is stationed about 60 miles south of Midway Island in the Pacific Ocean.

Human Research Committee To Study Biotechnology

A Research Advisory Committee on Biotechnology and Human Research has been formed by NASA. It is chaired by Dr. Charles I. Barron, widely-known flight surgeon and president of the Aerospace Medical Association.

The new committee was established by Dr. Raymond L. Bisplinghoff, Director of NASA's Office of Advanced Research and Technology (OART). The committee will report to Dr. Bisplinghoff through Dr. Eugene B. Konecci, Director of Biotechnology and Human Research in OART.

Similar to the other eleven research advisory committees under OART, the new group reviews current programs and makes recommendations to guide the course of NASA biotechnology research.

Cross Section

Because they are chosen from a broad cross-section of government, industry and the universities, members of the committee will furnish valuable assistance in considering research problems, recommending new endeavors and assisting in coordination of research and technology with scientific, industrial, military and other organizations and individuals.

"The work of our advisory committees provides us with most valuable scientific and technical assistance," Dr. Bisplinghoff said.

"We are reassured that the creation of this committee will assist us with our life sciences work, the newest element of the OART organization. It will serve as a most useful medium for the interchange of information regarding research investigations in progress or proposed."

Astronauts To Be Wired For Sound

The astronauts making the United States' first two-man Gemini endurance space flight next year will be wired for sound like never before — to a pair of small magnetic tape recorders that will register the spacemen's physical and mental reactions second-by-second throughout the journey.

Cook Technological Center Division of Cook Electric Company, in Chicago-suburb Morton Grove, Ill., has completed the first of the new biomedical recorders under contract from NASA's Manned Spacecraft Center, Houston, Texas. The contract also includes development of playback equipment for post-flight analysis of the recorded data.

A pair of the new recorders weighs less than six pounds and occupies only 125 cubic inches of the Gemini spacecraft. Each recorder will receive and record continuously for 30 hours, six kinds of simultaneous signals from sensors within the astronauts' spacesuits. Each also will have two extra reels, providing enough tape to stretch the length of five football fields and to record up to 90 hours of biomedical data on each recorder.

MSC considers the recorders as being vital to one of Gemini's prime objectives — detailed continuous analysis of astronauts' physical and mental endurance in long periods of space flight, pointing toward the Apollo moon project. Up to now Mercury flights have utilized spot-check telemetry to ground stations for biomedical data on astronauts in orbit.

The Center said the recorders are adaptable to Mercury flights.

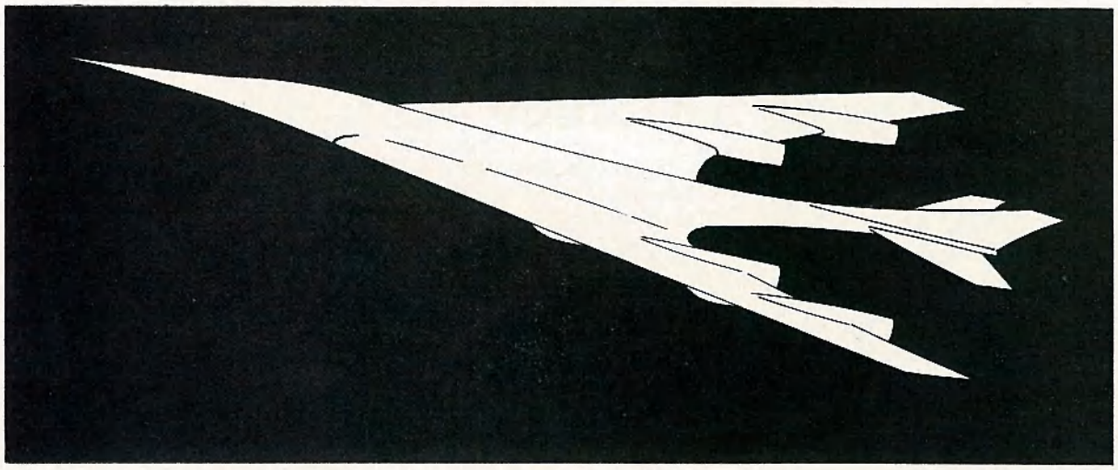
Best In Show

Remember Cathy Stone — the 17-year-old high school senior who operated on rats' kidneys for her science fair exhibit?

She won a $50 savings bond Friday night for the "best in show" exhibit at Melbourne High School.

The award, sponsored by the Management Club, was presented by Astronaut Deke Slayton at the Cape Colony Inn.

Cathy is the daughter of Courtney Stone of Technical Information.



SCAT—4 is one of three supersonic commercial air transport concepts at NASA's Langley Research Center which will be studied by industry. The studies will complement other programs being carried out by NASA and the Federal Aviation Agency in a national effort to provide the technology necessary for the development of a craft capable of speeds up to 2,000 mph. SCAT-4 features a highly swept-back wing with many aerodynamic refinements for efficient operation in the 2,000-mph range.

JAPANESE VACATION FOR GLENN FAMILY

NASA has announced that Astronaut John H. Glenn, Jr., plans to take about ten days' vacation in Japan with his family following the orbital flight of Gordon Cooper.

Glenn is voice communicator between Cooper and a Project Mercury tracking ship stationed about three hundred miles off the coast of Japan.

He passed through Tokyo early in May enroute to Nagasaki where he boarded the tracking ship, the Coastal Sentry.

About four days after the Cooper flight, Glenn will be joined in Japan by his wife, Annie, and two children, David, 17, and Lyn, 15, who will arrive from their home in Houston, Texas.

America's first astronaut to orbit the earth said, that after spending leave time in Japan ten years ago, he has long wanted to revisit that country to introduce his family to Japanese culture and visit as many places of interest as possible.

Dr. Gruene In Berlin

Dr. Hans Gruene, Assistant Director, Launch Vehicle Operations, was in Germany yesterday for the opening of a special NASA space exhibit at West Berlin's Urania House.

Dr. Gruene will also deliver a speech on "Highlights of a U.S. Project to Land Apollonauts on the Moon," and show a Saturn film.

LOC DIRECTOR Dr. Kurt H. Debus points to the upper reaches of Launch Complex 37, as members of the Federal Republic of Germany's Armed Forces gaze at the skyscraper. To the left of Dr. Debus is General Foertsch, Chief of Armed Forces. The group toured Cape facilities recently.

Brevard Population Still Soaring

Local Florida Power and Light Company officials have estimated Brevard's ever-booming population at 156,588.

They multiplied power connection estimates by 3.4—the accepted figure of persons in each household—and subtracted five per cent for commercial outlets and meters not in use.

The FP&L estimates list 72,650 people in the south end of the county, 54,940 in central Brevard, and 25,760 in northern areas.

Planners, projecting these estimates into 1967 predict 125,000 people in South Brevard, 100,000 in Central Brevard and 61,000 in the north end of the county.

Astronomer Discovers New Planet

Discovery of a planet larger than any in our solar system has been made by Dr. Peter van de Kamp of Swarthmore College in Pennsylvania.

The new body was named Barnard's Star by its discoverer.

It is the third planet discovered outside the solar system, but the most nearly planet-sized one of all.

This means there are now three identified "solar systems" besides the one inhabited by earth.

Barnard's Star is much smaller than the two previously discovered bodies, only 1/700th the sun's mass. It is one and a half times the mass of Jupiter or nearly 500 times as massive as the earth.

Astronomers have hailed the discovery as "exciting," but doubt that the planet bears life as earth knows it because it is too large and too cold.

Despite is proximity to earth, Barnard's Star is invisible with or without a telescope because it is so dim. Dr. van de Kamp discovered it through analyzing the "wobbles" its parent star makes in its movements across the heavens.

This new finding adds support to the conviction of astronomers that a great many solar systems exist, some of them possibly supporting life.

$115 MILLION PACT AWARDED FOR F-1

NASA has awarded a $115 million contract to Rocketdyne Division of North American Aviation, Inc., for continued development of the F-1 rocket engine.

This detailed contract is a follow-up to a letter contract for $16 million awarded Rocketdyne last year. Under this pact, the work will be carried to its conclusion in 1966.

Five F-1 engines, each developing 1.5 million pounds thrust, will power the first stage of the Saturn V Apollo moon rocket.

RELAY TRANSMITS MA-9 DATA OVERSEAS

NASA's RELAY communications satellite has provided European television viewers with the first scenes of activity of Astronaut L. Gordon Cooper's flight from Cape Canaveral.

Initial reports indicate that the pictures received in Europe were of excellent quality.

The Europeans saw, via RELAY, a recapitulation of activities that transpired at Canaveral Tuesday shortly after the flight was postponed.

The RELAY transmission to Europe was between 10:45 and 10:50 a.m. EST. Without RELAY, European audiences would have had to wait several hours to see events at the Cape. The transmission was made on RELAY'S 1181st orbit.

The transmission to Europe was via land line from Cape Canaveral to Andover, Maine and from Andover, via RELAY to Pleumeur Bodou, France. Receiving European countries included: Great Britain, France, Belgium, The Netherlands, West Germany, Austria, Denmark, Sweden, Finland, Switzerland, Norway, Italy, Portugal, Ireland, Poland and Hungary.

STATE FIRMS AWARDED SEVERAL MSFC PACTS

Contracts totaling approximately $56 million were awarded during March by the NASA-Marshall Space Flight Center in support of its space vehicle development programs.

Florida firms received $1,307,074 of the total, as follows:

Ft. Lauderdale — Systems Engineering Laboratory, Inc., $108,142, amplifiers and computer entry system.

Ft. Walton Beach — Vitro Corp. of America, $409,969, support services for MSFC Test Division.

Gainesville—Board of Control, University of Florida, $34,963, study of elastic behavior of "sandwich" structures.

Orlando — Burndy Corp., $30,000, relay sockets and contacts.

West Palm Beach — United Aircraft Corp., $727,000, feasibility demonstration of variable thrust RL10 engine.

COMING TO GRIPS is Fred Stevens, right, as he congratulates Goddard Delta Project Officer Ray L. Norman on his first anniversary with NASA. Stevens is Chief of the NASA-Delta Project Office and he made the presentation on the eve of the 17th consecutive successful Delta launch last week, which orbited Telstar II.

MERCURY ATLAS LAUNCH CHRONOLOGY

Vehicle	Date	Type Launch	Type Payload
Big Joe I	Sept. 9, '59	Suborbital (Ballistic trajectory)	NASA "boiler plate" Capsule
Mercury-Atlas-1	July 29, '60	Suborbital (Destroyed)	McDonnell Instrumented Capsule
Mercury-Atlas-2	Feb. 21, '61	Suborbital	McDonnell Instrumented Capsule
Mercury-Atlas-3	Apr. 25, '61	Orbital (Destroyed)	Crewman simulator
Mercury-Atlas-4	Sept. 13, '61	One Orbit	Crewman simulator
Mercury-Atlas-5	Nov. 29, '61	One Orbit	Enos (chimpanzee)
Mercury-Atlas-6	Feb. 20, '62	Three Orbits	John Glenn
Mercury-Atlas-7	May 24, '62	Three Orbits	M. Scott Carpenter
Mercury-Atlas-8	Oct. 3, '62	Six Orbits	Walter M. Schirra
Mercury-Atlas-9	May 15, '63	Twenty-two orbits planned	Gordon Cooper

NASA Trio Awarded Trophies

Three NASA employees entered Sunday's Gymkhana sports car race in Orlando, and all three brought home trophies.

Leroy Barnes of Facilities copped two prizes, including first place, overall. His wife, Martha, of personnel, who edged him in competition two weeks ago, finished first in her class and third overall.

LOC Security Chief Charles Buckley, racing competitively for only the second time, was runnerup in his class.

"Quick Look" Computer In Operation

A new electronic computer device is giving NASA scientists a "quick look" at data received from earth satellites.

Electronics experts at the Goddard Space Flight Center have designed a "computer interface" instrument which has cut data analyzation time and printing time to 15 minutes.

The computer is currently charting orbital characteristics, internal temperatures and neutral gas information gathered by Explorer 17.

Data Reruns

Prior to design of the new equipment, satellite information fed into pulse code modulation set-ups required many reruns of taped data. Sometimes space data took weeks or even months to evaluate.

The interface, designed and built by Goddard's electronics development technician William N. Stewart, allowed data analyzation and printing through the computer in real time, rather than storing information on magnetic tape.

The systems was tried last year in vacuum chamber experiments with Explorer 17, and the ground test results were almost identical with results being shown in the satellite itself.

Officials said the device will be used in data processing of other satellites.

Direct Transmission Development Sought

"NASA may eventually find a way to develop the necessary power to bounce radio and television signals off satellites to a very large area of the earth," Leonard Jaffe recently told a Senate Space Committee.

Jaffe is acting director of NASA's Office of Applications.

Other space agency spokesmen said such a development was still perhaps 15 years away.

The experimental communications satellites Telstar, Relay and Syncom operate between ground stations at each side of the Atlantic, with transmissions feeding into the internal communications system of the receiving country.

FLORIDA LAWMAKERS, at Canaveral Saturday for a tour of facilities, were briefed on Telstar operations and the Delta booster by Bob Gray, pointing to chart, Chief of Goddard's Field Projects Branch. The legislators were hosted at the Cape by LOC Director Dr. Kurt H. Debus and Major General L. I. Davis, AFMTC Commander.

SIXTH AMERICAN

(Continued from Page 1)

tems and procedures leading to the much more ambitious Gemini and Apollo spacecraft flights which will ultimately, and within this decade, land two U.S. astronauts on the moon.

100 Countries

The orbital track of a 22-orbit mission will carry Astronaut Cooper over more than 100 countries, islands and possessions. On his first orbit, the MA-9 pilot left the United States, and crossed the Atlantic, the African continent, Indian Ocean, Australia, the Pacific, Mexico and the southern United States in an orbit ranging 32-1/2 degrees north and south of the equator. Beginning with the 16th orbit, the spacecraft is to follow the earth tracks of the initial orbits.

Experiments scheduled during the MA-9 mission include: aeromedical studies, flashing beacon experiment, dim light phenomenon photographs, horizon definition experiments, radiation measurements, tethered balloon experiment, infrared weather photographs, television system operation, cabin environmental temperature study, HF antenna test, ground light experiment, window attenuation evaluation, and white patch temperature experiment.

Out Of This World

Not to be outdone by Astronaut Gordon Cooper's in-flight menu, Cape cafeteria number two posted this fare Tuesday:

Roast Beef Au Atlas Jus, Chicken Astro Ala Cooper, Spaghetti With Faith 7 Meat Sauce, Fried Filet of Around the World Fish with 22 Blended Sauce, and Beef Orbital Soup.

Capsuled Comments

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he carried his typewriter-size air conditioning unit in one hand and waved to the crowd that has assembled with his other.

He seemed to have spring in his step as he moved swiftly into the transfer van. MSC van driver C. J. LaMar, preceded by three police cars, drove the three and a half miles to pad 14 in 16 minutes — at a maximum speed of 20 mph.

At 14, he was briefed by backup pilot Alan Shepard on the countdown status, and then shook hands with B. G. MacNabb, head of General Dynamics at the Cape, on his way to the elevator.

He was in the capsule, atop the shiny, stainless steel Atlas at 5:37 a.m.

At the press site one TV cameraman had "Go Gordo Go" affixed to the back of his jacket in adhesive-taped letters.

There were, by one count, 702 accredited newsmen at Canaveral to cover the launch. At least 49 of them, from 15 countries, including Korea, Japan and Taiwan, were foreign correspondents.

At liftoff it was easy to tell novice birdwatchers from the pros; many of the new-timers forgot to bring sunglasses, and squinted painfully as the Atlas soared up by the bright morning sun.

Dear Sir:

I would like some pictures of missiles if it is not too much trouble. I am a girl so don't mistake me for a boy.

Connie R.
Stepney, Conn.

VIRGINIA UNIVERSITY TO CONDUCT STUDY ON SATELLITE DRAG

NASA's Langley Research Center has awarded a contract for $111,674 to the University of Virginia, for developing research apparatus and techniques for laboratory studies of drag on satellites.

Although the Earth's atmosphere is very thin at the heights at which satellites travel, there are some scattered molecules which do exert drag on spacecraft, and scientists need a more precise way to measure the very small forces for predicting satellite lifetimes.

The University of Virginia, under the one-year contract, will develop suitable laboratory equipment, including a micro-balance able to measure very small amounts of force, and will make laboratory measurements of molecular impact forces exerted on samples of spacecraft materials.

Results of the University's work should contribute to more accurate forecasts of the drag a space vehicle may encounter.

NASA NEWCOMERS

LOC's Launch Support Equipment Engineering Division in Huntsville has been increased by 11 new employees in recent weeks, correspondent Joe Powell reports.

The newcomers are Grover Morgan, E. D. Cagle, Emett Jones, Jack Warwick, James McBee, James Untz, A. M. Allen, Keith Jenkins, Ken Ahmie, Earl Sullivan and Robert Wright.