

National Aeronautics and Space Administration • Ames Research Center, Moffett Field, California

1972 Combined Federal Campaign, Oct. 2 - 8

WHAT IS THE COMBINED FEDERAL CAMPAIGN?

It's a one-time solicitation for voluntary health and welfare agencies. The Santa Clara County United Fund and the National Health and International Service Agencies which normally would solicit next spring are cooperating locally in a single campaign for Federal personnel.

WHAT IF I DON'T LIVE IN SANTA CLARA COUNTY?

When you give to the Santa Clara County United Fund at your place of employment, your home community, if it is in Santa Clara County, is credited with your gift. If you live outside the county, your contribution will be forwarded to the United Way organization in your area of residence if you so specify at the time you make your pledge.

What Your Gift Can Do

\$27 - Offers each of eight disadvantaged children a one week day camping experience or provides one week of day care for three children of single working parents. . . .

\$54 - Provides eight nursing or physical therapy sessions for an elderly or bedridden patient . . .

\$60 - Makes available 12 days of vocational training for a handicapped person . . .

\$80 - Provides eight professional counseling sessions to help solve family problems and prevent family breakdown . . .



RED CROSS . . . Santa Clara Chapter Manager, Gordon Jones (second from left) describes computerized blood matching to Karrell W. Reynolds (third from left), AA, the 1972 Ames CFC Chairman, and a group of Ames CFC Division Solicitors; Jessie C. Gaspar, RKS; and Edward C. Castle (right), AFSP, during a tour of the Red Cross facilities at 333 McKendrie St., San Jose. The Ames group saw "first-hand" how the money collected during the CFC is used by the Red Cross to provide such services as; life-saving classes, home-nursing classes, aid to the aged, aid to military personnel and their families, baby-care classes, and, of course, blood.



ONE . . . out of every six boys will be in trouble with the law before he is 18. The California Council on Crime and Delinquency works to lower these odds by improving police youth bureaus . . . by upgrading juvenile courts . . . by developing programs to treat many more youngsters in the community . . . and by getting the citizen involved in crime and delinquency control. The California Council is a voluntary organization and member of the United Fund.

HOW MUCH DOES IT COST TO OPERATE UNITED FUND?

In 1971 campaign expenses amounted to 5.4 cents on the dollar, with year-round administrative costs of 3 cents.

WHO OPERATES UNITED FUND?

Local citizens like yourself. Community residents volunteer their time and talent not only during campaign but throughout the entire year.



KARRELL W. REYNOLDS . . . Chief of Services and Supply, and this year's Combined Federal Campaign Chairman, said during a recent interview; "This is a unique opportunity for federal employees to contribute their fair share in extending economic support to services that provide vital aid to those less fortunate. I urge your help in this campaign, to enable our Center to play its proper role and meet its community obligation."

Fair Share
Guide



Income up to \$10,000

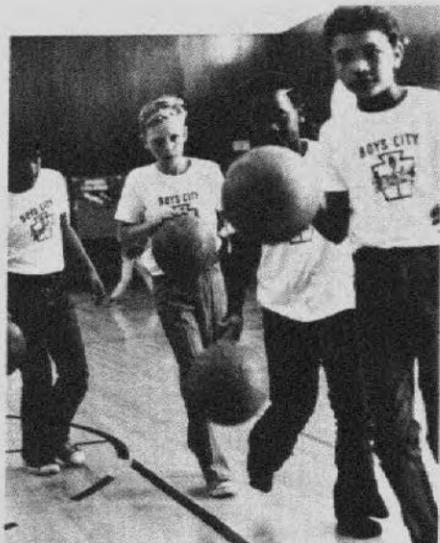
One hour's pay per month

Earning More Than \$10,000

One percent of annual income

thanks to you
it's working

Your Donation Supports These Local Agencies



BOY'S CITY BOYS CLUB

Adult and Child Guidance Clinic
 Alviso Community Day Care Center
 American Social Health Association
 Boys City Boys' Club of Santa Clara County
 Boy Scouts of America
 Buddy Project
 California Council on Crime and Delinquency
 Cambrian Student Aid Fund
 Campbell Area Student Aid Fund
 Campbell Emergency Welfare Fund
 Campbell Union High School District
 Student Emergency Welfare Fund



HOPE FOR RETARDED CHILDREN AND ADULTS

Camp Fire Girls - Foothills Council
 Camp Fire Girls - Santa Clara County Council
 Catholic Social Service of Santa Clara Co.
 Camperships for Disadvantaged Youth
 Catholic Youth Organization (CYO)
 Children's Center of Stanford Community
 Children's Home Society of California
 Community Coordinated Child Care Program
 Community Legal Services
 Comprehensive Health Planning Assn.

San Jose Police Athletic League - PAL
 Cupertino Welfare Fund
 Dann Services
 Division of Clinical Social Work
 Stanford Medical Center
 Eastfield Children's Center
 Ex-Squared Foundation (X-Marc)
 Family Service Association of the Mid-Peninsula
 Family Service Association of Santa Clara County
 Friendly Visiting Service-Santa Clara County Council
 Friends Outside-Santa Clara County Chapter



PATHWAY SOCIETY

George Mayne School Student Welfare Fund
 Gilroy School District Student Aid
 Girl Scouts-Santa Clara County Council
 Goodwill Industries of Santa Clara County, Inc.
 Homemaker Service
 Hope for Retarded Children and Adults
 Information and Referral Resources
 Institute for Medical Research of Santa Clara County



RED CROSS LIFE SAVING CLASS



SALVATION ARMY

Jewish Federation of Greater San Jose
 Kingdom Workers
 Los Gatos Emergency Welfare Fund
 Los Pequenitos Child Development Center
 Mental Health Association of Santa Clara County
 Milpitas Youth Center
 Mid-Peninsula Dental Health Foundation
 Milpitas Youth Center
 Mexican-American Community Services Agency



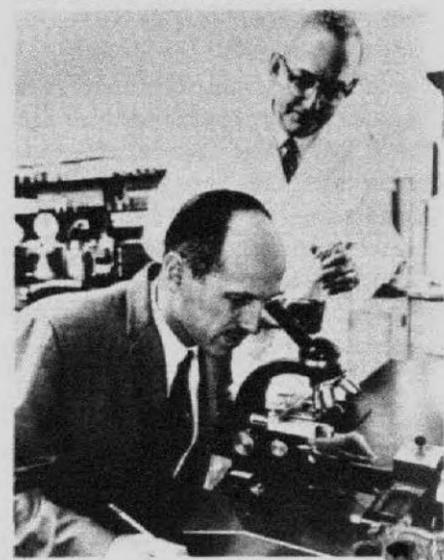
HOMEMAKER SERVICE

Miramonte Mental Health Services
 Moreland Student Aid Fund
 Morgan Hill Unified School District Student Aid Fund
 Mountain View Community Services
 Special Welfare Fund
 National Urban League
 National Travelers Aid Association
 P.T.A. Wardrobe
 P.T.A. Rural Council - Children's Health Fund



SAN JOSE DAY NURSERY

Palo Alto Chapter - American National Red Cross
 Palo Alto Medical Research Foundation
 Pathway Society, Drug Abuse Council
 Peninsula Children's Center



AMERICAN SOCIAL HEALTH ASSOCIATION

Rehabilitation Mental Health Services
 Retirement Jobs, Inc.
 Santa Clara Valley District-American National Red Cross
 Santa Clara Youth Center
 Saratoga Youth Center
 Saratoga Youth and Welfare Fund
 Social Planning Council of Santa Clara County
 South County Ministerial Association-Emergency Welfare Fund
 South Peninsula Jewish Community Center
 Sunnyvale Community Services
 Sunnyvale Elementary Student Fund
 Sunnyvale Social Assistance Fund
 Trabajadores Adelante, Inc.
 Union School District Student Aid Fund
 United Crusade of California
 United Service Organization (USO) Local
 United Way of America, Inc.
 Visiting Nurse Association
 Volunteer Bureau-Voluntary Action Center of Northern Santa Clara County
 Voluntary Action Center of Santa Clara County
 Volunteers of America
 Young Men's Christian Association of Palo Alto
 Young Men's Christian Association of San Jose and Santa Clara Valley
 Young Women's Christian Association of the Mid-Peninsula
 Young Women's Christian Association of San Jose
 Young Women's Christian Association - Stanford University
 Youth Opportunities Program

National Aeronautics and Space Administration • Ames Research Center, Moffett Field, California

FIRE PREVENTION WEEK - OCTOBER 8 TO 14

Remember these **SPECIAL DAYS**
mean **SPECIAL FIRE DANGERS...**

BIRTHDAYS, etc.



Paper hats and candles on the cake are a dangerous combination. Be especially careful at children's parties. Always use flameproof decorations. Keep an eye on fireplace, candles, table appliances.

HALLOWE'EN



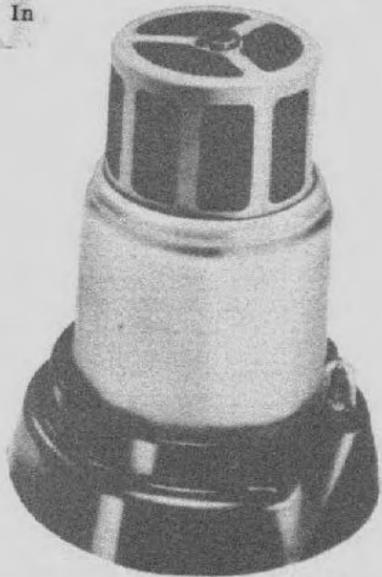
It's dangerous for children to carry candle-lighted jack-o-lanterns. Be sure children's costumes are flameproof.

CHRISTMAS



Set the tree in water (if possible), and don't keep it up too long! Use non-combustible decorations. Check tree lights so they are not touching tree needles, decorations, walls, curtains. Turn off tree lights when leaving home. Be extra careful in the use of candles. Never use candles on tree. Keep electric window candles away from curtains. Use only correct electrical equipment for outdoor decorating. Put Christmas wrappings and trash in rubbish cans and get rid of it as quickly as possible. Store Christmas decorations away from heat sources.

It's A Smoke Detector, Dummy



The little round gadget that Terri Nowicki, RKP, is pointing to in the photograph above is a smoke detector. Several have been installed in various Ames buildings during the past year. They respond to visible and invisible products of combustion. So far at Ames, they have been set off by the by-products of welding, exhaust from trucks, a pipe-smoker on a ladder, and extreme changes in air flow.

To avoid false-alarms employees should avoid activities in the vicinity of the detectors which might set them off. Where necessary it is possible to regulate the sensitivity of the detectors, or another type can be installed. For further information contact the Safety Office at extension 5602.

Presidential Proclamation

Proclamation 4150, September 7, 1972

By the President of the United States of America
a Proclamation

One American home catches fire every 56 seconds. The toll in human sorrow, in shattered dreams and plans, in pain and fear overshadow last year's three billion dollars in property loss.

Approximately 12,000 persons lost their lives last year because of fires. Destructive fire knows no prejudices. Its victims come from every neighborhood, from every income bracket, from every race and ethnic group. Yet the burden does not fall evenly because its principal victims are the poor, the very young and the very old.

We have long needed a national focus on fire prevention; and now that focus is being provided by the National Commission on Fire Prevention and Control which I appointed a year ago to study and recommend ways to reduce fire disasters. I endorse the preliminary findings of this Commission which emphasize the need for improved public education, for early detection and alarm, and for better protective equipment for firefighters.

The Commission on Fire Prevention and Control has made a good beginning, but it cannot do our work for us. Only people can prevent fires. We must become constantly alert to the threat of fires to ourselves, our children, and our homes. Fire is almost always the result of human carelessness. Each one of us must become aware— not for a single time, but for all the year— of what he or she can do to prevent fires.

NOW, THEREFORE, I, RICHARD NIXON, President of the United States of America, do hereby designate the week beginning October 8, 1972, as Fire Prevention Week. I urge every citizen to make this the first week in an entire year of fire awareness and of the ways in which he can eliminate fire hazards and prevent fires.

Our firefighters are selfless public servants. Yet they are too often subjected to physical attack and abuse while on their missions. I call upon all citizens to participate in the fire prevention activities of the various governments and of the National Fire Protection Association. In addition, I urge every citizen to visit his local fire company and to find out what he can do to help our firemen in their difficult but essential work.

I also encourage all Federal agencies to participate in Fire Prevention Week, in cooperation with the Federal Fire Council, by conducting effective fire prevention programs, including fire exit drills and other means of training employees.

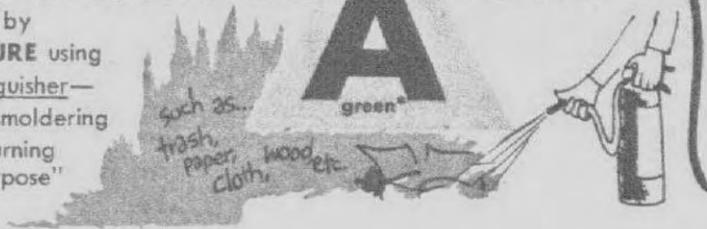
IN WITNESS WHEREOF, I have herunto set my hand this seventh day of September, in the year of our Lord nineteen hundred seventy-two, and of the Independence of the United States of American the one hundred ninety-seventh.

Use the **RIGHT** Extinguisher!

Know what each extinguisher contains and you'll know when to use the right one. Here are the **MOST EFFECTIVE COMMON TYPES:**

FOR ORDINARY COMBUSTIBLES... CLASS **A** FIRES... USE

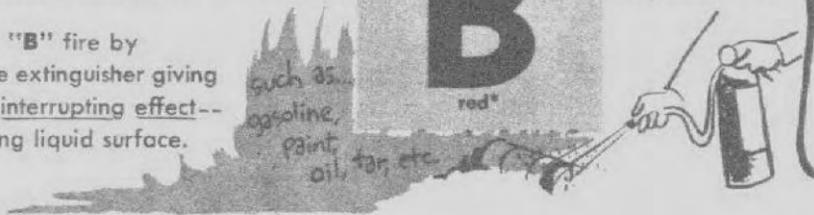
Put out a Class "A" fire by **LOWERING ITS TEMPERATURE** using a water or water based extinguisher—wet fire to cool—soak to stop smoldering... or BY **COATING** the burning combustibles with "multi-purpose" dry chemical.



PRESSURIZED WATER—operates usually by squeezing handle or trigger—read instruction labels (contains WATER, or water with anti-freeze chemical).
PUMP TANK—operates by pumping handle (contains WATER, or water with anti-freeze chemical).
SODA-ACID—operates by turning extinguisher upside down. Has handle on bottom for inverting (contains WATER, soda nuxtyrem acid mixture, acid-no anti-freeze).
DRY CHEMICAL-MULTI-PURPOSE—operate by squeezing handle or trigger—read label (contains a POWDER commonly designated "A, B, C").

FOR FLAMMABLE LIQUIDS... CLASS **B** FIRES... USE

Put out a Class "B" fire by **"SMOTHERING"** it. Use extinguisher giving a **blanketing, flame-interrupting effect**—cover whole flaming liquid surface.



CARBON DIOXIDE (CO2)—operates usually by squeezing handle; or **LIQUEFIED GAS** (sometimes known as Halon 1301-bromotrifluoromethane).
DRY CHEMICAL—operates usually by squeezing handle or trigger—see instruction label (contains one of two general types of POWDER not to be mixed; one is for Class B, C fires; one for Class A, B, C fires). May be Foam-Compatible.
FOAM—operates by turning extinguisher upside down (contains WATER and ingredient to make a smothering foam).

FOR ELECTRICAL EQUIPMENT... CLASS **C** FIRES... USE

When **live electrical equipment** (Class "C" fire) is involved **ALWAYS** use a **NON-CONDUCTING** extinguishing agent to prevent receiving an **electric shock!** Shut off power as quickly as possible.



NON-CONDUCTING EXTINGUISHING AGENT
 —such as—**CARBON DIOXIDE (CO2)**
 —**DRY CHEMICAL (B-C TYPE)**
 —**DRY CHEMICAL (MULTI-PURPOSE)**
 —**LIQUEFIED GAS**

Do Not Use Soda-Acid, Foam or other Water-Type extinguishers until electric power has been Shut Off.

FOR COMBUSTIBLE METALS... CLASS **D** FIRES... USE

Certain metals in finely divided forms (new Class "D" fire) require **SPECIALLY** designed extinguishing agent to provide **SMOTHERING BLANKET** or **COATING**.



SPECIAL DRY POWDER EXTINGUISHANTS

Some are available in drums or pails and are applied by Scoops or Hand Shovels and others in sotred pressure or cartridge pressurized **PORTABLE** or **WHEELED EXTINGUISHERS**.

Fire extinguishers, for home, cabin, or boat use, are available at a discount to Ames employees at; Rancho Hardware Store, 1150 Riverside Drive, Los Altos (at the corner of Foothill Expressway and Springer Roads)

Check List For Fire Hazards On Job

CHECK LIST FOR FIRE HAZARDS ON YOUR JOB:

Rubbish

* Is your work area littered with boxes, wood scraps, packing and wrapping materials or other trash?

* Are chips, cuttings, oil drippings, dust or other job waste allowed to pile up or accumulate?

You should have covered metal trash containers nearby to keep your area free from exposed combustibles.

DON'T GIVE FIRE A PLACE TO START!

* Are unnecessary combustible materials and stock inventory cluttering your work area?

* Is warehouse stock piled too high or too closely . . . blocking overhead sprinkler effectiveness?

* Are fire doors, stairways or aisles blocked . . . wiping out your fire protection planning?

Is There A Fire In The House?

Did you know that fire produces deadly gases that can kill long before flames reach you? These hot gases rise.

That's why it's a good idea to;
 *Keep bedroom doors closed at night.

*Remember: Don't rush into the hallway if you smell smoke at night.

Put the palm of your hand against the door. If it feels cool, it should be safe to enter the hallway. Bracing the door with your foot, open slightly and place your hand across the opening to determine how hot the air is. If the hall-

way appears to be cool, and there are no flames or smoke pouring up the stairway, you may be able to use this regular route of escape.

If the door feels hot, that hallway is already filled with deadly heated gases. Keep the door closed. If you find yourself in such a fire emergency;

*Get everyone out of the house **FIRST.**

*Then call the fire department

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National Aeronautics and Space Administration • Ames Research Center, Moffett Field, California

Mars Polar Cap

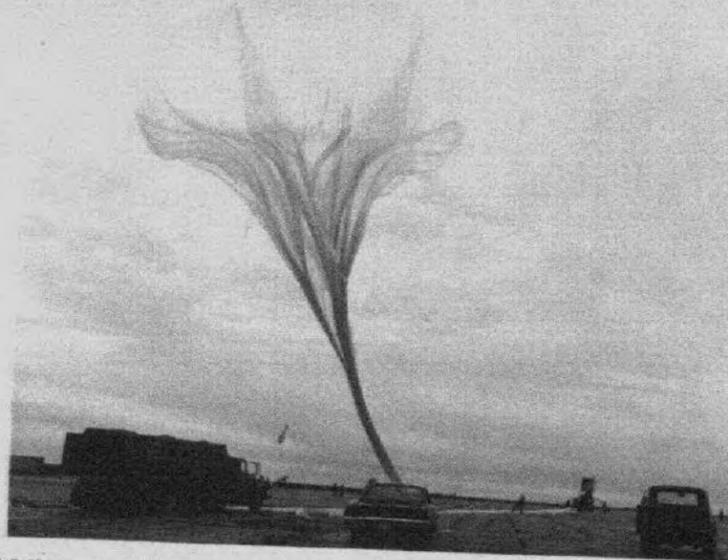


polar ice cap is shrinking during the late Martian spring and the area shows complex sedimentary systems. Fractured terrains partially flooded by volcanic extrusions are visible in the center of the disk. The volcanic mountain Nix Olympica (lower left) is 310 miles across at the base and stands higher than any feature on Earth.

Obituaries

The Astrogram has adopted a new policy regarding obituaries. Due to frequent employee requests, and following the policy of other NASA installation publications, "The Astrogram" will in the future print a short obituary and, when available, a photograph, of a recently deceased employee.

do RS POLAR CAP . . . The northern hemisphere of Mars, from the polar cap to a few degrees south of the equator, is seen in this mosaic of three photos taken by Mariner 9 on Aug. 7. The north



FILLING A SUPERBALLOON . . . Light winds distort the shape of a large balloon being filled with helium at the Churchill Research Range, Canada. The balloons are generally released in the early hours of the morning when surface winds are very light or completely calm. The 72 million cubic feet of helium that goes into the balloon at launch expands to 30 million cubic feet when in the low pressure of the upper atmosphere. The balloon is made of 2,600 pounds of polyethylene film about the thickness of a garment bag. The photo is courtesy of the Office of Naval Research which launches the balloons.

Balloons For Bargain Science

Early one spring morning, a gigantic shadow drifted across the small town of Alice Springs in the

near of Australian wilderness.

Billowing upward, reaching toward the clouds and beyond, the largest balloon ever flown by man set off carrying 1200 pounds of experimental equipment.

The project, undertaken by NASA and a group of cooperating research organizations, is one of many attempts to perform scientific experiments by using balloons to replace expensive rockets.

The Alice Springs balloon was no toy. Towering more than 80 stories high and large enough to hold a football stadium with room left over, the giant air bag contained more than 46 million cubic feet of helium.

Ernest Ott, program engineer for sounding rockets and balloons at NASA, says that the increasing popularity of balloon research has been stimulated both by repeated successes in the program and by the budget cuts experienced by NASA during recent years.

"The guys who would formerly fly experiments on satellites now can't get a place," Ott says. For many of them, balloons have presented the only alternative for continuing their astronomical investigation.

Many of the 61 balloon flights made during the past year have
(Continued on Page 2)



Respect for the Nation's flag is one of the many responsibilities of being an American. Twice each day flag ceremonies are conducted at the Moffett Naval Air Station. Ames employees who may happen to be in the vicinity when the flag is either being raised or lowered are asked to observe traditional etiquette toward these ceremonies. If you are driving a car or riding a bicycle, bring the vehicle to a stop until the end of the ceremony. If you are walking, stand and face the flag until the ceremony has been completed.



PROTECTIVE . . . fire-resistant foams, like those held by Dr. John A. Parker, Chief of the Chemical Research Projects Office, in the photo above were developed at Ames and are protecting astronauts, pilots and high-rise apartment dwellers from sudden fire dangers. The round piece is a replica of the heat shield of the Scout Reentry Vehicle, the rectangular piece is a sample of insulation used in military aircraft. The painting above Dr. Parker portrays a B24 Liberator aircraft like the one in which he crashed in Germany during WWII. It exploded and burned, prompting him, he said, to embark on his present research career.

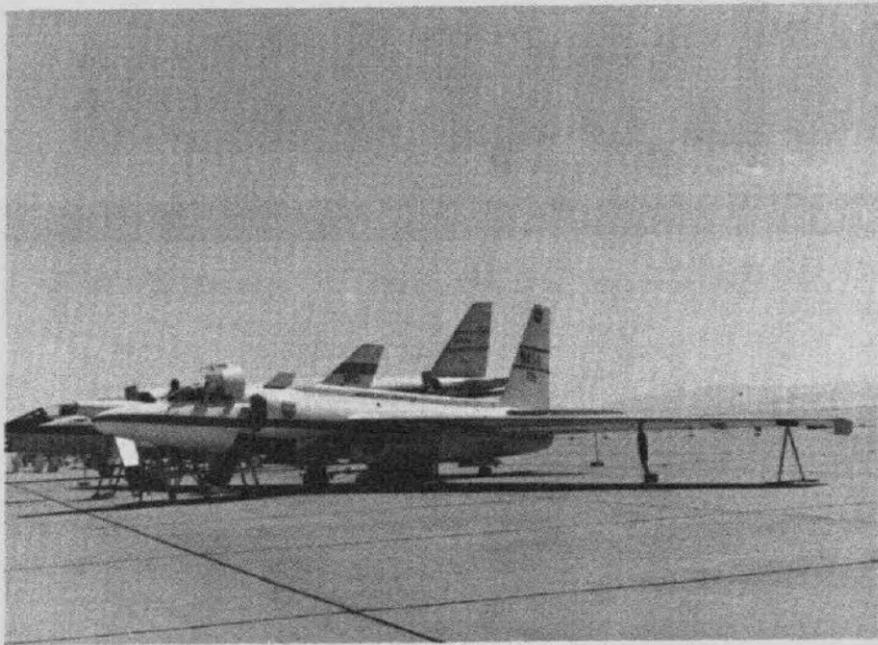
Ames Group Helps Prevent Fires

Ames could not acknowledge this as Fire Prevention Week without making note of the work being done here in the area of fire-retardant materials. A group of researchers, led by Dr. John A. Parker, Chief of the Chemical Research Projects Office, has come up with a family of materials which may revolutionize fire prevention.

It all began at Ames in the early 1960's when the Center was trying

to find ways spacecraft could reenter the Earth's atmosphere without burning up. Plastics were being tested for use as heat shields and thermal control.

Within the Gasdynamics Branch, the Chemical Research Projects Office was established to conduct polymer and fire research. Discoveries made by this Office led to foams, coatings and composites which are
(Continued on Page 2)



AMES AIRCRAFT GO VISITING . . . Ames' two Earth Survey Aircraft and the CV990, "Galileo" aircraft were on display at Flight Research Center, Sept. 9 and 10 as part of that facility's 25th anniversary celebration. An Ames Earth Resources Display Exhibit was also sent for public viewing. Along with Ames aircraft, the guests included; Dr. Hans Mark, Ames Director; NASA Administrator, Dr. James C. Fletcher; Associate Deputy Administrator, Willis H. Shapely; and Associate Administrator for Aeronautics and Space Technology, Roy P. Jackson. Congressman Barry Goldwater, Jr. also attended the ceremonies. An estimated 20 to 25 thousand people visited the Center at the edge of the Mojave Desert at Edwards, Calif. for the weekend celebration.



HAPPILY . . . receiving a NASA Special Achievement Award and check for \$275 from Dr. Hans Mark (right), Ames Director, is Peter W. Waller, DI. Waller was awarded special recognition for his "outstanding efforts and accomplishments in the preparation and dissemination of news material for the Pioneer F and G program"

Conference on STOL Technology

For the first time since 1966 all NASA OAST Centers will collectively report on STOL technology at an Ames-hosted conference, Oct. 17-19.

It will provide industry and the military with NASA's most recent research results on powered-lift STOL aircraft.

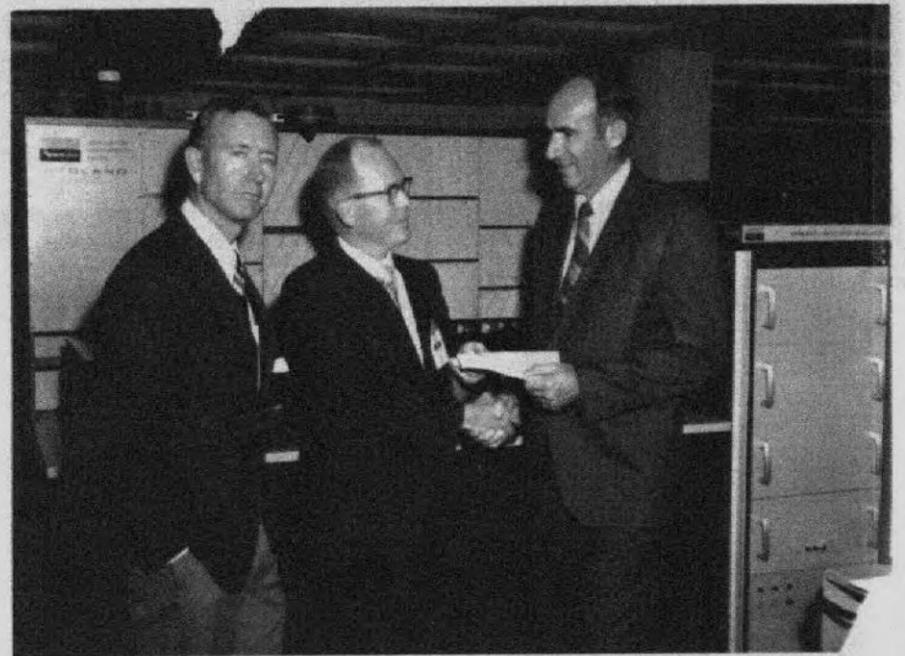
Ames employees are invited to attend. Registration begins at 8:15 a.m., Oct. 17 in the Main Auditorium, building 201. Sessions will begin at 9 a.m. each morning.

Sessions on Oct. 17 and 18 in-

clude presentations under the general topics: "Transportation Systems Studies," "Aerodynamics," "Loads and Structures," "Flight Dynamics," and "Operational Aspects."

Three panel sessions concerning "Quiet STOL Propulsion" are planned for the morning of Oct. 19, with the conference concluding about noon.

The conference is unclassified. For further information contact Seth Anderson, of the Flight Systems Research Division Office, ext. 5571.



"EXCEPTIONAL AND OUTSTANDING CONTRIBUTIONS . . . to the STOLAND program," by De Lamar (Del) M. Watson (center), FSN, were recognized recently in the form of a NASA Special Achievement Award and a check for \$300. Presenting the honor is Bradford H. Wick (right), Chief of the Flight Systems Research Division, as Brent Y. Creer (left), Chief of the Guidance and Navigation Branch, looks on.

FIRE FOAMS

(Continued from Page 1)
not only applicable to space use, but are changing the look of fire prevention, as well.

For instance, an intumescent coating system that swells with heat and releases flame-doubling gases from a foamy mass was developed. It has been adapted for use in military aircraft, commercial aircraft and weapons systems.

A fire-resistant isocyanurate foam is being considered for application in commercial aircraft. If adopted, the interior of the aircraft would be lined with the protective foam, which incidentally also provides acoustical and thermal insulation. The supportive structure would be painted with an intumescent coating system.

Aircraft so-outfitted would provide pilots and passengers with 12 minutes protection in ground crash fires; in most cases, sufficient time to extinguish the fire.

Aircraft windows and tires may soon be made of a new material developed at Ames. Windows made of a transparent ablative plastic are being studied. These would keep smoke and heat from penetrating an aircraft for six to eight minutes in a crash fire.

Explosion-preventive rubber, for use in aircraft tires, is being developed by the Chemical Research Projects Office. According to Dr. Parker, one of the primary causes of aircraft fires is a tire blowout. When the tire fragments hit fuel tanks on the wings the tanks explode. The new rubber would prevent this since it has superior properties at high temperatures.

There are myriad possibilities

for further applications of the foams and paints. The average home, commercial aircraft, and hopefully, schools will soon be fully protected by them.

Zonta Fellowship

For the 35th year, Zonta International, service organization of executive women in business and the professions, is announcing the Amelia Earhart Fellowship Awards to women for advanced study and research in the aerospace sciences. The \$3000 grants, established in 1933 as a memorial to Zonta's famed air pioneer member, are supported by more than 600 Zonta clubs in 45 countries.

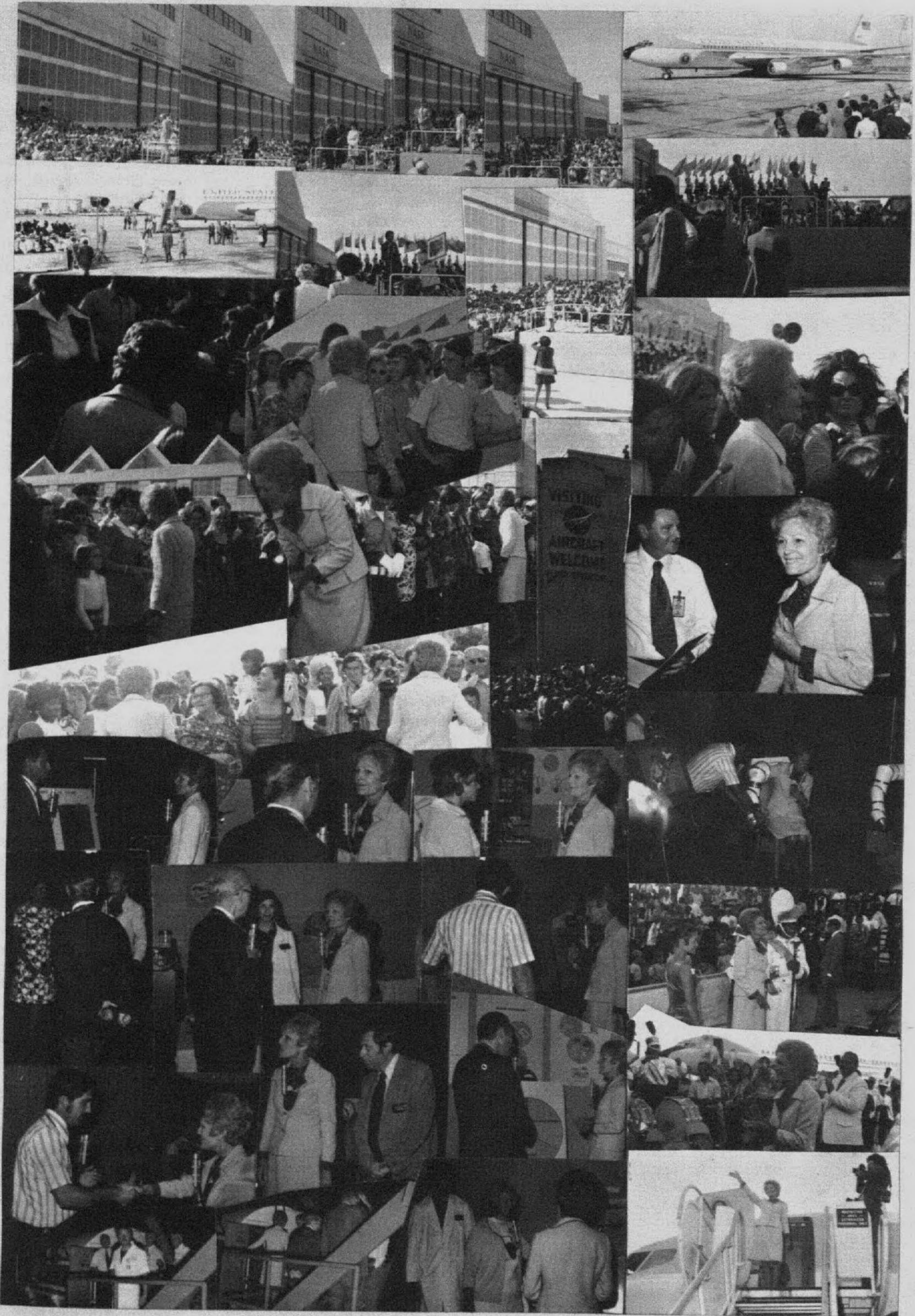
A bachelor's degree in a science, qualifying a candidate for graduate work in some phase of the aerospace sciences is the basic requirement for the Fellowship, plus evidence of exceptional ability and potential and commendable character.

For an application blank write Zonta International, 59 East Van Buren Street, Chicago, Illinois, 60605.

BALLOON

(Continued from Page 1)
When the experiment is completed, the balloon does not come to the ground automatically. The common procedure, says Mr. Ott, is to send a radio signal to set off an explosive charge which rips a panel from the balloon.

The experimental package then floats to earth on cargo parachutes which hang beneath the deflated balloon, ending one of NASA's bargain basement research projects.



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FIRST . . . place in the Ames Photography Club competition was Vernon Yearwood-Drayton's "Point Lobos."

Photography Club

The Ames Photography Club held its first meeting in the Cafeteria on Wed., Sept. 27. The more than 50 attending not only learned "How to Take Better Travel Pictures" according to Eastman Kodak, but also had the opportunity to participate in a photographic competition. Excellent constructive criticism was provided by George Alves, an outstanding Bay Area photography judge.

Winners in the slide division include; 1st, Stu Bowen; 2nd, George Fohlen; and 3rd, Bill Lockman. The print division winners were 1st and 3rd, Vernon Yearwood-Drayton, and 2nd, Janet Konrath. Receiving honorable mention were; Max Strauss, Guy Wong, Steve Deiwert, Henry Leon, Bill Carlson, and Ken Yoshikawa.

Next meeting of the photography club will be Wed., Oct. 25, at 4:30 p.m. in room 261 of building 213 Instrument Research Lab.

Pete Amos, Chief Photographer of the Santa Cruz Sentinel, will be guest speaker. He will discuss "News Photographic Assignments" and display and demonstrate various new photographic equipment. Ames employees and contractors and their families are welcome.

JOGGERNEWS

. . . by Jerry Barrack

Jerry Barrack and Vito D'Aloia were among the more than 400 starters in the 5.56 mile 28th Annual Walnut Creek Festival Rack held Sept. 24. The pace set by the leaders was blistering, but Jerry finished 131, with a time of 34.07, and Vito 144, just 30 seconds later.

The noon 1.0 mile handicap races were resumed on Oct. 4 with a turn-

out of 13 eager joggers. Though the races had been suspended during the summer months most participants have maintained their fitness and finished with good personal times. With the assigned handicaps, Fred Lemos and Dwight Moody, Jr. crossed the finish line in 7:42 and tied for first place. The best scratch times were turned in by Jerry Christian (5:13) and Jerry Barrack (5:14). The next race will be held on Oct. 18 at 11:45 sharp. Call Jerry Barrack at ext. 6093 for further details.

Welfare Club

The Ames Employee Welfare Club, established in 1948, is a non-profit organization for Ames employees. In case of death of a member, the designated beneficiary receives \$1 for each enrolled active member. Payment is made by cashier's check, and except on weekends or bank holidays, will be delivered to the beneficiary within 24 hours.

Benefit is payable for death from any cause, on or off the field, while the member is on the payroll of Ames Research Center.

Each remaining member is then assessed \$1 to reestablish the fund.

Cost of enrollment is \$2 which pays the \$1 initiation fee and the \$1 membership fee. Two funds are thus available for payment of benefits in the case of two simultaneous deaths.

Membership information is available through the club's building representatives or through the club officers;

President, Joe Rokovich, ext. 5796
Vice-Pres., Jim Remington, 5021
Secretary, Helen Faber, 5205
Treasurer, Mary Campbell, 5290
Membership Chairman, W.C. Carlson, 5272

Happenings

Society of Photo-Optical Instrumentation Engineers (SPIE) 16th Annual Technical Meeting and Equipment Display

Oct. 16-18

Royal Coach Hotel, San Francisco

Cosmic Evolution Series

Sunday afternoons (through Oct. and Nov.) TV broadcasts of the lectures from the Cosmic Evolution Series Channel 9, KQED

Check local TV listings for precise time and lecture.

WANT ADS

AUTOMOBILES

For Sale-63 Dlx Falcon 4-dr sedan, 6-cyl, auto, htr, radio, new tires, 1-owner, best offer, 738-2732.

For Sale-70 Fiat '850 Spyder, red w/ blk interior. New tires, new brakes new top. Asking \$1,300. call 734-2784 after 5 p.m.

For Sale-65 Chevy BelAir, 72,500 miles, \$550. Call 969-1477.

For Sale-1/2 ton pickup, '64 Ford, 6-cyl, long wide bed, ex. cond., \$525. W.E. Pearson, 354-8915.

For Sale-64 Dodge V8 sta. wagon, std. shift, \$250, call 967-4110.

For Sale-68 Fiat 850 Spyder, new top, recent rebuilt engine, all new access. radial tires, \$900, 964-7289.

For Sale-70 Chevy! - Super Sport, 4-on-the-flr, 396, disc brakes, wide tires, am-fm stereo, 10 mile. Top cond., \$2,200, (408) 294-9289.

For Sale-67 Camaro, big 6, 3 spd ca-the-flr, wide F-7014 tires, mags, radio, htr, best offer, (408) 294-9289

For Sale-68 BMW R60; 6-gal tank. Good cond. \$700 269-2665.

For Sale-71 Dodge Colt, hrd-top, r/h, a/c, stick shift, 1400 miles, very clean, \$2170. call 374-2021.

HOUSING

For Rent-Custom built Los Gatos home, \$325/mo. 2100 sq.ft., 3-bdrm 2-ba, a/c, drapes, crpt, heated pool, 948-3273.

For Rent-Ski group looking for members to share 5-bdrm house, Lake Forest area near Tahoe City. \$130/person, 5-mo. lease, call 961-7157.

For Rent-3-br, 1 tile ba., continuous ckn oven, fully crpt & furn. Conven. to Valley Fair, city bus, churches. \$275/mo. (408) 248-2145.

For Rent-Tahoe City cottage near lake and private beach area. Slps 6. Autumn rate \$60/wk or \$30 wknd. 964-9848 or 967-3845.

MISCELLANEOUS

For Sale-Steyr-Puch Austrian Touring Mtrcycle, gd for commuting, 1,500 orig. miles, prts avble from Sears, \$300. DeGabain, 965-2394.

For Sale-Flute, Gemeinhardt, in ex. cond. \$90, 964-7998.

For Sale-Motorcycle, Honda 350, 1972 1/2, 734-3368, after 5 p.m.

Need-a babysitter? Evenings or weekends. 245-2615, Vickie.

For Sale-Bicycle, Ming brand, new won in contest, \$60, firm. Call after 5 p.m. or weekends, 732-3238, Bob.

Wanted-Girl to share expenses in apt., Sunnyvale/Mt. View, 964-6431

For Sale-Polaroid camera, model 230 w/ Cold Clip, Devel. timer and flashgun, over \$110 value, ex. cond., \$65. Tap shoes, size 6, like new, \$6. Rcrdng tape, Scotch Dyna. series. #203, 1/4 x 1800" reel, 1 mil. poly. back, never used, \$5, call 321-1858.

For Sale-Tubing, 4" steel T-bars, 8 ft long, can use as clothesline, \$15 per 2. 257-7454.

For Sale-9' x 12' cabin tent, Coleman 3-burner stove, Coleman 2-mantle lantern, icebox, \$65. 967-4110.

For Sale-Orig. oil paintings, nice gifts, buy now for Xmas, 734-3368, after 5 p.m. or weekends.

For Sale-Bed, roll-a-way on whls. w/ Simmons Innesprng mattress, ex. cond. \$40, 257-7454.

For Sale-Sportliner, 8 ft, cab-hi camper shell, paneled, 2-dome lites sliding windows w/ scrns, 1-yr old, ex. cond. \$175, firm, 968-4155.

For Sale-Dalmation pups, AKC, champ. sired for show or pets, ex. w/ childrn. 6 wks old Nov. 4, Howard Nelson, 941-5206.

For Sale-Pure-bred German Shep. pups, reasonable price, gd temp. parents, 948-4678.

For Sale-Construc. Rack, fits an 8 ft. bed, hardly used. Call 225-6550.

For Sale-Solid Mahogany Duncan Phyfe diningrm set. incl. table, 5 ft. buffet & lg. China closet. Orig. \$2200 asking \$750 or best offer. Cannot continue strge. charges/ 793-6502.

National Aeronautics and Space Administration • Ames Research Center, Moffett Field, California

HELPS YOU LIVE LONGER

Health Appraisal Booklet Part of Annual Exams

"If you were sure you could get away with it, would you go into a ball game without paying?"

"Have you ever been told you had lung trouble or breathing trouble?"

"When in a motor vehicle (car) do you wear a seat belt or shoulder harness?"

These are a few of the questions you will answer if you are an Ames employee (over 40) who is about to have an annual physical examination at the Health Unit. They are from a six-page, 60-question, booklet which recently was made part of the Health Unit's program to keep employees healthy.

This new method of preventative or prospective medicine is called Health Hazard Appraisal. It is extremely practical, of low cost, and of great value. It was developed by Dr. Lewis Robbins and his group at the Methodist Hospital in Indianapolis and computerized and updated by a medical laboratory called Interhealth.

The employee who is scheduled for an annual checkup is sent the booklet one or two weeks before his appointment and asked to complete it. His answers are sent to the Interhealth Agency for computation.

The agency returns a printout summary of the results, indicating what the employee is most likely to die of within the next ten years, and suggested corrective action the employee may take.

The program involves the use of the "Geller Tables" which show causes of death in each five-year age category for men and women, white and non-white. For each cause of death, any prognostic characteristics which are known to affect this are then listed, and a risk factor assigned. Data has been obtained from many sources including insurance studies, USPHS data, Framingham Study, Tecumseh Study, task force studies on specific diseases, and many others.



Apollo 17 Patch Combines Tribute to Past With Optimistic Look To Future

Early in March of this year, Astronaut Eugene A. Cernan wrote the Apollo 17 mission patch ideas he and his fellow crewmen, Ronald E. Evans and Harrison H. Schmitt, had been discussing.

Their ideas were formless in terms of design, so the words dealt with the message the crew wanted the patch to convey.

"Our desire is that Apollo 17 symbolize not the end of an era, but rather the culmination of the beginning of mankind's greatest achievements in his history—achievements which only have as their bounds the infinity of space and time—symbolization that man's seemingly impossible dreams can become limitless realities," he wrote.

"We would like to recognize the historical foundation upon which the thought of the future are based—and so as never to forget, we also hope to pay tribute to the Apollo Program and our nation, its people and its heritage, which have made these accomplishments all possible. The symbolism which captures these ideas sounds sophisticated and complicated to create. We hope it is not, because it is our desire to capture our theme with simplicity."

With these words as a guide, and with further collaboration with the crew, artist Robert T. McCall designed the patch which was made public last week.

The dominant design element is

Apollo, the Greek god of the sun. The particular image selected is the Apollo of Belvedere sculpture which is in The Vatican Gallery in Rome.

Suspended in space behind the head of Apollo is an American eagle of contemporary design. The red (Continued on Page 2)

Our 15th Year

"The Astrogram" begins its 15th year with this issue. The first Astrogram, printed Oct. 28, 1958, included; the announcement of the unveiling of the X-15 aircraft; a photo of Al Hertzog, AS, bidding farewell to Charlotte Holmes on her retirement; and an announcement of the "Ames Stampede," at which Harry J. De Voto, Jr., ATG, won the prize for best costume. He came as a wooden indian.

Through the years the Astrogram staff has tried to record the Center's news, as well as news from other NASA installations. It looks forward to continuing this service.

A special note of appreciation is extended at this time to the Reproduction Services and Photographic Technology Branches for their continued support of this effort.

Also, a note of thanks goes to those employees who have contributed to "The Astrogram" with articles, photographs, and social items.

Jeanne Richardson
Editor

"What Is It Like Col. Worden?"

"Going to the moon seems safer than flying around San Francisco. There's a lot more people monitoring you; watching out for your safety," says Lt. Col. Alfred M. Worden, Ames' newest employee.

And, he should know. The Apollo 15 Command Module Pilot expressed some thoughts on space travel recently during an interview.

"Being up there is really unbelievable," he said. "you get used to the moon, I mean, being so close to it. It's a big planet. But, what is really spectacular is looking back



COL. WORDEN AT AMES at the Earth.

"It's a little awesome at times, too. You get so far and you begin to realize that if something went wrong it could be hard getting back. wrong it could be hard getting back."

Asked if he would do it again, he said, "Sure, absolutely. It was great fun," he joked, "floating is an easy way to live."

When asked why he originally wanted to be an astronaut, he said, "I don't know. First, you're a pilot and you want to be a test pilot. Then, you're a test pilot and the next logical goal is astronaut."

Col. Worden was one of 19 astronauts selected by NASA in April, 1966. At that time 700 other applicants also wanted to be astronauts.

Born in Jackson, Michigan on Feb. 7, 1932, he grew up and graduated from high school there. He received a Bachelor of Military Science Degree from the United States Military Academy in 1955, and Master of Science degrees in Astro- (Continued on Page 2)



Awards To Army Engineers

Paul F. Yaggy, (second from right) Director, HQS, Army Air Mobility R&D Laboratory, (AMRDL) presents a commendation and check for \$250 each to award winning engineers William G. Bousman, (second from left), and Dr. Robert E. Ormiston (center), for their paper "A Theoretical and Experimental Investigation of Flap-Lag Stability of Hingeless Helicopter Rotor Blades." The paper was presented before the annual Army Science Conference at the U.S. Military Academy, West Point, N.Y. in June. Looking on are Col. Norman L. Robinson, (far left) Laboratory Deputy Director, and H.A. Morse, (far right) Army Aero Research Group, Ames AMRDL. The award winning engineers are both with the Ames Directorate.

"What Is It Like, Col. Worden?"

(Continued from Page 1)

nautical/Aeronautical Engineering and Instrumentation Engineering from the University of Michigan in 1963.

After graduation from the Military Academy he was commissioned in the Air Force and received flight training at Moore Air Base, Texas; Laredo Air Force Base, Texas; and Tyndall Air Force Base, Florida.

He attended Randolph Air Force Base Instrument Pilots Instructors School in 1963 and served as a pilot and armament officer from March, 1957 to May, 1961 with the 95th Fighter Interceptor Squadron at Andrews Air Force Base, Maryland.

He is a graduate of the Aerospace Research Pilots School, Edwards Air Force Base, Calif., where he also served as an instructor. In February of 1965 he graduated from the Empire Test Pilots School in Farnborough, England.

Col. Worden has logged more than 3,700 hours flying time, including over 3,000 in jets and 107 in helicopters.

At Ames he will be involved in, among other things, Space Shuttle planning and research, and the Earth Resources Program.

He chose to come to Ames, he said, "... because the Center

is doing the basic Shuttle research. I'm particularly interested in the Shuttle simulations."

When asked which direction he felt the space program was heading, he said, "operational." "That is," he added, "I think we'll be learning now to efficiently and economically investigate space."

"Eventually, we may have the means of going into orbit on a frequent and regular schedule, like every Monday at 9 a.m., for instance. It's likely that we'll build space stations and eventually launch spacecraft to investigate the outer planets from those stations."

Return Empties Criteria For Research To 221-M

An empty fire extinguisher is a fire hazard. If you have emptied one lately please send it to mail stop 221-M; be sure to NOTE BUILDING NUMBER AND AREA from which the extinguisher came. It will be replaced with a full one immediately. For further information regarding Ames fire extinguishers call Gerald Hall, ext. 5216.

Emergency Sirens Tested Oct. 27

A test of outdoor warning equipment will be conducted Friday, Oct. 27, at 11 a.m. by Santa Clara County Emergency Services.

The sirens will begin with a one minute steady blast followed by one minute of silence and then conclude with one minute of the wailing siren.

The quarterly test is part of the continuing effort by emergency services units of the county to keep their equipment in readiness in the event of a major disaster.

The sirens, in event of an actual emergency situation, would be sounded for three to five minutes. The steady blast denoting an alert and the wailing siren or series of short blasts would signify an attack warning.

Apollo 17 Emblem

(Continued from Page 1)

bars of the eagle's wings represent the bars in the American flag; the three white stars symbolize the three astronauts of the Apollo 17 crew.

The background of the patch is deep blue space and within are the moon, the planet Saturn and a spiral galaxy or nebula. The moon is partially overlaid by the eagle's wing suggesting that this is a celestial body that man has visited and in that sense conquered.

The thrust of the edge and the gaze of Apollo to the right and toward Saturn and the galaxy is meant to imply that man's goals in space someday will include the planets and perhaps even the stars.

The colors of the emblem are red, white and blue, the colors of the American flag, with the addition of gold to symbolize the golden age of space flight which will begin with the Apollo 17 lunar landing.

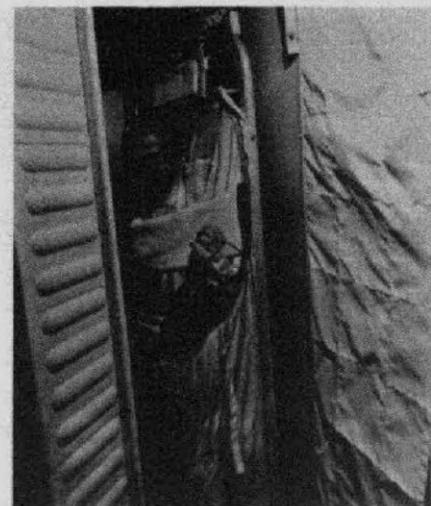
Return Empties Criteria For Research To 221-M

SOCRATES: Shall we make astronomy the next study? What do you say?

GLAUCON: Certainly. A working knowledge of the seasons is beneficial to everyone, to commanders as well as to farmers and sailors.

SOCRATES: You make me smile, Glaucon. You are so afraid that the public will accuse you of recommending unprofitable studies.

Plato, Republic VII, Circa 370 B.C.



CHARLES CONRAD JR., . . . who will lead the first research team aboard Skylab next May, shows how he will sleep during the 28 days in space. The upright restraint will prevent the weightless astronauts from drifting around while they sleep.

Commission Eases "Job-Related" Training Restriction

Since its enactment in 1958, the Government Employees Training Act has been interpreted by the Civil Service Commission as authorizing agency funding only for training considered to be closely "job related." This restriction has now been eased by a change to Federal Personnel Manual Chapter 410, Section 1-10, which redefines "official duties" as including present duties and those which an employee could "reasonably be expected to perform in the future."

This liberalization may provide supervisors with a means of assisting employees in pursuing long-range career development plans. Further information concerning this opportunity, together with available training courses, may be had by calling the Training and Special Programs Branch, extension 5623.

astrogram Admin. Mgt. Building
Phone 965-5422

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Editor Jeanne Richardson
Reporters NASA Employees

Deadline for contributions:
Thursday between publication dates

Army Math Steering Committee Will Meet at Ames

Listening Seminar

The Army Air Mobility R&D Laboratory (AMRDL) at Ames will host a meeting of the Army Mathematics Steering Committee Nov. 2 and 3. The group, made up of leading mathematicians, will hold its 34th semi-annual meeting here as guests of Paul F. Yaggy, AMRDL Director.

Coordinators for the event are Dr. John D. Hwang, AMSC member representing the Army Aviation Systems Command, and Major James A. Burke, R&D coordinator.

The group's visit will include a tour of Ames, with a briefing on the ILLIAC IV.

A seminar in "Effective Listening" is being offered by the Army Education Center, building 1216, in the Presidio of San Francisco on Sat., Oct. 28, from 9:30 a.m. to 3:30 p.m.

The workshop will provide; an informal, interpersonal learning experience, increased sensitivity to listening, and an awareness of the "silent" language of non-verbal communication.

Dr. Wendell Wilkin, a Psychological Consultant who has taught in the department of psychology at U.C. Berkeley and in the School of Business at Golden Gate University, S.F., will lead the workshop.

A \$5 fee will be charged. Those interested in attending must notify the Army Education Center, phone 561-4900, ext. 4445, before Oct. 28.



A RECEPTION . . . to celebrate the successful initiation of STOL Research with the Augmentor Wing Jet STOL Research Aircraft, the C-8A "Buffalo," was held in the Ames cafeteria Oct. 13. Guests included the STOL Research Aircraft Office employees and their spouses, and; invited members of the Canadian Department of Industry, Trade and Commerce, Canadian Department of Supply and Services, DeHavilland Aircraft Ltd., Rolls Royce of Canada, and the Boeing Co. David D. Few, Project Manager, and Hervey C. Quigley, Technical Manager, funded the function.

How To Have A Safe Halloween

Next Tuesday is children's night, Halloween. Again this year the tricks and treats, haunts and horrors will include accidents, injuries, and macabre acts against the young.

Listed below are some precautions to insure a happy Halloween for your child;

*Know what route your child will follow, what companions he will have, what supervision, and which homes he will visit. Review safety rules with him.

*Be sure that his costume is safe. Wigs and clothing should be non-flammable. Make-up is safer than a mask. Shoes should be easy to walk in. Be sure he carries a flashlight or battery-powered lantern.

(To make a cotton costume flame-resistant:

- 7 oz. borax
- 3 oz. boric acid
- 3 qts. hot water

Make paste from borax and a little hot water. Add rest of water and boric acid; stir until clear. Dip costume in solution, wetting completely, let dry. Must be retreated if costume is washed.)

*Insist that treats be brought home for inspection before anything is eaten. Fruit should be washed and cut into small pieces to make sure nothing has been placed inside. Unpackaged items such as popcorn or small candies should be discarded. Discard candy with loose or torn

wrappings. (If you make treats it is a good idea to write your name and address on wrapping so parents will know where it came from.)

Ames Researcher Honored Alumnus



ALUMNUS OF THE YEAR . . . Dr. Richard F. Haines, LTP, was selected as Pacific Lutheran University's Alumnus of the Year recently.

He was honored at the university's annual alumni homecoming banquet Oct. 11. Dr. Haines received a bachelor's degree in psychology from PLU in 1960. He is presently engaged at Ames in research and design of spacecraft interiors, and experiments concerning commercial airline anti-collision warning procedures.



ARGENTINE NATIONAL WAR COLLEGE . . . members, pictured above in Ames' Airplane Hangar, toured the Center Oct. 16. Ronald M. Gerdes, FSO, (second from left, foreground) describes Ames' aircraft as Hermilo P. Gloria, SSE, (third from left) translates.

Argentine War College Visits Ames

Ames was the first stop on a cross-country tour for 57 Argentine military men Oct. 16. Members of the Argentine National War College, were welcomed to the Center in Spanish by Dr. Michel Bader, Chief of the Space Science Division, in the Space Science Audit-

orium.

The visitors, including Admiral Julio Alberto Acuna, Commandant of the war college, were shown the 40-by 80-foot Wind Tunnel, several of Ames' aircraft, and the Guidance Simulation Laboratory.

"Thank You"

"To my friends at Ames,

I would like to express my sincere appreciation to all of you for your donation to the American Cancer Society in memory of my mother, Mrs. Rita Freer.

William A. Johnson

"Ames Airings"

Through popular demand, Ames Airings has returned to its usual spot in your hearts, or whatever. It will not be a regular feature, rather an irregular feature, depending on the available news.

Written reports (preferred) may be sent to 241-4; my extension is 5422 (despite the phone directory).

John Wood, son of Richard D. Wood, MO, attended the 23rd International Astronautics Congress in Vienna, Austria this month. John is a student at the Stanford Overseas Campus in Vienna, majoring in Biochemistry.

His father reports that John originally became interested in a career in Biochemistry through the Ames Space Biology Program when he was a high school sophomore.

Several Ames people may remember John; he was also a member of the Ames Explorer Post. Now a college sophomore, he participated in the International Congress as a member of the Second IAF Student Conference.

TROPHIES

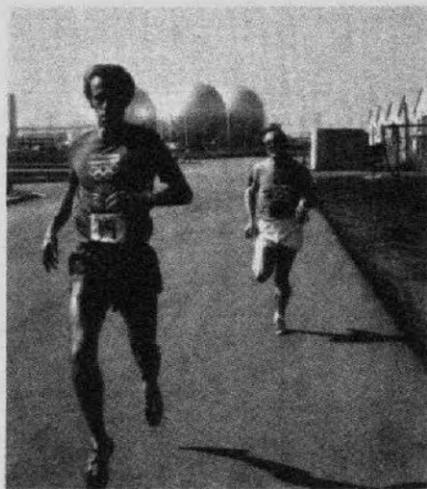
Results of the South Bay Yacht Racing Association, 1972 Summer Series, show that DAVE FEW, FPS, sailed his Erickson-27, "Eros," to first place in the B Division. JIM DIEHL, FQ, was part of his winning crew.

And, JOHN KEELER, also FQ, brought his Erickson-30, "Wind-song," to third place in the C Division. John had varying crews throughout the summer, many of whom hail from port Ames. The sailors include; DAVE REESE, BOB REYNOLDS, AL BOISSEVAIN, & BOB WILSON, all of FQ; DAVE WILSON, an Oklahoma State University contract employee; STAN MILLER and LARRY KING, both of the Public Affairs Office.

SPECIAL FIRST AID COURSES OFFERED

The Sierra Club is offering advanced First Aid courses dealing specifically with problems encountered on outings. They will include instruction on how to cope with; injuries, diseases, diving problems, avalanches, and general First Aid review.

Evening sessions will be held in the Mountain View area. For information contact Ralph Johnson at 961-3810 between 6:30 p.m. and 8 p.m.



JOGGERSNAUTS . . . Dave Himmelberger, ESL, (left) and Jerry Christian, (right) finish the second race of the Joggersnauts' 1972-73 series of one-mile handicap races Oct. 18. Dave ran the mile in 4:46 which is quite an achievement since Dave insists he "isn't in shape."

Other scratch times were: Jerry Christian, 5:12; Bruce Castle, 5:28; Jerry Barrack, 5:33; Paul Sebesta, 5:40; Doug Allan, 6:24; Fred Lemos, 7:32 (first place handicap); Dwight Moody, 7:35 (second place handicap) and John Weyers, 8:13. The next race will be held at 11:45 on Wed., Nov. 1.

TOASTMASTERS

Jetstream Toastmaster Club #2624 held its Annual Awards and Humorous Speech Contest at Mac's Tea Room, Los Altos, Sept. 28.

Winner of the humorous speech contest was Jack Funk of Fairchild CEI Corp. Second was Miles Murphy of Ames' LTI.

Guy Ferry, DTM, District Governor, and Jim Rogers, RFE, presented the Best Evaluator of 1972 and Toastmaster of the Year Award to Calvin Fenrick, ASO.

GOLF

Ducky weather greeted all the web-footed golfers on Sat., Oct. 14 for our annual Turkey Shoot at Pleasant Hills, San Jose.

Co-chairmen of the tournament, Larry Hochstein and Jack Lee reported the following winners:

First Flight-Roy Griffin, 1st, Mitch Radovich, 2nd; Jack Lee, 3rd; Al Petretti, 4th; John Hawkins, 5th; Ed Stepnoski, 6th.

Second Flight-Tony Astalfa, 1st; Ken Souza, 2nd; Howard Matthews, 3rd; Don Dust, 4th; Jim Nelan, 5th; Russ Cravens, 6th.

Third Flight-Bill Sutton, 1st; Dick Johns, 2nd; Don Davis, 3rd; Tom Polek, 4th; Phyllis Strawbridge, 5th; Bert Nevotti, 6th.

Next regular tournament will be at Riverside on Nov. 4.

Happenings

Dr. M.K. Carter, Chemical Research Projects Office.

"Succinct Pseudoligands. Semiempirical Models used to Reduce the Computation Time for Transition Metal Complexes"

Thursday, Oct. 26, at 3 p.m.
Building 239, Room B-39

Professor Stanley A. Berger, U.C. Berkeley

"Deterministic Aspects of Turbulent Free Shear Layers"

Oct. 31, from 4:15 p.m. to 5:30 p.m.
Televised over Channel 8 from Stanford University.

Mr. William J. Loubsky, Ph.D. Candidate, Depart of Aeronautics and Astronautics, Stanford University

"Interaction of a Shock-Generated Plasma with a Transverse Magnetic Field"

Nov. 7 from 4:15 p.m. to 5:30 p.m.
Televised over Channel 8 from Stanford University.

Disaster Alert

Friday, Oct. 27 at 11 a.m.

For Sale-71 Dodge Colt, 4-spd, manual 4-dr, radio, Pacific blue w/ match int., all main. receipts, 39,000 mi. \$1,250, 287-8678.

HOUSING

For Rent-Tahoe City cottage near lake. Slps. 6. Autumn rate \$60/wk or \$30/wknd. 964-9848 or 967-3845.

For Rent-Ski grp needs members to share 5-bdrm house w/ all conven. & comforts. Just off hyw. 28 in Lake Forest area near Tahoe City, \$130 person for 5-mo. lease, 961-7157.

For Sale-Adorable Lasa-Peekapoo pups, 8-wks old, 1 male & 2 females. \$50, incl. 1st. shots, call 948-4999.

MISCELLANEOUS

Ride Wanted-from Fremont (Irvington district/Pepperwood tract) to Ames & return. Call Mrs. Davis x. 5832/5833.

For Sale-Cassett player recorder, 20 cassett tapes, carrying case, \$50. Call Raul, 227-5307.

For Sale-Bathtub, toilet, wash basin. Tub & basin are cast iron. Color, avacado grn, no scrtches, 296-8545.

For Sale-15 gal. aquarium w/ hood, filter, stand, etc. all set up, just add fish. \$25, Barrack, 263-2195.

For Sale-Regular 8 mm zoom movie camera, blt-in exp. meter, hardly used. \$15, Barrack, 263-2195.

For Sale-Head 360 skis, 195 cm, w/ Look-Nevada Grand Prix bindings, ex. cond. \$70 or best offer, 964-5773.

For Sale-Firewood, cured, mainly madrone, some oak. One cord, \$60, 1/2, \$35, 1/4, \$20. Will deliver, call 493-8710.

For Sale-24" 2-spd boy's Schwinn racer bike. Ex. cond. \$30, 379-4305.

For Sale-GE refrig., combination, gold, ex. cond., \$110, 255-6836.

For Sale-Whirlpool washer, 2-spd, normal and gentle cycle, water level and temp. controls, \$80, 255-6836.

For Sale-Signature dryer, 3 heat-settings, air fluff, delicate, reg. \$80 255-6836.

For Sale-Dog house, 12 sq. ft., \$15, 255-6836.

DUCK HUNTING CLUB

Anyone wishing to form a Duck Hunting Club at Ames should contact Jerry Peterson at mail stop 213-8.

WANT ADS

AUTOMOBILES

For Sale-70 H.D. Sportster, ex. cond., extended front end, custom seat, much chrome, must sell, Call 578-1077 after 5 p.m.

For Sale-63 Tempest Lemans coupe, 326, V8, auto trans, recent mach.-shop valve overhaul, new fuel pump timing chain, plugs & plug wires, battery (39 mo. guar. left) \$350, 948-4729.

For Sale-65 Corvair convert. clean, 140 hp, 4-spd, bucket seats, \$350, 968-5697, after 5 p.m.

For Sale-68 Ply. 8-Satellite. auto trans, air cond, vinyl roof & many extras, almost new radial tires & bat, 31,000 miles, ex. cond. \$1390, 941-8013.

For Sale-67 Triumph trophy, 650cc single carb, scrambler tailpipes. \$550 or best offer, call 258-6432 after 5 p.m.

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