

United Fund Drive Has Realistic 1965 Goal

100 Per Cent Participation Emphasized

"Participation" is the key word in this year's United Fund drive launched Wednesday morning following a kick-off breakfast at the Station restaurant with some 30 officials of China Lake and Ridgecrest present.

Citing a "realistic" goal of \$31,125 for 1965 support of nine local agencies — a drop of nearly \$16,000 over last year's goal — Campaign Chairman J. B. McKernan instructed those present to emphasize "100 percent participation" in soliciting funds.

He stressed the point that this year's drive would be conducted at on-the-job levels, pointing out that this method had netted the campaign "50 percent more than the combined home and job soliciting technique."

Pledge Card—"Key"
Key factor in this year's campaign will be the pledge card which all Station employees and military personnel will get within the next few days.

Leonard S. Licwinko, Assistant to the Associate Technical Director, and Chaplain Robert W. Odell, Senior Chaplain, coordinators for the Station's drive, said "keymen" would be named this week with the first in a series of progress meetings set within a few days.

Representing Captain John I. Hardy, ComNOTS, who was away from the Station Wednesday, Captain Floyd F. Reck, Plans and Operations Officer, relayed to the kick-off meeting audience "Captain Hardy's assurance that the United Fund campaign will have full Station support."

NAF Top Supporter
Captain Robert R. Yount, CO NAF, also present for the meeting, recalled that his command, the area's largest military unit, "will go all out as in years past to make this a record year in United Fund!"

The Ridgecrest delegation present for the meeting included President of the U-F board, Ed Harris, administrator of the Ridgecrest Community Hospital, in addition to business and civic leaders.

Agencies supported through United Fund contributions are, The Desert Area Family Counseling Service, Desert Area Em-

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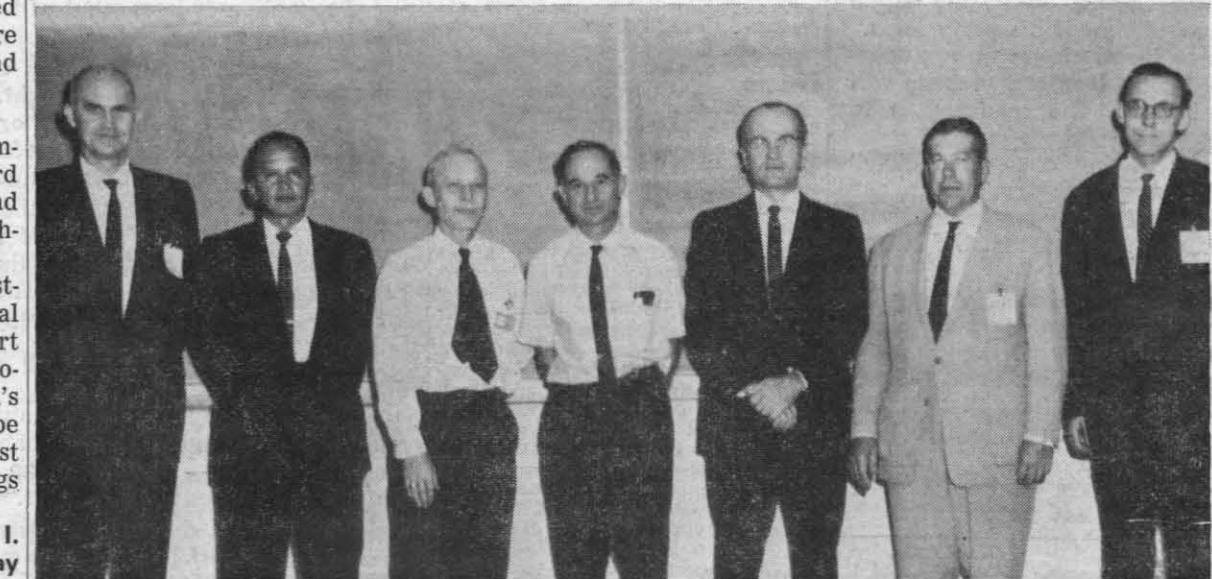


ROCKETEER

NOTS FROM UNDER THE SEA TO THE STARS

Vol. XIX, No. 42 NAVAL ORDNANCE TEST STATION, CHINA LAKE, CALIFORNIA Fri., Oct. 9, 1964

BuWeps Aeroballistics Committee Meets Here



MEMBERS OF BUWEPS Advisory Committee on Aeroballistics meeting here are (l-r) Drs. R. E. Wilson, NOL, White Oak, Md.; S. de los Santos (chairman), David Taylor Model Basin, Washington, D. C.; W. R. Haseltine, NOTS;

W. A. Kemper, NWL, Dahlgren, Va.; L. L. Cronvich, APL, John Hopkins University; R. H. Peterson, NMC, Pt. Mugu, and R. O. Hollenberg, BuWeps, associate member. More than 70 service and industrial reps attended.

Top Researchers Of Nation Attend 4-Day Conference

More than 70 of the nation's key research scientists and engineers, including 12 from NOTS, attended a four-day meeting of the Bureau of Weapons Advisory Committee on Aeroballistics here this week.

It was the first conference of the group here in 12 years. Meeting in panels at Michelson Laboratory, the Pilot Plant and in Bldg. 60, the conferees represented not only BuWeps and NOTS, but many other Naval labs, defense contractors and technology institutes.

Members of the committee are Drs. S. de los Santos (chairman), David Taylor Model Basin, Washington, D.C.; W. R. Haseltine, NOTS; W. A. Kemper, Naval Weapons Laboratory, Dahlgren, Va.; L. L. Cronvich, Applied Physics Laboratory, Johns Hopkins University, Silver Spring, Md., and R. H. Peterson, Naval Missile Center, Point Mugu, Calif.

Representing BuWeps as associate members were H. O. Hollenberg, R. Broberg and J. Wright, and panel member W. K. Baker.

Other NOTS personnel in attendance included H. L. Newkirk, W. J. Werback, E. F. Winkel, R. E. Meeker, E. G. Roby, R. W. Van Aken, W. G. Younkin, M. D. James, all of Weapons Development Dept. (Code 40); H. M. Larsen and C. L. Spindler of Propulsion Development Dept. (Code 45), and R. O. Slates, Research Dept. (Code 5008).

Five panel meetings in Mich Lab were devoted to aerelasticity and structural dynamics drag, missile stability, heat transfer and applied mathematics and computation.

At the Pilot Plant panel discussions, aerodynamics and rocket nozzles and jet effects were the dominating subjects. Another panel, hosted by Weapons Development Department personnel, met in Bldg. 60.

On Wednesday a joint meeting of the various panels and committee was held in Conference Room A of Mich Lab.

Annual Gem, Mineral Show Slated at Trona

The Searles Lake Gem and Mineral Society will present its annual gem and mineral show tomorrow and Sunday at Trona, Mrs. Edith Lampert, show chairman, reported. Camping facilities have been set up at Valley Wells for out-of-town visitors, according to Bob Bostrum.



THESE CHINA LAKE LOVELIES will perform in the WACOM Home Talent Show as chorines Tuesday evening, Oct. 13, according to Helen Fletcher, program chairman. From left to right are: Julia Manherz, Marcia Smith, JoAnn Rusciolli and Louise Hyten.

Commissary Store's Produce Department Renovation Starts Mon.

Work on the renovation of the produce department at the Commissary Store will start Monday, according to an announcement this week by Lt. J. F. Le Blanc, Commissary Store Officer.

"We ask Commissary patrons to please bear with us during the two-week renovation period," the Commissary Officer said.

Holy Name Society

The Holy Name Society will meet Sunday at 10:30 a.m. in the East Wing of the All Faith Chapel.

Answer to Previous Puzzles

HINT	ASBA	SHE
OVER	NAVY	LAN
WATER	LEEWARD	
TAILOR	ONES	
GALT	PO	OT
RAN	FRAN	SD
EGG	AT	ON
WE	USHERS	LIT
ASH	NE	LATE
ANNE	EDDIES	
MANDATE	RATED	
APE	SNAP	SERE
MEX	PARE	EDEN

12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29
32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49

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SHOWBOAT COM Auxiliary Sponsors Fashion Modeling Classes

FRIDAY OCT. 9
"ENSIGN PULVER" (104 Min.)
Robert Walker, Burl Ives, Millie Perkins
7 p.m.
(Comedy in Color) Sequel to Mr. Roberts has its share of laughs when the skipper gets washed overboard and his reluctant crew goes to the rescue. It's all in fun on a wacky ship. (Adults and Youth.)
Short: "Broomstick Bunny" (7 Min.)

SATURDAY OCT. 10
—MATINEE—
"EVERYTHING'S DUCKY" (81 Min.)
Mickey Rooney
1 p.m.
Short: "A Boy and His Dog" (7 Min.)
Short: "Sea Hound No. 11" (18 Min.)
—EVENING—
"THE GREAT ESCAPE" (170 Min.)
Steve McQueen, James Garner
7 p.m.
(War-Drama in Color) All allied POW "Escape Artists" are assembled and sent to a German escape-proof camp. Superior plot, suspense, a big cast and excitement galore make this don't miss fare. (Adults, Youth, Mature Children.)

SUNDAY-MONDAY OCT. 11-12
"VIVA LAS VEGAS" (87 Min.)
Elvis Presley, Ann Margaret
7 p.m.
(Musical Drama in Color) Sports car driver falls for a pretty Vegas lovely, loses his honey for a new engine and sings his way into the Grand Prix. A tour of Las Vegas, Elvis sings, Ann dances, plus a warm-eye-view of road racing! (Adults, Youth, Children.)

Short: "Old Rockin' Chair Tom" (7 Min.)
Short: "Swin Gym" (10 Min.)

TUESDAY-WEDNESDAY OCT. 12-13
"FBI CODE 98" (104 Min.)
Jack Kelly, Kathleen Crowley
7 p.m.
(Crime-Drama) An almost documentary account of the FBI's painstaking effort to trace the source of a bomb planted in the plane of a top electronic engineer. Inside look at FBI. (Adults, Youth, Children.)

Short: "Birds Anonymous" (7 Min.)

THURSDAY-FRIDAY OCT. 15-16
"A HARD DAY'S NIGHT" (87 Min.)
The Beatles
7 p.m.
(Music-Comedy) Thirty-six hours with the renowned Beatles as they play an engagement, run to duck the hordes of admirers, rehearse, etc. Even Paul's Grandpa gets in the act. WILD! (Adults, Youth, Children.)

Short: "Aquavants" (17 Min.)

The first in a three-month series of classes in fashion modeling will be held next Monday, Oct. 12, at the Commissioned Officers Mess (Open) under the sponsorship of the Women's Auxiliary of the Commissioned Officers Mess.

Conducting the course, which will include charm pointers, self-improvement, social grace, poise and personality, will be Julia Manherz, a former stage and screen actress and fashion model.

Classes are to be held Monday at 2 p.m. and Tuesday, Oct. 13 at 7:30 p.m. in the club's Mojave Room. Subsequent classes, following the initial session, will be held Monday at 7:30 p.m.

Classes for girls of high-school age groups, are to be held on Saturday at 10 a.m. and for elementary age groups at 11:30 a.m.

The course is available to members of WACOM and Executive Dining Room and their dependents. Ladies interested in enrolling are asked to call Mrs. Manherz at Ext. 723901.

The charm and modeling classes will be held weekly through the three-month period.

The course is conducted under auspices of the American Beauty Charm and Modeling School. Its director, Mrs. Manherz, wife of Commander Jack M. Manherz who commands VX-5, was formerly under contract to 20th Century Fox, MGM and Monogram film companies and has performed nationally in the

effective date for increased payroll deductions will be Nov. 8, 1964.

Employees will also receive a Standard Form 2809A, "The Federal Employees Health Benefits Program." It has recently been revised to reflect recent changes in the health benefits law and regulations.

United Fund

(Continued from Page 1)

Agency Relief, IWV Branch, American Red Cross, IWV Council for Retarded Children, IWV Recreation Council, The Salvation Army, Campership Child Welfare Fund, Desert District, Boy Scouts of America, Joshua Tree Council, Girl Scouts of America, and Henrietta Weill's Foundation, Traveler's Aid, American Social Health and Blind Veterans, the latter four grouped as miscellaneous agencies.

"Installment" Giving
The donation card which all Station personnel—civilian employees and military—will receive is designed to reflect an initial donation plus a pledge for payment in installments that will fall due in February, May and August of 1965.

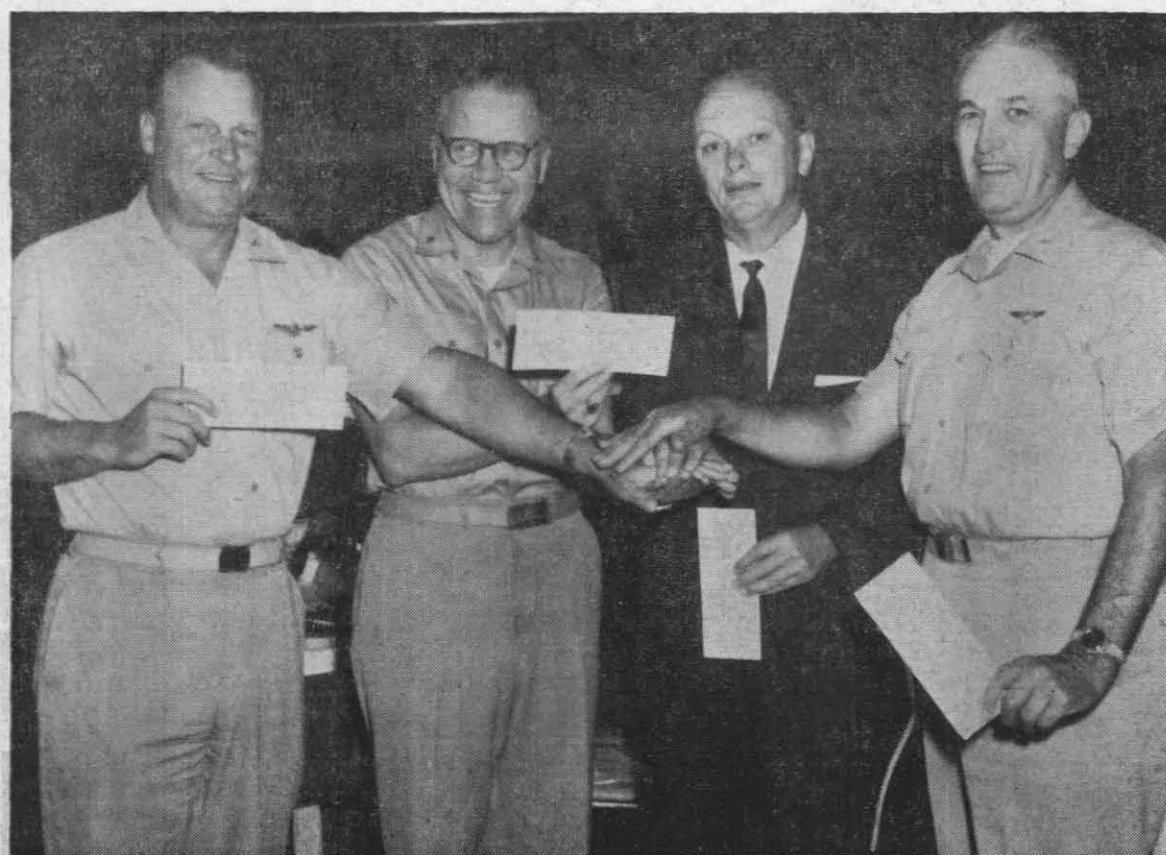
The card has individual agencies listed on the reverse side which permits donors to indicate how they wish their contributions to be spent.

The drive is to be conducted over a five-and-one-half week period, ending Friday, Nov. 13.

From _____

PLACE STAMP HERE

TO _____



SYMBOL OF UNITY is demonstrated by leaders in Station's United Fund campaign which started Wednesday. (From left) Capt. Robert R. Yount, CO, NAF; Chaplain Robert W.

Odell and Leonard S. Licwinko, coordinators for Station; and Capt. Floyd F. Reck, NOTS Plans and Operations Officer, helped spark drive through use of pledge card donations.

Code 4513's Job: Creating Materials to Withstand Space-Age Temperatures

A unique group on the Station devotes its time to discovery of methods and materials that will withstand the searing temperatures of new exotic fuels designed to improve the performance of rockets and missiles.

The control and utilization of these temperatures — as much as three times hotter than a blast furnace — is the exacting task of the Materials Research Branch of Code 45.

This Branch, headed by Jack Ramsdell, a NOTS employee since 1953 except for a three year stint with the Interior Department's Bureau of Mines, is comprised of 10 metallurgical, chemical and research engineers, technicians, and skilled machinists.

Under the Advanced Technology Division, they seek answers to the problems of finding materials that can withstand the new high-energy, high temperature propellants.

Among those problems are

the containment of extreme flame temperatures by "transpiration cooling," the design of materials to withstand atmospheric friction heating at speeds of Mach 8 (eight times the speed of sound); the use of ultrasonic energy for metal forming, and the development of materials that can withstand erosion from rocket exhaust gasses.

Transpiration Cooling

"Even in the short time that a rocket or missile motor burns, the temperature and the great velocity of the exhaust gasses can almost literally chew up an exhaust nozzle or combustion chamber," commented Milt Wolfson, one of the trio of en-

gineers working on transpiration cooling.

Wolfson, A. T. (Temp) Robinson, both pioneer NOTS propulsion men, and William Thielbahr, here since 1962, are the trio investigating the "transpiration cooling" phase.

"This essentially consists of vaporizing a metal at the hot wall of a porous refractory material," Robinson explained.

"It requires a great deal of heat just to convert such a metal from the liquid to vapor at the same temperature. The temperature of the porous refractory is lowered to a point where it will not erode while a short distance away the flame is as hot as ever.

"The solution is to use a material for the nozzle or combustion chamber wall that is itself highly heat resistant and po-

without surface erosion. A solid tungsten specimen would have melted within 50 seconds.

The plasma heat source used by the Branch consists essentially of an electric arc through which a gas such as helium is passed. The result is a temperature hot enough to melt any known substance.

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Protective Coatings

For two years Milt Wolfson has been developing protective coatings for refractory metals such as tungsten, molybdenum, columbium, and tantalum.

Columbium melts at 4300 deg. F. and tungsten not until 6100 deg. F. Even these heat resistant metals need protection against the erosion of rocket exhaust gasses, Wolfson noted.

The protective coatings now under study consist of a first layer of "cermet" (metal dispersed in a refractory oxide) and an outer layer of highly heat resistant metal oxide alone.

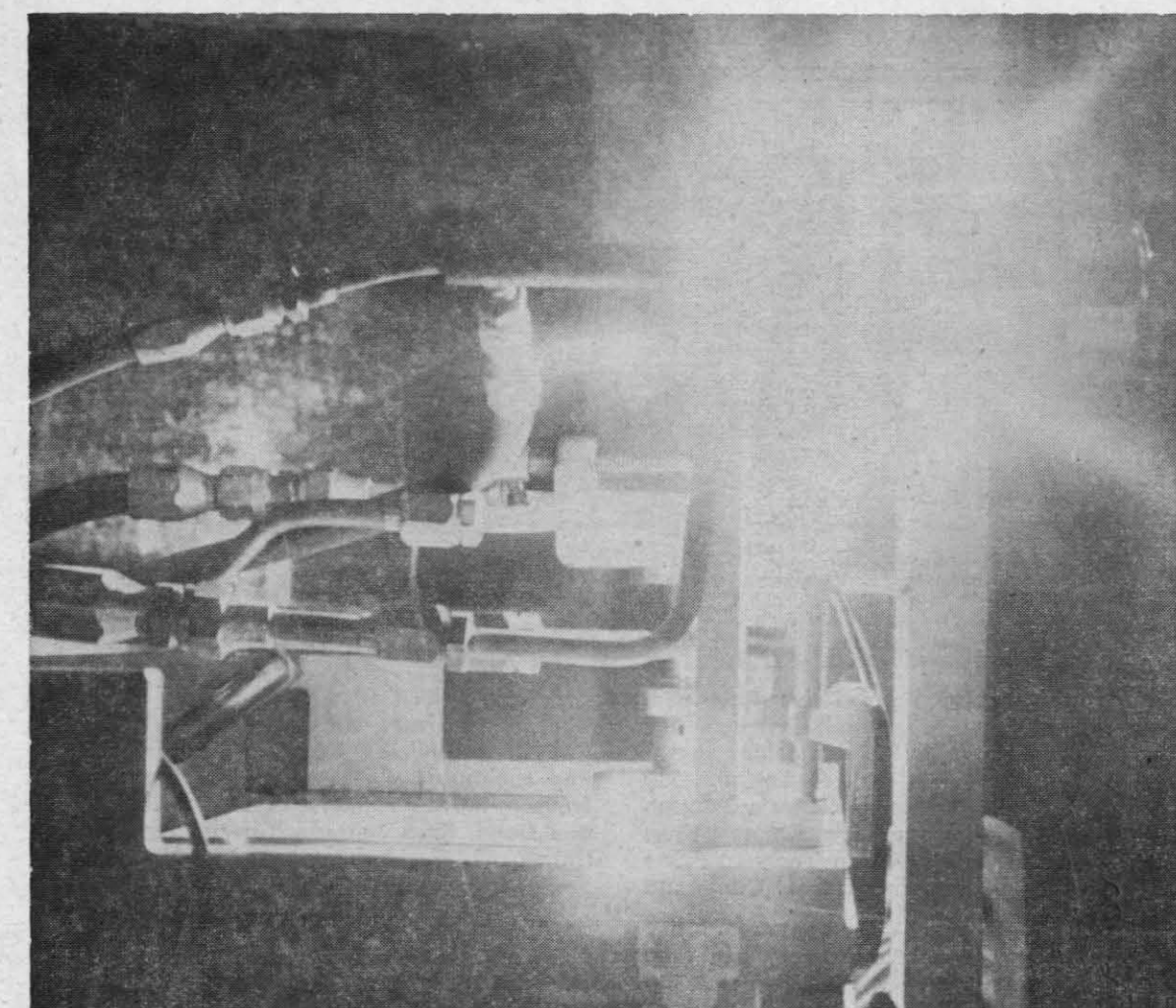
The cermet provides better bonding of the coating to the metal and increases resistance to cracking and splitting off of scales of the coating when suddenly exposed to great temperature shock. The metal in the cermet minimizes the effects of expansion differences between the ceramic coating and the metal beneath.

Extensive metallographic examination of the coatings and all materials being investigated by the Branch is done by Ray Fenley.

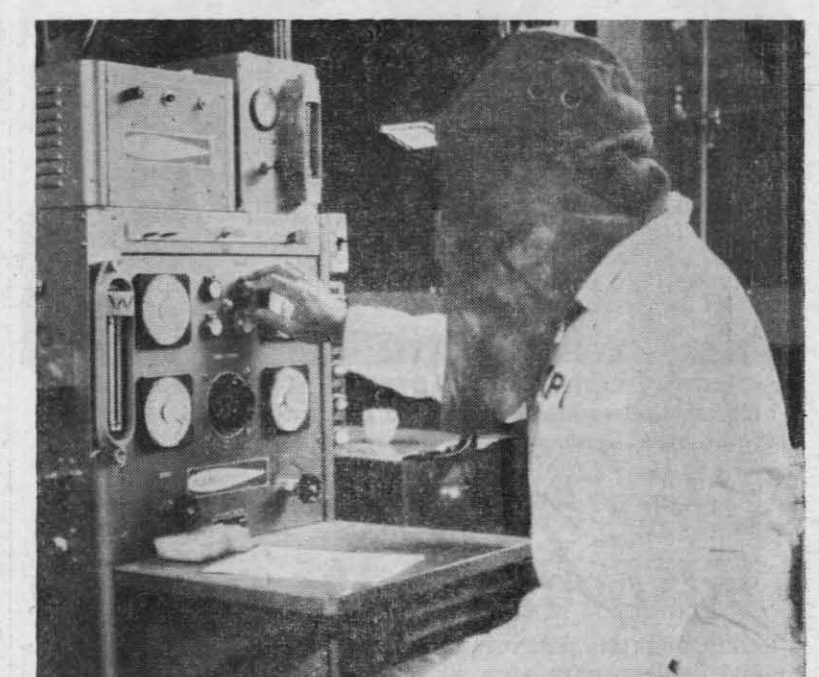
Ultrasonic Shaping

A. T. (Temp) Robinson, Jim Connelly, and LeRoy Stayton are studying the use of ultrasonic energy to shape and form metals which cannot be worked otherwise.

Essentially, ultrasonic means



PLASMA ARC — 25,000 watt plasma arc makes dramatic photo. It can produce temperatures up to 15,000 degree F. for testing refractory coatings and transpiration cooling tests.



ARC CONTROL PANEL — Milt Wolfson checks settings of voltage, current, and gas flow for plasma arc test series.

NOTS Scientists Float Missile on Air To Test Infra-Red Guidance System

Stainless Steel Bearing Used in Space Simulator

How do you suspend a 1250-pound missile in space to test its guidance system?

NOTS scientists have done it with an "air ball."

This stainless steel sphere is tooled to a tolerance of 2 microns, and rests on a pyrex cup with a bearing surface as perfect as man can produce.

According to personnel of the Astrometrics Division, Weapons Development Department, the balance of a missile suspended on a column of air is so delicate, the weight of two flies on the nose cone is sufficient to dip the missile downward.

Yaw, pitch and roll can be measured with the Air Bearing Facility. Specifically, it is used to house a dynamic simulator for sounding rockets.

Check-Out for Payloads

It provides a functional check-out system for payloads, attitude control systems, and other systems that are to fly aboard sounding rockets.

The "air ball," or dynamic simulator, is a highly polished air bearing, seated in the glass bearing surface atop a steel column through which air is forced to maintain a pressure of 220 pounds per square inch.

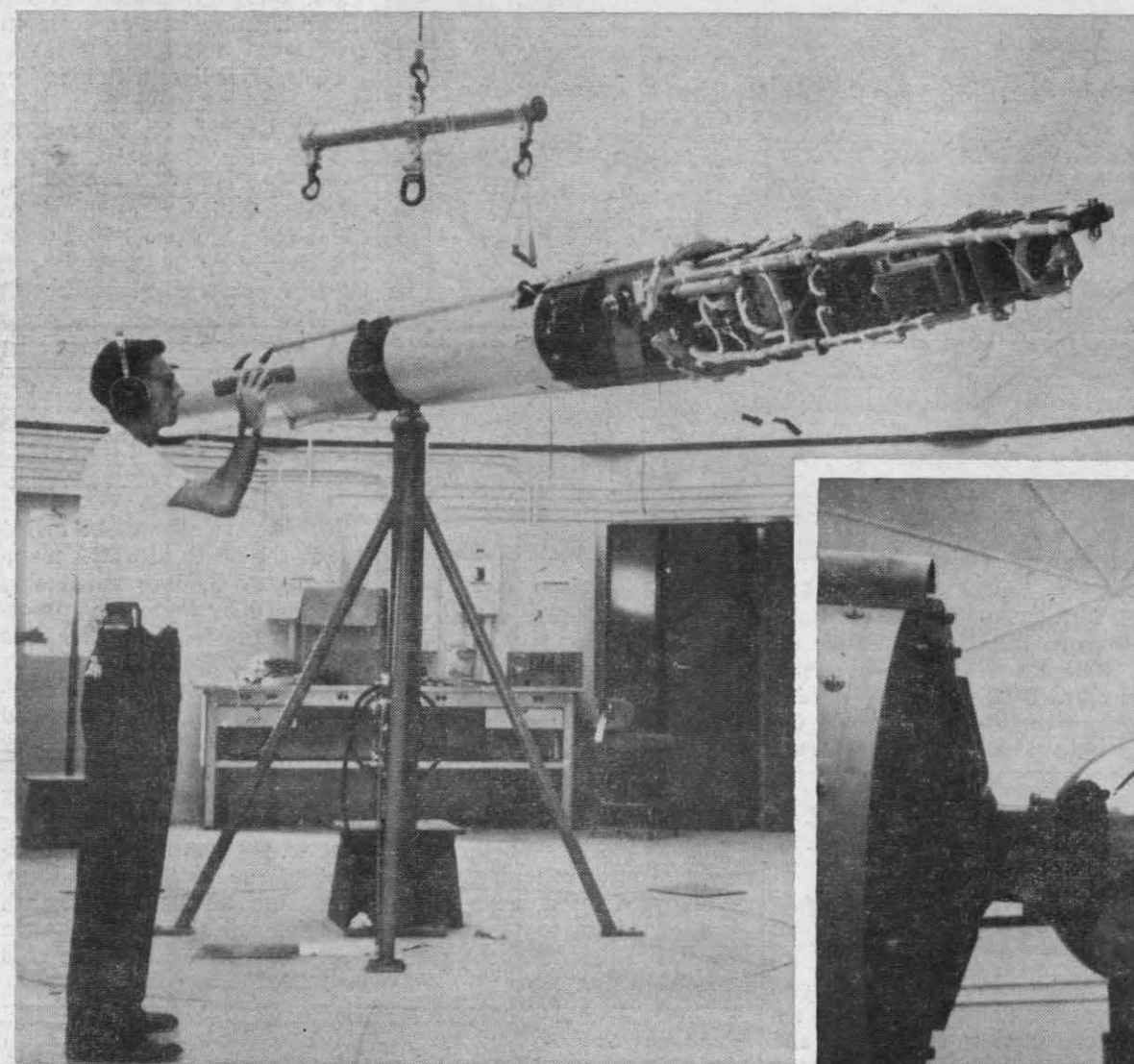
Thus, the bearing "rides" on a column of air, providing a high degree of attitude freedom, and nearly frictionless attitude movement.

Has Dynamic Response

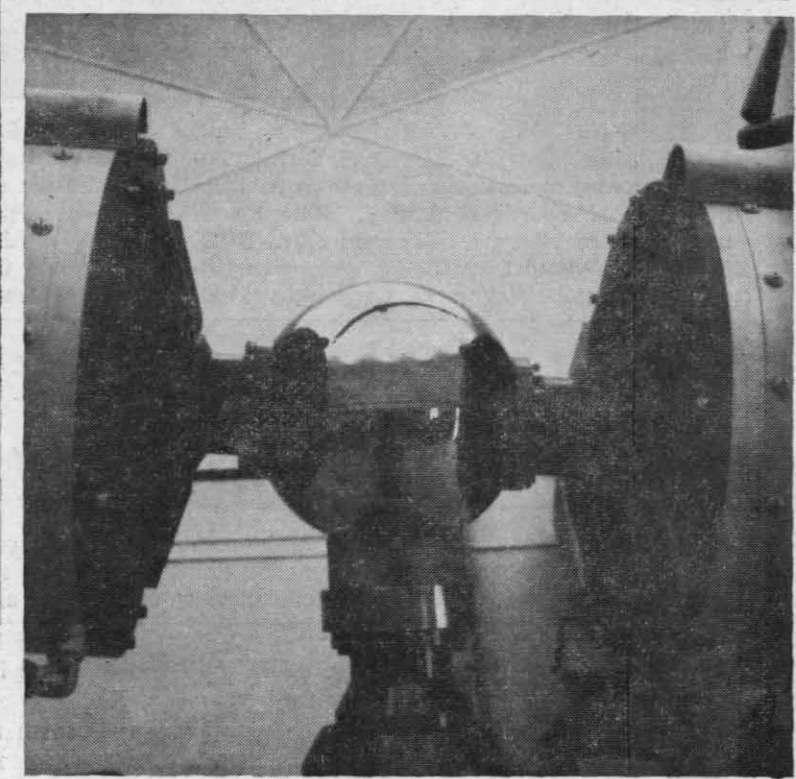
Simulated conditions are nearly identical to the sounding rocket after burn-out.

Dynamic response of the simulator to Attitude Control System command (transient response times, overshoots, damping characteristics, trail angle to non-stationary targets and limit cycling) will be very close to that experienced by flight vehicles.

Studies performed with the simulator will provide useful data on time required to position the vehicle in a desired attitude, pointing accuracy, limit cycle amplitudes, and proper signals to provide accurate tracking of a moving target.



'FLOATING' MISSILE reacts as infra-red guidance system is activated with flashlight by Leroy Ogan of Weapons Development Department. "Air Ball" development simulates frictionless attitude movement paralleling "after burnout" conditions in space. Close-up of "air ball" may be seen at right.



Functional check-outs of integrated payload systems also can be achieved with the simulator.

Errors Known Quickly

In addition, any errors in wiring, assembly, or precession angle value in the Attitude Control System are immediately apparent during a simulator run.

An entire payload system can be mounted without modification on the simulator and made to run through its entire flight program on its own battery power supply and pressurized gas, and its operation witnessed prior to flight.

Although the simulator is used now for a current space probe program, its use is not restricted to sounding rocket payloads. Any system test requiring nearly frictionless suspension with

reaction jets for attitude control can be performed on the simulator, provided the weight and dimensions of the test equipment are within its physical capabilities.

Reacts to Flashlight

In tests performed this week, the infra-red guidance system on the test missile reacted to a flashlight beam.

The test vehicle weighed 1250 pounds, and had a pressurized chamber on each side of the "air ball" to equalize any changes occurring in air pressure. The stainless steel ball is hollow, and has connecting openings in the jig flanges to permit free passage of air and maintain balance.

"Operation Air Ball" was labelled a big success.

Security Policeman Kenneth G. Collins To Appear on TV

NOTS security policeman Kenneth G. Collins will make his first appearance on TV, not as a sheriff of the old west as one might expect, but in a more passive role as an artist.

While painting recently with the Teton Artists Associated in the Jackson Hole country of Wyoming he was photographed by a Jack Douglas camera crew.

The scenes will appear in Douglas's new travelogue "America" and will show in this area on or about Tuesday, Nov. 3, Channel 4 at 7 p.m.

Cdr. Manherz to Speak At VX-5 Wives Club Potluck Dinner Meet

Commander J. Manherz, Executive Officer of VX-5, will be guest speaker at a meeting of the VX-5 Wives Club, Tuesday in the East Wing of All Faith Chapel.

The meeting will open with a potluck dinner at 6:30. Anyone wishing to help with preparations for the dinner is asked to contact Connie Shaw at 75494.

Contributions to the canned food drive, and any usable or repairable toys and books for the children's ward of the Station Hospital will be welcome.

vibration energy of a much higher frequency than audible sound waves. The use of ultrasonic energy reduces the force required to shape the metal.

The group is presently using ultrasonic energy in metal wire drawing. The project was initiated as a practical application of basic research being conducted by the Research Department's Metal Physics Branch.

The Bureau of Naval Weapons is vitally interested in finding new ways to process refractory metals and has played a major role in procuring equipment for the ultrasonic energy studies being conducted here.

Design Own Equipment

In carrying out their studies, personnel of the Branch have designed and set up a laboratory version of a wire drawing mill.

The physical setup incorporates an ultrasonic transducer which converts the high frequency energy into mechanical

energy. This then is applied directly to the metal as it is drawn through the die.

The group has found that with the correct acoustical conditions — that is the correct frequency and intensity of the ultrasonic wave energy — the force necessary for drawing wire is greatly reduced.

The program will be broadened during the coming year to extend the areas of applied research and to examine possible new areas of application.

Ablative Cooling

Another area of research in which the Branch is involved is ablative cooling. Elder Bartel, a Whitman College chemical engineering graduate, is conducting a series of studies in this field, with the assistance of Hugh Chase.

Ablative cooling may be best described as providing combustion chambers and nozzles with a coating which can be slowly sacrificed during motor firing and yet retain the necessary

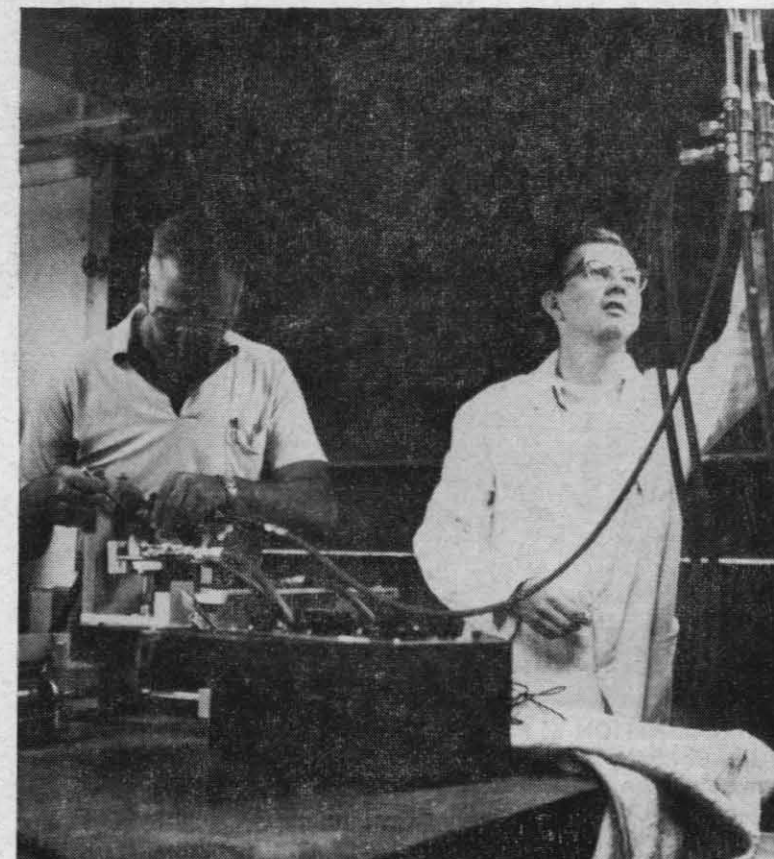
strength in the main structure, Bartel pointed out.

One of the experimental ablative materials — a polyethylene compound — produces a "boundary layer" of decomposition products that not only reduces heat transfer from the exhaust to the nozzle, but also successfully protects the nozzle throat from chemical attack by the corrosive propellant gases.

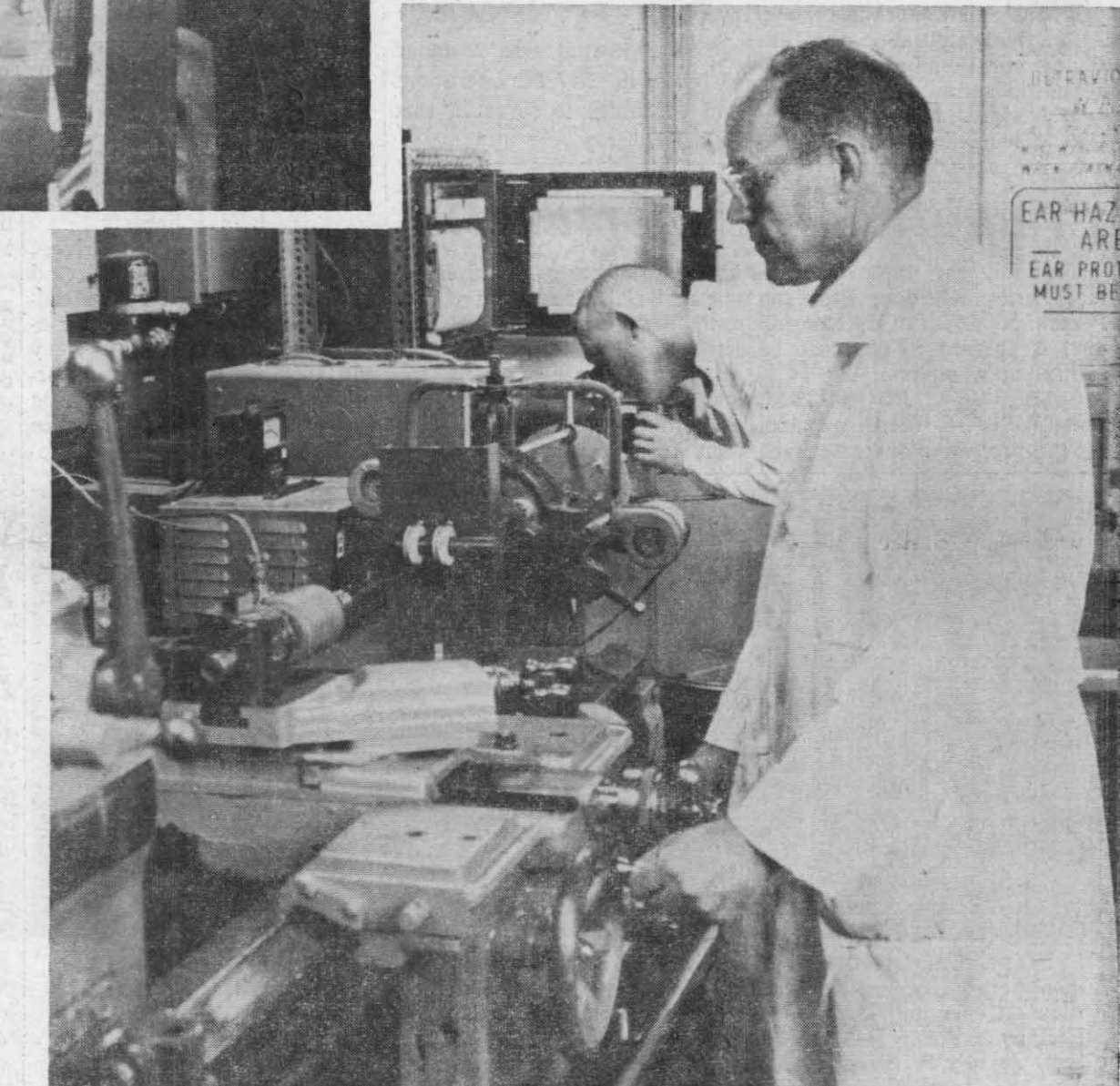
The Materials Research Branch is cooperating with the Applied Research Branch (also in the Advanced Technology Division) to combine the ablative cooling concept with the transpiration cooling theory.

Materials such as plastics will vaporize on the "cold" wall of a porous matrix and then transpire through this wall to the cool boundary layer on the "hot" side.

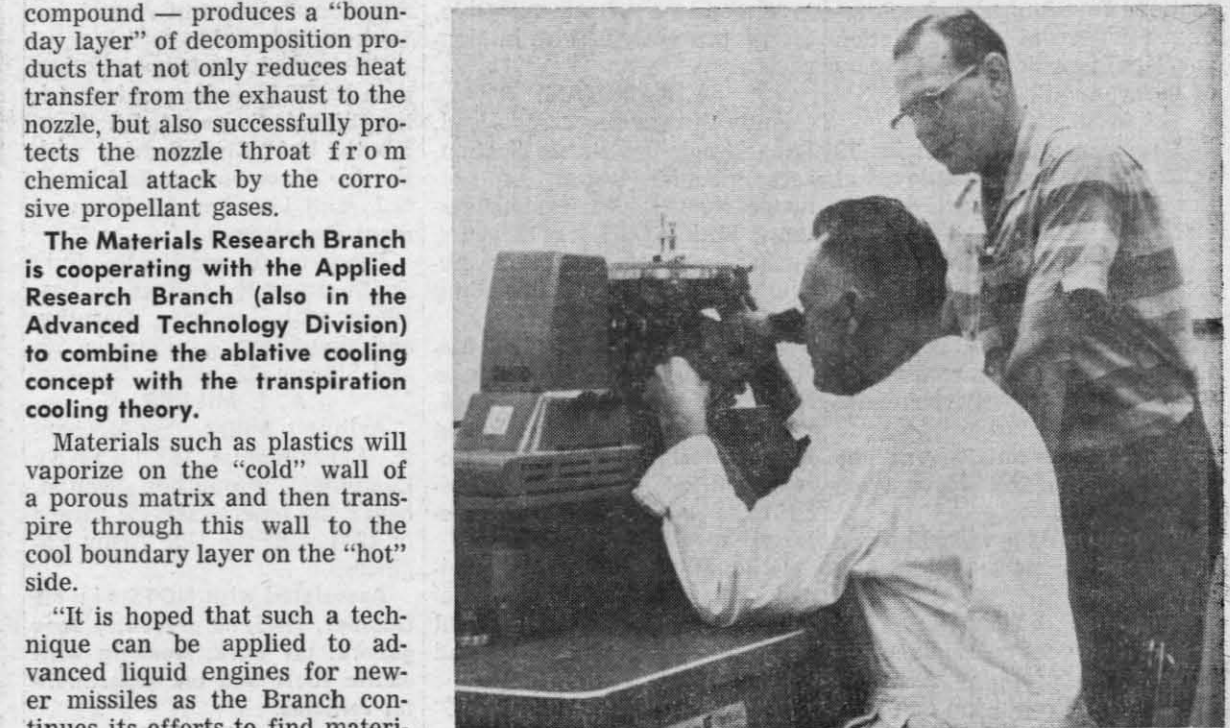
"It is hoped that such a technique can be applied to advanced liquid engines for newer missiles as the Branch continues its efforts to find materials that can withstand the ever-hotter new propellants," Bartel said.



TEST BENCH — Milt Wolfson and William Thielbahr ready plasma arc equipment for high temperature test of NOTS-developed heat resistant coating for nozzles and chambers.



WIRE DRAWING — Jim Connelly operates lathe equipped with ultrasonic transducer which is used to draw wire under ultrasonic radiation to improve its deformation. At right LeRoy Stayton checks the wave forms on an oscilloscope.



AT METALLOGRAPH — Ray Fenley (seated) and "Temp" Robinson examine structure on coated specimen with a metallograph, which brings out detail at 1,000 magnification.



OUTGOING COMMANDING OFFICER, Lt. Lee O. Smith (1) bids farewell to crew of the USS Butternut, while welcoming aboard new Commanding Officer, Lt. Victor D. Modeen.

Change of Command for 'Old Lady of the Sea'

Commemorating 23 years of commendable performance, the USS Butternut (AN9), the last of her class of net tenders still in commission, played host to members of the crew, their dependents and visitors last week.

In a dual celebration, the 16th Change of Command was also acknowledged.

Lt. Victor D. Modeen from the USS Monticello (LSD 35), re-

lieved Lt. Lee O. Smith as Commanding Officer of the little ship. Lt. Smith will report to COMDESRON 11 as Staff Operations Officer on the USS Goldsborough (DDG 20), homeported in Hawaii.

The Butternut was assigned to NOTS in 1957 for operations and continues to serve in that capacity.

Promotional Opportunities

To apply for vacancies contact Nancy Reardon, Pasadena Personnel Division, Extension 492. A current SF-58 must be submitted when applying.

Guard, GS-4, PD 24132-17, Code P1914 - Security patrol for the protection and safeguard

of classified areas, equipment, and material. Knowledge of Federal, State, County, and City laws desired. Must qualify annually in the use of small firearms. Must work rotating shifts at both the Foothill Plant and Morris Dam Range.



SYSTEMS OPERATIONS Division held ceremonies recently honoring five men reaching their 20-year milestone in federal service. Recipients shown (l-r) are Winslow L. Rainbolt, Joseph P. Strapp, Andrew A. Juhasz,

Howard A. P. Smith, and Arthur I. Miller. Continuing (l-r) are D. J. Wilcox, Head, UOD; D. A. Kunz, Head, Systems Operations Division; and Capt. G. H. Lowe, Officer in Charge, who offered congratulations to the quintet.

Five Represent Century of Service

A century of federal service was represented recently by five members of UOD's Systems Operations Division, when each received letters of commendation and lapel pins denoting 20 years of government service.

W. L. RAINBOLT
A resident of Anaheim for 19 years, Rainbolt was employed at the Long Beach Shipyard from 1951-1958. He has been with NOTS for the past 6 years, performing as electrician in charge of all P80834 electrical equipment on the YFU-53. During this period he has received a Sustained Superior Performance Award.

Originally from Arizona, he served in the U.S. Navy from 1938-1945.

Rainbolt and his wife, Kathryn have two daughters - Julie Ann and Karin.

J. P. STRAPP
A Supervisory Engineering Technician, Strapp is Assistant Head of the Propulsion Lab and in charge of the Measurements Lab. He has been with NOTS for 19 years; 3 years at Pasadena and

16 years at Morris Dam. Military service consisted of 2 1/2 years with the U.S. Navy.

A native of Akron, Ohio, Strapp presently resides in Monrovia.

A. A. JUHASZ
Andy Juhasz serves as Head, Long Beach Sea Range Section, accomplishing testing of ordnance items and weapons systems. With NOTS for 15 years, he has received a Superior Accomplishment and Outstanding Award.

Juhasz served with the Marines from 1940-1947, came to NOTS, China Lake, in 1948. From 1951-1952 he was recalled to the Marines during the Korean conflict. Returning to China Lake until 1956, he transferred to NOTS, Pasadena.

Originally from Niles, Michigan, Juhasz resides in Los Alamitos with his wife, Joan, and children - Sandra Lee 12, and Jeffrey 10.

H. A. P. SMITH
"Hap" Smith is an Electronics Engineer in the Laboratory Section, working with electronic

NOTS Pasadena

VIRGINIA E. LIBBY - EXT. 638



UNITED CRUSADE Fund Drive Chairman, John J. Fogarty (foreground) instructs key men selected for the 1964 campaign. Shown (l-r) are - Carol Brinley, Ken Leisge, Judy Sheppard, Charlene O'Conner, Carole Ostrander, Lt. D. A. Smith, Sue Burg, Donna Baker, Jane Ingham, Fogarty, Glenn Thorsen, Fiven Gomez, Doreen Spaulding, Robert Cline, and

Bernie Morrison. Not present for picture were Irene Brown, Blanche Reust, Wini Wishart, John Whealen, Nora Lee, Robert Clunk, Peg Higgins, Betty Halmanski, Robert Gottfredson, Steven Valihora, Jeannine Wolfe, Eldon Dunn, Fran Johnson, Charles Black, Lt. (jg) K. W. Eveland, and ABF1 (DV) E. G. Smith, who also will aid in campaign.

United Fund Drive Starts Oct. 16

By John J. Fogarty
Chairman, 1964 Fund Drive
Friday, Oct. 16, the United Crusade Fund Drive will officially get underway. With the consolidation of the United Way and American Red Cross, opportunity is presented to subscribe with a knowledge that a more efficient and effective organiza-

tion has this year been instituted.

I hope that each of us will acknowledge the fundamental goodness of the more than 300 organizations that benefit from our donations and that the sum we pledge must support their efforts throughout the entire year.

I urge everyone to utilize the pledge form method of subscrip-

tion, thus distributing the total sum over a personally convenient period of time.



LCDR. R. M. HENDRICKS recently detached from duty as Assistant Public Works Officer and OICC/ROICC for NOTS Pasadena and SCI has been selected for promotion to Commander. LCDR Hendricks presently is assigned to Naval Administrative Command, U.S. Naval Training Center, Great Lakes, Illinois. His tour of duty at NOTS covered the period from August, 1962, to August, 1964.

Fall League In Full Swing

The NOTS Pasadena Bowling League has begun Fall play at the Bahama Lanes, with the 12 teams entered expected to provide an exciting season.

"All teams are evenly matched," according to League President Mert Welch.

High team series in first night play was turned in by the Alley Kats with a 2331. Team members are Welch, Jan Cardwell, Ruth Neff, Dick Batters, and Ray Hanson.

Lyle Emerick posted the men's high series with a 599, while Jane Caghagen led the ladies with a 578.



IN RECOGNITION of their excellent safety record, personnel of the Ballistic Range Section, Morris Dam, receive a Safety Commendation Certificate. Presentation was made by Joe Taber, Head, Range Branch (left). Others (l-r) are: Bernie Pennino, Cecil Ballard, Fiven Gomez, Art Backlund, Norm McDonald, and Bob Larson, section head. Not present are: Bob Evans, Chuck Grandall, Bud Schroeder, Norm Wyman, and Dick Helman, who also shared in commendation.



MRS. JOHN HARDY (center), wife of the Station Commander, receives ticket from Mrs. Woodrow Chartier for Chi Alpha Chapter, Beta Sigma Phi benefit. Mrs. Crill Maples (left) and Mrs. Chartier model fashions like those which will be given away to lucky winner. Slacks and cocktail dress will be included. Event will take place Oct. 31. For further information, and ticket sources, call Mrs. Maples at 723014.

AOA Members Plan Tour of Vandenberg

Members of the China Lake Post of the American Ordnance Association were making plans this week to attend a briefing and tour of Vandenberg Air Force Base on October 23.

Post President Harold Metcalf and Vice President Capt. Ronald E. Jensen, USAF, program chairman, announced that the group going from here must be limited to 40 members. They are asked to contact Capt. Jensen at Ext. 71403 to make reservations. Cost of luncheon at Vandenberg will be \$2.50 per person. Airlift to the base will be provided, departing NAF at 8 a.m. on the 23rd.

The invitation to attend was sent by Major General S. W. Wells, USAF, Commander of the 1st Strategic Aerospace Division. His staff will brief all AOA visitors on the Western Test Range Complex and all other facilities and activities of the base.

Following luncheon, they will tour the latest control and launch facilities for strategic missiles such as Titan II and Minuteman.

Two More Promoted To Commander Rank



LCDR. G. W. MYER



LCDR. H. E. RUTLEDGE

Lieutenant Commander George W. Myer, Projects Department, VX-5, and Lieutenant Commander Howard E. Rutledge, Military Consultant, Weapons Planning Group, have been selected for promotion to commander.

A Naval Academy graduate with the class of 1950, LCDR. Myer reported to VX-5 from duties with the staff of Commander, Naval Air Force, U.S. Pacific Fleet, in early 1963.

Born at Decatur, Ill., he has served with VF-51, VA-146 and VX-4 since graduation from flight training at Pensacola in 1952.

LCDR. Myer lives with his wife, Anne, and four children, Karen, 13, George, 10, Richard, 8, and Stephen, 3 weeks, at 301 Leyte.

LCDR. Rutledge reported to China Lake in August 1962 from U.S. Naval Post-Graduate School. He had previously served with VF-174.

A native of Tulsa, Okla., he

Code 45 Engineer Back from London Scientific Meeting

Propulsion Development Dept's Leroy J. Krzycki, Conductor propulsion engineer with the Technology Div. returned this week from London where he chaired the three-day meet of the Tripartite Radar Attenuation Working Group.

The NOTS' engineer was appointed to head the group by the Bureau of Naval Weapons in July.

The meeting which was attended by representatives from the United States, Canada, and England was held at Westcott, Buckinghamshire, England, and at the Ministry of Aviation in London.

Conferees exchanged information in the fields of rocket engine attenuation and modulation of electronic guidance signals and resulted in definition of a cooperative program between the United States, Canada, and Great Britain.

GEBA Assessment Waived for Death Of Emery Bowers

No assessments will be levied due to the death of GEBA member Emery J. Bowers, it was announced by secretary-treasurer Joseph M. Becker this week.

The 56-year-old Propulsion Development Dept. employee died at the Ridgcrest Community Hospital last Saturday.

He was active in community and fraternal affairs. At the time of his death he was president of the local Shrine Club, a member of the Al Malaikah Temple, and the IWW Masonic Lodge 691. He came to the area in 1953.

Housing Assignment Procedures Changed

Procedural changes in housing assignments for NOTS employees and military personnel serving at China Lake were announced this week following a periodic review of policies and administration of Station housing.

The changes and effects were enumerated in a NOTS Instruction, distributed to all Station tenants.

Areas of eligibility, assignment and occupancy, separating and vacancy are key areas affected by the changes, according to the Notice, which advises those awaiting housing (applicants) to renew their applications in those instances where eligibility has been changed.

Names of those who applied for a particular type of house for which they will no longer be eligible (in accordance with the new procedures) will be automatically dropped from that listing, according to the Notice. Names will be included on lists for which applicants are eligible, it was emphasized.

Those wishing to be placed on lists for other houses for which they will be eligible should submit new application

Slick Trick

During World War II, at the height of meat rationing, a Texas shipyard used bananas instead of grease to prepare the ways on which new ships slid into the water.



PUBLIC WORKS DEPT. personnel evince pride and gratitude after receiving awards from Capt. C. A. Reilly, Public Works Officer (left). Recipients of Sustained Superior Performance awards are (l-r) L. D. Bohanan, Betty Jo Yingst, Walter Schmid, Mary

Schroeder, R. E. Hartley, Mildred Amos and Bobby Brown; Geneva V. Snyder (extreme right) won Superior Achievement award. SSP awards also went to Floyd Wegley and Clyde Burum, and Howard E. Auld was presented a Beneficial Suggestion award.

Film Society Bills Comedy

"Man In A Cocked Hat," a spoof on the British Foreign Office, will be the second showing of the 1964-65 China Lake Film Society season next Monday and Tuesday, Oct. 12, 13. The film will be shown both nights at 8 p.m. in the Community Center, according to Larry Mesple, Film Society president.

CHAPLAIN'S MESSAGE

Are the Issues Being Clouded?

By CHAPLAIN MARK E. FITE



The issues at stake in our government are important and it behooves each of us to obtain as much information as possible in order to make our best decisions how and for whom we should vote. I believe that every conscientious person wants to make his vote express his desire for what is right.

The presidential campaign moves along with less than one month to go before election. If we listen to the words used by each candidate as he speaks about his opponent, we wonder if there are positive issues on which either stands. It's difficult to believe that Americans would vote for a man who is quoted as being a "ranting, raving demagogue" or any of the other invectives used to describe the character, ability, merits or demerits of either.

I'm certain that both candidates have some very fine qualities about them. They surely must be able, patriotic men or else they'd not be in their present positions. Surely the nation is not going to be as bad off as each claims if his party loses.

It seems our first impulse is to throw stones at our opponents. If we do not guard against it, this idea and practice will slip into all areas of human relations. The tendency is to blame the other side for what is wrong.

Just how free of blame are we in the "cheap and dirty" language used in the presidential campaign? Isn't it to our shame that such exists? Where is our honesty and integrity if we permit other countries to get the impression that the affairs of state are a joke with us?

There is something we can do that will help. We can be reminded that Jesus had something to say when one maliciously attacks another's character (Matthew 5:22 - last part).

Also we can remind the presidential candidates as well as all others in places of leadership that we can believe that "Righteousness exalts a nation but sin is a reproach to any people" (Pr. 14:34).

We can pray that these persons will have wisdom to know what is right, and that we expect them to act accordingly.

PROMOTIONAL OPPORTUNITIES

Present Station employees are encouraged to apply for the positions listed below. Applications should be accompanied by an up-to-date Form 58. The fact that positions are advertised here does not preclude the use of other means to fill these vacancies.

Mechanical Engineer, GS-9, Code 5521 — The incumbent is responsible to a senior engineer or section head in the performance of design related to mechanical mechanisms, selection of components and hardware as employed in servo systems and carries out test procedures to evaluate the effect on the system.

Electronic Engineer (Solid State Devices), GS-11, PD 45964, Code 5521—Incumbent is responsible for design of electronic circuit and electronic components as employed in servo system. Develops test procedures to evaluate the effect of the system. Incumbent is also required to make calculations to predict cost, component performance or design parameters, supervise draftsman, schedule, conduct and evaluate tests to determine that the components satisfy system specifications.

File applications with **Dora Childers, Bldg. 34, Rm. 32, Phone 71392.**

Electrician, WB28005-11, JD 180-2, Track Operations Branch, Code 3072—The incumbent will construct, install, maintain, and repair various electrical wiring systems, electrical controls, electrically operated equipment or instruments, light and heavy electrical machinery and electronic equipment in support of the Supersonic Track Operation.

File applications for above with **Jean Lines, Bldg. 34, Rm. 34, Phone 71514.**

Management Analyst, GS-13, PD 317012-2, Code 174—Serves as project leader on the most important projects of the Management Analysis Division as assigned by the Division Head. After determining objectives of the study, plans the execution in terms of steps to be taken, contacts to be made and information to be gathered to accomplish the objectives; supervises other analysts by assigning and reviewing their work.

Qualifications Required: In addition to either a Bachelor's degree or three years' general experience preparatory to management analysis work, must have three years' specialized experience in analysis, evaluation, development and improvement of managerial policies, practices, methods, systems and procedures. Specialized experience must include at least one year at GS-12 level.

Clerk (DMT), GS-314-3 or 4, Code 4021—This position is located in the Weapons Development Department, Missile Branch, Hangar 1. The incumbent will perform secretarial type duties for the Head of the Branch and in addition will perform clerical and secretarial duties for the other employees in the Branch.

Qualifications: 2 years of appropriate experience.

File application for above with **Louana Schneider, Bldg. 34, Rm. 26, Phone 71648.** Deadline for filing is October 16, 1964.

NAVY OVERSEAS VACANCIES

Civil Engineer (General), GS-110-11, Cuba. File applications with Navy Overseas Employment Office (Atlantic) Headquarters, Potomac River Naval Command, Washington, D.C. 20390.

Electronic Engineer, GS-12, Guam. Printing Specialist, GS-9 or GS-11, Japan. Management Analyst, GS-9, Japan.

Electronics Engineer, GS-9 or GS-11, Hawaii. Recreation Specialist, GS-9, Viet-Nam.

File applications for above with Navy Overseas Employment Office (Pacific), Federal Office Building, 50 Fulton Street, San Francisco, California 94102.

Applications for above positions accepted thru positions are filled.

Master Mechanic (Power Plant), Guam. Competitive exam.

Application Card Form CSC 5000-AB and Standard Form 57 must be filed with the Consolidated Industrial Relations Office, Box 22, Headquarters, COMNAVYMARIANAS, c/o FPO, San Francisco, California, Attention: Code 08-23, or postmarked not later than the close of business on October 26, 1964.

'DESERT PHILOSOPHER'

Sliding Rocks Myth Target

By "POP" LOFINCK



Sorry folks . . . I must puncture another myth. My obsession for facts, you know. But facts and realities are more interesting than myths and fables.

This time it has to do with the so-called "mysterious phenomena" of the moving stones in the area known as Death Valley race track.

From time to time we read a lot of stuff in a magazine or newspaper article about this "mystery or puzzle, which hasn't been completely solved to the satisfaction of scientists." Phooey!

There is no mystery about it — and it's no more a phenomenon than air in motion or wind is a phenomenon.

ROCKS ARE MOVED BY THE WIND

Dr. Pierre St. Amand, Head of Earth and Planetary Science Division of the Research Department of China Lake-NOTS says that these rocks in Death Valley are moved by the wind.

Probably a 40-knot wind will move them fast enough to be observed in motion, and sometimes the wind blows much harder.

The conditions must be right. That is — a light rain will make the surface of the playa or dry lake slick.

A heavy or prolonged rain would cause the rocks to be stuck in the mud — so no movement at that time.

If it rains and freezes on the surface — which sometimes happens in the higher areas of Death Valley, — with water under the ice and mud under that — then the rock cruising conditions are perfect — when the wind blows.

TRAILS FORM UNIQUE PATTERNS

The wind breaks up the ice surface — and the rocks skid along.

If two adjacent rocks are stuck in the same ice sheet — and one rock is much bigger than the other — then they skid alone in curves — forming some odd, fantastic, grotesque, eccentric skid marks in their wake.

If the wind changes direction — which is not unusual — then the same rocks might cross over their previous skid marks. It's as simple as that.

Dr. St. Amand states that Bob Skelton, a competent geologist, of Pomona, Calif., flew over to Death Valley in his light monoplane, for the purpose of demonstrating the facts of rock skidding.

LANDED PLANE NEAR ROCKS

The surface of the playa was dry — so no problem of landing his plane, near the rocks.

Skelton then taxied over to a sizable rock. He brought with him several 5-gallon cans of water — to make the test — poured the water around and in front of the rock, so the surface was slick.

He turned his plane around so the rock would be in the prop wash — and the rock skidded several feet.

Student Rabbi David Zucker To Preach Here

Student Rabbi David Zucker brings a wealth of personal and religious experience to NOTS next Friday, Oct. 16, when he conducts his first service here for the local Hebrew congregation.

The service begins at 8 p.m. in the East Wing of All Faith Chapel. Sabbath School lessons for children five years and older will begin at 10 a.m. the following morning.

Mr. Zucker was born in the state of Nevada. Upon moving to the Bay Area he attended schools in the Oakland sector. He interrupted his educational program at San Jose State University, where he received a Bachelor of Arts Degree in the Social Sciences in 1964, in order to participate in the Jewish Agency program in Israel as part of the Institute of Youth Leaders. During this period he first spent a very interesting five-month tour in Jerusalem, and then had the very enriching experience of being in a Kibbutz for five months.

All Invited To Catholic Bible Series

"Carrying the Cross" will be the subject at 7:30 tonight (Friday) for the NOTS Catholic Chapel "Bible Service." Dorothy Swann will present the service, which is replacing the traditional October Rosary Service.

Teams of lay people are participating in the presentation of the nightly devotions, and all residents of the China Lake-Ridgcrest community are invited.

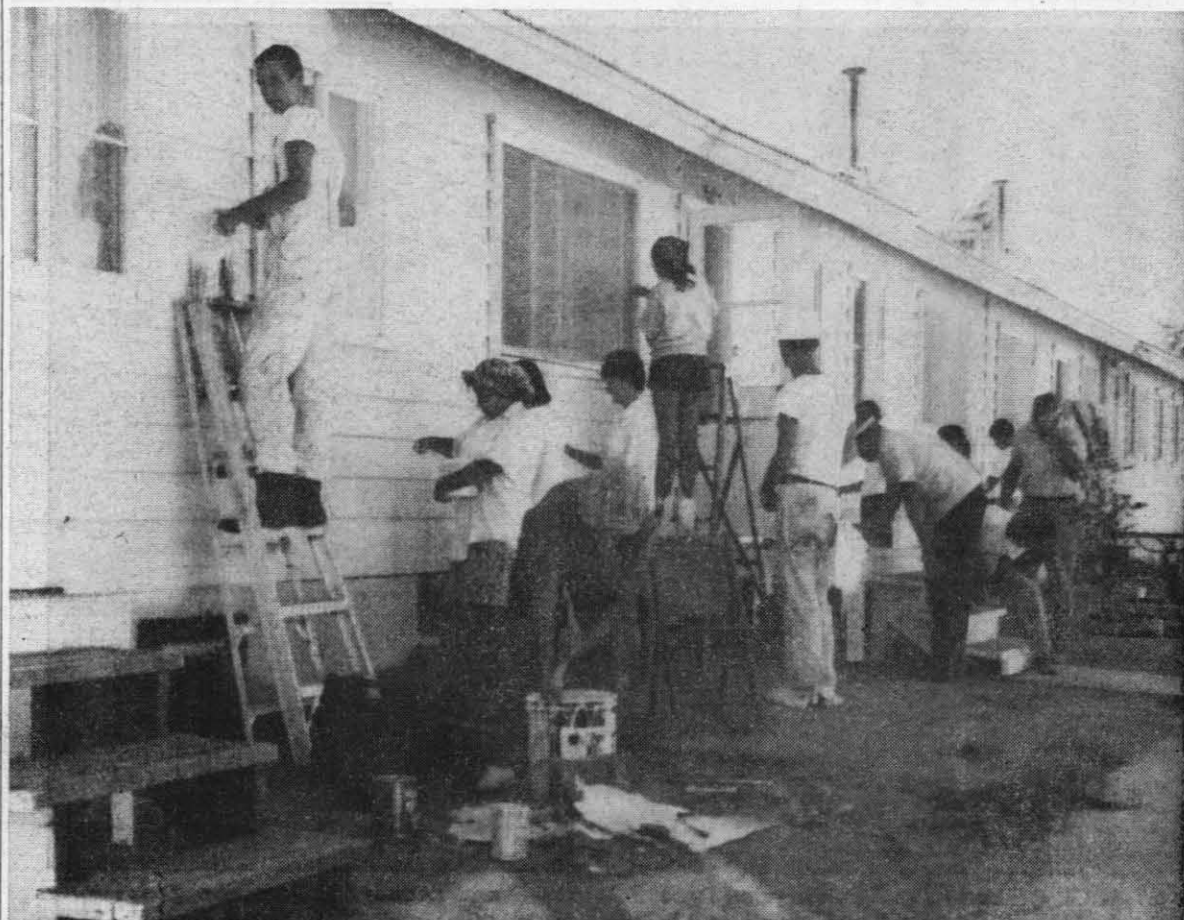
The subjects and team captains for the balance of the week are: Saturday, "Crucifixion," Virginia Beresford; Sunday, "Resurrection," Mary Donaldson; Monday, "Ascension," Ellen Belisle; Tuesday, "Descent of the Holy Spirit," Charlotte Ostermann; Wednesday, "Assumption," Ethel Ritchie, and Thursday, "Consecration of the Blessed Mother," Anita Kleine.

Unitarians Move To Chapel Annex

Meeting place for the Unitarian Fellowship is being changed this week from the old Parish Hall to the Chapel Annex, located at 85 King Ave. (north of Halsey Ave. between Switzer Circle and Parsons Rd.).

Sunday school classes will meet in old dormitories No. 7 and 8, on the corner of Lauriston and Blandy across from the Station Restaurant.

All interested persons are invited to attend.



FACE-LIFTING for new club house was performed by members of Catholic Youth Organization. Youth membership completed exterior and interior painting in single day, with guidance and assistance of parents. New location for CYO is Bishop Hut on McIntire.

BOWLING NEWS

By Dick Zinke

Premier 865 Scratch

This week, the big noise for consistent scoring was executed by Bob Kochman delivering a grand 644 series with games of 226, 235 and 183. Carl Valdez rolled high game for the night with his big 244. High team game went to the Mercury Movers with a 937, while the Station Restaurant pitching all the way took high series with a 2705.

Monday Women's Scratch

The Unbelievable remain in first place while the Tigerettes and Unpredictables are tied for second with two games out. Co's Crew had a fine night of bowling after sending the team to the out house, took high team game and series with a 670 and an 1828. Neola Smiley is making her move in the league and captured game and series for the night with her 214 game and 498 series.

Midway League

Dan Ryan led the Chilllers in a big night of bowling with his series of 590, while his team rolled high game of 908 and a 2594 series. High individual game was bowled by Bill Esch of the Pincrackers with a 218.

Mixed Foursome

Tom Zurn helped keep Ballard Trailer Sales in first place by setting high series in the league with a nice 607. Ray Schreiber posted high game in the league with his 245 and contributed to the Keglespeilers taking high team series with 1933. The Lo Balls turned out a 707 for high team game. Congratulations to Carol Planté, who broke the 200 barrier with her 206 game and Alice Cutsinger rolling out another high series of 528.

Women's Handicap

The Jay Bee's came in to take high team game of 941 while Bonnie had high team series of 2659 assisted by teammate, Pat Alexander's high game of 190. Jeanne Krausman rolled the high series of 502. Not to be sneezed at, these gals converted 24 splits Wednesday night.

Women's Afternoon Trio

Team three had no competition and had high game with 605 and a 1671 series, but individual honors were shared by Sharri LaPierre bowling high game of 188 while Estela Payne took high series with a 435.

A Sports Editorial

Genius Versus Knucklehead

There is an adage that dates back to the earliest days of recorded history: That a prophet is without honor in his own country.

Sports columnist Bill Borgstadt probably agrees wholeheartedly.

On Sept. 14, when the Phillies were riding high—six games in the lead over their National League rivals—Bill turned in a column in which he said the St. Louis Cardinals would win the pennant.

Bill predicted that the second division teams would decimate the Phillie lead, and that's the way it turned out.

Meanwhile, back at the Rocketeer, it was a heavy news week; sports space was "tight." Golf tournaments, bowling and basketball stories were breaking out all over on the local front. Bill's prophetic predictions got chopped off short in the scramble, and the best sports prognostication of the year didn't get into the paper.

Since that fateful publication date, the editor's conscience kept gnawing at him, until last week, when the Card's clinched the pennant—he donned sackcloth and ashes, flogged himself soundly, and proclaimed to the world at large: **Borgstadt is a genius, and I am a knucklehead.**"

Lifesaving Course Begins October 13

A Red Cross Senior Lifesaving course will be held at the Station Pool every Tuesday and Thursday from 7 to 9 p.m., beginning Oct. 13.

The course, open to all qualified persons over 16, will last for a total of 17 hours, with those who sign up having until Nov. 19 to complete the required amount of time.

Doug Lind will be instructor for this course, according to Marie Newman, water safety chairman for the local Red Cross chapter.

Persons wishing more information may contact Mrs. Newman at Ext. 723132.

COM Pool Open Through Oct. 18

The Commissioned Officers Mess swimming pool will remain open through Oct. 18, it was announced this week.

Swimming hours on weekdays will be from 11 a.m. to 2 p.m. and from 4 to 6 p.m.

On Saturdays and Sundays, the hours will be from 10 a.m. to 6 p.m.



SUN FLOWER GIRL—Marlene Spivey rations the Nevada sun as it pours through her hat. Marlene is a showgirl at one of the Las Vegas night spots.

SPORTS QUIZ

Disneyland 'Navy Night' Ticket Sale Nears End

Deadline date for tickets to "Navy Night at Disneyland" is Oct. 20. This event is scheduled for Saturday, Oct. 24, from 7:30 p.m. to 12:30 a.m.

Tickets are available at the Community Center for Navy Personnel and their guests at \$3 each for all persons over three years of age.

These special tickets will not be available at Disneyland. They must be purchased in advance.

Tickets entitle the bearer to unlimited free use of Disneyland's 40-plus rides and attractions.

54 Servicemen Named To U.S. Olympic Team

Washington (AFPS) — Fifty-four members of the Armed Forces are in Tokyo as part of the 290-member men's team that will represent the United States in the 1964 Olympic Games when the two-week competition begins Oct. 11.

This year's showing of members of the Armed Forces on the men's team compares favorably with the showing of servicemen in 1960, when 61 qualified. Waiting in the wings if some of the principals become ill or injured are more armed forces competitors who have been named Olympic team alternates.

1. Who had the higher batting average during his rookie year, Ted Williams or Stan Musial?
2. Who was the first Olympic boxing champion to win the world's heavyweight crown?
3. Match these college football teams with their nicknames: (1) Arkansas; (2) Tulane; (3) Purdue; (4) Minnesota; (5) Vanderbilt; (6) Rice; (7) Princeton; (8) Michigan; (9) Penn State; (10) Oklahoma; (11) Arizona State; (12) Houston; (13) Miami of Ohio.

- (a) Tigers; (b) Wolverines; (c) Boilermakers; (d) Golden Gophers; (e) Owls; (f) Nittany Lions; (g) Razorbacks; (h) Green Wave; (i) Sooners; (j) Commodores; (k) Redskins; (l) Cougars; (m) Sun Devils.

1. Floyd Patterson, 1952 Olympic middleweight champ. played in 140 games and hit 7-0, 8-0, 9-4, 10-1, 11-0, 12-1, 13-0.
2. Ted Williams batted .327 in 149 games in 1939. Three years later, rookie Stan Musial hit 1.193 in 137 games.

Answers to Quiz

Tennis, Ladies?

An invitation was extended this week to women tennis players to enter the China Lake Tennis Club's fall tennis tournament to be held during the weekends of Oct. 31-Nov. 1 and Nov. 7-8.

Women's singles and doubles tournaments will be held if enough of the "fairer sex" sign up, Gerry Whitnack stated.

Those interested in entering may call Gerry Whitnack at Extensions 71747 and 723172 or Cdr. Stan Able at Ext. 8404.

Champ Kegler Adie Fix To Visit Local Alleys

Station keglers are invited to meet champion bowler Adie Fix from Lancaster's Sands Bowl when he makes a guest appearance here at the China Lake Bowl at 8 p.m. next Thursday night, local bowl manager Fred Dalpiatz announced this week.

The Rocketeer

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DIVINE SERVICES

Christian Science (Chapel Annex)—Morning Service—11 a.m. Sunday School—11 a.m.

Protestant—(All Faith Chapel)—Morning Worship—8:30 and 11 a.m. Sunday School—9:30 a.m., Chapel Annexes 1, 2, 3, 4 (Dorms 5, 6, 7, 8) located opposite Station Restaurant.

Roman Catholic (All Faith Chapel)—Holy Mass—7, 9:30 a.m., and 5:30 p.m. Sunday.

6 a.m. Monday through Friday, 8:30 a.m. Saturday.

Confessions—5 to 8:25 a.m., 6 to 8:30 p.m. Saturday; Thursday before First Friday, 4 to 5:30 p.m.

NOTS Hebrew Services (East Wing All Faith Chapel)—8 p.m. every other Friday.

Every first and third Friday, 8:15 p.m. Unitarian Fellowship (Chapel Annex, 85 King St.)—Fellowship Meeting—Sundays, 7:30 p.m. Sunday School—10:45-11:45 a.m. Dorms 7 and 8.