

# HOWBOAT

DAY NOV. 27

"STOP TRAIN 349" (91 Min.)  
Jose Ferrer, Sean Flynn  
7 p.m.

(Cold-War Drama) Westbound sealed American train is stopped by the Russians whose right to search is denied by a young Lieutenant until - - -. Topical suspense drama. (Adults, Youth, Mature Children.)

Shorts: "Rocket By Baby" (7 Min.)  
"King of the Sagoenay" (10 Min.)

SATURDAY NOV. 28

---MATINEE---  
"MEET CAPTAIN KIDD" (68 Min.)  
Abbott & Costello  
1 p.m.

Shorts: "Fox in a Fix" (7 Min.)  
"Capt. Marvel No. 2" (17 Min.)

---EVENING---  
"NEVER PUT IT IN WRITING" (93 Min.)  
Pat Boone, Milo O'Shea  
7 p.m.

(Comedy in Color) The boss promotes his nephew and Pat writes a nasty letter of resignation only to find out he's in line for a higher position. How to get the letter back from London? Fast-moving fun galore! (Adults, Youth, Children.)

Short: "Candid Mike No. 4-5" (10 Min.)

SUNDAY-MONDAY NOV. 29-30

"WHAT A WAY TO GO" (111 Min.)  
Shirley Maclaine, Paul Newman, Robert Mitchum, Dean Martin  
7 p.m.

(Comedy in Color) Every time Shirley marries, her husband gets fabulously rich—and rigor mortis. The funniest widow (4 times) you ever saw! Daring costumes and fantastic sets—plus stars galore—Don't miss. (Adults, Mature Youth.)

TUESDAY DEC. 1

"WOMAN OF STRAW" (117 Min.)  
Gina Lollobrigida, Sean Connery  
7 p.m.

(Mystery in Color) A scheming nephew plots with a beautiful nurse to have her marry his catchily old uncle for a slice of the fortune. Murder and a twist of fate on a Mediterranean cruise. (Adults, Mature Youth.)

WEDNESDAY DEC. 2

World Around Us Series  
"INTO SIBERIA"  
7 p.m.

THURSDAY-FRIDAY DEC. 3-4

"GOOD NEIGHBOR SAM" (130 Min.)  
Jack Lemmon, Romy Schneider, Dorothy Provine  
7 p.m.

(Comedy in Color) Would you help your wife's best friend (who lives next door) get millions in inheritance by posing as her husband. Sam does and you'll howl at the complications. A real blues-chaser! (Adults)

Designed, Developed by NOTS Test Dept.

# Guided Missile Cruiser To Test Digital Ranging System



Vol. XIX, No. 48 NAVAL ORDNANCE TEST STATION, CHINA LAKE, CALIFORNIA Fri., Nov. 27, 1964

## May Replace Conventional Analog System

Warships of the U.S. Navy may soon be using a NOTS designed-developed Digital Ranging System that promises greater accuracy, more flexibility, and is easier to maintain than the fire control system components it replaces.

Scheduled for installation aboard the guided missile cruiser USS Albany this week at Norfolk, Va., the new system will undergo evaluation trials through early next year.

If successfully implemented aboard ship, the new component may replace conventional analog systems now in fleet use, according to local officials.

The Digital Ranging System was developed here under a BuWeps task assignment. Management direction was headed by R. S. Simmons of the Bureau of Naval Weapons.

### Test Department Project

Locally the concept, development and testing has been accomplished by members of Test Department under Dr. I. E. Highberg, its initial design engineer and the man credited with the concept, Kenneth O. Bryant, was closely associated in its development with Project Manager William Baer, Electronics System Branch, and William Zinn, Data Automation Branch.

Support personnel from Guided Missile Branch, and William Zinn, Data Automation Branch. (Continued on Page 3)

## Les Brown Band To Play at CPO Military Ball

Les Brown and his famous "Band of Renown" will sound the downbeat for this year's 15th annual CPO Military Ball scheduled next Friday, Dec. 4, at the Community Center.

Sponsored by the CPO Mess (Open), the event is presented as a tribute to active duty and retired chief petty officers on the Station.

A buffet dinner, from 6 to 8:30 p.m., is to be followed by dancing from 9:30 to 1 a.m., according to Club Manager Jim Pollard.

Two principal committees, Protocol and Decorations, have been designated to conduct all preparations for the semi-formal affair.

GY/SGT. John A. Coryell, President of the CPO Advisory Board; Donald M. Smith, QMCM, the Station's senior Chief Petty Officer; George A. Fallin, ADCM; and Charles A. Campion, ADCM, are in charge of the Protocol responsibilities.

Handling decorations, in cooperation with the CPO Wives Club, is William C. Harp, AMCS, and Place Settings, Tony Trujillo, AMC.

The event is open only to CPO Club members, active, retired CPOs and honorary members and their guests.



LETTER OF COMMENDATION was presented to Lawrence L. Hagadorn, FTMT, last week by Capt. Leon Grabowsky, Station Executive Officer, for his work with Digital Range System.

It was Hagadorn's second commendation this year. Witnessing event were Dr. I. E. Highberg, Head, Test Dept. (second from right) and Bob Appleton, Head, Range Div.

## Santa's On His Way!

Santa Claus will visit the Navy Exchange Outdoor Shop on North Pole, Dec. 5, from 10 a.m. to 2 p.m., according to a North Pole message received by Lieutenant Earl Mouton, Navy Exchange Officer. Santa will arrive on a gleaming red fire engine and will distribute candy and balloons to children.

## Thomas M. Rose, AM3, Is 'Bluejacket of the Month' To Be Bakersfield Guest

Thomas M. Rose, 20, Aviation Mechanic Third Class, was selected this week from Air Development Squadron Five's 180 enlisted personnel as NOTS "Bluejacket of the Month."

Attached here since Oct. 1963, the tall, lanky bluejacket will be feted next weekend at Bakersfield as a part of his reward.

A native of Littleton, Colo., Rose reported here from enrollment at the Navy's Aviation Machinist School at Memphis, Tenn., and is currently assigned duties with the Squadron's administrative offices.

He played on the NOTS All-Star softball team this past summer that competed in 11th Naval District playoffs at Long Beach. In addition, Rose holds a varsity spot on the VX-5 cage squad.

The use of a new, 1965 Buick during his guest weekend at Bakersfield that starts next Friday, guest lodging and meals at the plush Skyway House, plus numerous recognition gifts await Rose.

As NOTS' representative, he'll be a guest of honor at the annual Potato Bowl game Saturday night in Bakersfield and is to be a guest at the city's major entertainment attractions during the weekend.

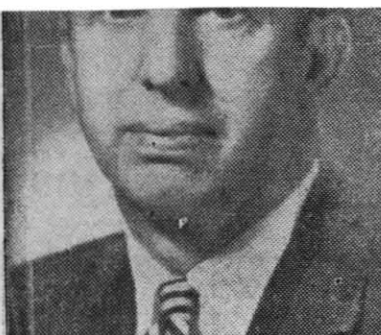


THOMAS M. ROSE

## Navy Film About Destroyer on TV

"Who Needs You, Buchanan" — the story of a destroyer engaged in various fleet exercises, including air operations — will be shown tomorrow at 7 p.m. on KNBC-TV (Channel 4).

The film will be featured on the regularly scheduled "Survey 64" program.



Raphael Green

Did you know? — Foot trouble is six to ten times more common in women than in men. Foot trouble is even more common in workers who don't wear safety shoes.

goers received a premature gift.

It was in the form of a stage setting: Christmas Eve in the Paris garret of Rodolfo, male lead of Giacomo Puccini's "La Boheme."

And thus the China Lake Civic Concert Association's new season had begun. The opera, sung in English, was produced by the Pacific West Coast Opera Company.

The stage garret was cold, about as cold as it was, in fact, outside the theater, but the nearly full-house audience warmed it up with its reception.

They liked Anna Eagle Machamer as Mimi, Susan Cashman

duction would have been more impressive with a full orchestra, the dual piano accompaniment of musical director Ernest St. John Metz and his assistant, Peggy Sheffield, was a distinct challenge well met.

All in all, the China Lake Civic Concert Association must be thanked for a cultural opening to a fine season here. The next offering will feature Metropolitan basso Jerome Hines on Tuesday, Dec. 15.

—R. G.

## Navy Exchange Shopping Hours

Effective today, the following hours will be maintained by the Navy Exchange Main Retail Store and the Outdoor Shop.

MAIN RETAIL STORE  
Mon. thru Thur. .... 10 am-6 pm  
Friday ..... 10 am-9 pm  
Saturday ..... 9 am-3 pm

OUTDOOR SHOP  
Mon. thru Thur. .. 11 am-6:30 pm  
Friday ..... 11 am-9 pm  
Saturday ..... 8 am-4 pm  
Sunday ..... Noon-4 pm

## Teachers' Workshop Makes Christmas Items for Children

China Lake and Indian Wells Valley teacher members of Cactus Branch, Association for Children's Education, joined the Trona School District in Trona School Cafeterium recently for a Christmas workshop.

They made Christmas candles, cards, Santa Clauses, reindeer, ornaments, and many other articles suitable to the season.

Wayne Dean, art consultant for the San Bernardino County Schools gave an art demonstration and talk. Refreshments were served by Trona ACE members under chairmanship of Elsie Montgomery.

## Champagne for Couples At WACOM Christmas Formal

One bottle of champagne will be given to each couple attending the Christmas Formal December 11 at the Commissioned Officers' Mess.

The dance is being sponsored by the Women's Auxiliary of the Commissioned Officers' Mess under the chairmanship of WACOM president Penny Kistler. Louise Hyten is in charge of decorations assisted by Von Molloy.

A buffet dinner featuring prime rib, lobster, or a combination of both will be served from 6 to 9 p.m. The Crescendos, a well-known band from Lancaster, will provide music for dancing from 9 p.m. to 1 a.m.

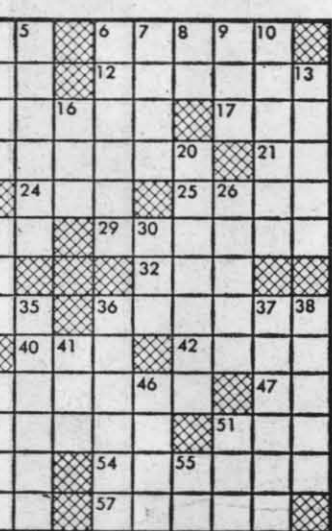
Reservations are limited to 100 couples and must be made by December 9. Those interested may purchase tickets from WACOM board members, at the main desk in the Commissioned Officers' Mess, or at the WACOM luncheon December 8. The price is \$10 per couple.

Form for stamping: From \_\_\_\_\_ TO \_\_\_\_\_ PLACE STAMP HERE

## CROSSWORD PUZZLE

Answer to Previous Puzzle

- ACROSS
1-Having less color
6-More ancient
11-Pertaining to the Alps
12-Lodged
14-Man's nickname
15-South American mammal
17-Employ
18-Alternating current (abbr.)
19-Punctuation marks
21-Cooled lava
22-Rockfish
24-Lamprey
25-High
27-Worshipped
29-Russian stockades
31-Hindu
32-Native metal
33-Sewing implement
36-Wee
38-The caama
40-Pronoun
42-Slave
43-Pronoun
44-Retreated
47-Babylonian deity
48-Tennis strokes
50-Dravidian
51-Ventilate
52-Spout
54-African antelopes
56-Rock
57-Mr. Claus



For Use in Authorized Service Newspapers Only.



CHAPLAIN'S MESSAGE

Let's Be Grateful



By CHAPLAIN MARK E. FITE

A hermit planted an olive tree near his cave. He thought he knew what was best for it so he prayed for rain. Then he prayed for sunshine. When that was too hot he asked for frost. That being too cool he beseeched God for a southerly wind. The wind was hot, withered the tree and it died.

He visited another hermit who also had an olive tree that was thriving. Upon telling his friend how he prayed for his tree, his friend said, "Oh, I just prayed for God to care for my tree. I thought He knew better than I what it needed."

Note that hermit number two was not lazy. He prayed also but it was a prayer that acknowledged God as having infinite ability and wisdom to do what was best.

God wants to bless his people far more than we are often willing to accept. We are not discouraged from asking what we wish; but we often wish what ultimately will hurt us. Thus it behooves us to learn all we can of life, and when we do, one of the first things we learn is that God is love and in his love He wants to give good things to those who ask of Him.

If in this season we experience thanksgiving, we will pause to be thankful in prayer, but we will realize that God gives far more than we think or request, and what is ultimately best for us.

The climate was not best for the tree when the hermit received just what he requested. But how much better the climate is between oneself and God; and between each of us when we remember to be grateful, and express it.

AF Chaplain Mock To Preach Here Sunday

An interservice pulpit exchange will see Capt. Benjamin R. Mock, USAF, Chaplain of Edwards Flight Test Center, in the pulpit at All Faith Chapel this

Missouri State College and a BD degree from Southern Methodist University, he has been a chaplain on active duty with the Air Force for four and a half years under appointment of Bishop Eugene M. Frank of the Missouri-West Conference of the Methodist Church. Following his ordination he was pastor of the Methodist Church in Fairfax, Mo., for four years.

His wife, Doris, originally from Dallas, is now in graduate study at the University of Redlands, Calif., Department of Art.



CHAPLAIN MOCK

Sunday for the 8:30 and 11 a.m. Protestant services.

NOTS' Chaplain Robert W. Odell will preach twice at the Edwards Test Center Chapel.

Chaplain Mock, who was ordained and commissioned in the Air Force in 1956, is a native of New Hampton, Mo. Holder of a BA degree from Northwest

Junior Class to Hold Rummage Sale Sat.

The Junior Class of Burroughs High School will conduct a rummage sale tomorrow, starting at 9:30 a.m., at Carl's Old Meat Market on Ridgcrest Blvd.

The proceeds will be used by the Junior Class for the Junior-Senior Prom.

INSURANCE REP. DUE

Howard Kennan, representative of Aetna Insurance Co., will be at the Community Center next Monday and Tuesday, from 9 a.m. to 4:30 p.m.

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.

Clerk-Typist, GS-4, PD 412018, Code 12—Types reports and technical material from rough drafts, types reproduction masters, performs miscellaneous clerical duties as required. Qualifications: One year general office-clerical experience and one year clerical experience that involved predominantly typist duties. Must be a qualified typist. File for above with Pat Dettling, Rm. 28, Personnel Bldg., Ext. 72218.

General Engineer, GS-801-13, Code 5523—This position is that of a General Engineer in the Production Engineering Branch, Electromechanical Engineering Division, Engineering Department. The incumbent is responsible for conducting complex simulation studies and analyses of weapon systems and subsystems. Is consulted by and provides assistance to other Station technical departments as well as his own and other Government agencies and private industry. He is responsible for preparing high quality NavWeps or IDP type reports on each of his evaluations.

Electrical Engineer, GS-850-11, Code 7038—This position is located in the Electrical Branch, Engineering Division, Public Works Department. The incumbent is assigned work covering alterations and improvements, construction, replacement, maintenance and repair concerned with the engineering aspects of electrical power, interior lighting, street lighting, fire alarm, and controls for industrial systems.

File applications with Dora Childers, Rm. 32, Code 657, Bldg. 34, Phone 71393. Deadline for filing is December 4, 1964.

A competitive examination is announced for Laborer at the U. S. Naval Ordnance Test Station, China Lake, California. File Card Form 5005-AB with the Civil Service Representative, U. S. Naval Ordnance Test Station, China Lake, Calif. 93557.

NAVY OVERSEAS VACANCIES

Maintenance Engineer, GS-805-12, London, England. Supervisory Accountant, GS-510-11, Keflavik, Iceland.

'DESERT PHILOSOPHER'

Huntin' Indian Arrowheads



By "POP" LOFINCK

Gene Steck and I joined the Eastern California Museum trek Sunday to Upper Cactus Flats, east of Haiwee Lake, or reservoir — that's east of Highway 395 and 14.

We met the group at the Farmhouse Cafe at Olancho, "Buster" Viers, of Olancho, was the guide. He sure knows that area — used to run cattle and trap wild horses there.

He is with the Highway Maintenance Dept. now. After breaking wild horses for numerous years without any broken bones — he broke his foot jumping off a 'dozer recently. So he was walking with a cane.

Buster says that in the '20's and '30's, steers went from this area right to market — no extra feeding. Since then — with the exception of a few wet years in between — it has been pretty dry. But there are indications that the cycle is changing to wet.

"BONANZA" FOR ARROWHEAD HUNTING

We met some very interesting people on this trip. I usually do. They were looking for arrowheads. And found some! Different types. This area is said to have been a battleground between tribes long ago.

Many of the arrowheads had the points broken off. But one woman found a perfect one — 2 inches long.

There was a perfect ambush area nearby — among big boulders, in a small wash. Some people have made extensive diggings and siftings for artifacts. They must have found many — or they would not have kept on digging.

Upon the flat, most of the arrowheads found were small — 3/4-inch long.

Regardless of how good your vision — the eyes must be trained to spot a small arrowhead among the black obsidian chips scattered around by the makers.

The easiest way to learn is to toss a small arrowhead on the ground — so you can see how it differs from the chips.

40 YEARS' HOBBY — INDIAN LORE

Speaking of interesting people — there is Don Witt, of Porterville — or to be specific, Ducor — 14 miles south. For 40 years his hobby has been California Indian lore — all tribes. Witt is reputed to have the largest private collection of artifacts in California.

You could listen to him for hours, and not be bored. A PhD in anthropology is fine — but 40 years of exploration — and reading all the books on the subject — is equal to it — if not better.

He came all the way down from Portersville because here was a section of California he has not been familiar with for several years.

There is something about the desert that attracts the genuine personality — so different from the bluff and fourflusher type you so often meet in the big city rat race.

Of course there are some fakers in the desert, too — but not too many.

To enjoy life — come to the desert. City people who visit the desert often enough become rejuvenated by the big open spaces. It grows on them.

A lady in Olancho found enough arrowheads east of Owens Lake to fill a big showcase, in two years. It seems not so many people go there to look for arrowheads.

FIELD TRIPS AND "BOTTLE WORKSHOPS"

The Eastern California Museum is a going concern, located at Independence, Calif.

They make some wonderful field trips all over Southern California, east of the Sierra, usually, with an authority on the place they are going to visit.

From time to time they have a "bottle workshop" — a symposium on bottles. It's a learning experience — going into the characteristics of bottles — the contents, dates, types and on the people who used them. The next tentative workshop date is April 10-11.

If you want to exhibit, send for a "form." Their address is County Courthouse, Independence. If you wish to sell bottles, let them know that, too. Some regulation must be observed, making it easier for those selling and for those bringing the bottles to be sold.

Note — The Upper Cactus Flat is passable for passenger cars with enough clearance. Lower Cactus Flat is for four-wheel drive vehicles only.

The Rocketeer

Official Weekly Publication of the U. S. Naval Ordnance Test Station China Lake, California

Capt. John I. Hardy, USN Station Commander

"J. I." Bibby Public Information Officer

Jack O. Broward Editorial Advisor

Richard Gruenberg Editor

Budd Gott Associate Editor

Frederick L. Richards Special Assignments

DEADLINES: News Stories—Tues., 4:30 p.m. Photographs—Tues., 11:30 a.m.

The Rocketeer receives Armed Forces Press Service material. All are official U.S. Navy photos unless otherwise identified. Printed weekly with appropriated funds in compliance with NavExos P-35, Revised July 1950. Office at 50 King St., Bldg. 00929. Phones—71354, 71655, 72092.



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 6:30 p.m. Sunday.

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

Confessions—8 to 9:25 a.m., 6 to 8:30 p.m. Saturday Thursday before First Friday, 4 to 5:30 p.m.

NOTS Jewish Services (East Wing All Faith Chapel)—8 p.m. every first and third Friday.

Sabbath School, 10 a.m. to noon, every first and third Saturday.

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.

Photo Society to

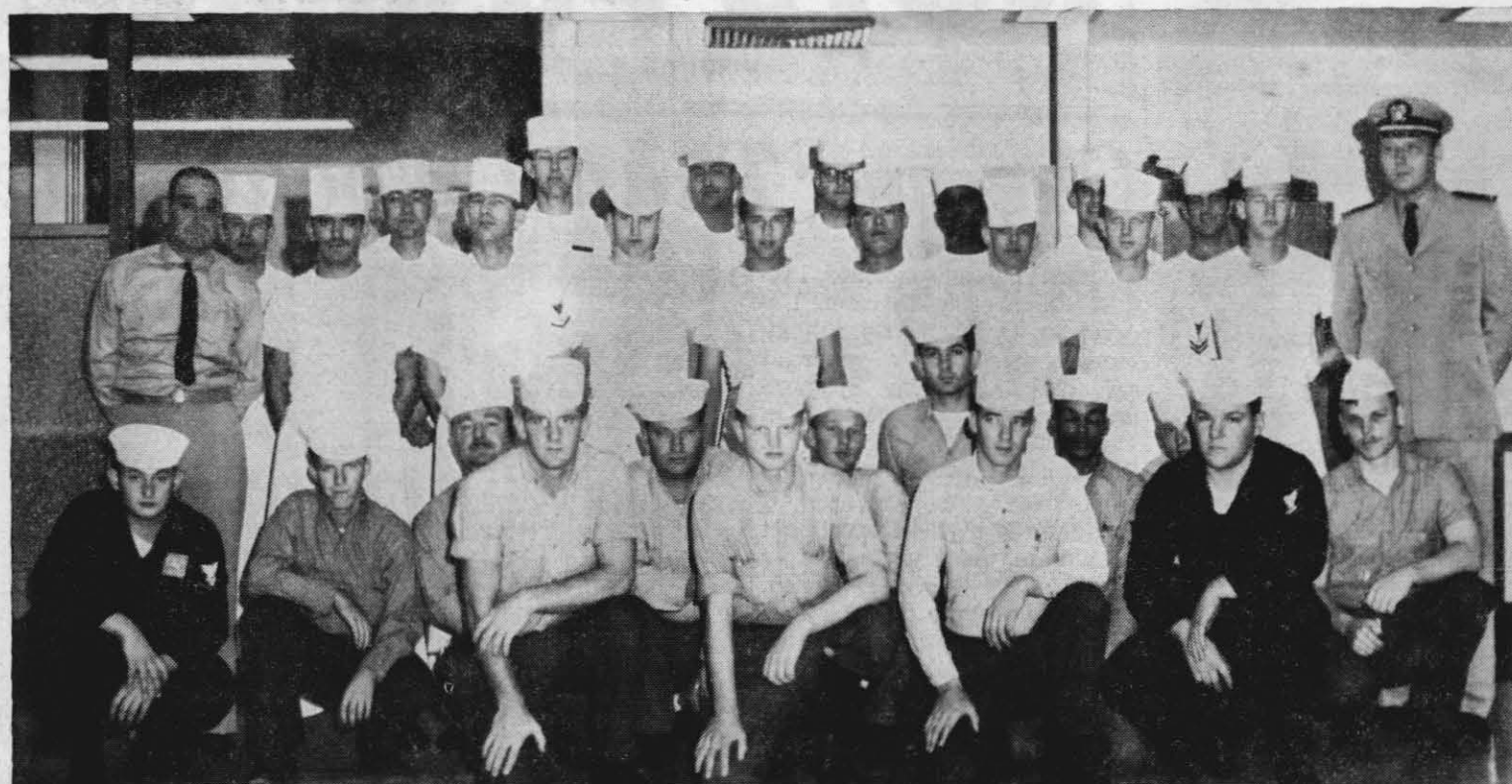
Hear John Cameron

China Lake Photographic Society will meet next Wednesday, 8 p.m., in the Photo Hut, 361-D McIntire. Featured on the program will be John Cameron, professional photographer who specializes in sports and activity photography. He will show slides and discuss techniques and equipment.

Eagles Lodge Plans Another Organizational Meeting

Another organizational meeting of the Fraternal Order of Eagles will be held at 7:30 p.m. Monday at the Moose Lodge. All members and prospective members are invited. For further information, call Bob Waters, at FR 8-6386.

They Prepared Your Thanksgiving Day Dinner



For some 500 enlisted men serving here who couldn't be home to observe Thanksgiving Day with their families, the Navy provided the next best thing: a Turkey Day treat with all the trimmings.

Working behind the scenes in preparing the feast were some 45 cooks, bakers, messcooks and helpers attached to the local Commissary department.

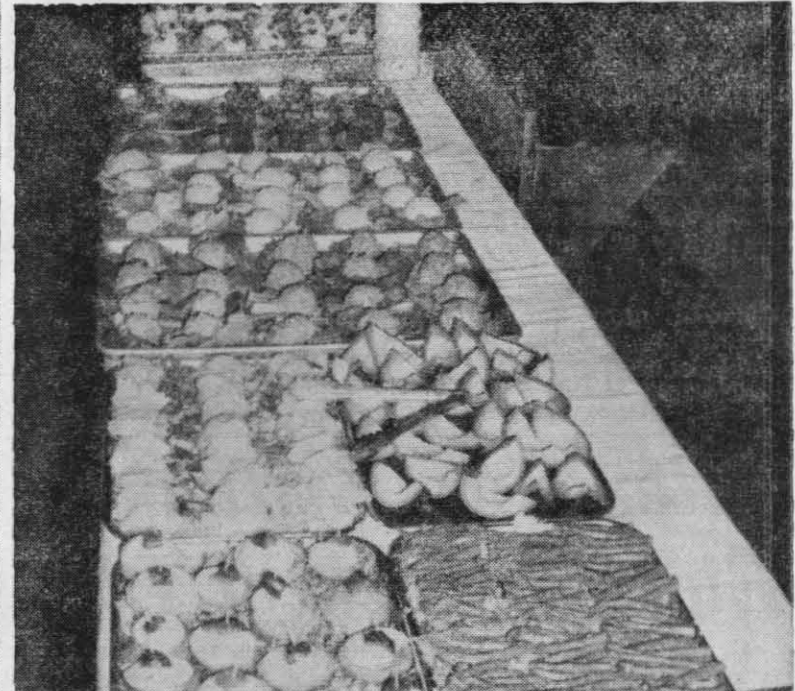
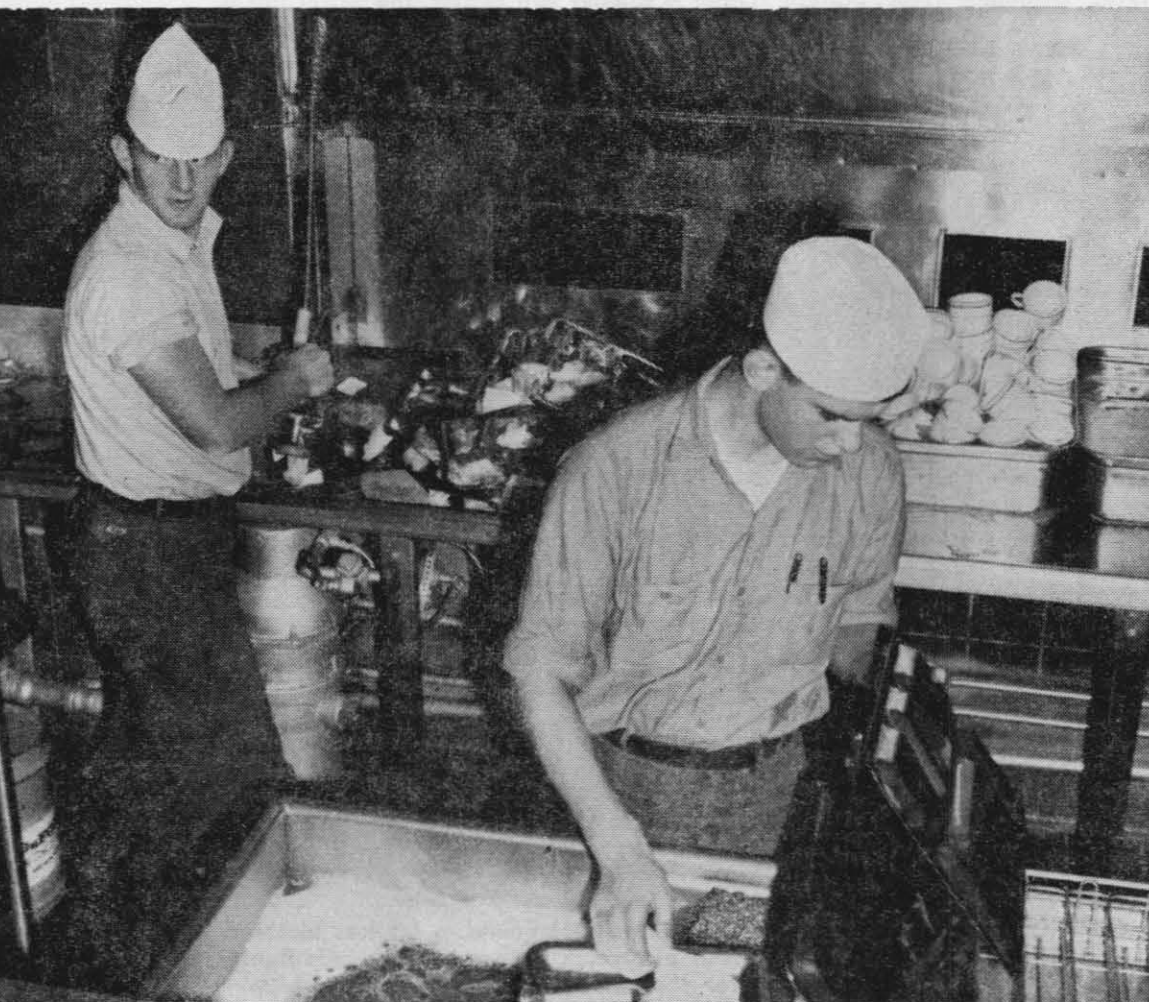
This pictorial page of Commissary personnel, engaged in Thanksgiving Day preparations, is presented as a tribute to the duties they perform . . . too often beyond the vision of those who pass through the serving lines.

NAVY HOSTS for Thanksgiving Day meal are members of Commissary Division, flanked by Chief Earl A. Tanguay (left) and LT(jg) James D. Conway (SC). Photos by Bryce Cacek, PH3, and Tom Faught, PH3.



BAKER J. C. Turner, SA, started his shift in the early morning hours to turn out mince meat pies for festive meal.

BIGGEST MEAL of the year took 400 pounds of turkey plus ham and trimmings. Galley crew started thawing turkeys last Monday. Checking them off in preparation for oven are (left) Bronco P. Newcomb, SA, and Ed P. Embree, CS3.



SALAD BAR greets those at head of serving tables. Navy's emphasis on variety in recent years gives cooks opportunity to create original recipes for salads and garnishes. Some meals include up to nine arrangements. Jesse Leuvanovs, CS1, prepared this salad bar for Thanksgiving menu fare.

SCULLERY HANDS (left) R. W. Black, SA, and T. M. Jones, AA, handle dish-tray washing chores as aftermath to meal.



### CWO-4 Cammer New Assistant Sea Operations Officer at L.B.

Reporting recently as Assistant Sea Operations Officer at NOTS Long Beach Facility is CWO-4 Russell C. Cammer.

Prior to reporting to NOTS, Cammer served as Main Propulsion Material Officer aboard the USS Bennington (CVS-20), and before that in the same capacity on the USS Hornet (CVS-12).

Born in Charleston, S.C., Cammer considers Seattle, Washington his home town. Enlisting in the Navy in 1935 he received his commission in 1944 and during his naval career has attended in-service schools in steam engineering, diesel engineering fire fighting, damage control, and Uniform Code of Military Justice.

Cammer and his wife Jeane, presently reside in Long Beach with their daughter Judy, 21, and son Jim, 19.



CWO-4 Russell C. Cammer

### San Diego

### Ships to Host General Visiting

The following ships will host general visiting in the San Diego Area during the month of December from 1-4 p.m.:

5-6 Dec. — Tank Landing Ship USS St. Clair County (LST 1096), Auxiliary Submarine USS Capitaine (AGSS336).

12-13 Dec. — Submarine USS Bugara (SS 331), Tank Landing Ship USS Summer County (LST 1148).

### ESO Doings

Improvements to the Coffee Port were discussed at last Friday's meeting of the Employee Service Council. Color selections were made for the walls, floors and chair covers. The chairs will be sent out to be upholstered. Chairs from the upholsterer will be on loan to NOTS during the interim.

The NOTS Christmas Choir will meet Tuesday and Thursday each week for rehearsals. Time and place will be announced over the public address system each practice day.

### Sailor of the Month



EDMUND J. DAMPMAN, BM3, has been selected November Sailor Of The Month for his outstanding ability and military appearance. With duty at San Clemente Island, he has been with NOTS for three months. Dampman has been commended by Scripps Oceanography Observatory, San Diego, for his outstanding ability in handling small craft. Originally from Astoria, New York, he has been in the Navy for 19 years. He served at Naval Air Station, Dallas, Tex., and holds National Defense Service and European WW Victory Medal.

### Alley Kats Still Lead Eighth Week of Play

By Ray Hanson

A 2.5 game clathold on first place held up for the Alley Kats as the NOTS Wednesday night bowling league went into its ninth week. So far, the felines have won 25.5 and lost 10.5 as compared with the 23-13 record of the second-place Quiet Five. In third place, the Side Winders are strong contenders

with 22 wins and 14 losses. In eighth-week play, the Quiet Five racked up the high team series, a 2903. Team game honors were won by the Jacks and Better with a 1029. Al Gaghagen had the men's high series, a 645, while Jack Springer notched a 246 for men's high game. Norma Sayre rolled the women's high series, a 590. Ruth Neff's 225 was women's high game.

# NOTS Pasadena

VIRGINIA E. LIBBY — EXT. 638

## Cheaper Than a Wooden Box

James H. Jennison, Head, Product Engineering Division, Underwater Ordnance Department, recently presented a paper at a Value Engineering Symposium on the "Advancement In The State-Of-The-Art" held at the Redstone Arsenal at Huntsville, Ala.

Sponsored by the Department of Defense, the keynote address was given by George E. Fouch, Deputy Assistant Secretary of Defense. The meeting was opened with a welcome address by Major General John G. Zierdt, Commanding General, U.S. Army Missile Command.

Representing NOTS China Lake at the symposium was Alfred S. King, Head, Design Disclosure Branch of the Mechanical Engineering Division, Engineering Department.

Entitled, "Cheaper Than A Wooden Box," Jennison's paper deals with the shipping container for domestic shipment of the airframe for the ASROC missile.

Illustrating several aspects of Value Engineering activity in a research and development framework, Jennison shows by specific example how a rather unexpected saving can sometimes be achieved.

"Because we live in an age of 'galloping technology,'" Jennison stated, "every time we design something new we should investigate the very latest in new materials and fabricating techniques. The designs we were proud of four or five years ago are possibly obsolete by now, and we must move on to better and more efficient materials.

"The design decisions we reached only a few years ago were probably based on entirely correct cost figures," the report continues. "But that was then. Now, new designs, based on innovations brought forth by our 'galloping' technology are those most likely to be producible at lowest cost.

"This is what happened at the Naval Ordnance Test Station,



JAMES H. JENNISON displays two of the new plastic containers for domestic shipment of ASROC missile airframes.

Pasadena, in the case of a shipping container for ASROC missile airframes."

In 1958, when the first airframes were produced for evaluation, a wooden shipping box was the least expensive container affording the required protection.

However, a few years later new fabricating techniques for plastics showed such promise that a plastic container was developed. By applying value engineering principles, and by working in close cooperation with a plastics fabricating contractor, a design evolved which was slightly cheaper in first cost than the wooden box.

Moreover, substantial savings accrue annually from lower shipping cost and greater durability. Because the plastic container is smaller and lighter, the shipping cost, either full or empty, is lower.

The wooden boxes often had to be repaired, and an asphalt-impregnated paper moisture barrier usually had to be replaced before the wooden box could be re-used. The plastic container can be used repeatedly with no repairs required.

The case history emphasizes three important points which apply to research and development activity in Value Engineering. (a) It is important to consider costs beyond the initial price such as packing, shipping, maintenance, and replacement. (b) As new technology develops a new design concept may become feasible and economical. (c) Cooperation with industry can lead to valuable new developments at minimum cost to the government.

### VALUE ENGINEERING

What is cheaper than a wooden box

ASROC AIRFRAME CONTAINER

\$45.00	approx	INITIAL COST	\$40.00	approx	12%
180 LB	approx	WEIGHT	47 LB	approx	67%
REPAIR REQUIRED		REUSABLE	NO REPAIR REQUIRED		UNIT PRICE
19 CU FT		STORAGE SPACE	15 CU FT		23%
20 MINUTES		PACKING & SHIPPING	5 MINUTES		75%
\$40.00		SHIPPING COST	\$18.00		55%
		3,000 MILE ROUND TRIP			

SAVINGS IN SHIPPING COST \$44,000 PER YEAR  
DURABILITY REDUCES NUMBER OF UNITS REQUIRED IN SYSTEM  
SECOND YEAR APPROXIMATE SAVINGS APPROXIMATELY \$90,000

CONSIDERABLE SAVING in time and money is illustrated by this comparison picture. While the basic material used for the new container is more expensive than wood by the

pound, a lot less material is used. The container is 90 pounds lighter, resulting in substantial savings in shipping cost. Labor costs also were considerably reduced.

## Guided Missile Cruiser to Test Digital Ranging System



DIGITAL RANGING SYSTEM associates Kenneth O. Bryant (left), who is credited with concept, and William T. Zinn, are members of civilian-military team responsible for system.

(Continued from Page 1) ance Radar Branch, represented by Lawrence L. Hagadorn, FTMI, James Stegall, FTMI, and Frederick Krueger, DS1, have been periodically associated with Bryant and Baer.

The three NOTS enlisted men are scheduled to board the Albany shortly to supervise and instruct shipboard personnel in the new system's applications.

Design engineer Bryant, a NOTS employee since 1951, said its function would be to convert radar information to range and range rate data in digital form, ready for use by a digital computer.

Primary Advantages Its primary advantages over analog systems used in conjunction with fire control systems, according to Baer, is that the digital ranger uses techniques which minimize effects of environmental variations, such as temperature, humidity and voltage fluctuations.

In addition, it eliminates many adjustments which are inherent in analog systems and allows greater range of values because scale factor errors are not present.

From the more meaningful standpoint, as applied to one of the Navy's most critical problems today — skilled manpower

— the new system may cut maintenance requirement up to 75 percent, according to Hagadorn.

Two Commendations The local career Navyman first joined the Test Department team in July. He has since won two letters of commendation for "Outstanding performance of duties related to the development of the Digital Ranging System," his most recent awarded last Friday.

Named "Bluejacket of the Month" last September for NOTS, Hagadorn had frequently represented the command at contract level discussions of the system's development and assisted with the presentation this year aboard the Albany of components of the system.

"He has been extremely valuable to the advancement of this project," commented Baer this week. "We faced a 'crash' situation at the inception stage and Hagadorn provided the badly needed operational know-how, the degree of effectiveness with which it could be used in shipboard conditions, and most important to us, served as a constant source of ready information related to pure Navy problems we've encountered so often along the way."

Applications Widespread None of those associated with the system's development here will offer such dramatic praise as "scientific breakthrough" or "radically new concept" in describing the Digital Ranging System.

They readily agree, however, that its applications are widespread in areas of abundant proportions.

"Digitalization is science's next step forward in the field of high-speed computation. It is a natural evolution from the analog phase.

This particular digitalization effort is part of a greater effort being conducted under the technical direction of the Applied Physics Laboratory, Johns Hopkins University, aimed at evaluating the application of digital computers to shipboard weapon control systems.

Heading the overall NOTS effort is Amy E. Griffin, project coordinator and staff consultant to Instrument Development Division.



WILLIAM BAER Project Manager

### Station to Host 224 Visitors for Tours Next Week

The Station will be host to 224 visitors next week, according to an announcement this week by the Technical Presentation Coordinator's office.

Groups and dates of their visit are as follows:

Wednesday, Dec. 2 — Thirty students of the Upper Desert Students Association from Victor Valley, Antelope Valley, Palmdale, Quartz Hill, and Barstow High Schools.

Thursday, Dec. 3 — Forty-six Naval Reservists participating in the West Coast Weapons Course from NAS Los Alamitos.

Thursday, Dec. 3 — Forty Army civilian and military personnel from White Sands, Ft. Huachuca, Yuma, Dugway, and Edwards AFB.

Saturday, Dec. 5 — One hundred and three Naval Reservists and 12 Army Reservists from NRSC 9-26, Colorado Springs, Colo.; MSTs 12-3, San Mateo; NIRD 11-1, Los Alamitos; and USAR School, Fort MacArthur, San Pedro.



LT. COL. R. S. CLARK

### Test & Evaluation Army Commands Convene Here

The Army's Western Test and Evaluation Commands (TECOM) Commanders Conference will be held here next Tuesday and Wednesday.

Approximately 45 persons from five western Army installations are expected to attend the two-day meet, according to Lt. Col. Richard S. Clark, the Station's Army Liaison Officer, who is coordinating the meet.

Activities participating in the conference, the first of its kind to be held at NOTS, are White Sands Missile Range, Ft. Huachuca, Dugway Proving Ground, Yuma Proving Ground, and the Army's Aviation Test Activity at Edwards Air Force Base.

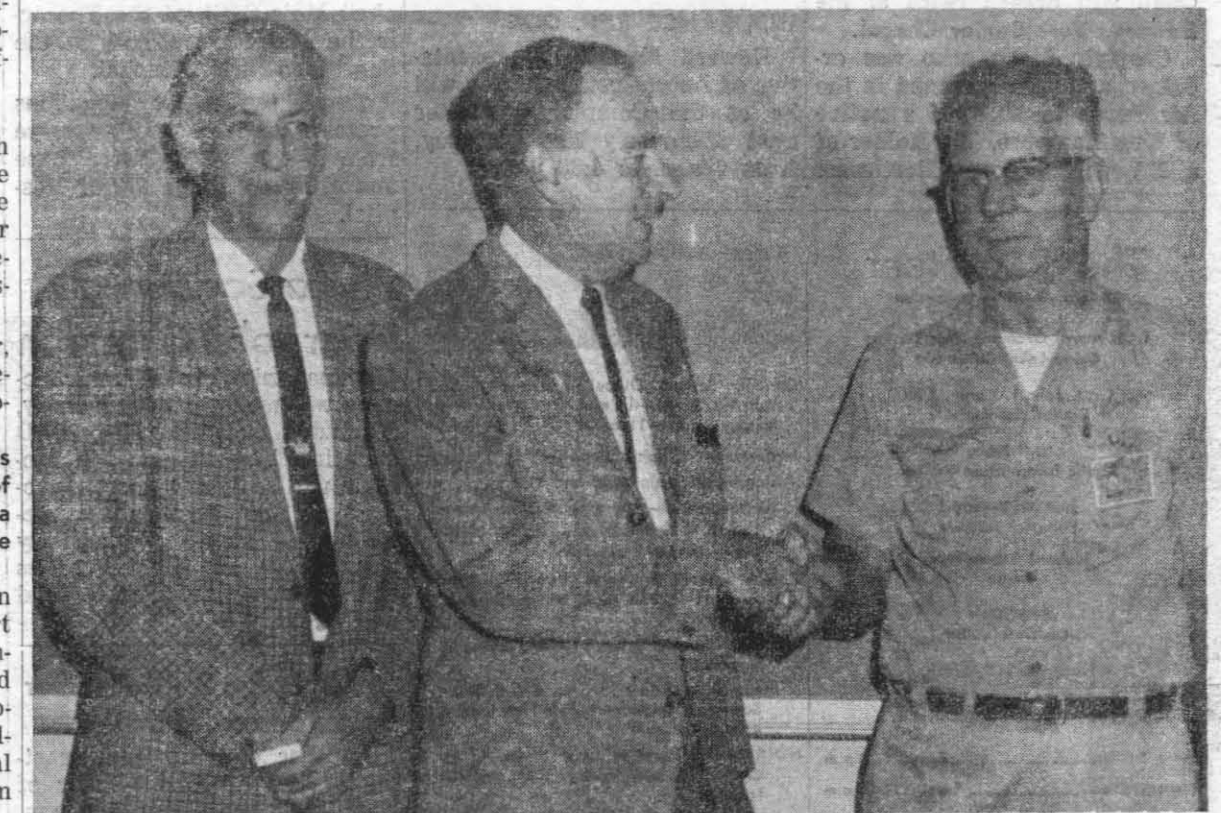
It is anticipated that Maj. Gen. B. H. Pochyla, commanding general of Ft. Huachuca, and Maj. Gen. J. F. Thorlin, commanding general of the White Sands Missile Range, will attend or send their representatives.

Steering committee members who have indicated they will attend are Col. N. C. Angel and P. H. Meehan of Ft. Huachuca; R. E. Zimmer and E. T. Bladwin of Yuma; E. R. McClure of Dugway; Col. F. E. Carpenter, R. O. Hackney, D. T. Mount, and S. Teitelbaum of White Sands.

The five-facility conference was formed this spring to improve common support services and exchange of information between Test and Evaluation commands.



NAVY MEMBERS OF TEAM (from left) Frederick Krueger, DS1, Lawrence L. Hagadorn, FTMI, and James Stegall, FTMI, inspect digital computer complex that was conceived, designed, developed and tested at China Lake.



20-YR. ENGINEERING DEPT. MEN — K. H. Booty, Engineering Department Head, congratulates Machinist William C. Russell on 20 years of Federal service following presentation of 20-year pin to him and to engineering

technician Frank G. Christie at left. Russell began his CS career at Pearl Harbor in 1944 and transferred to NOTS in 1950. Christie started his career at Pocatello, Ida., and has been at NOTS China Lake since 1957.



# French Major Studies Snort Track To Speed New Test Station in France

## Nation Picking Up Slack in Space, Rockets

The French government is planning to erect a test track similar to NOTS Snort, Maj. Jacques Bergez, of the French Ministry of Defense, revealed this week in an exclusive interview with The Rocketeer.

The major, who represents the Engineering Corps, counterpart of the U.S. Army Corps of Engineers, is making a study of American test tracks. He arrived in the United States Nov. 15, stopping off at Lakehurst and Holloman before coming west to NOTS for a two-day briefing this week.

France's weapons and missile development is centered in two agencies, Maj. Bergez said. The Matra Corp. is a private enterprise concern assigned the task of missile development, and Nord Aviation is a government-sponsored facility.

One of the current projects with which the French government is presently engrossed is the R-530, an air-to-air missile.

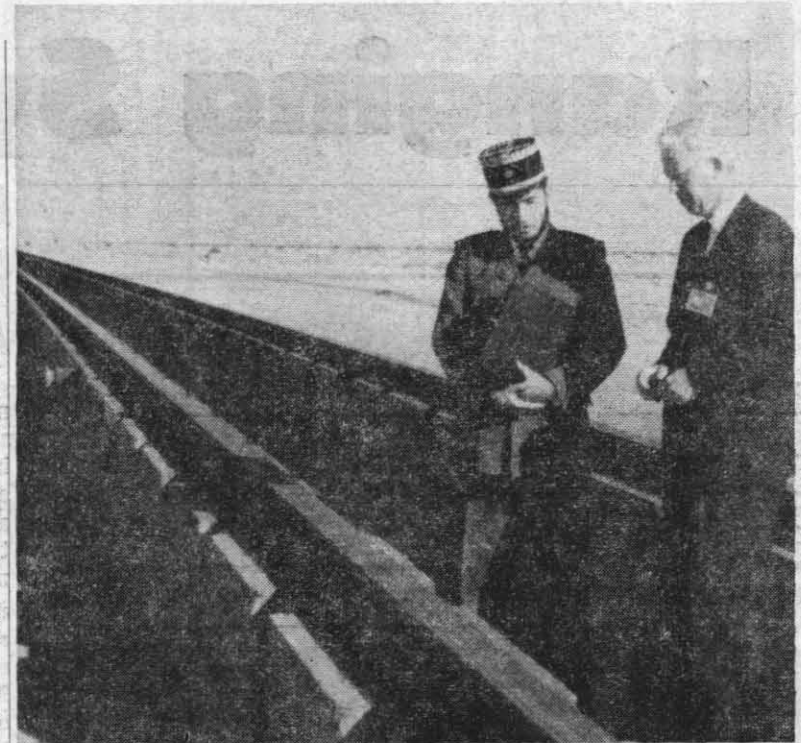
Conceding that France has had a late start on missile and space developments, Maj. Bergez said that the CNES (France's NASA) has been operating for four years on space projects, and is endeavoring to make up for lost time.

"However our balloon (meteorological) research (CIEES) is well advanced," he said.

France's space vehicle test center (CEL) is located in French Guiana, which the major said "is a bit far away" from home base, and a new research and development test center for which he is gathering test track data "is being rushed to completion as soon as possible."

Maj. Bergez was escorted to the Station by Ray Nelson, Snort Track Operations Branch Head. He attended briefing sessions with Operations and Instrumentation personnel.

"We will have to staff our test track with competent personnel," Maj. Bergez said, stressing that organization was high on his survey objectives, along with track construction studies. "Supersonic track testing is



FRENCH Major Jacques Bergez discusses test track construction at NOTS Snort Track with Ray Nelson, Operations Branch Head. The major spent two days at NOTS this week.

a very interesting facility," the major commented. "It is an important link between the laboratory and pre-flight tests, accomplishing for rockets and missiles what the wind tunnel was able to do for aircraft."

## ASPA To Hear Dr. Churchman Next Thursday

"New Frontiers in R&D Management" will be the topic at the next meeting of the American Society for Public Administration, China Lake Chapter.

Speaker will be Dr. C. West Churchman, of the Center for Research in Management Science, University of California at Berkeley. Dr. Churchman is recognized nationally as an expert in the field of operations research, and is involved in management research projects sponsored by NASA.

He is at NOTS for discussions with senior R&D personnel for studies of interaction with superiors, subordinates and others.

The luncheon meeting will be held in the Mojave Room at the Officers Club, Thursday, Dec. 3.

## Civil Air Patrol On Alert For 23 Years

China Lake Composite Squadron 84 will join similar squadrons in 2,000 communities throughout the nation beginning on December 1 in observance of the 23rd anniversary of the Civil Air Patrol.

This week Mathias (Bud) Hugo, mayor of Ridgecrest and operations officer for the China Lake squadron, issued a proclamation designating the week beginning Dec. 1 as "Civil Air Patrol Week" and called for suitable observances of the occasion. Mayor Hugo, who carries the rank of second lieutenant, is a licensed pilot and flies his own plane on search and rescue missions.

The Civil Air Patrol was founded only six days before Pearl Harbor as a civilian auxiliary of the Air Force when Fiorello LaGuardia met with President Franklin D. Roosevelt and called on the nation's aviation leaders and private pilots to form a civilian patrol.

The local squadron was formed at Burroughs High School on Nov. 15, 1956 with 15 members by Frederick L. Richards. In 1962 the Inyo Kern Squadron, which was founded in 1947, was consolidated

with the China Lake group. Today, the China Lake unit has 42 senior members and 22 cadets.

Twelve of its members are licensed pilots, nine of whom own their planes which are used in search and rescue work.

The squadron is commanded by Major Robert B. Thomas. He succeeded the founder and commander of the squadron, Lt. Col. F. L. Richards, in September, 1963, when Col. Richards was assigned to Wing Headquarters, Search and Rescue.

Members of the local squadron have participated in eight search and rescue operations this past year.

The CAP's emphasis on American youth has mushroomed into a cadet program which offers its 37,000 cadets hundreds of special scholarships and an International Air Cadet Exchange program.

California Wing Largest The China Lake Squadron is a member of the California Wing, the largest in the nation, numbering over 110 squadrons.

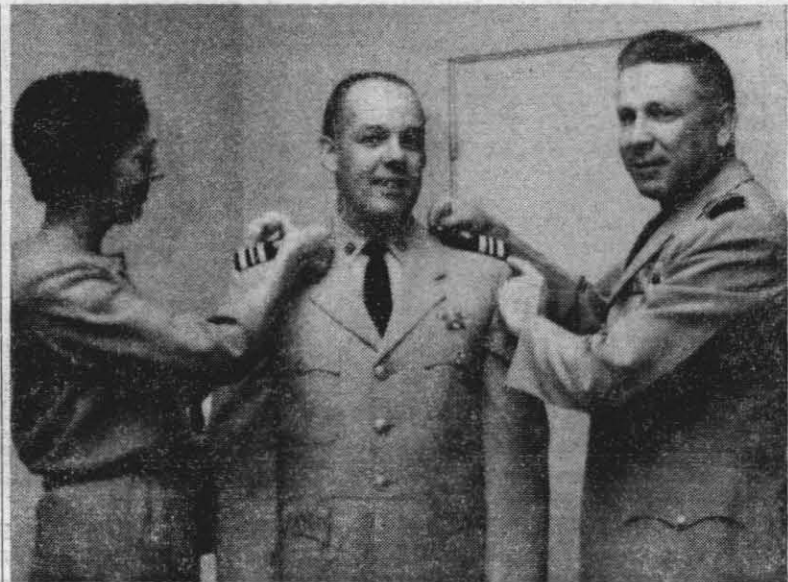
The CAP is divided into eight regions comprised of 52 wings, one in each state, the District of Columbia, and Puerto Rico.

There are 74,000 members in the 52 wings. One-half of the members are young men and women cadets in the 14-18 age bracket.

About 10 per cent of the cadets in each Air Force Academy class are former CAP members.

CAP today has approximately 8,000 licensed pilots and upwards of 3,000 privately-owned aircraft. These do not include the 900 corporation-owned planes obtained from military surplus.

In the first half of this year CAP pilots flew over 7,000 hours in searches and aided police and other civilian and military authorities in hundreds of emergencies.



NEW LIEUTENANT COMMANDER epaulets are attached to uniform of ex-Lt. R. D. Blaine during promotion ceremony in office of Capt. John I. Hardy, ComNOTS. Proud wife, Irene, provides an assist. Lt. Cdr. Blaine, a technical officer on the Moray Project, served aboard the USS Pomodon (SS 486) prior to reporting here last July 17.

ALGEBRA REVISED The United States Armed Forces Institute (USAFI) announces that a revised course in high school algebra is available.

It corresponds to those courses offered by civilian high schools at grade levels 11 and 12.

## Leave Time Is Here, Take It or Lose It

The closing date of the 1964 annual leave year is Jan. 2, 1965. However, January 2 falls on a Saturday and since Friday, January 1, is a holiday, this means that all employees whose regular work week is Monday through Friday will have to use their excess leave by Dec. 31, 1964.

Excess annual leave not used by December 31 will be forfeited.

To avoid any forfeiture of annual leave, employees are urged to review the leave status letter distributed by the Accounting Division on Nov. 11.

It is the responsibility of each supervisor to establish leave schedules to insure that all employees are given an opportunity to use all leave they would otherwise forfeit.

Briefly, employees who had more than 30 days accumulated annual leave on January 5 of this year may carry over that same number of days, but no more, into the new leave year.

Employees who had less than 30 days accumulated leave on January 5 of this year may accumulate their carry over up to a total of 30 days, but no more, of annual leave.

## Elks Scholastic Awards Contest Totals \$110,000

Local students are invited to enter the Elks annual Most Valuable Student Competition. The scholastic awards program is in its 31st year, and is a major philanthropic trust of the Benevolent and Protective Order of Elks, according to Delbert A. Sweeney, Exalted Ruler of the Ridgecrest Lodge.

The competition is open to high school seniors and college students below the senior grade. Boys and girls compete in separate divisions for identical awards totalling \$110,000, and ranging from \$700 to \$1,500.

Besides scholastic excellence and financial need, judging criteria in the competition would be citizenship, personality, leadership, perseverance, resourcefulness, patriotism and general worthiness.

Applications should be filed with the Lodge by Dec. 16.

Application forms are available from Frank Menard at the Lodge, or John Trent at Burroughs High School.

## North Range Open To Hunters Again This Sat. and Sun.

NOTS north range will be open to hunters Saturday and Sunday for the second of three scheduled weekends. Access gates are located at Centennial Canyon and Darwin, on Highway 190, which intersects with Highway 395 just south of Lone Pine. Parties traveling north on Highway 395 may use the east turnout at Olancha and connect with the 190 route.

Maps with campsites and hunting boundaries will be available at the access gates, and all hunters must check in and register at the gates, returning by 5 p.m. Sunday through the same gate, so they may be checked out.

Only shotguns will be permitted. On the Nov. 14-15 weekend hunters bagged chukar, quail, cottontails and jackrabbits. Final weekend of on-Station hunting this season will be Dec. 12-13.

## SPORTS QUIZ

1. What was unusual about the Rose Bowl Games of 1918 and 1919?

2. Who coined the name "Four Horsemen" for the great Notre Dame backfield of the 1920's?

3. What collegiate team holds the record for consecutive bids and subsequent participation in post season bowl games?

4. Who made up the passing combination that beat West Point 35-13 and was credited with introducing the forward pass to football?

5. What team did George Halas play with in the Rose Bowl?

### Answers to Quiz

1. 1919.

2. Go Bears, played in the Rose Bowl game, at West Point is Papa Bear, the owner, coach and manager of the NFL Chicago Bears.

3. Gus Dorais, known as forward pass, credited with introducing the Army game, at West Point is Knute Rockne in a Notre Dame game.

4. Gus Dorais, passing to been approached.

5. In the years of 1918 and 1919 Service eleven were invited to play in the Rose Bowl.

## Women's Golf Club To Hold Christmas Luncheon Thursday

The China Lake Women's Golf Club has set next Thursday, Dec. 3, as the date for its annual Christmas Luncheon.

It is at this event that the Club Championship trophies will be awarded.

The social hour will begin at 11 a.m. Each lady attending is asked to bring a gift costing no more than one dollar for a grab-bag exchange.

Reservations for members and their guests may be made by calling the clubhouse no later than Tuesday, Dec. 1. The cost per person is \$1.25.

## BOWLING NEWS

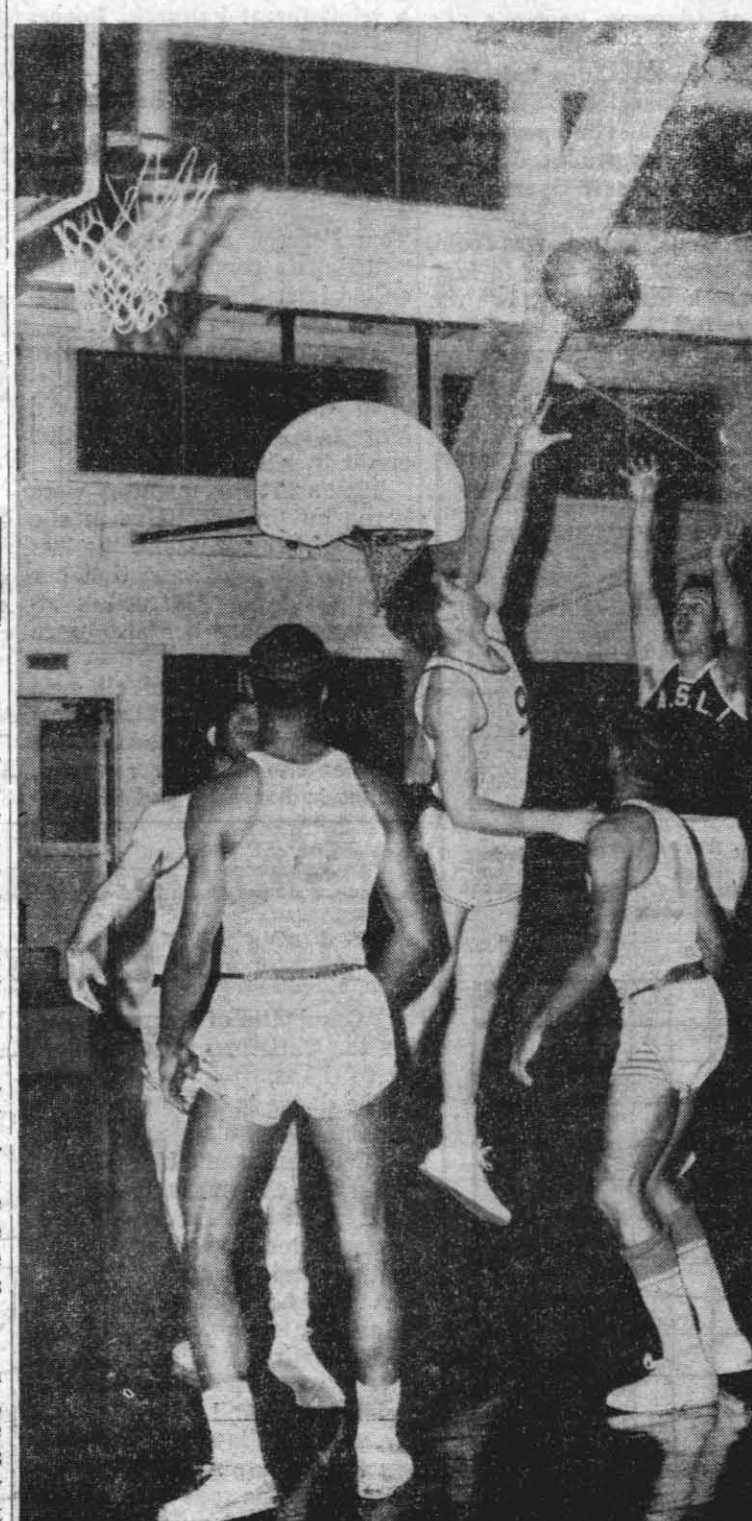
By Dick Zinke

Warren (Wrong Arm) Shad pounded the pocket and came up with a 227 game, while Gordy Zurn, Jr., started slow but finished strong to roll high series for the night with games of 157, 204 and 215 for a 576 series. The Station Restaurant was again up on the wood and fired a 952 for high game with the series going to Mercury Movers, bowling games of 924, 837, and 890 for a 2651 series.

Monday Women's Scratch Maggie Branson continues her fine bowling and rolled a 217 for high game, while Vi Utterback hit 200 on the nose and ended up with a 521 series. The Unbelievables had high game for the night with 718, but the Unpredictables put three games together for a 1973 series.

C.L. Women's Handicap It's Mary Jane Clark again in the high game department, bowling another 200 game to be added to her fine record this season. Marie Peck fired a very respectable 538 series and kept the team spirit going. Team honors was taken by the Jay Bee's rolling a high game of 965 and a 2777 series.

## VX-5 and Code 45 Share Cage Lead



TOO LATE for a block, NAF cagers hope Aero Science player's shot doesn't score. It did, however, and Aero Science went on to a surprise victory, 59-53, last Tuesday.

## Each Team Has 3 and 1 Record

Air Development Squadron Five tied for first place with Propulsion Development in the Station Intramural Basketball League Tuesday night by defeating NOTS 81-62.

Both teams have a three-win and a one-loss record.

The VX-5 quintet went into Tuesday's fray with wins over Propulsion Development and Aero Science and one loss to NAF.

High scorer for the squadron quintet was Taggart with 31 points while his teammate Aldez scored 27 points for second place.

Bronislavski was high scorer for NOTS with 32 points and Sims next with 11 points. Lt. "Doc" Patterson, NOTS' 6ft. 4in. center, made his first court appearance Tuesday.

Aero Science came through with a surprising win over NAF, 59-53, in a see-saw battle right up to the whistle. Aero Science and NAF are now tied for second place in the league with two wins and two losses.

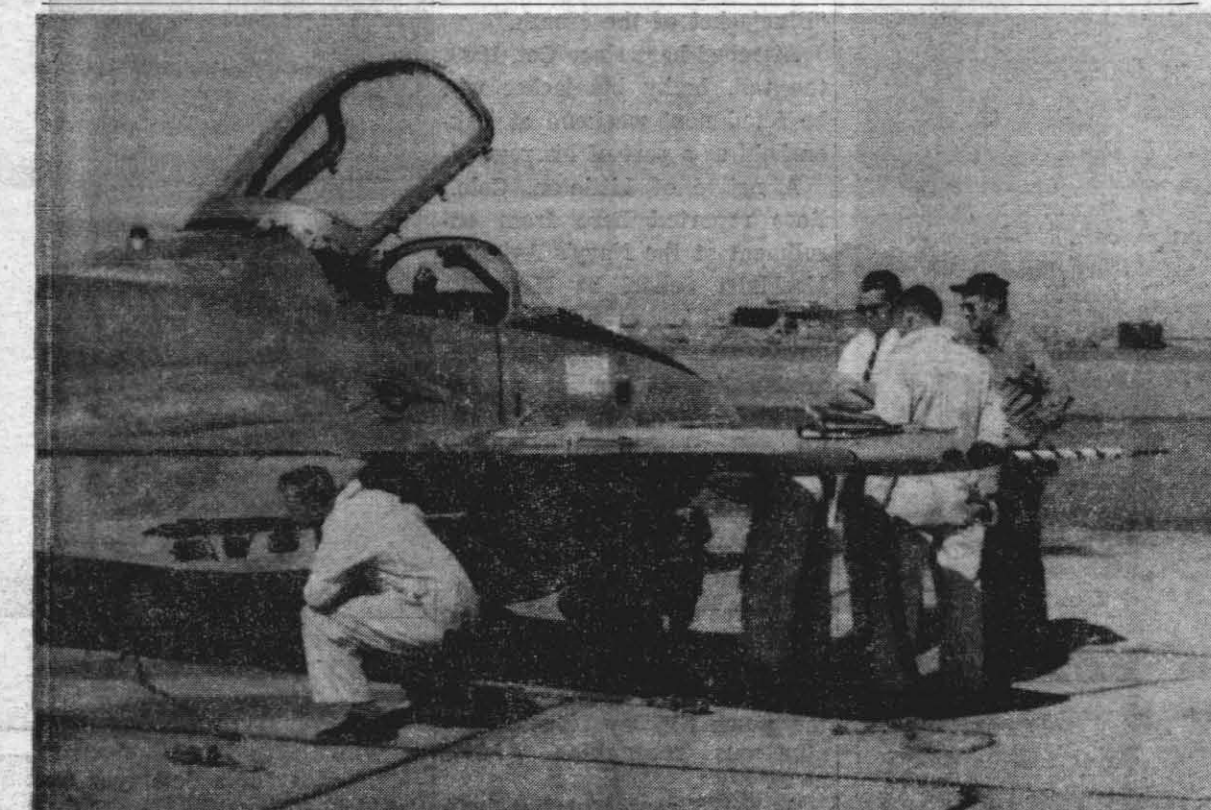
Roger Short sank three hook shots for six points in the last minutes of play to give Aero Science their win. Roger was high man for the game with 16 points while his brother, Bob, the quintet's 6ft. 4in. center, was second with 11 points.

Howard Kelly was high man for the NAF cagers.

## Cage Standings

(As of Nov. 24)

	W.	L.
VX-5	3	1
Prop. Dev.	3	1
NAF	2	2
Aero Science	2	2
NOTS	0	4



VERSATILE JET TRAINER, the Royal Canadian Air Force 41G can become a spirited tactical weapons carrier when fitted with NOTS 2.75 FFAR rockets. A product of Canadair Limited, the plane and 11 personnel from the

Montreal plant conducted test flights from NAF recently with different types of NOTS weapons. Standing (r) is Canadair test pilot Ian Mactavish; Canadair crew chief Ron Foran; and NOTS ordnanceman J. E. Ivory, AOI.