

# Susan Rungo To Vie For Miss California Crown

By Budd Gott  
Susan Rungo, who will carry the hopes and honor of the twin communities of China Lake and Ridgecrest, will vie for the title of Miss California in Santa Cruz, June 24-30, with 30 other contestants throughout the state.

At stake is the Miss California title, a \$1,000 scholarship, and a chance to represent the state in the Miss America Pageant at Atlantic City, N.J., in September.

Miss Rungo has been grooming herself for the title bid since last November, when she won the Miss Ridgecrest-China Lake title.

In addition, to taking vocal lessons from Mrs. Ivar Highberg,

suit, evening gown, the suit she will wear for the judges' interview, and her talent act dress.

Teri Hill, a training illustrator with the Reports and Visual Arts Branch (Code 3513) of the NWC Electronics Systems Department, will be Miss Rungo's official chaperone during the Miss California Pageant.

Miss Rungo will be in competent hands under Teri Hill's guidance. Mrs. Hill, a winner in the Kern County Art Festival, has a flare for hair styling and make-up which will enhance Miss Rungo's appearance in the Miss California Pageant.

**Civic Send Off**  
Local civic and community leaders and pageant officials gathered at the Chief Petty Officers' Club on Thursday evening, June 14, to show that the community is behind Miss Rungo's bid for the Miss California title.

During the dinner, Miss Rungo received a chain and locket bearing the official seal of the City of Ridgecrest from Jim Heck, city administrator. It is to be worn during her appearance in Santa Cruz.

Also in attendance was 1972's Miss Ridgecrest-China Lake Virginia Keyte, now the wife of Bill Brooks, Rocketeer staff photographer, and Carol Brents, a 1972 Miss Ridgecrest-China Lake contestant.

**Rungo Family Saluted**  
Herb Childers, local pageant president, saluted the family of Dr. Ralph Rungo for its backing of Susan's bid for the Miss California title by providing financial support for special training and their cooperation with the pageant association.

Miss Rungo and her chaperone, Teri Hill, will leave tomorrow for Santa Cruz. The week-long Miss California Pageant will include a round of activities for all entrants. These will include a civic reception, regatta, a parade, an invitational golf tournament, and a Miss California ball.

Following morning and afternoon rehearsals, the first preliminary competition will be held on Thursday evening, June 28, the second preliminary competition on Friday evening, June 30, and the grand finale on Saturday evening, June 30, when Miss California will be selected from among 10 finalists.

**Self-Confidence Important**  
"The importance of poise, self-confidence, and the graceful appearance of the contestants made an impact on me," the dark-haired Miss Rungo said. "I noticed that the winner in each pageant possessed these qualities. I think self-confidence is the most important," she added.

"If beauty were the only criteria for winning the Miss California Pageant, Susan wouldn't have any worry," Herb Childers, local pageant president, said about the bubbly 5 ft., 6 in. Miss Ridgecrest-China Lake.

"However, there is more to be judged than just beauty. Poise, personality and talent are more important than beauty. In fact, talent counts 50 points in the judging," Childers pointed out.

"Susan, who has a pleasing alto voice, really belts out her vocal number, 'Hurry, It's Lovely Up Here,' which she will do in the talent competition at Santa Cruz," Childers said.

Miss Rungo presented her talent act at the China Lake Community Center on Saturday, June 9, before a panel of judges comprised of pageant officials, and representatives of local little theater and drama groups.

**Wardrobe Modeled**  
In addition, she went through all of her wardrobe changes for the Santa Cruz competition, including her travelling ensemble, bathing



**READY FOR PAGEANT** — Teri Hill, official chaperone, Susan Rungo, Miss Ridgecrest-China Lake, and Virginia (Keyte) Brooks, last year's Miss Ridgecrest-China Lake, discuss the up-coming Miss California Pageant, to be held at Santa Cruz. Miss Rungo will represent the local area in the competition.

## Happenings Around NWC

Registration will be held from June 25 (Monday) through July 5 at the Center gymnasium for the summer athletic program, sponsored by the Special Services Division's recreation department. The program, which will begin on July 10, will feature horseshoes, badminton, table tennis, two-man volleyball, one-on-one basketball, and handball.

All NWC employees and military personnel are eligible, provided they are 16 years of age or older. All tournaments will be double elimination events, except for the two-man volleyball, which will be a round-robin type tournament.

Persons who desire further information may contact Marty Denkin, NWC athletic director, or Bill Nicol, intramural sports director, at NWC ext. 2334.

**Parade Entries Open**  
Entries are now being accepted from persons who wish to participate in the 23rd annual Desert Empire Fair parade, slated to be held on Saturday, Sept. 22, in Ridgecrest.

Applications may be picked up at various locations throughout the Indian Wells Valley, including the Ridgecrest Chamber of Commerce, 141 Panamint St., the Community Center, on the Naval Weapons Center, and from the Credit Union, located on the corner of King St. and Richmond Rd. at China Lake.

Completed forms must be returned to PARADE, P.O. Box

1176, Ridgecrest, CA 93555, no later than Aug. 25.

**Wildflower Shoot Held**  
The China Lake Photographic Society sponsored a "wildflower shoot" on Saturday, June 2. The tour was intended primarily for China Lake Photographic Society members and several out-of-town guests.

Bob and Tilly Barling led the caravan of 28 vehicles that departed from the NWC Main Gate at 10:30 a.m. The convoy traveled the dirt roads through Mountain Springs Canyon and Etcheron Valley, by way of El Conejo mine to Wild Horse Mesa. The trip covered approximately 100 miles, reaching elevations of 5,000 feet.

**Youth Movie Fare**  
"Summer Magic," which features Hayley Mills, Dorothy McGuire, Eddie Hodges and Burl Ives, will be shown on Tuesday at 1 p.m. in the Center Theater during another of the NWC Youth Center's special summer matinees.

The musical talents of Ives and the charming vivacity of Miss Mills provide lively action with some tuneful interludes in this adaptation of "Mother Carrie's Chickens."

The second feature of the week, "Adventures of Huckleberry Finn," will be shown on Thursday, June 28, also at 1 p.m.

This film stars Tony Randall, Eddie Hodges, Archie Moore, and Patti McCormick, in the classic story of Mark Twain's character, "Huck."

Huckleberry Finn yearns to join the Mississippi riverboats, and finally runs away to do so. He builds a raft to float downstream, and joins forces with a runaway slave, Jim.

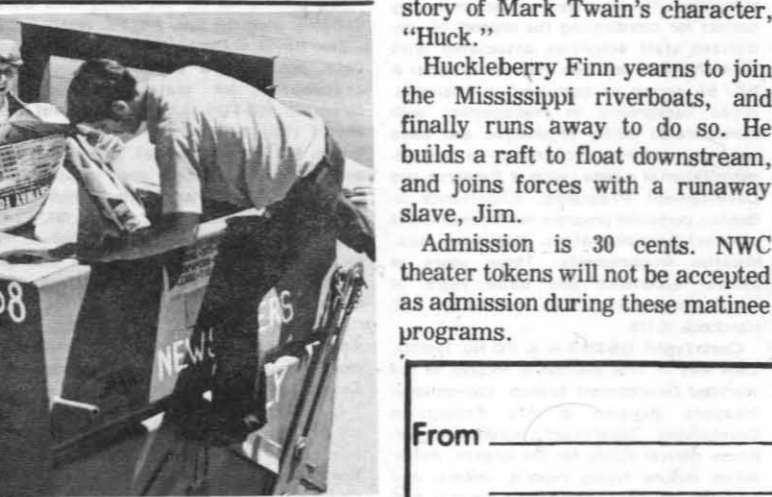
Admission is 30 cents. NWC theater tokens will not be accepted as admission during these matinee programs.

**Housing Assignment Adjustments Made**  
The Naval Weapons Center Housing Policy allows for adjustment of precedence levels to assure full utilization of family housing assets.

Precedence levels J, K and L may now apply for 2-bedroom Old Duplexes.

Personnel in these precedence levels who are interested may file applications for these quarters. Names of applicants will be given assignment consideration after July 9, 1973.

**DUMPSTER FOR OLD NEWSPAPERS RELOCATED** — ROCKETEER photographers Dan Yeatts (inside dumpster), and Bill Brooks, are shown depositing newspapers in the dumpster located at the corner of King St. and Richmond Rd. This is the dumpster that used to sit in Bennington Plaza, but which was moved recently to the new location. Boy Scouts of the Southern Sierra Council utilize the dumpster to collect newspapers, which are then sold and the money used to finance various Scout activities in the local area.



—Photo by PHAN Jerry Sizemore

**SHOWBOAT**  
MOVIE RATINGS  
The objective of the ratings is to inform parents about the suitability of movie content for viewing by their children.  
(G) - ALL AGES ADMITTED  
General Audiences  
(PG) - ALL AGES ADMITTED  
Parental Guidance Suggested  
(R) - RESTRICTED  
Under 17 requires accompanying Parent or Adult Guardian  
CS - Cinemascope  
STD - Standard Movie Screen  
Regular starting time — 7:30 p.m.  
Matinee — 1 p.m.

FRI. 22 JUNE

**"JORY" (97 Min.)**  
John Marley, B. J. Thomas  
(Western) Fifteen year old Jory and his father arrive in Santa Rosa, N.M., looking for work. Jory witnesses the senseless killing of his father. The killer later pushes Jory away. In a frantic effort to protect himself, the youth strikes the man with a rock, killing him. He then joins a horse drive. The horse drive goes on into Texas, where he learns they've walked into the middle of a full scale range war. (PG)

SAT. 23 JUNE

**"RING OF BRIGHT WATER" (107 Min.)**  
Bill Travers, Virginia McKenna (G)

**"TOM SAWYER" (99 Min.)**  
Johnny Whitaker, Celeste Holm (Musical) A musical adaptation of Mark Twain's classic about a spunky and likeable boy named Tom Sawyer and his sidekick, Huck Finn. Includes all the episodes that made it such a heartwarming and enjoyable story. (G)

SUN. & MON. 24-25 JUNE

**"ROMA" (117 Min.)**  
Federico Fellini, Peter Gonzales (Documentary) Filmmaker Federico Fellini begins his love affair with Rome in 1921, when he learns about the Eternal City as a boy in his native Rimini. He arrives in Rome in 1938 and begins to savor the tempo of life there. (R)

TUES. & WED. 26-27 JUNE

**"SLEUTH" (139 Min.)**  
Laurence Olivier, Michael Caine (Suspense) Andrew Wyke (Laurence Olivier) is a rich author of eccentric mystery fiction and lives in a magnificent 16th Century English country home. One day he invites Milo Tindle (Michael Caine), the owner of two beauty shops and the current lover of Andrew's wife, Marguerite. (PG)

THURS. & FRI. 28-29 JUNE

**"A WARM DECEMBER" (101 Min.)**  
Sidney Poitier, Esther Anderson (Melodrama) This is a bittersweet tale of an ill fated romance between a handsome American widower (Sidney Poitier) on a visit to London with his pre-teenage daughter (Yvette Curtis), and a stunningly beautiful diplomat (Esther Anderson), a member of an emerging African State Embassy. (PG)

**nwc rocketeer**

## Opinions Sought Regarding Desert Park Development

The opinion of Naval Weapons Center employees and residents regarding the future development of the Kern Desert Regional Park is currently being sought by Congressman William M. Ketchum.

Local residents' views on this matter are of interest to Congressman Ketchum, who has introduced legislation before Congress which would authorize the Secretary of the Treasury to appropriate \$81,000 to Kern County for the development of Kern Desert Regional Park.

In addition, Ketchum also has asked the U.S. Department of the Interior and the California Department of Parks and Recreation for assistance. Congressman Ketchum has applied to William Penn Mott, State Director of Parks and Recreation, for an appropriation from California's share of Land and Water Conservation Act money for 1973-74.

There isn't much hope for this, Congressman Ketchum admits, since the total appropriation of \$3.5 million for the Land and Conservation Act represents a sizeable cut from the 1972-73 appropriation of \$12 million, and he is therefore not optimistic about the possibility of obtaining money from the state for development of the local park.

In a recent letter to his local area constituents, Congressman Ketchum acknowledged that while "this is a long shot, at its best," he still feels strongly enough about this project to make every effort to assist.

For the past several years, Kern County has attempted to develop a regional park on 106 acres of surplus land that was purchased from the Department of the Navy. The park area is a triangular-shaped plot of ground bounded by N. China Lake Blvd., the Burroughs High School access road, and the NWC fence adjacent to the Capehart B housing area.

Part of this area is earmarked as the site for a civic center which will house county offices, a fire station and a Sheriff's Department sub-station, but so far only a decorative wall marking the park's entrance has been built.

Kern County has, however, invested approximately \$20,000 in sprinklers and some other equipment which is being held in storage for future use at the park.

The recent annexation to the City of Ridgecrest of a portion of the Naval Weapons Center that includes Desert Park, the Bennington Plaza commercial area, the Burroughs High School campus and the access road leading to the local high school was a move undertaken in order to make additional tax revenue available to the city that could be used for development of the 106-acre regional park.

**Ratio Set For Dividing High School Assets**  
Agreement was reached this week on the first of many decisions that will have to be made regarding the equitable apportionment of the Kern High School District's property and assets to the newly-formed unified school district covering the Burroughs High School attendance area.

Officials representing not only the countywide high school district, but also the China Lake, Indian Wells Valley and Rand Elementary School Districts concurred that, for the purpose of transferring and allocating to this area its share of Kern High School District assets, a ratio of approximately 8 1/2 per cent (actually .08465) be used.

This figure is a compromise between the difference in average daily attendance and assessed valuation (including Federal aid for education under Public Law 874) within the Burroughs attendance area when compared with the overall high school district, Dr. Sol Spears, superintendent of the China Lake Elementary School District, reported.

At Tuesday night's meeting of the Kern County Committee on School District Organization, the formal action necessary to establish the ratio for allocating this area's proportionate share of the real and personal property of the Kern High School District was taken.

The next order of business will be the hiring of an appraiser to determine the value of the Kern

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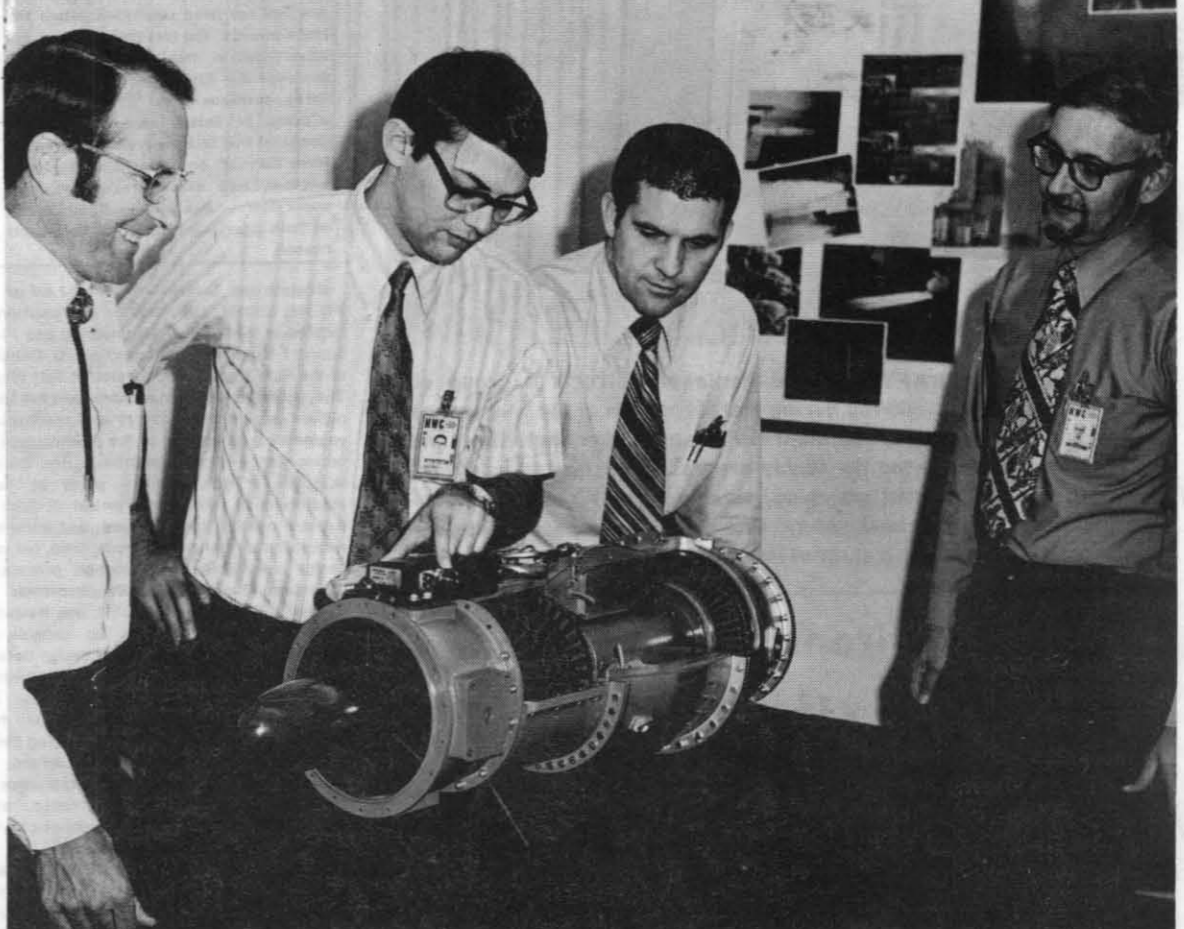
June 22, 1973

INSIDE . . .

Early Retirement Law . . . . . 2  
Navy Relief Gains \$7,800 . . . . . 3  
Ben Husten To Retire . . . . . 4  
4 Added to EEO Committee . . . . . 5  
Sports . . . . . 6  
Local Girl Enters State Pageant . . . 8

Naval Weapons Center  
China Lake  
California

Vol. XXVIII No. 25



**NWC DESIGN TEAM** — Center personnel who are helping to make the low-cost turbojet engine a reality are shown examining one of the models of this engine. They are (from left) Dick Fulmer, propulsion project engineer (Condor flight test); Gary Burgner, and Dr. Darrell Walker, development engineers (mechanical and aerodynamic design), and Harold Larsen, acting head of the Propulsion Development Department's Advanced Technology Division, who is also the program manager.

## NASA/NWC Engineers Develop New Low-Cost Turbojet Engine

By Wanda Stahlman  
A low-cost turbojet engine that is unique in two respects is being developed by a team of engineers from the National Aeronautics and Space Administration (NASA) and the Naval Weapons Center.

This is the first turbojet engine designed for a one-shot tactical warfare application, and it is believed to be the first such engine designed and built by the government.

Previously, turbojet engines have been applied principally in manned aircraft and strategic weapons because of their high unit cost. In recent years, however, the Navy has identified an urgent need for a suitable low-cost turbojet engine to power a new generation of cruise missiles. NWC's ordnance philosophy, as applied to engine design, has inspired new approaches to construction materials, fabrication methods, and assembly techniques; significantly, it is helping to make the low-cost turbojet engine a reality.

In less than three years the engine has advanced from initial design to advanced testing of the complete unit. A prototype engine has undergone extensive static and simulated flight tests in test cells at NASA's Lewis Research Center, Cleveland, Ohio, where over 70 hours of engine running time have been completed. Delivery of the first prototype engine at China Lake was made in March 1973 and a flight test unit was scheduled for delivery in April.

The prototype engine underwent proof tests over the China Lake ranges in May, using a modified Condor missile carried in captive flight as the test vehicle. Upon completion, these tests will be followed by a free-flight test at the Pacific Missile Range, Pt. Mugu.

Early in 1969, under NWC Independent Exploratory Deve-

lopment, the initial design phase established preliminary configuration and operating parameters for the turbojet engine. However, a formidable amount of design work remained to be done, starting with a wide survey of available technology for turbojet development. The survey, which included industry and government, disclosed that the

(Continued on Page 5)

**Mt. Climbers To Attempt Peaks in Peru**  
A group of seven climbers, six of whom are members of the China Lake Mountain Rescue Group, are planning an expedition to climb mountains in the Cordillera Blanca of Peru during the month of July.

The group consists of Dr. Carl Heller, expedition leader, Dennis Burge, Robert Westbrook, Don Peterson, Robert Joy, Russ Huse, and Charles Ringrose, a former NWC employee and member of the rescue organization.

In July 1968 Heller, Burge, Westbrook, Ringrose and Huse of this same group stood together on the summit of Mt. McKinley in Alaska.

From Lima the group will fly to Huaras, jewel city of the beautiful Callejon De Huylas of Peru, at an elevation of 10,000 feet. From there they will drive into the Cordillera

(Continued on Page 5)



**GRAND PRIZE WINNER** — Ken Dalpiaz (2nd from r.), head of the Traffic Control Branch in the NWC Security Department's Police Division, smiles his acceptance after selecting \$3,250 in U.S. Series "E" Savings Bonds as his choice for the grand incentive award in the 1973 Navy Relief Fund Drive. Rear Admiral Paul E. Pugh (r.), NWC Commander, made the presentation. Looking on are (from left) Chaplain R.E. Osman and Cdr. R.B. Nygaard, coordinator of this year's campaign. See story on page 3, of this issue.

From \_\_\_\_\_

TO \_\_\_\_\_

PLACE STAMP HERE



LEARNING A CRAFT — Carol Panloui instructs a group of children in basket weaving during a craft portion of the Maturango Museum's Summer Enrichment Program.

PROMOTIONAL OPPORTUNITIES

Applications for positions listed in this column will be accepted from current NWC employees and should be filed with the persons named in the ad.

Engineering Technician, GS-802-7.8.9 or 10, PD No. 7350044, Code 5051 — This position is located in the Product Engineering and Fleet Support Branch, Electronics Division, of the Fuze Department located at Salt Wells.



PATENTS AWARDED IN FUZE DEPT.—Ben F. Husten, (r.), head of the NWC Fuze Department, presented patent awards to two employees in his department's Electromechanical Division during a recent ceremony.

Early Retirement Legislation Signed Into Law by President

The President has signed into law an optional early retirement program for Federal employees whose command or agency is undergoing a major reduction-in-force.

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Auditions Held, Cast For 'Hello Dolly' Announced

More than 70 persons auditioned for roles in the upcoming Community Light Opera and Theater Association (CLOTA) production of "Hello, Dolly."

The Rocketeer

Official Weekly Publication Naval Weapons Center China Lake Lake, California. RADM. Paul E. Pugh NWC Commander.



DIVINE SERVICES

Table listing Protestant, Roman Catholic, and Jewish services with dates and times.

Engineering Technician, GS-802-7.8.9 or 10, PD No. 7350044, Code 5051

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Patents Awarded in Fuze Dept.

Ben F. Husten, (r.), head of the NWC Fuze Department, presented patent awards to two employees in his department's Electromechanical Division during a recent ceremony.



MOVED TO NEW ADDRESS — Workmen load up a filing cabinet during the recent move of the Desert Counseling Center from its old location in Dorn No. 17 to the old Credit Union Building, corner of Blandly Ave. and Hussey St.

PROMOTIONAL OPPORTUNITIES

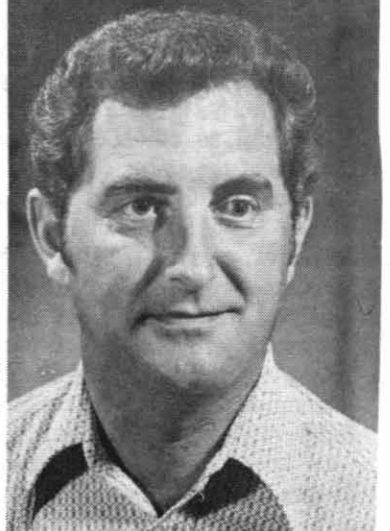
Continued from Page 2. defined in CSC Handbook X-118. Job Relevant Criteria: Experience in controlling of aircraft and familiarity with coordination of restricted air space.

Housing Assignments

The following are the housing assignments for the month of May. Two Bedroom Old Duplex: Van Doren, GS-11; Smith, GS-9; Coley, Ee; Deroulet, GS-13; Idings, GS-7; La Junesse, GS-11; Macy, GS-7; Huckaba, GS-9, and Stenger, GS-11.

Employee In The Spotlight

When VAdm. W. B. Moran (then a Rear Admiral) first came to China Lake to look the Center over prior to assuming command of NWC, his visit was arranged by the Technical Presentations Coordinator, Dick Rusciollelli.



Richard W. Rusciollelli

for a while, then in 1959, Dick moved into the Technical Presentations Office, working under Bill Hampton. "When Bill left in 1967, I was placed in charge of the office," Dick said.



By Jack Lindsey

Marty Denkin, manager of the Cubs in the Indian Wells Valley Pony League, has turned in his resignation. A victim of his own temper, Denkin went after a fan on Thursday, June 14, following the game between his team and the Orioles.

"I had just finished a lecture to my ballplayers about keeping their cool and acting calm, and I was provoked into my doing something like that. There's just no excuse for it," Denkin said, in talking about the incident.

The hard feelings began early in the game when the Cub shortstop attempted to field a ground ball. An Oriole baserunner (according to Denkin), clearly interfered with the baseman, but the youthful umpire didn't call the baserunner out.

Denkin called time out and took to the field. "I explained to the boy the rules of baseball, and told him it was strictly a judgment play. I explained that if the shortstop was after the ball and he and the runner touched, then the runner was out. I also explained that if, in his estimation, the baseman was not after the ball, and they touched, then the runner was entitled to another base. The ump ruled the runner out, after consulting the other umpire," Denkin said.

The fans got on Denkin pretty hard after that, as well as the boys and management of the Orioles. "I could understand the fans, but that other manager (Percy Wiggins), knows the rules of baseball. He shouldn't have been agreeing with the fans," Denkin elaborated.

Denkin put up with the harassment throughout the game, and when he was finally called a "poor sport," which he feels he is not, his temper snapped.

Denkin thinks the only answer is to pull himself out of the sport. I do not!

For five years, he has given of his time and energy to further the sport of baseball on the Center. Denkin doesn't have a son participating in the Pony/Colt League.

He loves children. That much is evident. And he feels responsible for creating a good, healthy environment for them. He has seen the opposite end of the pole, close up.

When he first came to NWC from the ghetto of Los Angeles, Denkin had a chip on his shoulder. During that first period, he made enemies, lots of them. But then, people began to realize that his first thoughts were for their children, and they began to warm to him. He still has enemies. I guess most of us do. But Denkin has clearly worked very hard for our kids, one way or another. And, in most cases, he has been successful.



**NAF WINS AGAIN** — For the third straight year, the NAF team defeated the team from VX-5 in the annual BATNAF game, played last Friday afternoon at Schoeffel Field. Each team put up \$50, donated to the Navy Relief Society, and seven innings were played. NAF won 1-up (4 innings to 3 for VX-5). Above, officials gathered around the keg prior to the game to discuss rules and regulations of the unusual encounter. More than 100 spectators donated \$1 each to Navy Relief to watch the game.

### Kochman Baffles Hitters In Fast Pitch League Tilt

The Hideaway softball team dropped a crucial contest to the Bud Eyre nine, 12-5, last week in the feature game of the Fast Pitch Softball League.

Romping to a quick 5-0 lead in the first inning, the Hideaway nine looked like a sure winner until the auto batsmen went to work. Smarting from the taunting of the crowd, members of the Bud Eyre team tallied 11 runs on 6 hits in the second inning to put the game on ice.

Billy Brown suffered his second loss of the season as his teammates were baffled by Bobby Kochman's flawless pitching during the last five innings of the game.

The loss dropped the Hideaway team into a first place tie with Sierra View Motors.

In other action last week, NAF tripped JD's, 9-5, in the second

### James Gang Tops Communications In Slow Pitch

The James Gang and Communications softball teams met on June 13 to decide which team would take over first place in the Slow Pitch Softball League.

Communications played well but couldn't find the handle on the ball as they blew the game to The James Gang, 4-2. Marty Denkin was the winning pitcher, with plenty of help at the plate from Art Donaldson.

In other action, the Mayflower Movers contingent dropped the Dispensary, 22-6, despite some good batting by the "Docs." Central Staff squashed any title hopes that the Movers might have been harboring later in the week when they upset Mayflower, 9-8.

Then, to further aid The James Gang, the Dispensary squad short circuited Communications, 15-11, behind the hitting of Jim Bona.

Action on June 14 saw the Pioneers pick up another win, this time at the expense of the Oly's Rollers. Reed Barlow had a perfect 5-for-5 night at the plate, including a home run, to aid in the 22-10 victory.

In the second game of the evening, Supply was soundly thrashed by The James Gang, 15-8.

### NWC Sports Notes

The Lions lead the standings in the China Lake T-Ball League after two weeks of play with a perfect 4-0 record.

Residing in second place are the Royals and the Terriers, tied with two wins each. The Astros bring up the rear with four straight losses.

**Tryouts Still Open**  
Military personnel who missed the tryouts for the fast-pitch team that will compete in the 11th Naval District softball tournament July 23-27 at the Long Beach Naval Station, can contact Marty Denkin for a special tryout.

**To Guide All Stars**  
A manager and coach for the China Lake Little League All Star team have been chosen. Bob Gritton, who manages the Tigers in the major division of the league, will be the head mentor for the All Stars, and Woody Chartier, manager of the Giants, has been selected to coach the team.

The All Star team will compete for the right to advance to the Lancaster tournament against teams from Ridgecrest, Bishop and Lone Pine, in a single elimination tournament to be held July 20-21 at the Ridgecrest Little League's Stauffer Park.

**Dodgers in Lead**  
The Dodgers won a pair of games within the past week to move into the undisputed lead of the China Lake Little League's Major Division.

In a game against the Giants last Friday, Kevin and Ed Kummerman led the assault at the plate to aid the Dodgers to a 17-8 victory. Kevin slammed a homer as his brother was getting three hits in four times at bat.

Last Monday, the Dodgers ran into a stronger opposition, barely beating the Pirates, 9-7.

The Yankees dropped a full game back of the Dodgers as they were surprised by the Red Sox, 7-5. Kenny Sorenson, a 10-year-old, slammed a home run for the Yanks.

In other action, the Yanks beat the Pirates, 8-5, and the Tigers, 14-8. The Red Sox dumped the Giants, 5-3.

The Cardinals continue to make a shambles of the league as they

### Hall Lanes To Burn Mortgage

The fifth anniversary of Hall Memorial Lanes will be celebrated at 2:30 p.m. today with a mortgage burning in the parking lot.

Rear Admiral Paul E. Pugh, NWC Commander, will preside over the ceremony, marking the freedom from financial encumbrance of the Center's 10-lane bowling house.

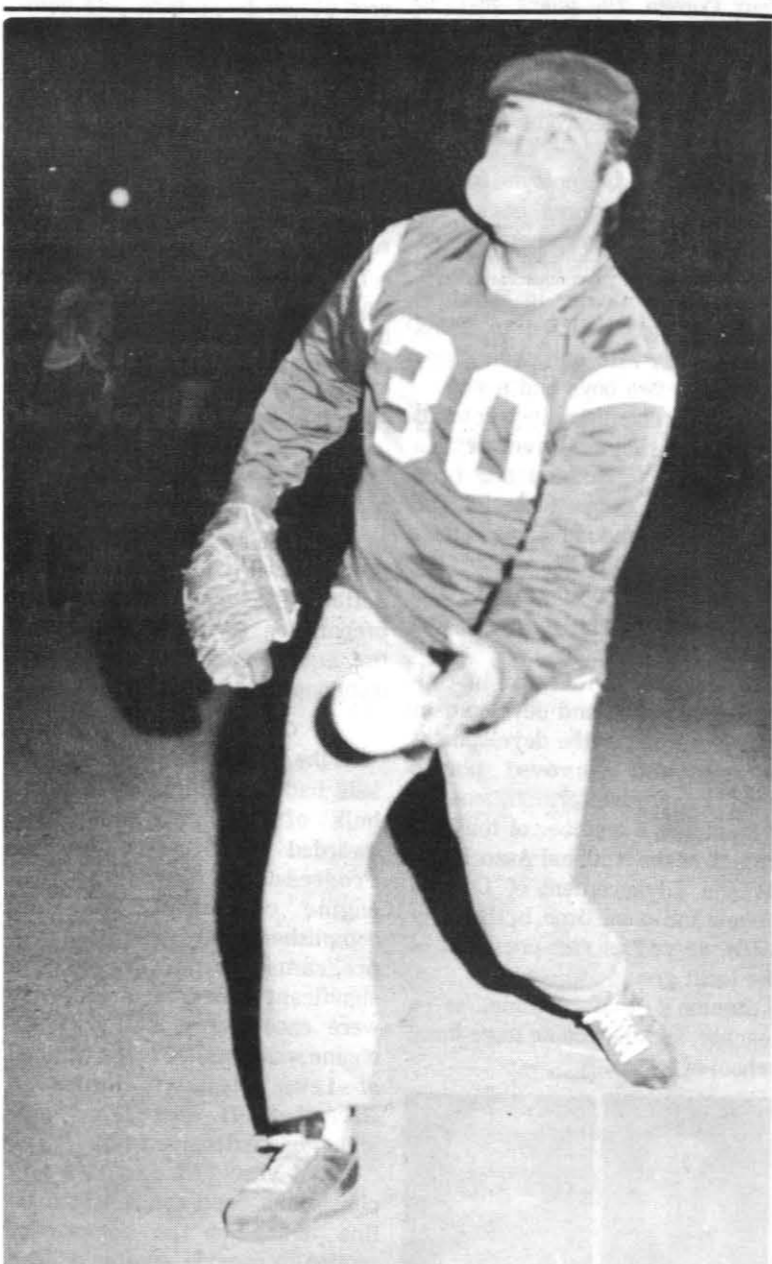
In addition, so that bowlers may realize some benefit from the anniversary celebration, Dean O. Ray, manager, has decreed that red pin bowling will be in effect the entire day, until midnight tonight. Also, Ray stated that keggers may bowl three games and only pay for two during this period.

At 10 o'clock tonight, door prizes will be given to persons who have registered during the day-long event. First prize is a bowling ball and bag, 10 free games will be given as the second award, and third place is good for five free games.

All residents and interested persons are invited to attend and join in the special events at the bowling alley.

Awards for American Junior Bowling Congress keggers will be presented tomorrow at Hall Memorial Lanes, beginning at 2 p.m.

Trophies, patches and other awards for team bowlers and individual performances will be handed out by Sherry Ray, AJBC chairman in Ridgecrest.



**BUBBLE BALL?** — Marty Denkin, pitcher for The James Gang, appears unconcerned as he merrily blows bubble gum spheres while hurling his team to a win over the Communications softball team in a recent game. The James Gang won, 4-2, and took over undisputed possession of the lead in the Slow Pitch League.

### \$7,800 Contributed to Navy Relief, Incentive Award Winners Announced

More than \$7,800 was raised, after expenses, for the Navy Relief Society during the 1973 fund drive that ended last Friday.

Ken Dalpiaz, head of the Vehicle Control Branch of the Security Department's Police Division, was selected to receive the top prize on the final day of the campaign. Dalpiaz had the opportunity to choose between a 1973 Vega GT Sportcoupe, a 1973 Vega "Woody" station wagon, or an 18 ft. Nomad tandem trailer.

In addition, because the Vega GT Sportcoupe automobile was not available locally at the conclusion of the fund drive, Cdr. R. B. Nygaard, NWC's Deputy Director of Supply, who was the coordinator of the campaign, offered Dalpiaz a fourth choice—\$3,250 in Series "E" United States Savings Bonds.

During the four-week campaign, 21 different incentive awards were offered by Navy Relief. Chuck Cordell, an engineering technician in the Atmospheric Applications Branch of the Research Department's Earth and Planetary Sciences Division, was awarded five of these prizes.

On May 26, Cordell was presented with two \$100 Savings Bonds from a list of six awards; on June 2 he received a \$25 gift certificate from Loewen's TV; on June 9, he again won a \$25 gift certificate, this one from BB's Cycle Center, and on the final day, Cordell's name was selected to receive the second grand incentive award — his choice of either a Honda Trail 90 motorcycle or two QA-50 Honda motorbikes.

As there were approximately 11,000 names that could have been chosen to receive these awards, and Cordell had entered his name 225 times, the odds against his being selected once was approximately 50 to 1. To be chosen twice shot the odds to approximately 500 to 1. But, from there on, the odds become astronomical!

The assistance of an NWC mathematician was enlisted to aid The ROCKETEER in compiling Cordell's chances. He cited the following:

To be selected for four different prizes, Cordell was bucking odds of 8,310,680 to 1, and his chances of being chosen for a fifth prize became approximately 400 million



**SECOND AWARD WINNER** — Defying astronomical odds of better than 400 million to one, Chuck Cordell accepts the keys to a pair of Honda QA-50 motorbikes, the second grand incentive award in recently concluded Navy Relief Fund Drive. Cordell's name was selected for the fourth straight week of the campaign. All told, he received five prizes during the four week period of the Navy Relief Fund Drive. Cdr. R. B. Nygaard, coordinator of the 1973 campaign, does the honors.

To further complicate matters, to be chosen at least once each week shot the oddsmakers tally to approximately 650 million to 1, and to be selected within the first three names each week—as Cordell was — shoves the odds against such a happening into the billions.

One might say that Cordell is a very lucky man, indeed.

J. P. Staples, an employee of the Systems Interpretation Group in the Systems Development Department's Guidance and Control Division, will take home the third grand incentive award. Staples selected the Litton electronic oven as his choice.

### Safety Seminar for Baby Sitters Slated June 27 at Lecture Center

As a public service, the Optimist Club of Ridgecrest-China Lake will sponsor a baby-sitter safety seminar for local youths and parents at the Burroughs High School Lecture Center next Wednesday, June 27, at 7:30 p.m.

Purpose of the seminar is to acquaint parents and baby-sitters with basic home safety, emergency procedures, emergency facilities, and the availability of emergency services.

Because this is a summer seminar, special emphasis will be

### School Assets To Be Divided...

(Continued from Page 1)

High School District's real and personal property.

Noting that the new unified school district will go into operation here on July 1, 1974, Dr. Rex Shacklett, local member of the County Committee on School District Organization, urged at Tuesday night's meeting in Bakersfield that an early cut-off date be set for the proceeding with the matter of determining the Kern High School District assets.

Under unification, all school buildings and equipment at Burroughs High and at Mesquite High (the local area's continuation high school) will automatically become the property of the newly unified school district. Still left to be apportioned, however, are the Kern High School District's cash reserves remaining at the close of the 1973-74 school year, the

### Life Insurance Premium Rates To Be Reduced

Effective on July 8, 1973, the premium rates will be reduced for all employees who carry an additional \$10,000 in optional life insurance under the Federal Employees Government Life Insurance program.

The reduction will result in the following new bi-weekly premium rates.

Under 35 years of age, 80 cents; 35 to 39 years, \$1.20; 40 to 44 years, \$1.90; 45 to 49 years, \$2.90; 50 to 54 years, \$4.50; 55 to 59 years, \$10.50; and 60 years of age and over, \$14.

There will be no change in insurance premium rates for regular Federal Employee Government Life Insurance policy holders, nor is enrollment open in this program at the present time, Geraldine Pracchia, acting head of the Accounting and Disbursing Division's Payroll Branch, noted.

Paul Wilhelm, the Aetna Insurance representative, will be at the Community Center on Wednesday, June 27, from 9 a.m. until 2 p.m.

### Aetna Agent Due

including line and staff employees of local, state and federal government, local school districts and

### Management Innovator of Year Award To Be Presented Tuesday

A talk by Dr. W. B. LaBerge, NWC Technical Director, and presentation of the R. W. Bjorklund Management Innovator of the Year award, will highlight next Tuesday's dinner meeting of the China Lake Chapter of the American Society for Public Administration.

The dinner, which is open to all interested persons, will get under way at 6:45 p.m. in the Mojave Room of the Commissioned Officers' Mess.

"Intended Management Philosophy at China Lake" will be the subject of the talk by Dr. LaBerge. The Bjorklund Award will be presented by Rear Admiral Paul E. Pugh, Commander of the Naval Weapons Center.

Objectives of the Bjorklund Award, which is presented in memory of a former head of Central Staff at the Naval Weapons Center, is to publicly recognize the employee whose contribution to management reflects an imaginative, risk-taking approach to the alteration and improvement of the management process.

A wide range of personnel are eligible for the Bjorklund award,



Dr. W. B. LaBerge

Dr. service organizations in the Indian Wells Valley. Tickets to the ASPA dinner meeting, which are priced at \$4.50 per person for non-members, can be obtained at the COM or ordered by calling either Jim Carter, at ext. 2902, or Nancy Carter, at ext. 2822. The deadline for obtaining tickets is Monday.



**CHOOSSES OVEN** — J. B. Stapler (c.), an employee of the Systems Integration Group in the Systems Development Department, decided upon the Litton electronic oven as the third prize in the Navy Relief Fund Drive. He is shown with Cdr. R. B. Nygaard (l.), coordinator of the 1973 campaign, and Pete Longo, owner of Ace-TV in the Ridgecrest Plaza Shopping Center.

### Photos Sought For Maturango Museum File

Noting that many old timers on the China Lake scene have already retired, or may be planning to retire soon and leave the area, a call has gone out from the Maturango Museum for contributions to the museum's historical file.

Photographs showing early days at the U.S. Naval Ordnance Test Station, or souvenirs of unusual events that transpired when the Station was in its infancy, will be gratefully accepted, George Silberberg, president of the museum's board of directors, stated.

Contributions can be left at the museum on week days between 9 a.m. and noon, or from 3 to 5 p.m., and on Saturdays and Sundays between the hours of 2 and 5 p.m.

# Husten Ends Long Career As Leader in Fuze Development

By Glenn I. Voran

Benjamin F. Husten, head of the NWC Fuze Department, will retire from the Naval Weapons Center next Thursday, June 28. He and his wife, Dorothy, and son, David, will be at home at Laguna Niguel, near Newport Beach.

Husten began his Federal service in 1938 when as a 21-year-old lad he went to work as a machinist at the Navy Torpedo Station in Newport, R.I. In 1939 he moved over to the National Bureau of Standards as an engineering aid.

By this time, being aware of the advantages of higher education, he enrolled in night school at George Washington University, where he received a BS degree in 1944.

In 1942 he had advanced to the rating of physicist at NBS, and in 1946 was promoted to physicist, radio



Benjamin F. Husten

engineering. His diligence in pursuit of education brought him a Master of Science degree in 1948, also from George Washington U.

Husten transferred to the Navy Bureau of Ordnance in January 1951, but returned to the Bureau of Standards in October of the same year, and the next month was sent to the Bureau's new laboratory then being established on the West Coast at Corona.

In 1953, recognizing the necessity for the fuzing of modern weapons with maximum assurance of safety, reliability and operational effectiveness, the Navy Department delegated the responsibility for technical direction for Guided Missile Fuze Research and Development to a single group—the U.S. Naval Ordnance Laboratory, Corona.

That same year Husten was assigned to supervise 12 scientists working on antennas and RF development. The next year he was named head of the Development Division, Fuze Department, and in 1957 he was selected as head of the Fuze Department.

Husten has had a major impact on the Navy's fuze program since its inception and is generally recognized as the principal technical executive whose leadership has brought about the successful culmination of both the world-wide recognized performance and continuing reputation of the NWC Fuze Department.

He is recognized in the guided missile circles by Navy, Army, Air Force, and the private industrial community both for his management expertise and significant technical inputs to operational guided missile fuzes, safety and arming devices, and associated fuze system components.

Nationally, Husten has served as Chairman of the Joint Army, Navy, Air Force Fuze Committee, and has personally made or directed a large number of technical presentations on various aspects of fuzing at the DOD, DDR&E, CNO, CNM, NAVAIR, and NAVORD levels.

His stature in the field of weapons fuzing competency is also international in scope. He has served several terms as technical advisor on the Navy Data Exchange Program with France, and as technical expert representing the United States on a cooperative program with the British for the establishment of special flight tests, and the

development of model ranging techniques.

In addition to his competence in fuzing technology, Husten's administrative ability has led to a highly efficient, closely knit group of dedicated scientists and engineers who now make up the Fuze Department at the Naval Weapons Center.

Husten has been granted two patents. He was the co-inventor of the first atomic clock; accomplished during his days at the National Bureau of Standards. He also co-invented the active/passive fuze system in 1960 for which he was presented an Incentive Award in 1965 when the full potential of this accomplishment was realized.

Among his many other honors and awards are a Letter of Commendation from Rear Admiral Masterson in 1963 for supervising the successful accomplishment of a stringent schedule on a special classified project (known only as the "ESE") for the Secretary of Defense.

In addition, he has two Letters of Appreciation—the most recent one from Rear Admiral Woods, NOSC, in 1970 for special help in preparing a presentation for Dr. R. A. Frosch, Assistant Secretary of Navy for Research and Development. The other was in appreciation for Husten's work as a member of the policy board for the Navy Laboratories' Board of Civil Service Examiners.

Last year, Husten was presented the L.T.E. Thompson Award from the Center. One unusual Memorandum Award commends him for having donated more than a gallon of blood during World War II.

He has served the Naval Weapons Center as a member of the Center Awards Committee and as a member of the Wm. McLean Awards Committee. He is resigning from the Safety Review Sub-committee.

Husten also is a member of Sigma Phi Sigma, honorary physics society, and Sigma Xi, honorary physical science society.

Husten and his wife Dorothy have four children. The two older ones are school teachers. Eileen teaches third grade in the Sunnymead District and Barbara, who earned her teaching credential this past December, teaches second grade in the Jurupa District. Both are in the Riverside area.

John, the Hustens' third child, is a student in his second year at Cal Poly, San Luis Obispo, where he is majoring in business administration. The youngest

A retirement party honoring Ben Husten has been scheduled next Thursday, June 28, starting at 4 p.m. at the Chief Petty Officers' Club. Persons interested in attending must make reservations no later than Monday by calling NWC ext. 3379.

son, David, has just completed his sophomore year at Burroughs High School.

Dave is looking forward to enrolling in Dana, a brand new high school where, he says, they have a surfing team. He also will be able to ride his 'cycle in the hills, and is real excited about the move.

Ben and Dorothy Husten were married in Washington, D.C., when he was attending George Washington University. They will celebrate their 30th anniversary in August. His mother still lives in Newport, R.I.

Husten has an interest with Bob Hamilton in a 35-foot sailing ketch, "Damarian," now berthed off Lido Isle at Newport Beach. It is a wooden-hulled ocean craft, built in Holland, plenty seaworthy and comfortable.

Having been born and raised in Newport, R.I., he was introduced early to the lure of the sea and sailing came naturally to him.

He and Hamilton also own a 20-ft. day-sailer built for speed and fun. It is used mainly by the younger generation of both families now. It occupies an anchorage at Balboa Island.

During his tour here at China Lake, when not sailing, he and Dorothy have spent many enjoyable week-ends just rambling on sight seeing trips around the local area. They have explored Burro Schmidt's Tunnel, Trona and the Randsburg area, among others. Often they start down an unknown trail just to see where it leads.

They don't have that problem now, for they know exactly where this last retirement trail is leading them!



COMMENDATION MEDAL PRESENTED—Congratulations were extended last Friday by Rear Admiral Paul E. Pugh (at right), Commander of the Naval Weapons Center, to Chief Electrician's Mate Horace L. Hamrick following the presentation of a Navy Commendation Medal to EMC Hamrick. The latter, now assigned to the Explosive Ordnance Disposal unit at China Lake, was cited for meritorious service during the period of April 22-28, 1972, while assigned as the senior enlisted man attached to EOD Unit 1, Team 37, assigned to Detachment Subic. EMC Hamrick assisted in conducting a clearing and explosive ordnance disposal operation aboard the Destroyer USS Higbee, which had been hit in its after magazine by enemy shelling. The resultant explosions scattered projectiles and powder cases throughout the area creating an extremely hazardous situation which presented a grave threat to both the ship and its personnel.

—Photo by PHAN Jerry Sizemore

## Elementary School District Summer Program To Begin

A varied and interesting summer school program will again be offered by the China Lake Elementary School District to pre-first through pre-eighth graders. The summer school program will run from Monday, June 25, through Friday, July 27. Parents who wish their children to attend the program are urged to visit the summer school office of the elementary school district at Murray School as soon as possible to register their children for the summer session.

Continuous registration also will be accepted throughout the summer school program, so a family vacation needn't mean a child will miss out completely. The primary program, pre-first through pre-eighth grades, will be held in Trona Elementary School, as well as at Las Flores School in Ridgecrest, and at China Lake's Pierce and Vieweg Schools. Children in these grades will attend summer school classes in a controlled classroom situation from 8 a.m. until noon.

Parents who miss out on pre-registration at the district office for the primary program may bring their children directly to the nearest school offering the program on the first day of summer school, or at any time during the course of the program.

A wide spectrum of activities, including arts and crafts and physical exercise, will enliven the classroom day for the youngsters in the primary program. In addition, a remedial reading clinic will be offered to children whose classroom teachers have recommended their attendance. This clinic will be held at Pierce School. Parents must sign a letter of

authorization, available through the elementary school district office, if they wish their child, who has been recommended for this program, to attend the remedial reading clinic.

Pre-fourth through pre-eighth graders will be offered a variety of elective programs to fill their summer school day, which will run from 7:30 a.m. to 12:30 p.m. Foreign languages, math, mechanical drawing, cooking, arts and crafts, archery, gymnasium activities, swimming, and golf are only a few of the classes being offered.

Children taking the elective program, which is to be held at Murray School, may pick out the classes they want. Early registration will assure a wider selection of available classes.

All students are urged to take at least four classes, and those who are to be bused must take the full program of five classes, except for Inyokern and Trona students riding the bus, who will only have time for four classes. If students from these two communities wish to take five classes they may ride with their parents to the 7:30 opening period, then take the bus home at the end of the school day.

Since students who sign up for only two or three classes will find their schedule arbitrarily filled out with other classes, pupil happiness would be more assured if each student would pick out his own full schedule, summer school officials point out. Complete information on all elective classes is available at the China Lake Elementary School District office. Students should register as soon as possible for greatest selection of classes.

## Low-Cost Turbojet Engine Developed...

(Continued from Page 1)

related experience and expertise of NASA's Lewis Research Center had much to offer.

NASA's existing design for a 1,000-lb.-thrust turbojet engine reflected a sound technical approach to achieving the low-cost requirement. The detailed cost analyses that supported NASA's design constituted an even further appealing factor. NWC and NASA engineers agreed that certain simple design modifications and an overall scale-down would satisfy the engine design and cost objectives.

In late 1969, a joint NASA/NWC engineering team was established. Together this team faced the challenge of designing a turbojet engine that could be produced in quantity for an unprecedented unit cost of \$3,500. An inflated economy and increased design complexity, which necessitated addition of a gas-generator starting cartridge and electrical power generator, have increased the estimated production cost to \$5,800.

The engine, like a solid rocket motor, is primarily intended for use in missiles rather than manned

aircraft. Consequently, NWC engineers borrowed heavily from rocket technology, rather than from aircraft engine technology, in developing a philosophy for designing, testing, and using the ordnance turbojet.

They envisioned a propulsion system that was required to perform for only a few minutes over a relatively narrow performance range—an expendable system that would operate on a one-shot basis. Further, they envisioned a factory-sealed, all-up package requiring neither maintenance nor parts replacement.

The adoption of this ordnance philosophy, and its direct application to engine development, pointed to several major areas in design, fabrication, and assembly that could realize practical cost reduction. For example, complex fuel controls are not necessary for the foreseen mission applications. Similarly, prelubricated, sealed bearings can take the place of the more sophisticated conventional lubrication system.

Since the total operating lifetime of the engine is only a few minutes, cooling requirements are less

severe. Also, since engine restart is not required, additional design simplifications can be employed. Instead of assembling components using conventional fasteners (nuts, bolts, screws, etc.), the completed engine will feature welded or bonded interface joints. Thus, it will be delivered "ready to use," needing only final mating with the airframe.

### Objectives Achieved

In terms of compactness and small size, the design objectives of the development program have been achieved. The 12.5-in.-diameter axial-flow engine is 31 in. long and weighs about 120 lb. It will generate approximately 700 lb. of thrust under static conditions at sea level. The thrust specific fuel consumption of the prototype engine is a low 1.10 lb. of fuel per hour per lb. of thrust.

The inherent simplicity of a basic turbojet engine has been preserved as there is but one rotating component: a single-stage turbine and a four-stage compressor coaxially mounted on front and rear sealed bearings. A five-stage compressor to replace the existing four-stage unit is currently being investigated to provide greater thrust (850 to 900 lb. at sea level).

### Construction Details Differ

The turbine and compressor components of the NASA/NWC turbojet engine—though functionally the same as those of a conventional engine—are markedly different in their construction details. The individually replaceable blades normally featured in conventional turbojet engines are replaced in the low-cost design by turbine and compressor stages that are integrally cast, or stamped and coined from sheetmetal. In addition, inexpensive sheetmetal is also used for the one-piece annual combustor, which is normally a costly and often-replaced engine component consisting of many parts.

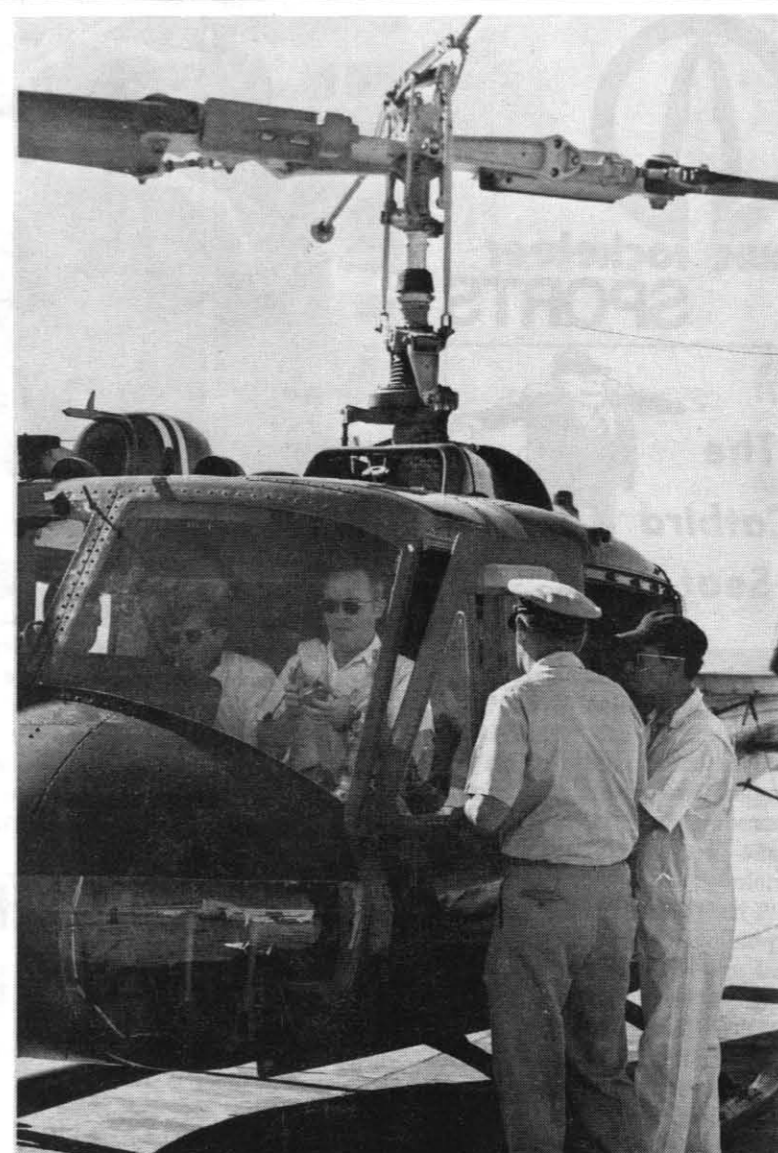
The metamorphosis from concept to hardware has been realized through coordinated effort in the analysis, design, and prototype fabrication stages. Following a detailing of the final design, the project was examined by a NASA/NWC review committee in November 1970. Design acceptance included the award of authority to proceed with fabrication. This action, in turn, initiated the preparation of specifications and the issuance of bid requests to components manufacturers.

### Contracts Awarded

At the end of fiscal year 1971, all bids had been reviewed and the bulk of contracts had been awarded to successful bidders. Progressively, fabrication of engine components was accomplished and individual test programs were begun. No significant development problems were encountered, and the first engine was installed in the test cell at Lewis Research Center in December 1971, where it has since undergone extensive tests.

Fiscal year 1972 and 1973 emphasis has been concentrated on fine tuning of the compressor section to provide greater overall engine performance.

The program, which was initiated by Dr. G. W. Leonard, head of the Propulsion Development Department, and supported by H. G. Wilson, former NWC



HERE FOR FAMILIARIZATION TOUR — Brigadier General Walter F. Daniel (seated in left front seat of helicopter) visited the Naval Weapons Center on Tuesday and Wednesday in order to acquaint himself with the Center's test and evaluation facilities. Brig. Gen. Daniel, who recently assumed duties on the staff of the Office of the Director of Defense Research and Engineering (Tactical Systems Test and Evaluation) was accompanied by Leroy Riggs, head of the Electronic Systems Department, on a flight to Echo Range where he witnessed a test program in progress.

Technical Director, is now under the management of Dr. W. B. Laberge, the present Technical Director.

### NWC Design Team

The original NWC design team, composed of personnel from the Propulsion Development Department's Advanced Technology Division, is headed by Harold Larsen, assistant for concept development. Dick Fulmer is the propulsion project engineer for the flight test program; Gary Burgner, development engineer (mechanical design and engine performance); Dr. Darrell Walker, developmental engineer (aerodynamic design and engine performance); and William Sutherland, development engineer (aerodynamics and systems integration).

Nadim Totah, Head, NWC Condor Program Office, has overall responsibility for the flight demonstration program.

NWC's long-standing role as a foremost pioneer in missile propulsion—developing a wide variety of systems for many types of missiles—has provided a firm foundation of experience for the current task. An immediate benefit of this experience was the ability of the Center's engineers to formulate necessary operating parameters and generate a complete set of design specifications for the low-cost turbojet engine in a short time span.

A secondary benefit is the growing awareness among the propulsion community that turbojet engines have a role in missiles of the future. In addition to its work with NASA on the low-cost subsonic turbojet

engine, NWC is also assisting NAVAIRSYSCOM in its expendable turbine engine program by writing specifications, developing mission requirements, and acting as technical coordinator for engine development on contract.

### Further Developments

In late 1971, contracts were awarded to Garrett/AiResearch Co., Phoenix, Ariz., and Curtiss-Wright Corp., Wood-Ridge, N.J. for Phase I development (analysis and design) of a supersonic turbojet. The projected engine design speed is Mach 1.5 at sea level, and the maximum engine diameter is 14 in. Low unit production cost is a specific program goal.

In January 1973, Phase II contracts were awarded to AiResearch, Curtiss-Wright and Pratt & Whitney to fabricate and test critical engine components.

## Headed for Peru...

(Continued from Page 1)

Negra for a day of acclimatization, and later make arrangements for porters, arrieros, and horses to transport expedition food and gear to an area not far from the base of the Chincey-Pucaranra saddle, via the Quebrada Quilcayhuanca out of Huaras.

Basecamp will be established on the saddle at approximately the 14,000 ft. level. From there, high camps will be set up from which the group will attempt climbs of Chincey and Pucaranra, both mountains above 20,000 ft. in elevation.

Beyond that, as time allows, attempts also will be made to scale other mountains in Peru. The mountain climbers will return at the end of July.



Joachim Flores Joanna Gniewek Dorothea Naumu Horace Stanton