

ARMED FORCES DAY BUS SCHEDULE

Saturday, May 20, 1961

Starting Point	Time	Destination
MAIN GATE	9 to 11 a.m.	BENNINGTON PLAZA
MAIN GATE	10 to 11 a.m.	MICHELSON LAB.
BENNINGTON PLAZA	9:30 a.m. - 12 Noon	NAVAL AIR FACILITY
BENNINGTON PLAZA	12 Noon - 4 p.m.	SNORT TRACK (3:00 p.m. firing.)
NAVAL AIR FACILITY	10 a.m. - 12 Noon	BENNINGTON PLAZA (Private cars should not be left at NAF after the air show.)
SNORT TRACK	1 to 4 p.m.	BENNINGTON PLAZA (via Michelson Lab.)

Buses will shuttle back and forth between points during the hours indicated. Visitors and residents are encouraged to use this free shuttle bus service due to the limited parking facilities in the various areas and to reduce transportation delays caused by heavy traffic.

Navy's Flying 'Brain Trust' Delivers the Tactical Goods

The American taxpayer can rest assured that the Navy will take advantage of every cent in every bombing dollar if the Air Development Squadron Five (VX-5) has anything to do about it. This flying brain trust of China Lake is charged with getting the utmost out of Navy weapons through bomb delivery tactics.

Commanded by Capt. K. S. Van Meter, their job is to develop and evaluate aircraft tactics, techniques, and procedures for the delivery of airborne nuclear and conventional weapons.

Preliminary Steps

When the Navy accepts a new weapon, the Chief of Naval Operations assigns it to the Operational Test and Evaluation Force for evaluation. Responsibility for the further appraisal of airborne attack weapons is then transferred to VX-5 officer.

A program for evaluating the delivery methods is submitted for approval and then developed into a series of tests. A detailed flight pattern is designed, defining all aspects of the flight before it ever gets airborne. The next step is the actual flight to determine how the plan works.

Rarely is a program run to completion without back tracks and repeats as new information is fed into the process. The final requirement is that ultimate delivery must be simple to perform, highly repeatable and require a minimum of maneuvers. Should it require extensive training to be understood and performed, it will be of little value to the fleet.

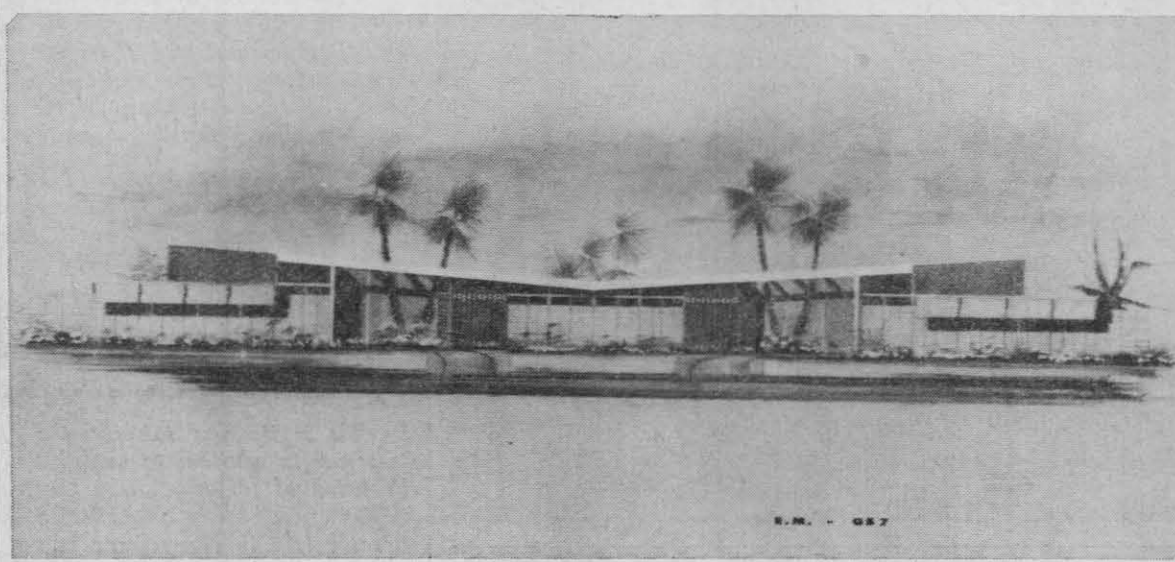
Charlie Range

Of historical interest, VX-5 got their first glimpse of China Lake when they flew 280 miles from the Naval Air Station at Moffett to use Charlie Range — a highly instrumented 15-mile bombing freeway for attack airplanes. After five years of commuting they took the big step and moved in to stay.

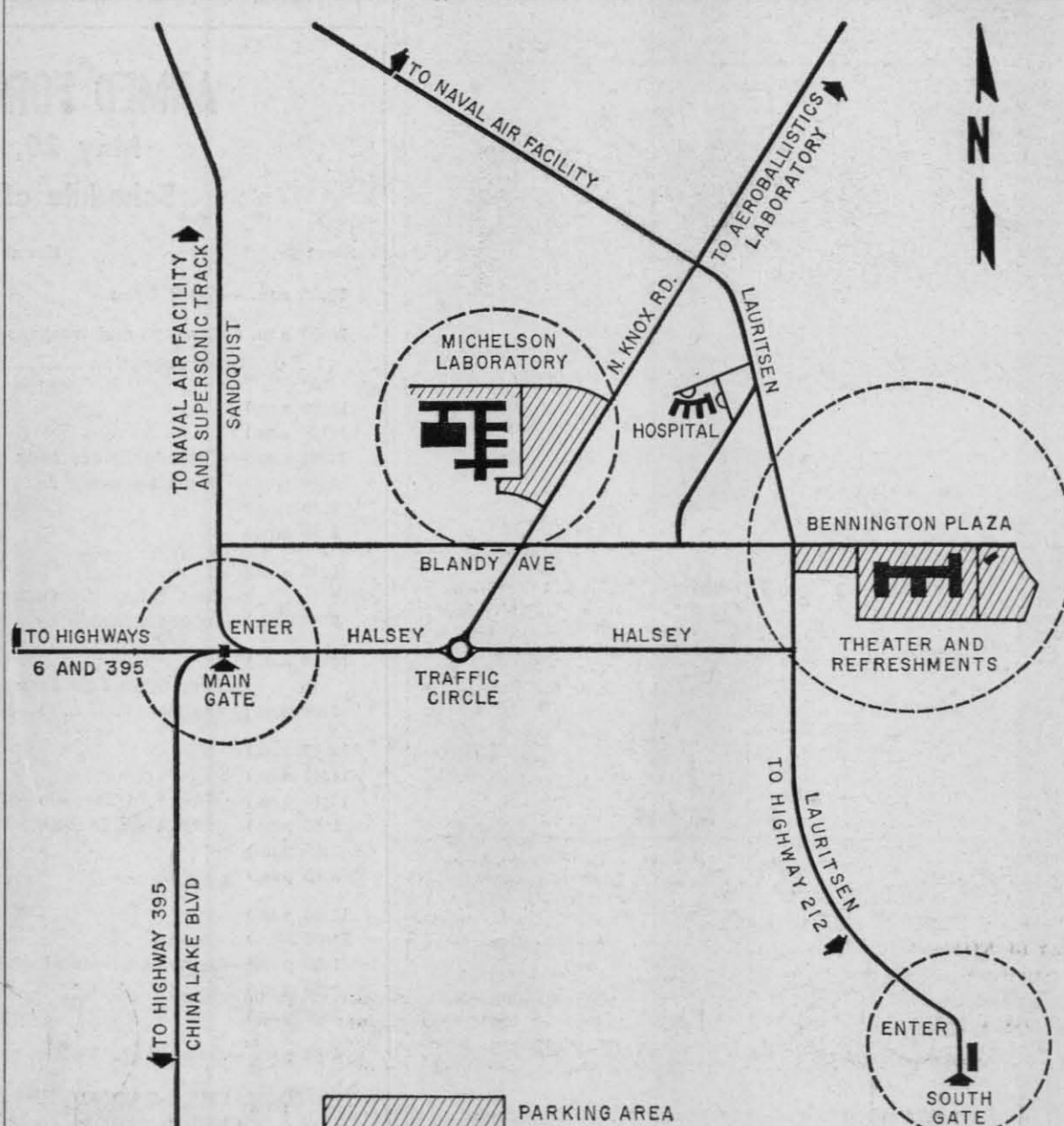
Charlie Range can record flight tactics with motion picture, radar, visual tracking, the "sky screen," and by photoelectric cells located at surveyed intervals. It has been so successful that its pattern and instrumentation has been duplicated by other branches of the armed services and some foreign military organizations.

While primarily concerned with developing new weapons delivery flight tactics, this group has exhibited other talents. A significant new idea attributed to VX-5 personnel was the recent Multiple Carriage Bomb Rack which increases the bomb-carrying firepower of an attack plane.

These airborne idea-men combine a little of the old daredevil, barnstorming, seat-of-the-pants type flying with the most modern instrumentation. They're individualists who work as a team; pioneers and inventors who work a "customer acceptance" routine for the fleet. They are an essential part of the Navy's attack team that will fly from highly mobile landing fields



CAPEHART PLAN "F"—The above sketch of a four-bedroom, butterfly roof duplex unit with single garage is one of 20 variations planned for Site "B."



Visitors and Station residents are urged to use the free shuttle bus service.

Other Events Draw Community Interest

Bennington Plaza will be the scene of several displays by NOTS departments and clubs. Exhibits have been prepared by the Coin Club, Ceramic Club, Personnel Dept. and Central Staff.

A Public Works window display will feature a landscape of the Capehart housing project now under construction near Burroughs High. A miniature model of one of the duplexes, color schemes, and elevations of some units will also be shown.

Quarter Midget Races

Quarter midget racers will hold their annual Grand Prix on Saturday at the track off SNORT Road. Time trials are at 1:30 and racing begins at 6 p.m. All classes will be represented and officials from the Hot Rod and National Dragster magazines will be on hand to cover the event.

Drag Races

The Dust Devils Auto Club will host the NHRA Regional Championship record meet at the Inyokern airport this weekend. Time trials and stock eliminator will be held all day Saturday from 9 a.m. Record run and final eliminations will take place Sunday at 2 p.m.

This event is sanctioned by the NHRA and competition from all over the southwest will arrive to vie for the \$1,500 in prizes and awards.

ARMED FORCES DAY OPEN HOUSE

Saturday, May 20, 1961

- 9 a.m.—GATES OPEN TO THE PUBLIC. NAVAL AIR FACILITY at Hangar 3 will feature Sidewinder, Zuni, Polaris, Asroc and aircraft displays. BENNINGTON PLAZA has excellent displays by NOTS departments and community activities (all day).
- 10 a.m.—MICHELSON LAB will be open for tours until 4 p.m. Technical exhibits have been prepared and chemistry "magic" will be demonstrated. Lab closes at 4 p.m. STATION THEATRE will show continuous movies until 4 p.m.
- 11 a.m.—AIR SHOW and Sidewinder firing will be concluded by 12 noon. All NAF area will then close to visitors.
- 12 Noon—LUNCH BREAK. Picnic area will be open on the parkway at Blandy and Lauritsen. Station Restaurant will remain open as long as there are patrons. Concert by the ComCruDesPac Band.
- 3 p.m.—SNORT firing. Static displays and movies may be seen at this area from 2 to 4 p.m.
- 4 p.m.—Conclusion of Armed Forces Day OPEN HOUSE activities.
- 8 p.m.—Little League and Babe Ruth League season's opening ceremonies commence at Schoeffel Field.

NAF Maintains Specialized Unit for Rescue Operations

The NAF Crash Crew, technically a small segment of the Station's fire fighters, is a well-equipped and specially trained group which operates as a Navy-Civilian team.

Under the tutelage of two civilian Fire Captains, a crew of enlisted personnel and eight civilian drivers test their proficiency through weekly drills, utilizing the latest gear and equipment.

Firefighting is, without question, a hazardous job which must be carried out under any weather conditions, and these men must regularly demonstrate their capability in order to assume responsibility in any emergency situation.

Because they are concerned primarily with the rescue of personnel from crashed aircraft, these Navy men are trained with the use of mock-up aircraft which has been fired with contaminated fuel. Their alertness and discipline becomes evident as they immediately take up their positions simulating the rescue of a trapped pilot, and simultaneously employ salvage procedures.

Equipment

The fire station at the Naval Air Facility operates one pumper truck for structural fires and three crash fire and rescue trucks. A reserve pumper and five reserve crash fire and rescue trucks are also maintained at this location.

The two largest trucks, Navy Type MB-1, carry 1,000 gallons of water and 65 gallons of foam concentrate capable of delivering 12,000 gallons of foam for combating oil and gas fires.

Fire Fighters

Present assignments within this group are as follows: First Rescue — G. E. Levy, V. D. Cook, J. I. West, E. L. Phipps, J. H. Sims and W. C. Cox. These men make the initial approach to the downed aircraft for rescue purposes.

Second rescue squad consists of: E. L. Johnson, C. V. Standard, J. F. Maxson, J. W. Basola, E. W. Smith and J. D. Wantalok. These men assist the first rescue squad by receiving the victim for dispatch to medical aid.

Turret squad members whose responsibility it is to know the technique for extinguishing fires without hampering rescue operations are: D. D. DeVoy, A. Young, M. Cochran, L. J. Talman, J. N. Van Allen, K. W. Cline, J. R. Sargent, B. D. Williams, E. Remels, L. Florins, and K. Whitehead.

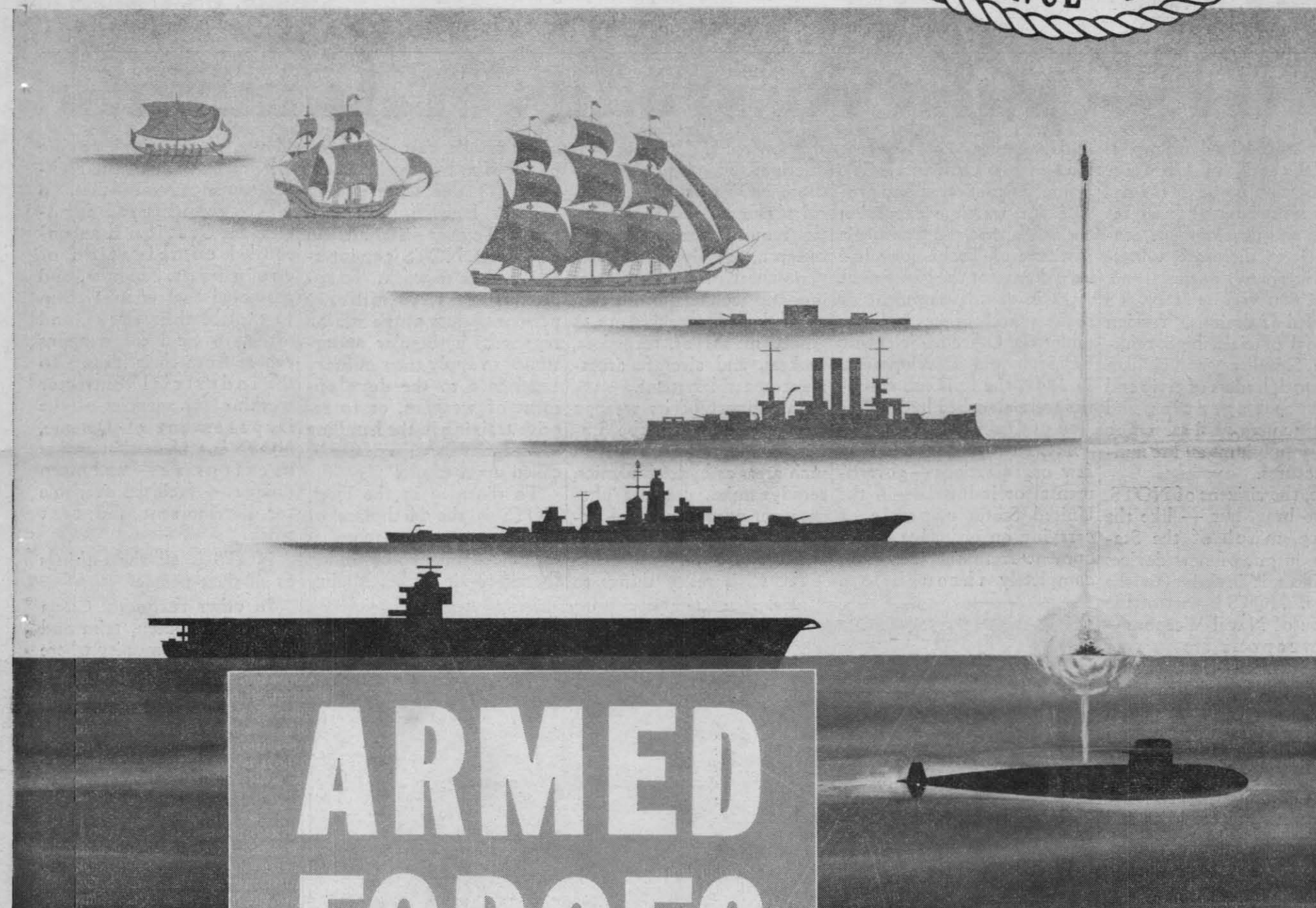
Overseers

Division Officer Lt. M. L. Chaney is the administrative head for these Navy firefighters. He is ably assisted by Division Chief C. E. Wandell, firehouse petty officer T. W. Stallman, and section leaders A. L. Tuttle and L. G. Steele, in keeping the military personnel on rotation and yet maintain an adequate crew on hand.

The splendid teamwork rendered by all concerned to make this unit function "without a hitch" is instrumental in upholding their high calibre standards.



SOUVENIR EDITION



ARMED FORCES DAY
MAY 20, 1961
China Lake, California

POWER for PEACE!

WELCOME TO CHINA LAKE



Captain W. W. Hollister
Commander, NOTS

Welcome to the U. S. Naval Ordnance Test Station. This is one of the Navy's principal centers for the research, design, development, and testing of new weapons. You will find here the latest and finest laboratory equipment for scientific research, a completely equipped machine shop, pilot plants for the development of new missile propellants and explosives, and test ranges thoroughly instrumented to record the performance of new weapons.

We are proud of our people at NOTS, a civilian-military team. They combine the latest technological advances with operational requirements of the Navy, to originate weapon ideas and carry them through all the stages of development ready for mass production by industry and use in the Fleet.

Most important of all we take pride in showing you the results of our teamwork—the effective, dependable, and economical weapons which NOTS has developed for the defense of our country. You will see an actual firing of the Sidewinder air-to-air guided missile. Air Development Squadron Five will present an air demonstration. Also, you will see a firing of a development program sled at the SNORT facility. As you tour Michelson Laboratory you will see many interesting static displays of work being conducted at NOTS such as an ASROC missile display, our latest anti-submarine weapons, and a complete Transit satellite tracking station will be on exhibition. Also on display at the Naval Air Facility will be several of the Navy's newest and fastest jet aircraft which are used in our research and development programs.

We sincerely hope that you enjoy a pleasant and informative visit.



Dr. Wm. B. McLean
Technical Director

NOTS - The Crossroads of Admirals

Commonly known as NOTS, the Naval Ordnance Test Station is one of the nation's most important research and development centers. It is, therefore, understandable why, during 1960, over 2,000 visitors at NOTS included Admirals, foreign national officials, high ranking U. S. military and civilian personnel, leaders of civic and government agencies, and scientific personnel attending local symposiums and technical lectures.

We, the citizens of NOTS, like to brag, but — like the iceberg, much of the Station's output of new devices and ideas is invisible to the public. NOTS is part of the Bureau of Naval Weapons—and weapons are part of NOTS work — so naturally some of this work is protected for the security of the nation.

The products displayed on Armed Forces Day will give you some idea of the Station's tasks. Although weapons are our business, so are ideas and experiments in basic research and advances in technology and engineering. The things you see today will give only a limited idea of NOTS products.

The Station was established

in November, 1943, by the Bureau of Ordnance. The primary function was to provide for wartime expansion of the work that the California Institute of Technology had been doing for the Navy since 1939 in the development of rockets and other weapons under the Office of Scientific Research and Development. In 1945, the CalTech activities were absorbed by the Bureau of Ordnance.

NOTS is one of the very few organizations—governmental or industrial—in the United States capable of carrying on ordnance development from the idea stage completely through to a

weapon ready for mass production. This is possible because NOTS has the technical personnel and the facilities required for conducting research, development, experimental production, testing, and technical evaluation on such ordnance items as guided missiles, torpedoes, rockets, and aircraft armament-control systems.

In support of its weapon development work, the Station conducts research in such areas as hydrodynamics, aerodynamics, deep-sea phenomena, propellants and explosives, search and detection, and astronautics.

NOTS is many things to

many people. To the 12,200 people who live in this Navy city of China Lake and in Wherry housing, NOTS is home. To over 4,500 civilian employees, NOTS is an interesting place to work. To approximately 1,200 military personnel, duty at the Station represents a singular opportunity to apply their military experience to the development of weapons, or to receive training in the handling of weapons they may later be called upon to use.

To the men in the Fleet, NOTS is the birthplace of such important weapons as the guided missile Sidewinder, the air-to-air rocket Mighty

Mouse, the antisubmarine weapon RAT, and the high-performance Zuni rocket. To NOTS scientists and engineers, the Station is an unequaled combination of equipment, facilities, and personnel that enables them to explore their ideas, and often, to see Fleet weapons evolve from their ideas. To the industrial contractor working for agencies of the Department of Defense, NOTS is a place that makes its extensive — and often unique — facilities available for development and test work.

NOTS is all these things to all these people.

In other respects, China Lake is a modern, trim and prosperous community where residents join clubs, participate in civic enterprises, have access to an excellent public school system through the high school level for students as well as adults. A graduate program in engineering and science subjects is offered by the University of California at Los Angeles. Most commodities are obtainable at its up-to-date shopping center, including restaurants and recreation centers.

THE ROCKETEER
OFFICIAL WEEKLY PUBLICATION
of the
U. S. NAVAL ORDNANCE TEST STATION
China Lake, California
Captain W. W. Hollister, USN
Station Commander

Budd Gott, Editor
Phyllis Wair, Assoc. Editor
"Tony" Goff, Staff Writer
Don Preuninger, PHAN, Photographer
Art Illustration by Technical Information Department

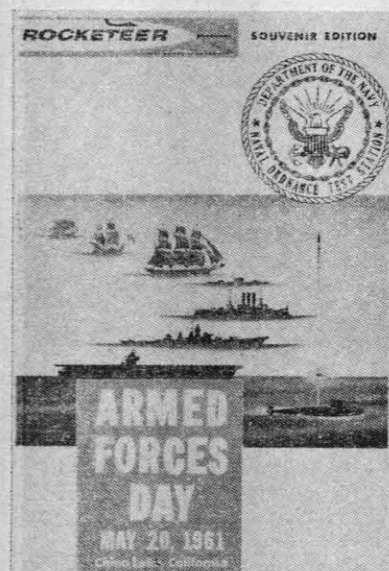
Office—Housing Building 35
Telephones 71354, 71655, 72082

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

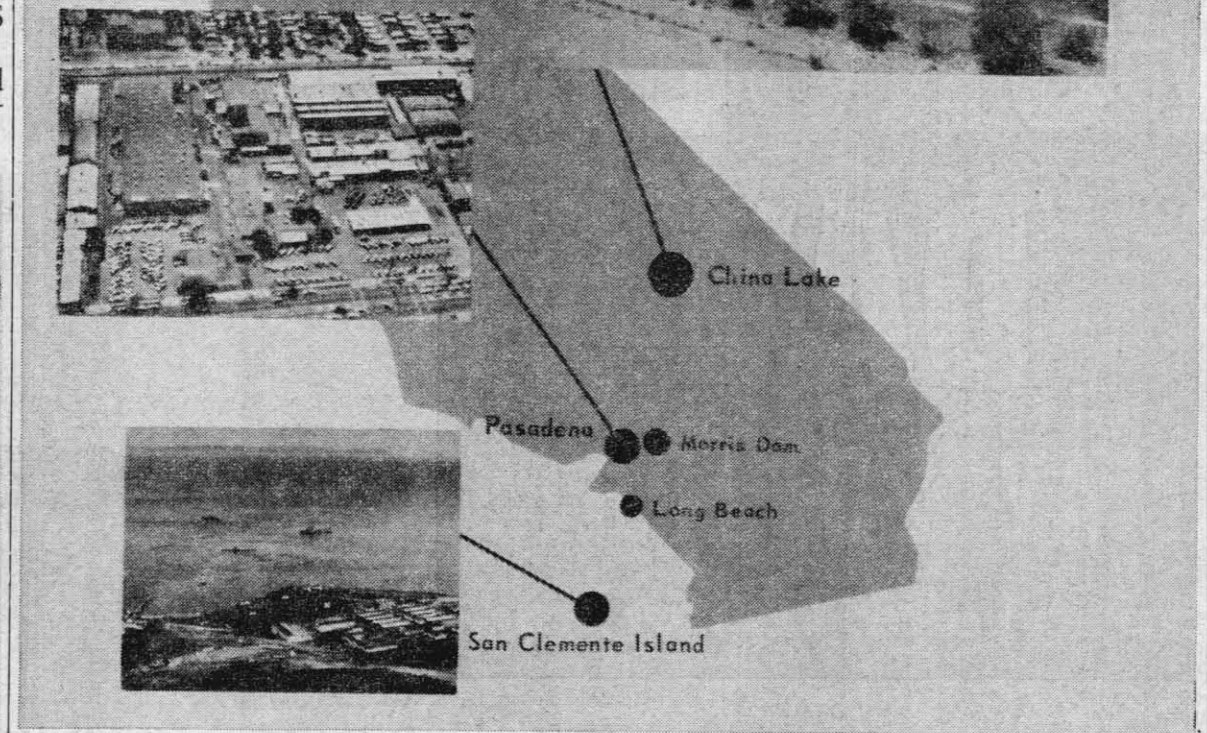
PASADENA Correspondent
Nova Semeyn
Phone Ext. 482
Shay Mansen, A. E. Black, D. Sanchez
Photographers

Printed weekly by Hubbard Printing, Inc., Ridgecrest, Calif., with appropriated funds in compliance with Navexos P-35, Rev. July 1958. The Rocketeer receives Armed Forces Press Service material. All are official U. S. Navy photos unless otherwise specified.

Cover Credit



POWER for PEACE!
Cover design by Graphic Arts Branch, Technical Information Department.



NOTS COMPLEX—Managed from headquarters at China Lake, on the Mojave Desert, the Station includes facilities in Pasadena, Morris Dam near Azusa, docks at Long Beach Naval Shipyard, and test installations and sea ranges at San Clemente Island off the Southern California coast.

U. S. Naval Ordnance Test Station, Pasadena

Welcome Aboard the Morris Dam Facility

Military-Civilian Teamwork Produces Development of Underwater Weapons

Conducting research, development, and testing of guided missiles, torpedoes, rockets, and aircraft fire-control systems, military-civilian teamwork at NOTS is producing new weapons for the Fleet.

NOTS has specialized facilities, and technical personnel to carry ordnance developments through from the inception of an idea to completed systems, ready for mass production.

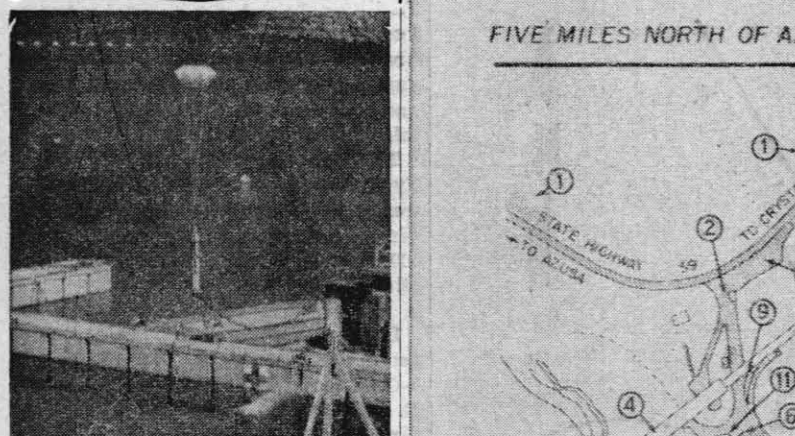
In addition to the Morris Dam Torpedo Range which you are touring today, facilities are maintained in other locations—Pasadena, San Clemente Island, and Seal Beach.

Headquarters of the Naval Ordnance Test Station are at China Lake, California—a field establishment of the Bureau of Naval Weapons. For proximity to water ranges, essential underwater ordnance work, the Pasadena laboratory is maintained.

NOTS Pasadena headquarters are at 3202 East Foothill Boulevard, Pasadena. Located here are the Administration offices, hydro-ballistics laboratory, hydrodynamic simulator, structures laboratory headquarters of Underwater Ordnance Department and divisions of Test, Engineering, Public Works, San Clemente Island, sixty miles Supply and Personnel Departments.

Sea Ranges
Underwater ordnance is tested in extensive deepwater facilities at

BOAT RIDES—A popular feature of Armed Forces Day is boat rides on the lake. Normally, this water transportation is for the Navy divers who use it to reach submerged missiles which they retrieve for, relaunching. Pictured are visitors on a tour of the lake at a previous open house. The Variable-Angle Launcher is in the left background. Missiles launched from the VAL are static, since the object of testing here is to study water-entry performance.



SLINGSHOT — A slingshot-like launcher is used at the Morris Dam torpedo range to test water-entry performance. Visitors will pass this facility while touring the lake.

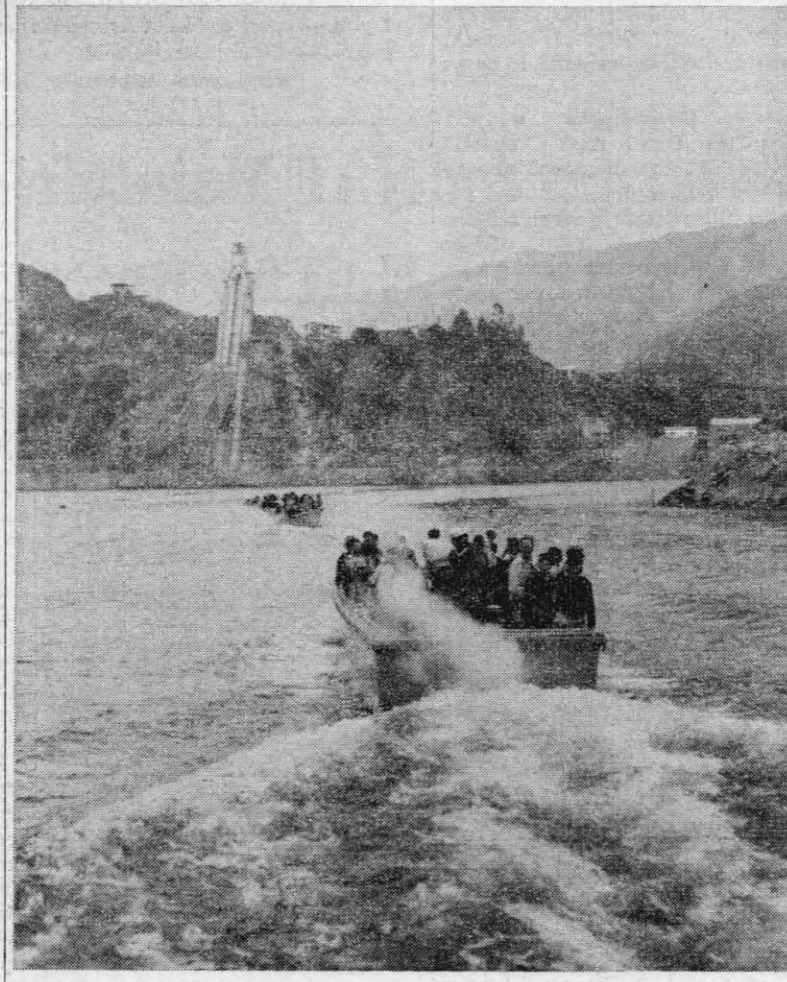


NAVY DIVER—A Navy Diver descends into the depths on a demonstration dive. Among other duties, divers at Morris Dam retrieve missiles fired from the Variable-Angle Launcher.

CAMERAS

Cameras are permitted at the Morris Dam ranges today for the first time. You are free to photograph the launchings, diving demonstrations, boat rides, and displays. We ask your cooperation, however, in respecting the restrictions posted throughout the areas and the instructions of Guides.

Thank you.



YOUR HOSTS



Douglas P. Wilcox, Head Underwater Ordnance
Capt. Charles J. Beers, Officer in Charge

A VERY WARM WELCOME is extended to each of you who today are visiting one of our facilities. We are pleased to show you one of the ranges used to develop new weapons for the Navy.

Two weapons of which you have recently heard are POLARIS and ASROC. It was just a year ago at our San Clemente Island range that tests demonstrated the ability of POLARIS to accomplish the transition from underwater launch to controlled powered flight—a step forward in the development of the Navy Polaris Missile which is now aboard nuclear-powered submarines in operational service.

A significant advance in the Navy's anti-submarine warfare program was made with the development of ASROC—an anti-submarine missile system. The Naval Ordnance Test Station, Pasadena, had technical direction responsibility for the development of the ASROC weapon system.

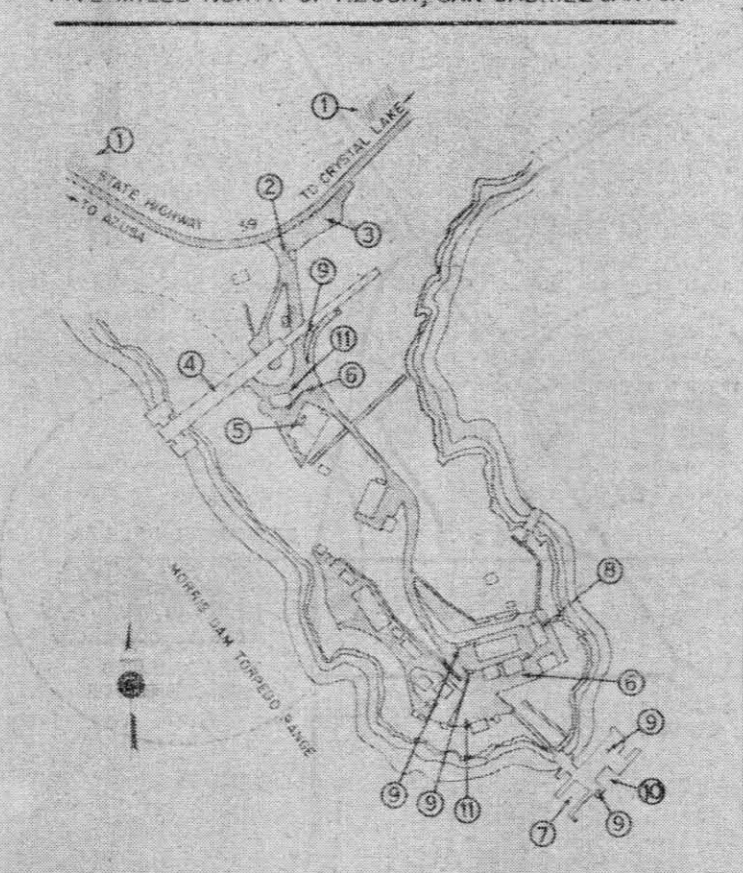
NOTS Pasadena is continuing a program of research and development in the field of underwater ordnance, including complete torpedo and missile weapons systems for the Fleet.

We invite you to visit the display area today and see these weapons. In addition to guided tours of areas here, you may watch the firing of torpedoes from the Variable-Angle Launcher—the only facility of its kind in the United States, see Navy divers in action, and tour the lake in Navy launches.

We trust your visit will be an enjoyable one and that it will give you an idea of the work done by the Navy and its civilian scientists, engineers, and technicians.

MORRIS DAM LOCATIONS

FIVE MILES NORTH OF AZUSA, SAN GABRIEL CANYON



- 1. VISITOR PARKING AREA (BUS SERVICE TO GATE)
- 2. ENTRANCE FROM HIGHWAY
- 3. PARKING AREA
- 4. VARIABLE-ANGLE LAUNCHER
- 5. MOVIES
- 6. DISPLAYS
- 7. BOAT RIDES
- 8. PROPULSION PITS
- 9. REST ROOMS
- 10. DIVERS
- 11. CANTINE

ARMED FORCES DAY May 20, 1961 Schedule of Events

Start	Event	Duration
10:00 a.m.	Gates Open	
10:00 a.m.	Displays and weapons exhibits open for inspection	Continuous
10:30 a.m.		
11:30 a.m.		
12:30 p.m.	Torpedo firings from the Variable-Angle Launcher	5 Min.
2:30 p.m.		
3:30 p.m.		
10:45 a.m.	Boat rides. (Children must be accompanied by adults.)	15 Min.
10:45 a.m.	Propulsion Lab demonstrations and exhibits	Continuous
11:45 a.m.		
12:45 p.m.	Movies in Torpedo Shop.	
1:45 p.m.	(POLARIS, ASROC, RAPEC)	55 Min.
2:45 p.m.		
3:45 p.m.		
11:00 a.m.		
12:00 N		
1:00 p.m.	Demonstrations of diving	20 Min.
2:00 p.m.		
3:00 p.m.		
4:00 p.m.	Gates close. Visitors must clear the area by 4:30 p.m.	

PHOTOGRAPHY permitted. Please observe restrictions posted. Children must be accompanied by adults.

L. A. Angels Major League Stars Guest



Ron Kline Eli Grba

Although his major league experience has been confined to only 43 games, Eli Grba has the tools to be a first-rate pitcher for the Angels. Experts believe all he needs to become a regular staff pitcher with his excellent fast ball and curve is steady work to improve his pin-point control.

The Yankees obtained him from the Red Sox and used him both as a starter and a relief. His lifetime major league record is 8-9. The Angels obtained him from the Yankees, much to the surprise of another ex-Yankee, Bob Cerv, who rates Grba very highly.

Grba, 27, comes from Chicago, Ill., weighs 210 lbs., is 6 feet 2 inches tall, and is unmarried. He bats and throws righthand, and wears uniform 33.

In 1960, Ron Kline got off to a bad start during his first season with the St. Louis Cardinals after being obtained from the Pittsburgh Pirates in a trade for Gina Cimoli, and never completely righted himself.

The big righthander started pitching professionally at the tender age of 18 and joined the Pirates when just 20 years old.

He was among the top ten pitchers in the National League in earned run average in 1956 and 1958. He pitched a no-hitter at Bartlesville in 1951.

Kline, 29, comes from Callery, Pa., weighs 198 lbs. is 6 ft. 3 inches tall, is married and has two children. He bats and throws righthand and wears uniform number 41.

Youth Baseball Season Opens Saturday Night

Official Opening Night ceremonies for the China Lake Little League and Babe Ruth League will be held tomorrow night, Armed Forces Day, at 8 p.m. on Schoeffel Field.

Highlighting this year's ceremonies, the 10th for the local Little League association, will be the appearance of two currently active members of the Los Angeles Angels major league baseball team — Eli

Grba and Ron Kline, both first string members of the Angels' pitching staff.

Obtaining Grba and Kline is the fulfillment of a dream for both Little League and Babe Ruth League officials — to have major league baseball players participate in the official opening night ceremonies. Their appearance tomorrow will be sandwiched in between a two-night doubleheader Friday night and a doubleheader Sunday for the Angels.

Traditional opening night ceremonies will consist of music by Burroughs High School Band. The program will consist of the Grand Parade of teams led by Marine and Navy Color Guards. Leading the parade of teams will be AAA League players who will be introduced by League vice-president Al Flood; AA League players to be introduced by League vice-president Bob Clapp; and A League players to be introduced by League vice-president Don Duckworth. Babe Ruth League teams will follow and will be introduced by BRL president Cdr. L. H. Lippincott.

Following the band's playing of the National Anthem and the Invocation by Chaplain Robert "Q" Jones, Harley Tillitt, master of ceremonies, will introduce the guests.

Attending will be Dr. Wm. B. McLean, Station Technical Director; Captain T. A. Grell, Commanding Officer of the Naval Air Facility, representing Station Commander Captain W. W. Hollister; Karen Hughes, Miss Little League; Cdr. Lincoln H. Lippincott, Babe Ruth League president; Bob Freedman, China Lake Little League president; vice-presidents Don Duckworth, A League; Bob Clapp, AA League; Al Flood, AAA League; Chaplain Jones; and guests of honor, Eli Grba and Ron Kline.

Following the introductions, Miss Little League will draw baseballs to determine which two BRL teams and A League teams will compete in two two-inning exhibitions of ball play.

All players have been requested to report to Schoeffel Field in uniform at 7 p.m. to greet and obtain autographs from Kline and Grba when they arrive around 7:30 p.m.



Karen Hughes Miss Little League

SHOWBOAT

FRIDAY "GORG0" Bill Travers, William Sylvester 7 p.m. (Science-Fiction) Unknown cast, but a good film about divers searching for treasure glimpsing a fantastic monster. They make a deal with a circus to capture and exhibit him but—the rest is generous excitement. (Adults-Young People) SATURDAY MAY 20 Continuous movies of Station activities and some of its products will be shown from 9 a.m. to 4 p.m. 7 p.m. A total of nine films on Station work will include: Expanding Frontiers in Ordnance, Dart, Rapec, Asroc, Snort, Terrier, Notty, Polaris, and Zuni. SUN.-MON. MAY 21-22

"ALL HANDS ON DECK" Pat Boone, Buddy Hackett, Barbara Eden, Dennis O'Keefe 6 and 8:15 p.m. (Comedy) Oil-wealthy Indian seaman goes on the warpath when his tribe "loses" a screen battle at the local movie—so he wrecks the place. Then Buddy adopts a turkey and smuggles him aboard his LST. Life in the Navy was never like this howl-fest, but it's all in fun! (Family) TUES.-WED. MAY 23-24

"THE F.B.I. STORY" James Stewart, Vera Miles 6 and 8:15 p.m. (Drama) From way back in 1924 when the Federal Investigators had only a small office, in Tennessee, Jimmy works his way through the Roaring Twenties and number-one wanted gangsters up through WW II espionage. Here's a thrilling account of G-men that is a classic. (Adults-Young People) THURS.-FRI. MAY 25-26

"RIGHT APPROACH" Frankie Vaughan, Martha Hyer 7 p.m. No Synopsis Available SATURDAY MAY 27

"CURSE OF THE WEREWOLF" Clifford Evans, Yvonne Romaine (Horror) Beggar is imprisoned by a cruel Count and is forgotten for years until a servant girl is imprisoned and escapes. Her son becomes a werewolf every full moon! In chilling color. (Adults-Young people)

THURS.-FRI. MAY 25-26

"RIGHT APPROACH" Frankie Vaughan, Martha Hyer 7 p.m. No Synopsis Available SATURDAY MAY 27

"CURSE OF THE WEREWOLF" Clifford Evans, Yvonne Romaine (Horror) Beggar is imprisoned by a cruel Count and is forgotten for years until a servant girl is imprisoned and escapes. Her son becomes a werewolf every full moon! In chilling color. (Adults-Young people)

THURS.-FRI. MAY 25-26

"RIGHT APPROACH" Frankie Vaughan, Martha Hyer 7 p.m. No Synopsis Available SATURDAY MAY 27

"CURSE OF THE WEREWOLF" Clifford Evans, Yvonne Romaine (Horror) Beggar is imprisoned by a cruel Count and is forgotten for years until a servant girl is imprisoned and escapes. Her son becomes a werewolf every full moon! In chilling color. (Adults-Young people)

THURS.-FRI. MAY 25-26

"RIGHT APPROACH" Frankie Vaughan, Martha Hyer 7 p.m. No Synopsis Available SATURDAY MAY 27

"CURSE OF THE WEREWOLF" Clifford Evans, Yvonne Romaine (Horror) Beggar is imprisoned by a cruel Count and is forgotten for years until a servant girl is imprisoned and escapes. Her son becomes a werewolf every full moon! In chilling color. (Adults-Young people)

THURS.-FRI. MAY 25-26

"RIGHT APPROACH" Frankie Vaughan, Martha Hyer 7 p.m. No Synopsis Available SATURDAY MAY 27

"CURSE OF THE WEREWOLF" Clifford Evans, Yvonne Romaine (Horror) Beggar is imprisoned by a cruel Count and is forgotten for years until a servant girl is imprisoned and escapes. Her son becomes a werewolf every full moon! In chilling color. (Adults-Young people)

THURS.-FRI. MAY 25-26

"RIGHT APPROACH" Frankie Vaughan, Martha Hyer 7 p.m. No Synopsis Available SATURDAY MAY 27

"CURSE OF THE WEREWOLF" Clifford Evans, Yvonne Romaine (Horror) Beggar is imprisoned by a cruel Count and is forgotten for years until a servant girl is imprisoned and escapes. Her son becomes a werewolf every full moon! In chilling color. (Adults-Young people)

THURS.-FRI. MAY 25-26

"RIGHT APPROACH" Frankie Vaughan, Martha Hyer 7 p.m. No Synopsis Available SATURDAY MAY 27

"CURSE OF THE WEREWOLF" Clifford Evans, Yvonne Romaine (Horror) Beggar is imprisoned by a cruel Count and is forgotten for years until a servant girl is imprisoned and escapes. Her son becomes a werewolf every full moon! In chilling color. (Adults-Young people)

THURS.-FRI. MAY 25-26

"RIGHT APPROACH" Frankie Vaughan, Martha Hyer 7 p.m. No Synopsis Available SATURDAY MAY 27

"CURSE OF THE WEREWOLF" Clifford Evans, Yvonne Romaine (Horror) Beggar is imprisoned by a cruel Count and is forgotten for years until a servant girl is imprisoned and escapes. Her son becomes a werewolf every full moon! In chilling color. (Adults-Young people)

THURS.-FRI. MAY 25-26

"RIGHT APPROACH" Frankie Vaughan, Martha Hyer 7 p.m. No Synopsis Available SATURDAY MAY 27

"CURSE OF THE WEREWOLF" Clifford Evans, Yvonne Romaine (Horror) Beggar is imprisoned by a cruel Count and is forgotten for years until a servant girl is imprisoned and escapes. Her son becomes a werewolf every full moon! In chilling color. (Adults-Young people)

THURS.-FRI. MAY 25-26

"RIGHT APPROACH" Frankie Vaughan, Martha Hyer 7 p.m. No Synopsis Available SATURDAY MAY 27

"CURSE OF THE WEREWOLF" Clifford Evans, Yvonne Romaine (Horror) Beggar is imprisoned by a cruel Count and is forgotten for years until a servant girl is imprisoned and escapes. Her son becomes a werewolf every full moon! In chilling color. (Adults-Young people)

THURS.-FRI. MAY 25-26



GOLF CHAMP—Dale Mead (center) accepts a permanent trophy from RAdm. P. D. Stroop for his top performance on the links during the annual Stroop Tournament. Capt. Hollister waits to offer his congratulations on Dale's low net of 135 over the 36-hole event which drew 68 entries.

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. Editorial Clerk (Typing), GS-3 or GS-4, Code 5002—Preparation of typewritten manuscripts and reports. General Engineer, GS-12, PD No. 13923, Code 5552—Primarily responsible for the design, development and documentation of auxiliary equipment for guided missiles and other weapons. File applications for above positions with Pat Gaunt, Room 31, Personnel Building, Ext. 7-1393.

Clerk (Dictating Machine Transcribing), GS-4, PD No. 93010, Code 3012—Includes typing of messages, memos, official letters, test reports and experiment specifications. Procurement Clerk, GS-4, PD No. 125007, Code 2507—Duties relating to the inventory control and procurement of grocery items. File applications for above positions with Fawn Haycock, Room 34, Personnel Building, Ext. 7-2032.

Secretary (Steno), GS-6 or GS-7, PD No. 18334Am-A, Code 11—Secretary to the Executive Officer; gathering and presenting information, preparing correspondence, screening visitors and telephone calls, dictation, files and publications, screening correspondence and messages, Station Journal, miscellaneous. Clerk-Steno, GS-4, PD No. 12887, Code 654—Takes dictation and transcribes letters for the entire Division. Coordinates station tours that are related to the Employee Development Program. Secretary (Steno), GS-5, or Clerk-Steno, GS-4, PD No. 100001, Code 00—As assistant to the Aide to the Commander, provides secretarial services in the Office of the Commander. Assumes full responsibility for the office during the absence of the secretary to the Commander. Supv. Aero. Rkt. Power Plt. Res. Engr., GS-13, PD No. 31630, Code 4515—This position is that of Head, Engineering and Development Branch, Propulsion Dept. File applications for above positions with Dixie Shanahan, Room 26, Personnel Building, Ext. 7-2676. Deadline date for all applications May 26.

Coming Events NROC 11-1 meeting will be held May 24 at 7:30 p.m. in Conference Room A, Mich. Lab. Mr. J. F. Reeves, Jr., Head of Intelligence, IIND Intelligence Office, will speak on "Counterintelligence." Photo Society Theme of the annual studio night and open house of the China Lake Photographic Society to be held next Thursday at 8 p.m. will be "A Night in the Far East." There will be plenty of flood lighting on local Oriental models and on a typical Far Eastern set with accent on Japan. Studio night will be held at the Supervisors Hut on King Ave. between S. Knox Rd. and Parsons Rd. There is no admission charge... just bring your camera.

IDES OF MARCH When the soothsayer warned Julius Caesar to "Beware the Ides of March" he was referring to March 15 of the Roman calendar, the day of the full moon.

Supv. Aero. Rkt. Power Plt. Res. Engr., GS-13, PD No. 31630, Code 4515—This position is that of Head, Engineering and Development Branch, Propulsion Dept. File applications for above positions with Dixie Shanahan, Room 26, Personnel Building, Ext. 7-2676. Deadline date for all applications May 26.

Coming Event If you want to see softball played like it has never been played before you definitely will not want to miss the California Cuties during next week's visit on May 28. This male high-kicking chorus is scheduled to appear at Schoeffel Field at 8 p.m.

Cactus Squares End Season at '20s' Dance The China Lake Cactus Squares will host the last dance of the season tomorrow in the Community Center at 8 p.m. The affair will be co-hosted by the Panamint Promenaders from Trona.

SUPERVISORS ASSOC. INSTALL—William C. Danley has been re-elected president of Local No. 28 of the National Supervisors Association. Members participating in the installation ceremonies which were held at the Station Restaurant last week (1-1) are: Gus Mead, installing officer; Danley; Dick Lewis, vice president; and Manny Turse, emcee.

Mail Carriers Face Delivery Dilemma China Lake residents living in the new Normac and Letourneau quarters which are now being painted are requested by the local postmaster to provide a temporary mail receptacle during this period. Mail carriers are unauthorized to leave mail where there are no containers. The problems are multiplied by the absence of house numbers which were taken down or covered by new paint. Temporary receptacles and house numbers should be displayed or the mail carrier is instructed to return mail to the post office general delivery. The postmaster will hold mail for ten days before returning it to the sender.



WELCOME ABOARD—SecNav Connally arrives at NAF where he is greeted by Dr. McLean, Technical Director; Capt. Quensé, Executive Officer (r); and Capt. Hollister, Station Commander in background.

SecNav Connally Gets First Look at Research Outpost

The Honorable John B. Connally Jr., Secretary of the Navy, alighted from a Douglas DC-6 last Saturday morning to be greeted by the warm desert climate which graced his four-hour whirlwind tour of the Naval Ordnance Test Station. The Secretary, accompanied by Congressman Harlan Hagen, was met at the Naval Air Facility by RAdm. P. D. Stroop, BuWeps Chief, Capt. W. W. Hollister, Dr. Wm. B. McLean and Capt. J. A. Quensé. LCDr. L. H. Pollard, who flew the visitors in on a non-stop flight from Washington, D.C., took a keen interest in this tour as he renewed acquaintance with Capt. Hollister, who gave him his first aircraft commander designation during duty at NAS, Moffett Field, with Transport Squadron Three (VR-3).

NOTS was selected as the first stop on a tour of Eleventh Naval District activities. Review of the Station's technical facilities was preceded by a birdseye view of the community. The distinguished visitor was apprised of our interest in the Navy's mission as aptly portrayed in the NOTS prepared films "Expanding Frontiers in Ordnance" and "Weapons for Limited War."

An extensive exhibit, set up in adjacent conference rooms in Michelson Laboratory, gave the Secretary a view of the diversification employed in various weapons systems. Following a tour of Michelson Lab, the Secretary was briefed by Cdr. I. A. Robinson of the Weapons Planning Group on "Light Attack Aircraft Requirements." Secretary Connally was visibly impressed by the enthusiasm which bonds the scientists, engineers and military officers working together as a team. "Even in my short stay with you here," he stated, "I have again been convinced of the great power generated by men and women

(Continued on Page B-2)

Sidewinder Firing

Aerial Show to Open Armed Forces Day Fete

The first air show in three years will highlight Armed Forces Day for the thousands of visitors expected to attend the 11th annual event tomorrow as the Station opens its gates to the public at 9 a.m.

Visitors will find the air show and the ComCruDesPac band added attractions to the day long "open house" of the Station's technical facilities which are necessary to its research, development, test, and evaluation programs. The end products of these programs will be on exhibit in Hangar 3 at the Naval Air Facility, in Michelson Laboratory, and at SNORT Track.

Suggested Tour A suggested tour for the Armed Forces Day visitors to enable them to see as much as possible would be: First — Visit NAF Hangar 3 where Technical Information Department prepared exhibits of Sidewinder, Zuni, Polaris, and Asroc will be shown and displays of the Navy's latest aircraft by NAF and VX-5. Remain for the air show which starts at 10:30 a.m. and the Sidewinder firing at 11 a.m. Second — Lunch at the Station Restaurant at the corner of Blandy and Lauritsen or use the picnic area adjacent to the Station Restaurant and listen to the ComCruDesPac band.

Third — Visit Michelson Laboratory to view the many scientific displays and see the IBM 790 electronic computer in action. Fourth — Visit the SNORT Track to inspect displays, view films, observe a RAPEC personnel ejection seat test at 2:45 p.m. and a tied firing at 3 p.m. Air Show A line-up of the world's top bomber and fighter aircraft, capable of delivering either nuclear or conventional weapons, will be put through their paces in loft bombing techniques by Air Development Squadron Five pilots.

A tentative schedule for the air show calls for the following events: The pilots, wearing their orange colored flight suits, will man their aircraft at 10:30 a.m., taxi out to 10:40, and takeoff from the runway adjacent to the observation area at 10:45. Marine pilot Maj. Hal Vincent will show the versatility of the Douglas A4D Skyhawk as he puts it through a capability demonstration. Actual loft bombing techniques employed by VX-5 will be demonstrated by LCDr. Del Hughes flying an A4D and LCDr. Carl Austin piloting a North American FJ4-B, the Navy's version of the reknowned Air Force's F-86 which made history in Korea.

The Navy's in flight "buddy system" of refueling will be demonstrated by Lt. Bob Rice, who will fly the A4D tanker, and Capt. Carl Van Meter or Lt. Bob Boyd, who will pilot the receiving craft. If the world's record-breaking McDonnell F4H Phantom II is available Capt. Van Meter or LCDr. Walt Carlin will put it through its capability paces. Lt. Georges LeBlanc whose FJ4-B is a mere speck in the sky at 30,000 feet will provide a dramatic thrill for the visitors when he comes screaming down to within 500 feet of the ground before he pulls up in a high dive bomb demonstration. Following NAF's firing of a Sidewinder missile from an FSU at a target rocket, a flyby of all participating aircraft will conclude the show.

RESEARCH HAVEN—This new propulsion research facility located north of the Michelson Laboratory permits the Station's Aerothermochemistry Group to conduct tests previously limited due to the noise and safety factors peculiar to these operations. The building will be open for inspection tomorrow.

ROCKETEER

BUDD GOTT, EDITOR PHONES 71354, 72082, 71655 OFFICE, HOUSING BLDG., TOP DECK Vol. XVII, No. 20 NAVAL ORDNANCE TEST STATION, CHINA LAKE, CALIFORNIA Fri., May 19, 1961

Great Test Strides Assured Within Propulsion Research Laboratory

The areas of research encompassed within the NOTS boundaries are many and from these sources have emanated a number of scientific "firsts." Our scientists' approach to problems in their field is to investigate, and history repeats itself as their determined efforts open new vistas of experimentation.

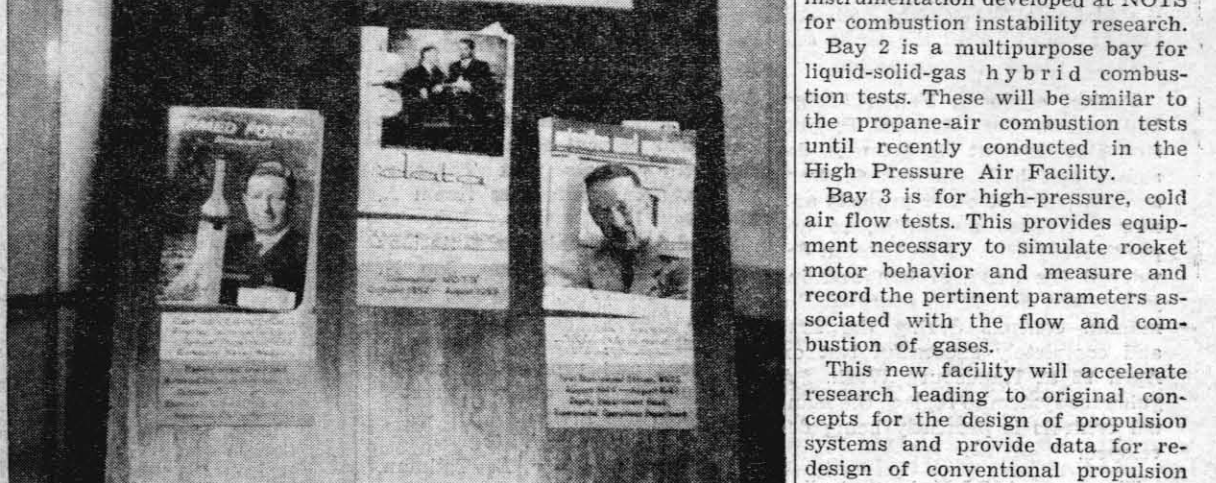
Such is the prelude to the recently completed Propulsion Research Laboratory operating under the guidance of Ed Price, Head of the Aerothermochemistry Group in the Research Department. The immediate objective of this laboratory construction was not to initiate, but rather to increase propulsion research activities which have been carried out on a limited scale for some time. This new facility, the first of its type in the nation, was Ed Price's brain child. Mental calculations multiplied as he envisioned facilities expansion to accommodate the heavy demand for propulsion studies.

The Aerothermochemistry Group had previously performed propulsion studies in the Michelson Laboratory, but noise and safety considerations severely limited the scope of operations. Simulation of live firing conditions were also being carried out in a building approximately three miles from the Group's laboratory. The geographical break from the test process to the laboratory-office site was not conducive to research continuity.

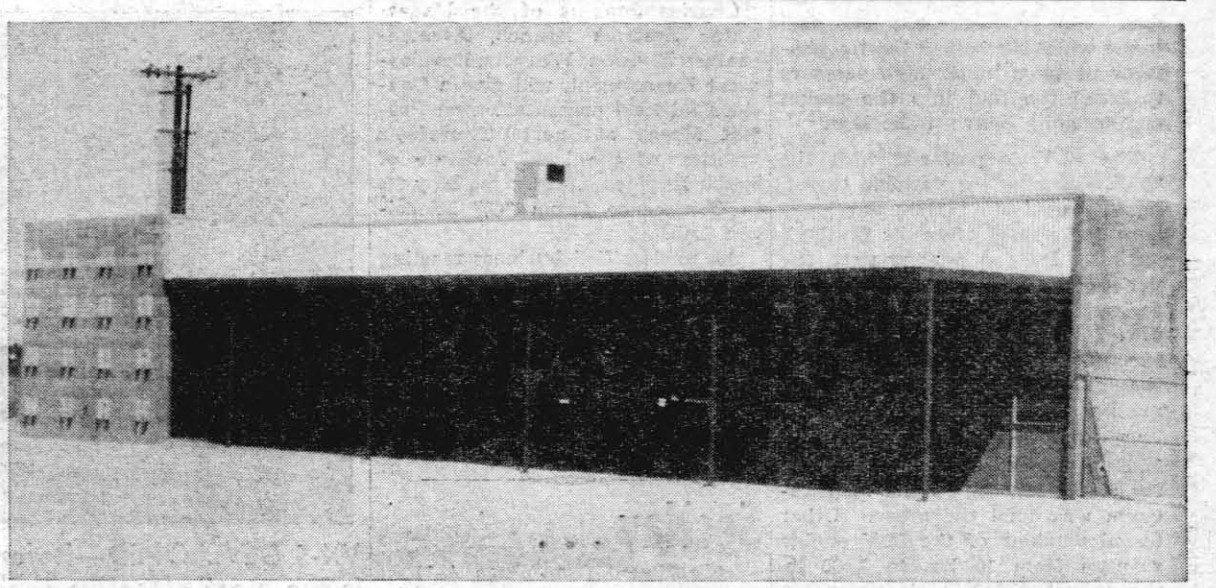
Need Defined Recognizing that this situation could produce a deficiency in forthcoming missile propulsion investigation, Price spearheaded the task of obtaining authorization and funding for the proposed facility. The Bureau of Naval Weapons agreed that a laboratory was highly desirable for the study and evaluation of propellant characteristics, performance characteristics of particular missiles, simulation of live firing conditions by high pressure air flow, and component evaluation. Construction began in August 1960 and the building was completed January 1961. Built at an approximate cost of \$150,000, the 4,000 square-foot lab was accepted in April and combustion instability studies were immediately resumed.

Safety Features James E. Crump, a physicist in the Aerothermochemistry Group, was responsible for the general design, layout, and selection of features. The preparation room adjacent to Bay 1 is for use in preparing propellant charges for firing. This includes trimming small propellant grains to length, application of special inhibitors, and shrink-fitting grains into burners. Bay 1 is used for solid propellant combustion tests. These tests consist of burning small charges in experimental burners with high speed instrumentation developed at NOTS for combustion instability research. Bay 2 is a multipurpose bay for liquid-solid-gas hybrid combustion tests. These will be similar to the propane-air combustion tests until recently conducted in the High Pressure Air Facility. Bay 3 is for high-pressure, cold air flow tests. This provides equipment necessary to simulate rocket motor behavior and measure and record the pertinent parameters associated with the flow and combustion of gases.

This new facility will accelerate research leading to original concepts for the design of propulsion systems and provide data for redesign of conventional propulsion systems.



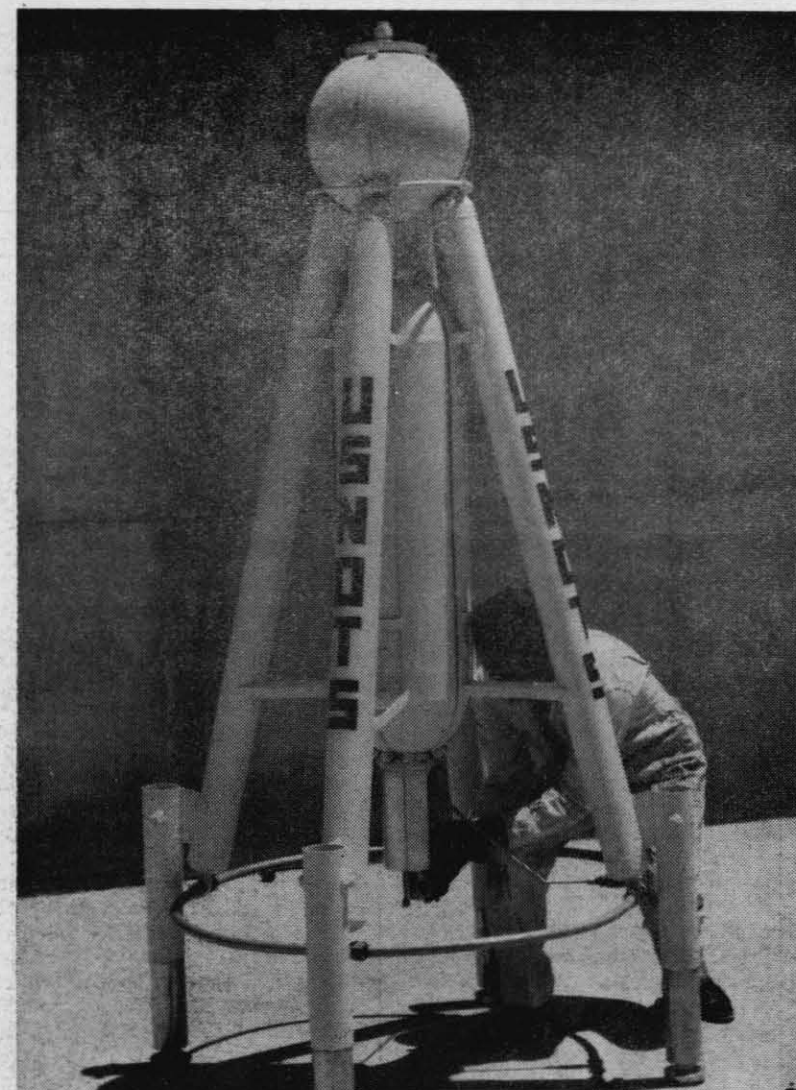
IN THE LIMELIGHT—Former NOTS Naval Officers have appeared on the front cover of technical magazines in the last few months, according to a display in the North Lobby of Michelson Lab arranged by the Presentations Divisions of TID. Shown above (l-r) are: Capt. Levering Smith appearing on the March issue of Armed Forces Management Magazine; RAdm. Paul D. Stroop, shown on February cover of Data Magazine, was NOTS Commander from October 1952 to August 1953; and VAdm. John T. Hayward, shown on the March 13 issue of Missiles and Rockets, was the first NOTS Experimental Officer from August 1944 to August 1947.



RESEARCH HAVEN—This new propulsion research facility located north of the Michelson Laboratory permits the Station's Aerothermochemistry Group to conduct tests previously limited due to the noise and safety factors peculiar to these operations. The building will be open for inspection tomorrow.

Savings Bond Week Starts Next Monday

Payroll Savings Authorization cards are being distributed with pay checks today to help boost the Savings Bond Week drive at NOTS next week, May 21-27. The cards should be filled out and mailed to Code 1762.



NOTTY ALSO SERVES — A NOTS-acquired porpoise is the subject used by Navy scientists for hydrodynamic and physiological tests in the study of sea animal locomotion. If its characteristics can be applied to the design of torpedoes and submarines, it would save taxpayers millions of dollars in navy fuel bills.



SLV PROTOTYPE — The concept of a craft that some day may land a delicate instrument package on the moon is designed, developed and tested at NOTS.

Soft Landing Vehicle Marks Experimental Breakthrough

As an outgrowth of research sponsored by the Marshall Space Flight Center, NASA, and the Bureau of Naval Weapons, NOTS has designed, developed and tested a

rocket-propelled soft-landing vehicle (SLV) which has risen off the ground, hovered in mid-air, and landed under complete control.

This is the first rocket-powered vehicle to take off and land gently—a feat vital for putting men and instruments on the moon and planets—under its own power.

Project engineer, Felton (Toby) Williamson, Code 4515 of Propulsion Development Department, designed and built the vehicle from surplus parts of other projects and new purchases amounting to approximately \$400. Tom Preston developed the servo system and injector, and Jim Mills operated the manual controls during the first and completely successful test on April 28 at Randsburg Wash. A guidance system to replace the manual controls is presently being developed.

The present SLV is controlled through an umbilical cord. Future SLVs will not be restricted in flight by cables, and will utilize an optical sensor control self-guidance package. This device will determine the proximity of the ground, control the rate of descent and vehicle attitude, and direct the soft-landing approach.

The 8-foot tall, soft-landing vehicle prototype looks like a bowling ball perched on a bar stool, and weighs 700 lbs. fully loaded, 400 lbs. dry. The four legs are slim fuel tanks while the ball at the top contains nitrogen under high pressure to force the fuel into the rocket engine slung between the legs.

The SLV is powered with the "NOTS Engine"—a variable thrust, liquid propulsion system developed here and named after the Station's initials. Its one moving part, the variable area injector, controls both fuel and oxidizer in the proper ratios. The engine uses hypergolic fuels which ignite when mixed, and the engine is capable of an infinite number of re-starts.

The SLV propulsion is capable of 1,300-lb. thrust, more than ample for a soft landing in the near vacuum around the moon. Other tested versions of the SLV engine range from 10 lbs. to 3,500 lb. thrusts. A 20,000 lb. thrust engine is under study.

When man goes to the moon, an adaptation of the SLV could lower him and his return rocket to the lunar surface undamaged.

UCLA Off-Campus Students to Deliver Project Reports

Graduate students in Engineering who are currently enrolled in Engineering 299, Research in Engineering, under the UCLA off-campus graduate program at China Lake will present reports on their research projects next Thursday at 1 p.m. in Conference Room A, Michelson Lab.

Scheduled to make presentations are Ronald A. Erickson, Jon N. Leonard, Henry T. Sampson, Richard O. Slates, William H. Smith, and James A. Weeks.

Present and prospective graduate students and other interested employees are invited.

Counselor Visit
Professor Harry L. Tallman, UCLA Counselor, will visit the Station May 25 and will be available for student counseling during the afternoon. Students majoring in mathematics or the physical sciences who wish to discuss their programs may arrange appointments through the Education Office, Ext. 71759.

IRE Group to Hear Project Moray Talk

Charles Jenkins of the Underwater Systems Branch, Aeromechanics Division, Weapons Development Department, will give a Confidential level presentation on Project Moray at next Thursday's meeting of the local Institute of Radio Engineers, at 8 p.m., May 25, in Conference Room "C," Michelson Lab.

An unclassified business meeting will precede the program at which nominations will be made for election of officers for 1961-62.

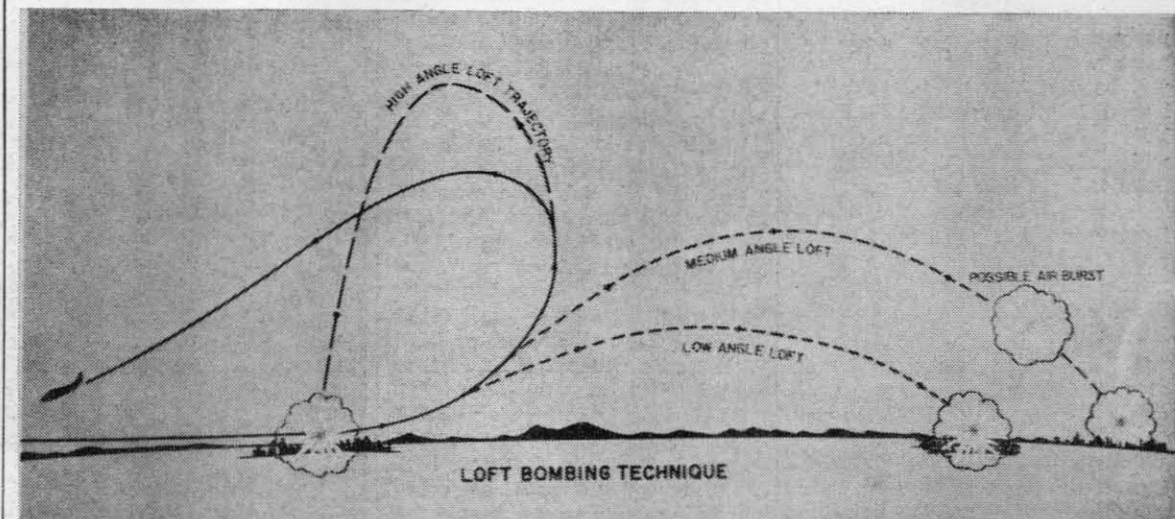
The lecture will cover not only the electronic aspects of the subject, but will include mission, design goals, present status and future plans.

SecNav . . .

(Continued from Page A-1) doing "things for their country." The marriage of imagination and science with the hard facts of life are producing here ideas and weapons systems which the Navy needs and can use."



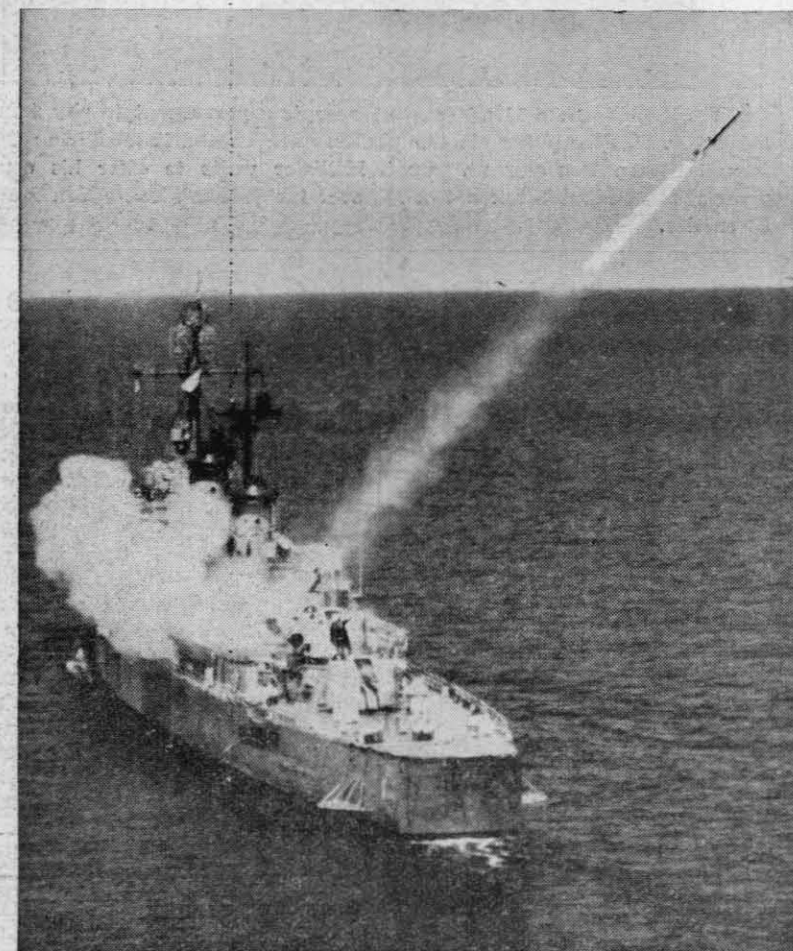
CALEB—Under the fuselage of a McDonnell F4H Phantom II fighter model, Sparrow air-to-air missiles flank the NOTS-designed and developed Caleb which can be launched from any point in the world that is accessible to the Navy's aircraft.



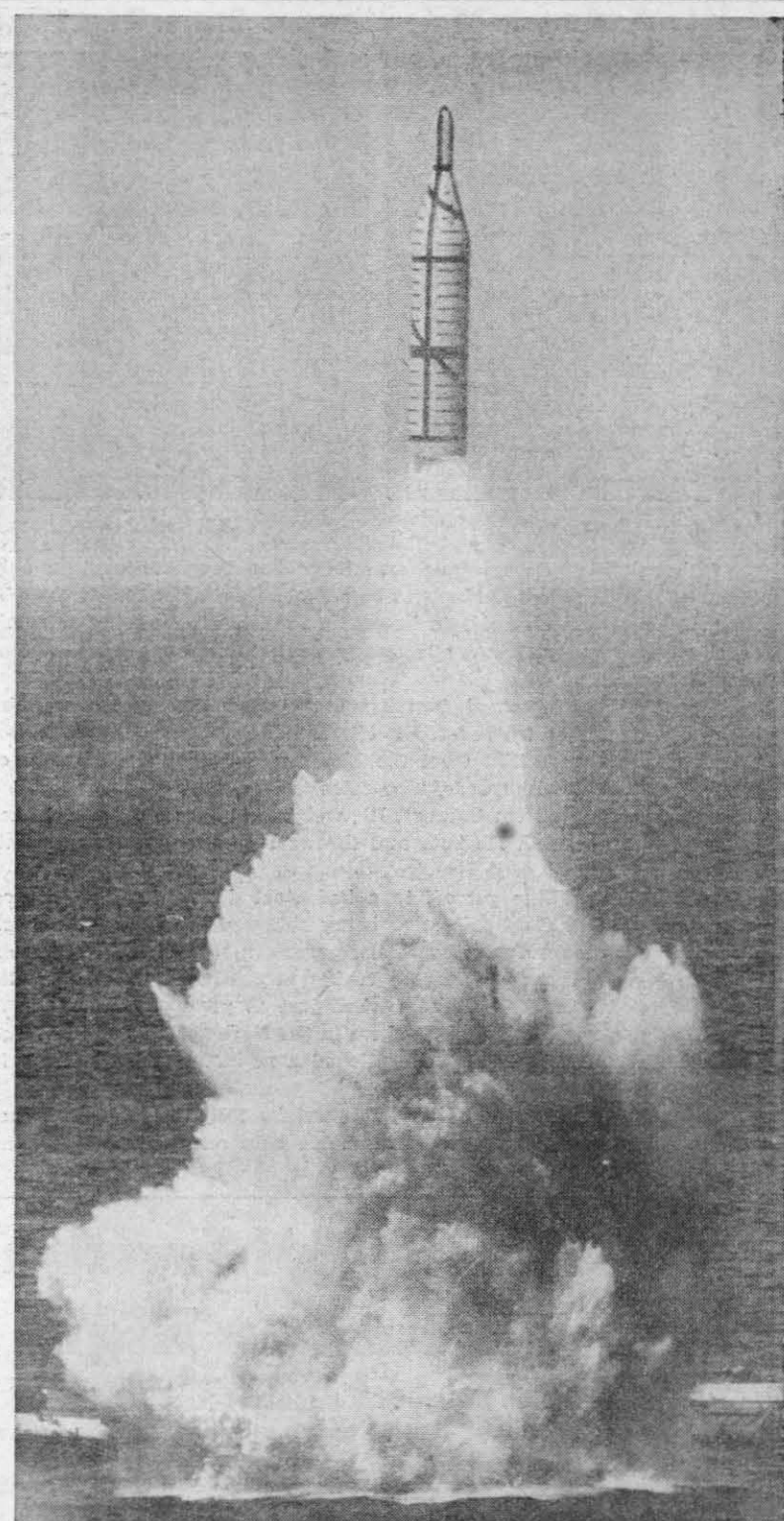
VX-5 DEVELOPED—Referred to as the "idiot loop" by delivery pilots, loft bombing is the most effective technique yet devised by the VX-5 Squadron to permit pilots to get away safely after releasing conventional or atomic bombs. As the bomb is tossed toward the desired point of impact, the attack airplane continues up and over into a backward loop, escaping the blast effect of the bomb. Armed Forces Day visitors will have an opportunity to see these techniques demonstrated.



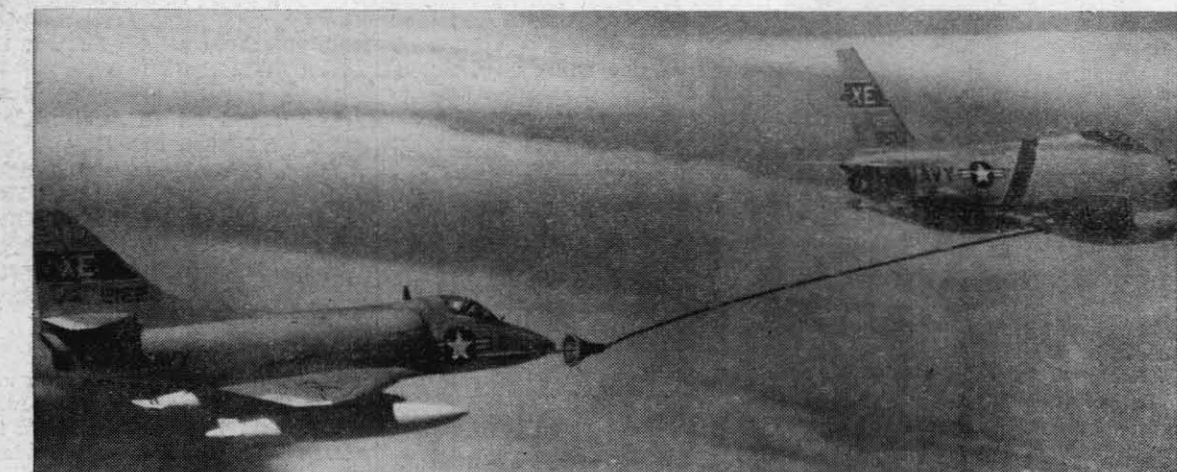
SIDEWINDER — The only American air-to-air missile ever used in anger in actual military combat was conceived by Station Technical Director Dr. Wm. B. McLean and developed here at NOTS. It is mounted on a F9F-8 Cougar. Sidewinder will be fired from an F8U Crusader at a target rocket today.



POLARIS — A Polaris test vehicle undergoes an arrested flight demonstrating its ability to accomplish the transition from underwater launch to controlled powered flight. Named for the North Star, it is a two-stage ballistic missile about 28 feet long, weighing about 30,000 pounds. Further development is continuing to extend the range to 1500 miles by 1962. Nuclear submarines carry 16 Polaris missiles in vertical tubes ready for launching.



ASROC — This antisubmarine rocket, developed at NOTS, is a supersonic missile that can be launched from surface ships either individually or in salvos of two to four at a time. It was unveiled to the public at a press preview held at Key West, Florida last June.



AIRBORNE SERVICE STATION—The Navy's airborne service station, a Skyhawk tanker (upper right) refuels a Skyhawk attack bomber (lower left). These carrier teammates work together to extend the reach of the Navy's air arm. This will be one of the events in today's air show.



RAPEC — NOTS-developed Rocket Assisted Personnel Ejection Catapult seat ejects dummy to demonstrate how system will save lives of jet pilots faced with low-altitude crash emergencies. A static test firing of RAPEC will be conducted at SNORT today at 2:45 p.m.

RANGE HARP—This 'harp' is a NOTS-developed device used on Charlie Range to accurately record the position of aircraft during the delivery of bombs on ground targets. Charlie Range is probably the most versatile and best instrumented target range in the Navy. It is used in operational training of fleet squadrons in high altitude bombing.

