

**BIRD MAN**—Plane director gives taxi signals to A3 Skywarrior on flight deck.

groups, or detachments. There will be two all-weather fighter squadrons (designated VF), two jet light attack squadrons (VA), one jet medium attack squadron (VA) and a heavy recon-attack squadron (VAH). Detachments are groups of men and aircraft, transferred from a shore-based parent squadron, outfitted for a special mission such as photo reconnaissance, airborne early warning or electronic countermeasures.

A squadron may have as many as 20 pilots and crewmen, an LDO or two, and about 175 enlisted men. The majority of the enlisted men belong to maintenance crews and spend their time keeping the aircraft in an up status.

**T**HE DAYS WHEN aviators simply kicked the tires and lit the fires are gone forever, and life is more complicated for everyone concerned. Squadron maintenance shops include power plants (for engine work), airframes (hydraulics and body), avionics (radio, radar and electricity), ordnance (bombs and rockets) and aviation equipment (parachutes, ejection seats and survival equipment). Most maintenancemen wear green jerseys with a broad vertical stripe down the front and back of each. Ordnancemen wear red with a black stripe, and squadron troubleshooters sometimes wear orange and white checks.

Major aircraft repairs—such as engine changes and extensive hydraulic work—are done below on the hangar deck. Minor repairs are performed wherever the plane happens to be spotted. Last minute minor discrepancies are corrected by troubleshooters, sometimes while the bird is on the cat waiting to be launched.

Launch time is drawing near, and

there is increased activity throughout the air department. Topside, brown-shirts are preflighting the go birds.

*Phantom* number 102 is tied down near the rear of the island, two planes behind the starboard cat. Using a printed check list, its brown-shirt moves slowly around it, inspecting this, pulling on that, taking time to make a neat X in the box provided beside each preflight instruction. As he ducks under the tail he sees an accumulation of thin, reddish liquid. He takes a little on his hand and sniffs it. Hydraulic fluid. He folds up the incomplete check list and sticks it in his back pocket.

The word is passed to the line petty officer and relayed to the squadron maintenance chief. Green-shirted squadron hydraulics experts converge on 102 and, after a brief inspection, shake their heads.

**T**HROUGHOUT the ship, status boards are changed. 102 is down for hydraulic leak. In flight deck control, where aircraft spots are indicated by two-dimensional model planes on a scale of the flight and hangar decks, the model representing 102 is turned over, red side up.

The aircraft handling officer studies the spot model for a moment and confers with the maintenance chief of the *Phantom's* squadron. The officer then steps through the hatch connecting the yellowshirt's lounge with flight deck control and attracts the attention of a plane director.

"Strike 102 down number three elevator."

Two minutes later a mule, driven by the yellowshirt and followed by three blueshirts, crosses the flight deck toward 102.

102's plane captain has been

expecting them, and has removed all but three tiedowns. He is now sitting in the cockpit, ready to ride the brakes.

The blueshirts attach the mule's towbar to the *Phantom's* nose gear, knock off the remaining tiedowns, pull the chocks and walk beside the plane as the yellowshirt pulls it onto the elevator. Should something go wrong—like a sudden hard roll—the plane captain would stomp on the brakes and the blueshirts would slam the chocks under the main gear.

On the elevator the plane is tied down. Satisfied all is well, the yellow-shirt gives thumbs up to the elevator phone talker in the catwalk. The klaxon horn sounds two warning blasts and the elevator descends to the hangar deck level.

A few moments later another *Phantom* is brought up the number three elevator and pulled into 102's position. On the hangar deck the airframes men are already tearing into the down bird. They should have it up in time for the second launch.

**D**OWN BELOW decks, in the squadron ready room, pilots in international orange flight suits have shown up for briefing. Weather information, both for the ship's operating area and nearby fields, is relayed to the ready room via teletype and recorded on clear plexiglass boards by phone talkers using grease pencils. Below the weather info the talker lists ranges and bearings to bingo fields—alternate landing strips.

At 30 minutes prior to launch, teletypes click off the command, "Pilots man your planes for event one." The aviators, loaded down with their G-suits, pistols, ammo, Mae Wests, maps, flight cards, clipboards, hardhats and other paraphernalia, head toward the flight deck. Airborne they may be speedy characters, but their load doesn't encourage sprinting under their own steam.

The flight deck is now fully manned. Steam wisps up around the catapult shuttles. Pri-fly is jammed and the air boss is sitting in front of the bull horn mike. The bystanders have vanished from the roof. The luckless seaman who wanders out there now without a jersey is very likely to find himself eyeball to eyeball with the air boss.

Aviators approach their birds and converse shortly with the plane captains, then conduct a preflight inspection while the brown-shirts tag

along. When the pilot is convinced all is in order, he is strapped in by the plane captain.

"Now check chocks, tie downs, loose gear about the deck. Stand clear of props, intakes and tail pipes. Stand by to start engines." That's the bull horn talking.

Airdales don their sound helmets, fasten the chin straps securely and snap the goggles into place. The ship turns into the breeze and accelerates: soon a 35-knot wind is clipping down the deck.

"Start engines."

**T**HE WHINE of jet starters breaks the relative silence, then changes to a roar as the JP fuel begins to burn.

The cat officer has taken his place on the bow, easily recognizable by his yellow jersey and extra large sound helmet, which houses a two-way radio. He stands with his arms folded against his chest, facing aft and leaning backwards against the wind. From now on all signals on the roof are made by hand, and the most crucial by the cat officer. He is not about to take the risk of scratching his nose.

The first aircraft are already attached to the shuttles and hold-back fittings, so the greenshirts cluster around the cat officer in the relatively safe center of the deck. In the catwalk a greenshirt is standing with his hands held above his head, well clear of the catapult trigger.

"Stand by to launch aircraft." Over the roar of jets, the bull horn is audible. It is an exception.

The cat officer faces the starboard cat, unfolds his hands and signals for tension on the bridle. The shuttle inches forward. The officer holds two fingers over his beard, hesitates, then rotates his hand rapidly. The *Phantom* pilot pushes the throttle forward; his afterburner cuts in. After a quick instrument check, the aviator turns his head slightly toward the cat officer and snaps a salute.

The cat officer's hand comes down quickly in the direction of the bow. The deckedge greenshirt trips the trigger. The *Phantom* shoots off the bow, the bridle cracks against the horn, and a faint shudder passes through the ship as the shuttle hits the motor brake at the end of its run. Steam rises from the cat track and blows down the deck.

**W**HILE the cat officer turns to the plane on the port side, another *Phantom* is guided into position over

the starboard shuttle and connected to the bridle by greenshirts. Still another plane—the one which replaced 102 a while back—taxies forward to take the standby position.

Around the cats the air is filled with steam and the hot, acrid stench of burning JP fuel.

As each aircraft taxis into the standby position, spreading its wings, flight deck troubleshooters in checkered shirts run out of their protected positions near the island. In the midst of the inferno they check the wing locks, tail hooks and external gear. Their assignment is to make a final check to ensure that the aircraft is ready for launch. If a minor discrepancy downs an aircraft on the cats, the troubleshooter is on the spot to remedy the situation.

Once the catapult launch has been completed the standby jets—manned and ready to replace aircraft which might have gone down on the cats—are taxied onto the starboard side, clearing the roof for the deck launch.

Prop aircraft are sometimes catted, but unless they are carrying a heavy load or the wind is down, they are deck launched. Today they will be deck launched.

A yellowshirted officer approaches the first prop scheduled to go, signals a two-finger turnup and—when he has received a salute—swings his arm forward. The pilot releases his brakes, applies full power, races down the deck and becomes airborne short of the bow.

**W**HEN THE LAUNCH is completed and the standbys taxi forward and cut their engines, the silence hurts your ears.

It'll be 50 minutes before the

second event is launched, but there'll be little relaxation on the roof. The aircraft handling officer calls for his yellowshirts and gives them instructions for the respot.

Aircraft which went down during the launch and are still on flight deck must be moved below. Aircraft below which are scheduled for the next event must be moved topside.

A respot proceeds on the same order as those games played with toothpicks or matchsticks, when the object is to make a triangle from a double hox, moving the toothpicks a minimum number of times.

Down on the hangar deck there is little room to operate. Aircraft are parked inches from one another, for all space must be utilized. Mules are out of the question, so the birds are pushed by blueshirt teams of ten or more men, directed by a yellowshirt. It's a touchy business, and painstaking care must be taken to avoid crunches. And to make things difficult, the aircraft to be taken topside is often in the back of the pack.

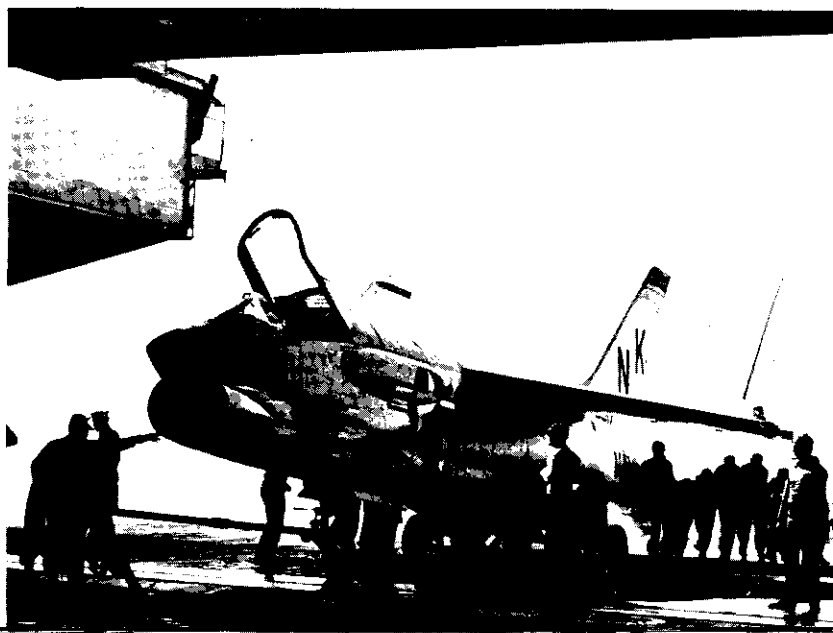
In about two hours—and after two more launches are completed—the birds which went out on the first flight will be due back. Everything on the flight deck will be towed forward and, when the recovery is complete, respotted once more for a launch.

Normally, flight operations can be expected to last eight or more hours, with flight quarters extending an hour and a half on both ends. Under combat conditions, or when the ship is undergoing its operational readiness inspection before joining a deployed fleet, it lasts much longer.

The flight deck is not for playing hall.

—Jon Franklin, JO1, USN

**GOING UP**—*Crusader* is moved onto elevator after check in hangar deck.



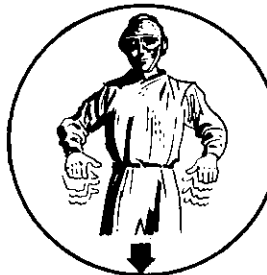


### START ENGINES

Pilot extends number of fingers to indicate engine desired. Signalman responds with similar gesture while rotating other hand in clockwise motion (if all clear).

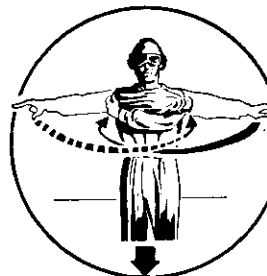
### ALL CLEAR

Initiated by pilot. Touch tip of index finger with tip of thumb. Taxi signalman responds with similar gesture if all is clear.



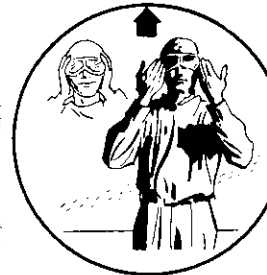
### SLOW DOWN

Hands at waist level, palms down, execute downward patting motion.



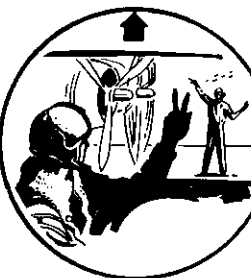
### FOLD WINGS

Arms straight out at sides then swept forward and hugged around shoulders.



### OPEN COWL FLAPS

Hands flat against sides of head, then "opened" by bringing thumbs outward and forward.



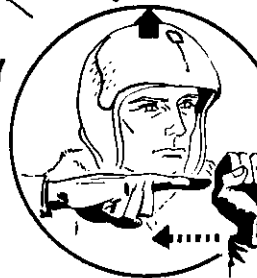
### REMOVE AUXILIARY POWER PLUG

Initiated by pilot. Extended thumb of right hand touches palm of left hand, then moves suddenly away from palm. Signalman responds with similar gesture.



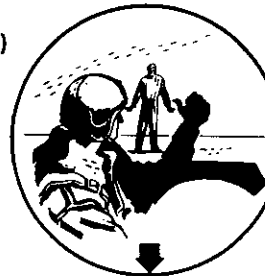
### \* REMOVE LANDING GEAR PINS (Safety Locks)

Initiated by pilot. Fingers of left hand rest on thumb to form ring, right forefinger placed in ring and suddenly withdrawn. Signalman responds with similar gesture.



### PULL CHOCKS

Pilot makes sweeping motion of the fists with thumb extended outward. Signalman sweeps fists apart at hip level with thumbs extended outward.



### SPREAD WINGS

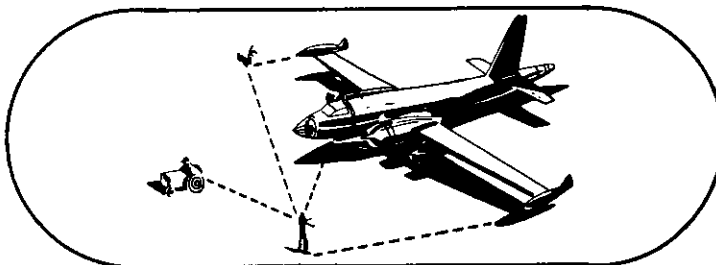
Arms hugged around shoulders then swept straight out to sides.



## PLANE TALK

These standard aircraft taxi signals were adapted for use in *ALL HANDS* Magazine from material supplied by the Aviation Training Division in the Office of the Chief of Naval Operations.

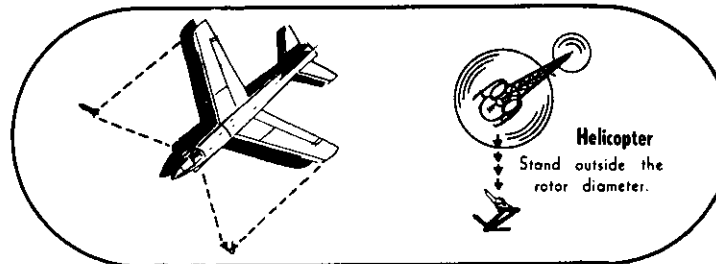
SIGNALS MARKED WITH \* ARE NOT MADE WITH WANDS.



### Towing

To direct the towing of an aircraft, the taxi signalman will assume the same position as prescribed above, keeping the eyes of the pilot and the driver of the towing vehicle visible at all times.

When necessary, an additional crewman will be stationed at the right wing tip. This crewman at all times will remain visible to the taxi signalman to whom he will direct all necessary signals.



### Position of Taxi Signalmen

The taxi signalman, when directing the movement of aircraft, at all times will assume and maintain a position from which the eyes of the pilot are visible. The position will

be on a line extending directly forward from the left wing tip, except when the assumption of this position is rendered inadvisable by special conditions such as might occur aboard a carrier.



## THE TAXI SIGNALMAN

The taxi signalman will indicate his readiness to assume guidance of the aircraft by extending both arms at full length above his head, palms facing each other.

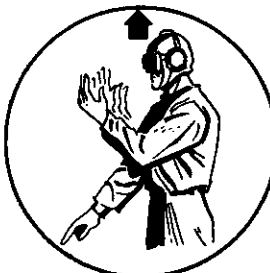
### COME AHEAD

Hands at eye level, palms toward face. Execute beckoning motion; rapidity of hand motions indicates speed desired of aircraft.



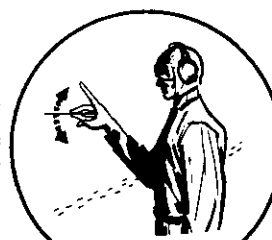
### LEFT TURN

Execute "Come Ahead" signal with left hand while pointing with right hand to wheel which is to be braked.



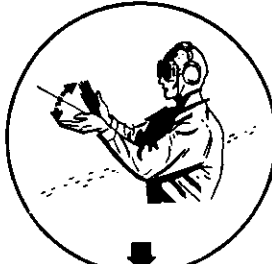
### RIGHT TURN

Execute "Come Ahead" signal with right hand while pointing with left hand to the wheel which is to be braked.



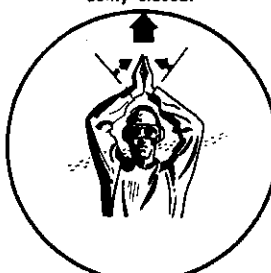
### OPEN SPEED BRAKES

Right hand in front, fingers together, thumb against middle finger, then open the hand suddenly.



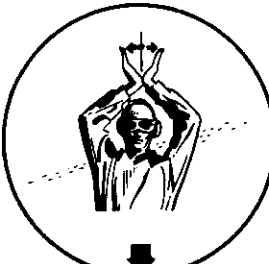
### LOWER WING FLAPS

Hands in front, palms together horizontally, then opened from wrists in alligator-mouth fashion.



### LOCK TAIL WHEEL

Hands together overhead, palms open from the wrist in a vertical V, then suddenly closed.



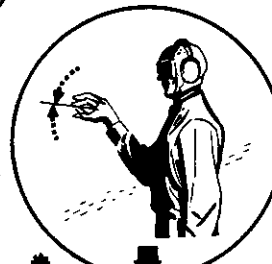
### UNLOCK TAIL WHEEL

Hands together overhead, palms together then opened from the wrists to form a vertical V.



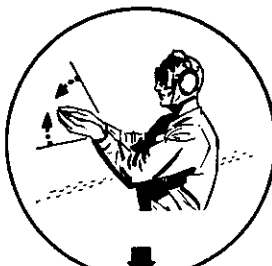
### UP HOOK

Right fist, thumb extended upward, raised suddenly to meet horizontal palm of left hand.



### CLOSE SPEED BRAKES

Right hand in front, palm cupped with thumb down, tip of thumb and middle finger suddenly brought together.



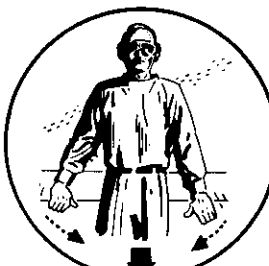
### RAISE WING FLAPS

Hands in front horizontally with palms open from wrists then suddenly closed.



### INSERT CHOCKS

Sweeps fists together at hip level with thumbs extended and pointing inward.



### CUT ENGINES

Hand drawn across neck in "throat cutting" motion.



### TURNOVER OF COMMAND

Both hands pointed at next succeeding taxi signalman, one hand extended and the other at chest.



### STOP

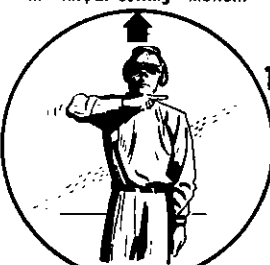
Hands upraised to eye level, elbows flexed and palms toward aircraft as in a policeman's stop.



### EMERGENCY STOP

#### Night Operations

"Stop" signal will be made by crossing lighted wands before the face of the taxi signalman.



### Night Operations

At night the taxi signalman will use two lighted wands exactly as he would use his hands, giving the identical daytime taxi signals except that the "Emergency Stop" signal will be made by crossing wands before the face of the taxi signalman as noted above.



## CATAPULT AND RECOVERY

# On the Shuttle

**T**HE FIRST catapult launchings of aircraft from Navy ships were made back in the days when the 20th Century was a teen-ager. Some of the earliest launchings were made with hydraulic equipment. It was as exciting then as it is now.

A plane landing on one of our earlier carriers had to hit the deck in a narrow alley between two rails and hook one of several ropes that were laid across the deck and anchored to

thrust along the full length of the catapult. They are better adapted to the launching of heavy jet airplanes, all of which must be launched at high speeds.

The CVA's flight deck, with an over-all length of 1,000 feet plus, has a 678-foot angled deck, providing not only greater safety and economy of landing operations, but also increased flexibility and speed. A two-runway system is provided, since air-



CATMEN—Green-shirted carriermen of V2 Division have a rough job operating catapults, arresting gear, and barricade.

sandbags outside the rails.

The air Navy has come a long way in the half-century since that pioneering decade. About the only thing that remains the same is the thrill of adventure and the sense of accomplishment that is the way of life on the carrier Navy team.

Today aboard the typical heavy attack aircraft carrier—a floating city with a built-in airport—Navy aircraft driven by reciprocating engines generating thousands of horsepower, or by jet engines with thousands of pounds of thrust, are flung from the carrier by powerful steam catapults and arrested on landing by hydraulic arresting gear.

The four steam catapults on board, each over 250 feet long, are a great improvement over the hydraulic catapults of the past. Steam catapults, aside from their greater safety (there are no explosive fluids involved), provide an undiminished

craft can be launched from the forward catapults at the same time they are being recovered in the angled deck area.

**I**N ORDER THAT you may be better informed on carrier catapulting and recovery let's take another look at the V2 Division.

The men of V2 Division are responsible for operation of the catapults, arresting gear, and the crash barricade.

Every crew member of this hard-working team goes about his work with an obvious sense of pride and real know-how. Most of them are mechanically inclined. Some were trained at the Navy's Aviation Boat-swain's Mate School. Other crew members have received on-the-job training in the operation and repair of the catapult and arresting gear machinery.

The average flight deck crew





# —And in the Groove

member is under 21 years of age, and he works around aircraft worth from one to four million dollars each—some cost as much as 12 million.

The men wear sound-reducing helmets to protect their ears from high-intensity sounds created by the carrier's modern aircraft. Goggles are worn to protect their eyes from jet blast and prop wash. They wear special flight deck shoes equipped with small suction caps which will

get an all clear until late into the night. They may stay on station up to 72 hours, getting rest only on station and scheduling meals at irregular hours so the ship can meet its operational commitments.

Crew members might average approximately two to three hours of sleep in their bunks and might have to grab naps on a hot steel deck, or in a catwalk whenever they can.

There are 16 positions on each

catapult that must be manned to launch an aircraft. Each man has a task which requires above-average intelligence and a great amount of courage. The crew operates the machinery during flight operations and, while others rest in the early morning hours, they inspect and repair the catapult for the next day's operations.

**U**NLESS YOU'VE SERVED aboard a carrier, you probably know very



**GOOD SHOT**—Jet streaks off *USS Shangri La* while ship is anchored. *Below:* Cat officer aboard *Forrestal* signals turn-up.

allow them to move about on deck safely.

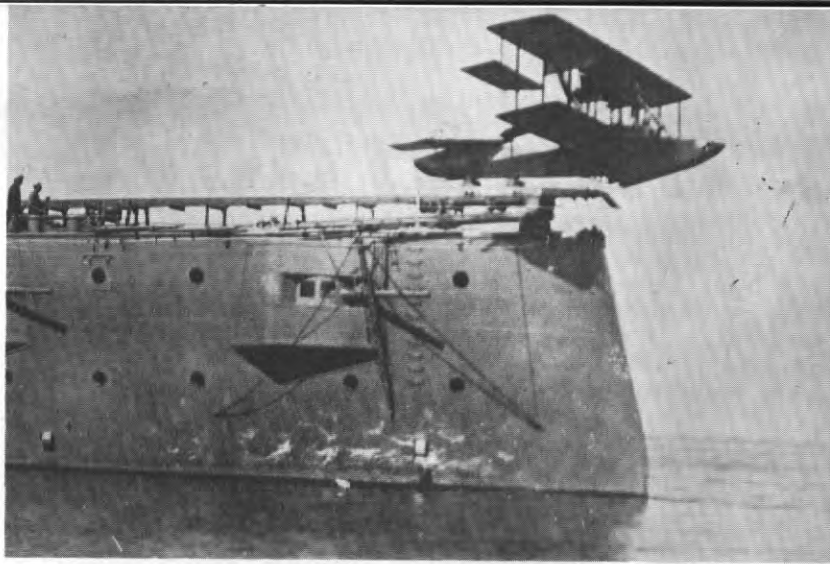
Those working below deck wear sound-powered phones to keep in constant communication with all stations throughout the ship's catapult and arresting gear machinery spaces.

This flight deck fraternity communicates by sign language. One set of signals is used for day flight operations, and another for night flights, aided by the use of red flashlights, and red or green illuminated wand signals (see page 22).

The men must live by safety rules. During slack periods, they get their share of safety lectures. On-the-job safety is a constant factor in their every action, because it may affect not only the Navyman himself but his shipmates too.

**T**HE catapult and recovery team is on the job from the small hours of the morning preparing for an early morning launch, and doesn't usually





**A STARTER**—First catapult from Navy warship was in 1915 from *North Carolina*.

little about the barricade. Although aircraft are normally arrested by a "tail hook" catching one of four cables strung across the after portion of the flight deck, in case of an emergency, such as a missing wheel, a missing "tail hook" or a low fuel state, a "barricade" is used.

Let the arresting gear safety officer explain the purpose of the barricade. "If an aircraft is unable to lower its hook," he says, "the stanchions are raised after the arresting nets have been rigged between them. Upon landing, the aircraft is brought to a halt with a minimum of damage to plane and personnel or equipment on deck."

This may or may not be a record, but one team has erected a barrier in just one minute and 22 seconds. The barricade is 110 feet wide, 24 feet

high, and the net weighs 2400 pounds. It costs approximately \$10,000 and is good for one rescue.

Our representative CVA with its five arresting gears, four arresting cables, and one barricade recovers on an average of 155 planes during a 24-hour flight deck operation.

The basic concept of the arresting gear is simple. It provides the means of stopping in a short distance.

But it is still amazing to see a plane going at a speed of something approaching 150 miles an hour, then stopping in 310 feet.

**H**ERE'S A THUMBNAIL report of the catapult and arresting gear crew in action, after the bull horn cracks, "Launch aircraft."

The flight deck director (wearing a yellow jersey) directs an aircraft to

the catapult and places it in position behind the catapult to be launched.

The jet blast deflector operator raises the last jet blast deflector to protect others behind the jet engines.

Two crew members wearing green jerseys with "C" for catapult, roll under the plane's tail and attach the "holdback" fitting with the all-important tension bar that will restrain the plane against the 17-ton thrust. It will break only as the catapult is fired. At the same time, two other crew members called the bridle men, hook the 190-pound bridle to the tow hook of the aircraft. This is done under the watchful eyes of the hook-up PO.

The plane is then taxied as the holdback and bridle comes taut. The catapult spotting director receives a signal from the hook-up Petty Officer that the aircraft is ready to be tensioned for firing.

**B**ELOW DECK, in a compartment where temperatures hover between 110 and 130 degrees at all times, the console operator sets the controls to put the catapult in first ready condition and bring up proper steam pressure, and regain cross-check for accuracy.

With correct steam pressure set below at the console, the deck edge operator gives a signal that he's ready for tension by raising one hand, extending his index finger.

The catapult spotting director gives the tension signal to the deck edge operator. After "tension" he passes control of the aircraft to the catapult officer.

The "cat" officer scans the aircraft, checking holdback, bridle, and a clear deck ahead. In the meantime the pilot, of course, is busy on his checkoff list and duties at the controls. The final check completed, the "cat" officer's hand strikes the deck. The deck edge operator pushes a red FIRE button and the aircraft is hurled forward as if from a huge slingshot.

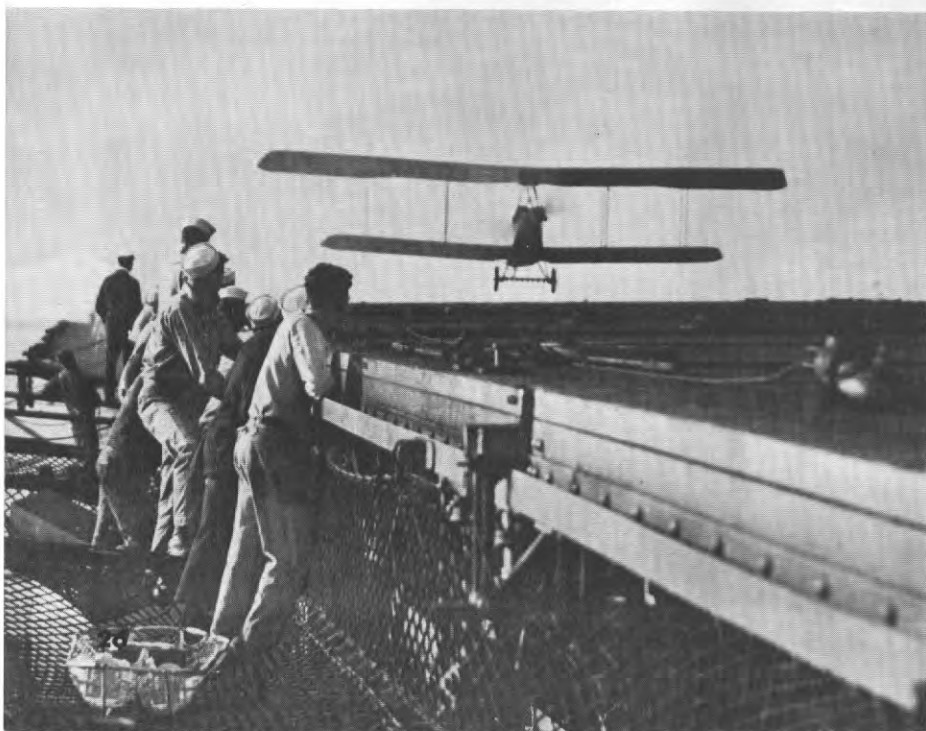
The catapult is retracted after each shot to prepare for the next launching of aircraft.

A catapult can launch aircraft at the rate of one plane every 30 seconds. In an emergency all four catapults can be operated simultaneously.

**D**URING THE INTERIM there's another group of Navymen, bearing "A" on their green jerseys on the job. They are known as the arresting gear personnel. They work equally

**ALL HANDS**

**EARLY TIMES**—Aeroplane comes in for a landing aboard *Langley* in 1922.





long hours maintaining the huge Mark 7, Mod. 2, 3, "shock absorbers" that will bring the airborne aircraft to a smooth safe stop. The arresting gear which can be compared to a king-sized hydraulic brake, is capable of arresting 60,000 pounds of aircraft at a speed of 115 knots (add 30 knots wind for true speed).

The pilot follows the ship's fresnel lens and shoots for the number three cable (it's officially known as the target wire deck pendant purchase cable). The pilot lands with enough speed to take off from the deck in case he enters at the wrong angle, or the plane has some malfunction and the pilot misses the arresting wire cable.

The ship's topnotch maintenance crew have four wire cables inspected and ready for service. With aircraft coming in for a landing, the arresting officer shows a green light and the bull horn blares out. Although it's up to the landing signal officer to land aircraft, it's also the responsibility of the safety officer to identify the aircraft. He does this by the sound of its engine or by the plane's running lights and, as a recheck for safety, determines if it's the correct plane to land.

Before the pilot enters the landing pattern he reports what fuel he has on board, and a crew member in primary fly (which serves the same purpose as a control tower at a land-based airport) on board ship adds the fuel state to the weight of the plane. He calls the arresting gear engine room, where another crew sets the arresting gear machinery into



**GREEN SHIRTS** watch *Vigilante* turn up on port catapult of *USS Saratoga*. Below: Catmen of *USS Independence* man console, heart of catapult's system.

motion, adjusting the braking action of the pendants according to the weight of the aircraft. When the plane is approaching, the pilot lowers a "tail hook" which will catch one of the cables, bringing the plane to a halt.

The arresting power of the cables is adjustable according to the weight of the aircraft landing.

It is now time for our Navy crew to begin the entire operation again—and again. Once more they have demonstrated teamwork in carrying out just one of the many jobs that go to make up the mission of the modern Navy flattops—to launch and recover aircraft—to practice safety and demonstrate the ship's capabilities to a would-be aggressor.

—Richard A. Graddick, JOC, USN



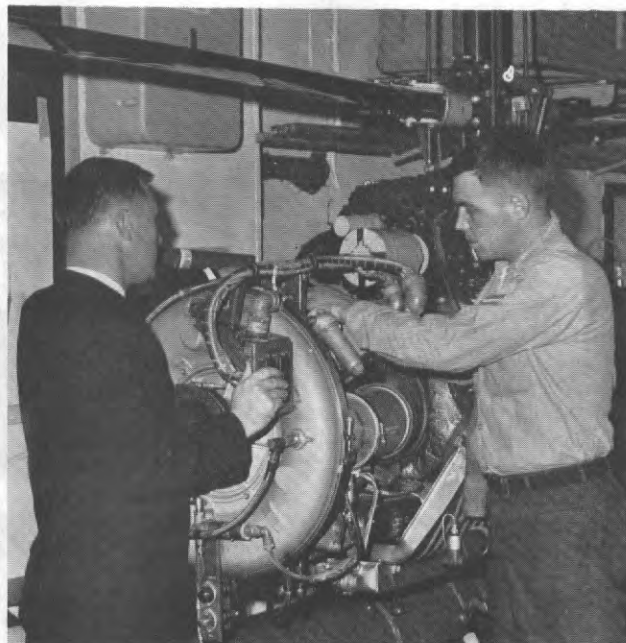
**ON THE MARK**—Catapult's water brake operator keeps close, close check. Rt: Bridle tension is tested prior to launching.



**MAY 1965**







TEAM WORK—Dash makes a test flight from DD. Rt: NAESU CTR assists T. F. Shea, EN1, in check of Dash engine.



SEAL OF SERVICE—NAESU teams have been with the Fleet since 1943. Below: Destroyermen get the word on Dash controls from NAESU member.

## Ever Heard of NAESU?

WHAT'S A NAESU? What's a NAESU engineer? And a NAESU CTR?

Although NAESU CTRs are well known at naval aviation units throughout the world, their appearance aboard ships other than carriers is met with some degree of curiosity.

Of course, if you ask someone in naval aviation, he will tell you that NAESU stands for Naval Aviation Engineering Service Unit. Its mission is "to provide field engineering assistance and instruction to naval aviation activities in the installation, maintenance, repair and

operation of all types of aviation systems and equipment." Headquarters of this Navy activity is at Philadelphia, Pa.

Since 1943 NAESU's objective has been to assist the Fleet in attaining a high level of operational readiness and self-sufficiency.

Translated into more general terms, NAESU is an organization dedicated to service in the form of expert help with new or unfamiliar equipment and aircraft, recurring or unusual maintenance problems, and training programs. This service is provided by a field engineering task force, a headquarters administrative and support staff, and a monthly technical publication, *Digest of U. S. Naval Aviation Electronics*.

Twenty laboratories with operating avionics systems and equipment are maintained at headquarters to train and retrain field engineers in maintenance techniques and to evaluate or verify difficulties encountered by them in the field.

The NAESU engineer is a technical services representative contracted for by NAESU. He may be assigned to perform any engineering service his qualifications permit. To insure that the best service per dollar is provided for the Fleet, before he is accepted for such a position he is subject to rigid standards. (Selection of NAESU engineers is based on a



**ALL HANDS**

written examination and an oral quiz which are so stringent that usually only one out of four candidates is found to be technically qualified and acceptable.)

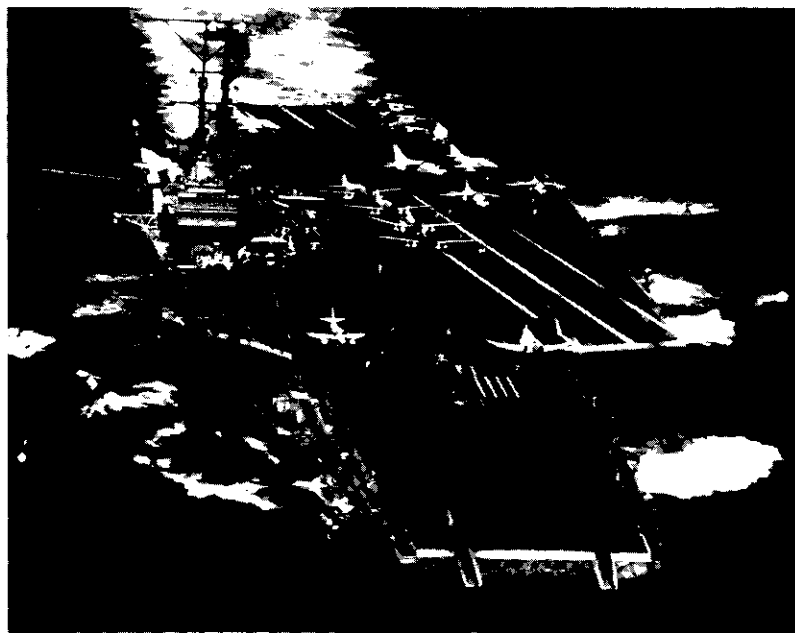
The NAESU contract technical representative (CTR) is an employee of a commercial organization who has been especially trained in the installation, operation and maintenance of the equipment produced by his organization.

NAESU engineers and CTRs are full-fledged members of the Navy team and directly responsible to the Commanding Officer of the Unit to which they are assigned. Specific duties include some or all of the following:

- Furnishing on-the-job training and/or classroom instruction to Navy personnel in the installation, operation, maintenance and repair of aviation systems and equipment.
- Determining technical deficiencies and suggesting methods by which these deficiencies can be eliminated.
- Investigating failures and repairing equipments when such tasks are beyond the capabilities of Fleet personnel.
- Assisting in the installation of aircraft maintenance equipment in shipboard and shore station shops.
- Solving difficult maintenance problems and providing technical advice to the Fleet and government agencies.

Although these duties are the responsibility of each engineer, a group of representatives are normally stationed together as a team. For example, with the advent of *Dash* aboard destroyers and destroyer tenders at COMCRUDESANT, five NAESU CTRs were assigned to furnish support for the operation. Investigating system failures, testing new equipment, evaluating system reliability, assisting and observing flight operations at sea, and conferring with staff personnel on *Dash* progress, are just some of the daily tasks performed by this group of experts.

The team at Newport, as well as personnel assigned to UTRON Three, UTRON Six, COMCRUDESANT, COMCRUDESFLOT Four, COMSERVON Six, MOTU Seven, are not confined to their respective areas. They are available, when and where needed, to assist with technical problems in the support of Fleet operational readiness. Needless to say the NAESU teams are nearly always on the go.



HOME NOW—USS *Forrestal* has returned to Norfolk after eight-month tour.

### *It Takes More Than Steel to Make a Carrier*

There's more to this carrier business than may meet the eye at first glance. We have, for example, had occasion to mention briefly USS *Forrestal* (CVA 59) in the pages of this issue.

It just happens that *Forrestal* returned to Norfolk in March after an eight-month Mediterranean tour. During that time:

- She steamed over 50,000 miles.
- Her 118 pilots, in Carrier Air Wing 8, logged 17,000 hours in the air, made about 11,000 catapult takeoffs and arrested landings.
- She visited 10 ports: Genoa, Naples and Livorno, Italy; Barcelona, Valencia and Palma, Spain; Cannes, France; Istanbul, Turkey; Athens and Rhodes, Greece.
- Her crew of 4300 men were granted over 80,000 man-liberties in these ports.
- The movie library showed more than 3000 movies.
- The ship's 63 cooks prepared 2.6 million meals—about 12,000 per day. The crew consumed 215 pounds of coffee (in liquid form).

We do not, as a rule, quote the remarks of commanding officers upon their relief, but those of Captain Michael J. Hanley, Jr., USN, appear to be particularly appropriate:

"I leave this command with a newfound respect and admiration

for the young generation of Americans. As you know, 80 per cent of the crew of *Forrestal* is of age 21 or under. We quite frequently hear or read that we should worry about this generation.

"Put your fears to rest. This generation is as smart, as tough physically, and as dedicated and determined as any generation America has ever known."

And at the present time, there are 26 U. S. aircraft carriers on active duty.

IN AND OUT—*Crusader* makes landing, *Skyhawk* readies on catapult.



## Kearsarge Family Photos—One Century Apart

**H**ISTORY has repeated itself for *uss Kearsarge*.

On 19 June 1864, the sloop of war *uss Kearsarge* sailed out of Cherbourg, France. In an ensuing naval engagement she defeated the Confederate commerce raider *css Alabama*. The city of New York gave that *uss Kearsarge* a letter of commendation.

On 19 June 1964, *uss Kearsarge* (CVS 33) began a Far East cruise in which she was engaged in operations off Vietnam with the U. S. Seventh Fleet. For her part in the operations, today's *Kearsarge* was awarded the Armed Forces Expeditionary Medal.

The officers in the lower picture were aligned as closely as possible to their predecessors in the picture at the top of the page.

In the upper picture, they are: Lieutenant Commander William H. Cushman, Chief Engineer; Lieutenant Commander A. Adams Smith, Paymaster; the individual looking through the group from behind is not identified; Captain John A. Winslow, Commanding Officer; Ezra Bartlett, Acting Master Mate; Daniel B. Sargent, Paymaster's Clerk; Lieutenant Commander James S. Thornton (no billet recorded on old photo); William H. Bodlam, Assistant En-

gineer; Henry McConnell, Assistant Engineer; James R. Wheeler, Acting Master; James C. Walter, Ship's Boatswain; Sidney L. Smith, Assistant Engineer; Frank A. Graham, Ship's Gunner; Charles C. Danforth, Acting Master's Mate; Ebben M. Stoddard, Acting Master; Fred L. Miller, Assistant Engineer; and Lieutenant Commander Q. Adams Smith, Surgeon.

Today's *Kearsarge* officers, below, are: Commander Ralph E. Wilson, Jr., Chief Engineer; Commander John J. Beckham, Supply Officer; Commander Michael Zustiak, Dental Officer; Captain Charles P. Muckenthaler, Commanding Officer; Lieutenant Clarence A. Morris, Administrative Assistant; Lieutenant (jg) William N. Winfield, Dishursing Officer; Commander Charles B. Hamilton, Operations Officer; Lieutenant Conrad A. Thiele, Engineering Electrical Assistant; Warrant Officer Horace G. Lenon, Chief Ship's Repair Technician (Engineering Dept.); Captain William J. Wacker, Executive Officer; Warrant Officer Joseph C. Windham, Chief Boatswain; Lieutenant Paul J. Gould, Engineering Main Propulsion Assistant; Lieutenant Commander John W. Bradford, Jr., Weapons Officer; Lieutenant Commander Herschel L.

Plowman, Communications Officer; Commander Edward M. Haugh, Navigator; Lieutenant Eugene J. Schuster, Engineering Damage Control Assistant; and Lieutenant Commander Samuel Markarian, Medical Officer.

The three officers pictured on the carrier's gun mount (below) hold positions today for which there were no equivalents on the sloop. They are: Commander Jack Bent, Air Officer; Commander L. D. Bowen, Commanding Officer, Carrier Air Group 53, and Captain McLendon G. Morris, Commanding Officer, Marine Detachment.

### Vertical Take-Off Aircraft

The XC-142A, tri-service V/STOL transport, has completed its first vertical takeoff. The craft has been undergoing a test series since last September, but all previous takeoffs had been conventional, requiring a runway.

During early tests the plane succeeded in becoming airborne in less than 500 feet of runway though only 60 per cent of the available power was applied.

The aircraft, which features a tilting wing, is expected to fly horizontally at speeds of more than 430 mph. It is powered by four T-64 turboprop engines which drive four fiberglass wing propellers plus a tail rotor. The tail rotor is used for pitch control during hovering and transition to horizontal flight.

The engines are connected to the propellers by a system of cross shafting and gears which permits one or more engines to turn all five propellers. Because of this, the aircraft can remain stable enough to land vertically using only three of its four turbojets.

During the craft's maiden vertical takeoff and hovering maneuvers, altitude was purposely held to only five feet above the runway. The test was described as satisfactory and vertical flight to higher altitudes will be attempted later in the test series.

The Air Force is acting as developing agency for the Department of Defense in the V/STOL transport project. When completed, the aircraft is expected to carry 32 fully equipped troops or 800 pounds of cargo. It will have an operational radius of 200 to 470 miles.

### USS Ranger Has an Operation at Sea

Boilermen from Ship Repair Facility, Subic Bay, P.I., completed a major dockside-type project as they restored an ailing boiler aboard the attack carrier *uss Ranger* (CVA 61).

What makes this assignment unusual is that they did it while the ship was at sea.

When *Ranger* experienced tube failure in one of her eight boilers, an urgent call for assistance went out to SRF Subic Bay.

Ordinarily, ships are returned to the yard when extensive boiler tube replacement is needed, but operational commitments and *Ranger's* schedule could not be revised. Adding to the difficulty was the requirement that the ship maintain a high condition of readiness to respond to such emergencies as the air strikes against North Vietnam on February 7 and 11.

The SRF workmen flew to the ship, assessed the job and accepted the challenge. As old tubes were

being removed by welder's torch, over 400 new replacement tubes, ranging in length from 11 to 20 feet, were formed at SRF and ferried to the ship by jet and propeller aircraft.

Thousands of pounds of tools and parts, along with SRF personnel, were airlifted to *Ranger's* at-sea location. Numerous drilling cutters used in the superheater section made the round-trip flight for sharpening ashore.

Working two shifts around the clock, the boilermen continued the job despite 130-degree heat in confined fireroom working spaces.

For accomplishing a tough job, kudos go to Jose L. Deleon, Raynoldo Ching, Leopolda Padilla, Ramon Z. Somcio, Francisco Pacheco and Napoleon Paclebar from Boiler Shop 41; Francisco Soriano, and Antonia Delacruz from Welding Shop 26; Domingo Aquino and Narciso Baylon from Safety Shop 6.

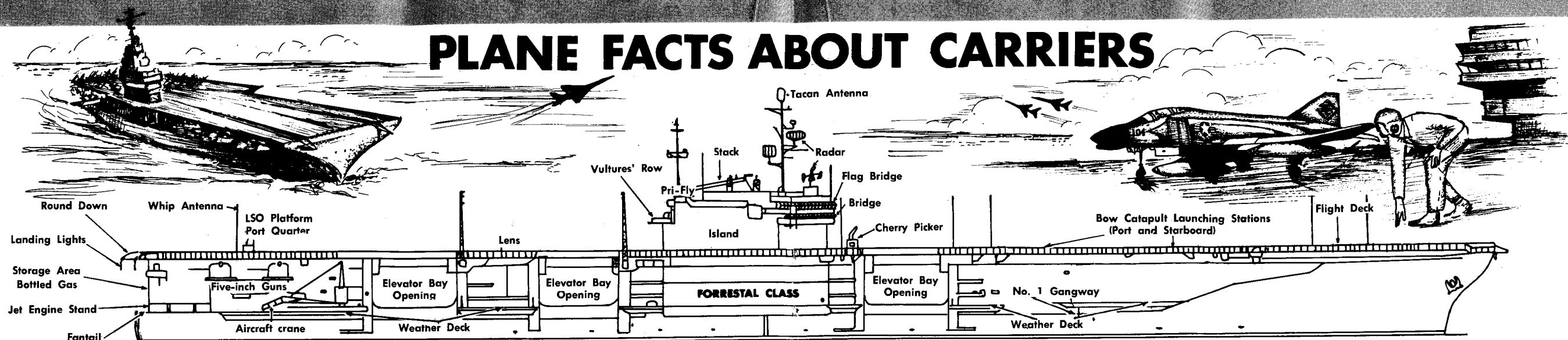




USS Kearsage's officers posed for photo in 1864, again in 1964.



# PLANE FACTS ABOUT CARRIERS



## Carrier Control Approach

Straight-in approach used for night instrument (IFR) landings.

Approach controller in CCA controls the letdown (penetration) from 10 to 40 miles out. Final controller takes over from 10 to 6 miles out. Precision controller directs plane six to one and one-half miles out. When pilots call 'meatball' at one and one-quarter miles, the LSO visually monitors the pilot's approach to a landing. The LSO is up on the pilot's radio frequency and can direct any last minute changes in the final landing approach.

Jet pilots will always apply full power upon touchdown. This provides faster acceleration to regain flying speed for execution of a safe 'bolter' in case tailhook misses wire.

Final stages of recovery are monitored by the LSO.

Plane touches down over arresting gear, and tailhook catches wire. Most all CVAs now employ four arresting cables.

Approach Arc is Two Miles from Ship

Round Down

Status light (red and green) informs flight deck crew as to readiness for recovery. Red light may indicate

Before recovery, the ship speeds up and turns into the wind to enable plane to land at a lower (slower) relative speed.

During last half of aircraft's 180° turn, pilot picks up meatball image in Fresnel Lens and maintains it on reference line to establish his rate of descent as he lines up angled deck visually.

CCA Final Approach Lane and Glide Slope (Night and IFR Recoveries)

Straight-in Approach

Landing Signal Officer (LSO) Platform

Director

Guns

(CVA—Four Cables) Arresting Gear

Barricade

Arresting Gear Station

Sponsons

Crane

fouled deck, (aircraft or personnel still on deck), incomplete ship's turn, or recovery system failure.

## The Landing Pattern

180° Position (Start turn to 'final').

Abeam Position

600'—Landing Speed, 'Meatball' Visible at 90° Position Night/IFR—1000

One and one-half to One and one-quarter miles

'Dirty' Flight Conditions Slow Speed (600')

600' Bolter Flight Path Night/IFR—1000

Descend to 600'

Descend to 600'

Planes in the landing pattern fly one and one-half to two and one-quarter miles abeam of the ship and at 600 feet while slowing to landing speeds.

When incoming aircraft is abeam of the ship, the pri-fly officer readies crew and calls 'heads up.'

If tailhook catches wire, the plane comes to a stop abreast the island. Wire is disengaged from tailhook and retracted into arresting gear spools. Plane is taxied clear of the angled deck and the landing area is cleared and readied for the next plane. A normal landing interval is 35 seconds for day landings and 90 seconds for night landings.

If tailhook does not engage wire, plane flies off angled deck and rejoins the landing pattern. This is called a 'bolter.'

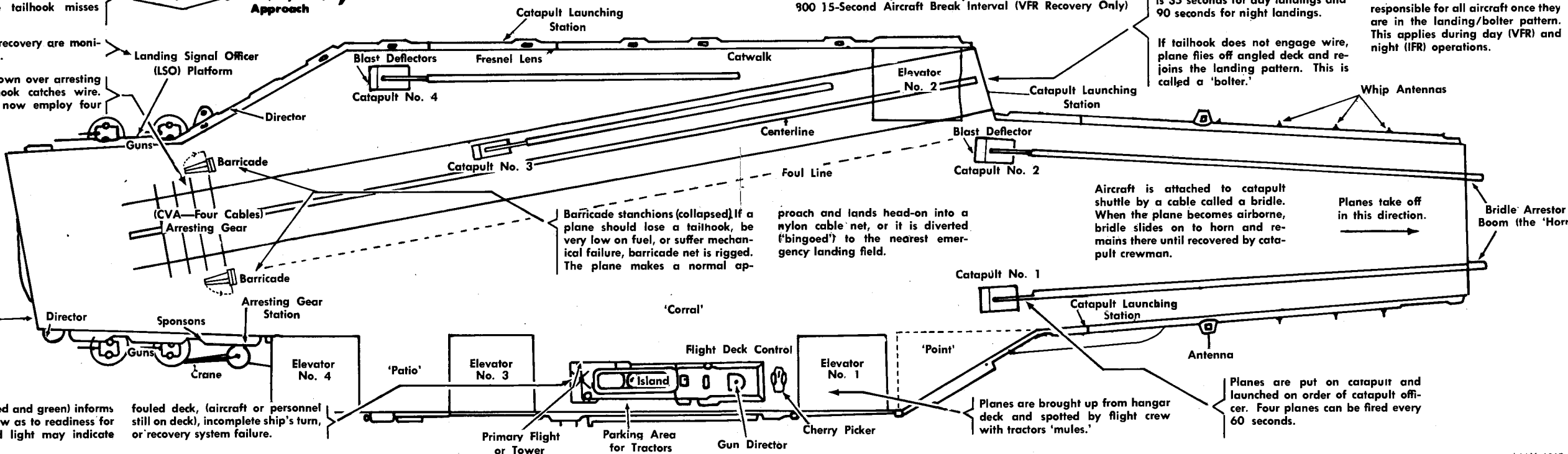
## Daytime (VFR) Approach

Oval pattern used for visual (VFR) landings.

During visual flight rules (VFR), day operations and when planes are ready for landing, they enter a 600-foot left-hand racetrack pattern and fly this pattern in a 'dirty' condition (gear, hook and flaps down). Prop planes use approach speeds of 90- to 95-knots and jets use a 130- to 145-knot approach. Approach and landing speeds vary with type and weight of the aircraft.

## Primary Flight Control

Pri-fly is ship's 'tower.' From primary flight control, the 'air boss' oversees and controls air operations. He may address flight deck crew over bullhorn or radio. He is responsible for all aircraft once they are in the landing/bolter pattern. This applies during day (VFR) and night (IFR) operations.



Aircraft is attached to catapult shuttle by a cable called a bridle. When the plane becomes airborne, bridle slides on to horn and remains there until recovered by catapult crewman.

Planes take off in this direction.

Catapult No. 1

Catapult Launching Station

Antenna

Planes are brought up from hangar deck and spotted by flight crew with tractors 'mules.'

Planes are put on catapult and launched on order of catapult officer. Four planes can be fired every 60 seconds.



LONG RANGE reconnaissance plane, SR-71, can fly three times the speed of sound at altitudes up to 80,000 feet. Jet uses same J-58 engine as YF-12A interceptor, but has longer range. It is to be operational later this year.



AN ENGINE ANALYZER which predicts aircraft power plant failures before they occur is being flight-tested by the Air Force. The analyzer records turbojet engine performance during flight and allows maintenance men to diagnose problems before they become serious.

The equipment has been installed in two single-engine F-105D aircraft at Nellis AFB in Nevada and two F-4C twin-engine fighter bombers at Davis Monthan AFB in Arizona.

Engine operation is sampled frequently by the analyzer (once each second on the F-4C) which records on magnetic tape information such as compressor and turbine pressure, temperature and breather pressure. The tapes are monitored frequently by maintenance men who can use the statistics to determine whether the engine is safe to fly again or should first undergo repairs.

With the new system, unnecessary maintenance should be avoided, as will many engine failure accidents. The analyzing system is expected to substantially increase engine life, boost safety, and reduce maintenance costs.

The analyzer consists of two subsystems. One is a computer which determines engine condition, while the other is a digital recording device which will make a permanent record of performance in flight.

The tests are expected to last one year.

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THE FIRST TEST FIRING of the Army's *Lance* ballistic missile has been conducted at White Sands Missile Range, N. Mex.

All test objectives were met as the battlefield missile was successfully fired from a non-tactical launcher.

*Lance* is being developed to fulfill the requirements for a mobile weapon system to replace the *Honest John* and possibly *Little John* missiles. It would complement division tube artillery and extend division commander capability for nuclear and non-nuclear supporting fire.

★ ★ ★

FOR THE SERVICEMAN who would like a "way-out" job, the Department of Defense may someday be able to offer duty on a military manned orbiting laboratory.

Possible designs and technical requirements for such a space vehicle are under consideration.

The military manned orbiting laboratory (MOL) might serve a variety of military purposes—for instance, as a space assembly and service station for other space vehicles, or possibly in other ways. Forthcoming studies by civilian contractors—guided by the results of preliminary studies already performed by the Air Force—will be directed toward determining just what a military man's potential usefulness in space might be.

In short, they might determine if the Navy, or any other service, will someday add a Space-vey section to its personnel distribution system.

AIR FORCE F-105 *Thunderchiefs*, all-weather Mach 2 jets, are seen during recent flight operations over Japan.







**FAMILY PORTRAIT** of new XH-51 helicopters shows XH-51N (top), built for NASA; HX-51A, built under a joint Army-Navy program (center); and winged version of XH-51A, which is fastest known rotorcraft, with speed of 242 mph.

AN AIRBORNE COMMAND POST has been aloft around the clock for more than four years, ready to assume direction of the Strategic Air Command bomber and missile force should ground control centers be destroyed.

The flying control center adds to the assurance that SAC forces can be controlled effectively in retaliation to any attack on the United States.

Jet tanker planes, equipped with several automated transmitter-receiver systems, are modified for this mission. Each carries a crew of four, plus a general officer (airborne emergency actions officer) and his staff of about 12.

While on station, the airborne command post maintains communication with SAC underground and alternate command posts and with the Air Force Command Post and the National Military Command Center in Washington, D.C.

Messages can be received and transmitted simultaneously on the communications equipment.

Three times daily an airborne command post departs Offutt Air Force Base, Nebraska, and remains on

station until relieved. The missions are flown by EC-135C aircraft—long range, high performance planes with multiple aerial refueling capabilities.

★ ★ ★

THE ARMY HAS ACCEPTED the first weapon developed specifically for firing 40-mm grenades from helicopters.

Designated the M-5, the new weapon subsystem is designed to provide helicopters with a suppressive-fire capability. The 200-lb weapon fires a 40-mm high explosive grenade at the rate of more than 200 rounds per minute. Its effective range is 1500 meters.

Electrically driven, the M-5 can be operated by either the pilot or a gunner. Ammunition is fed through flexible chuting to the launcher from a storage box within the plane. The weapon is aimed through conventional sighting and fire control elements.

First delivery was made to the Aberdeen Proving Ground, Md., where initial testing and crew training is to be conducted. The M-5 is scheduled for delivery to field units later in the year.

**HOT CYCLE** research helicopter now under development gets power from hot gases jetted through tips of rotor blades.





# Roundup on Medical Benefits

**A**S A NAVYMAN on active duty, you are entitled to some of the best medical care in the world. The care which is now your right also follows you into retirement as a privilege.

Not only are you eligible for medical care, but it is also provided under the Dependents' Medical Care Program for your wife and children and (with limitations) to your dependent parents and parents-in-law. If you should die, your widow (or widower) may still be eligible for medical care.

In dollars and cents, the value of this care is inestimable. If your dependents are never sick, you can consider yourself lucky. Moneywise, Medicare will still have saved you the cash you would otherwise have spent insuring them against a costly illness.

If your wife or children *do* need medical treatment, the program entitles them to receive the best of care available in uniformed services medical facilities and it costs you almost nothing. If a service hospital is not available or cannot give your dependents authorized treatment, civilian facilities may be used within certain limitations.

This is true whether hospitalization is required for a pregnancy or whether it is authorized for a rare ailment requiring costly surgery. The Navy is prepared to go to great lengths to see that your dependents receive the care to which they are entitled.

Not only does the Government pay for most of your wife's and children's medical care in civilian hospitals, it also pays most of the cost of both inpatient and outpatient maternity care and for outpatient treatment of bodily injury.

When you seek medical care for your wife or children from civilian sources at government expense, you should make sure the physician and hospital are participants in the Medicare Program before treatment is begun.

A physician or surgeon participating in the program must be legally licensed and qualified to prescribe and administer all drugs and to perform all surgical procedures.

A hospital, to qualify under the program (except in an emergency), must be an institution operated according to the local laws governing hospitals. It must also provide facilities for surgical and medical diagnosis, treatment and care of injured and sick persons by (or under the supervision of) one or more staff physicians or surgeons. Further, it must provide continuous 24-hour nursing service by registered graduate nurses.

When applying for any kind of medical care—at a service or civilian facility or by a civilian physician—dependents are required to present their Uniformed Services Identification and Privilege Card (DD Form 1173) as proof of their eligibility for authorized medical care.

All eligible dependents, except children under 10 years of age, will be issued a card upon application by their service sponsor.

In the case of a child under 10, the parent or guardian must furnish proper identification and certify to the child's eligibility. In some cases, such as when the child is under 10 and is living apart from his parents, a card may be issued to him.

Normally, dependents receive their cards through their sponsors. If the sponsor is unable or declines to fill out an application form for the card, his dependents can obtain the application form at any service installation and forward it to the sponsor's commanding officer for verification of eligibility.

The card must be turned in: (1) when it expires; (2) when a new card is issued; (3) when the sponsor dies, is discharged, retires or is released from active duty; (4) when the sponsor is officially placed in deserter status; or (5) when the dependency status is otherwise ended.

If the sponsor dies or retires, the dependent will be issued a new card indicating that medical care is authorized in uniformed services facilities only.

When a card is lost, report the loss immediately so a new card can be issued to replace it, and at the same time to enable the services to be on the alert against the improper use of the card by someone who finds it.

The Dependents' Medical Care Program is complicated and full of terms with which the layman is often unfamiliar. It has been the subject of several instructions and pamphlets.

So that Navymen and their dependents may better understand the benefits to which they are entitled, here are questions concerning Medicare together with their answers—in language which, we hope, requires no interpretation.

## 1. What is Medicare?

It is the term applied to the policies and procedures governing administration of the Dependents' Medical Care Act (Title 10, U. S. Code, Sections 1071-1085) insofar as it relates to care of dependents from civilian sources. Medicare supplements our armed services' medical facilities in providing certain care which otherwise would not be available.

Both medicare at civilian facilities and medical care at facilities of the uniformed services are part of the overall Dependents' Medical Care Program.

## 2. What is meant by a uniformed services medical facility?

Uniformed services medical facilities are so called because they include not only hospitals and dispensaries of the Army, Navy and Air Force, but also the hospitals and outpatient clinics of the Public Health Service, and the U. S. Coast Guard Academy Infirmary at New London, Conn.

## 3. Whom does the Dependents' Medical Care Act cover?

The act covers specified dependents of both living and deceased members of the uniformed services whether on active duty or retired (except those retired for non-regular service who served less than eight years on active duty).

## 4. Does Medicare cover all my dependents?

It covers those usually considered to be members of the immediate family group as follows:

- The wife of a male member or the husband of a female member (provided he depends on his wife for over one-half of his support).



# for You and Your Dependents

- Unmarried, legitimate children of members provided they are under 21 years of age.

- Children over 21 but incapable of self-support because of mental or physical incapacity which existed before they became 21.

- Offspring under 23 who are enrolled in a full-time course of study in an approved institution of higher learning who are dependent upon their sponsors for over one-half of their support.

The definition of children also includes adopted children and stepchildren who are in the categories listed above for natural children.

Provisions of the Dependents' Medical Care Program (as distinguished from Medicare) also cover parents or parents-in-law who are dependent upon a military sponsor for more than one-half of their support and are residing in a dwelling place provided or maintained by the member.

To receive any benefits from the program, the unmarried widower of a deceased female service member must have been dependent upon the member at the time of her death for over one-half of his support because of a physical or mental incapacity.

## 5. Are my dependents eligible for care in both uniformed services and civilian medical facilities?

Your dependents are eligible if they bear a relationship to you as specified above and if you are serving on active duty pursuant to orders which specify a period of more than 30 days.

However, only your wife (or the husband of a female member) and children (as specified under question 4) are eligible for Medicare—that is, care in civilian facilities.

## 6. How about retired personnel, parents, parents-in-law, widows and widowers?

Retired personnel, parents, parents-in-law, unmarried widows and widowers who satisfy the conditions described above are eligible for care only in uniformed services medical facilities.

Such care is a privilege and not a right. It is dependent upon the availability of space and facilities. In all cases the medical needs of active duty personnel come first.

## 7. Are the provisions concerning medical care for retired personnel and their dependents based on any particular law? If so, what is that law?

The authority to provide this medical care for retired personnel and their dependents is contained in Sections 1074(b) and 1076(h), Title 10, United States Code, but, as already stated, it is subject to the availability of space, facilities and the capabilities of the local medical staff.

Not long ago a Department of Defense Study Group was established on Health Care for Retired Military Personnel and Their Dependents. In determining the obligation of the government, the study group concluded that the government has no absolute legal obligation to provide health care in uniformed services medical facilities for retired personnel and their dependents, and that

the sections of the law authorizing such care are permissive in nature.

The study group's findings and recommendations have been made available to a House Armed Services Special Subcommittee and, in a recent report, the House subcommittee recommended the programming of beds for retired military personnel and their dependents in new hospital construction, based on projected workloads up to certain limits. Also under consideration are recommendations for additional legislation supporting retired military health care in an equitable manner.

## 8. I understand some dependents of active duty personnel are given a choice between military or civilian medical facilities while others are not. How is this determined?

The determining factor here is whether or not the dependents reside with their sponsor. Those who do reside with their sponsor must use uniformed services medical facilities if available and adequate. Those who reside apart may choose either uniformed services or civilian facilities.

Dependents are considered to reside with their sponsor if they live in the area to which he is assigned. Their eligibility is unaffected if their sponsor is at sea or on TAD from his assigned area. An assigned area includes the home port of your ship.

## 9. Does a change in my status or in that of my dependents affect their eligibility for Medicare?

Yes, indeed. If you are separated from the service for any reason except retirement, or are in a desertion status, your dependents lose their eligibility for both civilian and military care.

As mentioned before, your dependents lose eligibility for care in civilian facilities when you retire, but they remain eligible for care in uniformed services facilities provided such care doesn't interfere with the needs of active duty personnel.

If you die while on active duty, your dependents lose eligibility for civilian care while retaining eligibility for care in uniformed services facilities. There is, however, a provision for your wife, if she is pregnant at the time of your death. She is eligible to receive obstetrical and maternity care during that pregnancy from civilian sources.

Also, a dependent receiving authorized civilian medical care at the time of the sponsoring Navyman's death may continue to receive such care. The dependent may also receive civilian care if he is a victim of the same disaster or accident which has caused the Navyman's death.

Civilian care in both these latter circumstances, however, will be provided only until transfer to a uniformed services facility can be arranged.

The widower of a deceased female service member is eligible for care in service facilities after the death of his wife *provided he was receiving over one-half of his support from his wife because of his physical or mental incapacity at the time of her death.* (Note: The incapacity requirement was not a condition during his wife's lifetime.)

(Continued on the following page.)



10. What if my wife and I are divorced? Do our children lose their eligibility for Medicare?

Your divorced wife, of course, loses her eligibility, but your children's eligibility is unaffected. Subsequent adoption by a person not eligible for Medicare, however, would also end their eligibility.

11. Are there any circumstances under which my dependents would be eligible for care in civilian facilities even though uniformed services facilities are available?

Yes. The uniformed services facility may not be able to provide the care your dependent requires. In such cases, the uniformed services facility will make this determination and issue a Nonavailability Statement (DD Form 1251).

This statement certifies that adequate uniformed services facilities are unavailable for the care requested or required by the wife or child. The form can, of course, be used only for the illness or condition for which it is issued. It must also be used immediately.

12. Suppose my dependents rate a Nonavailability Statement. What do I do with it?

The statement must be presented to the sources of civilian care—both the attending physician and hospital.

### Medicare Has a Big Heart

Lest anyone doubt that the Navy takes care of its own, consider the case of the 36 year-old wife of a Boatswain's Mate First Class. She was the mother of three children and had suffered from scarring of the heart valves as the result of a childhood case of rheumatic fever. Her condition became progressively worse until her most recent hospitalization at the Naval Hospital, San Diego, Calif. in July 1964.

The San Diego Naval Hospital performed diagnostic studies and found her condition serious—so serious in fact that her life was in danger. Nothing less than open heart surgery could save her.

This required replacement of three of her four heart valves with artificial plastic valves.

Open heart surgery was nothing new at the San Diego Hospital but this particular operation was especially complex. In fact, it had been performed successfully only at a university medical hospital by the doctor who designed the artificial heart valve.

More studies were made at San Diego by the thoracic surgery and cardiology branches and arrangements were made for the Navyman's wife to be transferred to the university hospital for surgery under the Dependents' Medical Care Program.

A direct flight on MATS was arranged from the Miramar Naval Air Station to Portland Air Force Base. The patient underwent surgery at the university hospital on 21 July and was returned on another MATS flight to San Diego on 13 September—doing nicely, thank you.

The Navy wife was the fifth person in the world to have undergone the highly specialized operation successfully. The Navy, the Air Force and the civilian medical community all cooperated to save her life—a cooperation made possible by the Dependents' Medical Care Program.

13. Are there any circumstances under which a Nonavailability Statement need not be presented to a civilian medical facility or physician?

Yes. In an acute emergency requiring immediate treatment from civilian sources to preserve life or prevent undue suffering. Such a circumstance might result from an accident or sudden, severe illness.

Another exception: If your dependent is on a trip, and requires hospitalization, whoever signs the claim forms must certify that the dependent was "on trip." *Warning: This exception isn't to be used to evade the requirement for a Nonavailability Statement. If you abuse it, you are liable to have to pay the bill when it is presented.*

As mentioned before, civilian maternity care is given if required by an eligible wife whose husband has died on active duty, provided she was pregnant and eligible for Medicare benefits at the time of her husband's death.

In such circumstances, the widow must obtain a statement from the uniformed services official indicating that she is eligible for civilian maternity care.

14. Can a Nonavailability Statement be issued retroactively?

Yes. It can be issued after civilian care is begun or even after it is completed. As we said before, however, the determination is made by a uniformed services facility that the patient was eligible for the statement before his care began.

15. Does a Nonavailability Statement guarantee government payment at a civilian facility for my dependents?

No. It is simply the first step. All the statement does is serve as evidence that the care your dependent needs is not available from a reasonably accessible uniformed services medical facility. Other steps in establishing liability are given below.

16. What does establish government liability for my dependent's care in a civilian medical facility?

First of all, the care your dependent receives must be authorized under the Medicare Program (See answer to question 39).

If the care is authorized, the government's liability is determined from the diagnosis and from clinical information and/or certification furnished by the attending civilian physician.

17. What should I expect when civilian medical facilities are used?

When you apply for civilian medical care for your dependents, you should first ask the physician if he will accept your dependent as a patient under the program. If he will, you are not expected to pay for care authorized under the program, except for certain charges which will be explored later.

The government pays the physician for authorized care with a certification by the physician that there will be no additional charge to the dependent or sponsor for that care.

The physician signs such a certification on the claim form which he submits to the government for payment.

18. Are there any forms I should sign at a civilian medical or dental facility?

Any civilian facility which accepts Medicare patients is supposed to provide DA Form 1863-1 and DA Form 1863-2. The first form covers services by civilian hospi-

tals, private nurses, anesthetists, physical therapists, etc., under Medicare. The other form covers services by civilian physicians and dentists under Medicare.

If a civilian physician does not have the forms, does not know where to get them or does not know how to fill them out, suggest that he contact the admissions office at the local hospital or the local medical association for information.

If a civilian hospital doesn't know about the forms, the admissions office can probably get the information it needs through local hospital insurance offices.

Dependents must indicate on the form whether they reside with or apart from their sponsor.

19. *My dependents live in an overseas area and apart from me. Are they eligible for civilian medical care?*

Your dependents have the same eligibility overseas as they have in the United States and Puerto Rico. Dependents living apart from their sponsor may choose only between civilian medical facilities which have been determined by the appropriate overseas commander to be professionally acceptable and those of the uniformed services. As always, civilian care is limited to the types authorized under the Medicare Program.

20. *How about dependents residing with sponsors in overseas areas?*

Even though they are eligible for civilian medical care, they must use a uniformed services facility if it is able to furnish the needed care. Otherwise, civilian care will be authorized under the program in accordance with procedures established by the overseas commander.

21. *Are Nonavailability Statements required outside the United States and Puerto Rico?*

No.

22. *What kind of medical care is provided to dependents at uniformed services facilities?*

If medical staff, space and facilities are available, the following medical care may be obtained: (1) Diagnosis; (2) treatment of acute medical and surgical conditions, contagious diseases and acute emergencies of any nature; (3) immunizations; (4) maternity and infant care; (5) also, in special and unusual cases, exceptions may be made for specific patients requiring care for chronic diseases and nervous or mental disorders. The commander of the service medical facility concerned has the authority to make such exceptions.

23. *Can dependents also obtain drugs and medicinals at uniformed services medical facilities?*

Yes, if they are available.

24. *Specifically, what medical care is not provided to dependents at uniformed services medical facilities?*

The following treatment is not provided for: (1) Chronic diseases (except for acute flareups or complications requiring active or definitive medical or surgical treatment); (2) nervous and mental disorders (except for diagnostic purposes); (3) unessential but personally desirable care (such as plastic surgery solely to improve appearance); and (4) domiciliary care usually provided in a nursing or convalescence home.

25. *Is any other care excluded? What about glasses and hearing aids?*

The exclusions on care are all listed above. However, dependents are not provided artificial limbs or eyes, hearing aids, orthopedic footwear and spectacles.

Outside the United States, however, and in some remote areas within the United States where these items are not available from private sources, they will be sold at cost to dependents if they are available from government stocks.

Ambulance service is also excluded (except government ambulance in an acute emergency which is determined by the medical officer in charge).

26. *How about a physician's house calls. Are they excluded?*

House calls are excluded except in special and unusual cases where it is determined by the medical officer in charge that they are medically necessary.

27. *Is dental care authorized for my dependents?*

Not in the 50 United States, except in areas specifically designated by the Secretary of Defense as remote. In such areas, dental care may be given to dependents on a space available basis. If your dependent is suffering undue pain, he may receive emergency treatment at a uniformed facility to obtain relief. Permanent fillings, bridges and dentures, however, are not authorized.

28. *How about dental care for dependents outside the 50 United States?*

It is authorized at all uniformed services facilities on a space-available basis. The commander of the medical or dental facility concerned makes this determination.

29. *Are dependents charged for the use of a uniformed services medical facility?*

There is no charge made for inpatient care at a uniformed services hospital but your dependents are charged for their subsistence at the rate of \$1.75 per day.

If they are outpatients, there is no subsistence, therefore no charge. Dental care, when authorized, is also without charge.

30. *When hospitalization of dependents at a civilian medical facility is called for, are private accommodations authorized?*

No. Semiprivate accommodations are authorized. This means a room with from two to four beds.

31. *Is there a limit to the length of hospitalization in a civilian facility?*

Yes; 365 days. However, in special and unusual cases, when transferring the patient to a service facility is not feasible, the Surgeon General is authorized to grant a 90-day extension.

32. *Is there any limit to the type of treatment given to dependents at civilian medical facilities?*

Yes, but the base is very broad. Treatment for dependents at civilian hospitals is authorized for: (1) Acute medical conditions. This includes acute emotional disorders described in answer 35. (2) Treatment for contagious diseases. (3) If surgery is medically indicated by the physician in charge, it is included. For some types of surgery, however, there are conditions attached (see answer to question 39.) (4) Complete obstetrical and maternity care is authorized. This includes in-hospital care of the newborn infant. Infants born in a home or an office may receive the authorized care they need on an outpatient basis during a period

not to exceed 10 days following the date of delivery. However, no routine outpatient follow-up checks or care of infants are authorized after discharge from the hospital. (5) If the attending physician certifies the need of private-duty nursing, the government will provide partial coverage. (6) X-ray, radium or radioisotope therapy is authorized on an outpatient basis provided such therapy was begun or prescribed during a period of hospitalization. (7) Outpatient medical and surgical treatment of bodily injuries is authorized. (8) Services of a nurse anesthetist are authorized if the attending physician certifies the services were required for proper treatment of the patient. (9) Services of a physical therapist during hospitalization are authorized and also on an outpatient basis for a limited period following discharge from hospitalization for surgery when the attending physician certifies that they are required for the proper care and treatment of the patient.

*33. You mentioned a limitation on the treatment of emotional disorders at civilian medical facilities. What are they?*

First of all, the disorder must be acute and it must constitute an emergency that threatens the life or health of the patient.

*34. Is there any time limitation on treatment of dependents for an emotional disorder?*

Yes, the disorder will be treated until it subsides or until arrangements can be made for care at other than government expense, whichever comes first. In any case, hospitalization at government expense will not exceed 21 days.

*35. Specifically what type of emotional disorder, if any, falls within the Medicare Program?*

To qualify under the program, the disorder must fall into one of these categories: (1) An acute emotional disorder complicating pregnancy or occurring within six weeks after delivery; (2) an acute emotional disorder that necessitates immediate hospitalization to protect the patient's life or health; or (3) an acute emotional disorder arising during hospitalization for another condition that qualifies under Medicare.

*36. Is an extension ever granted beyond the maximum 21-day limit on treatment of emotional disorders?*

Requests for extension are considered on a case by case basis when there are overriding circumstances. For instance, the dependent's sponsor may have been absent on an overseas assignment and could not complete transfer arrangements within the specified time limitation.

*37. To whom should requests for extension beyond the 21-day limitation on treatment of emotional disorders be sent?*

For dependents who are stationed outside the United States and Puerto Rico, the appropriate overseas commander has the authority to make this determination.

Requests for extension of treatment of acute emotional disorders in the United States and Puerto Rico should be made by the sponsor, the dependent or other representative to the Contracting Officer, Office of the Surgeon General, U. S. Army, Denver, Colo. 80240.

*38. What information should be included in the request for extending the treatment of acute emotional disorders?*

To be considered, the request must contain or be accompanied by the following information: (1) Length

of time for which the extension is requested; (2) full name of the patient and his relationship to the sponsor; (3) the sponsor's name, rank, serial number, branch of service and duty station; (4) the name(s) and address(es) of hospital(s) furnishing care; (5) date(s) of admission to hospital(s) and address(es) of hospital(s) furnishing care; (6) date(s) of admission to hospital(s); (7) physician's statement giving diagnosis, circumstances of admission and brief description of course of treatment for the acute phase of the disorder; (8) reason(s) why suitable arrangements can't or could not be made for care at other than government expense within the first 21 days; and (9) an estimate of time required to complete suitable arrangements.

*39. What types of surgical care are specifically authorized at civilian medical facilities?*

There are several types authorized but surgery must be rendered under the conditions stated. The following types of surgery are some that are specifically authorized: (1) Eyes—for aiding or improving vision impaired by glaucoma, cataracts, strabismus (cross-eyes) or other conditions. (2) Ears—for the restoration or improvement of hearing. (3) Harelip and/or cleft palate—for initial repairs and for subsequent repairs known and established as a requirement at the time of original surgery. Subsequent revisions are not authorized. (4) Plastic surgery of the nose—for the improvement of breathing only. (5) Skeletal defects such as club foot or a congenital dislocated hip, but only when surgical treatment is required as an *in-hospital* patient to improve function. Care normally provided on an outpatient basis and not requiring hospitalization is not authorized. (6) Fingers and toes—removal of superfluous fingers and toes and correction of conditions in which two or more fingers or toes are wholly or partly united are authorized only for the improvement of function. (7) Scars—treatment is authorized only when they are ulcerated or there is clinical evidence of malignancy or when the scar impairs some function. (8) Tumors, cysts, plantar and other warts, wartlike growths, birthmarks and moles—surgical removal only if they are bleeding, ulcerated, painful, show clinical evidence of malignancy or impair functioning. (9) Plastic surgery of the breast—Only when severe pain or marked disability is present. (10) Sterilization procedures—only when, in the opinion of the attending and consulting physicians, such a procedure is necessary to the proper management of a medical or surgical condition for which treatment is authorized. No other reasons are valid for payment under Medicare.

*40. Is there any medical care which is specifically excluded from the Medicare Program?*

Yes. Most exclusions have been given or implied elsewhere but here are some examples of specific types of care not authorized from civilian sources: (1) Surgical care requested by the patient but which is not medically indicated. Examples are cosmetic surgery for psychological reasons or to improve appearance; (2) congenital defects of the skeletal or nervous systems which are readily identifiable as being chronic and longstanding; (3) sterilization for socio-economic reasons; (4) procedures designed to correct infertility or sterility; (5) removal of tattoos; (6) treatment of nervous and mental disorders (except 21 days' hospitalization for acute emo-



tional disorders constituting an emergency); (7) treatment of chronic diseases (except for acute flareups or acute complications requiring hospital treatment or for inpatient surgery to improve functions); (8) care normally given by nursing or convalescence homes; (9) visits by or to a physician for examination of an infant, born in a hospital, after the infant's release from the hospital; (10) civilian ambulance service; (11) prosthetic devices such as artificial limbs, artificial eyes, hearing aids, orthopedic footwear, spectacles and similar medical supports or aids; (12) hospitalization solely for diagnostic purposes when patients are not acutely ill or when diagnostic surveys are not followed by in-hospital surgery; (13) treatment of nonacute medical conditions such as infertility or sterility, tests to determine pregnancy, and others; and (14) tests and procedures such as psychological, psychometric or intelligence measuring tests; speech and/or hearing therapy; remedial reading; vision correction training; child guidance therapy.

**41. What restrictions are there on outpatient care from civilian sources?**

Unlike our service medical facilities where outpatient care is usually limited only by a facility's capability to give the required care, outpatient treatment and procedures obtainable at government expense from civilian sources are very limited.

The law and implementing regulations are very specific in this regard and (except for specified exceptions) the government will not pay for civilian outpatient care regardless of circumstances, emergency or the nonavailability of a uniformed services medical facility.

The authorized exceptions apply to: (1) Obstetrical and maternity care; (2) care of infants born outside a hospital (limited to 10 days following delivery); (3) treatment of bodily injuries—defined as fractures, dislocations, lacerations and other wounds; (4) services required of a physician or surgeon prior to and following hospitalization for a bodily injury or surgical operation; and (5) X-ray, radium or radioisotope treatment prescribed during a period of hospitalization.

**42. Specifically, what dental care is authorized in civilian facilities?**

It must be care which is considered to be adjunctive—in other words, the dependent must be hospitalized

for some other medical or surgical conditions, the treatment of which requires dental care.

Outpatient treatment of fractures, dislocations, lacerations and other wounds normally cared for by dentists may also be paid for by the government.

As mentioned before, the government does not pay for artificial teeth, bridges, fillings, straightening teeth or prolonged treatment of the gums.

**43. What drugs and medicines are available to dependents from civilian sources under Medicare?**

Only medications furnished by a hospital during the dependent's hospitalization. These are included in the hospital bill. The government does not pay for medications prescribed by a physician or dentist and dispensed on an outpatient basis and procured from civilian sources. There is an exception, however. A physician or a dentist furnishing authorized care may include in his bill the cost to him of drugs administered by injection which are directly related to the treatment being furnished.

**44. Who pays for transportation when a dependent is transferred from a civilian hospital to a uniformed services medical facility or from one USMF to another?**

Whenever possible, the transfer will be made by government transportation. If government transportation isn't available, the transfer is made at the patient's expense. Use of commercial transportation for this purpose is not authorized.

**45. In case I have any other questions concerning the Dependents' Medical Care Program, where can I go to find the answers?**

We hope that these questions and their answers will satisfy most points concerning the care to which your dependents are entitled under the Program.

However, in the event that you may not have found the answer to your specific question, the governing word, as far as Navymen are concerned, can be found in SecNav Inst. 6320.8B. You might also refer to the reprint of the special issue of ALL HANDS, "Rights and Benefits of Navymen and Their Dependents" (NavPers 15885-B). A short DOD pamphlet entitled "Dependents' Medical Care Program" is also available at naval hospitals or your personnel office.

## Navy Helps Flood Victims

Armed Forces' assistance during the northern California floods in December 1964 involved one of the largest helicopter relief operations in history, according to statistics which have now been assembled.

Navy, Marine Corps, Army, Air Force and Coast Guard units all had their share of work. When northern California was flooded, military helicopters flew more than 200 missions, evacuated 500 persons and delivered 194,600 pounds of emergency supplies during the first five days of the disaster.

In the early days of the flood two

ships, about 75 aircraft and some 3000 men were rushed to assist the flood victims.

The antisubmarine support aircraft carrier *USS Bennington* (CVS 20), serving as a helicopter base, carried 20 Marine Corps helos from El Toro, Calif., and plenty of emergency supplies. Bad weather limited helicopter operations until 26 December, when a mass airlift of badly needed supplies was made to the stricken areas. Even then rain, sleet, snow and fog continued to plague the operations.

The Naval Reserve escort ship *USS Walton* (DE 361), sailing from San Francisco, arrived at the Fields

Landing Coast Guard Base near Eureka on Christmas day. She carried radio gear, emergency electrical equipment, 1000 blankets, 2500 cases of C rations and 600 pounds of medical supplies.

Three men from Naval Schools Command, Treasure Island, and one man from the Naval Communications Center, San Francisco, volunteered to establish an emergency communications station near Eureka. It took them all night to set up, but the day after they were flown in, they had an amateur radio facility operating in the Red Cross Disaster Control Headquarters to expedite rescues.