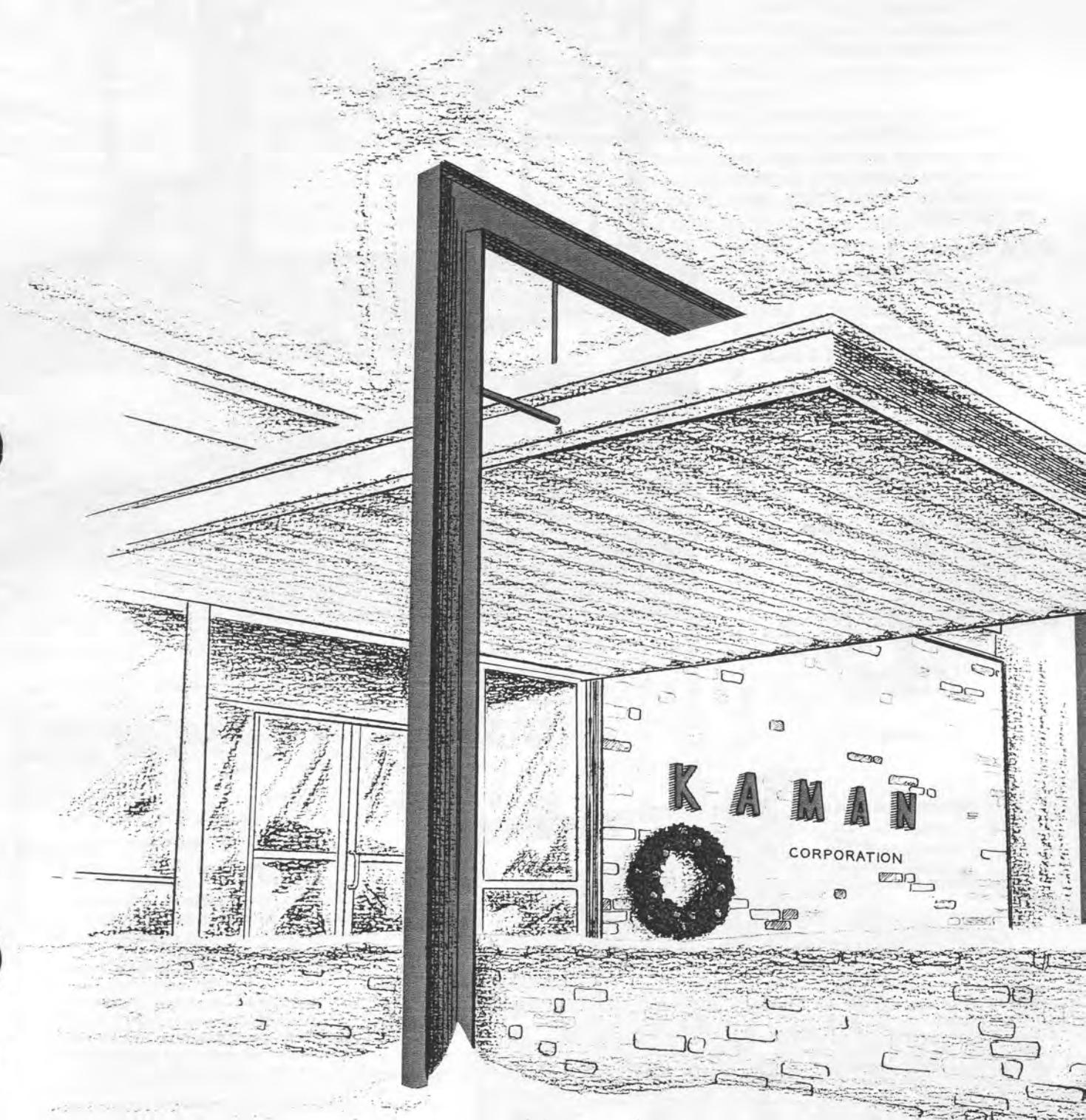


KAMAN
Rotor Tips



NOVEMBER-DECEMBER. 1968

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ON THE COVER

Holiday greetings and best wishes for the New Year from Kaman Corporation. Cover by Donald Tisdale, Service Publications.

FEATURES

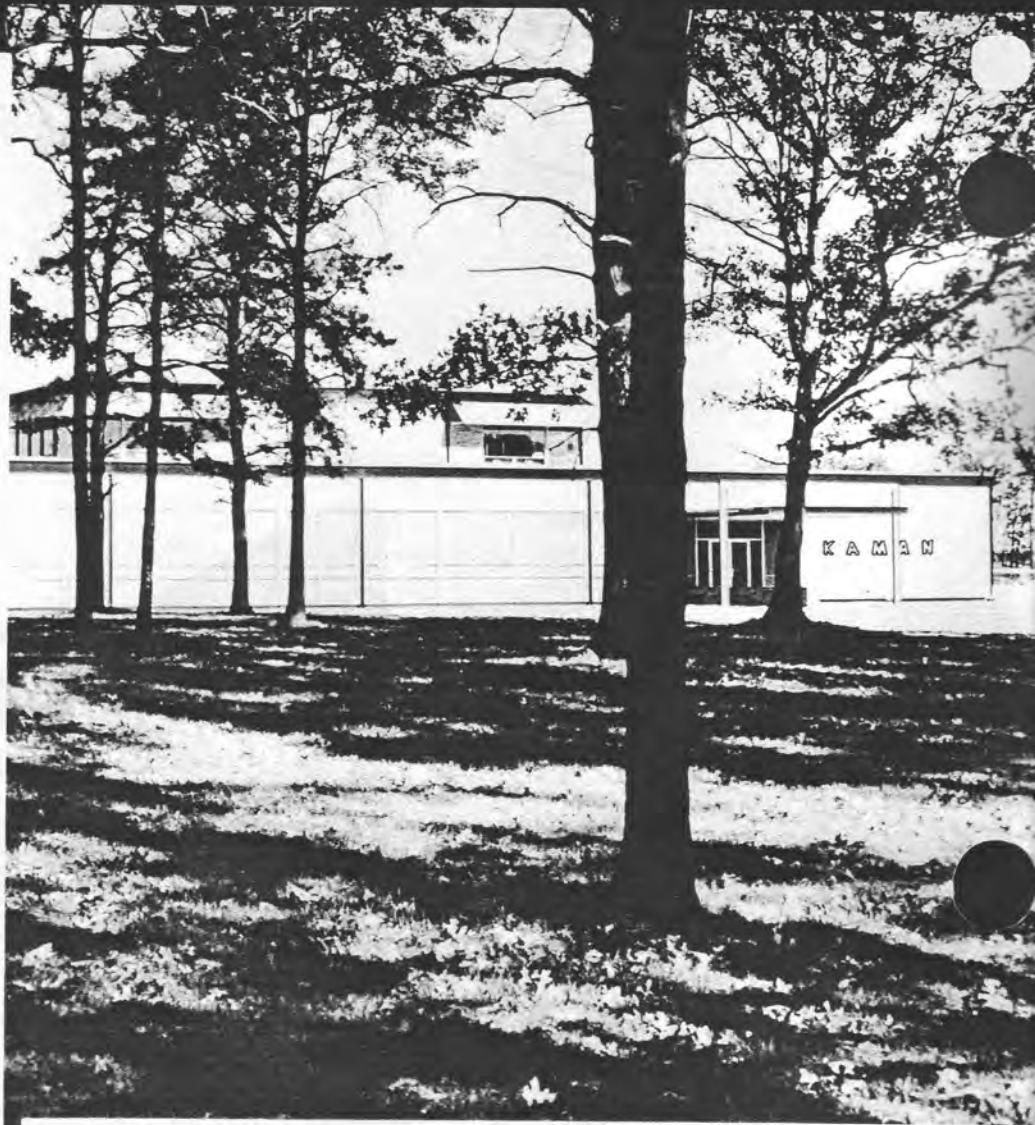
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HC-2 RECEIVES TWIN-ENGINE UH-2C

On September 23, UH-2C BuNo 151311 took off from Kaman Aircraft's Windsor Locks facility in Connecticut and headed south for NAS Lakehurst, N. J., where Helicopter Combat Support Squadron Two is based. The flight was a significant one, for it marked the first delivery of a twin-turbine SEASPRITE to the East Coast squadron. The helicopter is scheduled to go aboard the giant new aircraft carrier USS J. F. Kennedy. Other HC-2 twin-engine SEASPRITE's, since delivered, will also serve in plane guard, utility and rescue capacities on other carriers where these functions are now being performed by single-engine UH-2A's.

Heading the HC-2 acceptance team for the first UH-2C was Cdr Jack H. Hartley, the commanding officer of the squadron. He was accompanied by LCdr Raymond K. Mc-

Cullough, LCdr Harley A. Backstrom, Lt Charles Kiselljack, Lt Richard Stout and Henry N. Hunt, ADJ1. The photographs on this and the following page were taken on the flight line as HC-2 personnel became better acquainted with their new helicopter.

More than a year before, a similar scene was enacted. At that time, Helicopter Combat Support Squadron One, NAS Imperial Beach, Calif., accepted the first of a series of UH-2C's to be delivered to that squadron as replacements for UH-2A's deployed aboard aircraft carriers operating from the West Coast. Since then, "the Twin" has been steadily adding to the already impressive list of rescues at sea compiled by the single-engine SEASPRITE's. UH-2A and UH-2C crews have carried out many of these rescue missions off the coast of Vietnam.



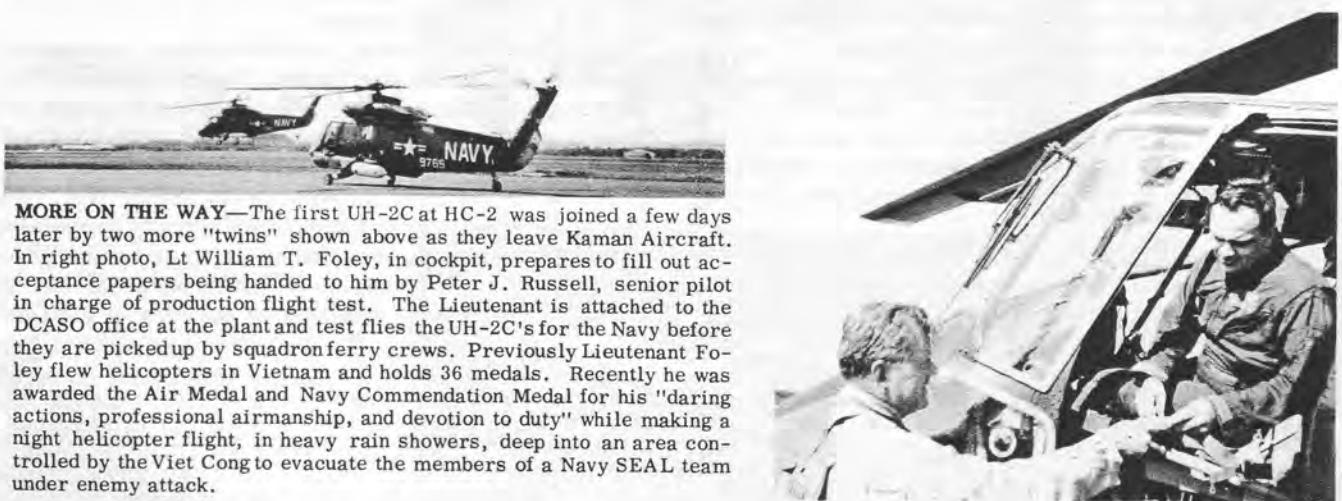
GETTING ACQUAINTED—In left photo, Charles H. Kaman, president of Kaman Corporation, introduces Cdr Jack H. Hartley, commanding officer of HC-2, to some of the UH-2C's new features. In second photograph, Kaman assists LCdr Harley A. Backstrom with safety belt adjustment. At right, posing for photograph before UH-2C headed for NAS Lakehurst are, left to right, Commander Hartley, LCdr Raymond K. McCullough, Lt Charles Kiselljack and Lieutenant Commander Backstrom. Lieutenant Kiselljack was the first Navy pilot to log 2000 hours in the single-engine UH-2 SEASPRITE.



FLIGHT LINE PHOTO—Navy and Kaman personnel pose for formal photograph during the UH-2C acceptance ceremony. Front row, left to right, are LCdr Raymond K. McCullough, HC-2 NATOPS officer; William E. Zins, director of Customer Service; Jack C. Goodwin, assistant chief test pilot at Kaman; LCdr Harley A. Backstrom, officer in charge of the first HC-2 detachment to receive a UH-2C; Cdr Jack H. Hartley, commanding officer of HC-2. Rear row, Al Ashley, Kaman senior test pilot; Lt Charles Kiselljack, HC-2 maintenance test pilot; Charles H. Kaman, president of Kaman Corporation; Robert L. Bassett, supervisor of Customer Operations Section; Hal E. Showalter, chief operations analysis; Herb R. Ross, superintendent of PAR/MOD; Nello B. Centori, general foreman of quality assurance; Ronald J. Dobson, production flight test foreman.



MEETING HIS NEW BABY—Henry N. Hunt, ADJ1, crew chief of HC-2's first twin-engine SEASPRITE, inspects helicopter auxiliary fuel tank. In right photo, Lt Charles Kiseljek, left, and LCdr Harley A. Backstrom, middle, listen intently as Jack C. Goodwin, assistant chief test pilot at Kaman, demonstrates ease with which cowling may be opened to provide access to the combining gearbox section.



MORE ON THE WAY—The first UH-2C at HC-2 was joined a few days later by two more "twins" shown above as they leave Kaman Aircraft. In right photo, Lt William T. Foley, in cockpit, prepares to fill out acceptance papers being handed to him by Peter J. Russell, senior pilot in charge of production flight test. The Lieutenant is attached to the DCASO office at the plant and test flies the UH-2C's for the Navy before they are picked up by squadron ferry crews. Previously Lieutenant Foley flew helicopters in Vietnam and holds 36 medals. Recently he was awarded the Air Medal and Navy Commendation Medal for his "daring actions, professional airmanship, and devotion to duty" while making a night helicopter flight, in heavy rain showers, deep into an area controlled by the Viet Cong to evacuate the members of a Navy SEAL team under enemy attack.

Minigun Turrets For 12 UH-2C's

The Navy has ordered a dozen Kaman UH-2C SEA-SPRITE's outfitted with chin-mounted minigun turrets, waist-mounted machine guns, armor and other features that give the UH-2 a suppressant firepower capability during search and rescue missions. The armed UH-2C's will be used by the Navy for quick dashes from frigates, destroyers or other vessels in the Tonkin Gulf to rescue downed airmen from the Gulf or the North Vietnam mainland.

Under a \$2.1 million order to Kaman Aircraft Division of Kaman Corporation, the Navy UH-2C gunships will be outfitted with a chin-mounted minigun turret capable of 4,000 rounds of 7.62 mm fire a minute, two waist-mounted 7.62 mm machine guns, an enlarged starboard gunport with armor, dual UHF electronics for homing in on survivors, additional self-sealing protection for fuel tanks, and stretched acrylic shatter-proof windows. Under provisions of a previous Navy contract, the armed UH-2's also will receive a 200-foot hoist cable for rescue work over areas covered with the tall jungle canopies typical of Southeast Asia; in addition, extensive armor will be added to protect the pilots, crew and vital areas of the aircraft, such as engine and controls. Armament will be installed on standard UH-2's being retrofitted to twin-engine configuration under Navy contract. The first armed ship is scheduled for delivery in February, 1969. Powerplants for the UH-2C are General Electric T58 turboshafts.

The single-engine UH-2, with exceptionally low vibra-

tion levels, was extensively flight tested as a weapons platform by the U. S. Army several years ago, and demonstrated point-target accuracy and area-target-capability enabling the copilot/gunner to consistently hit a one gallon can at ranges up to 400 meters (436 yards or nearly a quarter mile) with a chin-mounted turret. On Army tests of rocket firings from stub-wing mounted pods, the UH-2 again demonstrated itself as a point-area weapon capable of knocking out a wide variety of ground vehicles. Army tests were at indicated airspeeds up to 145 knots during weapons firings and showed little or no effect on stability and control of the UH-2. Tactical roles tested by the Army included suppressive fire, transport escort and assault.

UH-2's have been performing the SAR mission for the past three years, snatching downed airmen from hostile territory. The improved flying quality of the UH-2C, plus the suppressant fire power of the armament, will give the twin engine helicopter, its crew and the rescuees better protection from enemy ground fire during recovery operations.

Single-engine and twin-engine UH-2's are also used by the Navy to support carrier operations throughout the world, including "angel" missions in which UH-2's fly plane guard during launch and landing operations to recover airmen should mishaps occur. Kaman helicopters have been credited with saving more than 2,000 lives over the past 15 years, of which more than 700 have been rescued by UH-2 SEASPRITES.



SAR SPECIALIST—Holding a model of the HH-43 HUSKIE, Maj Paul Gerblieck, USAF, lectures on aircraft used in SAR work. ARRS HH-43's flew a total of 45,271 hours in 1967.

A fighter pilot downed deep in hostile territory, a quick dash in by a rescue helicopter under heavy ground fire, and minutes later the fighter pilot is safely on his way home.... Severely burned sailors aboard a Swedish tanker far at sea, quick assistance as two pararescuemen parachute from an HC-130H to treat the injured until port is reached.... A merchant vessel caught in a storm and in danger of sinking. A U. S. Coast Guard HC-130 overhead dropping life rafts and dewatering pumps, until a Coast Guard cutter comes alongside to take aboard the crew of the sinking vessel.... A lost fishing boat.... An overturned sailboat.... A lost hunter in the mountains.... A small aircraft overdue.... all receiving assistance in some form or another until the lives involved are safe from the perils of their experience.

Stories such as these can be read daily in the newspapers, stories that duly note the heroism and gallantry of the rescuers. Brave men and brave feats being deservedly recognized and applauded. But what is not read about, what does not appear in the newspaper is that these seemingly isolated and geographically separated rescues occur because of the actions of a worldwide network of Rescue Coordination Centers set up under the provisions of the National Search and Rescue (SAR) Plan, a network which covers the globe and is responsible for saving an average of ten lives PER DAY, and assisting an additional 50 persons PER DAY, day in and day out, year after year.

The National Search and Rescue Plan is perhaps one of the most widely used plans and yet little known to those whose lives depend on its success. Written in 1956 with subsequent revisions, the plan was signed by six Presidential Cabinet members and ordered into use by the Secretaries of the Army, Navy, Air Force and Treasury. It thus carries the following designations as a manual: AFM-64-2, CG 308, FM 20-150, NWP 37 (A).

THE NATIONAL

SEARCH AND RESCUE

SCHOOL

By Cdr Clarence C. Hobdy, USCG
Maj Paul Gerblieck, USAF

The National SAR Plan calls for dividing the world into three geographical SAR regions, each controlled by a single federal agency designated as the Regional SAR Coordinator and responsible for all SAR operations within that designated region. These three regions are:

Inland Region: The inland areas of the Continental United States (except the inland area of Alaska and waters under the jurisdiction of the United States, such as the Great Lakes, etc.).

Maritime Region: The waters subject to the jurisdiction of the United States; the State of Hawaii; the territories and possessions of the United States (except the Canal Zone) and the high seas.

Overseas Region: Overseas unified command areas, including the inland area of Alaska, which are not included within the Inland Region or the Maritime Region.

The Regional SAR Coordinators are as follows: Inland Region, U. S. Air Force; Maritime Region, U. S. Coast Guard; Overseas Region, U. S. Unified Military Commanders.

Each of the three SAR regions is sub-divided as necessary into sub-regions or sectors and Rescue Coordination Centers (RCC) are established in each region or sub-division thereof. The Rescue Coordination Centers represent the SAR Coordinator and direct the operations of all SAR facilities committed to any SAR mission within their geographical area. The Air Force has been designated SAR Coordinator in 13 of the 14 Overseas regions or sub-regions and has in turn designated the Aerospace Rescue and Recovery Service of the Military Airlift Command as its agent for SAR operations in these areas plus the entire Inland Region. So, in effect we find that the Coast Guard and the Aerospace Rescue and Recovery Service divide the world approximately in half for SAR responsibility.



DISTINGUISHED SPEAKER—BrigGen Allison C. Brooks, USAF, left, commander of the Aerospace Rescue and Recovery Service, is among the guest speakers who have appeared before classes at the National SAR School. With General Brooks is Cdr Clarence C. Hobdy, officer in charge of the school.



LEARNING TO SAVE—Personnel attending officer and enlisted classes at the National SAR School show deep concentration as they listen to their instructors. In bottom left photo, SSgt Charlie Fallin's hard work and study pays off in the form of a distinguished graduate award presented by Commander Hobdy. In a similar photo, top right, Col Arthur Beall, DCS/OPS, ARRS, presents a graduate emblem and diploma to Commander Roberts, USCG, as Commander Hobdy looks on. In bottom photo, officer SAR students receive a briefing in the combat information center aboard a major USCG cutter.



There are a total of 35 Rescue Coordination Centers which span the world and form the basic SAR network for rendering assistance to military and non-military persons and property in distress. Seventeen of these RCC's are Air Force manned, 13 Coast Guard, and five Navy. The officers and enlisted men assigned to the centers as RCC controllers or assistant controllers, operate the centers 24 hours a day. These are the men who control all SAR missions, the men who do not make the headlines of the newspapers, but who are responsible for the success of thousands of SAR missions every year, in every part of the world.

Since the inception of the National SAR Plan, both the Coast Guard and the ARRS have felt the need for a school that could train men of any service in the exacting job of controlling a SAR mission regardless of where it occurred or under what conditions. And so, in October 1966, the National Search and Rescue School came into being, jointly staffed by Air Force and Coast Guard instructors.

The National SAR School presents a four-week course of instruction on all aspects of the SAR spectrum to officers and enlisted men of diversified backgrounds and experience levels. Classes are comprised of Coast

Guard, Air Force (ARRS), FAA, and Foreign personnel, both military and civilian, directly connected with the Search and Rescue business. The majority of the students who have attended the fourteen classes held in the first year and a half of operation have been assigned to the various Rescue Coordination Centers throughout the world. In addition, there has been a good number of those assigned to SAR units operating aircraft and cutters, plus foreign students from nine countries. The goal is to place National SAR School graduates in every SAR unit throughout the world, regardless of the military service or country it works for. In addition, members of reserve military units have attended and in the near future, the Civil Air Patrol and Coast Guard Auxiliary will be sending students.

The National SAR School course curriculum consists of classroom lectures, practical problems, tours of various SAR facilities, guest speakers and group seminars. The curriculum begins with a brief review of the history of Search and Rescue. The SAR Organization is next examined, starting on the international level and then going on to the national level and the SAR network as outlined by the National SAR plan. SAR Organization is concluded with a study of a typical regional organization.

continued on page 25

Timely Tips

Help Prevent Delay, Delay, Delay (HH-43, UH-2)

An Accessory and Component Service Card is to an overhaul facility what your medical record is to a doctor. Both contain past histories of origin, use, wear and repair upon which present decisions or actions are based. Unfortunately, the cards often received by an overhaul facility either give no reason for removal (this means DELAY); contain erroneous information such as a wrong serial number (DELAY); or are so begrimed by dirt, grease and oil as to be unreadable (DELAY). Sometimes no card is received at all (DELAY). In some cases the "DELAY's" emphasized above have run into months while letters were exchanged in an attempt to straighten out the component history. In other cases, the component was completely overhauled when only repairs were necessary. Again this meant DELAY. While this is unfortunate from an overhaul point of view, it can mean a component shortage and many extra hours of work for a mechanic sweating it out "on the line" to keep a helicopter rescue-ready. He may be forced to remove parts from another aircraft. Pencil work may be aggravating—but it's essential to reduce unnecessary maintenance and down-time caused by the unavailability of hi-value components. When making out an Accessory and Component Service Card PLEASE: 1. Send in the card assigned to the component, do not substitute another card. 2. Give the reason for removal. 3. Give the correct component time. 4. Give the correct serial number. 5. Make sure the card is secure in the container or attached to the component. 6. See that the card is protected and will remain readable.

A.L. Burton, Group Leader, Service Records

Fuel System-Diverter Valve (UH-2)

Two paragraphs concerning the fuel system-diverter valve in NAVAIR 01-260HCA-2-4 (dated 1 October 1967, changed 1 February 1968) are subject to future scheduled handbook changes. On page 29, about halfway through paragraph 2-33 these statements will be added, "Position 1 and Position 2 are visible on the valve body adjacent to the handle. Position 1 is for normal fuel feed; Position 2 is for emergency fuel feed." The information will immediately follow that portion of the paragraph which reads "(see figure 2-22)." On page 296, paragraph 8-180, the CAUTION after step b will contain the following information: "Make certain that the valve handle is in Position 1 and is secured with shear lockwire."

R. H. Chapdelaine, Supervisor, Service Publications

Main Rotor Damper Replacement (UH-2)

Reports from overhaul shops indicate that some of the pitch control beams, P/N K659531-7, are twisted at the outboard clevis. This twist can occur during replacement of a main rotor blade damper assembly if the rotor blade is allowed to lead or lag too far with the damper disconnected. If, when the damper retainer bolt is removed, the blade starts to move, it is too late! To prevent this twisting, either disconnect the tracking turnbuckle (vertical link) from the pitch control beam prior to replacing the damper, or positively restrict the rotor blade movement.

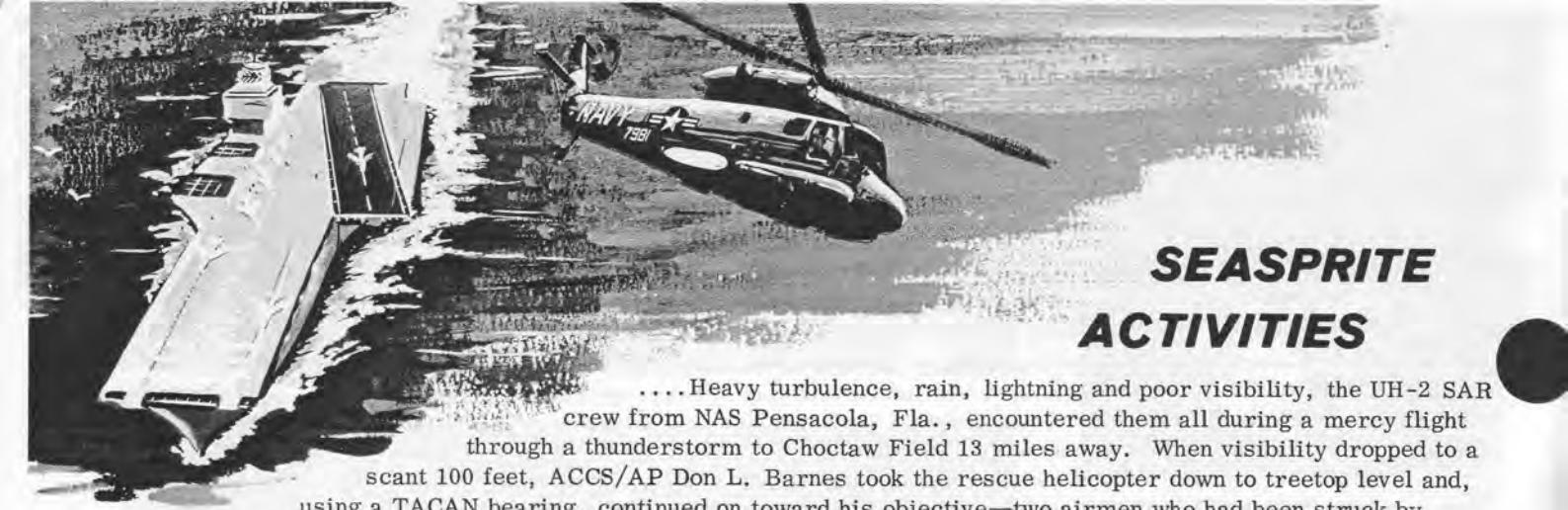
W. J. Wagemaker, Service Engineer

Ordering Decalcomania (HH-43)

Air Force Form 124A, which is shown below, is to be used when ordering available labels and markings from supply. In the past, these decalcomania were ordered by P/N and FSN; however, most source codes have been changed and FSN's deleted. Authorization for use of the Publication/Forms Requisition can be found in AFM 7-1, which directs that decalcomania be ordered in accordance with AFR 6-4. According to AFR 6-4, the following information is necessary to complete an order: The Technical Order and figure number in which the required item is depicted; P/N; Title (wording of marking or decal); P/N and manufacturer of the end item on which it will be used; Quantity required; and the usual addresses, dates and remarks.

1 PUBLICATION OR FORM NUMBER REF ID: 124A-1 T.O. 1H-43(H)B-4 Fig. 3-106		UNIT OF ISSUE	2 PDO NO.	3 QUANTITY	4 DATE	5 EAM CARD REQUISITION	
TO: FDO 4030 WRAFB ROBBINS AIR FORCE BASE GEORGIA 31093 ATTN: RAPA		5. DEPOT USE		00060	8148	<input checked="" type="checkbox"/> QUARTERLY	<input type="checkbox"/>
FROM: DCASO 408549 Kaman Corporation Old Windsor Road Bloomfield, Ct. 06002		7 REMARKS OR CERTIFICATION End Item: K711501 Main Rotor Blade Manufacturer: Kaman Corporation Bloomfield, Ct. 06002			6. SPECIAL PROJECT	<input checked="" type="checkbox"/> EMERGENCY	<input type="checkbox"/>
AF FORM 124A, FEB 61 GSA GEN. REG. NO. 27-25-51 U.S. GOVERNMENT PRINTING OFFICE: 1966 1-10000		8. (FOR FORMS ONLY) MONTHLY USAGE COMPLETENESS OF HANDLING COMPLETED ITEM			9. (FOR FORMS ONLY) MONTHLY USAGE COMPLETED ITEM	<input type="checkbox"/> SERIES	PUBLICATIONS/FORMS REQUISITION
		10. SIGNATURE AND TITLE <i>J. L. Cardelle</i> J. L. Cardelle, GFE Administration			11. SIGNATURE AND TITLE <i>J. L. Cardelle</i> J. L. Cardelle, GFE Administration	COMPLETED	

L.A. Karpey, GFE Controller



SEASPRITE ACTIVITIES

.... Heavy turbulence, rain, lightning and poor visibility, the UH-2 SAR crew from NAS Pensacola, Fla., encountered them all during a mercy flight through a thunderstorm to Choctaw Field 13 miles away. When visibility dropped to a scant 100 feet, ACCS/AP Don L. Barnes took the rescue helicopter down to treetop level and, using a TACAN bearing, continued on toward his objective—two airmen who had been struck by lightning. Visibility was so poor that when the SAR crew arrived over the field the injured men couldn't be located until ground personnel fired a red flare. The SEASPRITE landed and the accident victims were loaded aboard after being examined by Lt J. L. Fleming (MC), and T. L. Heath, HM2. With the thunderstorm still in progress, the UH-2 lifted off and headed on a reverse TACAN course, again at treetop level, for NAS Whiting Field where the injured were taken to the hospital. Others sharing in the hazardous flight were ATN2 John M. Tyson and ATNAA James A. Efta.... In another mission, Chief Barnes and his crew picked up two pilots whose T-34 had crashed in a forest 10 miles from Pensacola. Others aboard the SEASPRITE were Petty Officer Tyson, copilot; AMS3 Timothy J. Dunleavy, crewman, and Lt R. R. Henrickson (MC), a doctor.

.... A sailor who fell from the flight deck of the USS Constellation was rescued a few minutes later by a UH-2C from HC-1's Det 64 deployed aboard the carrier. As Lt(jg) A. H. Sandt held the SEASPRITE in a hover, J. R. Rogers, AMS3, leaped from the helo into the water and helped the rescuee stay afloat. The crewman then placed the sailor on the rescue seat, hauled himself onto the device and both were hoisted to safety by W. A. Matthews, ADJ3. Copilot on the mission was Ens C. F. Jamison.... A downed pilot was rescued by a UH-2C crew from HC-1's Det 19 aboard the USS Hancock. The rescuee was cut loose from his entangling shroud lines by UH-2C crewman ADR3 E. V. Matusiak who leaped into the water to assist him. LCdr Conrad Metcalf was pilot of the SEASPRITE, Lt(jg) T. J. Clothier was copilot and the 1st crewman was ADJ2, G. L. Schwake....

.... A pilot who ejected from his crippled A-7 was only in the water for 45 seconds before being rescued by a UH-2 crew from HC-2's Det 66 deployed aboard the USS America. SEASPRITE pilot Lt(jg) T. L. Olson and his crew spotted the descending chute and swooped in for the rescue as soon as it hit the water. Others aboard the helo were Lt J. P. Meyn, copilot; AN P. C. Carroll, first crewman; and AMH1 F. A. Marr, second crewman.... A UH-2 crew from HC-2's Det 11 aboard the USS Intrepid rescued the pilot of an A-4 after it was in a mid-air collision at night with another aircraft and he was forced to eject. The downed airman was rescued without incident despite the blackness of the night and marginal weather. Lt R. L. Bennett was SEASPRITE pilot; Lt(jg) J. C. Martin, copilot; ADJ3 R. E. Laird, 1st crewman; and AEAN A. R. Storniolo, second crewman.

.... Less than six minutes after bailing out of his crippled aircraft, an A-6 pilot was plucked from the sea by a UH-2 SAR crew from NAS Whidbey Island, Wash. The other occupant of the downed aircraft was rescued by a pleasure boat in the area. Cdr William R. Matthews was pilot of the SEASPRITE, Lt Robert O. Brockmeier was copilot and Robert L. Allen, QM1 (AMS), was crewman.... Flying through a heavy fog, sometimes with zero visibility, a UH-2 crew from the SAR unit at MCAS Beaufort, S. C., airlifted a critically-injured staff sergeant from the station to the Charleston Naval Hospital 45 miles away. To pick up the patient, Capt Hurston Hall flew 20 feet over a river and kept the shoreline in sight until the station hospital could be located. Still flying under IFR conditions after picking up the patient, the SEASPRITE pilot climbed to 1500 feet above the fog. At Charleston, the helicopter let down with a radar approach and then followed the river to the hospital landing pad. A radar approach was made into Beaufort on the return flight. With Captain Hall were SSgt Arthur R. McCann and LCpl Dennis Kirkland, crewman; Lt James R. Wilson (MC), a doctor; and HM2 Richard F. Mieszkowski, a corpsman.

.... A UH-2 from Cherry Point launched at night and flew through broken haze to bring medical assistance to two auto accident victims near the Cape Lookout lighthouse. Aided by the lights from two automobiles, Capt F. G. Hill landed the helicopter in an area surrounded by sand dunes. Lt G. F. Slade (MC), pronounced one man dead and then administered first aid to the other accident victim. Sergeant J. C. Nichols was copilot and Sergeant J. L. Leinart, crewman, on the mission.

.... A possible heart-attack victim was airlifted from a boat off the North Carolina coast by a UH-2 crew from the SAR unit at MCAS Cherry Point, N. C. Capt S. F. Roberts, SEASPRITE pilot, said use of the fishpole boom allowed him to hover away from the boat's antennas while the patient was being hoisted to the helicopter. Others aboard the UH-2 were Cpl E. W. Barewich, copilot; SSgt F. G. Yantz, crewman; and Lt R. M. Johnson (MC), a doctor.

FIRST ONE—The first single-engine UH-2 to be overhauled at Kaman Aircraft under the Progressive aircraft rework (PAR) program was accepted by the Navy on November 13th and flown to the SAR Unit at MCAS Beaufort, S.C. Lt David C. Wynne of HC-4, NAS Lakehurst, N.J., who piloted the SEA-SPRITE on the trip south, is shown accepting clearance papers from Lt William Foley, flight test officer from the DCASO office at Kaman Aircraft. Looking on are the other two members of the HC-4 ferry crew, Lt John Doering, copilot, and Howard F. Jones, ADJ2, crewman.



Helicopter Combat Support Squadron Five NAS Imperial Beach, Calif., had a formal Change of Command Ceremony in September, when Cdr Ronald L. Helms, left, relieved Cdr Charles O. Borgstrom, Jr., right, as commanding officer. Commander Borgstrom was the first commanding officer of HC-5, the West Coast training squadron for helicopter combat squadrons of the Pacific Fleet. In addition, it provides detachments for non-aviation units, such as the U. S. Coast Guard icebreakers deploying to the Arctic and Antarctic regions.

Commander Borgstrom has 22 years of Naval service, including nearly two years in the enlisted ranks. Commander Helms, who has 20 years of Naval service, including a year as an enlisted hospital corpsman, has had a career similar to that of Commander Borgstrom. Both are former airship pilots, and both have attended and received a degree in International Relations from the Naval Postgraduate School, Monterey, California. In Antarctica, a mountain has been named after Commander Borgstrom for his services there during Deepfreeze '65 and '66. Commander Helms has attended the School of Staff and Command at the Naval War College, Newport, R. I. From 1963 to 1964, Commander Helms was air officer aboard the USS Thetis Bay(LPH-6). Commander Borgstrom was ordered to the USS Valley Forge(LPH-8) as Air officer.

HC-5 has a vital mission to accomplish in the training of personnel whose primary objective is the saving of lives.

UH-2 Crew In Mountain Rescue

"The mission took nearly 8-1/2 hours of flying, covered over 550 miles, took us twice into the mountains, once at night. We were 30 miles inside the Greek-Turkish buffer zone and only 40 miles from the Albania border. It required three refuelings, nine landings...and a total time covering 18 hours." Thus UH-2 pilot Lt Henry L. Clay III summed up the efforts necessary to evacuate a seriously-injured Greek boy from a remote mountain village north of Arta. Other members of the SEA-SPRITE crew were the copilot and navigator, Lt(jg) Clement G. Tourigny, and the crewman, AN Thomas E. Hollis. All three are attached to HC-2's Det 59 deployed aboard the USS Forrestal. The USAF Military Airlift Command was mission coordinator.

After leaving the carrier in response to the call for help, the UH-2 flew to Athens to receive instructions and pick up an interpreter. Later the helo refueled at Araxos with the help of the Greek Air Force and then began the hazardous 100-mile flight toward the village. Due to the lack of navigational aids and the gathering darkness, it was necessary to fly at 1500 feet while following a river valley bordered by 6000-foot mountains. Once in the area, a 30-minute night search was made for the village but proved fruitless. With fuel low, the SEASPRITE returned to Araxos and landed shortly before 11 p.m.

At daybreak, after servicing by a C-1A crew from the Forrestal, the UH-2 crew took off and again followed the valley. When people below waved sheets, the helo pilot made a confined area landing only to find it was not the right village. When the SEASPRITE landed again later in a narrow valley, the interpreter found the boy was in still another village on the other side of a 7,200-foot mountain—and fuel was getting low! Fifteen minutes later Lieutenant Clay set the helicopter down in a small mountainside pasture, 2700 feet above sea level. With the child and his doctor aboard, and less than 700 pounds of fuel left, the UH-2 headed back over the same rugged terrain for Preveza. There, the child, his doctor and the interpreter boarded the C-1A for a flight to the hospital.



DET 47—Personnel from HC-4's Det 47 deployed aboard the USS Little Rock, pose for this informal photograph. Left to right, G. T. Lawson ADJ2; D. L. George, ADJ1; C. Bleacher, AT2. Rear row, G. T. Andrews, AMS2; R. E. Cullom, ADJ2; J. Prier, AE2; E. Sowders, AMH2; Lt C. Stevenson, Lt C. W. Rader, officer-in-charge (USN photo)

Q's AND A's

If you have a question regarding Kaman Aircraft maintenance, send it along to Rotor Tips. The Service Department's engineers will be glad to answer it.

Q. (Applies UH-2) WHY IS IT NECESSARY TO INSTALL THE COUNTERSUNK WASHERS UNDER THE 12-POINT BOLTHEADS, WHEN INSTALLING THE TAIL ROTOR GEARBOX?

A. It is necessary to use countersunk washers because the 12-point bolts (P/N NAS626-28 and NAS625-26) which are used to secure the tail rotor gearbox to the tail pylon have a fillet radius below the bolthead. This fillet provides for greater bolt strength. When using these bolts, countersunk washers MUST always be used and installed properly. The bolt on the left in the photo shows an incorrect installation when a plain washer is installed (or if the countersunk washer is reversed). Notice the gap between the washer and the bolthead—this not only prevents good bolthead contact but also causes the washer ID to contact the bolthead fillet which creates adverse joint stresses. The countersunk portion of the washer provides clearance for the bolthead fillet and enables the bolthead to bear fully against the gearbox mounts. The bolt and washer on the right is correctly assembled.



G. M. Baltzley, UH-2 PAR/Mod

Q. (Applies UH-2) HOW MANY TURNS SHOULD THE LATERAL AND LONGITUDINAL CYCLIC CONTROL RODS BE SHORTENED WHEN RIGGING THE AZIMUTH ASS'Y?

A. After establishing length with the azimuth bar flat, lateral and longitudinal control rods, which are located between the mixer and the azimuth, should be shortened as shown below. This procedure is necessary in order to ensure maximum longitudinal and lateral control in all flight regimes.

	Lateral (turns)	Longitudinal (turns)
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UH-2A and UH-2B	1-1/2	2
UH-2C	1-1/2	1

P.H. Hallock, Mechanic Specialist, PAR/MOD

Q. (Applies HH-43; UH-2) WHAT ARE SOME IMPORTANT POINTS TO REMEMBER WHEN FLAG-TRACKING MAIN ROTOR BLADES?

A. Tracking helicopter rotor blades with a tracking flag requires caution and experience. The degree of concern varies with the condition of the ground surface on which the job is being performed, the size and height of the rotor blades and the prevailing wind conditions. Naturally, the procedures for a particular helicopter should always be followed, but the following general recommendations will pertain to any chopper:

1. Always have a qualified test pilot or experienced pilot at the controls.
2. Apply contrasting colors (grease pencil or chalk) to the blade tips, otherwise, it will be difficult to determine which is the high or low blade.
3. The man using the tracking flag should position himself so that he is facing the direction of the blade tip-path. In the event he loses control of the flag, it will then be carried away from his body.
4. Adjust the flag so the midpoint will be at blade tip-path when blades are at operational speeds.
5. Wait for pilot's signal before placing flag into the rotor tip-path.
6. Approach helicopter with top of flag at ample outboard angle to ensure against premature blade contact.
7. Select resting point of flag staff at spot on the ground just outside of blade tip-path and attain a comfortable stance.
8. Hold flag material either in-line with radius of rotation or slightly canted with direction of blade rotation to get better indications, avoid tearing material, and reduce the possibility of loss of flag control due to excessive engagement.
9. With base of flag staff on preselected spot on the ground, slowly and steadily move flag into tip-path until contact has been accomplished on all blades; remove the flag when one contact per blade has been accomplished.
10. Move away from helicopter and inspect marks on flag.
11. If possible, especially when tracking high rotors, position a second man facing the flag man. His duty will be to help judge flag height for the flag man.
12. Refer to the applicable maintenance handbooks for adjustment procedures.

W. J. Wagemaker, Service Engineer

Q. (Applies UH-2) WHAT CRITERIA IS USED TO DETERMINE THE DEGREE OF HYDRAULIC SYSTEM CONTAMINATION?

A. The criteria in the following list is to be used to determine hydraulic system contamination. These MAXIMUM limits are contained in Kaman Process Specification (KPS) 543. Particle counting should be accomplished in accordance with ARP 598; testing should be accomplished with Method 3009-T of Federal Test Method Standard 791a.

Micron Size	No. of particles
5-10	16850
10-25	4020
25-50	580
50-100	83
7100	8

C. D. Morse, Service Engineer

Q. (Applies HH-43) AN IMPROPER OIL LEVEL IN THE TRANSMISSION OIL TANK OR PULSATIONS FROM THE TRANSMISSION PUMP ARE THE TWO MOST PROBABLE CAUSES FOR NEEDLE FLUCTUATION IN THE TRANSMISSION OIL PRESSURE GAGE. WHAT STEPS SHOULD BE TAKEN BY MAINTENANCE PERSONNEL TO DETERMINE THE SOURCE OF THE FLUCTUATION?

A. First, make certain the specified oil dip stick (refer to the listing below) is being used to check the oil level. If the dip sticks were switched during servicing of two or more aircraft, or a replacement stick was not the one specified, erroneous oil level readings would result and the required amount of oil would not be maintained in the tank. If the proper dip stick is being used, the next step is to check the snubber valve, P/N AN-1H, which is threaded, in-line, into the transmission oil pressure transmitter, P/N MS28008-2. The oil pressure transmitter is located in the left rear portion of the cabin ceiling at Station 143, W. L. 88, and B. L. 10LH. If the porous disc in the snubber valve has been ruptured, it will not damper the pulsations or surges of hydraulic pressure from the transmission oil pump. There is also the possibility that a standard AN fitting, without the disc, may have inadvertently been substituted for the snubber valve. If the dip stick and snubber valve check out satisfactorily, the needle fluctuation is probably due to the casting variations which exist among a few aircraft transmissions. Although comparatively slight, these variations may make a difference in the oil tank level, especially during certain flight maneuvers. To compensate for this condition (which is not common) proceed as follows: After the dip stick shows the tank to be "full," add a small amount of oil to the system and then turn the aircraft up while observing the transmission oil pressure gage. If the needle continues to fluctuate, repeat the process until the needle reacts normally (discount the small amount of movement which usually occurs during turn-up). At this time, mark a new "full" level on the oil dip stick. During the time oil is gradually being added, the tank may be filled to the point of overflow at the filler neck; the air space remaining in the oil tank above the filler neck is adequate for oil expansion purposes. The dip stick level indication should always be rechecked after a transmission change.

AIRCRAFT P/N	CAPACITY	DIP STICK OVER-	
MODEL	CAP ASSY	(GALLONS)	ALL LENGTH(in.)
*HH-43B	K778530-1 or -3	1.8	8.060
**HH-43B	K778543-1	3.0	9.290
HH-43F	K778543-1	3.0	9.290

*Before, **After, incorporation of T. O. 1H-43(H)B-575 and/or -575C.

R. J. Trella Service Engineer

Q. (Applies UH-2) IS THE O-RING INSTALLATION TOOL, P/N WE301K, AVAILABLE FOR FLEET USE?

A. Yes, the tool, which appeared in the May-June-July, 1968, issue of KRT, may be ordered using FSN 5120-937-7428. Kaman is currently processing paperwork to add the tool to the General Standard Support Equipment List.

G. M. Legault, Asst. Supervisor, Service Engineering

KAMAN SERVICE ENGINEERING SECTION—R. L. Bassett, Supervisor; G. M. Legault, Asst. Supervisor

Q. (Applies UH-2) SHOULD THE NEW KACARB-TYPE BEARINGS BE LUBRICATED?

A. No! It may be difficult to believe, but KaCarb bearings should never be lubricated. These bearings are designed to function in an almost frictionless environment and grease, oil or any foreign material is detrimental to bearing performance. The bearing does require thorough cleaning periodically but only with clean, fresh water or Inhibisol. Rodends containing KaCarb bearings have the words "KaCarb" and "NO LUBE" electro-etched on the outer surface of the banjo. Dogbone links and other painted cranks which use KaCarb bearings will have white paint stripes for identification.

W. J. Wogemaker, Service Engineer

Q. (Applies UH-2) WHEN CHECKING THE TAIL ROTOR DRIVE SHAFT OR THE ENGINE DRIVE SHAFT, SHOULD THEY BE MOVED BY HAND?

A. No. The tail rotor drive shaft and engine drive shaft should not be moved fore and aft because the repeated pumping action forces grease out of the couplings. Experience has shown that the condition of the temp tape mounted on the Zurn coupling is the best indication of drive shaft and coupling condition. If the tape is not black, the coupling and shaft are OK; however, if the tape indicates excessive heat (by turning black) or continued grease leakage is evident, the necessary steps must be taken to correct the over-temp condition. When packing a Zurn coupling with grease, use the minimum amount rather than the maximum called out in the handbook. This will help to prevent overpacking and subsequent spin-out of grease.

R. J. Trella, Service Engineer

Q. (Applies UH-2C) HOW CAN ENGINE SHUTDOWN BE ACCOMPLISHED IF COMPLETE ELECTRICAL FAILURE, INCLUDING THE ELECTRICAL THROTTLE AUXILIARY BATTERY, OCCURS?

A. In the unlikely event that all electrical systems fail at once, the throttle cannot be used to actuate the fuel control. The most practical method to accomplish engine shutdown in such cases is to open the airframe fuel filter drain valve. This action allows air to be drawn into the fuel system by the engine-driven fuel pump and causes engine flameout. If the throttle is in FLY and the drain valve is opened, flameout will occur in approximately 10 to 12 seconds. If the throttle is in IDLE, flameout will occur in approximately 3 minutes.

H. Zubkoff, Service Engineer

Q. (Applies UH-2) CAN MORE THAN ONE TEMPERATURE TAPE BE USED ON A COMPONENT?

A. Yes. Some detachments have found it expedient to use two temp tapes on drive shafts, couplings, etc. When this is done it is not necessary to rotate a shaft to inspect a tape; one will always be visible. NAVAIR 01-260HCA-2-4.1 is being changed to specify that two tapes be used on each main drive shaft Zurn coupling. The tapes will be placed 180 degrees apart (directly opposite each other). Use of two tapes will also provide a second reference in the event one tape indication is not positive.

R. J. Trella, Service Engineer

Southeast Asia

Pressing forward in the face of Viet Cong fire, an HC-7 SEASPRITE crew ignored a hit in the tail rotor and rescued a downed Corsair pilot only 60 yards from the enemy beach. Lt James R. Lee of Attack Squadron 27 had ejected from his flaming plane and splashed down in the Gulf of Tonkin near a fishing boat. The vessel did not close in on him, but Viet Cong on shore launched a small boat and headed for the downed pilot. At the same time the rescue helicopter, deployed aboard the frigate USS Sterett, arrived on the scene. Lt Timothy S. Melecosky and his UH-2 crew plucked Lieutenant Lee from the water as A-7's flying cover strafed the VC boat and pounded it with rockets until the crew leaped into the water. With Lieutenant Melecosky on the hazardous rescue, which only took 12 minutes, were Lt(jg) Phillip D. Cullen, AMS1 Bobby Fields and AD2 Bill Luse.

In an early evening SAR mission, a UH-2 crew from HC-7 rescued the bombardier navigator of a downed A-6 from the Gulf of Tonkin but was driven off by heavy small arms fire before the pilot could be picked up. LCdr Richard G. McKee was rescued 33 minutes after his first distress call was received. The search then began for the pilot of the downed A-6, however, increasingly heavy enemy fire forced the SEASPRITE to withdraw. Pilots of the helicopter, deployed aboard the frigate USS Horne, were Lt Samuel H. Arundale and Lt(jg) Douglas Wassmer. Crewmen were AN Charles F. Johnson and AE3 Gerry W. Grubbs. In a message afterward, VAdm William F. Bringle, COMSEVTHFLT, said the mission was "...another magnificent example of the dedication and dependability of our SAR forces. It is reassuring to note the can do attitude and the consistently outstanding performance of this small but vital part of the Seventh Fleet. Well done."

A UH-2C flying plane guard for the USS Constellation responded after two pilots ejected from their crippled aircraft and landed in the water a few miles from the carrier. When one of the survivors became entangled in his shroud lines, a SEASPRITE crewman leaped into the water and cut him loose. Both downed pilots were picked up by the HC-1 Det 64 rescue helicopter which was piloted by LCdr K. J. Rieder. Lt R. A. Fitzsimmons was copilot and crewmen were ADR1 J. B. Hall and AX3 J. H. Bagge.

One of two pilots who ejected from their aircraft after an explosion, was picked up by a UH-2 crew from HC-1's Det 14 deployed aboard the USS Ticonderoga. The other pilot was rescued by a destroyer. Lt Douglas B. Hackett was pilot of the SEASPRITE and Lt(jg) Benny K. Life, copilot. AMS2 John D. Thayne was crewman. The helicopter was in the process of transferring personnel and baggage to a destroyer when notified of the emergency. In another Det 14 rescue, a sailor who fell overboard just before dawn, was located and plucked from heavy seas by a UH-2 crew consisting of Lt Randall W. Vitek, pilot; Lt(jg) Donald L. Morgan, copilot; ADJ3 David R. Tracht and ATN3 Warren D. Niska, crewmen. One of the crewmen leaped into the water to aid the survivor. In a third rescue carried out by the HC-1 detachment, two pilots who ejected from their crippled aircraft were picked up soon after hitting the water. Petty Officer Thayne leaped from the helicopter to help one survivor and later left the UH-2 again to aid the second survivor. SEASPRITE pilot was Lieutenant Vitek and Lieutenant Morgan was copilot. The other crewman was Mark N. Holt, AN.

Flying at night under instrument conditions, a UH-2 crew from HC-2's Det 66 aboard the USS America rescued Lt Donald M. Bennett after he flew his crippled A-7 into the waters of the Gulf of Tonkin and then ejected. Due to the extreme darkness and other conditions, it was necessary for the SEASPRITE pilot, Lt(jg) J. F. LeCorn to make three approaches before the survivor could be hoisted to safety. Other members of the rescue crew were Lt(jg) L. D. Lorren, L. L. Thompson, AE3, and P. C. Carroll, AN. In a second mission, a detachment UH-2 crew rescued ATN3 M. C. Giddings after he was blown from the deck of the America by the blast from an A-7A. SEASPRITE pilots were Lt G. M. Maricich and Lt(jg) C. M. Hartwell. Crewmen were Petty Officer Thompson and AMH3 J. M. Hann. In a third Det 66 mission, a downed F-8 pilot was picked up by a UH-2 crew consisting of Lt J. P. Meyn, Lt G. C. Houser, Thompson, and Hann.

A pilot who ejected from his F-8 at night after a flame-out, was rescued from the dark waters of the Tonkin Gulf by a UH-2C crew from HC-1's Det 31 deployed aboard the USS Bon Homme Richard. SEASPRITE crewman Charles R. Smith, ADJ2, leaped from the helicopter to aid the survivor. Pilot of the UH-2C was Lt(jg) Edgar L. Murphy and the copilot was Ens Robert E. Siman. The other crewman was ATN2 Roger W. Savoy.



VERSATILE—Every day men from the U. S. 7th Fleet operating in the Gulf of Tonkin are transferred from one ship to another within a few miles of the North Vietnam coast. Some transfers are made by high line—riding a swinging chair between two ships—but many other trips are now made by helicopter. When not flying plane guard, UH-2 crews carry out this and a wide variety of other tasks including transportation of ammunition and mail. Shown during a typical personnel transfer is a UH-2C hovering over the USS Hassayampa. The twin-engine SEASPRITE is from HC-1's Det 31 deployed aboard the USS Bon Homme Richard. (USN photo)

TAN SON NHUT AB, Vietnam (MAC)—Col Hollon H. Bridges has assumed command of the 3rd Aerospace Rescue and Recovery Group—one of the best known U. S. Air Force units in Southeast Asia. The former group commander Col Paul E. Leske, retired recently after 25 years military service. He first joined the then Air Rescue Service in 1952.

Three years ago Colonel Leske authored the project requirements study which later became the main planning guide for aerospace rescue and recovery. His aerial refueling concepts for helicopters have been called the most significant development in combat air rescue operations in recent years. In March of this year Colonel Leske was presented the Legion of Merit for: "His inspiring leadership, outstanding foresight and aggressive efforts, consistently demonstrated, which resulted in a revolutionary increase in the capability of the Aerospace Rescue and Recovery Service to prosecute the unique military mission of saving lives." Colonel Leske's farewell address and tribute to rescuers from all Services appears at the bottom of the page.

Colonel Bridges, former vice commander of the 3rd ARRGp, followed Colonel Leske to Southeast Asia from ARRS headquarters, where he had succeeded the latter as deputy chief of staff for plans. A former commander of the Air Force Survival School, then at Stead AFB, Nev., Colonel Bridges now commands many of the same men, especially members of the elite PJ(pararescue) team, he was responsible for training.

The new 3rdARRG commander began his military career in 1943 as a "buck private" in the U. S. Army's famed Infantry Rangers. Entering the Aviation Cadet program, as did his 3rd ARRG predecessor, Colonel Bridges piloted B-24's and B-29's during World War II.

Returning to civilian life following the war, he served as a civilian personnel officer at the Pentagon. Recalled to active duty in late 1947 he, like Colonel Leske, took part in the Berlin Airlift and served in Korea and Japan. In addition, Colonel Bridges has also served as executive



NEW COMMANDER—Col Hollon H. Bridges, holding model of HH-43 HUSKIE, discusses rescue mission with three of four Det 14, 38th ARRSq, crewmembers who received Kaman Scrolls of Honor recently. Left to right are SSgt William R. Gladish, HH-43 flight engineer; TSgt Raul Rodriguez, medical technician; and Maj Donald L. Jordon, copilot. They, and rescue crew commander Capt Paul D. McComb (reassigned before the award presentation) were honored for the rescue, in the face of enemy fire, of five crewmembers of a helicopter gunship that had been downed near Saigon's Phu To Racetrack. The HUSKIE crew is based at Tan Son Nhut AB. Colonel Bridges, vice commander of the 3rd ARRG at the time, has since assumed command of the Group. (USAF photo)

officer to the director of plans at Headquarters, U. S. Air Force, and as commander of Shemya AF Station, Alaska.

Among dignitaries present for the command change ceremonies was Brigadier General Allison C. Brooks, Aerospace Rescue and Recovery Service commander.

Since 1965 the 3rdARRG's HH-43 and HH-3E helicopter crews have made more than 1,300 combat saves. Rescue units throughout the 1.1-million square mile Southeast Asia combat zone search for and rescue downed combat aircrews and other personnel. Many of the missions are carried out over enemy territory and while under fire.



On Sharing the Credit

By Col Paul E. Leske, USAF

It is with a large measure of pride and sorrow that I depart both the United States Air Force and one of the finest organizations ever to wear its colors. When the history of this war is written, I believe the Rescue story will be the most outstanding human drama of the entire U. S. Air Force effort. It has been a personal pleasure and a deep honor to command the 1,200 dedicated officers and men of the 3d Aerospace Rescue & Recovery Group (MAC).

The accomplishments of our "Jolly Green Giant" and "Pedro" rescue helicopter crews are well known. Their praises have been sung by many. The almost 2,000 combat aircrews and other personnel of all our Armed Forces who have been rescued from certain death or capture at enemy hands since 1965 have rewarded us with their oft-expressed gratitude to the point that it has become at times embarrassing, yet always appreciated.

Our gallant PJ's (pararescuemen) have become a living legend. It is an honor which each and every man who has ever voluntarily descended "into the valley" richly deserves. I am often asked,

"what makes a PJ tick?" The answer lies within many of us. For most it is an expression of deep personal conviction and dedication, an effort to respond to the guidance so eloquently stated by our late President: "ask what you can do for your country!" They are doers. For them, as for all our rescue crews, there is the psychic reward of being participants, not spectators, in the greatest human drama of our time.

Yet there are still others who richly deserve to share in the credit which has been so generously heaped upon our rescue crews, be they pilots, flight engineers or maroon-beret-clad PJ's. These are the men who search for and locate downed airmen, wherever they may be in our 1.1-million square mile war zone. There are the Joint Search and Rescue Center personnel who spend long hours coordinating and directing the action. And while these are the people from our own 3dARRG, there are many others who complete the rescue picture too.

There are the Rescort (rescue escort) A-1 Sandy and Spad pilots, the men without whom our proud record could never have been achieved. These on-the-scene commanders, flying low and slow, endure unbelievable challenges, yet time and again are more than equal to every challenge. They are our strong right arm. There are the Rescap pilots who fly top cover, when required—and it usually is, for our missions. Our people call them "fast movers." That they are. If we blink at their speed, so too do we nod our gratitude.

There are the FAC's (forward air controllers), probably the most unsung of all heroes in this war, who fly their slow prop-driven aircraft right into the enemy's midst to provide the eyes, and frequently the ears, for our mission. *continued on page 14*



SPECIAL EQUIPMENT—The "water basket" shown in the left photo is one of the devices used by rescue men from Det 12, 38th ARRSq, at Nha Trang AB to pluck refugees from the waters of the South China Sea. Sgt Allen D. Scroggin, a flight mechanic, is demonstrating the device to LtCol Edward J. Renth, Jr., squadron commander, during his recent visit to Nha Trang. LtCol Angus D. McIntyre, Jr., right, Det 12 commander, and A1c Steve A. Bowers look on. (USAF photo by A1c Alexander VanLeeuwen) In the second photo, an HH-43 rescue crew from Det 12 is shown with another piece of equipment, the Kaman-developed forest penetrator, which was used to save a downed pilot from a mountainside covered with dense jungle. Ignoring the sounds of firing a short distance away, and the fact that rescue cover aircraft had not yet arrived, the rescuers lowered the penetrator from the hovering HUSKIE and plucked the survivor, Capt Alan R. Zaiser, USAF, from the midst of 100-foot trees. Left to right are, Sgt James R. Pospichal, airborne firefighter; Maj Bruce C. Bowden, copilot; A1c Timothy M. Reynolds, pararescueman; Capt Melroy Borland, pilot; and SSgt Huel W. Wilson, airborne firefighter. (USAF photo)

An HH-43 crew from Det 1, 38th ARRSq, Phan Rang AB, rescued an F-100 pilot a few minutes after he ejected from his flaming aircraft and landed in dense jungle. The rescue helicopter, piloted by Majors William C. Emrie and Donald R. Brooks, arrived over the survivor just as he fired a flare. Sgt Richard L. McNeese threaded the forest penetrator through the jungle canopy and landed the rescue device at the feet of the survivor, Major Gregory J. Butler of the 35th Tactical Fighter Wing. Once aboard the HUSKIE, the survivor was treated for minor injuries by SSgt Angel Luna, medical technician. During their return to Phan Rang, red streaks of enemy tracer fire went past the helicopter but an AC-47 Dragonship used its rapid-firing miniguns to suppress the ground fire.

In another Det 1 mission, two platoons of the Republic of Korea's White Horse Division were evacuated to safety in an HH-43 after a flood, caused by heavy tropical storms, left them stranded on a small section of high ground. The ROK soldiers had been conducting a sweep of suspected VC areas. Capt Glen P. Walther and his crew made three flights to complete the mission. An

Army helicopter from Cam Ranh Bay AB aided in the rescue work. Others aboard the HUSKIE were Capt Gaylon R. Overton, copilot; SSgt Donald B. Lucia, flight engineer and Sgt James W. Bailey, helicopter mechanic.

Two pilots who ejected from an F-105F after it started losing oil pressure, were picked up from rice paddies by an HH-43 crew from Det 3, 38th ARRSq, Ubon AB, Thailand. The downed airmen, Maj George C. Forstner and Maj John T. Kensinger, were uninjured. Capt Clarence L. Hansell was pilot of the HUSKIE; Maj Robert C. Collom, copilot; Sgt Bobby G. Trott, medical technician; Sgt Glenn A. Todd, flight engineer.

Operating under night conditions and with the base still on red alert after an enemy rocket and mortar attack, an HH-43 crew from Det 7, 38th ARRSq, Da Nang AB, evacuated a critically injured airman to the naval hospital. The attack was made shortly before 3 a.m. and two minutes later the HUSKIE, piloted by Capt Johnny R. Johnson, was airborne and headed for the ramp where the airman had been working when the first enemy rocket landed nearby. Clearance for a landing on the ramp, where several aircraft were parked, was called out by the copilot, Capt Robert S. Henderson, and SSgt Lawrence E. Boykin, and Sgt Bruce J. Bell, rescue specialists. Ground operations were supervised by Sgt William P. Owens, the flight engineer, and SSgt James L. Miller, pararescueman, contacted first aid personnel. After the patient was placed aboard, the HUSKIE lifted off and made the flight to the hospital without incident despite the danger of imminent enemy action.

An HH-43 crewman from Det 8, 38th ARRSq, Cam Ranh Bay AB, went to the aid of two pilots who were tangled in parachute and harness lines after they ejected from their F-4C and landed in the shark-infested waters of the South China Sea. A1c Donald H. Goodlett, a pararescue specialist, braved eight-foot waves to aid one survivor, LtCol P. A. Kauttu, aircraft commander, and then went back in the water again when it became apparent the second survivor, 1st Lt G. A. D'Angelo, also needed help. Capt Andrew J. M. Archer was pilot of the HUSKIE and Capt John P. Smargia was copilot. The flight engineer was Sgt James W. Simmons.

On Sharing the Credit . . . continued from page 13

And, just as far more than half of all those whom we have rescued to date are from the U. S. Army, U. S. Navy and friendly foreign forces, so too have members of all of our sister services become deeply involved in rescue activities. The U. S. Navy's "Big Mother" crews, the Army "Slicks" and "Gunships," and the Marines, too, have made many a pickup in addition to the statistics compiled by 3d ARRG personnel. In fact, when it comes to total involvement, there are U. S. Coast Guard and U. S. Navy rescue pilots who fly with us on "Jolly Green Giant" missions, just as our 3d Group pilots in turn fly with our sea-going services. Army personnel are an integral part of our JSARC operation. We work with the Marines every day. If ever there was inter-service teamwork, there is in rescue. I have yet to hear the man who has been rescued complain about what branch of service got him to safety.

Many, many people contribute to the rescue drama. None, however, is more important than the man who is being rescued. When a man is downed, he is far more than a statistic. He is a fellow American, with a family at home, with hopes and dreams and a potential that cannot be measured. He is a man in trouble, and he needs help fast. And that is what air rescue is all about.

To each of those who have contributed to the Aerospace Rescue and Recovery Services' proud record, I offer my sincerest "Well done!"



SIMULATED RESCUE—In the photo at left, an HH-43 from Det 11, 38th ARRSq, Tuy Hoa AB, moves into position to pick up a member of the squadron posing as a downed pilot. The Air Force rescuers practice on a regular basis to ensure that they will be better prepared when called on to make an actual save. (USAF photo by Sgt Jim White) At right, a Det 11 HUSKIE with a fire suppression kit is guided into position after a scramble. (USAF photo)



100th RESCUE—An HH-43F crew from Det 9, 38th ARRSq, Pleiku AB, recently made the unit's 100th rescue when an Army helicopter crewman was hoisted from a jungle-covered mountain side 18 miles from the base. Shown afterward are, left to right, Sgt Luther T. Jones, pararescueman; Sgt Roger E. Lawson, flight engineer; Maj Robert W. Hastings, copilot; and Capt Jerald D. Briscoe, RCC. While making the rescue, the HUSKIE hovered over hostile territory for 15 minutes. Sergeant Jones was lowered on the forest penetrator and, after administering first aid to the downed airman, strapped him to the penetrator. The rescuer and survivor were hoisted aboard together and the HUSKIE headed for the hospital. In speaking of the rescue, Captain Briscoe said "it seemed like an eternity" during the 15 minutes the HUSKIE remained almost motionless in the air, exposed to possible hostile fire and over dangerous territory. For Major Hastings, having the opportunity to participate in the 100th rescue was particularly satisfying after his long duty with the detachment—soon afterward he was reassigned from Southeast Asia to Hahn AB, Germany. (USAF photo)

Standing waist deep in water and surrounded by floating fuel and oil, three HH-43 crewmen fought a fire in a downed Army helicopter and then pried and hacked their way into the wreckage to aid any soldiers who might be trapped in the wreckage. Two HUSKIES from Det 9, 38th ARRSq, Pleiku AB, had scrambled when the Army chopper went down in hostile territory a few miles from the base. At the crash site, Capt Derry A. Adamson, pilot of the first HUSKIE, set the fire suppression kit down and then backed off and held the helicopter in a partial hover as the three crewmen—airborne firemen Sgts Robert W. Colclough and Henry Michalski, Jr., and pararescue specialist A1c Nicholas Gala, Jr.—leaped into the murky three-foot-deep water and headed for the blazing wreckage.

As they began fighting the fire, Capt Jerald D. Briscoe arrived in the second HH-43 just as an Army helicopter already at the scene finished picking up three survivors. Since there was no medic aboard the Army helicopter, Captain Briscoe sent his pararescue specialist, A1c Patterson, to assist. SSgt Floyd M. Barber, flight engineer, was dispatched to help those on the ground who began searching the downed helicopter when the fire was extinguished.

Meanwhile, as he was hovering over the wreckage after using rotor downwash to aid in suppressing the flames, Captain Adamson spotted an injured man, partially submerged, 10 feet in front of the burned helicopter. Using the loud hailer, he directed Airman Gala to the survivor while simultaneously lowering the HH-43 into an extremely confined area in order to be as close to the survivor as possible. Captain Adamson knew the waist to chest

deep water could seriously hamper the rescue effort and "time was of the essence." Maj Robert A. Bunton, the copilot, plunged into the water and aided Gala in placing the injured soldier aboard. As the HUSKIE headed for the hospital, Major Bunton and Airman Gala administered first aid to the survivor. The HH-43 crew returned to the area afterward with additional crash access equipment to assist in searching the wreckage. Sergeants Colclough and Michalski were credited with performing an "exceptionally fine job" while hooking up the FSK, now empty, which was floating in the water and very difficult to manage.

The efforts of an HH-43 crew from Det 11, 38th ARRSq, were credited with being the prime factor in saving a C-130 during an enemy night attack on Tuy Hoa AB where the detachment is stationed. Several aircraft on the C-130 ramp were damaged by the satchel charges, rockets and

continued on page 23

He was peering through the dark Vietnamese night as the Navy PBR cautiously made its way up the Mekong River...there were a series of explosions...he was in an Air Force helicopter and being tended by solicitous strangers. The sailor was confused until he found out that: The explosions were enemy rifle grenades which landed beside the patrol boat and knocked him unconscious. An HH-43 crew from Det 10, 38th ARRS, Binh Thuy AB, responding to the call for medical assistance, had landed at a small outpost and taken him aboard. He was on his way to the hospital. It was found that, despite his close call, the sailor was not injured and spent the night as a guest of the Air Force before being returned to duty with the Navy the next day. Pilot of the rescue helicopter was Maj James F. Okonek and LtCol Roland E. Speckman was copilot. A1c James E. Tarantino was flight engineer and A1c Richard C. Stiecken, was rescue specialist.

NEW HH-43 ROTOR BLADES BEING TESTED

A complete aircraft set of four HH-43 rotor blades with new leading edge erosion boots, surface finishes and other improvements utilizing fiberglass, acrylic paint and similar "weather-tough" and abrasion-resistant materials, recently passed a flight evaluation at Kaman Aircraft. Two of the blades are now being service tested under Southeast Asia's rugged operating conditions and the other two are being service tested in Florida. The materials used on the new blades were selected by Kaman engineers after intensive static, fatigue and environmental tests involving several hundred specimens. Whirl testing of the blades followed and then the flight evaluation took place.

The accompanying illustration shows the areas on the blade where improvements have been made. The sprayed neoprene protective boot was replaced with a boot made of polyurethane (Estane) which was selected for its excellent weather and erosion-resistant characteristics. This same type of protection is also found on the leading edge of the servo flap where it has been in use for more than three years. It was accepted in 1965 by Warner Robbins Air Material Area after whirl and other extensive testing at Wright-Patterson AFB. Since then the Estane-protected flaps have been exposed to the many different, and often stringent, operating conditions experienced by HH-43 crews in many parts of the world. WRAMA said the Estane on the flaps has proved to be extremely satisfactory.

The adhesive formerly used for bonding the standard steel leading edge was replaced on the new blades by a film adhesive with superior bonding integrity. An "optimum" adhesive for bonding the Estane boot was also selected. A fiberglass-reinforced plywood skin has been incorporated in the blade area outboard of the flap. Before installation, the fiberglass was bonded, under pressure, to the plywood to form the reinforced skin. This skin, or panel, offers much greater strength and environmental resistance than the cellulose nitrate dope/fabric combination used on the old blades. The neoprene just aft of the stainless steel on the leading edge was replaced with a Thiokol sealing compound and a fiberglass wrap-around was added on the trailing edge to further improve these areas of the blade. Acrylic paint, which is resistant to heat, cold, sunlight, and humidity was used for finishing the entire blade surface and also in other areas where cellulose nitrate dope was formerly used.

It is anticipated that the changes will substantially reduce the premature blade removals caused by surface deterioration. It is also expected that the changes will greatly reduce maintenance time.

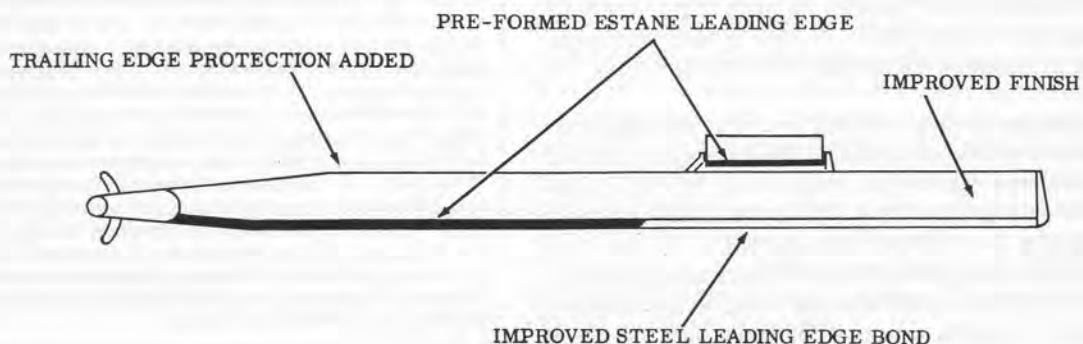
All tests, including flight evaluation of the blades, were conducted at Kaman's Bloomfield, Conn., experimental

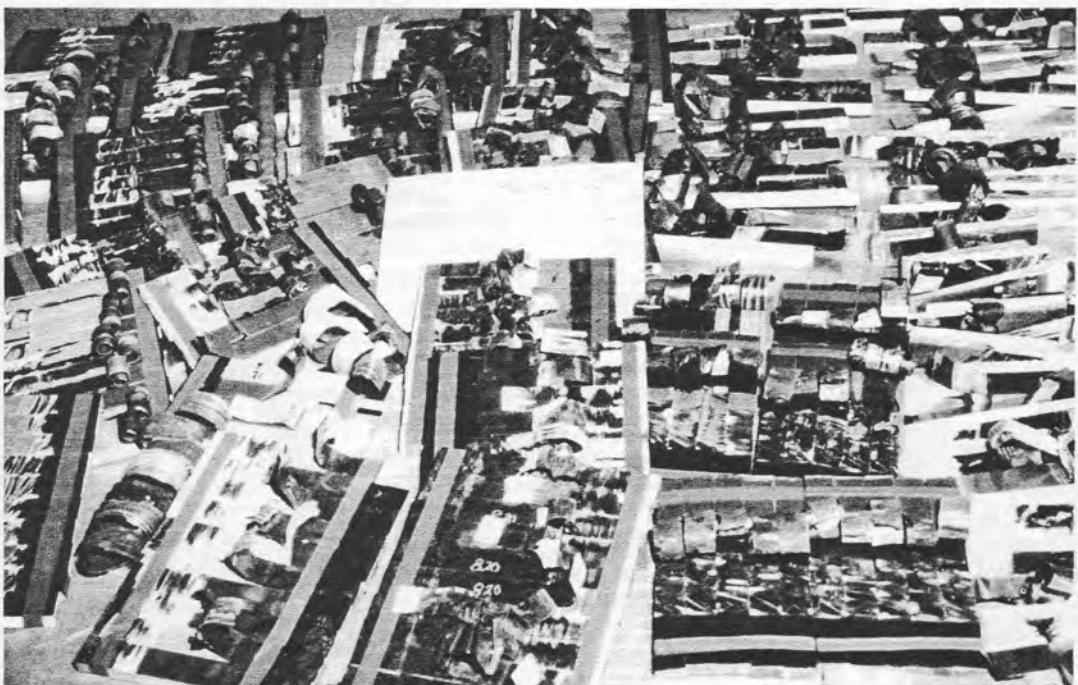
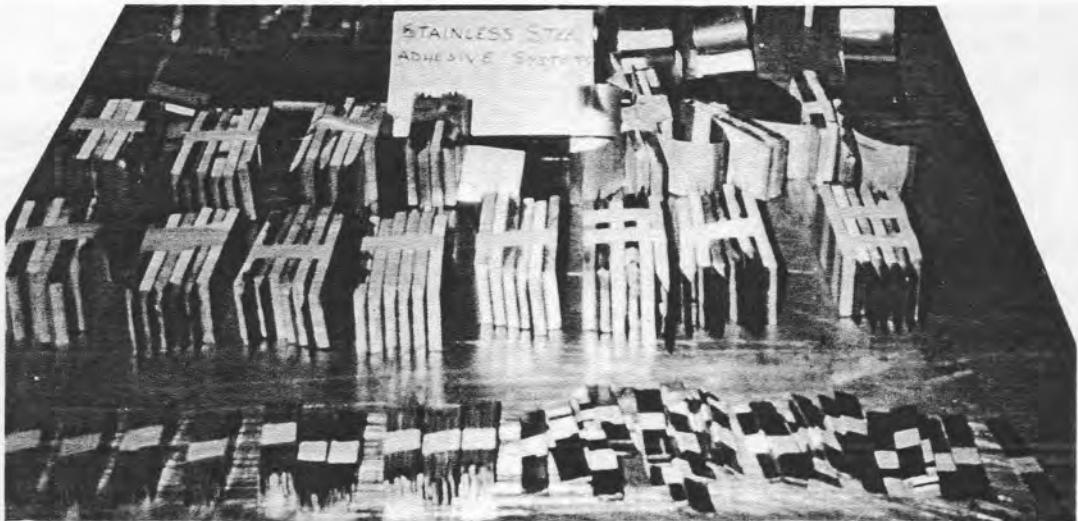


ROTOR BLADE EVALUATORS—In top photo, left to right, Staff Sergeant Wood, Captain Heeter, Foster and Meiselman. In second photo, Master Sergeant Watson, Clark, Senior Master Sergeant Duehr, Dey, and Sweeney. Richard W. Hartwick, chief of rotor design at Kaman, is at extreme right.

test facility. The Air Force pilot of the HH-43B used in the test was Capt O. A. Heeter, chief standardization pilot, Hq EARRC, Robbins AFB, Ga. F. A. Foster, chief test pilot at Kaman was copilot, and the flight engineer was SSgt A. L. Wood from Det 9, EARRC, Shaw AFB, S. C. Air Force specialists witnessing the tests were R. A. Dey, Helicopter Engineering Division, and D. R. Sweeney, Helicopter Support Division, WRAMA, Robbins AFB, Ga.; SMSgt J. H. Duehr, Weapons Branch, Hq MAC, Scott AFB, Ill.; and MSgt J. W. Watson, Helicopter maintenance Section, Hq ARRS, Scott AFB, Ill. The tests were coordinated by P. J. Meiselman, Kaman test engineer.

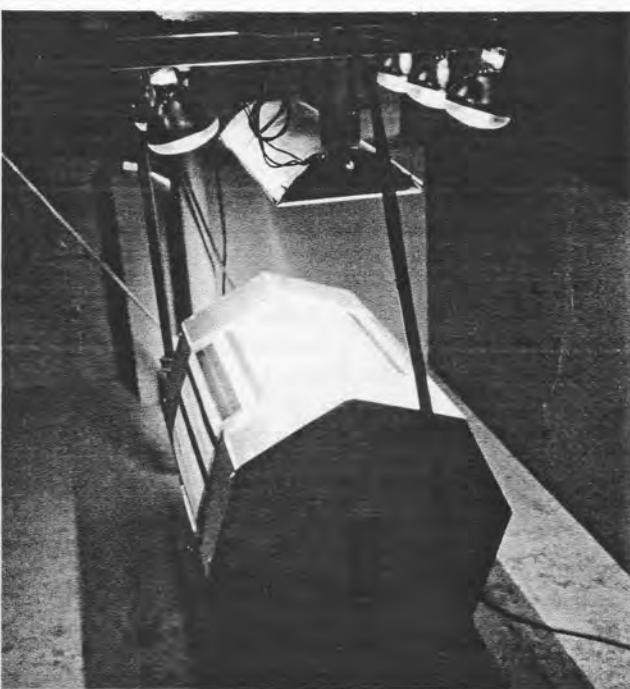
ALL WEATHER BLADE





MATERIAL TESTING—The materials were selected for the new rotor blades by Kaman test engineers after they subjected several hundred specimens to a wide variety of fatigue or other "torture tests." Environmental tests were aimed at determining, among other things, the resistance of various materials to heat, cold, sunlight and humidity or combinations of two or more of these conditions. Sand and water impact testing was also employed. Top photos show some of the numerous specimens used. In right photo, surface finish samples are undergoing prolonged exposure to simulated sunshine.

Six flights were accomplished during the evaluation. Each flight included rotor operation in flat pitch, hover at low and high RPM, high power climb, straight and level flight, maneuvering flight, partial power, and flight idle autorotation. Flight testing required a qualitative comparative evaluation of one pair of modified blades with a pair of standard blades and an evaluation of all four blades as an aircraft set. Testing showed that no dynamic or aerodynamic changes resulted from the new blade surface improvements. No incompatibility was noted by the test pilots and the new blades were found to be in excellent condition at the end of the evaluation.





EARRC COMMANDER ON THULE VISIT—Col Walter F. Derck, center, EARRC commander, receives a briefing from the commander of Det 18, Maj Frank W. Schnee, prior to flying to the Greenlandic village of Kanak. The colonel headed a nine-member staff assistance team which visited the detachment, the USCG's navigation and communication center at Cape Athol, and the ADC's BMEWS complex. Other participants in the flight were, left to right, Ssgt James B. Kerton, Jr., flight engineer; Maj Raymond L. Murden, Hq EARRC chief of safety; and Commander J. Mølgard, far right, Danish liaison officer at Thule AB. (USAF photo)



DANISH ADMIRAL PRESENTS AWARD—Maj Sam J. Scamardo receives a Kaman Aircraft 1000-hour pilot award from RAdm E. C. F. Petersen, commander-in-chief of Greenland, during ramp ceremonies at the AB in Thule. The Admiral and other Danish and USAF dignitaries were transported to an outlying Greenlandic village in a Det 18 HUSSIE while on a visit to the area. A senior pilot with 2720 flying hours, Major Scamardo was formerly stationed at Vance AFB, Okla. In right photo, Admiral Petersen is shown aboard a Det 18 HUSSIE prior to taking off for the village. Major Schnee was pilot. (USAF photos)

THULE AB, GREENLAND—As Christmas approaches, Det 18, EARRC(MAC), looks back on another year of service which has brought comfort to many people, both military and civilian, in this vast land. The environment in which the detachment carries out its numerous mercy and other missions is best described in this report from Maj Charles W. Simmons, detachment information officer:

"...The unit possesses three HH-43B's and is normally manned by five officers and 10 enlisted personnel. The environment in which the unit operates is perhaps the most unusual in the world—we have continuous daylight from mid-April until late September which twilights into continuous darkness by the middle of November and dawns into the beginning of daylight by the first of February. Temperatures range from a high in the 50's to a low in the minus 50's. Winds sometimes blow in excess of 100 miles an hour and a man's flesh can freeze within a matter of seconds. This is the environment.

"The unit's LBR activity was discontinued with the cessation of ADC fighter activity—however, the need remained for a helicopter capability to support the Commander 4683d Air Base Group in maintaining liaison with outlying United States installations, Danish agencies and Eskimo villages surrounding Thule. This is our mission.

"The rigors of the environment and the mission demand the utmost in dependability from the Kaman 'HUSKIE' and

Thule Unit Marks Another Year of Service



USCG ADMIRAL TOURS FACILITIES—RAdm William B. Ellis, USCG, is shown in the cockpit of the Det 18 HH-43B used to transport him to Cape Athol while on an orientation visit in the area. The Admiral recently assumed command of the Coast Guard's First District which is headquartered in Boston. It was his first visit to Thule. With Admiral Ellis are Major Schnee, left, and Col. C. S. Dresser, 4683d Air Base group commander. (USAF photo)



in professional ability from our personnel. The unit's accomplishments and its accident-free flying record (more than 5,000 hours) testify to both. We are proud of our past; we look forward to continued success in the future."

A further insight into Det 18's activities is given in this report from Maj Frank W. Schnee, detachment commander:

"The first quarter of fiscal year 1969 was one of considerable adjustment for the personnel of Detachment 18, since the entire pilot force had changed by the end of June, and a new get-acquainted program was the order of the day. In addition, the majority of the enlisted personnel had less than 100 days of their tour remaining..."

"During the fiscal quarter, the detachment flew 230.8 hours in which we moved 36,353 pounds of cargo, 4362 pounds of mail and 524 passengers. Many of these flights were in support of the USCG Loran Station Cape Athol—to whom we represent the primary contact with 'the world'—and in transporting various USO and morale teams in support of the 4683d Air Base Group Special Services program. We had the pleasure of moving groups from the University of Oklahoma and the University of Southern Missouri as well as several independent entertainers from almost every section of the United States. Most of these people had never been exposed to helicopters at all, and so the experience was mutually beneficial to all.

"Notable personnel supported during this period were: Danish RADM E. C. F. Petersen, commander-in-chief of Greenland; USCG ADM William B. Ellis, commander of the Coast Guard's First District—Cape Athol's reporting headquarters; Col Russell G. Ogan, commander of the 71st Missile Warning Wing, Ent AFB, Colo.—the reporting headquarters of our local BMEWS Complex; and of course, our own Col Walter F. Derck."

The following awards were received during this period: The USAF Certificate of Achievement for Det 18's contribution to the Air Force Cost Reduction Program during FY 68; USAF Commendation Medal, presented to Major Frank W. Schnee for his achievements at Detachment 14 EARRC prior to his assignment here; Kaman Aircraft 1000 Flying Hour Award, presented to Major Sam J. Scamardo; Kaman Aircraft Scroll of Honor, presented to SSgt Ronald E. Levi for his participation in an Air Evacuation Mission in March 1968; ten mission awards from Kaman Aircraft for aircrew participation in missions of mercy.

The following excerpts from two recent mission reports not only show the type of mercy missions flown by Det 18 HUSKIE crews, but also reveal why Rescuemen are held in such high esteem as ambassadors of goodwill.

"The time was nearly eleven o'clock; the day was Monday, the 9th of September; the one who needed a helping hand was a little girl at Kanak, a Greenlandic village some 65 miles from Thule Air Base; the problem was appendicitis. There was no doctor at Kanak—there was one at Thule. The aircrews of Detachment 18, EARRC were alerted, and after a brief delay for safe weather conditions, two HH-43B "HUSKIES" were airborne—two HUSKIES because one hardly flies alone over this most unaccommodating terrain. On board was a Danish doctor from the vicinity of Thule Air Base. The girl, whose name we did not learn, was found in quite serious condition; by the time the aircrews departed Kanak, she was being prepared for surgery; by now, she is nearing complete recovery." Manning one of the HH-43B's were Major Schnee, pilot; Major Simmons, copilot; and SSgt Frederick A. Giffin, flight engineer. In the other HUSKIE were Capt David E. Mullen, pilot; and Sgt Charles L. Tucker, flight engineer.



WELCOME VISITORS—Everyone was declared a winner recently when Det 18 airlifted this University of Southern Missouri's USO troupe touring the North Country. Their itinerary included Cape Athol, a USCG LORAN station near-totally isolated from the world and manned by 20 personnel. To these men the freshness from home was most memorable—and the troupe was able to add helicopter rides to its long list of giving and receiving. In addition, the detachment was happy to serve both causes so well. Shown enjoying their share of the "mutual benefit" are, left to right, Maj Frank W. Schnee, detachment commander; Sgt Charles L. Tucker, Capt David E. Mullen, SSgt James B. Kermon and Sgt Fredrick A. Giffin. (USAF photo)

The second mission involved an HH-43 piloted by Maj Sam J. Scamardo. Major Simmons was copilot; Sergeant Giffin, flight engineer; and Capt Kenneth G. Smith (MD), flight surgeon. "A young Eskimo man and a young Eskimo woman walked all night to tell the Danish Liason Officer at Thule Air Base, Greenland, that Mrs. Kujauktok lay critically ill some twenty miles away in the little Eskimo village of Narssurssuk. They said that she had been hemorrhaging for two days and that they were worried. The Danish Liason Officer told the Commander of Detachment 18, Eastern ARRC and the Commander told his rescue crew. The rescue crew flew twenty minutes to the little Eskimo village of Narssurssuk and delivered Mrs. Kujauktok to Thule Air Base within the hour. Somebody asked, 'What would these people have done had we not been here?' The Doctor said, 'It's fairly simple—the woman, no doubt, would have died.' And everyone felt good."

— 1000-Hour Pilot Awards —



Two members of the 3638th Flying Training Squadron, Sheppard AFB, Texas, were presented Kaman 1000-hour plaques recently by Col Jimmy M. Hamill, commander of the USAF Helicopter School at the base. Receiving his award is Capt Donald D. Metzinger, an instructor pilot. The other recipient is Maj Charles R. Kay, assistant operations officer for the squadron. Three other members of the squadron who have received similar awards are Maj Grant F. Mackie, Maj Lawrence F. Marcum and Capt George L. Kekuna. In right photo, Col E. G. Beaudry, vice commander of ARRS, presents a 1000-hour plaque to Maj Robert J. Bennett, Det 5, AARRC (MAC), Hahn AB, Germany. Colonel Beaudry presented the award while touring ARRS units in Europe. The plaque is awarded by Kaman Aircraft to pilots logging 1000 hours in helicopters produced by the company. Other recipients are: UH-2 - Lt William A. Wendt, HC-7, NAS Atsugi, Japan. HH-43 - 1st Lt Tahmasb Esmaeli Kamrani, IIAA; and Capt Kenneth G. Griffis, Det 6, CARRC (MAC), Kincheloe AFB, Mich.

UH-2C RESCUE HOIST HOOK RESTRAINER

by Herman Zubkoff

Service Engineer

In flight, the rescue hook swings freely from the boom. This causes excessive wear of the hook swivel and the U-bolt to which it is attached. In addition, the motion and sound of the assembly contacting the hoist boom can be a source of pilot distraction or concern. The U-bolt and the swivel should be closely inspected; if wear exists to the extent that the U-bolt and/or the swivel are noticeably out-of-round, they should be replaced. It is also recommended that a locally manufactured bungee restrainer be provided to keep the hook under tension when not in use. Such a restrainer has successfully been employed on aircraft at Kaman. It is connected from the hoist hook to the fuselage tiedown near the RH engine as shown in Photo A. When the hoist is to be used, the hoist operator removes the snap hook from the hoist hook and snaps it to any convenient point inside the cabin to keep it from being drawn into the engine. If desired, a few inches of hoist cable can be reeled out to facilitate snap removal.

The restrainer assembly consists of a 29-inch piece of 1/2-inch bungee cord, two snap hooks and two 1/2-inch cable thimbles. When selecting the snap hooks, make sure they are large enough to be easily actuated and that they engage the tiedown ring and hoist hook. Fabrication, see Photo B, consists of placing a snap hook onto the thimble, looping the bungee around the thimble and securely binding the loop ends together with numerous turns of waxed cord as shown. Extend the bungee about 2 inches beyond the thimble end to allow sufficient area for binding. Install the second snap hook on the other end of the bungee in the same manner. During development of the restrainer see Photo B, two types of snap hooks were tried—a 4-inch marine type and a standard 3-inch snap hook. Both functioned well.



Photo A



Photo B

CURRENT CHANGES

This list reflects the latest changes to the handbooks. Consult applicable "A" page for changes issued prior to those listed below.

Issue Date	Issue Date
NAVAIR 01-260HCA-2-1 - Manual, Maintenance Instructions, Navy Models UH-2A/UH-2B/UH-2C Helicopters, GENERAL INFORMATION	1 October 1967 changed 15 August 1968
NAVAIR 01-260HCA-2-2 - Manual, Maintenance Instructions, Navy Models UH-2A/UH-2B/UH-2C Helicopters, AIRFRAME	1 October 1967 changed 15 August 1968
NAVAIR 01-260HCA-2-5 - Manual, Maintenance Instructions, Navy Models UH-2A/UH-2B/UH-2C Helicopters, AUTOMATIC STABILIZATION EQUIPMENT	1 October 1967 changed 15 July 1968
NAVAIR 01-260HCB-1B - NATOPS PILOT'S POCKET CHECKLIST, UH-2C Helicopter	1 June 1967 changed 15 March 1968
NAVAIR 01-260HCB-1C - NATOPS AIRCREWMAN'S POCKET CHECKLIST, UH-2C Helicopter	1 June 1967 changed 15 March 1968
NAVAIR 01-260HCB-4-1 - Illustrated Parts Breakdown, Navy Model UH-2C Helicopters, NUMERICAL INDEX AND REFERENCE DESIGNATION INDEX	1 June 1967 changed 15 September 1968
NAVAIR 01-260HCB-4-2 - Illustrated Parts Breakdown, Navy Model UH-2C Helicopters, AIRFRAME	1 June 1967 changed 15 September 1968
NAVAIR 01-260HCB-4-4 - Illustrated Parts Breakdown, Navy Model UH-2C Helicopters, EQUIPMENT (FURNISHINGS, HYDRAULICS, INSTRUMENTS, UTILITIES)	1 June 1967 changed 15 September 1968
NAVAIR 03-90-5 - Manual, Overhaul Instructions, CARGO RELEASE ASSEMBLY, P/N SP4380-1, -11	15 July 1965 changed 15 August 1968
NAVAIR 03-95D-11 - Manual, Overhaul Instructions Navy Models UH-2A/UH-2B/UH-2C Helicopters, MAIN ROTOR SYSTEM	15 January 1966 changed 15 July 1968
NAVAIR 03-95D-23 - Illustrated Parts Breakdown, MAIN GEARBOX ASSEMBLY, Part No. K674877-1	15 April 1968
NAVAIR 05-55D-35 - Manual, Overhaul Instructions, AIRSPEED SYNCHROTEL TRANSMITTER, P/N A18955 00 005, K687704-1	1 May 1962 changed 1 September 1968
NAVAIR 05-55D-36 - Illustrated Parts Breakdown, AIRSPEED SYNCHROTEL TRANSMITTER, P/N A18955 00 005, K687704-1	1 September 1968
T.O. 1H-43(H)-510 - Technical Order, INSTALLATION OF AN/APX-72 TRANSPONDER, HH-43B/F Helicopters	1 June 1968
T.O. 1H-43(H)-511 - Technical Order, INSTALLATION OF FM-622A VHF/FM-RADIO, HH-43B/F Helicopters	1 June 1968
T.O. 1H-43(H)-512 - Technical Order, INSTALLATION OF SECURE SPEECH, KY28, GROUND AIR GROUND, HH-43B/F Helicopters	1 June 1968

R. H. Chapdelaine, Supervisor, Service Publications

Det 18 Saves B-58 Crew

Thanks to the efforts of a quick-thinking, fast-acting HH-43B crew from Det 18, CARRC(MAC), Little Rock AFB, Ark., three men aboard a crippled B-58 were saved and the loss of the aircraft prevented. The HUSKIE, piloted by Maj John H. Larson, scrambled and began flying a precautionary orbit after the B-58 reported hydraulic failure. The bomber made two low passes over the field and the tower confirmed that the right main landing gear assembly was hanging tail low. The B-58 pilot then made a final full-stop, GCA approach but the gear collapsed immediately after touchdown. Trailing sparks and flame, the bomber veered off the runway and came to rest, nose high, in a drainage ditch. The aft end was immediately engulfed in flames.

Major Larson made a straight-in fire kit approach to the burning aircraft. This provided a tremendous rotor wash effect which forced the flames away from the B-58 so the two crew members could escape. After the FSK was deployed, the helicopter firemen suppressed the fire under the left wing of the burning aircraft and the pilot made his way to safety. When the FSK agent was depleted, the HH-43 firefighters assumed control of a base P-6 vehicle which had arrived on the scene. As the P-6's extinguishing agent (CB) was directed at the bomber, Major Larson used the helicopter rotor wash to blow the agent under the delta wings of the burning aircraft and snuffed out flames that could not be reached by normal procedures.

Afterward, the base fire chief and an "explosion and burn" expert agreed that the initial rotor wash and fire suppression action taken by the HH-43 crew prevented the B-58 wing tanks from exploding with subsequent loss of life and the aircraft. Other members of the helicopter rescue crew were SSgt Sherman L. Young and Sgt Robert F. Austin, firefighters; SSgt Ronald K. Allen, medical technician; A1c Glenn C. McKim, crew chief.

Det 7 Aids Earthquake Victims

When a severe earthquake hit northern Japan recently, an HH-43 from Det 7, PARRC(MAC), Misawa AB was on an indoctrination flight. Maj James F. Jansa and his crew immediately started looking for areas where assistance might be needed. As they arrived over Hachinohe a 12-foot tidal wave hit the harbor, tossing boats in every direction and throwing one man into the water. Ignoring the danger from ships being swept past by receding tidal waters, the HUSKIE crew lowered a rescue seat and hoisted the man aboard. He was then turned over to Japanese rescue workers and the HH-43 continued the flight as an airborne command post and observation platform. With Major Jansa were Capt James G. Ellis, copilot; Sgt Harvey McCain, flight engineer; and Capt Jack B. Howard (MC), flight surgeon.

Meanwhile, the second Det 7 HUSKIE had scrambled with Capt Vance E. Need as pilot; Maj Robert D. McDougal, copilot; SSgt Raymond A. Verbeck, flight engineer; and Sgt Lawrence J. Vogel, medical technician. They located two bus loads of children visiting another city at the time of the quake and escorted them back to the base. The HH-43 then airlifted 20 cases of C-rations to 228 Japanese school children stranded on a train in an isolated area. The crew also evacuated two persons from the shore who were threatened by tidal waves and an interpreter was taken to the beach area to warn the people

of the tidal-wave danger. The helicopter was kept airborne most of the day to assess damage and spot danger areas.

Det 5 Boon To Community

Operating in a scenic recreation area may have its advantages but for the HH-43 crews attached to Det 5, WARRC(MAC), at McChord AFB, Wash., it also means numerous evacuation and rescue missions. For several years the detachment has worked hand-in-hand with mountain rescue units, park rangers, sheriffs and others in extracting pleasure-bent Americans from all sorts of precarious situations.

Maj Erling R. Drangstveit, detachment commander and an old hand at the mountain-water rescue business, recently piloted the HUSKIE on several such missions. Two of the most recent were: a mountain climber who fell and broke his leg had landed on the 7800-foot level of Mt Stuart in the rugged and remote area of the Wenatchee mountain range. To rescue him from the 70-degree slope, Major Drangstveit had to hover less than two feet from a rock ledge and with minimum reserve power available. Attempting to utilize the ledge for some ground cushion, copilot Maj Warren K. Davis gave the pilot directions from the left side while Sgt Steven L. Sorensen quickly lowered the Stokes litter and then retrieved it once the ground party had placed the survivor inside. Sgt George N. Zimbis, medical technician, assisted in the recovery and administered first aid as the HUSKIE headed for the hospital. Crew coordination was excellent, Major Drangstveit said later.

When a motorboat crewmember racing on the Puyallup River suffered a compound fracture and six serious cuts while trying to free debris from a propeller shaft, Maj Drangstveit and his crew immediately responded to the call for help. The HUSKIE, which was flying cover for the annual race, came to a hover over the injured man. He was on a steep rock bank and trees were within 10 feet of the rotor blades. SSgt Loney A. Martin, medical technician, was lowered in a sling and applied a pressure bandage which stopped most of the serious bleeding. The medic and patient were then hoisted aboard and within 20 minutes the HH-43 landed at the hospital. The quick medical response of the Air Rescuemen was credited with possibly saving the man's arm. Copilot on the mission was Major Davis.

Major Drangstveit and TSgt James L. Johnson, a helicopter mechanic, shared a flight to the 13,500-foot level on Mt Ranier to evacuate a seriously-ill mountain climber. The sought-for tent near the mountain top was located and the P.A. system used in an attempt to attract attention, but there was no response. Major Drangstveit landed in the snow and used "some power and cyclic" to keep the HUSKIE from tipping over while Sergeant Johnson jumped out, ran to the tent, cut the tiedown stakes loose and pulled the tent and its occupant to the chopper. Once aboard, the Sergeant failed to detect any pulse in the climber although his body was still warm. The rescueman immediately started external heart massage and then began administering mouth to nose resuscitation. He periodically felt for a pulse but the man was dead. After the trip back to the base, Major Drangstveit commended Sergeant Johnson for his "courageous efforts in attempting to revive the victim."

UH-2 LUBE OIL PUMP FILTER ASSEMBLIES

By R.N. Hammond, Group Leader, Engine Shop
A.E. Hanson, Group Leader, Transmission Shop

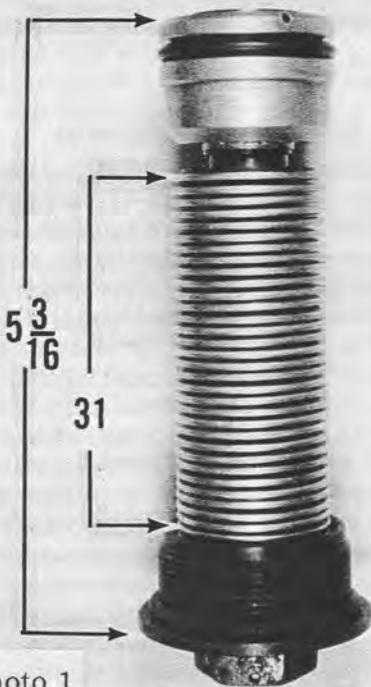


Photo 1

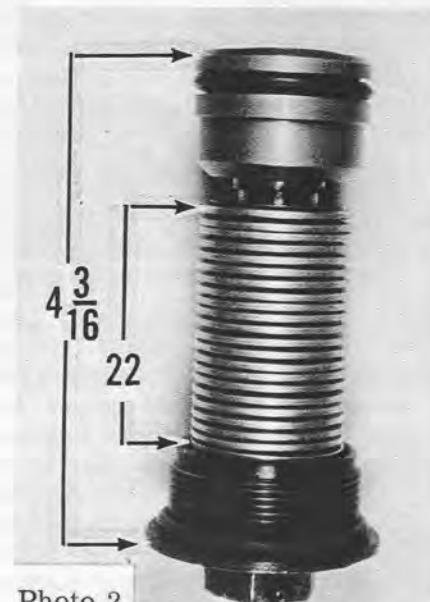
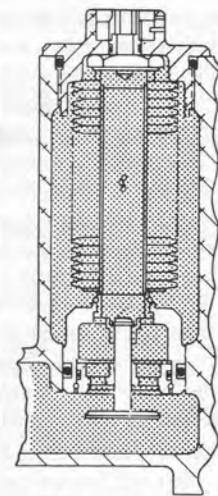
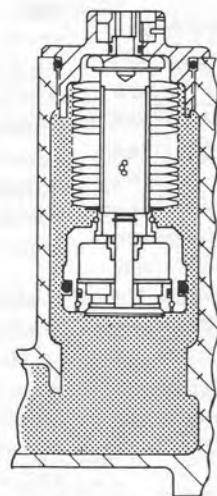


Photo 2

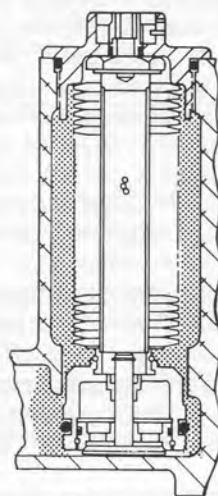
Lube oil pumps in the main gearbox, engine speed decreaser gearbox (SDG), and the UH-2C's combining gearbox all use oil filters with wafer packs. The filter for the engine SDG should not be used in the main or combining gearbox and care must be taken to avoid an incorrect installation. Because the covers on these filters have the same threads and are interchangeable, the cover part number is of little use when attempting to determine the identity of each individual filter. Also, comparing a new filter with one removed from a lube pump is not a positive check because an incorrect installation may have been previously made. Once assembled, the most positive checks are the length (measured from the bottom of the check valve to the flange on the filter cover), and the number of visible wafers (some wafers enter the recess in the filter cover and are hidden from view). An assembled SDG filter for example can be identified as follows (See Photo 1): Length—it must be $5\frac{3}{16}$ inches long; Visible wafers—at least 31 wafers should be visible below the filter cap (3 are hidden). Assembled main or combining box pump filters are identical and can be identified in the same manner (See Photo 2): Length—it must be $4\frac{3}{16}$ inches long; Visible Wafers—no more than 22 wafers should be visible below the filter cover (3 are hidden). Notice that the SDG filter is 1-inch longer than both the main and combining box filter.



View A

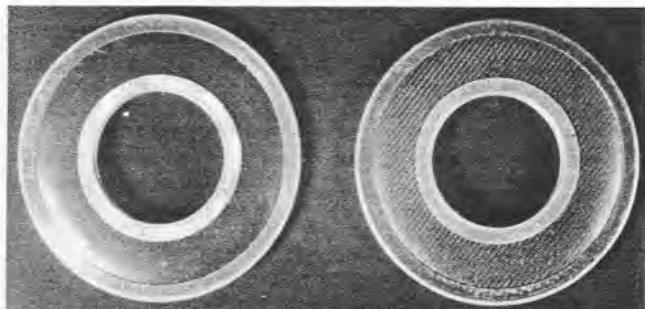


View B



View C

The simplified drawings show why it is imperative to install the correct filter in the correct lube pump. View A illustrates a filter correctly installed. The properly seated valve O-ring prevents oil from bypassing the filter. In this installation, all oil must pass through the filter in order to reach the system because the O-ring is properly seated. View B shows what would happen if a main or combining box filter were installed in the SDG lube pump. It is obvious that because of the shorter filter, the O-ring cannot seat and unfiltered oil will flow through the system. View C shows what could happen if a SDG filter, with its greater length, were installed in the main or combining box lube pump. Here again it is obvious that the O-ring cannot seat properly because it has passed beyond the machined surfaces. This installation will also allow unfiltered oil to flow through the system. When assembling filters, care should be taken to be sure that only correct micron-rated wafers are used. Under no circumstances should they be mixed.



46 MICRON

Photo 3

81 MICRON

A close look at the two wafers shown in Photo 3 will be of help when determining which wafer is the correct one to

use. Notice that a crosshatch design can easily be seen on the 81-micron wafer at the right; this wafer is only used in the main and combining gearboxes. The 46-micron wafer on the left displays no such design; this wafer is only used in the SDG lube pump. It might prove handy to mark one wafer and keep it as a reference so that it will always be available to refresh memories whenever a question arises. The retaining nut which secures the wafers should be hand tightened until the wafers cannot be turned individually. The wafer pack, however, should turn relative to the cap with firm hand pressure. Care must be taken not to over tighten the retaining nut and thereby crush the wafers. A check for crushing should be made after assembly by viewing the wafer pack while it is back-lighted.

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mortars used during the attack. Alerted by the explosions, Maj Delmar G. Worsech, RCC, and Capt Henry P. Fogg flew to the ramp and hovered over the burning HC-130P. One of the crewmen aboard, Robert A. McAllister, a rescue specialist, used the interphone to guide the pilots into position and the rotorwash from the HH-43 was used to control the flames and aid base fire trucks in fighting the blaze. When the trucks were empty, the HUSKIE returned to the alert pad and picked up a fire suppression kit. The HH-43 crewmen used the FSK at the ramp until the base fire trucks returned and then, when the kit was expended, joined ground personnel in fighting the flames. Again the rotor downwash from the HUSKIE was used to aid the firefighters. This action was credited with saving the C-130 since the flame control and cooling air allowed the crewchief to taxi his aircraft away from the burning HC-130P. During the entire 30-minute mission, base defense forces were engaging the enemy nearby. Sgt Robert E. Thompson, HH-43 flight engineer, continually exposed himself to hostile fire on the alert pad in order to successfully launch, recover and relaunch the helicopter. Other HUSKIE crewmen who braved enemy fire to save the C-130 were Sgt James W. Nelson, rescue specialist, A1c Stephen R. Tuttle, pararescue specialist, and Sergeant McAllister.

To avoid enemy fire during a night medical evacuation, an HH-43 pilot dropped to an altitude of 100 feet and followed a highway partially lighted by the vehicles traveling on it. 1st Lt Wayne A. Grant, III, from Det 13, ARRSq,

Phu Cat AB, took the action after he was unable to receive the radar vector he had requested to avoid heavy ground fire, including artillery, in the path of the rescue helicopter. The hazardous 18-mile flight was made after a Vietnamese soldier was picked up at the scene of a truck accident. He had been wounded earlier on patrol and then suffered additional injuries in the accident. Other members of the HUSKIE crew were 1st Lt Jack F. Brannan, co-pilot; Sgt Stephen B. Jones, medical technician; Sgt Ronald L. Regan, flight engineer; and Sgt Andrew J. Andrews, rescue specialist.

Earlier, Lieutenants Grant and Brannan, and Sergeants Regan and Jones, manned an HH-43 which evacuated a U. S. Army soldier with a broken back from a rugged mountain area 40 miles from the base. The sun was setting when the crew scrambled and no cover aircraft were available for the mission. To make the litter pickup, Lieutenant Grant held the HUSKIE at tree-top level for 15 minutes despite gusting winds and a considerable down draft. The HUSKIE came under ground fire while leaving the area and immediate evasive action was taken.

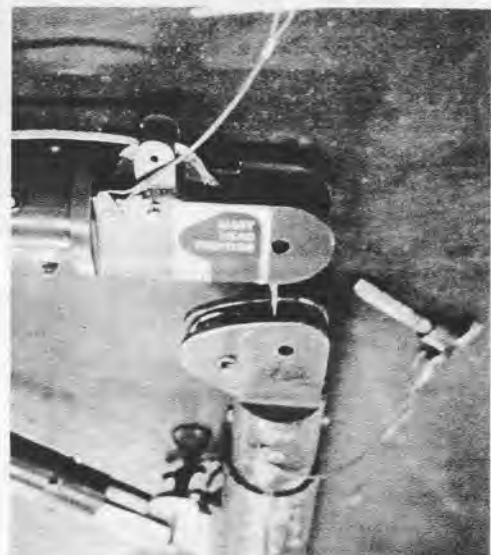
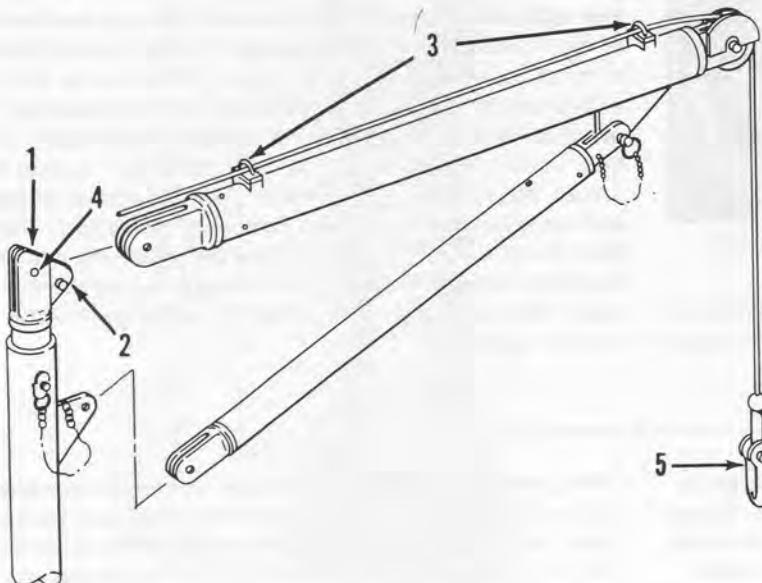
During a seven-month period, Det 13 helicopter crews flew more than 80 medical evacuations. A great many of their passengers were wounded, injured or sick military personnel. Others were South Vietnamese suffering from a wide variety of illnesses and injuries, including gunshot wounds inflicted by enemy forces. All had one thing in common—their suffering was shortened by the mercy missions flown by the ARRS rescue crews.

IDENTICAL PROBLEMS—Installing antennas atop high towers—at two air bases in South Vietnam were solved by HH-43 crews from the 38th ARRSq. In left photo, a HUSKIE from the squadron's Det 13 at Phu Cat AB hovers over a 45-foot-high platform after lowering a new high gain antenna into place. In the second photograph, a HUSKIE from Det 14 at Tan Son Nhut AB lowers a 28-foot Military Affiliate Radio System antenna to the top of a 100-foot tower. The men from MARS showed their appreciation by offering the first available stateside call to the helicopter crew. (USA F photos)



UH-2 ENGINE REMOVAL HOIST ASSEMBLY

by Herman Zubkoff
Service Engineer



A low-profile, fixed-length tube assembly (also referred to as the boom or strut assembly; see drawing), P/N K604189-101, has been released for UH-2C engine removal while the main rotor blades are folded. When installing the fixed-length tube instead of the standard adjustable boom, P/N K604013-7, the masthead (1) MUST BE TURNED 180° as shown. This repositioning is necessary in order to properly route the cable over the pulley (2) and through the cable guides (3). (Decals, located on the fixed-length tube assembly, show the correct direction to position the masthead; see photo). Under no circumstances should the cable be allowed to ride on the pip-pin (4)—if the cable does ride on the pip-pin instead of over the pulley, the boom has been installed incorrectly and cable failure can result. A shackle (5) is included with the fixed-length boom kit. It must be used in place of the standard cable hook which is utilized with the K604013-7 to provide sufficient engine lifting clearance under the folded blades. Insert the lifting eye of the engine sling, P/N K604506-1, into the shackle before attaching it to the cable. Secure the shackle to the cable fitting with the same bolt used to secure the standard hook.

Det 9 Saves Bomber

It was 2140 when an RF-4C declared an emergency for an unsafe indication on the left main gear....two minutes later Capt William P. Shea and his HH-43B crew from Det 9, EARRC(MAC), took off from Shaw AFB, S. C., and began an intercept orbit. The night was dark with virtually no horizon so Captain Shea flew mainly on instruments while the copilot and crewmen watched for other aircraft. After entering the traffic pattern, the pilot of the RF-4C made several low approaches in an attempt to determine if the unsafe indication was correct and then tried a touch and go landing to see if, in fact, his gear was down—it wasn't! As the aircraft touched down, the left wing dipped and struck the ground. Trailing flames, the RF-4C left the runway and skidded its way toward the main parking ramp where it finally came to rest next to and beneath the wing of an RB-66 which had been fully serviced with fuel. "Pedro," the HH-43, arrived on the scene a second later and the fire suppression kit, firefighters and medic were deployed. As they did so, both RF-4C crew members scrambled to safety thereby relieving the rescuers of one responsibility but still confronted with another—the engines in the aircraft were still running and in the afterburner position.

Hovering the HH-43B, Captain Shea directed the cooling rotor downwash toward the area on the bomber most threatened by the blowtorch-like afterburner flames. At

the same time the firefighters from the helicopter, without regard for the obvious risk involved, applied foam to a pool of spilled fuel beneath the damaged fighter. Meanwhile, the HH-43 copilot, Capt Earl A. Kelly, monitored the instruments and handled communications with the control tower and ground fire fighting equipment which arrived soon afterward and aided the rescuers in eliminating the danger to the bomber.

Maj Hoyt B. Hurt, detachment commander, said later that it was generally acknowledged by ground personnel present at the time of the incident, that the rapid response and professionalism of the rescue crew, along with the cooling effect of the helicopter rotorwash, were prime factors in preventing the RB-66 from igniting and creating a disastrous fire. HH-43B crewmen who risked their lives to keep this from happening were SSgt Julius Murray and Sgt Earl Teeter, the two firefighters, and TSgt Lindo L. Cook, the medical technician.

~~~~~Log 2000 Hours~~~~~

The names of two HH-43 pilots from the 3638th Flying Training Squadron at Sheppard AFB, Tex., have been added to the growing list of those who have logged 2000 or more hours in a Kaman-produced helicopter. They are, Maj Theodore C. Vurbuff, who has flown more than 2600 hours in the HH-43, and Maj James E. Lamoreaux, who recently logged more than 2300 hours in the HUSKIE. Eight pilots, so far, have reported passing the 2000-hour mark.

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INTERNATIONAL RECOGNITION—Foreign military and civilian personnel have had high praise for the knowledge and rescue techniques learned while attending the National SAR School. Here, Commander Langkau from the Federal Republic of Germany, presents Commander Hobdy with a plaque of appreciation from the German Navy. Major Gerblick, is at the left, and Capt John Waters, USCG, is on the right.

SAR facilities available for any type of SAR mission whether it be land, sea, subsurface or aerospace are discussed next. Rescue aircraft, their capabilities and limitations are studied in some detail. This includes the HU-16 amphibian, the HC-130 aircraft, and the following SAR helicopters: HH-3, HH-43, HH-52, HH-53, and UH-2. The newly-developed technique of helicopter aerial refueling is also covered. Surface vessels such as Coast Guard cutters, rescue boats and harbor craft are examined, as is the potential of the merchant fleets of the world to assist in an oceanic SAR mission. The Civil Air Patrol, with its 5000 aircraft, and the Coast Guard Auxiliary, with its 15,000 boats, are examined in the facilities phase of the course; so are the radar nets of the FAA and the Air Defense Command, and the part they play in assisting an aircraft in distress. Sound Fixing and Ranging (SOFAR), a relatively new technique of position fixing a distressed vessel or aircraft over an oceanic area is introduced next. Then comes another new area, that of subsurface search and rescue. This is covered in some detail and concludes the facilities portion of the course.

The various radio, landline, satellite, direction-finding, and SAR mission nets in use today and those planned for the future are covered in the communications portion of the course. This is followed by several hours on SAR incident processing, a procedure whereby a SAR incident is assigned a particular classification phase based on the extent of the distress and the assistance needed. This includes examples of typical incidents and the usual actions involved. At this point, the student is ready to begin the fundamentals of Search Planning, the most important part of the course. Search Planning starts in the first week and continues right up to the last day. The Search Planning phase of the course includes lectures and practical problems. Students spend some 25 hours in the SAR laboratory working on practical problems.

Once the search plan is decided, search operations begin; and this is the next phase of the course. Included are the duties of the SAR Mission Coordinator, the On-Scene Commander, search crew briefings, scanning techniques, special considerations for ground parties, mountain searches, underground searches, night searches, and the use of airspace reservations and disaster control areas. This is followed by studying the various factors that may influence the actions of survivors under stress, such as environment and the will to live. All possible environments, such as arctic, oceanic, desert, jungle, and mountain are considered, as are factors such as wind chill, water chill and wild animals. Specific signalling and survival equipment is examined from the survivor's viewpoint as much as possible. The SAR Mission Coordinator must have a good idea of what faces a potential survivor under any given condition.

Once a survivor is located, then the rescue and recovery phase begins. Various rescue techniques now in use by aircraft, helicopters and vessels are covered in detail. Included are such techniques as: aerial delivery of pararescuemen, liferafts, medical kits; aerial recov-



ery using the Fulton Recovery System or the All-American Recovery System; specialized equipment used with helicopters in a maritime or an inland environment; techniques employed by vessels and boats to recover survivors from the water or personnel transfer between vessels using methods such as the raft relay or high line. The special problems of vessel fire fighting, towing and salvage, and ice operations are examined along with the technique employed by Ocean Station vessels and major cutters to assist an aircraft in ditching.

There are numerous special operations which require the services of a SAR unit and these are studied next. This Special Operations phase includes the intercept and escort of marginally operating aircraft, missions providing medical assistance by aircraft, vessel, or pararescuemen, the recovery of astronauts and space capsules in support of our national space effort, and the role of SAR units in times of natural disasters, such as floods, hurricanes, or earthquakes. In addition, the role that the public can play in providing valuable information to assist in the search and rescue of survivors is examined. News media relations are extremely valuable to let the public know what is happening, to request its help through leads, and to let the taxpayer know how his dollars are being spent on his behalf. In this same vein, the legal aspects of any search and rescue mission present numerous problems and these are examined, emphasizing such areas as crossing international boundaries, entering private property, and liability suits.

With the Southeast Asia conflict so much in the news, and with many of our students being assigned to that area, the special characteristics of conducting SAR in a wartime environment, with emphasis on Southeast Asia, is covered in detail. The last major phase of the curriculum is the future development field, with a look at VTOL aircraft, future space rescue vehicles, space bailout, radio controlled parachutes, deep submergence rescue vessels, improved survivor detection capabilities, crash position indicators, infrared detection aids, side-looking radar, satellite communications relay, computerized Rescue Coordination Centers, and many more new developments, all of which will certainly change the role of SAR in the future.

As evident from this brief summation of the course curriculum, SAR obviously is a broad and complex field, and the decisions that SAR School graduates make on a daily basis are, literally, of a life and death nature. The National Search and Rescue School seeks to prepare the graduate to make the best possible decision in all cases. Graduates earn the right to wear the school graduate emblem, an albatross with a fish in its mouth, symbolic of rescuing a person from a position of peril. Those that wear this emblem are members of a select group of outstanding professionals in the humanitarian endeavour of saving lives and are, as the motto of the school states, "ALWAYS READY, THAT OTHERS MAY LIVE."

Huskie Happenings



... Flying at night over haze-covered mountainous territory, an HH-43 crew from Det Provisional First, 1646th Provisional Squadron, evacuated a critically-injured soldier from Kusan to Inchon, ROK. A lack of navigation-aids added to the hazard of the life-saving flight. On one occasion during the flight, Capt Thomas B. McGovern (MC), 354th TAC Hospital, used mouth-to-mouth resuscitation to start the patient breathing again. Capt James P. Foster was HH-43 pilot on the mission and Maj Earle D. Williams, Jr., was copilot. Other crew members were SSgt Alfredo Gonzales, medical corpsman, and SSgt Marvin E. Bell, flight engineer.

... The pilot of a Marine A-4B who ejected at night over rugged territory near Searchlight, Nev., was picked up by an HH-43B crew from Det 14, WARRC(MAC), Nellis AFB, after a 50-mile flight over mountainous territory. The HUSKIE, piloted by Capt Norman R. Albee, took off through clouds of dust driven by surface winds gusting up to 30 knots. The helicopter's loud hailer was used to locate the downed pilot aboard a boat in the Colorado River and the HH-43 was landed in a dry wash nearby. Capt Donald Mielke (MC), and Sgt William L. Hysong, medical technician, determined the survivor was not injured and all boarded the helicopter for the return trip to the base. Other members of the HH-43 crew were Capt Gary E. Robertson, copilot, and MSgt Jerry C. Marks, flight engineer.

... It was a "wild and rough" flight for those in the HH-43B who braved the dangers of a thunderstorm to deliver their patient to the hospital—but they saved a life! The mission began for the HUSKIE crew from Det 25, EARRC(MAC), Eglin AFB, Fla., with a call for help from Eglin Auxiliary Field 7 where an Army ranger had been struck by lightning. The 20-mile flight was made without incident and the patient placed aboard the helicopter. The flight back was made during a lightning storm accompanied by wind-driven rain. Gusts to 30 knots shook the HH-43 while a flight surgeon, Capt Hugh P. Brown (MC), the flight engineer and two rangers applied artificial respiration, external heart massage and intravenous feeding to the burned and bruised patient. He was unconscious but twisting violently and had to be held down. The landing at Eglin Hospital was made without incident. Twenty-four hours after being stricken, the patient regained consciousness. The medical attention and speedy delivery given by the HUSKIE crew were credited with saving his life. Others manning the HH-43 were Capt Roland J. Page, pilot; Maj Alma L. Williams, copilot; SSgt David J. Blazic, flight engineer; and SSgt Felix H. Havis, medical technician.

... In another Det 25 mission, an HH-43B crew responded after an O-1 crashed 18 miles from the base. The seriously-injured pilot was outside the downed plane when the chopper arrived and a second survivor, also seriously injured, was found trapped in the wreckage. Capt Robert R. Reeves, HH-43 pilot, and Maj Charles E. Trapp, Jr., the copilot, enlisted aid from civilian spectators to help Lt Col Clyde C. Sanders, base operations officer, and other military personnel in lifting a wing to free the trapped man. TSgt Bobby E. Morgan, who gave medical attention to the injured, was later credited with saving the lives of both due to "his outstanding abilities as a professional rescue crew medical technician." Sgt John W. Coleman was flight engineer on the mission.

... A seriously-injured mountain climber was rescued at night from the 6,000-foot level of Mt Pugh by an HH-43B crew from Det 5, WARRC(MAC), McChord AFB, Wash. To make the pickup from a small saddle between two very steep peaks, Capt Keith H. Ricks held the HUSKIE in a hover while SSgt Loney A. Martin, a medical technician, was lowered through the darkness to the injured man. During this time the rotor blades were clearing surrounding cliffs by a scant five feet. After a 15-minute hover in the confined area, the rescuee was brought aboard, the medic recovered and the helicopter headed for a medical facility. Flight engineer on the hazardous mission was SSgt James T. Hines.

... A pilot who ejected from his F-105 and landed in a field approximately 40 miles from McConnell AFB, Kan., was picked up by an HH-43B crew from Det 16, CARRC(MAC), stationed at the base. 1st Lt James E. Waller was pilot of the HUSKIE, SSgt James A. Beachy, medical technician, and Sgt Robert G. Cotter, flight engineer.... An isolated Havasupai Indian village at the bottom of the Grand Canyon now has a means of rapid communication with the outside world thanks to the efforts of the Aerospace Rescue and Recovery Service and the Bureau of Indian Affairs. Recently an HH-43 HUSKIE from Det 16, WARRC(MAC), at Williams AFB, Ariz., delivered an 1800-pound fully automatic telephone switchboard to the village. The equipment, provided by the Bureau, was airlifted 200 miles by the HUSKIE crew. Now, when an emergency arises, the Indians can call for help instead of making a 13-mile trip by mule to get assistance. Aboard the HH-43 were Maj Walter C. McMeen, pilot; Capt James E. McLain, copilot; and TSgt Larry L. Holocker, flight engineer....



CAREER MILESTONES—After an historic flight from Rhein Main AB to Ramstein AB, Germany, Maj Clifford Brandon, left, and Capt Carol Hayden, right, pose for a photograph with LtGen James W. Wilson, vice commander, Military Airlift Command. During the 45-minute flight, both pilots passed milestones in their flying careers. Major Brandon, commander of Det 4, AARRC(MAC), at Ramstein, logged his 2,000th hour in the HH-43 HUSKIE. Captain Hayden, also assigned to Det 4, reached the 1,000-hour mark. (USAF photo)



TRIESTE MERCY MISSION—As a crewman calls out distances, Capt Wendall B. Wood from Det 10, AARRC(MAC), Aviano AB, lands an HH-43B between the light posts and bollards on a Trieste pier. A minute later an Italian SCUBA diver suffering from the bends was placed aboard the HUSKIE for a flight to Aviano. At the base the diver was transferred to an Italian SAR HU-16 and taken to Rome where a decompression tank is located. Doctors credit the saving of the diver's life to the quick reaction and airlift by the USAF and Italian rescue units. On the 55-mile flights to and from Trieste, only two miles from Yugoslavia, the HUSKIE crew encountered considerable turbulence while being radar vectored on a flight path to avoid nearby thunderstorms. On the return trip, low altitude flying was necessary because any change in atmospheric pressure would have been extremely dangerous for the patient. With Captain Wood on the mercy flight were Maj Franklin L. Chase; Ssgt James R. Micklon, medical technician; Sgt James W. Otwell, flight engineer; and Elio Sacilotto, an interpreter. (Photo courtesy of Giornalfoto)



T'AIN'T SO—When Sgt L. Jay from the photo lab at Sembach AB, Germany, saw what appeared to be an HH-43B landing on top of a positioning pole, left photo, he quickly recorded the event with his camera. Actually, the pole is slightly in front of the HUSKIE and being used as a guide by the pilot as he prepares to place a fire suppression kit on its trailer below the helicopter. The pilot of the HH-43, from Det 4, AARRC, Ramstein AB, is Capt Carol D. Hayden (see top left photo). Flying with him is Maj Gordon N. Pollard of Ramstein's 526th Fighter Interceptor Squadron. (USAF photo)



"HAPPY ENGINE" REPAYS CARE WITH HOURS—August 26th was a red-letter day for Det 4, EARRC(MAC), Keesler AFB, Miss. On that date the 1201st hour was logged on a T53-L-1B engine installed on a detachment HH-43B, serial number 64-17557. Turbine engines of this type are normally removed at 800 hours but approval was received to operate the engine another 400. Detachment maintenance personnel proudly report that since the engine, serial number LE-00 597, was installed at Kaman Aircraft it has never been overhauled or removed from the aircraft for repairs. The Det 4 aircrew which was flying the HUSKIE at the time the 1200 mark was passed are, left to right, Alc William M. Murphy, engine technician; Ssgt James M. Langford, flight engineer; Capt Ronald C. Tubbs, rescue crew commander; and Maj Arthur E. Oakes, copilot. In the right photo, Sergeant Langford and Airman Murphy pose with other detachment personnel whose efforts also contributed to the achievement. They are, left to right, Sgt Jessie L. Herrell, flight engineer; Alc Lloyd A. Weinstein, helicopter mechanic; and SMSgt Buddy B. Bennight, maintenance superintendent. (USAF photo)



1967

SCROLL OF HONOR

Jacox, Alfred R., Jr., 1/Lt, USAF
James, James O., Jr., ADJ3, USAF
Jansa, James F., Major, USAF
Jarrett, James E., Captain, USAF
Jennings, V. W., A1C, USAF
Johnson, James L., TSGt, USAF
Jones, Stephen B., Sgt, USAF
Jordan, Robert, A1C, USAF
Kahler, Lamont M., Captain, USAF
Kamrani, Tahmash Esmaeli, 1stLt, IIA
Kavanagh, Robert J., LtCol, USAF
Kearton, Donald S., SSGt, USAF
Kelly, John J., MSgt, USAF
Koppenhofer, Gunther, A1C, USAF
Kullgren, Thomas E., 1/Lt, USAF
Lancaster, Larry E., Sgt, USAF
Langford, James M., SSGt, USAF
Lavigne, Richard R., AMS2, USN
Lax, Lee C., Lt, USN
Leonard, Edmund T., Sgt, USAF
Lester, Walter B., Lt, USN
Litzen, Roy M., 1/Lt, USAF
Long, Jon C., 1/Lt, USAF
Loud, Robert S., TSGt, USAF
Luther, Joseph N., A1C, USAF
Lutz, Roland H., MSGt, USAF
Mackin, Peter J., SSGt, USAF
Herring, Harold L., Captain, USAF
Herr, Joseph T., Captain, USAF
Hill, Robert D., SSGt, USAF
Hiner, Harold L., Captain, USAF
Hiscock, Merrill C., 1/Lt, USAF
Hull, Harry J., A1C, USAF
Hultz, John G., ADJ3, USN
Hunt, George J., ADJAN, USN
Manley, R. E. ATL, USN
Marcontell, Billy C., 1/Lt, USAF
Martin, Allen R., Captain, USAF
May, Walter H., TSGt, USAF
McAllister, Charles N., Major, USAF
McKinney, Harold A., SSGt, USAF
McMinn, John F., Ensign, USNR
Meiling, Jaque L., Lt, USNR
Melecosky, Timothy B., LT(jg), USN
Merna, Robert L., Captain, USAF
Metzinger, Donald D., Captain, USAF
Meyer, Ernest M., AT2R2, USN
Meyer, F. C., Lt, USN
Michelsen, Robert S., Captain, USAF
Mitchell, Jack L. SSGt, USAF
Monarez, Esquiel, SSGt, USAF
Montgomery, Alexander, A1C, USAF
Moore, Jack C., Captain, USAF
Morzenti, Robert L., A1C, USAF
Moxley, Willis B., (Civilian)
Murray, Ronald W., 1/Lt, USAF
Need, Vance E., Captain, USAF
Nelson, Eric W., A1C, USAF
Nickles, Curtis E., A1C, USAF
Noble, David W., Sgt, USAF
Northern, Steve M., A2C, USAF
Ortiz, David B., A2C, USAF

KAMAN AIRCRAFT

THE PERSONNEL ABOVE WERE HONORED FOR THEIR SKILL, COURAGE AND JUDGE-
MENT DISPLAYED WHILE PARTICIPATING IN RESCUE OR MERCY MISSIONS PERFORMED
UNDER ADVERSE OR HAZARDOUS CONDITIONS WHILE FLYING IN KAMAN HELICOPTERS.