

KAMAN *Rotor Tips*



B. Tisdale

KAMAN AIRCRAFT CORPORATION

AUGUST - OCTOBER 1966

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THE COVER

Shore-based UH-2C twin-engine SEASPRITE carries out a SAR mission while another "twin," operating from a destroyer, performs a similar mission at sea. Cover by Donald Tisdale, Service Publications.

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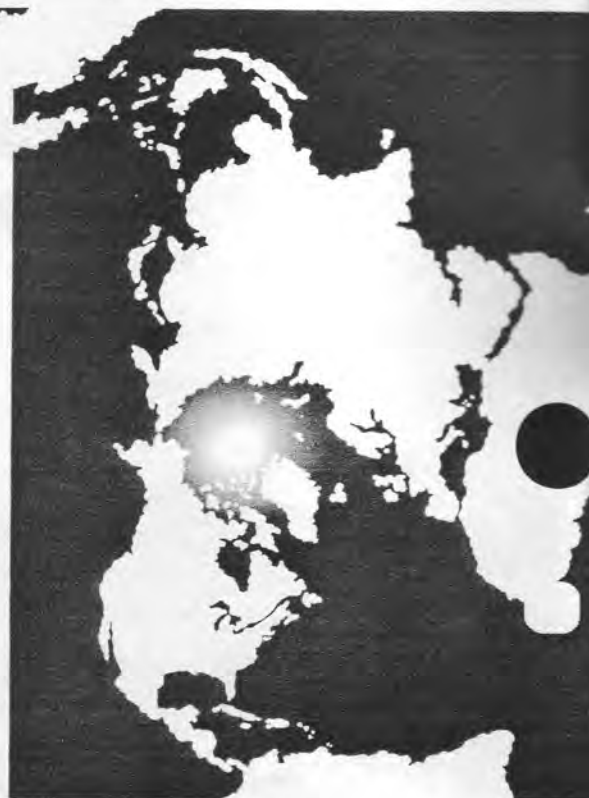
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WHAT'S WITH THE TWIN?

The UH-2C, twin-engine version of the SEASPRITE now in service with the Navy, is scheduled for Fleet delivery next Spring. Due to the interest expressed, the following outline is presented which reviews the major steps already taken in the program and indicates key events scheduled for the future.

SEPTEMBER 1965

Mock-up Inspection — For preliminary Navy evaluation, Kaman Aircraft's twin-engine research and development helicopter was equipped with wooden cowlings and fairings to simulate the proposed UH-2C. Emphasis was placed on maintainability and accessibility during this phase of the twin-engine development.

NOVEMBER 1965

Qualification Program Contract Go-Ahead — Authorized transition from the twin-engine research and development tests to a program of complete qualification of a UH-2C configuration for Navy operations.

MARCH-MAY 1966

UH-2C's In First Qualification Flights — The first flight in the qualification program was accomplished on March 14, with a second twin-engine helicopter being phased into the flight test program on May 20.

MAY 1966

Maintenance and Engineering Inspection — This Navy inspection was conducted at Kaman Aircraft in order to determine the servicing and maintenance suitability of the UH-2C as related to safety, installation of equipment, interchangeability, replaceability, accessibility, and adequacy of ground support equipment. The results indicated that ease-of maintenance for the UH-2C was outstanding.



1966

JULY

UH-2C Program Review Conference — A thorough review of all parts of the program resulted in the establishment of a schedule for Fleet helicopter modification and delivery dates. To assure full support of UH-2C's, when on operational deployment with the Fleet, plans were made for spare parts provisioning, publications, special support equipment, personnel training, and so on.

OCTOBER

Navy Evaluation of the UH-2C — To be conducted at Kaman Aircraft's Bloomfield, Conn., facility by flight crews from the Naval Air Test Center, NAS Patuxent River, Md. The flying qualities and general acceptability of the helicopter for Navy operations will be evaluated to provide advance information and data for the Navy Board of Inspection and Survey (BIS) flight test program.

AUGUST

Modification Contract Go-Ahead — Authorized modification of single-engine UH-2A/B helicopters, now in service with the Fleet, to the twin-engine UH-2C configuration.

NOVEMBER



SEPTEMBER



DECEMBER

Induction of Fleet UH-2A/B Into the UH-2C Modification Program — Present planning provides for a build-up to an induction and delivery quantity of five helicopters per month with a three-month modification rework time cycle. As each UH-2 completes its current service tour it will become a candidate for modification at Kaman Aircraft. Selection will be made from these helicopters every month.

1967

JANUARY

Board of Inspection and Survey (BIS) of the UH-2C — This comprehensive, three-month Navy evaluation of two UH-2C helicopters will be conducted at the Naval Air Test Center, NAS Patuxent River, Md., from January through March. During this time, the helicopters will be evaluated for flight performance and mission supportability. The BIS program provides a basis for Navy acceptance of the UH-2C for Fleet operations.

APRIL



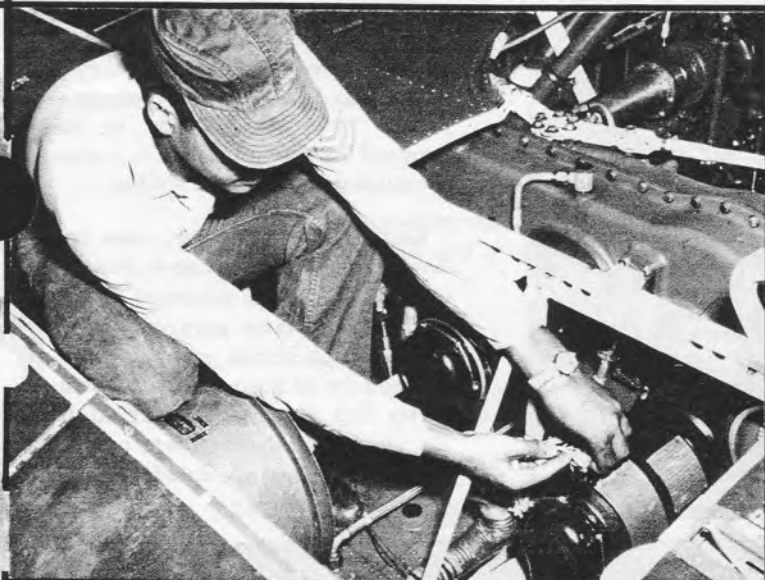
FEBRUARY



MAY

UH-2C Delivery to the Fleet Begins — All significant UH-2 improvement changes will have been incorporated in the twin-engine helicopter during the modification/rework program and the aircraft will also have undergone a complete Progressive Aircraft Rework (PAR). Delivered aircraft will be mission-ready and capable of completing many service tours.

MARCH



JUNE



DOWNED HUSKIE CREW SAVED

An HH-43F fell victim to Viet Cong gunfire while evacuating wounded recently, but the crew was rescued and the downed chopper recovered soon afterward. The chain of events began just after one of two HUSKIES from Det 6, 38th ARRSq, Bien Hoa AB, RVN, had hoisted a wounded soldier aboard from the dense jungle and was preparing for a second rescuee. Suddenly bullets began tearing their way through the plexiglass on the pilot's side of the HH-43F and TSgt Richard A. Connon, the hoist operator, was struck in the calf and thigh. Capt Harold D. Salem quickly pulled the helo away from the direction of the enemy fire and, as the rotor RPM began dropping, Capt Dale L. Potter, the copilot, radioed that they had been hit. Seconds later, A2c Frederick L. Sanger reported oil pouring through the ceiling into the cabin.

The oil caution light was glowing and the tree tops were a scant 75 feet below but Captain Salem managed to check the helicopter's descent and then, a few seconds later, climbed to 200 feet as the rotor RPM leveled off. Despite the oil loss, the pilot continued onward for two miles to a small clearing where he landed without further damage to the rescue chopper. Just before touchdown the oil pressure dropped to zero and the engine oil temperature began to rise sharply. With weapons at the ready, the helo crew jumped out to secure

the area and seconds later the second Det 6 HUSKIE, piloted by Capt Charles P. Nadler, landed to assist. Others aboard were Capt Karl G. King, the copilot, A1c Gerald C. Hammond, Jr., helicopter mechanic, and SSgt David E. Milsten, rescue specialist. Two armed UH-1B Army helicopters, which had been flying escort for the evacuation mission, provided protective cover over the clearing as the wounded soldier and Sergeant Connon were hurriedly transferred to the second HUSKIE. As the HUSKIE lifted off, one escort helicopter landed, picked up Airman Sanger, and took off — then the other dropped down to evacuate Captains Salem and Potter.

Meanwhile, Maj Maurice G. Kessler, commander of Det 6, had taken off from Bien Hoa in another HUSKIE as soon as he heard that one of his crews was in trouble. With him were 1stLt Mark C. Schibler, copilot, A1c Alexander Montgomery, helo mechanic, and A3c Gordon C. Thayer, rescue specialist. This helo met the returning HH-43F and, after finding out all had been saved, Major Kessler escorted it to the hospital. After ground troops moved in to secure the area, the two Det 6 HUSKIES returned to the clearing and the battle-marked HH-43F was quickly prepared for airlifting by SSgt William D. Cole, SSgt Larry G. Vance, A1c Richard N. Strobaker and A2c Charles H. Burnett. Less

than three hours after being downed, the HUSKIE was lifted from the clearing by an Army CH-47 and returned to base for repairs and future rescue service. (Three of the pilots who participated in this mission have logged 1000 hours each in the HUSKIE during the last few months. Their photos appear on page 17.)

A few weeks later in a similar incident, the two-man crew of a downed Army helicopter was rescued by an HH-43F from Det 9, 38th ARRSq, Pleiku Airport, RVN. The HU-1B had crashed at night in such heavy jungle it could not be located despite an intensive search. The next morning Capt Richard L. Cardwell and his crew returned and located the wreckage after one survivor was able to light a flare. SSgt George E. Schipper, pararescue specialist, was lowered from the HUSKIE and managed to free the seriously injured crew chief who was then hoisted to the helicopter and taken to an Army aid station. Sergeant Schipper remained on the ground and an hour later had managed to extricate the injured pilot. He was also hoisted to the rescue helicopter and flown to the aid station. Afterwards both Army men were taken to the hospital at Pleiku. Other members of the HH-43F crew were Capt Dale R. Tyree, copilot; A2c William L. Houghtaling, crewman; and Capt Al Asendorf(MC), doctor.

— That Others May Live —

A1c William H. "Pits" Pitsenbarger, a pararescue medic from Det 6, 38th ARRSq, Bien Hoa AB, RVN, gave his own life recently while defending wounded soldiers during a fierce firefight about 31 miles from the base. The 21-year-old rescuer had voluntarily dropped from a hovering HH-43F into the dense jungle to aid a squad surrounded by Viet Cong and under constant sniper and artillery fire. As he treated the wounded, he also passed them ammunition taken from men who could no longer use it. He even gave his own pistol to an injured soldier no longer able to fire a rifle.

With the knowledge that the wounded are often deliberately killed by the Viet Cong, young Pitsenbarger defended his charges to the last. Just before his death he had collect-

ed magazines of rifle ammunition and, when last seen, was calmly firing at the encircling enemy.

The HUSKIE pilot with whom young



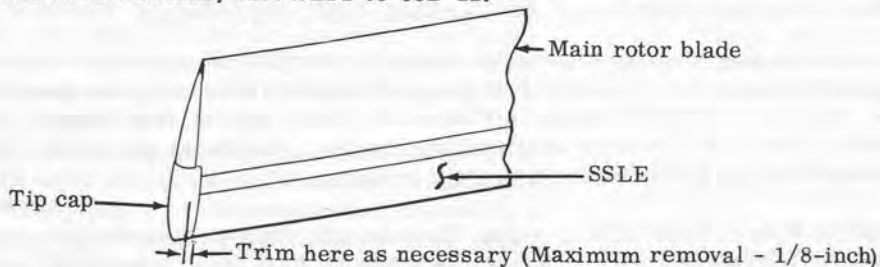
"Pits" made his last flight was Capt Harold D. Salem; Maj Maurice G. Kessler, detachment commander, was copilot on the mission and A1c Gerald C. Hammond was flight mechanic. All spoke highly of the bravery of the young paramedic who had made over 300 flights, many of them hazardous, while in Vietnam — just a few days earlier he had dropped into a minefield to rescue a wounded Vietnamese soldier.

Capt Dale L. Potter, who had flown many missions with Pits and considered him a personal friend, said of the young pararescueman, "Even though he was young in years, he had a lot of good ideas and a maturity that many men never attain. His ability and dedication to country and duty were an example for everyone in the outfit."

Timely Tips

Rotor Blade Tip Cap Trimming (UH-2)

H-2 Interim Airframe Bulletin (IAB) No. 87 requires electrical isolation of the steel tip cap from the stainless steel leading edge (SSLE) on ALL UH-2 main rotor blades. If isolation cannot be achieved by loosening the four retaining screws and shifting the tip cap outboard away from the leading edge, then up to a maximum of 1/8-inch of material may be trimmed from the inboard edge of the tip cap. Do not trim the tip caps to the 1/8-inch maximum unless necessary, but remove only enough material to isolate the tip cap from the stainless steel leading edge and trim only in the area where the tip cap can butt against the SSLE. After trimming, reinstall the cap and fill the gap with sealing compound, P/N EC801, and cure in accordance with the Handbook, Structural Repair, NAVWEPS 01-260HCA-3. This data will appear in future revisions of Handbook of Maintenance Instructions, NAVWEPS 01-260HCA-2-5 and -2-9; Structural Repair, NAVWEPS 01-260HCA-3; Handbook of Inspection Requirements, NAVWEPS 01-260HCA-6; and Overhaul Instructions, NAVWEPS 03-95D-11.



W. J. Wagemaker, Service Engineer

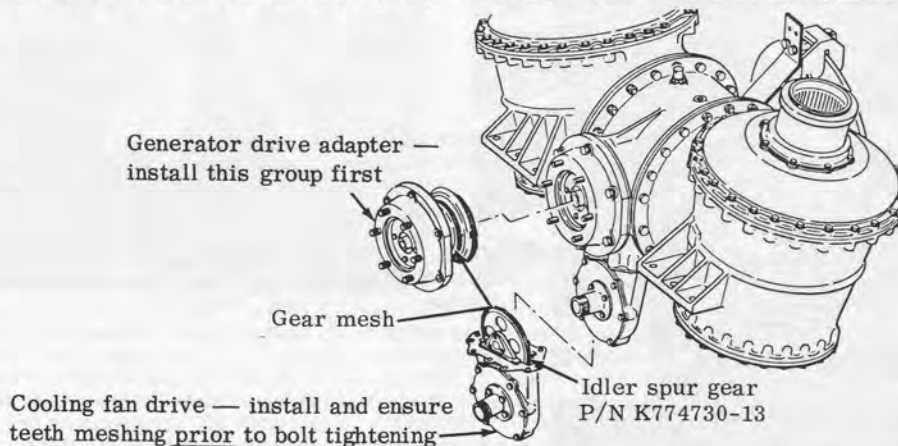
Battery Care (HH-43B, HH-43F)

To avoid possible reversal of cell polarity or internal shorting, either of which calls for battery replacement, every precaution should be taken to prevent nickel cadmium batteries from becoming "low" or completely discharged while installed in the aircraft. With this in mind, maintenance personnel should use auxiliary power whenever possible while making radio, fuel pump or other checks which cause an electrical drain. If it is necessary to use the battery, checks should be made as rapidly as possible with the thought that, if the battery is completely discharged, a reversal of the cell polarity may occur. Also to be considered is the fact that, as the battery is discharged in use, the potassium hydroxide electrolyte is absorbed by the plates. This causes the electrolyte level to drop and eventually fall below the plates. As a result, heat is generated by the high inrush of current when the aircraft generator is turned on and causes the cell to short out internally. A properly maintained battery can withstand overvoltage for some time; however, a battery with cell polarity reversed or plates uncovered will not withstand any overvoltage and must be replaced. For battery servicing instructions, refer to T.O. 1H-43(H)B-2.

J. J. McMahon, Service Engineer

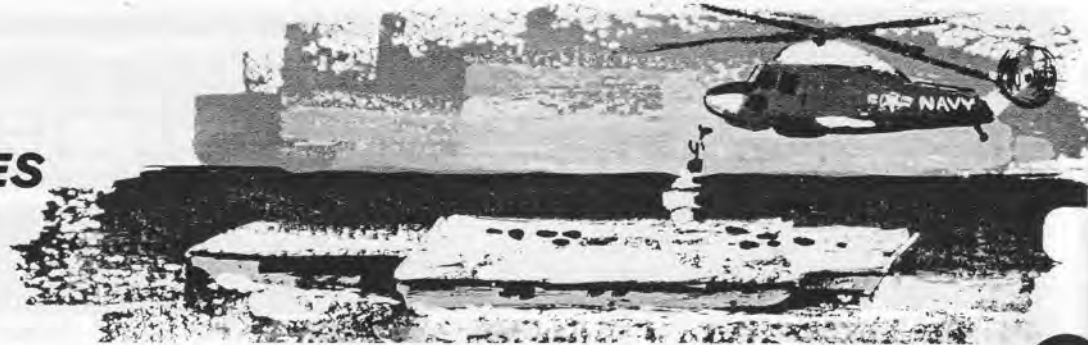
Precaution After Transmission Inspection (HH-43B, HH-43F)

To comply with the intent of T.O. 1H-43(H)-505 (Inspection of Transmission) it is necessary to remove the cooling fan drive group and the generator drive adapter group from the transmission. During reinstallation of the two groups, the idler spur gear, P/N K774730-13, on the fan drive group, must be properly meshed with the teeth on the spur gear portion of the generator drive adapter group. Ensure positive gear meshing PRIOR to tightening the attaching hardware on the cooling fan drive group. See drawing for installation sequence of the two groups.



F. E. Stares, Service Engineer

SEASPRITE ACTIVITIES



... In night rescue UH-2 crewman Richard L. Hart, AE3, leaps into wind-whipped waters covered with jet fuel to rescue downed pilot entangled in parachute. Other members of rescue team are Lt Robert C. Chandler, pilot, Lt(jg) Vernon P. Giddings, copilot; and Benny R. Turner, AEAN, crewman. All are attached to HC-2's Det 66 aboard the USS America.

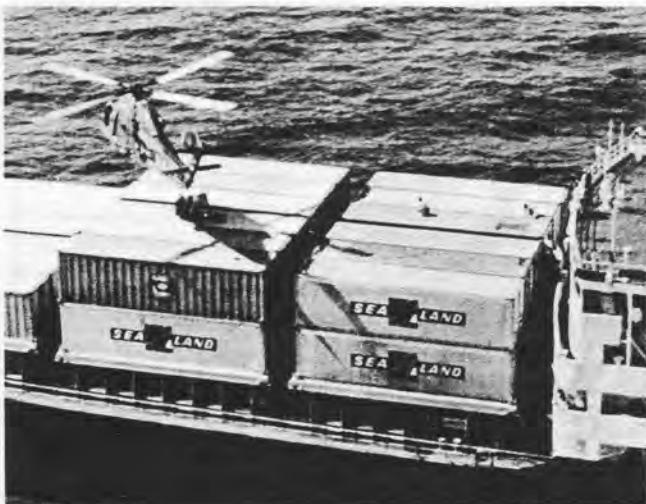
... UH-2 crew from Marine SAR unit at MCAS Beaufort, S. C., flies through thunderstorm at night to pick up pilot of F-8 which crashed in swamp. Mission flown on instruments in heavy turbulence. CWO James R. Gauthier, pilot; Sgt George B. Stanley and Cpl Frank J. Bouc, crewmen... UH-2 from Beaufort picks up four civilians in stranded boat. Chief Warrant Officer Gauthier is pilot; and SSgt Ralph O. Williams and Cpl Charles F. Hancock, crewmen... Jet trainer plunges off deck of USS Lexington into Gulf of Mexico but is suspended from side of ship by tail hook and dragged through water at 18 knots. Pilot, a Naval aviation cadet, manages to free himself and is picked up by plane guard SEASPRITE from SAR unit at NAS Corpus Christi, Texas. UH-2 piloted by LCdr Claude B. Whittle; Charles E. Harris, AMH2, and J. M. Portwood, HM2, are crewmen.

... Five minutes after being launched to assist in search for missing sailor, UH-2 crew from SAR unit at NS Adak, Alaska, locates and picks up man from beach at base of Mt Moffet, then transports searchers back to naval station. Lt(jg) Rudd B. Thabes, SEASPRITE pilot; Lt William W. Cosby, copilot; and Robert J. Litzinger, AMS3, crewman... Adak SAR unit utilizes UH-2 to hoist exhausted marine from wind-swept side of Mt Vincennes. Lieutenant Cosby is pilot, Lieutenant Thabes is copilot and Litzinger, crewman.

... SEASPRITE crew from Marine SAR unit at MCAS Cherry Point, N. C., makes 130-mile night flight to evacuate four automobile accident victims to hospital. Aboard helo are CWO R. B. Mason, pilot; Sgt R. L. Gailfoil, crewchief; Lt J. T. Bonner (MC), USN, doctor; J. A. Bock, HM3, and G. E. Reynolds, HM3, corpsmen... In other missions flown by SAR unit from Cherry Point: Three civilians and two dogs rescued from outer banks 25 miles from shore by 1stLt W. W. Crews, UH-2 pilot; Sgt B. G. Stokes, copilot; LCpl M. E. Pease, crewman; SSgt D. K. Curtis, observer... Newly-born infant suffering from respiratory ailment flown to hospital at Camp Lejeune in SEASPRITE piloted by Chief Warrant Officer Mason. Others aboard helo are GySgt R. D. Logan, Sergeant Gailfoil, Lt R. B. Pierce (MC), USN, and Hospital Corpsman Bock.

... Two downed fliers rescued from Gulf of Mexico at night by UH-2 crew from HC-2's Det 16 on the USS Lexington. Pilot of SEASPRITE is LCdr Leon L. Drake and LCdr Billie C. Young is copilot. Crewmen are Bruce M. Laurendeau, AMH2, and Richard T. Ream, AE3... Two men in small dinghy adrift in choppy sea rescued by UH-2 crew from SAR Unit at NAS Oceana, Va. Both hoisted aboard helo directly from dinghy because of sea state and water temperature. Lt S. J. Wass is SEASPRITE pilot; J. E. Ritenour, AD1, copilot; and J. B. Rhodes, AD3, crewman... UH-2 crew from HC-1, NAAS Ream Field, Calif., on simulated instrument flight when report received that Marine F4C had plunged into ocean near La Jolla. SEASPRITE arrives at scene and hoists one survivor aboard from raft, then plucks second survivor from sea. LCdr A. W. Adair, UH-2 pilot; LCdr F. L. Brown, copilot; J. S. L. Haynes, ADJ1, crewman.

... Pilot who ejected from crippled TF9J is picked up soon afterward by UH-2 from SAR unit at NAAS Kingsville, Texas. Aboard SEASPRITE are LCdr James W. Ehl, pilot; Watkins Bradberry, AEAN, copilot; William Smith, HM3, and Bobby Ashby, HM3, crewmen; and Cdr C. E. Gossett (MC), doctor.



MERCY MISSION—A seriously burned seaman is taken from the SS Afoundria, 130 miles from San Juan, Puerto Rico, by a UH-2 SEASPRITE crew from the USS Guadalcanal. The patient was taken to the carrier for immediate treatment and later transferred to San Juan. Aboard the SEASPRITE were LCdr John C. Thoma, pilot; Maj William L. Whelan, USMC, copilot; David K. Todd, ADJ1, aircrewman; and Walter Ickert, HM2, corpsman. ("The Gator" photo)

Southeast Asia



SEASPRITE crews from HC-1 detachments deployed aboard carriers in Southeast Asia waters are continuing to add to their growing list of rescues...

Two pilots who ejected at night from their A-6 after a flameout were rescued soon afterward. One was hoisted from the South China Sea by a UH-2 crew from Det Charlie aboard the USS Kitty Hawk, the other was picked up by the plane guard destroyer and later was transferred back to the carrier by the SEASPRITE. LCdr Ben A. Lehman was pilot of the UH-2 and Lt(jg) William L. Berry, copilot.

In other rescues by Det Charlie personnel, the pilot of an A-1E which ran off the flight deck of the USS Kitty Hawk after premature bridle release was rescued by a UH-2 consisting of Lt(jg) Robert E. Sloan, pilot; Lt(jg) James M. Flynn, copilot; Walter S. Cluer, ATN3, and John T. Litzinger, ADR3, crewmen. A UH-2 piloted by Lieutenant Sloan also rescued the pilot of a plane which struck the water a short distance from the Kitty Hawk after an engine failure. Lt Richard G. Cline was copilot of the SEASPRITE and Cluer and Litzinger, crewmen. A few days later the same UH-2 crew rescued another pilot under similar circumstances.

HC-1's Det Fox flying UH-2 plane guard from the USS Ranger hoisted the pilot of an A-4E to safety after the aircraft struck the water near the carrier. Lt John T. Keith was pilot of the SEASPRITE, Lt(jg) David T.

JOINT CELEBRATION—While serving aboard the USS Enterprise, two pilots attached to HC-1's Det Mike simultaneously logged 1000 hours flight time in the UH-2 SEASPRITE. The giant carrier was operating off the coast of North Vietnam at the time. In photo, Lt(jg) Paul G. Carrol prepares to cut the cake baked in honor of the event while Lt Michael A. Johnson, the other UH-2 pilot, stands by. In offering his congratulations, LCdr Robert L. Wheeler, OinC of Det Mike said, "Both pilots, with over 2,000 hours of accident-free flying between them can look back on their careers with a feeling of accomplishment. Thanks to these men several jet pilots are back with their Air Wings and flying again." Lieutenant Carrol is a member of HC-2 on temporary duty with HC-1. (USN photo)

Beall, copilot, and J. P. Krake, ADJ3, and P. R. Reece, AMSAN, crewmen. A UH-2 crew from Det Golf aboard the USS Oriskany rescued a pilot who was forced to eject from his crippled aircraft and landed about eight miles from the carrier. SEASPRITE crewman L. J. Dixon, AN, leaped into the water to aid in cutting the shroud lines hampering the rescuee and to help him into the sling. Others aboard the rescue chopper were Lt(jg) James R. Welsh, pilot; Lt(jg) Gerald W. Siebe, copilot; and W. F. Thoday, ADR2, crewman.

In three separate rescues, pilots were plucked from the South China Sea by UH-2 crews from Det Lima aboard the USS Hancock. Lt Ralph J. Nohr was pilot of the SEASPRITE on each occasion. Lt(jg) Frank B. Reeves was copilot and Wreney Colvin, Jr., ADJ1, and Charles A. Schaaf, AMH3, crewmen, on one mission. Ens Robert L. Esslinger was copilot and Connie F. Robertson, AMHC, and Billy J. Fields, AMHAN, were crewmen on the second mission. On the third, Ens John S. Passiglia was copilot, and Robertson, and Schaaf, crewmen.

A UH-2 crew from HC-1's Det Mike aboard the USS Enterprise rescued the pilot of an A4 from the Gulf of Tonkin when he ejected near the ship after engine failure. LCdr Robert L. Wheeler was SEASPRITE pilot, Ens David A. Cranor, copilot, and Bobby R. Ethridge, ADR2, and George L. E. Lister, AMS2, crewmen.

SEASPRITE Rescue—Disney Style



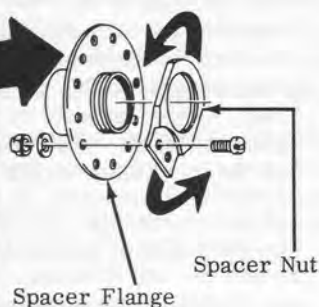
As any sailor would do(?) when pursued by a bevy of girls on a tropical island, this "Navy officer" fled to the safety of a UH-2 SEASPRITE. The tattered refugee grimly clutching his palm frond umbrella is actually actor Dick Van Dyke in the Disney production "Lt Robin Crusoe, U.S.N." The film, made with Navy cooperation, concerns a flier forced to ditch over a South Sea island paradise inhabited only by women — all beautiful, of course. The SEASPRITE, from HC-1, NAAS Ream Field, Calif., was flown by Lt Michael A. Johnson and Lt(jg) Harry M. Borders. John D. Ervay, AE3, and Charles Hasselbach, ADJ2, were crewmen. The carrier is the USS Kitty Hawk. ("©MCMXLV - Walt Disney Productions")

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.



Tail Shock Strut
P/N 611800-501(Menasco)



Q. (Applies UH-2) WHAT IS THE MOST PROBABLE CAUSE OF TAIL WHEEL SHIMMY AND RESULTANT AIRCRAFT VIBRATION?

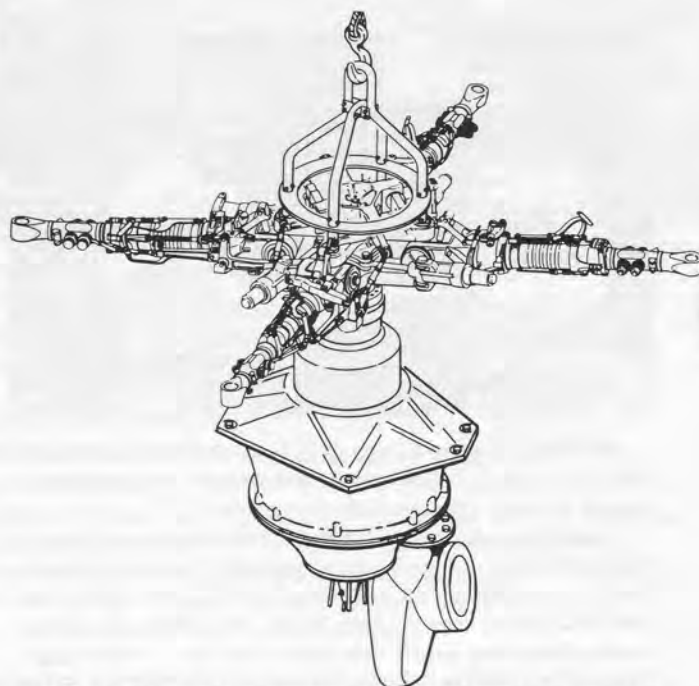
A. Tail wheel shimmy is usually caused by improper adjustment of the nut on the spacer flange. The proper installation procedure is found in the HMI, Airframe Group, NAVWEPS 01-260HCA-2-2. When a new tire and wheel assembly is installed, the adjustment nut on the spacer flange should be turned in a counterclockwise direction to properly position the axle wheel bearings and eliminate wheel side play. After adjustment, the spacer flange nut should be secured to the spacer flange with a screw and locknut (see illustration of the tail shock strut, P/N 611800-501). Indications of an improperly adjusted spacer flange nut are: (a) Excessive and erratic tire wear; (b) Aircraft tail vibration when taxiing; and (c) Tail vibration noticeable immediately after replacement of a new tire and wheel assembly.

P. M. Cummings, Service Engineer

Q. (Applies HH-43B/F) WHICH BLADES IN THE ROTOR SYSTEM ARE THE IN-FLIGHT TRACKING BLADES?

A. On the right-hand rotor hub the in-flight tracking rotor blade is identified by the tip cap which is painted white. On the left-hand rotor hub the in-flight tracking rotor blade tip cap is always painted red. Remember the rhyme "right is white."

W. J. Wagemaker, Service Engineer



Q. (Applies UH-2) CAN THE MAIN GEARBOX, AZIMUTH, AND RETENTION ASSEMBLIES BE REMOVED FROM THE AIRCRAFT AS A SINGLE UNIT? IF THIS IS PERMISSIBLE, WHAT SAFETY PRECAUTIONS SHOULD BE OBSERVED?

A. As a maintenance aid, the main gearbox, azimuth, and retention assemblies may be removed from the aircraft as a unit. With the unit out of the helicopter and secured in the main gearbox workstand or dolly assembly, maintenance personnel will find all work areas and components more readily accessible. A point to remember is that this procedure can only be accomplished with an overhead crane. Do not attempt to remove the component unit with the portable hoist assembly, P/N K604013, because it cannot be extended high enough for this configuration to allow the bottom of the gearbox to lift clear of its mounts. The portable crane is also load-limited to 700 pounds.

W. J. Wagemaker, Service Engineer

Q. (Applies UH-2) CAN THE COCKPIT BLADE TRACKING SYSTEM ACCELEROMETER NULL OUTPUT BE CHECKED IN THE AIRCRAFT?

A. Yes, the check can be made in the aircraft in the following manner: Align any rotor blade with the blade folding positioning mark (45° forward port). Connect the Flight Line Calibration Test Set, P/N K604616-3, to the actuator controller and provide the necessary power to energize the 28VDC bus and 26VAC inverter bus. Place the test set auto-manual switch in the manual position. Either meter, C or D, should register some deflection, depending on what blade is in the 45° forward port position. An acceptable accelerometer null is from 0 to 10 microamps. Replace the accelerometer if the null reading is above this value. NOTE — Only one meter should deflect. The other meter should remain at the 0 reading. If the meter is not at 0, recheck your resolver phasing as outlined in the HMI, Electrical System, NAVWEPS 01-260HCA-2-9.

J. J. McMahon, Service Engineer

Q. (Applies UH-2, HH-43) WHAT ARE SOME OF THE PRECAUTIONS WHICH SHOULD BE OBSERVED WHEN HANDLING ROTOR BLADES?

A. Careful handling of rotor blades before installation is just as important as good maintenance practices after installation. Blades should never be placed on the deck, floor, or other rough surface and they should always be kept in storage racks to preclude the possibility of damage. The racks must be properly prepared and inspected periodically to make sure no sharp corners are exposed. Felt or similar padding, 1/2-inch or thicker, should be used in the blade rack cutouts, and the padding should be secured with tape or bonded to the rack with cement. Do not use tacks, nails, or similar sharp or metallic objects to secure the padding. During blade stowage always insert the rotor blades into the rack slots with the leading edge down. To prevent blade damage it is also important to make sure the two rack assemblies are properly aligned and properly spaced. When rotor blades are being handled, use all possible precautions to prevent injury to personnel.

W. J. Wagemaker, Service Engineer

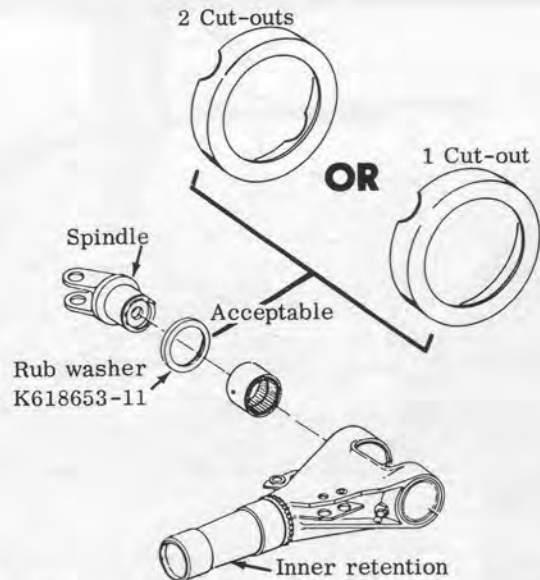


Q. (Applies UH-2) WHAT PROCEDURE MAY BE USED WHEN PREPARING A UH-2 WITH DOWTY LANDING GEAR FOR LOADING INTO A C-124?

A. A UH-2 helicopter which has the DOWTY landing gear installed can be easily loaded into a C-124 cargo aircraft for shipment by accomplishing the following: Refer to the HMI, NAVWEPS 01-260HCA-2-2, and remove the link and axle assembly, P/N 3283120, and its related hardware from the right-hand landing gear assembly. Install the removed link and axle onto the left-hand landing gear assembly and vice-versa. This will locate the wheel and tire assembly inboard a sufficient amount to clear any interference while loading the helicopter into the C-124. Upon completion of shipment, the landing gear links and axles are then returned to their original positions and secured.

J. R. LaCouture, Field Service Representative

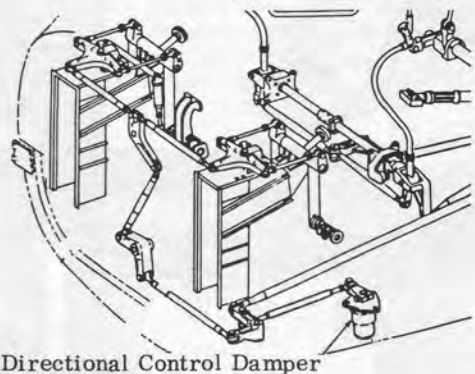
KAMAN SERVICE ENGINEERING SECTION—E. J. Polaski, Supervisor, Service Engineering, G. M. Legault, G. S. Garte, Asst. Supervisors.



Q. (Applies UH-2) WHEN DRAWN FROM SUPPLY, SOME RUB WASHERS FOR USE ON K618080-309 AND -603 RETENTIONS HAVE ONE CUT-OUT ON THE LIP AND OTHERS HAVE TWO. ARE THEY INTERCHANGEABLE?

A. Either of these rub washers, P/N K618653-11, may be used with the retentions mentioned. If what appears to be a "two cut-out" washer is found already installed on the retention, it should be closely inspected to make sure the second indentation is actually a cut-out and not a damaged washer. Once this has been established, it is not necessary to substitute a one cut-out washer for a two cut-out washer if the latter is undamaged. See drawing for washer application.

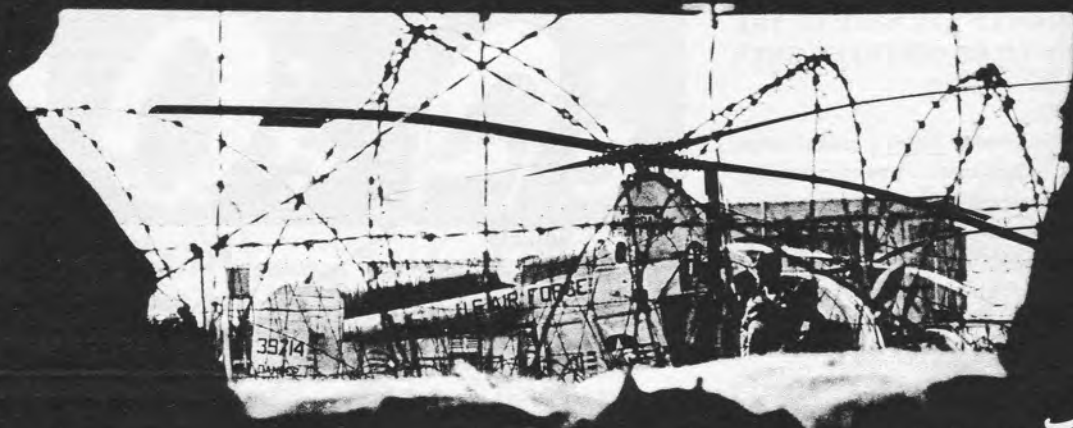
D. T. Lockridge, Field Service Representative



Q. (Applies UH-2) WHAT PRECAUTION SHOULD BE TAKEN WHEN SERVICING THE DIRECTIONAL CONTROL ROTARY DAMPER?

A. When servicing the directional control rotary damper, P/N 1072-550 and 1072-550-1, ensure that Dow Corning Damping Fluid, P/N DC510, 1000 CSK, is used when refilling the reservoir. Do not use MIL-H-5606 hydraulic fluid as a substitute since these two fluids are not compatible and erratic damper operation may result. The damper should be filled with Dow Corning Damping Fluid in accordance with HMI NAVWEPS 01-260HCA-2-2 servicing instructions. This data will appear in a future revision to the HMI NAVWEPS 01-260HCA-2-2.

P. M. Cummings, Service Engineer



*Salute To Aerospace
Rescue and Recovery Service*

**NORTH VIETNAM
MISSION**



SCRAMBLE



BETWEEN MISSIONS



LOCAL BASE PROTECTION



TRAINING FOR RESCUE



Recently the Aerospace Rescue and Recovery Service, Military Airlift Command, celebrated its 20th anniversary. Although comparatively small in size when compared with many other military organizations, ARRS has been responsible for saving thousands of lives during its 20-year history. Today, Rescuemen are continuing to carry on their proud tradition of humanitarian service, often risking — and sometimes giving — their own lives "That Others May Live." Representative of only a few of ARRS' world-wide activities are these recent photographs of HH-43 operations in the United States and overseas.

PILOT WARRIOR

In Southeast Asia more than a hundred downed fliers have been rescued and hundreds of wounded evacuated, often under fire, by the 38th Aerospace Rescue and Recovery Squadron. Presidential recognition of these activities was given several months ago in the form of a Unit Citation. These representative photographs of the Southeast Asia operation were taken by TSgt Daniel E. Casey, MAC, while visiting Det 7, 38th ARRSq. . . .

HH-43 is framed from inside machinegun bunker at Quang Tri, South Vietnamese outpost. HUSKIE piloted by Capt John B. Kneen returns from mission over North Vietnam. Gulf of Tonkin is in background. Capt Harold A. Solberg hurries into his flak vest after being called out on a similar rescue mission. Pararescue specialists practice rescue procedures at Quang Tri. Captains Solberg and Kneen discuss cameras in their quarters at Da Nang AB. The ability to pass time constructively at the blistering hot base far from home is an important skill. HUSKIE prepares to pick up fire suppression kit at Da Nang as part of local base coverage. Captain Solberg, firearm close at hand, pilots HH-43 in search for downed pilot.





Typical activities of a Stateside local base rescue unit are shown in these photos of Det 17, CARRC(MAC), Bunker Hill AFB, Ind. . . .

HH-43B crewmen run to HUSKIE during a practice scramble. Helicopter piloted by Capt Robert Merna makes a simulated intercept of a landing B-58. In sequence, Capt Gayl Bernhardt watches from cockpit of hovering HH-43B as firemen, aided by rotor downwash, clear a path through flames and smoke during practice rescue drill. The airborne firemen had leaped from the chopper seconds before to "rescue" the crew of a "downed plane." After the drill, A1c Thomas Corns, A1c Jude Popernik and A3c Morgan Erkard clean the HH-43B and SSgt Walter May, in next photo, replaces equipment used in helicopter maintenance. In traditional group shot, members of Det 17 pose in front of rescue HUSKIE. Front row, from left, are Captain Merna, Capt Wil-



liam Cunningham, det commander; Capt Bernhardt, and Capt Robert Suhrheinrich, pilots. Other members of the detachment are SMSgt Robert Garfield, MSgt Alfred Cresson, TSgt's James Wilson, Darvie Erwin, Robert Purcell; SSgt's May, Roy Prater, Leslie Bunting, Norman Burgher, John Brooks, Thomas Egan, Alan Latourette, Earl Nickolson, Jr.; A1c Corns, Popernik, Billy Sanders, Jerry Friday, Donald Hoffman, Gary Price, Gregory Brown; A2c Don Havens, and A3c Erkard. (Peru Daily Tribune photos)



ARRS activities also include service to civilian communities at home and abroad, as well as rescue work...

HH-43B crewmen from Det 14, WARRC(MAC), Nellis AFB, Nev., unload equipment during the five-day search for a small boy lost in the rugged Springs Mountain Range. Over 90 confined-area landings were made at altitudes up to 10,500 feet and the helo also transported ground parties and supplies during the massive, but unsuccessful, search. Manning the HH-43 were Capt James H. Black, Jr., and Capt Thomas E. Fallows, pilots; A2c Herbert H. Honer, A2c Daniel R. Salmon,



A3c Douglas L. Rosenbalm, helicopter mechanics; and SSgt Earl C. Cheak, medical technician. In another part of the world, HH-43B crewmen from the 58th ARRSq, Wheelus AB, Libya, discuss their rescue of the crew from a British Canberra which crashed in the Mediterranean. SSgt Arthur L. Spicer, firefighter, center, was lowered into the water to assist the injured pilot during the rescue. Others manning the HUSKIE were, left to right, Capt Dan L. Reeder, RCC; A1c William D. Lambertson, crewchief; SSgt Charlie B. Comer, firefighter; and A1c Michael N. Mansell, medical technician. In Spain, as a surprise ending for a childrens' six-week "Goodness Crusade," candy suspended from paper parachutes was dropped on Guadalema de los Quintero from a USAF HH-43 "goodwill ambassador." The Rev Jose Maria Suarez had asked officials at Moron AB to surprise the children and at the same time exemplify the theme of his teachings. Aboard the HUSKIE, from Det 9, AARRC (MAC), was Capt Wilson T. Arnold, Capt Bobby O. Stout and SSgt Eugene Prichard. (USAF photos)

Special Award



ONE TO EACH SERVICE—Wall plaque awarded to Capt Bert E. Cowden, first USAF pilot to log 2000 hours in helicopters produced by Kaman Aircraft. Two similar "special awards" will be made in the future, one to the first Navy pilot to accumulate 2000 hours, the other will be presented to the first Marine pilot to hit the magic number. Captain Cowden, commander of Det 4, AARRC, at Ramstein AB, Germany, passed the 2000-hour milestone in February, 1966. By April he had accumulated 2350 hours, 725 of these in the H-43A, 1210 in the HH-43B, and 415 in the HH-43F.

TRAINING



GRADUATION DAY—Navy personnel pose for traditional photograph after completing a special training course at Kaman Aircraft. The group will maintain modified HH-43's aboard the USS Wright. Navy airframe technicians received four weeks training at KAC's Bloomfield, Conn., plant; the electrical-electronics group were at the facility for six weeks. Left to right are: Archibald H. Jones, ADJ3; Edward J. Hartford, AE1; Jack R. Marks, RM1; Jesus Gonzalez, ADJ1; John H. Moselage, AT1; Ruben E. Stuart, ADJ2; John D. Lyon, ET1; William H. Baker, Jr., AMH1; Thomas J. Kopezynski, AMSAN; Lawrence C. Johnson, ATN3; and Robert J. Sitar, ADJC.



OJT—Airframe group checks modified HH-43 under direction of KAC Instructor Richard A. Reynolds. Baker is in foreground. Others are, left to right, Chief Sitar, Kopezynski, Gonzales, Mr. Reynolds, Stuart and Jones.



CLASSROOM—Electrical—electronics group listens intently as Instructor Michael T. Fiaschetti explains operation of component. Seated are, left to right, Marks, Moselage, Hartford, Lyon and Johnson.

NATO FUEL and LUBRICATION SYMBOLS

The following information is listed as an aid to maintenance personnel servicing HH-43 and UH-2 helicopters operating in many areas of the world where NATO symbols are in use. * WARNING - These fuels and lubricants are not necessarily interchangeable. Refer to the maintenance handbooks or technical handbooks for correct application.

NOMENCLATURE	NATO SYMBOL	SPECIFICATION
AIRCRAFT FUEL - Turbine and jet engine JP4	F-40	MIL-J-5624
AIRCRAFT FUEL - Turbine and jet engine JP5	F-44	MIL-J-5624
ANTI-ICING, DEICING, DEFROSTING FLUID	S-742	MIL-A-8243
GASOLINE - Automotive, combat, 80 octane	F-46	MIL-G-3056 Amend. 1 Type I
GASOLINE - Automotive, combat, 80 octane, artic	F-48	MIL-G-3056 Amend. 1 Type II
GASOLINE - Aviation, grade 80/87 octane	F-12	MIL-G-5572
GASOLINE - Aviation, grade 91/96 octane	F-15	MIL-G-5572
GASOLINE - Aviation, grade 100/130 octane	F-18	MIL-G-5572
GASOLINE - Aviation, grade 115/145 octane	F-22	MIL-G-5572
GREASE - Aircraft and instrument	G-350	MIL-G-3278
GREASE - Ball and roller bearing wide temp. range	G-361	MIL-G-25760
GREASE - General purpose, aircraft	G-382	MIL-G-7711
GREASE - High temp., aircraft	G-359	MIL-L-3545
GREASE - Molybdenum disulfide for low and high temp.	G-353	MIL-G-21164
GREASE - Oscillating bearing, helicopter	G-366	MIL-G-25537
GREASE - Pneumatic system	G-392	MIL-L-4343
HYDRAULIC FLUID - Petroleum base, aircraft and ordnance	H-515	MIL-H-5606
HYDRAULIC FLUID - Petroleum base, preservative	C-635	MIL-H-6083
KEROSENE	F-58	VV-K-211
LUBRICATING OIL - Aircraft turbine engine, synthetic base	O-148 or 156	MIL-L-7808D or MIL-L-23699
LUBRICATING OIL - Turbine engine, grade 1010	O-133	MIL-O-6081
OIL ENGINE - Aircraft reciprocating (piston) engine, grade 1100	O-117	MIL-L-6082
OIL LUBRICATING - General purpose, low temp.	O-142	MIL-L-7870
PETROLATUM - Technical	S-743	VV-P-236

*Reference NAVY Publication OPNAVINST 5711.73A, AIR FORCE Technical Order TO 42B-1-9, ARMY Technical Bulletin TB34-9-25



— 1000-Hour Pilot Awards —

In top photo, left, LCdr James Waldron, OinC of HC-1's Det 1 at NAS Atsugi, Japan, presents Kaman 1000-hour plaque to UH-2 pilot **Lt Lawrence D. Presnell** as Homer Helm, KAC representative, watches. In top photo, right, Capt W. C. Blattmann, commanding officer at NAAS Chase Field, Texas, congratulates **Lt Jon W. Walker**, Operations Department, who had just logged his 1000th hour in the SEASPRITE. In next photos are three pilots from Det 6, 38th ARRSq, PARRC, Bien Hoa AB, RVN, who logged 1000 hours each during the last few months. They are, left to right, **Maj Maurice G. Kessler**, detachment commander; **Capt Dale L. Potter** and **Capt Karl G. King**. Photo at right shows HH-43B pilot **Capt Jack D. Peak**, center, of Det 10, AARRS, at Aviano, Italy, going "over the line" for his 1000th hour. Pushing hard for his 1000-hour plaque and pin is **Capt James A. Darden**, right, who is less than 60 hours from his goal. Extending a congratulatory hand is **Capt Philip S. Prince**, detachment commander, who recently received his 1000-hour award. In bottom photo, **Capt Richard L. Kelley** of Det 8, PARRC, Yokota AB, Japan, is congratulated by LtCol Chester R. Ratcliffe, Jr., detachment commander, after logging his 1000th hour in the HUSKIE. (USN and USAF photos)



Others who qualified recently for the Kaman plaque and pin awarded to pilots logging 1000 hours in helicopters produced by KAC are: **UH-2 SEASPRITE** **Lt Tyrone D. Beason**, **Lt Ralph J. Nohr** and **Lt Craig B. Kaul**, HC-1, USS Hancock; **LCdr Drew Jones**, **Lt Richard W. Campbell**, **Lt Terrence M. Garrison**, HC-1, USS Ranger; **Lt James A. McCallum**, HC-2, NAS Lakehurst, N. J.

HH-43 HUSKIE **Capt Bruce S. Washburn**, **Capt Richard J. Bouckout**, **Capt Dan L. Reeder**, 58th ARRSq, Wheelus AB, Libya; **Capt James C. Rodenberg** (logged while in Southeast Asia), **Capt Walter D. Murphy**, Det 16, CARRC, McConnell AFB, Kan.; **Capt John C. Flournoy**, Det 12, EARRC, Moody AFB, Ga.; **Capt George H. Church**, Det 9, CARRC, England AFB, La.; **Capt Dale R. Tyree**, Det 9, 38th ARRSq, Pleiku Airport, RVN; **Capt Sydney E. Gurley**, 48th ARRSq, Eglin AFB, Fla.; **Capt Alma L. Williams**, Det 10, 38th ARRSq, Binh Thuy, RVN.

— 1000 — 1000 — 1000 — 1000 — 1000 —

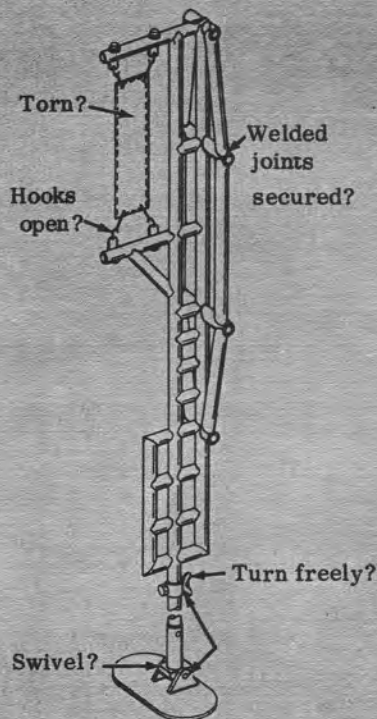
It's "1000-hour time" at Det 7, PARRC, Misawa AB, Japan. **Maj Robert D. McDougal**, detachment commander, and **Capt James G. Ellis, III**, have both logged 1000 hours in the HH-43 and the three assigned helicopters — 59-569, 62-4514, and 62-4526 — have all passed the magic mark.





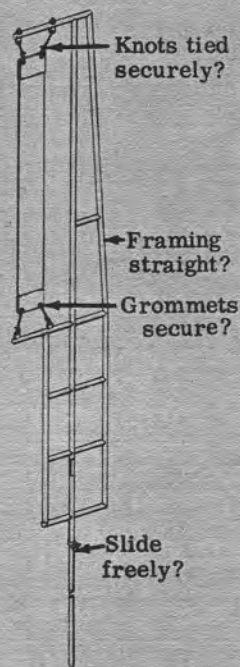
PART II

Main Rotor Blade Tracking Flag



UH-2

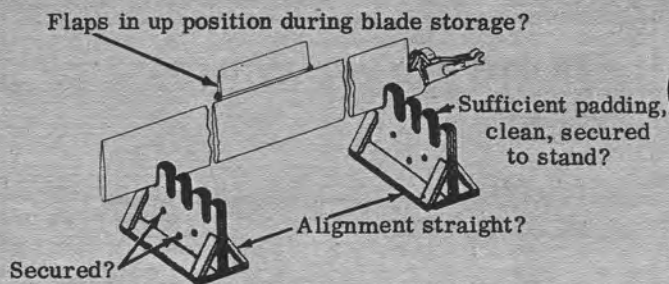
1. Inspect the four grommets in flag for security.
2. Inspect canvas flag for rips or tears and replace if necessary. Only canvas and no other material should be used.
3. Inspect the four tension cords for deterioration or looseness. Retie knots to obtain desired tension on flag.
4. Clean oil and grease from the four tension cords. (Oil deteriorates the rubber within the cords.) String-tie or tape loose ends to prevent unraveling of cord.
5. Ensure that the four steel "S" hooks are open and have not been forced shut.
6. Extension tube must slide freely into base plate assembly.
7. Oil pivot pin on base plate and check for easy swivel action.
8. Ensure that the adjusting clamp tightens securely. Oil threads on bolt and wing nut sparingly.
9. Loosen adjusting clamp and ensure that extension tube slides easily within tracking flag frame. Apply a light film of oil to sliding surfaces.
10. Inspect all welded seams for cracks. Weld all suspected cracks in tubing frame.
11. Remove any corrosion which has formed and touch up affected areas with alodine and paint.



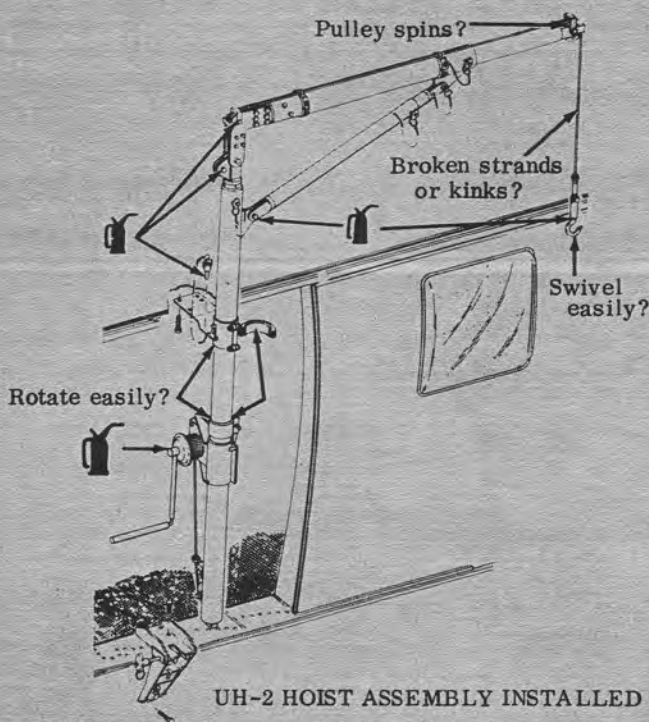
HH-43

Main Rotor Blades Storage Rack Assembly

1. Ensure that protective padding material is bonded securely to the uprights. Replace padding if found to be worn, torn, or oil soaked.
2. Inspect the four support braces for tight attachment to the uprights and reinforce if necessary.
3. Remove foreign objects (pieces of cotter pins, safety wire or other abrasive and sharp objects) which may be embedded in padding.
4. Apply a coat of enamel paint for corrosion protection of exposed attaching hardware.
5. Keep racks in alignment for blade storage. Do not move racks during blade storage.
6. Secure flaps and attaching control rods in accordance with HMI, NAVWEPS 01-260HCA-2-5, and T.O. 1H-43(H)B-2.



Hoist Assembly—Engine, Blade and Transmission Removal



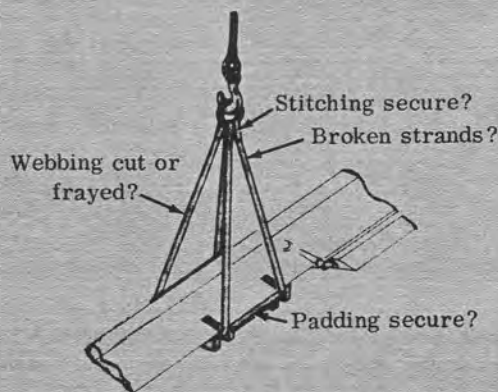
Refer to lubrication chart in NAVWEPS 01-260HCA-2-1 for lubrication points. In addition to lube chart, take these preventive measures to ensure safe and trouble-free operation of hoist when utilized.

1. When the type of oil to be used is not specified in the lube chart or the steps below, general purpose oil should be applied during every periodic inspection or more often if necessary.
2. Clean and check all "pip pins" (ball-lok pins) for operation to ensure proper engagements. Change if necessary.
3. Check the four cable pulleys for smooth and free operation, clean and oil bolts if necessary.
4. Unwind hoist cable to its limit and check for broken strands or kinks and replace if necessary. Clean cable assembly with safety solvent, P/N P-D-680, and apply a light film of rust preventive oil, MIL-C-16173, Grade 4. Ensure that swivel attachment on end of cable does not bind and is free to rotate.
5. Apply a light film of oil on all of pivot points and clevis pins to ensure free operation. Make certain that the tube clamps allow the boom to rotate freely.
6. Clean and check winch assembly for free operation and oil as necessary.
7. Remove excess oil and grease after lubrication.
8. Remove corrosion and repaint boom assembly for protection from the elements.

Component Slings

MAIN ROTOR BLADE SLING

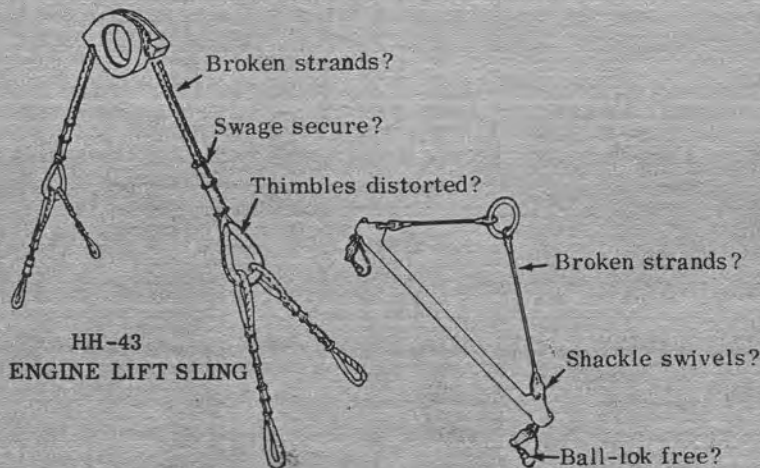
1. Ensure that protective leather pad is bonded securely to retainer with adhesive and is free from abrasive particles.
2. Blend smoothly all nicks and sharp edges on the two steel rings.
3. Remove oil and grease from webbing and protective padding.
4. Replace webbing if cuts are found. Restitch seams and joints for security.
5. Ensure attaching hardware is free from sharp edges and is secured.
6. Check buckle assembly for positive locking feature.



UH-2 MAIN ROTOR BLADE SLING WITH WEB STRAPS OR CABLES

CABLE-MOUNTED SLING

1. Inspect swaged areas on cables for security.
2. Check for kinked or broken cable strands. Replace cables as required.
3. Ensure that thimbles are not distorted, bent or cracked.
4. Remove all sharp edges and burrs from thimbles and all steel attaching rings.
5. Oil the attaching hardware on shackles for freedom of movement and ensure security.
6. Clean and check "pip pins" (ball-lok) for operation to ensure proper engagements. Replace if necessary.
7. Clean cables with safety solvent, P/N P-D-680, and apply a light coat of rust preventive oil, MIL-C-16173, Grade 4.



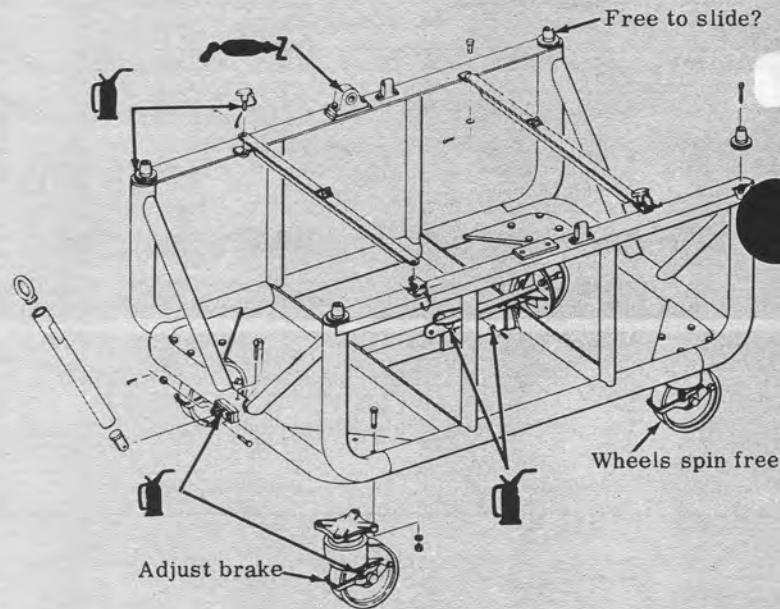
HH-43 ENGINE LIFT SLING

HH-43 TRANSMISSION AND HELICOPTER HOIST SLING

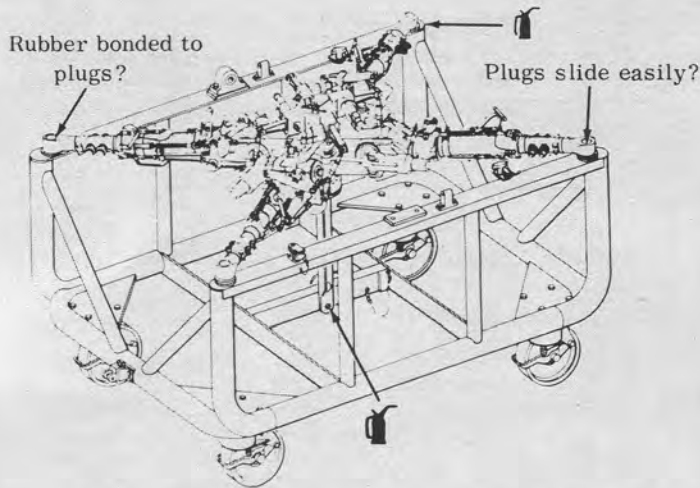
Transport Dolly Assembly

Refer to lubrication chart in HMI, NAVWEPS 01-260HCA-2-1. (HH-43 assembly similar — see T.O. 35D3-25-1.)

1. Lubricate tow bar assembly pivot points with general purpose oil.
2. Oil suspension coil springs and guides found on the four wheels.
3. Check "trailing locks" for free operation. Check wheel casters for free rotation and oil the bearings.
4. Check and adjust if necessary, the parking brake feature on the two forward wheel casters.
5. Clean oil and grease from rubber tired wheels.
6. Remove all foreign objects embedded in rubber tires.
7. Remove any corrosion and paint affected areas.
8. Check for cracks or damage in the trailer frame welded joints and reweld if necessary.
9. Grease the two pillow blocks in accordance with lube chart.

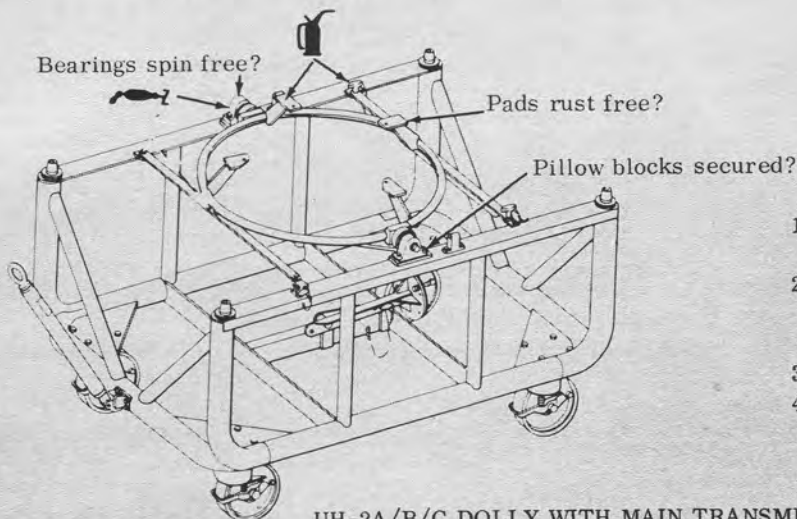


UH-2A/B/C TRANSPORT DOLLY



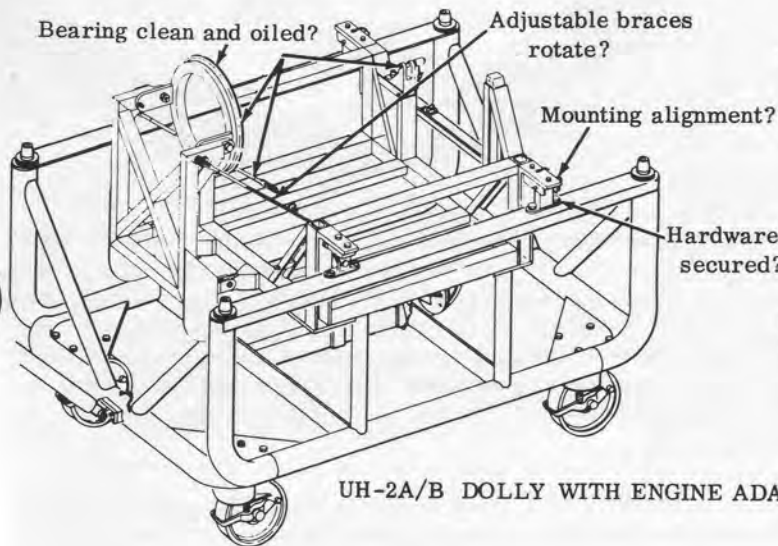
UH-2A/B/C DOLLY WITH MAIN ROTOR RETENTION

1. Oil the attaching hardware on the four retaining plugs mounted on each corner post on the trailer for freedom of movement.
2. Check hub support for alignment and freedom of operation.
3. Clean, oil and grease from leather pad on hub support and ensure bonding of pad to plate.
4. Clean and check "pip pins" (ball-lok) for attachment security and freedom of operation during installation. Replace if necessary.
5. Check bonding of the rubber on the retaining plugs.



UH-2A/B/C DOLLY WITH MAIN TRANSMISSION ADAPTER

1. Clean and oil the four machined mounting pads on the adapter.
2. Clean and check "pip pins" (ball-loks) to assure freedom of operation during installation and positive locking feature. Replace if necessary.
3. Check pillow block attaching hardware for security.
4. Inspect bearings in pillow blocks for corrosion and freedom of operation.



UH-2A/B DOLLY WITH ENGINE ADAPTER

1. Clean and check "pip pins" (ball-loks) for attachment security and freedom of operation during installation. Replace if necessary.
2. Clean and oil bearing race assembly. Ensure that bearing rotation is free from dirt and contaminants when rotated by hand.
3. Clean threads on the two adjustable braces. Apply a light coat of oil on threads prior to assembly.
4. Check all attaching hardware for security.
5. Ensure alignment of the adapter-to-trailer mounting points — align as necessary for ease of "pip pin" installation and security.

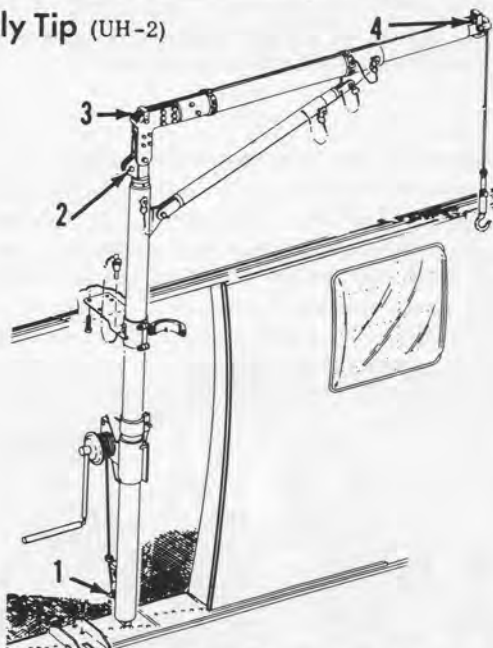
CURRENT CHANGES

	Issue Date
H-2 AIRFRAME BULLETIN 78 - H-2 Cleveland Pneumatic Landing Gear Lower Drag Brace, P/N 1005-156 L/R or -156A L/R, Inspection and Rework	24 February 1966
H-2 AIRFRAME BULLETIN 79 - H-2 Transmission Deck Drain Hole; Incorporation of	21 March 1966
H-2 AIRFRAME CHANGE 42 - FURNISHINGS; Anti-exposure Suit, Blower Installation	6 July 1966
H-2 AIRFRAME CHANGE 78 - FLOTATION SYSTEM; Electrical Changes to Facilitate Use of Government—Furnished Gas Generator Ignitor	6 July 1966
H-2 AIRFRAME CHANGE 118 - Rescue Winch Assembly, Cold Weather Operation, Improvement of	24 January 1966
H-2 AIRFRAME CHANGE 123 - Landing Gear; Modification of Cleveland Pneumatic Landing Gear Hydraulic System	24 January 1966
H-2 AIRFRAME CHANGE 128 - HYDRAULIC SYSTEM; 200 Foot Rescue Hoist Assembly	1 June 1966
H-2 SUPPORT EQUIPMENT CHANGE 512 - Modification of Tail Rotor Retaining Ring Assembly Sets, Part Numbers K604404-1 and K604404-101	6 July 1966
NAVWEPS 01-260HCA-2-1 - Handbook Maintenance Instructions, GENERAL INFORMATION	15 October 1962 changed 15 March 1966
NAVWEPS 01-260HCA-2-10 - Handbook Maintenance Instructions, RADIO and RADAR SYSTEMS	15 December 1963 changed 1 April 1966
NAVWEPS 01-260HCA-2-11 - Handbook Maintenance Instructions, WIRING DATA	15 July 1965 changed 15 January 1966
NAVWEPS 01-260HCA-4-8 - Illustrated Parts Breakdown, NUMERICAL INDEX AND REFERENCE DESIGNATION INDEX	15 April 1966
NAVWEPS 01-260HCA-6 - Periodic Maintenance Requirements Manual	15 May 1965 changed 1 March 1966
NAVWEPS 17-15C-102 - Technical Manual, Operation and Service Instructions with Illustrated Parts Breakdown, VERTICAL GYRO FINAL TEST CONSOLE	1 May 1966
NAVWEPS 17-15KL-13 - Technical Manual, Service, Operation and Overhaul Instructions with Illustrated Parts Breakdown, PRESSURE MONITOR TESTER	15 July 1966
NAVWEPS 17-15KL-14 - Technical Manual, Service, Operation and Overhaul Instructions with Illustrated Parts Breakdown, THRESHOLD TESTER	1 July 1966
T. O. 1H-43(H)B-575C - COMBAT CONFIGURED CRASH/RESCUE - HH-43F HELICOPTERS	6 July 1966

T. O. 1H-43(H)B-578 - INSTALLATION OF TEN-MAN TROOP SEATS, PART NO. K786651, HH-43B HELICOPTERS	15 July 1966
T. O. 1H-43(H)B-6 - Technical Manual, Aircraft Scheduled Inspection and Maintenance Requirements HH-43B and HH-43F Helicopters	2 September 1965 changed 10 February 1966
T. O. 3R1-2-6-3D - Supplement, Technical Manual Overhaul, ROTOR BLADE ASSEMBLY	7 March 1966

F. G. Weber, Supervisor, Service Publications

Timely Tip (UH-2)



To preclude the possibility of personnel injury or component damage — before placing a full strain on the hoist, first check to see if the cable is seated on ALL FOUR PULLEYS (see sketch). If necessary, guide the cable until a sufficient load is applied on the hook assembly to ensure proper seating on the pulleys. Caution should be observed, of course, to keep hands clear of any other moving parts. If the cable is not seated on all four pulleys and a full load is applied, the cable may be frayed or even severed.

H. Zubkoff, Service Engineer

Huskie Happenings



...HH-43B crew from Det 5, WARRC(MAC), McChord AFB, Wash., evacuates seriously injured mountain climber from almost inaccessible canyon. Pickup made in rain and fading light. Ninety feet of hoist cable required to enable helo to remain clear of heavily wooded canyon wall. Capt Kenneth L. Spaur, HUSKIE pilot; TSgt Eddie Hagerman, helicopter mechanic; A1c William J. Emery, medical technician... In another Det 5 mission, HUSKIE crew utilizes newly installed public address system to direct ground party loading injured woman mountain climber into Stokes litter for helo evacuation from 5700-foot level. Area partially obscured by scattered clouds. Capt Robert S. Michelsen is HH-43B pilot; Capt Donald M. Welsh, copilot; A1c Dean W. Federhart, crewchief; A1c Ronald M. Peck, medic.

...HUSKIE crew from Det 15, WARRC(MAC), Luke AFB, Ariz., makes 350-mile round trip over rugged terrain to evacuate woman injured in fall from Havasupai Indian Reservation in Grand Canyon. Capt Edward Williams is pilot of HH-43B, A1c Ronald E. Levi, crew chief; Maj Paul A. Granger(MC), doctor; and A2c William E. Brooks, medical technician... Airman, seriously injured in vehicle accident during training mission in Black Forest, evacuated by HH-43B crew from Det 4, AARRC(MAC), Ramstein AB, Germany. Survivor located near summit of steep canyon wall forested with 75-foot pine trees and too seriously hurt to be hoisted to chopper. HUSKIE pilot Capt Leonard N. Buck lowers helo into small clearing with only 10-foot blade tip clearance with aircraft into wind and left wheels on ground. HH-43B is then turned 180 degrees and, as blade tips cut grass, litter loading accomplished down-wind. Airman treated by SSgt Ronald W. Chapman, medic, as helo heads for hospital. Sharing in hazardous mission is SSgt John H. Balfour, heli mech.

...Two HH-43B's from Det 4, CARRC(MAC), Duluth AB, Minn., join in hunt for explorer scout, lost while on canoeing trip and object of two-day ground search. Nine sorties and 14-1/2-hours of flying time later, boy is spotted by HUSKIE crew and hoisted from woods. Pilot of rescue chopper is Capt Charles Proft; copilot, Capt Jack West; crewmen, SSgt Robert Long and A1c Dennis Sokie. Manning second helo are Capt Troy Irvin, pilot; Capt Wayne Wolf, copilot; A1c Richard Syverson, hoist operator; and Dr. Robert Levy, flight surgeon... Two pilots who ejected from crippled F-4C rescued by HH-43B crew from Det 14, EARRC(MAC), MacDill AFB, Fla. Capt Frank W. Schnee, HUSKIE pilot, has high praise for manner in which SSgt Delmer R. Smith, medical technician, administers first aid and prepares rescuees, both injured, for air transportation. Others aboard HH-43B are SSgt Kenneth A. Myers and A1c John W. Crane, firefighters.

...F-105 pilot who ejected over East China Sea after flameout, rescued from life raft soon afterward by HH-43B crew from Det 6, PARRC, Kadena AB, Okinawa. Capt Bruce B. Duffy pilot of HUSKIE; Capt John R. Shaeffer, copilot; TSgt William D. Atwell, crewchief; Capt C. Lee MacFarlane(MC), flight surgeon; SSgt Francis D. Brown, medical technician... In earlier mission, Det 6 HUSKIE rescued F-101 pilot from sea off end of Kadena AB runway. Crew chief A1c Gerard J. Bucknall, on first day of alert with detachment, makes hoist pickup. HUSKIE pilot is Maj Charles N. McAllister, SSgt Leonard Watts, medical technician; and A1c Robert Turner, firefighter... HH-43B pilot Capt Robert H. Busch of Det 1, EARRC, Thule AB, Greenland, presented hand-carved kayak as token of appreciation for his help in re-supplying remote village of Kanak by helicopter.



HITS A 1,000—Capt Kenneth C. Franzel, right, of Det 11, EARRC(MAC), Craig AFB, Ala., holds congratulatory sign presented to him after logging his 1000th hour in an HH-43 during a recent rescue mission. With him on the flight were Maj Clifford E. Brandon, detachment commander, standing, and left to right, A1c William O. Johnson, helicopter mechanic, A1c Donald W. Covington and A1c Norman B. Tenney, airborne firefighters. Captain Franzel has participated in over 500 rescue flights and was awarded the Air Medal and Kaman Scroll of Honor for lifesaving missions in Southeast Asia. (USAF photo)



HONORED—Col Donald E. Matthews, Hq AARRC commander, presents Kaman Scroll of Honor to Capt Richard L. Brubaker of Det 4, AARRC(MAC), Ramstein AB, Germany, for his part in USN/USAF hazardous rescue of C-47 crash survivors from Mt Helmos in Greece. (USAF photo)



TOGETHERNESS—The HH-43B landing outside and the RF-4C Phantom II inside one of the base alert hangars are brought into close proximity by the telephoto lens of 1stLt Jon W. Alquist. The dramatic picture was taken at Toul-Rosieres AB, France, where the HUSKIE is attached to Det 3, AARRC(MAC). (USAF photo)



TRIPLE HEADER—Capt Wilson T. Arnold of Det 9, AARRC(MAC), Moron AB, Spain, recently logged his 1000th hour in the HH-43B while participating in a mission in the Sierra Nevada mountains near Granada. On the same mission another "member" of the detachment — HUSKIE 62-4534 — also chalked up its 1000th hour; Captain Arnold was at the controls. Shortly afterward the detachment's HH-43B 62-4518 also passed its 1000th hour with Capt Andrew J. M. Archer at the controls. In above photo Capt Guy S. Hahn, commander of Det 9, congratulates Captain Arnold on his achievement. In background, left to right, are Capt Laurence W. Conover, A1c Ralph Frazier, SSgt Eugene Prichard, TSgt Walter G. Coffman, SSgt James E. Currie, SSgt Tony Valenzuela, Captain Archer, A1c Stanton R. Nelson, SSgt Paul O. Johnson, and SMSgt Robert D. Walls. In right photo, Sergeant Prichard, crew chief on 62-4518, is congratulated by Captain Archer for 1000 hours of safe flight. Others (holding sign) who participated in the historic flight are A1c Burnice L. Hanks, rescue specialist; SSgt Herbert R. Hathaway, medical technician; and SSgt Elmer Chartreau, rescue specialist. Airman Nelson, assistant crew chief, second from right, was also a member of the flight. At far right is Sergeant Walls, maintenance supervisor and NCOIC of Det 9. (USAF photos)



BRIEFING—MajGen H. Aldinger, right, commander of combat units in the General Air Force Office at Wahn, and LtCol S. Schweinhagen, chairman of the SAR Coordinating Committee in the Federal Republic of Germany, visited Det 4, AARRC(MAC), at Ramstein AB, Germany, recently. Giving the visitors a flight-line briefing is Capt Arthur D. Kwiatkowski, Det 4 pilot. (USAF photo)



KAMAN AIRCRAFT CORPORATION

SCROLL OF HONOR

1960

Kerrigan, Peter J., 1stLt, USAF

1961

Albee, Norman R., Lt, USAF
Allen, Boyce W., SSgt, USAF
Anderson, Donald, TSgt, USAF
Armstrong, John C. Jr., Capt, USAF
Baca, B. A1c, USAF
Brown, George M., TSgt, USAF
Chase, Dennis M., 1stLt, USAF
Ciccio, John S., TSgt, USAF
Darghty, Paul J., 1stLt, USAF
DeBerry, Marvin S., SSgt, USAF
Donk, Donald F., 1stLt, USAF
Ezell, Colbert, SSgt, USAF
Funk, John W., Capt., USAF
Gilash, Frank S., SSgt, USAF
Golleston, Donald E., A1c, USAF
Gordon, Glynneth M., 1stLt, USAF
Greener, William, Capt, USAF
Hansen, Ronald G., Capt, USAF
Harwood, Richard J., 2ndLt, USAF
Heeter, Owen A., 1stLt, USAF
Hegwood, James B., A2c, USAF
Holloman, Donald H., SSgt, USAF

Jacks, Ralph O., Sgt, USMC
Kneen, John B., 1stLt, USAF
Kruppenbach, Harry W., Capt, USAF
Luther, William A., 1stLt, USAF
Mason, Robert B., Capt, USMC
Mayo, Gene, A1c, USAF
McDougal, Robert D., Capt, USAF
McMurry, Edward J., Capt, USAF
Meyer, Robert H., SSgt, USAF
Michelsen, Robert S., Lt, USAF
Morrill, Charles A., 1stLt, USAF
Olsen, Wayne L., TSgt, USAF
Petty, Gerald L., 1stLt, USAF
Pummill, Charles, Capt, USAF
Scarff, James P., 1stLt, USAF
Seckley, Lawrence G., MSgt, USAF
Shriber, Richard W., 1stLt, USAF
Sparrow, Louis F., Capt, USAF
Thayer, David E., A2c, USAF
Unger, R. H., Maj, USAF
Wells, John L., 1stLt, USAF
Wilkins, Calvin, TSgt, USAF

1962

Aldridge, Karl F., SSgt, USAF
Allison, John, Capt, USAF
Anderson, William H., SSgt, USAF
Baker, C. E., SSgt, USAF
Bennett, Arthur J., Capt, USAF
Bundschu, Charles, Cpl, USMC
Cantey, James L., 1stLt, USAF
Chase, Dennis F., Capt, USAF
Chestnut, Shelby, TSgt, USAF
Cox, C. J., Lt, USN
Davis, David G., ADR2, USN
Donk, Donald F., 1stLt, USAF
Donohue, F. M., Capt, USAF
Farmer, Franklin S., SSgt, USAF
Grigsby, R. L., SSgt, USAF
Holmes, Charles M., SSgt, USAF
Johnson, James E., TSgt, USAF
Kekuna, George L., 1stLt, USAF

King, Karl G., 1stLt, USAF
Kinzie, William B., Capt, USAF
Kryzs, S. R., ADR3, USN
Lockhart, Floyd R., Capt, USAF
Logan, Robert, A1c, USAF
Luther, William A., 1stLt, USAF
Marshall, James H., 1stLt, USMC
McDougal, Robert D., Capt, USAF
Merriss, W. D., Lt, USMC
Meyers, R. O., Capt, USMC
Miller, Wayne, A1c, USAF
Nesco, Thomas, SSgt, USAF
Peebles, George, LCdr, USN
Roberts, Charles M., Capt, USAF
Sternad, Thomas J., SMSgt, USAF
Thoma, John, Lt, USN
Thomsen, Daniel M., Capt, USAF
Warren, Ronald A., SSgt, USAF
Williams, Fred C., Jr., SSgt, USAF

THE PERSONNEL ABOVE WERE HONORED FOR THEIR SKILL, COURAGE AND JUDGEMENT DISPLAYED WHILE PARTICIPATING IN RESCUE OR MERCY MISSIONS PERFORMED UNDER ADVERSE OR HAZARDOUS CONDITIONS. THE LIFESAVING FLIGHTS WERE MADE FROM 1960 THROUGH 1962 IN UH-43C, OH-43D, HH-43A/B AND UH-2A HELICOPTERS.