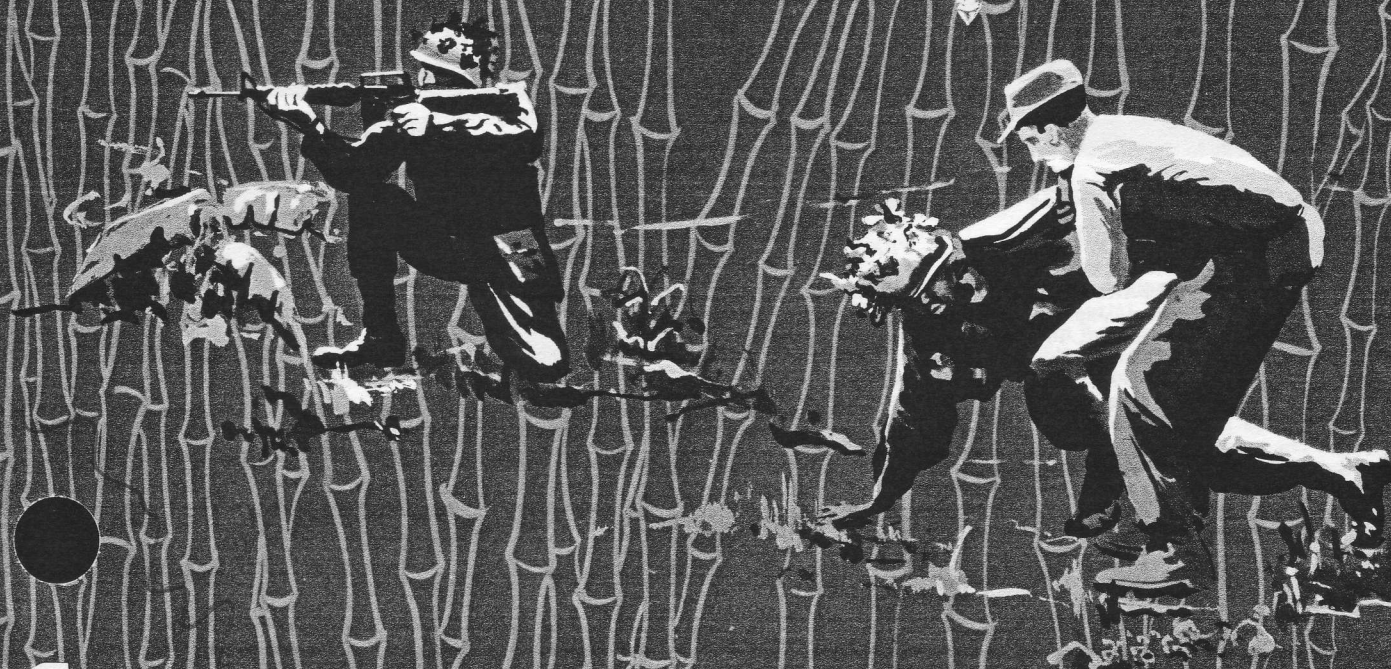
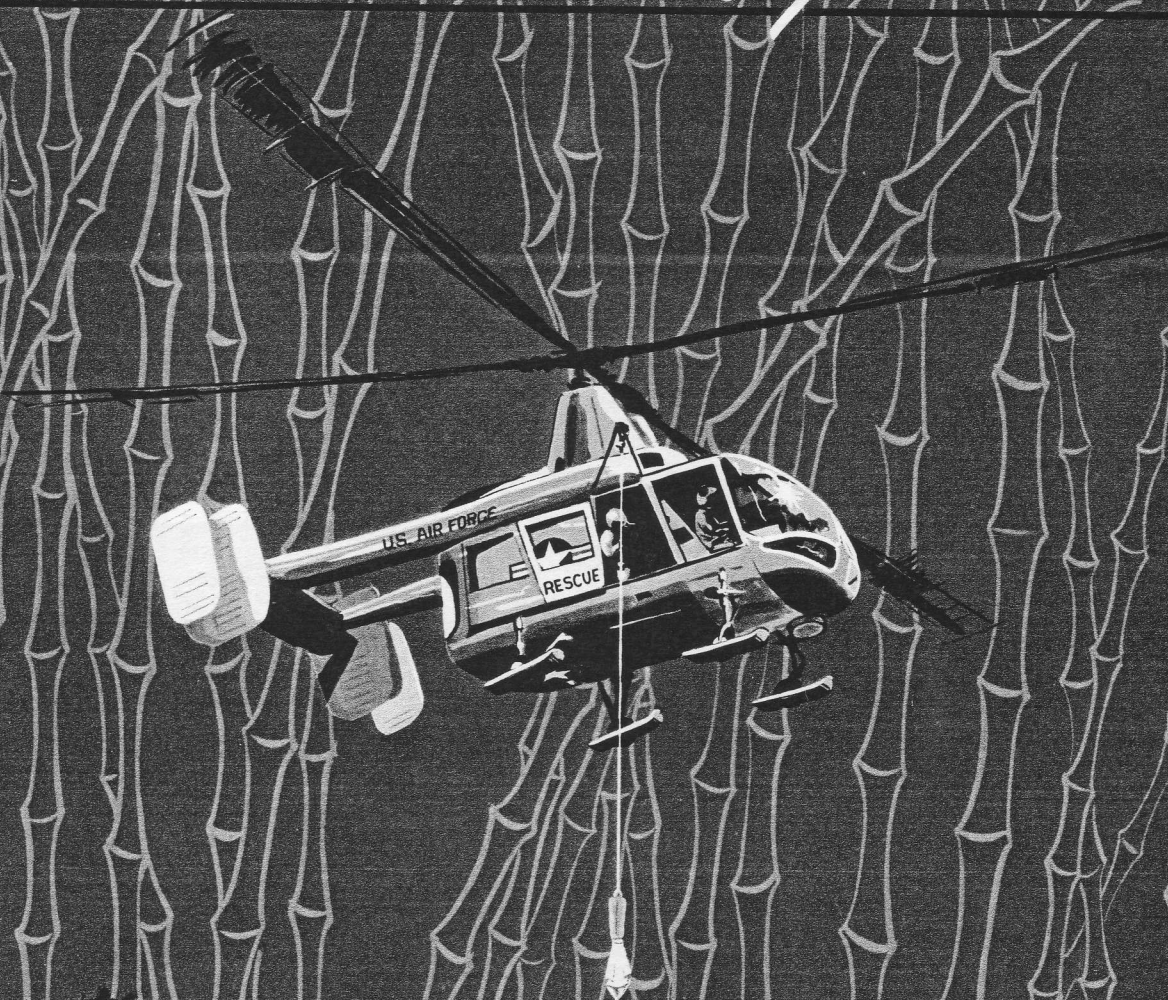


# **KAMAN** *Rotor Tips*



**KAMAN AIRCRAFT CORPORATION**  
PIONEERS IN TURBINE POWERED HELICOPTERS

APRIL-MAY, 1966



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## THE COVER

Disregarding personal safety, an HH-43F crew from the 38th ARRSq evacuates wounded during Vietnamese firefight. Cover by Donald Tisdale, Service Publications.

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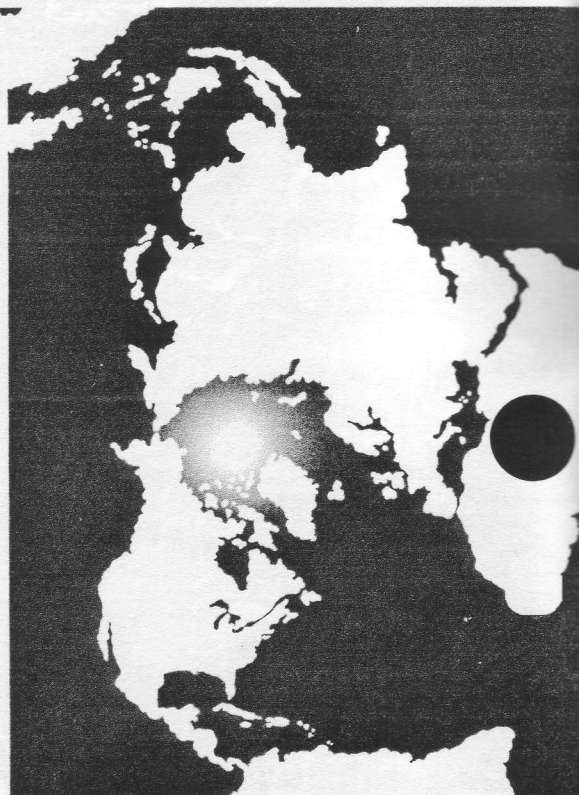
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# PRESIDENT HONORS 38TH ARRSq.

The 38th Aerospace Rescue and Recovery Squadron, Military Airlift Command, recently received the Presidential Distinguished Unit Citation for its "extraordinary gallantry" while carrying out combat rescue missions in Southeast Asia. In making the presentation during a White House ceremony, President Lyndon B. Johnson told the assembly that the squadron "has enscribed its name on the honor scroll of American heroes."

"Time and time again the men of the 38th have risked their lives so that their comrades might live," the President said.

Based at Tan Son Nhut AB in Vietnam, the unit earned the Presidential Citation for its outstanding record in combat operations from August 1, 1964 to July 31, 1965. The President credited the squadron with saving the lives of 74 persons during the period covered by the citation. Crews from the 38th flew 8700 combat missions in their unarmed HH-43B's, HH-3C's, HC-54's, and HU-16's; while logging 12,750 hours, unit rescuemen won 250 individual decorations including 16 silver stars and 10 purple hearts. Since that time more than 30 other "saves" have been made by the squadron and the number of individual decorations awarded has passed the 300 mark.

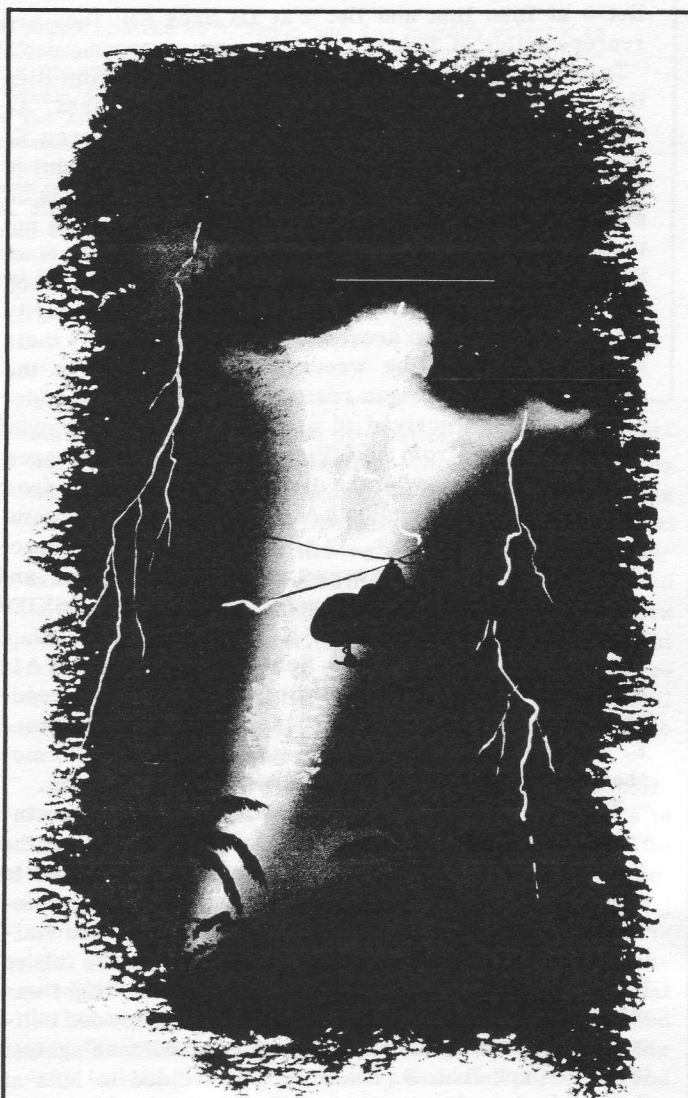
After President Johnson spoke, Dr. Harold Brown, Secretary of the Air Force, read the award accompanying the citation. Also present were Gen John P. McConnell, Air Force Chief of Staff, and Col Allison C. Brooks, Commander of the Aerospace Rescue and Recovery Service. LtCol Edward Krafka, Commander of the 38th during most of the period covered by the citation, accepted the award from the President.

SMSGt Roland J. Biler, former maintenance supervisor of the squadron, and TSgt Charles P. Walther, recently named Airman of the Year for MAC, represented the squadron at the ceremony. Sergeant Walther's record during a year in Vietnam is an excellent example of the 38th's "extraordinary gallantry" which brought forth Presidential praise — the pararescueman received the Air Medal and 10 Oak Leaf Clusters, the Airman's Medal with one Oak Leaf Cluster, a Bronze Star and an Air Force Commendation Medal. He is to represent MAC at the 1966 convention of the Air Force Association.

Also on hand was Maj Ronald Ingraham, former helicopter pilot with the 38th. Major Ingraham recently was featured in a special two-part "Twentieth Century" television program which described air rescue activities.

An excellent example of the type missions flown during the period mentioned in the Presidential citation is contained in still another citation — one which accompanied the Distinguished Flying Cross awarded to Capt Carl G. Layman for the rescue of a downed pilot during a battle between the 1st Infantry Division and the Viet Cong.

Captain Layman said afterward that the mission was successfully accomplished due to the "outstanding work" of his crew — Maj William T. Hayes, Jr., copilot; A2c Michael R. Donegan, paramedic; and TSgt Joseph W. Blaquiére, helicopter mechanic.



## Citation

Captain Carl G. Layman distinguished himself by heroism while participating in aerial flight as an HH-43F crew-member of Detachment 6, 38th Air Rescue Squadron, Bien Hoa Air Base, Republic of Vietnam, on 20 July 1965. On that date, Captain Layman was the pilot on a rescue helicopter that scrambled at night on a reported bailout of a pilot from a fighter-type aircraft. In spite of darkness, heavy rain, poor visibility, low ceilings, and high winds caused by thunderstorm activity, the helicopter rescue crew proceeded to the suspected area of bailout. Fearing the downed pilot had been injured and was unable to signal, the rescue helicopter descended to within 50 feet of the ground and, using floodlights for illumination, initiated a low-speed search for the pilot. During this time the helicopter was an extremely vulnerable target and all crewmembers were in great personal danger from hostile fire. Although sporadic tracer fire and one mortar burst was observed at close range, the helicopter crew persevered in its search until they located the downed pilot and returned him to safety. The outstanding heroism and selfless devotion to duty displayed by Captain Layman reflect great credit upon himself and the United States Air Force.

## That Others May Live

Daily the 38th Aerospace Rescue and Recovery Units continue flying their life-saving missions in the face of enemy fire. Following are just a few of the many incidents reported. While concerned with the activities of Det 6 at Bien Hoa and Det 7 at Da Nang AB, they are representative of 38th missions in many areas:

Two HH-43F's were dispatched to Zone "D" from Bien Hoa after a helicopter crashed in the war-torn area. As one HUSKIE hovered, the paramedic, SSgt George E. Schipper, was lowered to the ground and the injured chopper pilot and his crew chief were quickly hoisted aboard. Due to a hoist malfunction, however, it was not possible to immediately recover the Sergeant so the first HH-43F left while the second HUSKIE moved in and took him aboard. Meanwhile, the Army had landed a security team of 20 men in the area, but almost immediately their helo crashed near the wreckage of the first. As the secondary HH-43F began rescuing the crew of this helo, a request was received to also evacuate the stranded security force from the Viet Cong-surrounded area. Meanwhile, the crew of the first HUSKIE returned from delivering wounded and both Air Force helicopters completed the rescue work. In all, 24 persons were evacuated by the HUSKIE crews, plus machine guns and radios from the downed aircraft. Manning the HUSKIES were: Primary helo — Capt Karl G. King, RCC; Capt Ronald L. Bachman, copilot; Sergeant Schipper; and A1c Alexander Montgomery, helicopter mechanic. Secondary helo — Capt Charles P. Nadler, RCC; Capt Raymond L. Murden, copilot; TSgt Kenneth L. Perkins, helo mechanic; and A1c Henry J. O'Beirne, pararescueman.

Two HH-43F's from Det 7 at Da Nang were also involved in the rescue of a downed helo crew. During the missions they were not only continuously exposed to enemy fire, but made hazardous landings in an extremely confined area as well. Because of the limited visibility and light rain, the rescue helicopters were forced to fly at low altitudes and the entire 18-mile flight was made within range of ground fire. Since the downed helicopter crewmen had only side arms for defense against the VC, Capt John B. Kneen, RCC, decided to land at the crash site, despite the unsuitable terrain, in order to speed up the evacuation. He set the HH-43F down in a tiny clearing with the helo's tail section overhanging a ridge; the rotor blades overlapped five-foot trees and the tips were only a few feet from the wrecked Army chopper.

Taking three survivors aboard, Captain Kneen took off and Capt Waino E. Arvo, Jr., then guided the second HUSKIE into the hazardous spot to pick up the other two survivors.

Flying with Captain Kneen as copilot was 1stLt Arthur F. Machado; SSgt Curtis F. Yancy was helicopter mechanic and SSgt Charles A. Kezer, pararescue specialist. In Captain Arvo's crew were Capt Harold A. Solberg, copilot; TSgt Delmar F. Mapes, helicopter mechanic; and A1c Dennis C. Hughes, pararescue specialist.

HUSKIES from Det 6 scrambled when helicopter assistance was requested to evacuate two wounded Australian Army troops from Zone "D". After the forward air controller marked the area with smoke and armed helicopters made several passes over the area, one of the two ARRS choppers lowered A1c William H. Pitsenbarger, pararescueman, through the heavy brush. The two wounded men were hoisted aboard and then Airman Pitsenbarger was picked up. Floodlights were necessary during this phase of the operation because of the trees skirting the pickup area. The choppers were not hit although there was ground fire in the area. Others aboard the recovery HUSKIE included Captain Murden, RCC; Captain King, copilot; and A1c Gerald C. Hammond, Jr., helo mechanic.

During another mission, Sergeant Schipper volunteered to ride the hoist into the midst of a raging firefight to coordinate the rescue efforts and help clear a landing area. Some of the wounded were taken aboard by hoist but, due to Sergeant Schipper's actions, it was possible to load the others directly into the chopper. The HUSKIE crew evacuated 12 wounded men and delivered ammunition, food, and chain saws to the area. In recognition of his actions, Sergeant Schipper has been recommended for the Silver Star. Capt Edwin A. Henningson was RCC aboard the HUSKIE, Captain Bachman, copilot, and Airman Montgomery, helicopter mechanic.

The next day the detachment was called on again to evacuate more wounded personnel from the Zone. Four Army men with chain saws were lowered through the trees and brush to enlarge a clearing for helo landings. Four wounded U.S. and Australian troops were evacuated by hoist and then, with the clearing made, 21 more casualties were taken to safety. Captain Nadler was RCC on this mission, Capt Maurice G. Kessler, copilot; Sergeant Perkins, helo mechanic; and Airman O'Beirne, pararescueman.



### For Vietnam Valor

**CAPT JOHN E. FORSYTHE** of ARRS Det 17, WARRC(MAC), at Davis-Monthan AFB, Ariz., was recently awarded the Distinguished Flying Cross and Air Force Commendation medals for his heroic actions while serving as an HH-43 crewmember in Vietnam. The presentations were made by Col Harry P. Verbeek, base commander. While serving as copilot of a HUSKIE picking up a downed pilot deep in hostile territory, Captain Forsythe stood in the doorway of the chopper and constantly exchanged fire with enemy ground forces. When his weapon jammed, he immediately changed to another and continued to hold off the enemy. On another occasion, while piloting an HH-43, Captain Forsythe hovered the helicopter over the flaming wreckage of a crashed aircraft despite the obvious hazard. His action aided in rescuing the trapped pilot. (USAF photo)





## Pararescueman Honored

**MSGT HAROLD E. MOAK** of Stead AFB, Nev., who was recently selected as the Air Training Command's Outstanding Airman of the Year, is shown preparing to enter an HH-43F while on duty earlier in Vietnam. During nine months duty in Vietnam, the pararescue technician flew 143 combat missions and was awarded the Airman's Medal and Air Force Commendation Medal for his heroic actions on three separate occasions. In recognition of these and other deeds of heroism while on duty in Alaska, Libya and the Congo, Sergeant Moak was presented the ATC Medallion and a check for \$275 by LtGen William W. Momyer at a ceremony at Randolph AFB, Texas. The Outstanding Airman of the Year, was also made honorary mayor of San Antonio, toured the city as the guest of the Chamber of Commerce and was honored at a dinner in the NCO's Club at Randolph. (USAF photo)

The pilot of an A-1E bailed out at night over enemy-held territory after his aircraft was disabled while conducting an air strike in defense of the Special Forces camp at Ple Me. Evading capture by the Viet Cong, the downed pilot managed to maintain contact with the forward air controller and several attempts were made by Army helicopters to come to his aid—but they were driven off by the intense ground fire. While the downed pilot remained in hiding from the searching Viet Cong, two HUSKIES were scrambled from Bien Hoa AB and, after a three-and-a-half hour night flight over mountainous terrain, arrived at Pleiku. As they began the rescue attempt shortly after daylight, a heavy firefight broke out between enemy positions and the camp. Realizing the downed pilot could not escape capture much longer, Capt Dale L. Potter lowered his HH-43F until the rotor blades were only a few inches above the high elephant grass and the A-1E pilot was hastily snatched aboard. Firing at the time was described as "very intense." Sharing in the hazardous rescue were the copilot, Capt David G. Henry, TSgt Richard A. Connon, a helicopter mechanic, and SSgt Leon Fullwood, pararescueman.

One of the most recent, and hazardous, missions involved two HH-43F crews from Det 7. Manning the primary helicopter were Lieutenant Machado, pilot; Captain Kneen, copilot; MSgt Harlan D. Longmire, helicopter mechanic; and SSgt David J. Wheeler, pararescue specialist. Aboard the secondary helo were Captain Solberg, pilot; Capt James C. Rodenberg, copilot; Sergeant Mapes, helicopter mechanic; and Airman Hughes, pararescue specialist.

This vivid description of the mission was included in a report on Lieutenant Machado's activities during the night-time evacuation of wounded Marines from a rice paddy in an active battlefield:

Lieutenant Machado distinguished himself by gallantry in connection with military operations against an opposing armed force near Tam Ky, Republic of Vietnam on 9 December 1965. On that date, Lieutenant Machado led a flight of two rescue helicopters, at night, approximately 30 miles south of Da Nang to recover the crew of a

Marine helicopter downed by hostile fire while attempting to evacuate wounded Marines. Numerous small-arms tracers were observed throughout the flight to the active battlefield, known as "Operation Harvest Moon," and geographically located in a valley surrounded by mountainous terrain. Heavy small arms fire was encountered in the recovery area; and 50 caliber machine gun tracers described arcs no less than a mile long upon several occasions in an effort to down the aircraft flying overhead. Flares from an FC-47 were used for search until radio contact with a Marine patrol made it possible to find the exact location.

The patrol had recovered the crew from the helicopter, stating the pilot was killed and one crew member was in very serious condition. The Marine patrol also had 30 wounded men and requested their medical evacuation. Using flashlights, the Marines pinpointed the landing zone which was located in a rice paddy between two hamlets. To avoid drawing increased ground fire, Lieutenant Machado turned off all external lights and in total darkness landed in the paddy after three tracers zipped over the helicopter on final approach. He dispatched his crew to load the most seriously wounded personnel and render medical aid. Then, taking off in total darkness, he climbed in an erratic course to avoid known Viet Cong locations. While passing through 1000 feet of altitude, six mortar rounds were seen and heard exploding along the aircraft's ground path and about 500 yards slant range from the helicopter. Their concussion physically shook the entire aircraft and illuminated it sufficiently to draw several more small-arms tracers. Minutes after departing the area, a Marine helicopter was hit several times while approaching the same landing zone to evacuate the remaining wounded. This courageous and aggressive act in the face of hostile fire resulted in the evacuation of five seriously wounded personnel and within minutes gave them the benefits of hospital treatment. Lieutenant Machado's outstanding, humanitarian performance emphasizes his high esteem for a fellow man's life. By his gallantry and devotion to duty, Lieutenant Machado has reflected great credit upon himself and the United States Air Force. ✦

*"It is my duty, as a member of the Air Rescue Service, to save life and to aid the injured.*

*"I will be prepared at all times to perform my assigned duties quickly and efficiently, placing these duties before personal desires and comforts.*

*"These things I do that others may live."—Code of the Aircsueman*



Capt Bert E. Cowden, the first military pilot to log 1000 hours in a helicopter produced by Kaman Aircraft, now has the distinction of being the first USAF pilot to log 2000 hours in the H-43, a mark he reached in February, 1966. In addition, the Captain can also claim the title of "High-time Military Pilot in Kaman Helicopters" for the three services flying KAC aircraft — Air Force, Navy and Marines. 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.

Captain Cowden, who is commander of Det 4, AARRC, the local base rescue unit at Ramstein AB, Germany, logged 182 hours in an H-43 during the month of March, 1966 and during a three-month period — February, March and April of this year — accumulated a total of 415 hours in the HH-43F. Both of these totals are probably records for an H-43 pilot and were accomplished while Captain Cowden was on temporary duty with the ARMISH/MAAG at Isfahan, Iran. At the time, he and Capt Bruce M. Purvine were instructor pilots for an advanced operational training course for the newly formed Imperial Iranian Army Aviation Battalion (Helicopter).

Captain Cowden's other "firsts"

include: 1. Acceptance of the first production H-43A, which he also ferried to Laredo AFB, Texas, in February, 1959. 2. First to utilize the H-43 rotor downwash and fire suppression kit on an actual crash in September, 1959. 3. He and Capt John E. Shaeffer were the first USAF pilots to receive Kaman Scrolls of Honor after rescuing 20 persons in a violent storm on the Mexican shores of Falcon Lake in February, 1960.

The 36-year-old record holder has over 4800 accident-free flying hours, 4000 of them in helicopters. A native of Abilene, Texas, Captain Cowden was graduated as an Aviation Cadet at Greenville, Miss., in April, 1955,

and from the USAF Helicopter School at Gray AFB, Texas, three months later. He has served at Sewart AFB, Tenn., Sidi Slinane AB, Morocco, Spangdahlem AB, Germany, Laredo AFB, Stead AFB, Nev., and Ramstein AB.

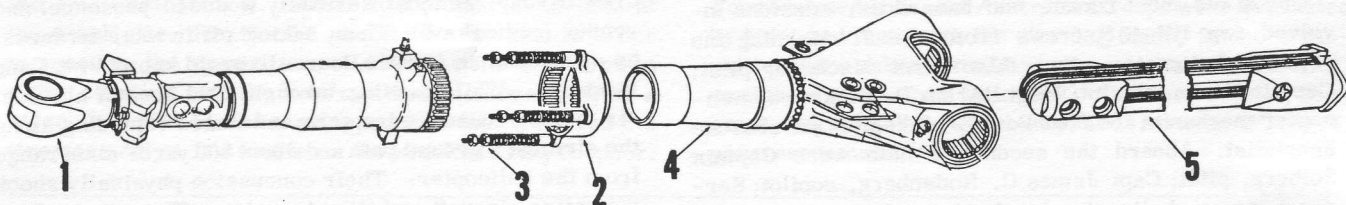


**HIGH TIMER**—Capt Bert E. Cowden is congratulated by Armin H. Meyer, American ambassador to Iran, after logging his 2000th hour in H-43's. Others are, left to right, Maj R. Mohebi, IIAA battalion commander; Mr. Ebrahim Parsa, governor general; Maj Peter M. Kracht, USA aviation advisor, ARMISH/MAAG; and Capt Hossein Iranmanesh, IIAA rotary wing company commander. Captain Cowden and 1st Lt Ghanaie, IIAA, flew the ambassador, governor general and other dignitaries to the construction site of the Shah Abbas Dam.

## PASSES 1500-HOUR MARK

Congratulations are in order for Capt David J. Wege who logged his 1500th hour in an HH-43B on February 1, 1966. Is he top man in this category? KRT would like to know. Captain Wege is aircrew standardization officer and RCC with the 31st ARRSq, Clark AB, Philippine Islands.

## UH-2 RETENTION ASSEMBLY CHECK



When rotating the retention around its pitch axis, maintenance personnel may hear a slight scraping noise coming from within the retention assembly. This noise can be caused by improperly adjusted folding lock bolts, see (3) in the drawing, which allow contact between the splines on the pitch lock ring (2) and the splines on the inner retention (4). If proper clearance does not exist, re-adjust the folding lock bolts as outlined in the HMI, NAVWEPS 01-260HCA-2-5. If a slight scraping noise is still present after proper spline clearance has been determined, it may stem from contact between the tension/torsion strap assembly (5) and the wall of the inner retention (4). When centrifugal force is applied as the rotor gathers speed, the strap bundle straightens and there is no contact; however, with the rotor in a static position or when it is being turned slowly, the strap bundle can droop enough to contact the inner retention wall. There should be no cause for concern on the part of maintenance personnel with a noise produced by this type of contact. Caution should always be observed, of course, until the source of ANY noise has been determined.

- 1 Outer retention group
- 2 Pitch lock ring
- 3 Folding lock bolt
- 4 Inner retention assembly
- 5 Tension-torsion assembly

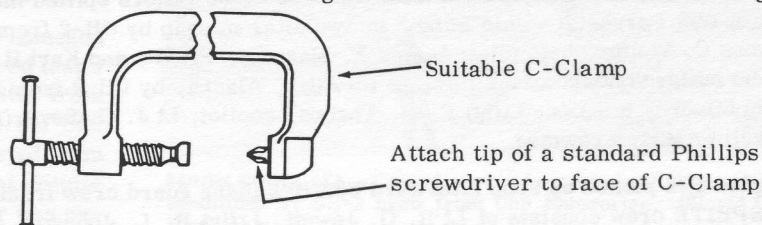
W. J. Wagemaker, Service Engineer



# Timely Tips

## Installation of Tail Rotor Blades (UH-2)

Fabrication of a tool similar to the one shown below will aid during installation and removal of attaching hardware.



Procedure for use of the tool: The NAS 335CP46 bolt is passed through both rocking pin caps. The castellated nut, P/N AN310-5, is then started onto the bolt handtight. The screwdriver end of the C-clamp is then placed into the slots in the head of the bolt; the other end is placed against the end of the bolt. The clamp is then drawn up snug, taking care not to damage the end of the bolt or to foul any of the threads. A crowsfoot socket wrench is then utilized to obtain the proper torque on the nut.

E. Muse, AM1, HC-2

## Rigging Pins (UH-2, HH-43B, HH-43F)

A point to remember when rigging a control system: Prior to pin removal, be sure that the rigging pin can rotate freely within the rigging holes AFTER final torque has been applied to the adjusting members. If the rigging pin binds during removal, readjustment is necessary.

P. M. Cummings, Service Engineer

## ASE Amplifier Bench Test Set (UH-2)

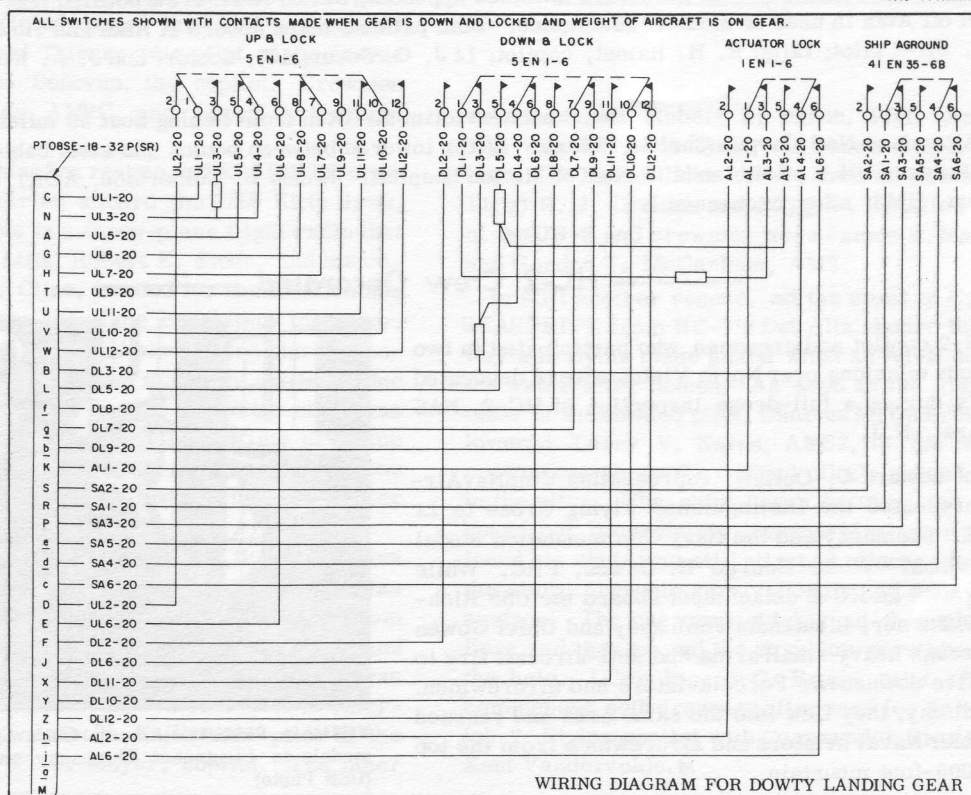
Because many of the signals being measured with the ASE Amplifier Bench Test Set, P/N K604603, are in the millivolt range, noise or interference can have a great deal of effect on the accuracy of these readings. It is suggested that the test set, and any other associated monitoring equipment in use, be grounded to minimize the effects of noise and stray pickups.

M. Whitmore, Jr., Service Engineer

## Landing Gear Wiring Diagrams (UH-2)

The landing gear wiring diagram in the HMI wiring data book, NAVWEPS 01-260HCA-2-11, dated 15 July 1965, is for the Cleveland landing gear only. The Dowty landing gear wiring diagram, shown below, is located in NAVWEPS 03-25KAM-1, Volume 3, 15 September 1965, and is being incorporated in a forthcoming revision of wiring data book, NAVWEPS 01-260HCA-2-11.

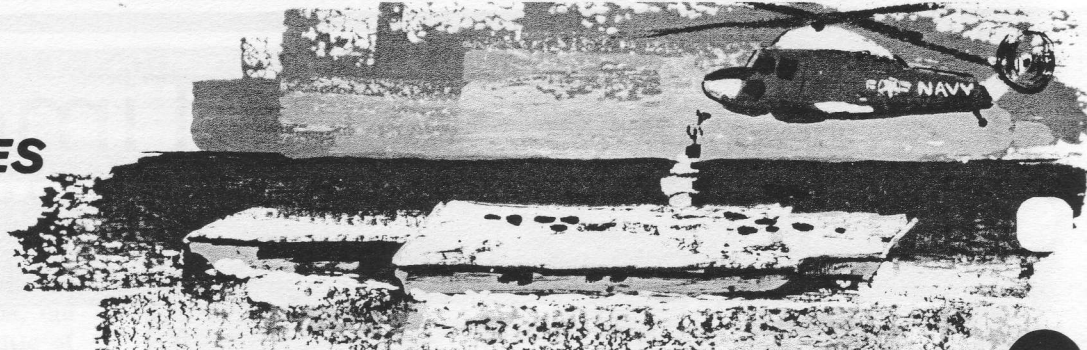
M. Whitmore, Jr., Service Engineer





# SEASPRITE

## ACTIVITIES



...Plane guard SEASPRITE rescues three sailors spilled into water from liberty boat. All returned to deck of USS Forrestal within minute or two after mishap by UH-2 from HC-2's Det 59 aboard giant carrier. Lt(jg) Thomas C. Wolter, helo pilot; James F. Masters, PRAN, and Karl H. Hehl, ATN3, crewmen....Atka village teacher who suffered heart attack flown to NS Adak, Alaska, by UH-2 from SAR unit at station. LCdr J. L. Kniely is helo pilot on mercy mission; Lt(jg) R. B. Thabes, copilot; Lt J. G. Sever(MC), doctor; L. N. Croft, AMH3, and J. A. Kidwell, AMS1, crewmen.

...Pilot who ejected from his crippled F-8 picked up soon afterward by UH-2 plane guard crew from HC-1's Det Bravo aboard the USS Ticonderoga. SEASPRITE crew consists of Lt R. G. Jewett, Lt(jg) R. L. Johnson, Chief Tomanek and P. R. Bohn, AMS1....Radar instrument officer who ejected from crippled plane rescued from Atlantic by UH-2 crew from HC-2's Det 62 aboard USS Independence. Lt(jg) T. E. Santay, SEASPRITE pilot; Lt(JG) S. R. Kruk, copilot; and L. C. Carver, AMH1, crewman.

...Civilian in need of medical attention evacuated from San Clemente Island to Long Beach by UH-2 crew from HC-1, NAAS Ream Field, Calif. Flight, which ended after sunset, took over 2-1/2 hours, covered 230 miles and was in IFR/VFR weather. SEASPRITE pilot is Lt Jon W. Walker; copilot, Lt(jg) J. L. Combs; crewmen, C. E. Morris, PR1, and K. J. Reichenberg, ADR3.

...SEASPRITE crew from Det Bravo, HC-1, aboard USS Ticonderoga rescues man blown overboard by jet blast. J. J. Turk, ADJAN, UH-2 crewman, enters water to assist semi-conscious survivor. Others aboard helicopter are Lt R. G. Jewett, pilot; Lt(jg) J. W. Donaldson, copilot; P. R. Bohn, AM1, and J. W. Zinkiewicz, ATNAN, crewmen.

...Pilot who ejected from his F-9 after a midair collision picked up and flown to hospital by UH-2 crew from SAR unit at NAAS Kingsville, Texas. Pilot of SEASPRITE is Lt Thomas Zinn; crewmen, Philip German, ADR3, and Marshall Freeman, HN....In similar incident, pilot who ejected from crippled trainer 50 miles from Kingsville, flown to hospital in UH-2 piloted by LCdr Garry D. Grant. Other members of crew are Lt Roual Alvarez, copilot; Ronald Godfrey, crewman; and Dr. James Finch....Pilot who ejected from crippled plane rescued by UH-2 crew standing by at splashdown point five miles ahead of USS Midway. SEASPRITE pilot is Lt J. A. Speight; copilot, Lt(jg) K. M. Vandervelde; crewmen, C. V. Bowman, ADJ1 and T. V. Garner, AN, all from HC-1.

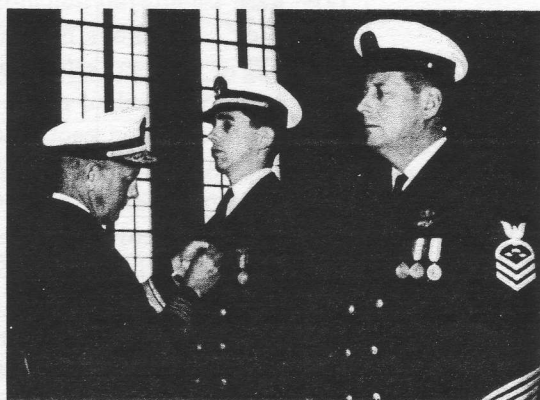
...UH-2 from SAR unit at Adak NS, Alaska, engages in double-mercy mission. While flying to Atka to pick up small boy with suspected inflamed appendix, SEASPRITE crew notified that crewman aboard fishing vessel off Atka in need of medical assistance. Both patients taken aboard at Atka and flown to Adak. LCdr J. L. Kniely, UH-2 pilot; Lt(jg) R. H. Hamel, copilot; Lt J. G. Sever(MC), doctor; and J. A. Kidwell, AMS1, plane captain.

...Heart attack victim airlifted from fishing boat 55 miles at sea by SEASPRITE crew from SAR unit at NAS Corpus Christi, Texas. Litter lowered between booms and steel cables to make pickup. Lt Roger P. Hulson, UH-2 pilot, lands in rear of station hospital. James D. Culbertson, ADR1, copilot on flight and John A. Klimpt, HM3, other crewmember.

### HC-2 Crew Decorated

A UH-2 copilot and crewman who participated in two hazardous missions over North Vietnam were decorated recently during a full-dress inspection at HC-2, NAS Lakehurst, N.J.

RAdm Edward C. Outlaw, representing ComNavAir-Lant, presented the Distinguished Flying Cross to Lt Louis E. Thomassy and the Navy Commendation Medal with Combat "V" to George R. Gowen, PRC. While serving with an HC-2 detachment aboard the USS Richmond K. Turner, Lieutenant Thomassy and Chief Gowen flew through heavy small arms and anti-aircraft fire to locate five downed Air Force aviators and aircrewmembers. The next day, they flew into the same area and rescued two of four Naval aviators and aircrewmembers from the top of a 4,000-foot mountain.



**VIETNAM RESCUES**—Admiral Outlaw presents combat medals to Lieutenant Thomassy and Chief Gowen. (USN Photo)



## **HC-1 SEASPRITE RESCUES 9 AT ONCE**

On one mission a SEASPRITE crew from HC-1's Det 9 plucked nine Navy officers and enlisted men from the wind-whipped waters of the South China Seas and then — a few hours later — rescued four more.

UH-2 pilot Lt Harold A. Thienes and his crew launched from the USS England when word was received that a large, ASW-type helo had ditched about 10 miles from the ship. The helicopter was on its way to the USS Ranger at the time. Nine rescues were hoisted from the water or capsized aircraft without incident despite the choppy seas. Although the utility chopper was operating at maximum gross weight with a total of 13 persons aboard, Lieutenant Thienes said no rotor RPM droop was encountered nor did the engine top out — comfortable space was the only problem. After the survivors were taken to the USS England the UH-2 returned to the crash scene and conducted a search for three men who were unaccounted for. Additional survivors had been rescued by the USS Apache.

Lt(jg) Dennis M. Donovan was copilot on the mission and the crewmen were Richard A. Kedzierski, AD2, and Gary E. Burgess, AMH3. They also accompanied Lieutenant Thienes when the UH-2 responded to a second emergency. Another ASW-type helo had picked up five of the rescued personnel from the USS England and was approximately six miles from the ship when it was forced to land in the water. The passengers were picked up from a raft by the USS Apache; the other four survivors were hoisted from the sea by the SEASPRITE.

A few days later Det 9 responded again after a report was received that a pilot might be forced to eject from his crippled plane. As the SEASPRITE drew near the spot, 25 miles from the USS England, the fighter pilot did eject and was hoisted aboard the UH-2 a minute or two later. Lieutenant Thienes was pilot of the rescue helo and Lieutenant Donovan, the copilot. Crewmen were Arnold Gardner, AMSC, and Larry G. Gustine, ATR2.

In another South China Sea rescue, a SEASPRITE crew from HC-1's Det Charlie, aboard the USS Kitty Hawk, heard one of the pilots in a three-plane flight radio that he was in trouble. Lt(jg) Robert E. Sloan, and his copilot, Lt Richard G. Cline, headed for the location and arrived in time to see the plane crash into the water. The SEASPRITE and another helo orbited the spot toward which the two chutes in the sky were drifting. One survivor was taken aboard the UH-2 and the other was rescued by the second chopper. From time of pickup until the two rescues were on deck was only nine minutes. Crewmen aboard the SEASPRITE were Walter S. Cluer, ATN3, and James A. Hanna, AN.

An A-4 pilot whose plane plunged into the South China Sea after a pre-dawn launch from the USS Ranger was rescued soon afterward by a SEASPRITE crew from HC-1's Det Foxtrot. Because of the six-foot waves and darkness, UH-2 crewman James P. Krake, ADJ3, was lowered to the water and assisted the survivor in entering the sling. Lt(jg) John T. Keith was pilot of the rescue helo and Lt F. C. Meyer, copilot. The other



**SOUTH CHINA SEA**—Typical rescue is carried out under combat conditions by UH-2 crew from USS Enterprise. (World Wide Photos, Inc.)

### **HC-2 Detachment Commended**

The Navy Unit Commendation Ribbon has been awarded to HC-2's Det 62 for its actions while supporting combat operations aboard the USS Independence off the coast of Vietnam.

Cdr G. E. Kemp, commanding officer of HC-2, notified detachment personnel of the honor while reading a letter of commendation which drew attention to the fact that the unit had successfully carried out 10 rescue missions — four of them over the mainland of Vietnam.

"Your outstanding performance and devotion to duty during long hours of shipboard operations contributed greatly to the success of your detachment in achieving a high state of operations readiness and a record number of flight hours flown...you are to be commended for a job well done," Commander Kemp told the unit.

Ten pilots and 12 aircrewmembers from Det 62 have been recommended for the Navy Air Medal or other high awards.

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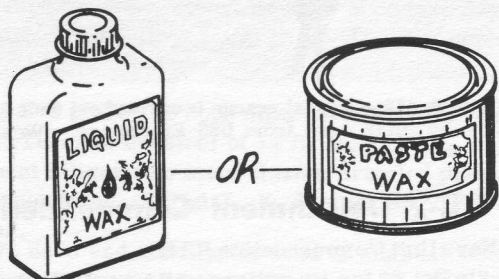
crewman was Robert E. Braun, PR1. Another pilot who was forced to eject was rescued by a UH-2 crew from HC-1's Det Echo aboard the Bon Homme Richard. Lt(jg) R. J. Griffith and Lt(jg) W. H. Allen were pilots of the UH-2 and crewmen were James H. Martin, ADJ3, and Gordon T. McCanless, AM3.

In still another rescue, off the coast of California, a SEASPRITE from HC-1's Det Alfa aboard the USS Midway was flying plane guard when an A1-H collided with the water after launch. As soon as the giant ship was clear of the downed pilot, Charles M. De Freitas, ADJC, lowered Larry V. Kerns, AMS2, to the water. The crewman swam to the downed pilot's aid and placed him in the sling. The chief began hoisting the rescuee aboard but immediately lowered him again when it was found his chute was still attached. Kerns dropped from the sling, drew his survival knife and dove beneath the surface. The crewman quickly cut through the shroud lines and then he and the survivor were brought aboard the helo. LCdr Joseph G. Brady, pilot of the UH-2, commended both crewmen afterward for an "outstanding job." Flying copilot with Commander Brady was Lt(jg) Kent Vandervelde. ■



# 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 HH-43B/F) WHAT SHOULD BE DONE TO PROTECT THE ROTOR BLADES FROM THE ELEMENTS?

**A.** One of the best ways to preserve the finish and increase resistance to weather is by periodically applying a coat of wax. Don't use a cleaner and wax combination, however, for this type may cause the finish to erode or deteriorate. Kaman Aircraft uses a liquid wax called "Wing Wax" which can be ordered in one-gallon cans under Air Force FSN 7930-267-5588. Occasionally, a whitish color may appear on rotor blades which have been coated with Wing Wax. This coloring is due to the cooling effect produced by the rapid evaporation of chemicals in the liquid wax when applied to a hot blade surface. When the humidity is high, water condenses on the blade surface. The coloring is similar to the "blushing" found on aircraft dope finishes and is not detrimental to blade operation. To eliminate this condition, "Simonize" or a suitable paste wax is acceptable as a substitute for the liquid wax and may be ordered in one-pound cans under Army FSN 7930-281-3267 (P-W-00120A, Type I) and Navy FSN 7930-281-3267-9G.

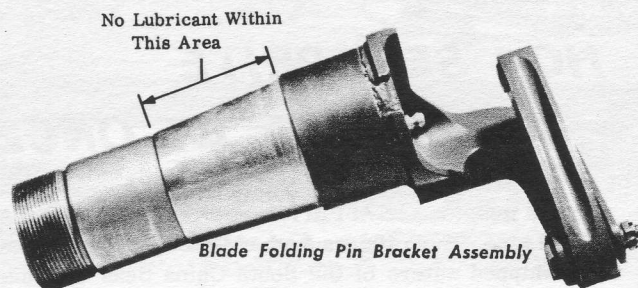
W. J. Wagemaker, Service Engineer

**Q.** (Applies UH-2) WHICH GEARBOXES MUST BE REPLACED AFTER BEING INVOLVED IN A ROTOR OVERSPEED SITUATION THAT WAS NOT ACCOMPANIED BY ENGINE OVERTORQUE?

**A.** When a component is subjected to pure overspeed, the primary concern is the stress which was induced into its rotating parts by centrifugal force. The only component part in the UH-2 gearboxes which can be overstressed in this manner is the output shaft (tail rotor hub) of the tail rotor gearbox; therefore, in a rotor overspeed situation in excess of 125%\* (not accompanied by engine overtorque) only the tail rotor gearbox need be replaced. Refer to NAVWEPS 01-260HCA-2-5 for disposition of components other than gearboxes.

\*110% for aircraft in which Airframe Change 43 (rotor overspeed recorder) has not yet been installed.

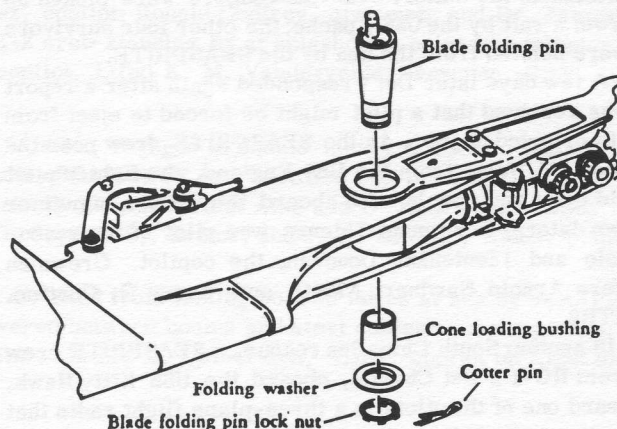
F. E. Stares, Service Engineer



**Q.** (Applies UH-2) SHOULD THE TAPERED SURFACES OF BLADE FOLDING PINS BE GREASED PRIOR TO INSTALLATION?

**A.** NO! Do not allow Molykote or any other lubricant to come in contact with the tapered area of the blade folding pin. If lubricated, the pin will not mate properly with the pin locking cone in the blade retention. The following procedure should be used prior to installation: Thoroughly clean the blade folding pin and folding pin bores in the blade assembly and blade retention assembly. Use a lint-free cloth dampened with safety solvent or other appropriate cleaning solvent. Air-dry all parts after cleaning. Apply a thin layer of Molykote, or the equivalent, to the inside diameter of the lower folding pin bushing in the blade spar. Apply a similar layer to the outside area at the top of the folding pin bracket which contacts the inside diameter of the upper folding pin bushing in the spar. The tapered surface of the folding pin should not be lubricated.

W. J. Wagemaker, Service Engineer

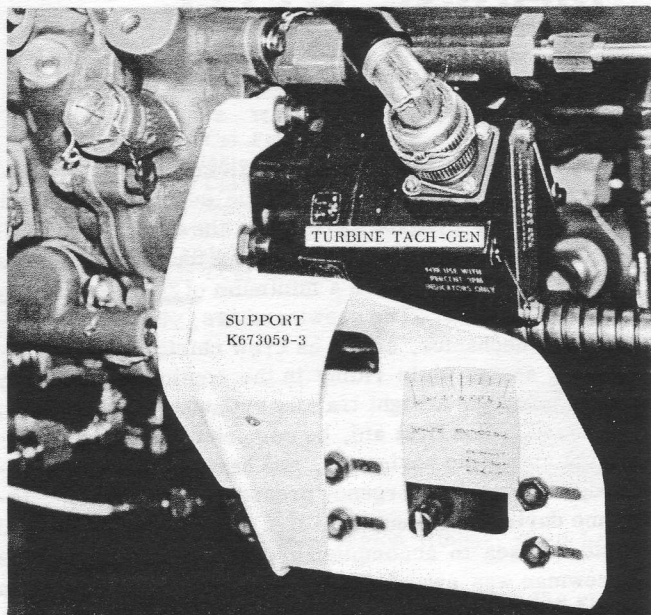


**Q.** (Applies UH-2) THE COTTER PIN WHICH SECURES THE LOCK NUT ON THE BLADE FOLDING PIN IS SOMETIMES SHEARED WHEN THE MAIN ROTOR BLADES ARE FOLDED. WHAT IS THE PROBABLE CAUSE?

**A.** The cotter pin will shear if there is a lack of sufficient lubrication on the cone loading bushing. Insufficient lubricant will permit the bushing and its mating surface on the lower blade locking fork to seize in such a manner that the lock nut may turn and shear the cotter pin when the blades are folded. If this condition is found to exist, remove and clean all the blade folding pins and then lubricate the cone loading bushing by hand with MIL-G-21164. Reinstall the blade folding pin group in compliance with the HMI, NAVWEPS 01-260HCA-2-5.

W. J. Wagemaker, Service Engineer





**Q.** (Applies UH-2) WHEN INSTALLING THE TURBINE TACH-GENERATOR, WHAT IS THE CORRECT MOUNTING POSITION FOR THE EMERGENCY FUEL CONTROL ACTUATOR SUPPORT?

**A.** The emergency actuator support, P/N K673059-3, should be installed on top of the tach-generator mounting flange. Incorrect installation of the support (under the mounting flange may: (1) result in a broken flange when the nuts are tightened or (2) cause the emergency control linkage to bind where it passes through the hole in the support; this could possibly lead to an overtemp/overspeed condition. See photo for correct installation. This information will be reflected in a future revision of HMI NAVWEPS 01-260HCA-2-3.

*H. Zubkoff, Service Engineer*

**Q.** (Applies HH-43B/F) WHAT IS THE MAXIMUM MOVEMENT OF THE ROTOR BLADE TIP WHEN THE IN-FLIGHT TRACKING ACTUATOR TRAVELS FROM ONE EXTREME TO THE OTHER?

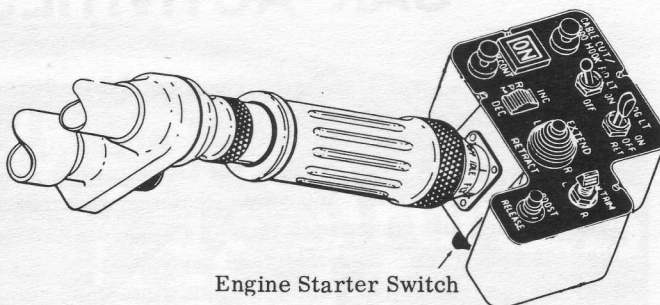
**A.** Full travel of the in-flight tracking actuator from one extreme to the other will result in approximately 4 inches of rotor blade tip movement. This dimension will vary slightly (1/8-inch, plus or minus) because each rotor blade will have a slightly different response to an identical control input. This difference is caused by the temperature and humidity which are constantly changing.

*W. J. Wagemaker, Service Engineer*

**Q.** (Applies UH-2) WHAT MAY BE THE CAUSE IF THE ENGINE FIRE WARNING LIGHT GLOWS DIMLY WHILE THE ENGINE IS IN OPERATION?

**A.** In all probability, the problem stems from incorrect installation of the fire detection elements on the engine. Investigation may reveal that the isolating grommets are installed incorrectly around the sensing elements and in the supporting clips. This will allow the sensing elements to come in contact with the metal clips and support, and cause the engine fire warning light to glow. Refer to HMI, NAVWEPS 01-260HCA-2-3 for the correct installation and routing of the fire detection elements.

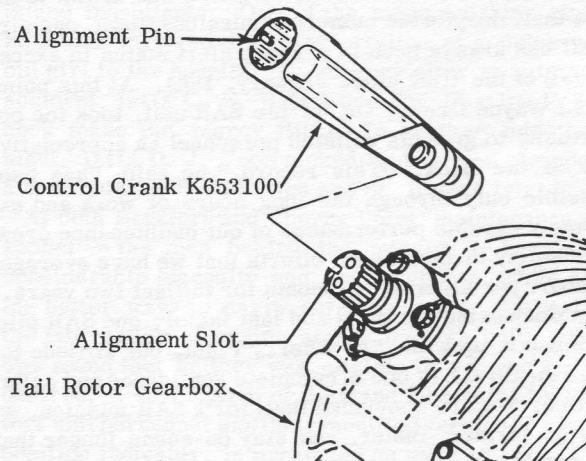
*M. Whitmore, Jr., Service Engineer*



**Q.** (Applies UH-2) WHAT IS THE PURPOSE OF HAVING TWO DETENTS ON THE STARTER SWITCH TRIGGER?

**A.** To provide battery-start capabilities for A/C BUNO 150175 and subsequent (or after the incorporation of ASC #17 prior to BUNO 150175) a starter switch actuated solenoid valve has been added in the auxiliary fuel line. This valve allows the pilot to control auxiliary fuel flow with the starter switch, to prevent "hot starts" as a result of low cranking speeds during a battery start, or cold "hang ups" on APU starts. With the starter switch trigger squeezed all the way (2nd detent), the solenoid valve is closed and auxiliary fuel will not flow. When the pressure on the switch trigger is relaxed and the switch moves to the first detent position, the valve is opened and auxiliary fuel will flow. By carefully controlling the flow of auxiliary fuel during the start, the pilot can accelerate the engine to idle RPM, using only battery power.

*J. J. McMahon, Service Engineer*



**Q.** (Applies UH-2) IS IT POSSIBLE TO INCORRECTLY INSTALL THE TAIL ROTOR DIRECTIONAL CONTROL CRANK, P/N K653100?

**A.** The crank may be installed incorrectly, but only if the alignment pin is bent or broken. A pin and slot arrangement is provided to align the crank assembly with the tail rotor gearbox shaft during installation; however, the pin does not engage the aligning slot until the crank is nearly installed on the tail rotor gearbox shaft. By the use of force, during which the alignment pin will probably be bent or broken, the assembly can be installed improperly on the shaft. This will result in a seriously restricted directional control to the tail rotor blades. For proper installation, ensure that alignment exists between the pin on the crank and the slot on the shaft before fully seating the control crank assembly.

*F. E. Starses, Service Engineer*



# SAR ACTIVITIES—MARINE STYLE

## *Cherry Point and Beaufort Utilizes UH-2's For Many Missions*

MCAS Cherry Point, N.C.... The SAR unit here has launched its UH-2's for 560 emergencies, participated in 34 rescues and picked up a total of 48 persons during the last two years. The missions have taken place on land and sea, during day and night, in winter and summer, and under VRF and IFR conditions. The Marine crews have searched for lost hunters and children, evacuated accident victims, picked up injured or critically sick crewmen from ships at sea and rescued pilots who had ejected from tactical jets. Searches for overdue civilian boats and the rescue of survivors of boating accidents are routine; the evacuation of patients to the U.S. Naval Hospitals at Camp Lejeune and Portsmouth, Va., have ranged from a premature baby and pregnant women to accident victims.

Three things are listed as being behind the group's impressive record of activity and accomplishment — training and aircrew team work; a positive attitude on the part of maintenance personnel; and confidence in the aircraft.

"The pilots who operate out of Cherry Point are backed by an SAR crew that is highly motivated and well trained — their 'can do' spirit embodied in the UH-2B is an unbeatable combination," one official at Cherry Point said.

In regard to maintenance, attention was drawn to the fact that, despite the numerous missions flown, one aircraft has always been in a ready alert status in excess of 95% of the time since January, 1964. At this point, 1stLt Wayne Crews, OIC of the SAR unit, took the opportunity to give his enlisted personnel an appreciative pat on the back. "This record," he said, "has been possible only through the long hours of work and extremely capable performance of our maintenance crew. It is solely through their efforts that we have averaged 38 hours per aircraft per month for the last two years."

In discussing the third and last factor, one SAR pilot summed it up with, "At Cherry Point, our attitude toward the UH-2B is one of complete confidence and satisfaction. We are convinced that, for a SAR mission, we can go farther, faster, and stay on-scene longer than we can in any other utility helicopter."

The 10-man SAR unit, four officers and six enlisted men, provides search and rescue support for the 5th Coast Guard District as well as the Air Station. All pilots have had at least one previous tour in helicopters and are required to have a minimum of 200 hours rotary wing flight time. The crewmembers, who are all helicopter mechanics, serve as crew chiefs and, in many cases, assist while riding in the copilots seat. They must complete a flight training syllabus, pass a written examination on first aid, be competent with dead reckoning and radio navigation, and have a thorough knowledge of cockpit emergency procedures. From time-to-time during missions the UH-2 crewmen have plunged into the sea to accomplish a rescue, and one Marine crewman was awarded the Army-Navy Commendation Medal for his valiant attempt to rescue the victim of a fishing boat accident.

The SAR section maintains an around-the-clock duty crew which can become airborne within 90 seconds on an emergency launch. Crewmen are subject to immediate call and, when not on alert, practice rescue procedures, attend training classes, or perform maintenance on the aircraft.

Besides Lieutenant Crews there are two other pilots in the unit, CWO-2 Robert B. Mason and CWO-2 W. E. Cavette. GySgt Roy D. Logan is top enlisted man; the other crewmembers are Sgts Bobby G. Stokes, Robert L. R. Gailfoil, R.M. Roosa and LCpls Milton E. Pease, Kurt G. Helm and Edward W. Barewich.

During the last two years the Marines have been involved in many rescues or evacuation missions which called for specialized medical treatment or handling. With this in mind, a survey of hospitals in the area was made and personnel at each was briefed on the capabilities of the UH-2. An outstanding example of this close military-civilian cooperation is the agreement which the SAR unit has with Duke University. After a preliminary phone call from the Marines, the person requiring the use of a hyperbolic oxygenation chamber can be flown to the hospital for treatment. Duke has the only such chamber in the South; it is used to treat



**CHERRY POINT SAR TEAM**—Front row, left to right, are CWO Robert B. Mason, CWO W. E. Cavette, and 1stLt Wayne Crews. Second row, Sgt R. M. Roosa, Sgt Robert L. R. Gailfoil, Sgt Bobby G. Stokes and GySgt Roy D. Logan. Third row, LCpl Milton E. Pease, LCpl Edward W. Barewich and LCpl Kurt G. Helm. (USMC photo)



**BEAUFORT SAR TEAM**—Front row, left to right, Cpl Frank J. Bouc, Sgt George B. Stanley, Pfc Michael E. Brossett and Cpl Charles F. Hancock. Second row, SSgt Ralph O. Williams, CWO James R. Gauthier, CWO Vance E. Brown and WO James R. Karr. Not shown is LCpl George D. Seuss. (USMC photo)



gaseous gangrene, decompression illness, open heart surgery and so on.

In recognition of the valuable service which the choppers could perform during another kind of emergency, the SAR unit was asked to participate in civil defense exercises in Winston-Salem. The Marines were glad to oblige, and with their SEASPRITE "rescued" several persons supposedly trapped on the roof of a "burning" office building in the center of the city and delivered them to a hospital.

Perhaps one of the most unusual tasks performed by the SEASPRITE crews is the nightly deer round-up during the winter months. With as many as 156 deer having been counted in one night, a definite hazard exists so the helicopter sweeps the runway and herds the animals back into the woods.

MCAS Beaufort, S. C.... Like their brother Marines up the coast, personnel attached to the SAR unit here have used their UH-2's to good advantage in carrying out missions for both military and civilian authorities. During the last two years the SAR helos at Beaufort have been called on more than 200 times to provide protective cover or to carry out actual rescues. Typical of the military missions was the pickup of an F8 pilot who crashed about a mile from the station. A short time later he was picked up by a SEASPRITE manned by Capt W. D. Andrews, Sgt Darrell G. Caspersen and Cpl John R. Amis. In another mission, an A4 pilot who

ejected near Charleston was rescued by Capt Jack Nolan and Cpl B. C. Glaze in one of the SAR's UH-2's. During a third mission of this type, two F8 pilots who ejected after a mid-air collision 12 miles from the station were picked up by Capt D. J. Gariepy, Corporal Glaze and LCpl George D. Seuss.

In addition to such pickups and carrying out utility missions, the SAR unit has provided such services as helicopter rescue training for the water survival school at Parris Island, S. C. As part of its program of cooperation with civilian authorities, the Marines manning the Beaufort SEASPRITES have transported Red Cross personnel to Dafuskie Island for inoculations of the island inhabitants. One of the more touching civilian missions involved the transportation of a three-year-old girl to the hospital for surgery after an automobile accident; 1stLt C. E. Bethel and Cpl Charles F. Hancock made the mercy flight. In another mission, at night, 1stLt D. J. Cobb picked up two men stranded in a boat between St. Phillips and St. Helena Islands.

At both Beaufort and Cherry Point, maintenance personnel — the men behind the mission — have shown considerable ingenuity and inventiveness while seeking better ways to carry out their work. Typical was the fabrication of engine stands by both units when it was found that neither was eligible to receive the type desired. A description of the stand fabricated by Beaufort unit personnel and their modified version of a stator position indicator, is presented on page 16.

## — TROUBLE-SHOOTING HH-43 ROTOR BLADES —

ROTOR BLADE "OUT-OF-TRACK" CONDITION IS USUALLY DUE TO:

- (a) Worn, loose, or binding bearings on a blade, or a set of blades on one rotor head, causing different inputs to be sent to the respective flaps.

Examples: Loose or binding outboard flap bearings or hub-to-blade rod bearings.

- (b) Binding of the control linkage on one blade which prevents equal flap movement.

Example: Inadequate rod-roll which restricts control travel.

- (c) Aerodynamic differences between a set of rotor blades on the same rotor head, or between a pair of flaps attached to the blades on the same rotor head. Items (a) and (b) are the most predominant causes found and can be corrected by normal maintenance procedures. Item (c) may be due to field-type repairs, or damage caused by improper handling or storage; either could cause the rotor blade to shift its aerodynamic characteristics. Item (c) can also be due to overhaul quality controls, but this is uncommon.

G. M. Legault, Service Engineer



## 1000-Hour Pilot Awards



**HONORED BY KAC**—In top left photo, Capt Clyde W. Lemke, CARRC, Richards-Gebaur AFB, Mo., receives KAC's 1000-hour award from Col Hugh F. Jordan, CARRC commander, left. At the same time, Captain Lemke was also presented with the second through tenth oak leaf clusters to the Air Medal for meritorious service in Vietnam during the past year. In top right photo, Capt Donald E. Van Meter, left, and Capt Price S. Summerhill, commander of Det 3, AARRC, at Toul-Rosieres AB, France, hold aloft the plaque Captain Van Meter received after logging his 1000th hour in a helicopter produced by Kaman Aircraft. In bottom photo, Capt Robert L. Merna, Det 17, CARRC, Bunker Hill AFB, Ind., is shown at HH-43B controls after qualifying for the award. Others who recently logged 1000 hours are: Capt Harold A. Solberg, Det 7, 38th ARRSq., Da Nang AB, RVN; Capt Von M. Liebernecht, Det 7, AARRC, Torrejon AB, Spain; Capt Jack C. Moore and Capt Joseph T. Connell, Det 13, WARRC, Reese AFB, Texas; Capt John E. Duffy, ARRS Hqts., Orlando AFB, Fla.; and Capt David A. Cochenour, Det 18, EARRC, Thule AB, Greenland. (USAF photos)

Navy UH-2 SEASPRITE pilots who have recently joined the list of those qualifying for KAC's 1000-hour award are: Lt David G. Holmes, Det Echo, USS Bon Homme Richard; Lt George B. Arthun, NAAS Ream Field, Calif.; and Lt Lawrence D. Presnell, Det 1, NAS Atsugi, Japan. All three officers are members of HC-1 at NAAS Ream Field.

## IIA HUSKIES On Mercy Mission

Two Imperial Iranian Army HH-43F's and a team of Iranians and Americans participated in a mercy mission recently to bring medical assistance to Gerdu and three other villages isolated by heavy snows. The two helos were dispatched with a doctor and two assistants after it was reported that Gerdu, located at 11,000 feet and cut off from the rest of the world for periods up to seven months, had been swept by whooping cough and dysentery. Although it was found on arrival that the epidemic had passed, medical assistance was still urgently needed by many of those living in Gerdu and the nearby villages — the helos were fervently welcomed.

Members of the mercy team were Capt Hossein Iranmanesh, Imperial Iranian Army Aviation rotary wing company commander at Isfahan, and 1stLt Ali Noordad, both helicopter pilots; Capts Bert E. Cowden and Bruce M. Purvine, TDY to the ARMISH/MAAG as instructor pilots; 1stLt Homayoun Bayat, commanding officer of the Shahrkord Gendarmerie Post; Joseph P. Lorenz, American consul in Isfahan; Dr. Hossein Akhavan of the Isfahan Department of Health and his two assistants, Hassan Atabi and Reza Mortazavi.

## Det 3 Finds "Fugitives"

An HH-43B crew from Det 3, AARRC, Toul-Rosieres AB, France recently "tracked down, cornered and apprehended" two "fugitives" near the Rhine-Marne barge canal at Liverdun. The aircrew spotted the hunted pair because they had red jackets on and were too busy watching ships on the canal to be concerned with the helicopter — both were 4 years old and had been reported missing by their mothers. Capt Paul C. Cox was

RCC on the hunt, Capt Donald W. Van Meter was co-pilot and Alc L. McGee, crewman.

## THREE NIGHT RESCUES FOR DET 42

During a one-month cruise aboard the USS Franklin D. Roosevelt, HC-2's Det 42 added three more night rescues to the two it already had to its credit.

Despite rough seas and high winds, the crew of a SEASPRITE from the detachment quickly located and picked up the pilot of an F-4 who had ejected after an engine failure. Piloting the UH-2 were Lt Michael O. Smith and Ens Jim E. Lois. Howard R. Liddle, ADR2, and Salvatore J. Pellegrino, ADJ3, were crewmen. Due to the darkness and poor conditions, the detachment launched a second SEASPRITE to aid in the search for survivors. The radar officer from the F-4 was quickly located and brought aboard. Lt(jg) Douglas E. Behm was pilot of this UH-2 and LCdr William E. Aylward, copilot. Crewmen aboard the rescue helo were Oliver B. Lambert, ADJ3, and Robert H. Dougan, ADRAN.

A seaman who plunged from the Roosevelt's flight deck during night refueling operations was back on the ship within 10 minutes after a detachment UH-2 went to his aid. Manning the chopper were Lt(jg) Harry E. Higginbotham, the pilot, and Ens Barry F. Harrison, copilot; Petty Officers Pellegrino and Liddle were crewmen.

## HC-4 MERCY MISSION

UH-2 from HC-4's Det 41 aboard USS Springfield recently evacuated a seriously-injured marine from Villefranche to Toulon, France. Lt(jg) Richard L. Johnson was pilot and Lt(jg) Charles E. Moorhead, copilot on the mercy flight. The crewman was M. E. Sonney, ADJ3.

## NAS ATSUGI

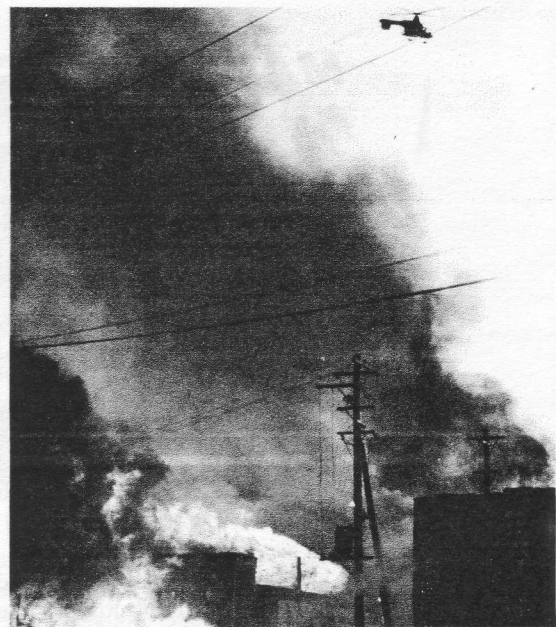
Two SEASPRITE's from the SAR detachment at NAS Atsugi, Japan, aided in the search for possible survivors after a giant transport plane crashed into Tokyo Bay killing 133 persons. UH-2 pilots participating were LCdr L. Keiffer, LCdr G. Campbell, Lt(jg) J. Taylor, Lt(jg) D. Weaver. Crewmen were W. Justhan, AE1; J. Crick, ADJ2; J. Brandon, AN; and J. Smith, AA.





## ARRS HUSKIES Fight Major Fire

The following report from Det 7, PARRC, Misawa AB, Japan, was prepared by Capt Robert D. McDougal, the commander, and describes activities of detachment personnel during a conflagration in Misawa City. Four hundred buildings were destroyed and 5000 persons left homeless by the blaze.



At 1515 local, 11 Jan 66, Col Dougal I. Homes, Misawa AB commander, requested that a Det 7, PARRC, helicopter be dispatched to a fire reported raging out of control in downtown Misawa City, Northern Honshu, Japan, just adjacent to Misawa AB. The alert helicopter crew scrambled immediately and in moments had contacted the ground mobile disaster control team sent from the base into town to assist in fire-fighting activities. The airborne HH-43B was able to give immediate reports of fire movement, fresh outbreaks, and threatened areas, which enabled the disaster control team to respond more quickly and achieve greater flexibility of operations. Winds were gusting as high as 45 knots and snow showers constantly moved through the area. At 1535 local, the back-up HH-43B joined the first helicopter in the airborne spotter role. The second helicopter carried Col R. W. Shick, 39th Air Division commander, who assisted in the direction and control of ground activities. From his airborne vantage point, Colonel Shick was able to make immediate and highly informed decisions on evacuations of USAF dependent hous-

ing, commitment of base fire-fighting equipment, personnel, and resources.

When it became obvious that the fire would burn out of control for several hours, Capt Robert D. McDougal, commander, Det 7, PARRC, directed the first helicopter to land, so the crew could rest for a short period, then to take off again to relieve the second helicopter. Thereafter, one helicopter was always airborne until 2135 local that night when the fire was finally declared under complete control. Between flights enlisted crew members rushed into town to assist ground fire-fighting efforts, evacuation, and unloading of shops and homes; others were released to evacuate their families and help their neighbors.

Some of the limitations and difficulties noted during these airborne operations were: lack of a precise grid system on a small enough scale to be effective in such a relatively confined area; no means of securing direct communications with individual fire-fighting apparatus; and no way of identifying individual apparatus. Luminous day-night numerals atop all fire trucks would have helped, and an effective airborne PA system would have been invaluable not only for directing fire-fighting equipment, but in warning potential victims to evacuate threatened areas. The helicopters did have some success in identifying trouble spots by hovering directly overhead and floodlighting the area while talking to the mobile disaster control teams. Ground personnel were thus able to rush aid to the stricken area, but these efforts were sometimes ineffective from a ground standpoint because fire fight-



ers did not always know the best way to get to these places.

No detachment personnel suffered losses, but many were ordered to evacuate their families, valuables, and important papers from their homes when these areas seemed to be threatened.

Crew members who participated aboard the helicopters were: Cpts Robert D. McDougal, James G. Ellis, III; 1stLts Eugene H. Boortz, Glen P. Walther; MSgt John J. Kelly; SSGts Harril E. Barber, Harry Creel, Charles F. Lye; A1c Ronald G. Swatsenberg, Raymond A. Verbeck, Jerry L. Ball; A2c William H. Gauweiler, Ira Z. Helfer; A3c Bobby R. Carter.

Crew members who assisted in town were: TSgts William D. Atwell, Calvin Wilkins; SSGts Lester S. Wright, George C. Snell, James C. Travis, Joe Taylor; A1c Donald E. Farris; A2c John P. Cates; MSgt Kelly; SSGts Barber, Creel, Lye; A1c Swatsenberg, Verbeck, Ball; A2c Gauweiler, Helfer; A3c Carter.

### QUICK AND EFFICIENT

The Iranian Air Force's first LBR mission with the HUSKIE went off with one — two — three — four — precision. (1) An RT-33 pilot ejected after a flame-out 10 miles from Mehrabad. (2) HH-43F pilot 1stLt M. Valinia, and copilot 2ndLt M. Hejazi, on a training flight, respond to the emergency. (3) HUSKIE follows "T-bird" pilot's chute to ground. (4) Downed pilot picked up by helo and delivered back to ramp at Mehrabad within minutes after ejection.

# MAINTENANCE PERSONNEL SHOW INGENUITY

It is always a pleasure for Rotor Tips to present examples of the ingenuity shown by HH-43 and UH-2 maintenance personnel. Three of the best to come to KRT's attention during the last year are reported on below. They concern the activities of an Air Force sergeant from Perrin AFB, Texas, and two marines from MCAS Beaufort, S.C.

## Det 13 Perrin AFB

No one said it couldn't be done, but, no one did it — until SSgt Rufus B. Russell came along.

Sergeant Russell, a helicopter mechanic in ARS Det 13, CARC, at Perrin AFB has devised a portable oxygen system for high-flying helicopters. His idea, brought all the way to the top with minor modifications, is in use in Ethiopia, Bolivia and other high altitude areas. Russell, a native Texan, says the original idea to devise such a system was not his.

"I just built it," he said. "I had lots of help from the Physiological Training Flight, sheet metal shop, tubing shop and base shops drafting section."

Sergeant Russell says his knowledge of oxygen is limited to what he learned working on B-29 bombers at the Combat Crew Training School, Randolph AFB, Texas, during his first hitch.

"That's where the Physiological Training Flight came in handy. They checked the flow lines and determined how much oxygen it would take to sustain a crew," Sergeant Russell explained.

Russell's system can sustain five people for a longer period of time than a helicopter can stay airborne. About half the size of a modern window air-conditioner, Russell's unit is designed to be installed directly behind the copilot's head. It weighs about 40 pounds and can be installed or interchanged between aircraft by one man. Russell estimates it would take no more than 30 minutes to switch the system from one helicopter to another.

For his efforts, Sergeant Russell has collected the largest military suggestion award payoff in the history of Perrin. A check for \$75 was presented by, Capt Frank A. Schmidt, detachment commander. Other monetary rewards are expected from higher levels.

## SAR Unit—Beaufort MCAS

At Beaufort, GySgt Max Brecheisen and Sgt Edward Bina not only designed and built a vertical jet engine stand for performing maintenance work on UH-2's but also came up with a device which eliminates the safety hazard existing for personnel checking the stator vane scheduling on T-58 turboshaft helicopter engines.

The two marines started work on their engine stand after it was found that the engine dolly available was not satisfactory for vertical engine work and that, although a vertical engine maintenance stand for the T-58 engine was available in the system, it was not authorized for issue to organizational maintenance units. The operational commitments of the local SAR unit made it mandatory for the maintenance division to accomplish maintenance with the engine in a vertical position.

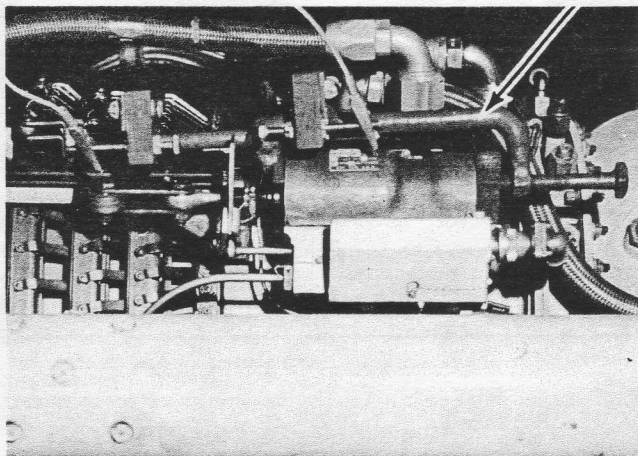
The sergeants fabricated the stand from scrap and a race assembly from the T-58 adaptor kit in about five hours. It is used at least once every 90 days by maintenance personnel and enables them to accomplish in 16-man hours work which would otherwise take 24 man-hours. It is safer, makes access to the engine much easier and more than one man can work on the engine at a time.



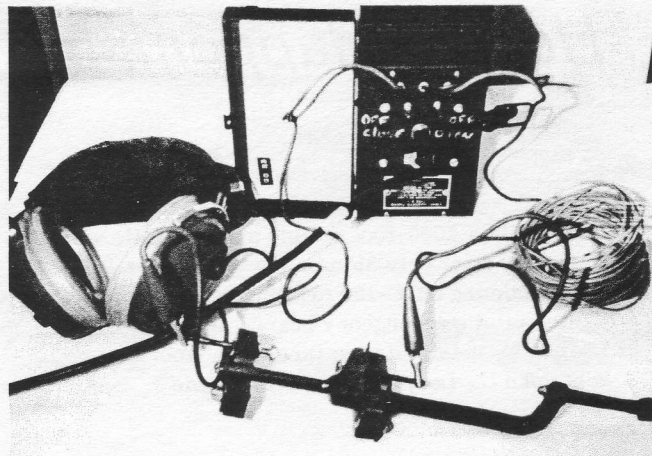
After the engine stand was completed, Sergeants Brecheisen and Bina put their heads together and came up with a modified version of a stator position indicator tool normally used at overhaul activities to determine proper positioning of the stator vanes. Air flows through these vanes into the compressor and is then directed into the combustion chamber. Correct positioning of the vanes is necessary for proper engine operation. Sergeant Bina is shown holding the marines' device which consists of 11 bolts welded together, 11 nuts, three pieces of half-inch melmac block and two half-washers.







The entire test set, see photo, consists of the new tool, three 12-foot wires, ear phones, and a magneto timing light (MIL-L-7857, FSN RH6625-249-9636-S150). A small arm is clamped onto the stator vane actuator piston mechanism, see photo, which contacts the aft adjustable stop of the indicator tool. The forward adjustable stop is contacted when the SVA piston reaches its full forward travel. By means of the ear phones the marine in the cockpit of the helicopter is immediately aware of a change of stator vane position (closed, intermediate, or open) since the audio signal also changes. This allows the operator to monitor the aircraft instruments rather than the indicator lights when ensuring



that the proper relationship has been established between the position of the stator vanes and engine RPM.

Before Sergeants Brecheisen and Bina came up with their modified version they used an effective but unorthodox system which also presented a safety hazard. With rotor blades revolving directly overhead, one marine checked the stator vane scheduling of the chopper engine, while another would sit in the cockpit waiting his signal to check the instrument panel for verification at each SV position. Their only means of communication was a 10-foot rope tied to the arm of the man in the cockpit. Once he felt his assistant tug at the rope, that was the signal to check the panel indicator.

## CURRENT CHANGES

	Issue Date
H-2 AIRFRAME CHANGE 98 - MAIN ROTOR SYSTEM, Modification of Main Rotor Blade Folding Pin Bushing and Nut	31 March 1966
H-2 AIRFRAME CHANGE 101 - TRANSMISSION SYSTEM, Tail Rotor Gearbox Modification	31 January 1966
NAVWEPS 01-260HCA-1 - NATOPS, Flight Manual	15 February 1964
changed	1 February 1966
NAVWEPS 01-260HCA-1B - NATOPS, Pocket Checklist	1 October 1964
changed	1 February 1966
NAVWEPS 01-260HCA-2-2 - Handbook Maintenance Instructions, AIRFRAME GROUP	15 October 1962
changed	15 January 1966
NAVWEPS 01-260HCA-2-3 - Handbook Maintenance Instructions, POWER PLANT AND RELATED SYSTEMS	1 August 1965
changed	15 January 1966
NAVWEPS 01-260HCA-2-5 - Handbook Maintenance Instructions, ROTOR SYSTEM	1 November 1963
changed	1 February 1966
NAVWEPS 01-260HCA-2-9 - Handbook Maintenance Instructions, ELECTRICAL SYSTEM	15 January 1964
changed	15 December 1965
NAVWEPS 01-260HCA-4-1 - Illustrated Parts Breakdown, ROTORS AND CONTROLS	1 December 1965
NAVWEPS 01-260HCA-4-2 - Illustrated Parts Breakdown, DRIVE SYSTEMS	15 October 1962
changed	15 February 1966
NAVWEPS 01-260HCA-4-7 - Illustrated Parts Breakdown, SPECIAL TOOLS AND EQUIPMENT	15 October 1962
changed	1 December 1965
NAVWEPS 01-260HCA-4-8 - Illustrated Parts Breakdown, NUMERICAL INDEX AND REFERENCE DESIGNATION INDEX	1 December 1965

NAVWEPS 01-260HCA-4-8 - Illustrated Parts Breakdown, NUMERICAL INDEX AND REFERENCE DESIGNATION INDEX	1 December 1965
changed	15 February 1966
NAVWEPS 17-15KL-15 - Technical Manual, Operation and Service Instructions, TEST FIXTURE P/N 100900TF (Lionel Pacific)	15 March 1966
NAVWEPS 17-15KL-16 - Illustrated Parts Breakdown, TEST FIXTURE, P/N 100900TF (Lionel Pacific)	15 March 1966
T.O. 1H-43(H)F-501 - Installation of AN/ARC-44 Radio, HH-43F Helicopters	30 November 1965
T.O. 1H-43(H)-506 - Installation of Public Address System, HH-43B/F Helicopters	20 January 1966
T.O. 1H-43(H)B-563D - Modification of Cargo Release System, HH-43B Helicopters	28 January 1966

F. G. Weber, Supervisor, Service Publications

### FUEL

## Contamination

### FUNDAMENTALS

DO YOU KNOW THAT—Even minute particles of water can lead to contamination. With this in mind, each and every individual involved in handling fuel and servicing aircraft must conscientiously observe all possible precautions to exclude water. When servicing during rain, the filler neck and nozzle should be wiped dry and a cover improvised over the filler neck. During cold weather, when condensation is more prevalent, drain the sumps more often. Drain prior to refueling, after refueling and again immediately before each flight. Each drop of water eliminated means considerably less contamination.



# Huskie Happenings



...Despite a 1000-foot ceiling and one-mile visibility, HH-43B crew from Det 9, CARRC, England AFB, La., picks up fighter pilot only 35 minutes after he bailed out 42 miles from base. Flight made part of way by dead reckoning and by homing on F-100 orbiting bailout area. Capt Alfred D. Clum, RCC and detachment commander, homes in on fighter pilot's emergency beacon heard after flying 35 NM. Downed pilot's smoke signal spotted and SSgt Wilfred W. Peel, FF, hoists him up through 80-foot trees into HUSKIE. Others aboard HH-43B are Capt George H. Church, CP; SSgt John C. Lee, MT; and A1c Meade J. Barnett, Jr., FF.

...HH-43B crews from Det 6, EARRC(MAC), Andrews AFB, Md., called on for emergency evacuations after "blizzard of 66" closes many roads in State. Eighty-year-old woman with broken hip taken to hospital from drift-surrounded home and crew later makes three food drops to isolated stations at Andrews where men have been stranded for three days. Capt Ryland R. Dreibelbis, RCC; Capt Harry W. Kruppenbach, copilot; A2c Michael D. Frignito, crew chief; SSgt Thomas K. Collins, medical technician; and TSgt James D. Collins, firefighter. Another Det 6 HUSKIE team evacuates 16-year-old-boy with frostbitten foot and suspected pneumonia from Mathias, W. Va., to hospital. Captain Kruppenbach, RCC; Capt Leonard D. Fialko, copilot; A1c Elwood L. Rogers, crew chief; and SSgt Thomas K. Collins, medical technician. In third mission, 10-year-old boy with serious head and other injuries suffered in auto accident taken from Aberdeen Proving Ground, Md., to Walter Reed Army General Hospital. Flight made in scattered rainshowers and winds gusting over 30 knots. Staff Sergeant Collins aids Army medical officer in administering intravenous fluid while HUSKIE speeds toward hospital. Doctors say flight was essential in saving boy's life. Captain Kruppenbach RCC and Capt Joseph P. McMonigle, copilot, on mercy trip. Three missions result in 18 sorties and eight hours and five minutes of flying time.

...FSK-carrying HH-43B from Det 14, EARRC(MAC), MacDill AFB, Fla., flies protective cover for Army U-8 with one engine out. When other engine fails, plane lands in four feet of water in Tampa Bay. After setting FSK down, HUSKIE proceeds to the rescue. A1c Billy W. Welborn lowered from chopper to assist trapped and seriously injured pilot. Army helo, with maintenance personnel and flight surgeon, and USCG chopper arrive at scene. Injured pilot freed and placed aboard Coast Guard helicopter with flight surgeon. HH-43B picks up other survivor and a mechanic as well as Airman Welborn and heads for hospital at base.

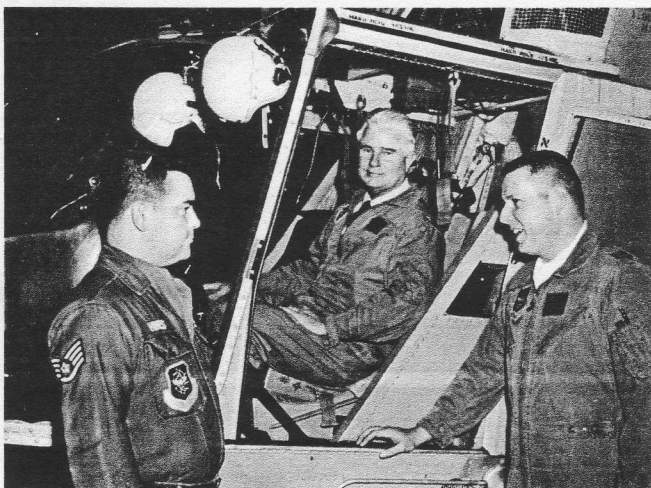
...HH-43B from Det 2, CARRC(MAC), and other helos at Minot AFB, N. D., respond to emergency after blizzards block many roads in State for three days. Operating from Bismark, HUSKIE piloted by Capt Robert C. Collom, with 1stLt Vance E. Need as copilot and TSgt Utah C. Crowson, crewman, rescues pregnant woman from truck stranded in snowbank and takes her to hospital where baby is delivered. Afterward HH-43B evacuates two Indian girls who suffered frostbitten feet after spending two days in car. Lieutenant Need, pilot; Captain Collom, copilot; Sergeant Crowson, crewman. In other sorties, Captain Collom pilots HUSKIE 70 miles to rescue sick man, but highway crews arrive 10 minutes before him. HH-43B piloted by Lieutenant Need evacuates woman suffering from pneumonia. Mission flown with winds gusting to 40 knots....

## Vietnam Veteran Honored By KAC



TSgt Joseph W. Blaquiere received the 11th Oak Leaf Cluster to the Air Medal and a KAC Scroll of Honor recently for the rescue of a downed jet pilot from the jungles of Vietnam last September. Sergeant Blaquiere, now attached to Det 1, EARRC, Loring AFB, Maine, was serving as an HH-43 crewman with the 38th ARRSq at the time of the rescue. Shown congratulating the Sergeant is Col Lucian A. Dade, commander of EARRC, who made the presentations. (USAF photo)





**COMMANDER INSPECTS**—Col Allison C. Brooks, commander of the Aerospace Rescue and Recovery Service, was taken on a local area orientation flight recently during his visit to Det 18, EARRC, Thule AB, Greenland. Capt David A. Cochenour, right, was pilot of the HH-43B used on the aerial tour and SSgt James T. Hines, Jr., crewchief. Colonel Brooks is in the cockpit. (USAF photo)



**IRANIAN VISITOR**—As part of a six-month study of maintenance procedures and factory production methods at Kaman Aircraft, 3rdLt Djalal Djalali, IIAF, center, visited the flight line at KAC's Bloomfield, Conn., plant. With Lieutenant Djalali are Robert L. Bassett, supervisor of the Customer Operation Section, left, and William E. Zins, director of customer service. The Lieutenant, an HH-43F maintenance officer, also toured and participated in activities at Bradley Field and Moosup, Conn., where two other company facilities are located.

**THANKS FOR THE LIFT**—Rapid service is the word at Det 1, EARRC, Loring AFB, Maine. An F-106 pilot, who bailed out of his disabled plane over a heavily wooded area, was just unbuckling his chute when the sling was lowered through the trees from a detachment HH-43B hovering 75 feet overhead. Afterward, Capt DeVriend, the rescuer, stopped by to offer his thanks to the crew of the HUSKIE, left to right, SSgts James E. Swink and Robert F. McMahan, firefighters, and 1stLt David C. Weber, RCC. (USAF photo)



**JOB WELL DONE**—Damaged but not destroyed and with the pilot safe, this F-102 rests in the snow after a malfunction forced the plane to touch down 1000 feet short of the runway at Goose AB, Labrador. As the aircraft broke off its landing gear and skidded to a stop 2000 feet down and to the right of the runway, an HH-43B from the 54th ARRSq arrived at the scene. The HUSKIE crew saw flames from a ruptured cell beginning to break out beneath the aircraft. The FSK was positioned and A1c Eugene W. Walker, Jr., and A2c David F. Butler, firefighters from the helo, aided the base fire department in snuffing out the blaze as the fighter pilot evacuated. Capt Holly G. Bell, commander of the squadron's "A" flight, was pilot of the HH-43B, SSgt Ralph G. Oakey, crewchief, and A2c Gene L. Eberhart, medical technician. (USAF photo)



**HONORED**—Capt Price S. Summerhill, commander of Det 3, AARRC, Toul AB, France, proudly shows Military Airlift Command's (MAC) Personal Flying Safety Award and pin which he received for 5000 accident-free flying hours. Captain Summerhill logged over 4000 hours in helicopters, much of this time in the HH-43A and HH-43B. (USAF photo)





THE UH-2C TWIN-TURBINE SEASPRITE IS CURRENTLY UNDERGOING FLIGHT TESTING AT KAMAN AIRCRAFT CORPORATION'S BLOOMFIELD, CONN., FACILITY. THIS NEW CONFIGURATION, POWERED BY T58-GE-8B ENGINES, IS BEING QUALIFIED FOR FLEET AIRCRAFT RETROFIT AND NEW AIRCRAFT PRODUCTION.

