KAMAN Rotor Tips

WHAT LAMPS IS ALL ABOUT....

An SH-2D on Med-patrol

over a Russian sub and cruiser

MARCH-APRIL, 1973

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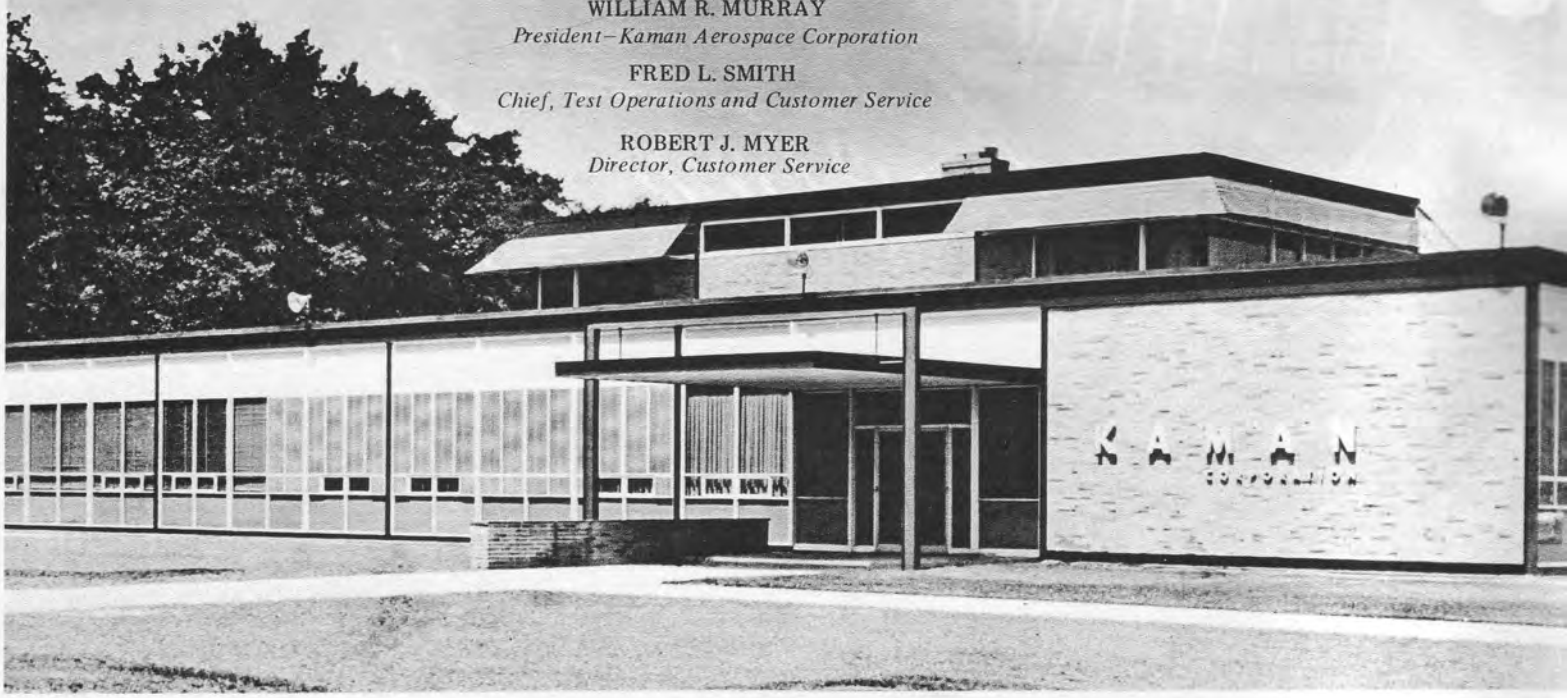

Rotor Tips

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Volume VII No. 9

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ON THE COVER

An SH-2D from HSL-30's LAMPS Det 2, deployed aboard the USS Standley, flies over one of four Soviet "Foxtrot" submarines which entered the Mediterranean on the surface in conjunction with other USSR vessels. The ship is a Soviet cruiser of the Sverdlov class. The photograph was taken approximately 50 miles from Gibralter by PH1 Mullins, ship's photographer for the USS Springfield. Mullins was in an HH-2D assigned to HSL-30's Support Det 31 deployed aboard the Springfield. An article on Det 31 activities appears on page 30. (Official USN photo)

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Improved LAMPS SEASPRITE Designated SH-2F

Improved Navy/Kaman Light Airborne Multi-Purpose System (LAMPS) SEASPRITE helicopter equipped with Kaman's new "101" rotor system, increased strength landing gear and the latest avionics has been redesignated SH-2F by the Navy. This is the seventh model designation for the versatile aircraft.

Most noticeable external change is relocation of the tail wheel six feet forward of its previous position, shortening the aircraft's footprint to 16.75 feet for additional deck edge clearance on small flight decks of destroyer escorts. The main landing gear has been strengthened for greater landing loads encountered on pitching, rolling decks.

The "101" rotor provides substantially increased performance, while improving reliability and maintainability by reducing the number of bearings and rotor elements by about 60 per cent. These and other changes, including more powerful twin T58-GE-8F turbine engines of 1350 shp each, are scheduled to be retrofitted to the majority of the H-2 inventory.

SH-2D LAMPS SEASPRITES have been operational with the Atlantic and Pacific Fleets for over a year. Equipped with advanced electronic and electromagnetic sensors, navigation and communication systems, and an ASW homing torpedo, the destroyer-based helicopter greatly extends the fleet's capabilities in antisubmarine warfare and antiship missile defense.

Kaman Awarded Contracts - - -

Kaman Aerospace Corporation has received Navy funding of $4.8 million for continued conversion of improved H-2 series SEASPRITE helicopters to LAMPS (Light Airborne Multi-Purpose System) configuration. Announcement of the Navy's action was made by William R. Murray, president of the Kaman Corporation subsidiary.

Of the award, $3 million is for procurement of long lead time equipment for the fourth increment of 30 LAMPS helicopters, bringing to 75 the number dedicated to destroyer-based antisubmarine warfare and antiship missile defense missions. The balance, $1.8 million, is the initial portion of funding expected to total $5 million for production and retrofit of Kaman's advanced technology "101" rotor system to LAMPS helicopters. The "101" rotor, a new design tested and qualified by the Navy, offers substantial advances in system performance, reliability and maintainability. On page 4 KAC test pilot Al Ashley describes the flying qualities of the 101 rotor.

LAMPS helicopters, equipped with the "101" rotor, increased strength landing gear for arduous operations in the demanding destroyer environment, more powerful turbine engines and improved avionics, have been designated SH-2F by the Navy. The "F" indicates the seventh model designation in the H-2 series, evidence of the aircraft's growth and versatility, Mr. Murray noted.

Twenty SH-2D LAMPS SEASPRITES have been delivered for antisubmarine warfare (ASW) and antiship missile defense (ASMD) missions from guided missile frigates and ocean escorts. The first was operationally deployed to the Mediterranean in December, 1971. Others are now on station in both the Mediterranean and Pacific.

The third increment of 25 LAMPS SH-2Ds is undergoing conversion at Kaman's Bloomfield facility, with initial delivery scheduled for May. Delivery of the 30 aircraft in the fourth increment will begin in November.

The LAMPS helicopter, operating from destroyer flight decks, adds a new dimension to the fleet's capabilities. Reacting quickly to a destroyer-originated submarine contract, the LAMPS helo employs sonobuoys and magnetic anomaly detector to localize and identify the target, which it can attack with an ASW homing torpedo. In ASMD configuration, the helicopter deploys along an expected avenue of attack, using its radar and electronic support measures (ESM) to detect and identify a surface threat, providing early warning to the fleet.

The multi-purpose LAMPS aircraft also conducts electronic and visual surveillance and performs a variety of utility missions with the fleet, including search and rescue, medical evacuation, vertical replenishment, communications relay, personnel transfer and naval gunfire spotting.
(Continued on page 25)

FROM THE READY ROOM

By Al Ashley—Project Pilot
101 Rotor System

The 101 Rotor program began as an effort to simplify the rotor system, reduce maintenance and increase TBO's, and improve rotor performance to expand the H-2's mission capability. The performance gains achieved are very significant, particularly the 47-knot increase in stall speed and increased maneuver capacity. Other equally significant improvements have been made but are much less publicized. These improvements have to do with flying qualities and are the subject of this article.

During preflight inspection, the 101 blade is easily recognized by the increased airfoil thickness at the tip. This is due to an increased spar thickness to which the ballast weight retainer is attached. The improved weight retention system eliminates the need for the indicator rod seen on the standard rotor blade. In the retention area, there are at least 88 fewer links, cranks and bearings—Need we say more? The rotor hub and retentions are of titanium and much beefier for durability and long life.

In the cockpit the gages are marked to reflect the T-58-8F engine operating limits and the increased operating speed of the 101 rotor.

In the overhead panel, in place of the Rotor De-ice Switch, is a new switch labeled "Lateral Coupler." The coupler switch controls an electrical lateral coupler replacing the mechanical one, which has been removed. The new coupler more accurately fulfills the lateral cyclic requirements as a combined function of collective position and airspeed. The coupler uses existing portions of the ASE amplifier and operates the same lateral ASE servo valve as does the ASE. Its signal is a multiple of collective position and airspeed sensed by the airspeed transducer and collective LVDT. Normal operation of the coupler is fully automatic. It is activated during turn up when the generators come on the line, and remains on as long as the boost is engaged and AC power is available. The switch is provided to de-activate the coupler in the event of malfunction. The switch must be "ON" in order for the ASE to operate and if the boost is turned off in flight, the coupler must be recycled following boost re-engagement.

This is accomplished by first turning on the boost, while holding wings level and adding collective to 43% torque. Hold this condition and turn coupler OFF and then to ON. The coupler will now be properly synchronized.

Let's go through a complete flight and examine the improvements as we go—

The takeoff checklist is complete, rotor RPM set at 106%, and cyclic controls in neutral. Where is neutral? Neutral lateral is the bend in the cyclic stick lined up with the center of the rudder pedal adjustment knob. Neutral longitudinal stick is with the bend in the cyclic lined up with the most forward part of the electrical conduit under the pilot's collective stick. If an ASE ON, feet OFF pedals takeoff is to be made—pre-position pedals even with each other, remove feet from pedals and take off smartly. If an ASE OFF takeoff is made—start with left pedal forward of right about 2 inches and adjust as necessary during the takeoff. Hover cyclic position is very close to neutral; therefore, when controls are pre-positioned in this manner, smooth precise takeoffs to hover are easily accomplished.

* * * * * *

Immediately apparent is the ease with which a precise hover can be maintained with the 101 rotor. When increasing collective while in hover, you will note that no corrective cyclic motions are required to maintain a level attitude. The standard rotor required some forward and right stick to stay level when power was applied.

* * * * * *

Note that when transitioning from hover to forward flight, no large lateral trim changes are necessary; nor is a lateral trim change necessary when transitioning from approach to hover.

* * * * * *

Control response characteristics have been tailored so as not to be overly sensitive even at $V_{max.}$ A healthy lateral cyclic input generates a comfortable rate of roll, and that rate of roll immediately stops when cyclic is neutralized. This characteristic results in outstanding maneuver stability. Simply stated, it is very easy to put the helicopter where you want it and keep it there. The 101 system retains this characteristic even with the hydraulic boost dis-engaged.

* * * * * *

As the boost is dis-engaged, a lateral cyclic trim change occurs causing the helicopter to roll left. The longitudinal trim change that occurred on the standard rotor no longer exists. Therefore, the boost can be dis-engaged at any airspeed and all forces trimmed out for all flight conditions. Boost-off cyclic control feed back loads have been reduced so that maneuvering with boost dis-engaged is greatly enhanced. This is a significant feature in that even with complete hydraulic failure, the H-2 can be safely flown indefinitely without undue pilot effort or reduction in inherent stability characteristics. Gust response characteristics even at V_{max} are very good, therefore the need to slow airspeed in turbulent air is greatly reduced, from the standpoint of both stability and quality of ride.

* * * * * *

The real significance of all these features is that they hold true for airspeeds right up to V_{max}. In most helicopters there is usually a great difference between V_{max} based on power available and a practical V_{max} based on acceptable vibration levels and handling qualities. With the 101 system the low overall vibration level and good handling qualities make continuous flight at V_{max} a routine matter, utilizing to full advantage the entire flight envelope.

* * * * * *

Transitioning from approach to hover no longer requires a lateral trim change thus making instrument approaches and approaches to confined areas, such as small ships, much easier to accomplish, and reduces the tendency to overcontrol.

* * * * * *

Several directional control improvements have also been made resulting in significantly better control of heading, particularly in those areas requiring a high degree of precision. These improvements are brought about by reducing control feedback loads, increasing the rate at which rudder pedal can be applied, and reducing rudder pedal sensitivity.

ASE heading-hold operation is further improved to where full power takeoffs with feet off the pedals can be made with the ASE doing all the work.

* * * * * *

The exceptional smoothness, precise control response and positive stability characteristics of the 101 rotor system will significantly enhance the performance of any mission the H-2 is called upon to do. Completely developed and thoroughly tested over a four-year period, the 101 rotor system represents a major step forward in the state-of-the-art of helicopter rotors and will prove to be a very difficult act to follow.

JUST TWO MINUTES!—At 0929 the UH-2C crew flying plane guard for the USS Lexington in the Gulf of Mexico was notified that a plane was in the water off the port side of the ship. One minute later the SEASPRITE was over the downed pilot and at 0931 he was hoisted to safety. At 0935 the survivor was back aboard the Lexington. Photographs of the speedy rescue and quick return to the ship were caught by the camera of PH2 B. B. Palmer. It was the fifth rescue in a Kaman helicopter for Lt Terrence W. Black, pilot of the UH-2C. Other members of the rescue crew were Ens Raymond F. Haseltine, the copilot, and ADJ3 Larry Durham and AMS2 Charles Wheatley, crewmen. All are attached to the SAR Unit at NAS Pensacola, Fl. Other activities of the unit appear on pages 28 and 35. (USN photos)

LAMPS Activities ....

By Robert J. Myer
Director, Customer Service

H-2 LAMPS Eighth ILSMT Conference

The Eighth Semi-Annual H-2 LAMPS Integrated Logistic Support Management Team Conference was held February 6-8 at the Ramada Inn in East Windsor, Ct. It was the first conference held at the East Windsor location and all attendees were greatly pleased with the excellent facilities and accommodations.

The conference was formally convened and ably chaired by Mr. Wayne Cerny, Assistant Program Manager Logistics for the H-2 helicopter model series. Mr. Fred L. Smith, Chief, Test Operations and Customer Service, welcomed the conferees on behalf of the Kaman Aerospace Corporation. During the early assembly session, representatives from all principal LAMPS program cognizant operations and support organizations briefed the conference attendees on their respective activities. Current status and problems were given full airing toward the common objective of continuing the fine progress achieved on the H-2 LAMPS program to date. Despite earlier reservations regarding the supportability of a single helicopter on a small, sometimes isolated, ship, several accounts of successful mission accomplishment attested to the feasibility and success of the program.

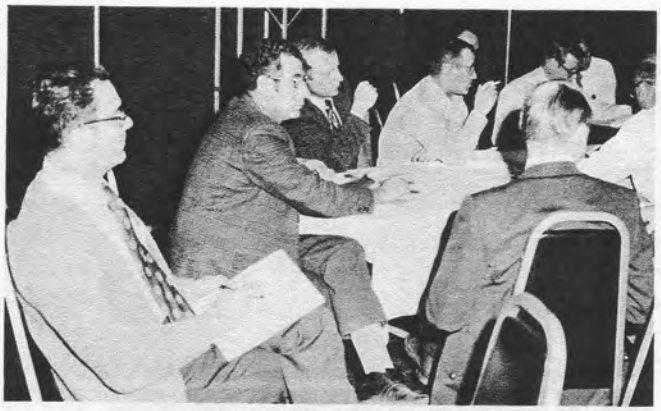
After the opening session, the attendees divided into pre-established sub-committees to review the status of earlier action items and deal with current program support concerns. All attendees exuded an attitude of confidence and pride in their respective program responsibilities and accomplishments.

The conference was concluded with appreciation expressed by Mr. Cerny for the fine performance by all attendees and congratulations by Mr. William Murray, President of Kaman Aerospace Corporation, for the successful completion of another significant LAMPS Program milestone.

KAC ADMINISTRATIVE STAFF–Mr. Hendrickson, PMS-397,signing in; Art Migli, KAC Security; Barbara Thompson and Bev Albani, KAC Secretarial Staff and John Serignese, KAC Conference Administration Coordinator.

CONFERENCE CHAIRMEN–Mr. R. J. Myer, Director, Customer Service, KAC; Mr. C. W. Cerny, H-2 APML, NAVAIR; Mr. W. S. Stewart, H-2 APML Assistant, NAVAIR.

WESTPAC PATROL–Two SH-2D LAMPS helicopters from HSL-31, NAS Imperial Beach, Calif., fly over the Gulf of Tonkin. One is assigned to LAMPS Det 3, deployed at the time aboard the USS Truxtun (DLGN35); the other is from LAMPS Det 6, aboard the USS Jouett (DLG29). (USN photo)



SPARES SUB-COMMITTEE—**Co-chaired by LCdr T. T. Spratt, ASO and Mr. C. Brown, NAVAIR.**

PUBLICATIONS SUB-COMMITTEE—**Chaired by Mr. E. Moravec, NATSF.**

GROUND SUPPORT SUB-COMMITTEE—**Chaired by Mr. E. Hunsley, NAEC.**

GENERAL SESSION—**Conference being addressed by Cdr R. Walsh, PM-15.**

TRAINING/TRAINER SUB-COMMITTEE—**Chaired by Mr. J. Richardson, NAVAIR.**

SHIP INTERFACE SUB-COMMITTEE—**Chaired by Mr. M. Hendrickson, PMS-397.**

(Ruggiero photos)

Team Reports On KAC LAMPS Program

A LAMPS program team from Kaman Aerospace visited almost a dozen naval organizations around the country recently to report on the current status and future prospects of the U. S. Navy's new Light Airborne Multi-Purpose System. The visits, which covered 25,000 miles, were made in conjunction with Navy plans to modify its entire fleet of over 100 H-2's into the LAMPS configuration. A Navy competition is planned to provide over 200 additional LAMPS helicopters.

The KAC presentation included a movie concerned with the present SH-2D LAMPS helicopter and some of the Mark I development and operational aspects; a description of the advanced SEALAMP helicopter proposed by KAC for the follow-on requirement; probable changes in Mark III LAMPS mission equipment and capabilities associated with SEALAMP; the "101" rotor; and a discussion of the various methods being evaluated by the Navy for rapidly securing the helicopter to the deck and moving the aircraft in and out of the hangar during periods of heavy seas.

The team consists of Owen Polleys, manager of H-2/LAMPS Helicopter Programs; Bruce Goodale, Manager, Military Marketing (formerly LAMPS Systems Manager); Andy Foster, Chief Test Pilot; Sam Seay, Project Engineer, Shipboard Systems; and Jack Goodwin, Assistant Chief Test Pilot. During a three-month period, they made 37 presentations to nearly 700 persons. *(Ruggiero photos)*

Bruce Goodale Owen Polleys Andy Foster

Jack Goodwin Sam Seay

ILSMT Conference—*Continued from page 7*

INFORMAL WORK-SESSION—**Bob Myer, KAC; D. Brammer, RepLANT and Wayne Cerny, NAVAIR.** *(Serignese photos)*

GIFT PRESENTATION TO MRS. ALBANI—**by Conference Chairman Wayne Cerny in acknowledgement to her diligent efforts on behalf of conference attendees. This was Mrs. Albani's fourth ILSMT Conference.**

Testing of YSH-2E Continues

NAS IMPERIAL BEACH, Ca.—Two YSH-2E helicopters assigned to HSL-31 left here several weeks ago for continued testing at the Naval Air Development Center, Warminster, Pa. These two uniquely configured aircraft were participating in the Chief of Naval Operations (CNO) D/V 98 Project which was tasked with evaluating systems for future LAMPS helicopters. LAMPS is a modern weapons system that utilizes the latest technological advances to give the Navy a highly effective capability in the all-important missions of Anti-Submarine Warfare/Anti-Ship Missile Defense (ASW/ASMD).

Under the auspices of the Naval Air Development Center, HSL-31 Detachment Five was chosen as the participating det and devoted over a thousand pilot hours to the project. Lt R. K. Doane is the officer-in-charge (OinC) of Det Five. His pilots consisted of Lieutenants L. Khinco, R. Olsen, B. St. Cher, H. Archambo, and Lt(jg) D. Ellison. Aircrewmen were AWVC Thomas Terrell, AT2 R. Palcio, ADJ2 D. Bigelow, AW3 Nance, and AW3 D. Butler. The crew chief was AEC H. Thompson.

The return of these helicopters to the east coast signified the end of much testing and many long man-hours which will ultimately make LAMPS an integral part of Naval ASW/ASMD operations.

SH-2D/F LAMPS Program Review

The LAMPS program is on schedule; the concept is proving valid, with the helicopter becoming a most useful extension of the ship system; experience to date indicates a highly successful integration of ship-air operations. These were the conclusions reached at the annual SH-2D/F LAMPS (MK I) Program Review Conference held January 9-11 at the Bradley Ramada Inn, Windsor Locks, Conn., which was hosted by Kaman Aerospace Corporation.

Approximately 80 Navy personnel, representing all agencies involved in LAMPS operations, attended the conference. Chairman was Capt T. C. Lonnquest, Jr., Ship and Air Systems Integration Project Office, PM-15. He was assisted by Capt A. E. Dorman, NAVAIRSYSCOM, APC-256.

All aspects of the current LAMPS MK I Program were reviewed including first-hand reports from ship and air operations representatives from both the LANT and PAC. theaters. Program direction and overview were addressed by RAdm D. V. Cox and Capt R. G. Thomson of OPNAV. They stressed a continuing high level of LAMPS program priority within CNO, and reiterated that all remaining H-2's will be converted to SH-2's.

A number of specific action items were developed dealing with a variety of current and anticipated program requirements. Program support considerations were reviewed briefly and related action requirements were referred to the LAMPS MK I ILSMT Conference February 6-8.

LAMPS Det 4 Returns From WESTPAC

NAS IMPERIAL BEACH, Calif.—HSL-31's Det 4 recently returned from a seven-month deployment in WestPac aboard the San Diego based destroyer escort USS Marvin Shields.

As it was only the fourth West Coast LAMPS detachment to be deployed, much was learned in the integration of this new system aboard ship. Det 4 was the first detachment to conduct extensive operational Anti-Submarine Warfare operations with the SH-2D LAMPS helicopter. These operations took place in June and early July in concert with ASW Group Three on board the USS Ticonderoga. Later, more experience was gained in a SEATO ASW exercise with British, Australian, New Zealand, Royal Thai and Philippine navies providing the participants. Det 4 and the crew of Marvin Shields were also part of a Japanese midshipman exchange and an exercise with the Japanese Maritime Self Defense Force.

Off the coast of Vietnam, the LAMPS aircraft was used for electronic surveillance measures, patrol, naval gunfire spotter missions, radar surveillance, logistics, administrative transport and SAR and medevac missions.

The deployment of Det 4 ran the full gamut of LAMPS capable missions, further demonstrating the value of LAMPS and the capabilities it possesses.

(LAMPS continued on page 26)

LAMPS DISCUSSION—RAdm T. R. Weschler, COMCRUDESLANT, visited the USS William H. Standley (DLG-32) during LAMPS operations in the Mediterranean. Shown during a discussion with personnel from the ship and HSL-30's LAMPS Det 2 deployed aboard the Standley are, left to right, Ens Robert Parsons, flight deck officer; Admiral Weschler; Lt John Wright, OinC of the helicopter detachment; and Capt R. M. Palkovic, commanding officer of the USS Standley. (USN photo)

ON THE SPOT— For literally thousands of persons the HH-43 has been a welcome sight—an angel of mercy come to their aid. But the driver of this car, trying to hide from the police, undoubtedly wished "Pedro" would hover anywhere but over him. The photographer was Capt William L. Schaefer, Jr., copilot on the unusual mission. (USAF photos)

HH-43 crews have worked with police for a great many years but usually the missions involved search and rescue or medical evacuations. Now, comes this unusual report from Capt Robert K. Stuart, information officer for Det 8, 40th ARRWg, Bitburg AB, Germany:

At 1425L, Det 8 was notified by Security Police that a suspected abduction had taken place. They gave us a description of the car, the young girl, and the suspect, and asked us to try to locate them. An HH-43, "Pedro 31," was on a local area training flight at the time, so operations personnel contacted the helicopter on the FM radio. When it landed at 1430L, the crew was given all available information and a camera. Pedro took off immediately afterward and began a search of the local area.

At 1454L, one of the crew members spotted a vehicle which appeared to be like the one described by the Security Police. It was parked in a heavily wooded area, and there were two occupants, both in the back seat. LtCol Erling R. Drangstveit, detachment commander, made a few low passes over the vehicle and Capt William L. Schaefer, Jr., took a picture of it. After the first pass, the occupants scrambled into the front seat. The vehicle drove around in the woods for several minutes, and then headed for the highway with Pedro in hot pursuit. The driver of the vehicle attempted to cut through Bitburg AB, but was apprehended at the gate. The mission terminated at 1505L.

The picture taken by Captain Schaefer was submitted to base legal personnel for evidence, but was not required in the trial because the defendant made a complete confession. It was determined that the crime would have been more serious and the chances of apprehension much less likely if the car had not been located so quickly by the Pedro crew.

Sharing in the unusual mission were SSgt Michael R. Hall, helicopter mechanic; Sgt Brian W. Day, medical technician; SSgt Richard E. Wooton, and SSgt Charles W. Murray, firefighters.

An HH-43 crew from the detachment also located and rescued a Belgian pilot who ejected after his fighter ran out of fuel 12 miles from Bitburg. Winds were gusting to 40 knots when the HUSKIE crew took off in response to the alert. The rescue helicopter was directed by Eifel Control to the point where radar contact with the downed aircraft had been lost.

After locating the crash site, Maj Carlton P. Vermeys and his crew began a route search through fog, rain showers and snow flurries. A few minutes later the survivor was located and Major Vermeys maneuvered the HH-43 down among powerlines to make the pickup. Sharing in the mission were Captain Shupp, the copilot; SSgt John P. Thiel, medical technician; Sergeant Wooton and Sergeant Murray, firefighters.

RESCUED BELGIAN PILOT—Left to right, SSgt John P. Thiel, SSgt Charles W. Murray, SSgt Richard E. Wooton, Capt Richard W. Shupp, and Maj Carlton P. Vermeys.

SAVED TWO—Front row, left to right, Capt Richard W. Shupp, Capt Robert K. Stuart, and MSgt Norman Edney. Rear row, left to right, Sgt Larue O. Brooks, Sgt Frederick R. Thien, and TSgt Gregory T. Kieliszek. At right, photo shows survivor's eye view as Sergeant Thien is lowered on forest penetrator seat during simulated night rescue. Sergeant Brooks is hoist-operator and Captain Shupp the pilot. (USAF photos)

In another mission, an HH-43 crew from Det 8 rescued two pilots who had ejected at night from a crippled F-4 and landed in a heavily forested area two miles northeast of Spangdahlem. After a short search a rescue strobe light was sighted on the ground. Capt Richard W. Shupp established a hover over the downed pilot and SSgt LaRue O. Brooks, a firefighter, lowered the forest penetrator seat. The pickup was made without incident.

A few minutes later the second survivor's light was sighted. He was still in his parachute and suspended from a tree limb about 50 feet above the ground. As the HH-43 hovered overhead, Sergeant Brooks used the hoist to lower Sgt Frederick R. Thien, another firefighter, to the ground. This required full hoist cable extension with a hover height approximately five feet above the nearby trees. Sergeant Thien was then raised to the level of the downed airman and positioned the forest penetrator under him. The survivor was freed from the entangling shroud and survival kit lines and then both he and his rescueer were hoisted to the HUSKIE.

After the two survivors were taken to the dispensary at Spangdahlem, the HH-43 returned to the crash site to direct ground vehicles to the area. Others sharing in the mission were Capt Robert K. Stuart, the copilot; TSgt Gregory T. Kieliszek, medical technician; and MSgt Norman Edney, helicopter mechanic.

In still another mission, a Det 8 HH-43 had just shut down after landing at Spangdahlem AB when word was received that a B-66 had crashed on takeoff. Captain Stuart and his copilot, Maj Thomas D. Precious, "threw a few switches," made a battery start and the helicopter was airborne with the Fire Suppression Kit in just over a minute.

From the end of the runway the rescuemen saw the B-66 off to the right side of the overrun, with its wings and tail section engulfed in flames. The HH-43 pilot positioned the FSK near the cockpit of the downed aircraft, landed the firefighters and medic and then set up a hover behind the FSK. The firefighters, SSgt Charles F. Hemphill and Sergeant Hall, charged the kit and started cutting an entry path to the cockpit area which was surrounded by burning fuel. Just as the entry path was established, the helicopter crew was notified that all seven crew members had successfully egressed from the B-66 and one of them was injured.

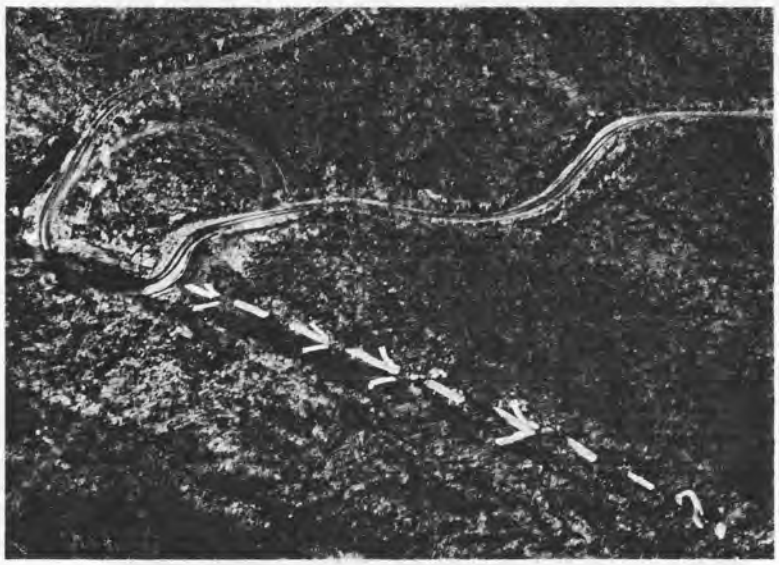
Captain Stuart landed the HH-43, picked up the injured crew member and airlifted him to the hospital at Bitburg. He was delivered to the hospital only 20 minutes after the crash. Others sharing in the mission were Sergeant Edney, helicopter mechanic; and Sgt Larry J. Hahn, medical technician (TDY from Det 3, 40th ARRWg, Lakenheath, England).

Maj Carlton P. Vermeys recently logged his 2000th hour in the HH-43 HUSKIE ("Pedro"). A senior pilot who holds the Military Airlift Command's 5000-hour Accident-free Award, the former B-47 navigator retrained as a pilot and checked out in the HH-43 in 1961. He spent two years each in Local Base Rescue (LBR) detachments at George AFB, Calif; Incirlik AB, Turkey; and Laredo AFB, Texas; where he served as detachment commander.

In Feb 1966, Major Vermeys began his SEA tour by setting up an LBR detachment at Phan Rang AB, Vietnam. He later moved North to Pleiku AB. His combat tour of 69 missions and 147 flying hours was terminated after 10 months when his Pedro helicopter was shot down by a North Vietnam bazooka while on a night rescue mission, and he had to be medevaced to the states.

After four months in the hospital at Travis AFB, Calif, Major Vermeys was transferred to Richards-Gebaur AFB, Mo, as an HH-43 Standardization Examiner for the Hq Central Air Rescue Recovery Center (now the 43 Aerospace Rescue and Recovery Sq), where he was returned to flying status. He was transferred to Europe in July 69, and spent 2 1/2 years at Torrejon AB, Spain, before coming to Bitburg in Dec 71.

His decorations include the Silver Star, the Distinguished Flying Cross, the Air Medal with two Oak Leaf Clusters, the Air Force Commendation Medal, and the Purple Heart. Major Vermeys now serves as operations officer in Detachment 8, 40th ARRWg.



KUNSAN AB-ROK—A familiar sight to rescuemen from this base is this view of the Usiang Bong Radar site perched high in the mountains. The rugged, rock-strewn slopes climb at a 45-degree angle from the sea to 1300 feet. An HH-43 crew from Det 2, 33rd ARRSq, at Kunsan, responded to a call for assistance after a 2-1/2 ton truck slid off the radar site road while loaded with 55 gallon drums.

Pictured at left is a close-up view of the road—arrows indicate path vehicle took in its plunge and the place where it possibly landed. The Korean driver was thrown clear but badly injured.

Flying in snow showers and extremely reduced visibility, Capt Edward I. Cross and his crew made their approach from the base of the mountain and 500 feet above the road. It was decided not to use the hoist to recover the accident victim due to the danger of the static electricity buildup igniting spilled diesel fuel. The HH-43 landed on the helipad and Maj Robert J. Redding, the copilot, got out and went with the rescue ground party. The badly-injured survivor was carried up the slope, placed in the HH-43 and ten minutes later delivered to medical personnel. A "save" was credited.

Others aboard the rescue helicopter were TSgt Curtis V. Hickey, medical technician; and SSgt Anthony J. Shoemaker, Jr., firefighter.

3000-HOURS

LtCol James E. Lamoreaux of Det 11, 44th ARRSq (MAC), Craig AFB, Ala., recently logged his 3000th flight hour in the HH-43. LtColonel Lamoreaux is the fourth pilot in the U. S. Air Force to pass this career milestone.

Det 5 Rescues Pilots

UDORN RTAFB, Thailand—The prompt action of an HH-43 crew here exemplified the ability of ARRS rescuemen to meet the challenge of a rapidly-changing situation.

Pedro scrambled with an FSK after notification that a battle-damaged T-28 15 minutes from the base would make a wheels-up landing at Udorn. Then an-inflight emergency was declared by an F-4 so the HH-43 began a precautionary orbit and intercepted the F-4. When it had safely landed, Pedro returned the FSK to the pad and took off again a few minutes later to meet the incoming T-28. As fire equipment stood by, the taxiway was cleared and the runway foamed. The T-28 touched down 400 feet along the 2000-foot foamed portion of the taxiway, skidded down the runway and came to rest 200 feet past the end of the foam. Pedro pilot Capt Phillip A. Steele had intercepted the aircraft and as it came to rest, landed 60 feet to the right and upwind of the T-28. SSgt Paul A. Harshman and SSgt Stanley B. Glowniak, firefighters, leaped from the helicopter and ran to the T-28. The confused and disoriented pilot made no effort to leave the cockpit until the Pedro firemen began to free him. Once safely away from the potentially dangerous area, the survivor was loaded into the rescue helicopter and taken back to the helicopter pad.

Sgt Randal P. Sischo was helicopter mechanic on the mission and Sgt Thomas E. Marshall was medical technician.

Responding to the fifth in-flight emergency in a two-hour period, an HH-43 crew rescued the pilot and navigator of a battle-damaged tactical fighter after they ejected 10 miles from Udorn RTAFB, Thailand. To pick up the downed pilot, Capt Thomas J. Meyer placed the front wheels of the helicopter on a levee so the crewmembers could exit and retrieve the survivor.

Other members of the HH-43 crew were Capt Peter J. Buley, copilot; SSgt Freddie J. Senters and SSgt Stanley B. Glowniak, firefighters; Sgt Alfred P. Avila, medical technician; and Sgt Thomas M. Holloway, helicopter mechanic. All are attached to Det 5, 3rd ARRSq, at Udorn.

KAMAN
Rotor Tips

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Kaman Rotor Tips technical information is supplied for informational purposes only and does not in any way supersede operational/maintenance directives established by cognizant authorities. The intent of this data will be incorporated, by future changes, into applicable manuals or directives.

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Service Engineering

J. P. Serignese, Technical Editor

Portable Hydraulic Test Stand (P/N K604844-1)

By W. Wagemaker, Service Engineer

When the Navy decided to place the SH-2 aboard Ocean Escort vessels, it was immediately apparent hydraulic power was needed to service the aircraft system. This power requirement appeared critical when it became obvious that no powered hydraulic source was available in the necessary combination of size and capability. Subsequently, the Navy charged Kaman with the responsibility of generating a compact, easily portable, high capacity, hydraulic test stand. The July/August, 1972, issue of Kaman Rotor Tips indicated such an item was soon to be introduced to the Fleet and provided instructions for modification of two AN/AWA-6 hydraulic carts as an interim measure. The new, Kaman-designed carts are being delivered.

The new test stand requires less storage space than other available external power units, is more portable, and provides the following desirable characteristics:

1. System protection. Integral, automatic functioning safety devices shut off the entire unit in the event of a high-temp hydraulic oil condition or when the test stand filters become excessively contaminated. Also, when either condition exists, an indicator light on the control panel will indicate the problem area.

2. Filtration capacity. The two large filters provide longer intervals between filter servicing and allow processing of greater amounts of fluid per minute. These filters are connected in series. Thus, all fluid must pass through both filters on way to aircraft.

3. System servicing. In addition to servicing the main aircraft hydraulic system, the built-in wobble pump and bleed/sample valve provides for servicing of aircraft wheel brake and rotor brake systems.

4. Controllability. The control panel shown in Photo A contains sufficient switching, gages, indicator lights and valve controls to provide positive, accurate control of fluid, pressure and flow.

5. Versatility. The test stand contains self-priming, self-purging capabilities and can be used with flow rates up to 5 gpm at 1500 psi, and utilizing the integral power cable adapter, the cart and the aircraft may be electrically powered from one electrical source.

6. With a few minor design improvements, the test stand could handle pressures in excess of 3000 psi.

(Continued on page 14)

Description, Preparation for Use, and Operating Procedures are presented here to provide maintenance personnel with interim instructions to be used until formal maintenance directives are available. Test stands leaving Kaman Aerospace will have these interim instructions enclosed.

PORTABLE HYDRAULIC TEST STAND
(P/N K604844-1)

W. Wagemaker, Service Engineer

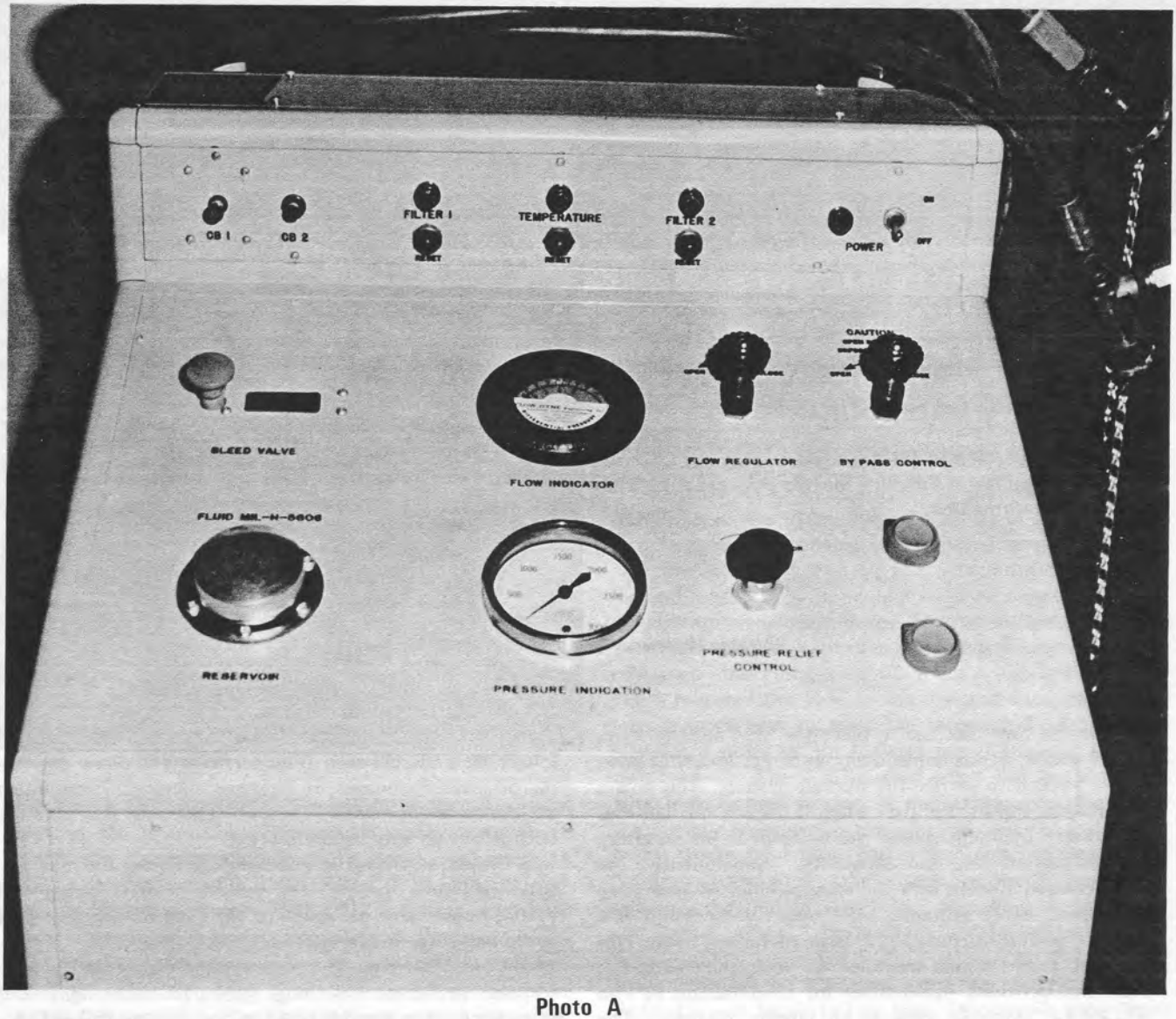


Photo A

I DESCRIPTION

The portable hydraulic test stand, P/N K604844-1, FSN RX4920-769-0424BH, is an electrically-powered handtruck-mounted hydraulic power unit capable of supplying filtered hydraulic fluid (MIL-H-5606) at 1500 PSI with varying flow rates up to 5 GPM. The test stand consists of two basic components: a modified hand truck and a cabinet assembly. System protection has also been provided.

Cabinet Assembly (See Photo B)

The cabinet assembly is of aluminum construction and houses components which supply and control the hydraulic system and electrical circuit.

Hand Truck (See Photo C)

The hand truck has been modified to provide a resting surface for securing the cabinet assembly and to support the test stand, the main hydraulic filters, and the cooler. The truck handles provide stowage for hydraulic hoses and electrical power cable. Portability is provided by the 10-inch diameter pneumatic tires.

System Protection (Refer to Figure 1.)

System protection is provided by differential pressure switches 16 and 18 which will shut off the motor 12 in the event either filter 15 or 17 becomes excessively contaminated. Thermo switch 31 will shut off the motor if fluid temperature exceeds 200° F. Thermal expansion relief valve 33 allows excess fluid to drain into the reservoir in the event return line pressure exceeds 150 PSI. In addition to sight gage 7, drain valve 8 and a filler, the reservoir tank vents 2 and 3 and vent-filter 4 are provided to prevent atmospheric contaminants from entering the system.

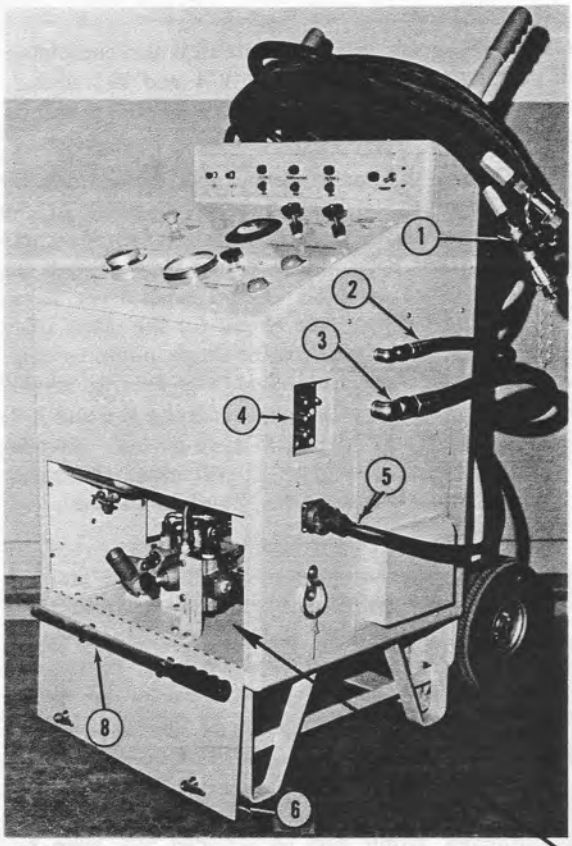
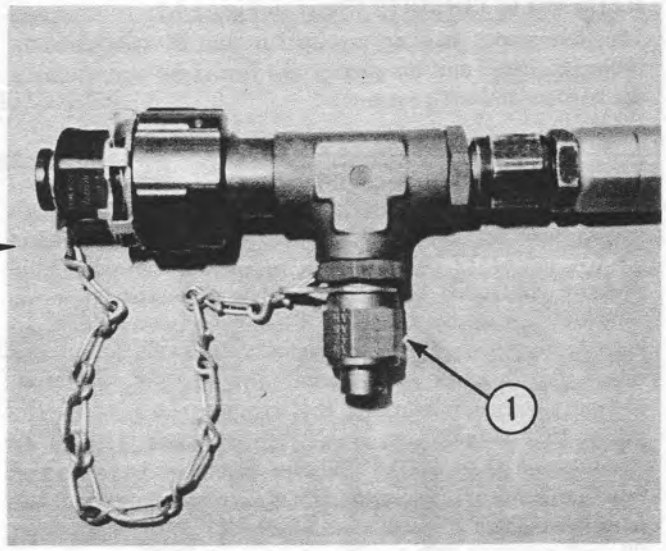
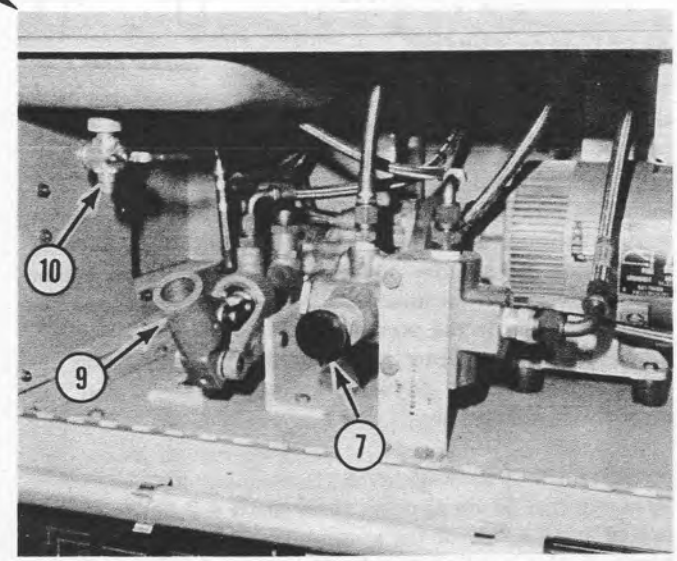


Photo B



1. Bleed/sample valve
2. Pressure hose
3. Return hose
4. AC external power receptacle
5. Power cable
6. Hinged panel
7. Pressure relief valve
8. Handle
9. Hand pump
10. Reservoir drain



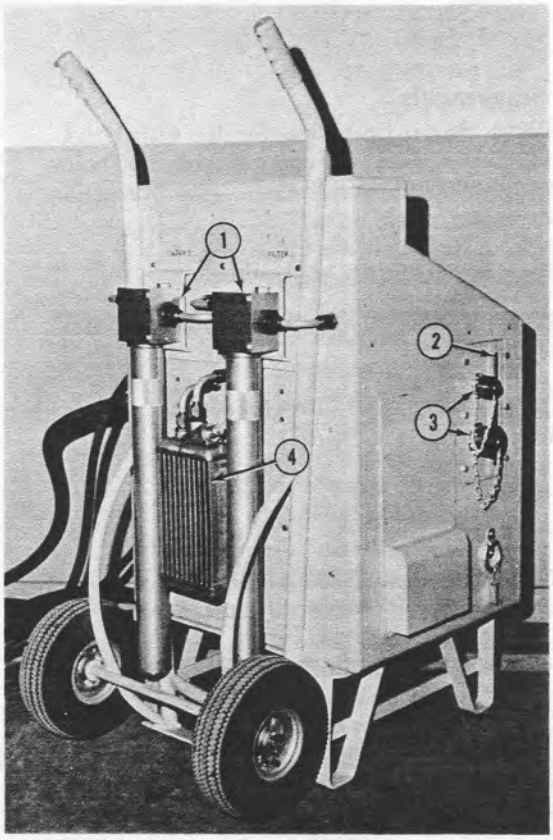


Photo C

1. Filters
2. Reservoir sight gage
3. Reservoir quick-disconnects
4. Cooler

HYDRAULIC CIRCUITS (Refer to Figure 1.)

The test stand may be set up for one of two circuits: filling, bleeding and purging of the test stand and; external use with an aircraft's system.

External Operation

During external operation, pump 13 forces fluid through check valve 14 and the 5-micron filters 15 and 17 when electric motor 12 is activated. Indicator 22 reveals fluid pressure controlled by valve 20 while indicator 23 shows the flow rate set by valve 24. Fluid then passes to the aircraft through coupling 25 and the 20-foot flex hose. The return flex hose is connected to coupling 26, thus completing the circuit through the manifold 30 back to the pump 13. In addition, a bleed/sample valve, located on the pressure hose can be used for bleeding aircraft wheel brake and rotor brake systems. Case drain fluid from the pump circulates through check valve 27, filter 28, cooler 29, and manifold 30 on its way back to the pump.

Filling and Bleeding

During filling and bleeding operations, hydraulic fluid from reservoir 1 is routed by hand pump 9, through filter 10, check valve 11 and filters 15 and 17. Bypass valve 21 circulates fluid through cooler 29 and manifold through bleed valve 32 and sight gage 34 and check valve 35 to the reservoir. During purging of the test stand system, fluid circulation is essentially the same as during external operation except that the hoses are connected to the reservoir quick-disconnects 5 and 6.

ELECTRICAL SYSTEM

The test stand requires 115 VAC, three Phase, 400 HZ electrical power in order to function. The front panel of the cabinet contains the switches and lights necessary for normal operation and also to fault-isolate a malfunction. The hydraulic pump is driven by a three Phase AC motor which is automatically shut down in the event of hydraulic fluid overheating or a filter becoming contaminated. When either of these conditions occur, an indicator light on the panel will indicate the problem area. The test stand is also supplied with an adapter cable enabling the use of one external power source to supply both the stand and the aircraft simultaneously.

Function (See Figure 2.)

With external power applied, three phase AC power is connected to one side of the pump relay through CB-1. One phase is also applied to the light transformer and the Power-On switch through CB-2. When the power switch is turned on, the following lights will illuminate: Power-On, (DS-1), Filter No. 1, (DS-3), and Filter No. 2 (DS-4). Momentarily actuating Filter No. 1 Reset Switch (S-4), will energize K-2, thus completing a circuit for K-3 which causes No. 1 Filter Light (DS-3), to go out. A holding circuit is also completed through energized contacts of K-2 thus keeping K-2 and K-3 closed. Momentarily actuating Filter No. 2 Reset Switch (S-6) will cause K-4 to energize, completing a circuit for K-5 which causes No. 2 Filter Light (DS-4), to go out. A holding circuit is also completed through energized contacts keeping K-4 and K-5 closed. The closed contacts of K-3 and K-5 completes the circuit to ground for the pump relay coil.

The motor-driven hydraulic pump can be started by momentarily closing Start Switch (S-2), however, if the hydraulic fluid overheats, Thermo Switch (S-8) will actuate and will cause relay K-7 to close, completing a circuit for K-6. The energized contacts of K-6 cause Over Temp Light (DS-2) to go on and the circuit for the pump relay coil to be broken, causing the motor-driven pump to stop. When the hydraulic fluid has cooled, momentarily actuating Temp Reset Switch (S-9), will de-energize K-6 and K-7, allowing the Over Temp Light (DS-2) to go out. Momentarily actuating Start Switch (S-2) will cause the pump relay to close and the motor-driven pump to start.

If a filter becomes contaminated, a differential pressure switch connected in parallel with the filter actuates. This allows either K-2 and K-3, or K-4 and K-5, depending on which filter is contaminated, to de-energize, breaks the ground circuit for the pump relay coil, causes the motor-driven pump to stop, and illuminates a filter light on the panel. The pump can be restarted after the filter is changed or cleaned, by momentary actuation of S-4 for No. 1 Filter, or S-6 for No. 2 Filter and the start switch S-2. The motor-driven pump can be stopped any time by actuating Stop Switch (S-3).

Service Requirements

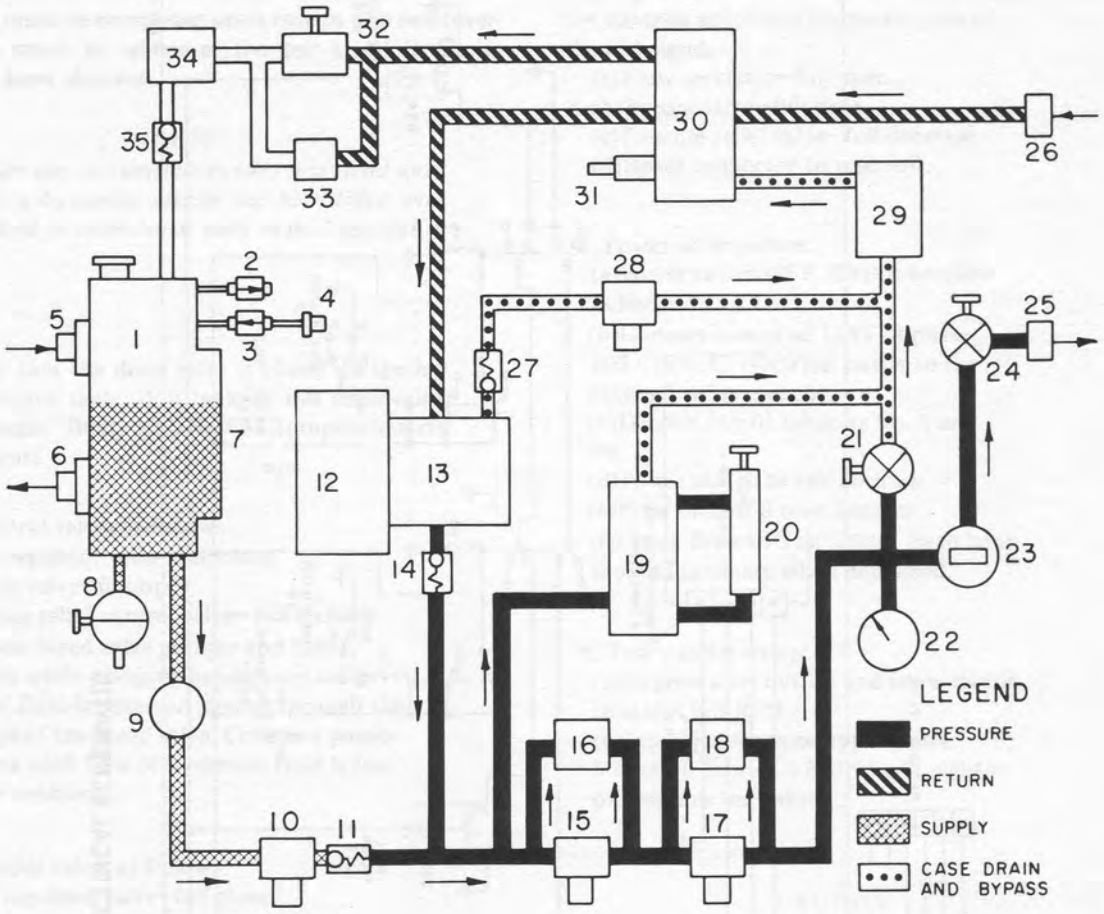
1. Electric Motor Gear Case—Service with MIL-L-7870 oil every 6 months or approximately 500 hours operation, whichever occurs first. (See instruction plate on motor case.)

2. Tires—30-35 PSI air, as required.

3. Reservoir Tank—Hydraulic fluid, MIL-H-5606, as required.

4. The following list of filters is keyed to the index numbers in Figure 1.

Index Number	Quantity	P/N	Location	FSN
15 and 17	2	031628 (Bendix)	Rear of stand	NSL
10	1	HC9021-FUP-4	Reservoir line	NSL
28	1	AN6235-1A	Pump case drain	9C4330-028 6757
4	1	AN6237-1	Reservoir tank vent	RZ1650-024 9665YX



1. Reservoir and purge tank
2. Tank vent (out) 3.0 PSI
3. Tank vent (IN) 0.25 PSI
4. Filter vent (IN)
5. Inlet tank quick-disconnect coupling
6. Outlet tank quick-disconnect coupling
7. Sight gage
8. Drain valve
9. Hand pump
10. Filter 3 micron
11. Check valve
12. Motor, 400 cycle 3 phase 115 VAC
13. Pump, variable delivery
14. Check valve
15. Filter No. 2 (5 micron)
16. Differential pressure switch
17. Filter No. 1 (5 micron)
18. Differential pressure switch
19. Relief valve
20. Pressure relief control
21. Bypass control valve
22. Pressure indicator gage
23. Flow indicator gage
24. Flow regulator valve
25. Pressure line (OUT) quick-disconnect coupling
26. Return line (IN) quick-disconnect coupling
27. Check valve
28. Filter (10 micron)
29. Cooler
30. Manifold
31. Thermo switch (200° F maximum)
32. Bleed valve
33. Thermal expansion relief valve (150 PSI maximum)
34. Sight gage
35. Check valve

Figure 1. HYDRAULIC SCHEMATIC

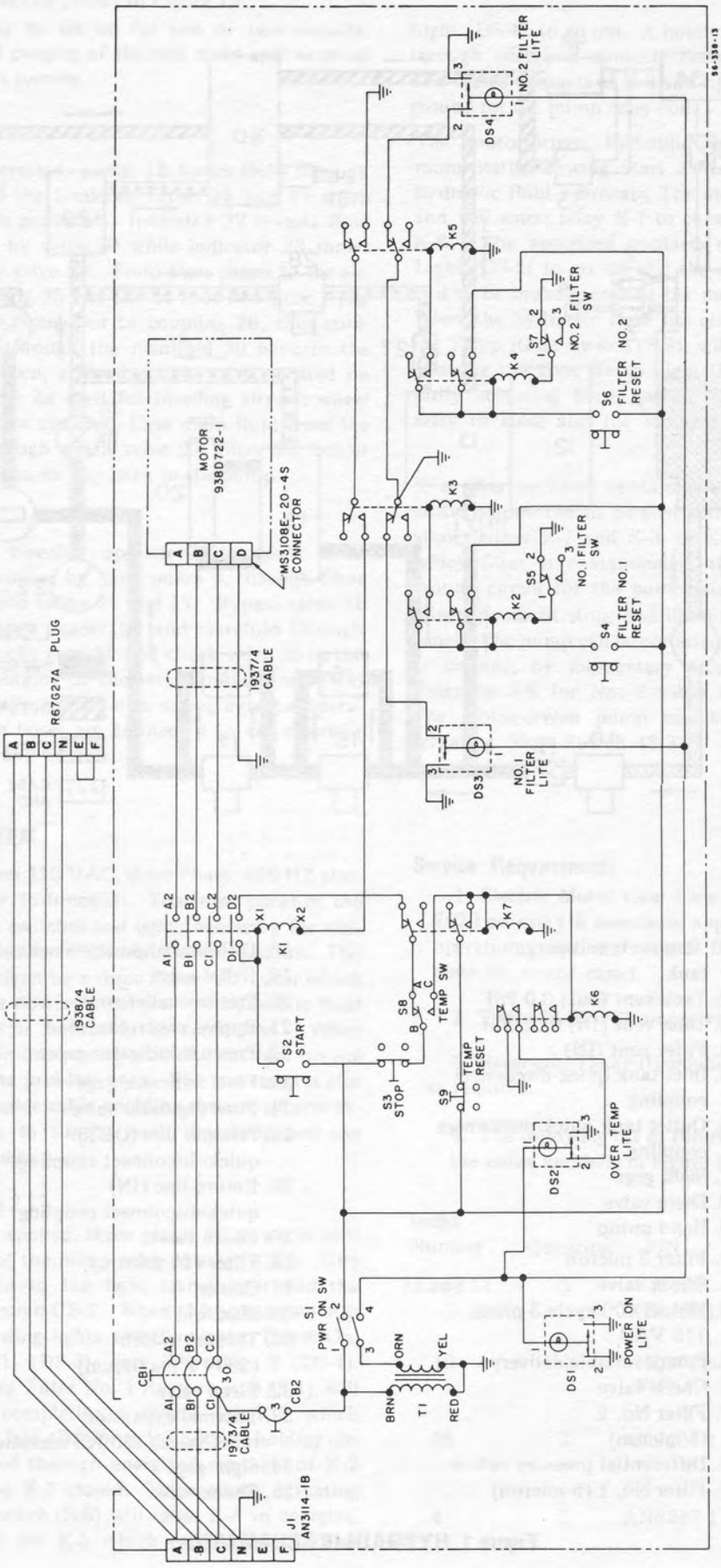


Figure 2. ELECTRICAL SCHEMATIC

II PREPARATION FOR USE

These steps must be completed upon receipt of a new/overhauled test stand or whenever the test stand hydraulic system has been drained.

CAUTION

Do not under any circumstances start test stand until the test stand hydraulic system has been filled with hydraulic fluid in accordance with steps 1 through 6 following:

Function

1. Ensure that the drain valve is closed on the hydraulic reservoir tank. Fill tank to full mark with clean hydraulic fluid, MIL-H-5606, (approximately 3-1/2 gallons).

2. Set control valves as follows:
   (a)Flow regulator valve—full close.
   (b)Bypass valve—full open.
   (c)Pressure relief control valve—full increase.
   (d)Depress bleed valve plunger and hold depressed while pumping hand pump until a flow of fluid is observed passing through the sight gage of the bleed valve. Continue pumping action until flow of hydraulic fluid is free from air bubbles.

3. Set control valves as follows:
   (a)Flow regulator valve—full close.
   (b)Bypass valve—full close.
   (c)Pressure relief control—full decrease.
   (d)Operate hand pump—This will force fluid through the relief valve located on base of test stand. There will be marked increase in pressure (approximately 600-700 PSI). Open bypass valve and depress bleed valve plunger to relieve pressure. If air bubbles should appear in sight gage, keep bleed valve plunger depressed and continue pumping until fluid is free from air bubbles.

4. Set control valves as follows:
   (a)Flow regulator—full open.
   (b)Bypass valve—full close.
   (c)Pressure relief valve—full decrease.
   (d)Connect pressure hose to reservoir (smaller diameter hose).
   (e)Actuate hand pump to fill hose.

5. Set control valves as follows:
   (a)Flow regulator—full close.
   (b)Bypass valve—full open.
   (c)Pressure relief valve—full decrease.
   (d)Connect return hose to reservoir.
   (e)Actuate hand pump to fill hose.
   (f)Depress bleed valve plunger and continue pumping until sight gage shows fluid is free from air bubbles.

6. Replenish the reservoir to the full mark. Set controls as follows for purge cycle of the test stand.
   (a)Flow regulator—full open.
   (b)Bypass valve—full open.
   (c)Pressure relief valve—full decrease.
   (d)Hoses connected to reservoir.

7. Power on sequence:
   (a)Power switch OFF. Circuit breakers pulled.
   (b)Connect source of 115V, 3 phase, 400 Cycle AC electrical power to the external AC receptacle.
   (c)Depress circuit breakers No. 1 and No. 2.
   (d)Power switch to ON position.
   (e)Press each of 3 reset buttons.
   (f)Check Press-to-Test lights. Each lamp should illuminate when depressed.

8. Test stand start-up:
   (a)Depress start button and allow motor to attain full RPM.
   (b)Immediately close bypass valve. Minimum flow of 4-6 GPM will register on the flow indicator.

CAUTION

If after closing bypass valve, flow meter indicates zero, test stand must be shut down by depressing STOP button. DO NOT RUN MORE THAN 30 SECONDS WITH ZERO FLOW ON INITIAL START. Zero flow indicates an air lock in the system. If this condition occurs, remove source of power to the test stand and repeat Steps 2 through 6. After flow of 4-6 GPM is indicated, proceed with start-up.

NOTE

After flow has once been attained, test stand may be operated under zero flow condition.

   (c)Fully close flow regulator. Flow indicator should indicate zero flow and pressure indicator should read 600-700 PSI.
   (d)Fully increase pressure relief valve. Pressure indicator should read 1500 PSI.
   (e)Slowly open flow regulator so that 3-1/2 - 4-1/2 GPM is indicated on flow indicator. DO NOT decrease pressure below 700 PSI.
   (f)Take notice of flow rate (GPM). Slowly open bypass valve to decrease flow approximately one GPM from above reading. This allows hydraulic fluid to circulate thru cooler. Do not decrease pressure below 500 PSI.

9. Test stand is now fully operational, and must be run in this condition until hydraulic fluid contamination level meets aircraft standard. A sample of fluid should be taken periodically from the bleed/sampling valve on the pressure hose. (Refer to NAVAIR 01-1A-17 for contamination analysis procedures.)

10. Shut down test stand by depressing STOP button. Test stand may now be connected to aircraft.

III OPERATING INSTRUCTIONS

Check test stand for fluid contamination level approximately every 30 days in accordance with instructions contained in Preparation for Use, Step 9.

NOTE

Prior to each use, self-purge the test stand for 5 minutes in accordance with instructions contained in Preparation for Use, Steps 6, 7, 8, and 10 inclusive.

WARNING

Before attaching hydraulic hoses and/or electrical power cable to the aircraft, ensure that the aircraft controls and switches are in proper position and that all personnel are clear of any hydraulically operated devices.

Function

1. Connect the pressure and return hoses to the aircraft quick-disconnect fittings.

2. Position the test stand control valves and switches as follows:
   (a) Bypass valve—full open.
   (b) Flow regulator valve—full open.
   (c) Pressure relief valve—full decrease.
   (d) Circuit breaker No. 1 - In.
   (e) Circuit breaker No. 2 - In.
   (f) Main power switch - Off.

3. Connect a source of 115V, three Phase, 400 CPS, AC electrical power to the test stand external power receptacle.

4. Connect the power cable from the test stand to the aircraft external power receptacle.

5. Position the power switch ON and push the Filter No. 1 and Filter No. 2 reset switches IN.

6. Check the Press-to-Test lights. Each lamp should illuminate when pressed.

7. Push the start button and allow the motor to attain full RPM.

8. Turn the bypass valve to the closed position. Pressure gage will indicate approximately 600-700 PSI.

9. Turn the pressure relief control to increase until the pressure gage indicates 1500 PSI.

10. Operate the aircraft hydraulic components as required.

NOTE

Extended test stand operation with very low flow rate (less than 1/2 GPM) may result in an overheat condition. Should this occur, the thermo switch will shut down the hydraulic test stand motor. Restart cannot be accomplished until the fluid temperature drops.

Filling Aircraft Hydraulic System

1. Be sure test stand hydraulic reservoir has sufficient fluid before attempting the following steps:

2. Set control valves as follows:
   (a) Flow regulator valve—full open.
   (b) Bypass valve—full close.
   (c) Pressure and return lines—connected to aircraft.
   (d) Test stand motor—as desired.

NOTE

Replenishment may be accomplished with or without test stand motor functioning.

3. Actuate test stand hand pump, as required, until aircraft hydraulic system is replenished.

Test Stand Shutdown

1. Depress stop button.
2. Place power switch to OFF.
3. Remove external source of electrical power from test stand.
4. Disconnect return and pressure hoses from the aircraft.
5. Store hoses on test stand handles.
6. Remove test stand electrical power cable from aircraft and store on test stand handles.
7. Return test stand to storage area.

H-2

SH-2F/101

G. Legault, Manager
Service Engineering

Engineering Change Proposal (ECP) 362 authorizes modification of an additional 25 H-2 aircraft into the LAMPS configuration and also provides for incorporation of several recently approved changes. Incorporation of the following combination of changes will result in creation of an SH-2F model aircraft.

1. ECP 301. Installation of the 101 rotor system.
2. ECP 322. Combining gearbox improvements.
3. ECP 324. Install T58-GE-8F engines.
4. ECP 326. Main landing gear improvements.
5. ECP 331. Relocated tail gear and uprated main and tail gear hardware and antenna re-location.
6. ECP 339. AIMS, which stands for: Air traffic control radar beacon system; Identification, friend or foe; Mark XII identification system; Systems, reflecting the many AIMS configurations.
7. ECP 340. Radar system improvements: Honeycomb radome, re-index variable range marker, waveguide protection, and N-stabilization.
8. ECP 345. Provisions for instructor's seats.
9. ECP 348. Installation of ASE (Automatic Stabilization Equipment) OFF indicator.
10. ECP 349. Revised pilot's checklist.
11. ECP 350. Installation of ARC-159 and KY-28. radios in lieu of the ARC-116.
12. ECP 363. Doppler approach resistor change.
13. ECP 364. Torpedo arming solenoid change.
14. ECP 369. Directional control improvements.
15. ECP 370. Installation of ARN-52.
16. Installation of ASN-50 Attitude Heading Reference system (AHRS), in lieu of the ASN-73 system.

Due to the interest surrounding the incorporation of the 101 rotor system, (ECP 301), a detailed review of the content of the change is provided as follows:

A. Installation of improved combining gearbox mounts to reduce cabin noise, vibration, and fuselage structural loads.

B. Rework of mixer assembly to eliminate lateral/collective coupler. After incorporation of change, coupling will be accomplished electrically.

C. Rework of the cowling crown panels to prevent interference with the new design rotor retention.

D. Removal of fuselage-mounted rotor deicing system components.

E. Rework of main gearbox assembly to:
(1) Provide a new control guide assembly compatible with the geometry of the new rotor hub and controls.
(2) Provide a new tail rotor drive gear set to maintain existing tail rotor rpm, even though main rotor rpm has been increased by 4%.

F. Addition of a second airspeed syncrotel transmitter and adjust the high and low speed stops in the existing transmitter.

G. Rework of the ASE sensor to provide a lag circuit in the roll rate gyro output. Also, includes a relay which operates after the normal time delay to provide a power interlock circuit for the lateral coupler.

H. Rework of the ASE amplifier to provide airspeed and collective coupling to the lateral channel.

I. Rework of the heat and miscellaneous control panel to add a lateral coupler ON-OFF switch.

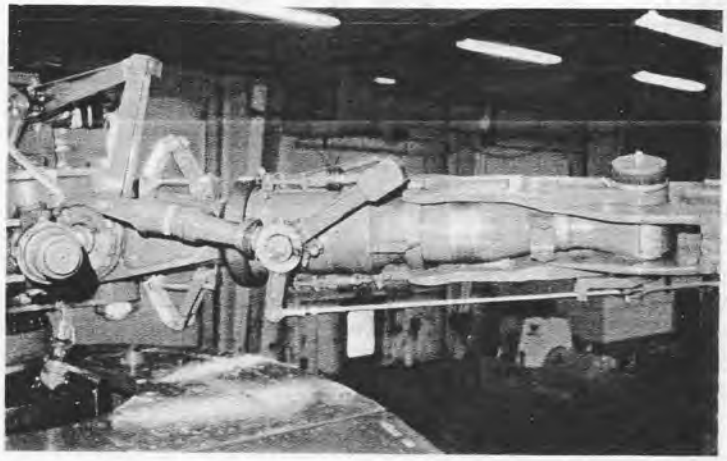
J. Rework of the ASE actuator to provide increased control travel in the lateral channel.

K. Reinforcement of the cockpit overhead windows.

L. Installation of longer life (3,000 hours) main rotor components, including new titanium hub, reinforced retentions and increased performance main rotor blades. In addition, the simplification of rotor control system is accomplished by eliminating approximately 60% of the control linkages.

M. Installation of new operational placards in the cockpit.

N. Rework collective stick bungee to provide counterbalance for increased CF loads incurred as a result of increased main rotor blade RPM.



The accompanying photo shows the "101" rotor retention installed on an H-2 undergoing tests at Kaman facilities in Bloomfield, Conn.

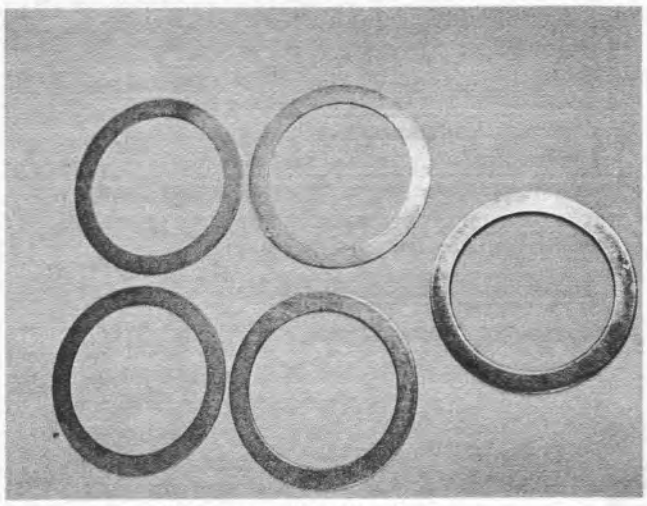
H-2 TAIL ROTOR BLADE WASHER STACKUP

W. Wagemaker, Service Engineer

Tail rotor blade installation procedures contained in NAVAIR 01-260HCA-2-4.2 include a detailed description of how to select washers in order to properly center the blade and grip assembly on the tail rotor shaft. A recent review of the procedures has revealed an alternate method of accomplishing the necessary selection of washers used to center the grip on the rotor shaft. These latest procedures and information presented here will be incorporated into the -2-4.2 and other applicable manuals by a future change.

Tail rotor blades must be centered on the tail rotor shaft or excess vibrations will result. For example, if installed with insufficient washer stackup, the blade can shift on the rocking pin and cause vibrations. If off-center, symetrical balance of opposing blades will be disturbed and the subsequent "out-of-balance" will cause vibrations.

To aid in centering and correctly shimming the blades, tail rotor blade grip locator ring washer sets, P/N K616244-1, FSN RM5310-987-5627BH6X are available from supply. Each set, shown in Photo A, consists of two K616244-11 washers (0.010-inch thick), two -13 washers (0.030-inch thick), and one -15 washer (0.050-inch thick).



Washer set, P/N K616244-1

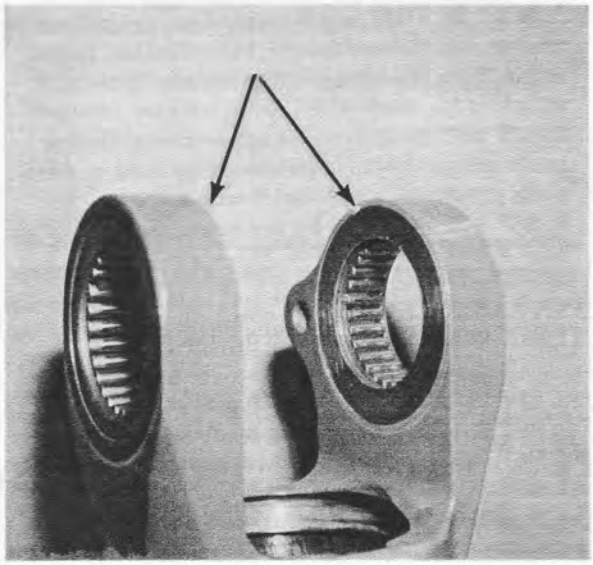
Photo A

It is necessary to measure and determine the amount of washers needed EACH TIME a blade is installed even if the same blade is being re-installed because the previous washer stackup may not have been correct. Clean and inspect removed washers for possible re-use, being sure to discard damaged washers. Re-usable washers are to be flat within 0.003-inch, and they shall be free from nicks, burrs and dents on the working surfaces.

Determine washer stackup as follows (Refer to the accompanying illustrated example):

NOTE

The intent of the following procedures is to assure that the overall tail rotor shaft dimension (Dimension B), with components installed, exceeds the grip ear dimension (Dimension A), by 0.130-inch.



Measure grip working surfaces

Photo B

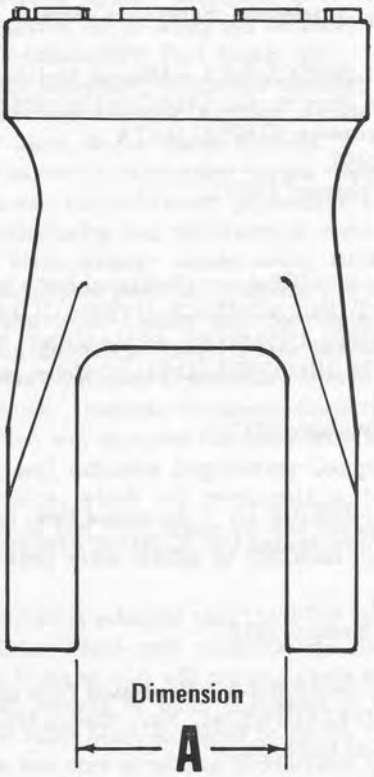
1. Determine the dimension between the tail rotor blade grip ears, being careful to measure only the working surfaces; add 0.130-inch (Photo B).

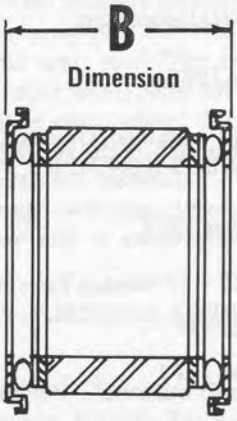
2. Build-up the tail rotor shaft by installing components (collar assemblies, packings, and flapping lock plates if not installed) and sufficient washers to achieve the dimension obtained in Step 1 (Photo C).

3. Remove the collar assemblies, packings, and washers from the shaft.

4. Measure the total thickness of the washers added in Step 2 and install half the total on each side of the shaft.

5. Install the packings and collar assemblies and proceed with normal tail rotor blade installation.

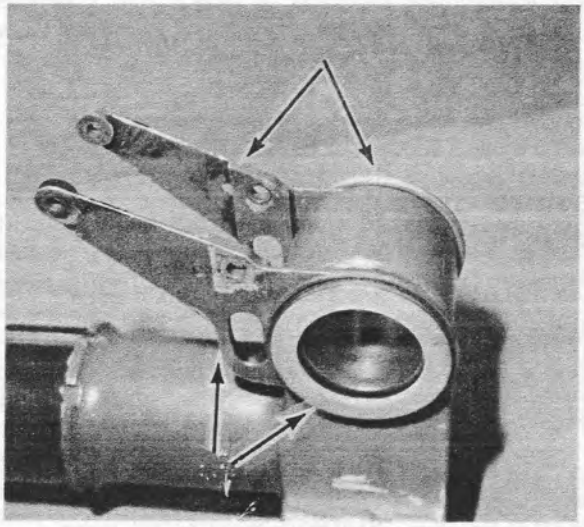




Example:

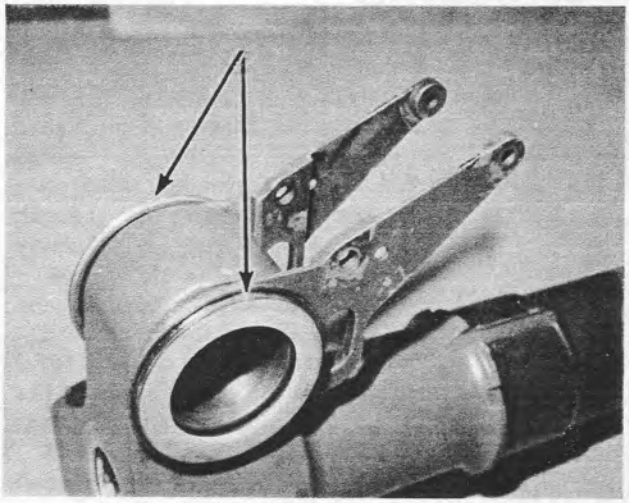
A-2.319 inches
ADD 0.130 inch
TOTAL 2.449 inches

Dimension B must be 2.449 inches with uncompressed collar assemblies, packings, flapping lock plates and necessary amount of washers installed. (Photo D.)



Install components

Photo C



External dimension must be 0.130-inch greater than grip working surfaces

Photo D

ADDITIONAL INSPECTION AND REPAIR CRITERIA FOR TAIL ROTOR COUPLING SLEEVES H-2

The following inspection information which will be incorporated into NAVAIR 01-260HCA-2-4.1 by a future change affects tail rotor drive system coupling assemblies, P/N PD832-4, FSN RH1560-440-0109BH, and P/N PD854-3, FSN RH1560-440-0110BH.

Inspect coupling sleeve for evidence of surface damage consisting of nicks, scratches, gouges, etc. Such surface damage, up to 0.010-inch deep with no limit to number of nicks or length of scratches, is considered negligible and no action is required. Surface damage deeper than 0.010-inch is cause for coupling assembly replacement.

R. Trella, Service Engineer

PUBLICATION INFORMATION

This list reflects latest manual changes and technical directives released to the field.

R. H. Chapdelaine, Supervisor, Service Publications

NAVAIR 01-260HCA-2-1 — Manual, Maintenance Instructions, Navy Models UH-2C/HH-2C/HH-2D/ SH-2D Helicopters, GENERAL INFORMATION
15 February 1972
changed 1 February 1973

NAVAIR 01-260HCA-2-2 — Manual, Maintenance Instructions, Navy Models UH-2C/HH-2C/HH-2D/ SH-2D Helicopters, AIRFRAME
30 November 1971
changed 1 February 1973

NAVAIR 01-260HCA-2-3 — Manual, Maintenance Instructions, Navy Models UH-2C/HH-2C/HH-2D/ SH-2D Helicopters, EQUIPMENT (FURNISHINGS, HYDRAULICS, UTILITIES, ARMAMENT)
1 March 1972
changed 1 February 1973

NAVAIR 01-260HCA-2-4.2 — Manual, Maintenance Instructions, Navy Models UH-2C/HH-2C/HH-2D/ SH-2D Helicopters, ROTOR SYSTEM
1 October 1967
changed 1 February 1973

NAVAIR 01-260HCA-2-5.1 — Manual, Maintenance Instructions, Navy Models UH-2C/HH-2C/HH-2D/ SH-2D Helicopters, INSTRUMENTS
1 October 1967
changed 1 February 1973

NAVAIR 01-260HCA-2-6 — Manual, Maintenance Instructions, Navy Models UH-2C/HH-2C/HH-2D/ SH-2D Helicopters, ELECTRICAL SYSTEM
1 March 1972
changed 1 February 1973

NAVAIR 01-260HCA-2-7 — Manual, Maintenance Instructions, Navy Models UH-2C/HH-2C/HH-2D/ SH-2D Helicopters, RADIO AND RADAR SYSTEMS
1 October 1967
changed 15 December 1972

NAVAIR 01-260HCA-2-8.1 — Manual, Maintenance Instructions, Navy Models UH-2C/HH-2C/HH-2D/ SH-2D Helicopters, WIRING DATA
1 October 1967
changed 1 February 1973

NAVAIR 01-260HCB-4-4 — Illustrated Parts Breakdown, EQUIPMENT (FURNISHINGS, HYDRAULICS, INSTRUMENTS, UTILITIES, ARMAMENT) Navy Models UH-2C/HH-2C/HH-2D/SH-2D Helicopters
1 May 1969
changed 1 February 1973

NAVAIR 01-260HCB-4-7 — Illustrated Parts Breakdown, ROTORS, Navy Models UH-2C/HH-2C/HH-2D/SH-2D Helicopters
1 June 1967
changed 1 February 1973

NAVAIR 01-260HCB-4-8 — Illustrated Parts Breakdown, RADIO AND ELECTRICAL, Navy Models UH-2C/HH-2C/ HH-2D/SH-2D Helicopters
1 June 1967
changed 1 February 1973

NAVAIR 01-260HCB-4-9 — Illustrated Parts Breakdown, SPECIAL SUPPORT EQUIPMENT, Navy Models UH-2C/ HH-2C/HH-2D/SH-2D Helicopters
1 June 1967
changed 1 February 1973

NAVAIR 03-95D-24 — Manual, Overhaul Instructions, COMBINING GEARBOX ASSEMBLY, P/N K674702-3, -5
1 April 1971
changed 15 November 1972

NAVAIR 03-95D-25 — Illustrated Parts Breakdown, COMBINING GEARBOX ASSEMBLY, P/N K674702-3, -5
1 October 1970
changed 1 December 1972

* * * * * * * * TECHNICAL DIRECTIVES RELEASED * * * * * * * *

This list reflects information released to the customer by KAC for distribution.

SEC/AFC No.	TITLE	RELEASE DATE (KAC)
H-2 Airframe Change 176	Rotor System, IMPROVEMENT OF RETENTION CONTROL PIVOT BEARINGS	16 January 1973
H-2 Airframe Change 185	Power Plant System, INCORPORATION OF AN IMPROVED ENGINE CONTROL HARNESS	5 January 1973

(Continued from page 3)

Fabricate, Test Blades For Army

Improved life cycle cost effectiveness, maintainability and reliability of Army helicopter main rotor blades are the objectives of a $1,369,000 design and development contract awarded Kaman Aerospace Corporation by the Eustis Directorate, U. S. Army Air Mobility Research and Development Laboratory, Fort Eustis, Va.

Under the five-phase, 30-month contract, Kaman will develop, test and evaluate its new "Field Repairable/Expendable Main Rotor Blade Concept." The concept emphasizes improved engineering design, selection and use of materials and state-of-the-art production techniques to reduce manufacturing and maintenance costs and to simplify rotor blade damage repairs under field conditions.

Twelve helicopter main rotor blades will be fabricated for bench and whirl testing and for flight testing and evaluation on an Army UH-1H Huey helicopter.

Associated with Kaman as subcontractors in the development are North American Rockwell Corporation's Tulsa Division, which will ascertain the radar cross section of the new blades, and Adhesive Engineering Company's Airline Systems Division, which will participate in the design and development of the field repair kit and techniques for repairing damaged rotor blades at the local operating base level.

Kaman engineers estimate that the Field Repairable/Expendable Rotor Blade will eliminate the need for large blade repair facilities and will provide blade life cycle cost savings of 40 percent or more compared to current rotor blades. The rotor blade expected to evolve from the program will be low cost in volume production, be rugged and damage resistant and be readily repaired in the field with simple, inexpensive repair kits and procedures. Further, because of its simple, low cost design, it may be economically discarded in the event of major damage.

A minimum of two basically different blade designs will be evaluated in the program. The first will incorporate an extruded aluminum spar, glass fibre reinforced plastic aft skins, polyamide paper honeycomb aft core and an extruded aluminum trailing edge spline. A tip area leading edge abrasion sheath may be fitted, fabricated of stainless steel or other erosion resistant material.

The second design will use a three-component, formed stainless steel spar and a unidirectional glass fibre-reinforced plastic spline. A thick nose skin will provide erosion and abrasion protection integral with the structure.

In the improved rotor blade development, Kaman will make use of its extensive background in the design, development and production of rotor blades that have already achieved a high degree of reliability and repairability in service with the Air Force and Navy.

Design, Tool, Manufacture B-1 Nacelle Doors

Kaman Aerospace has received a contract in excess of $1 million from North American Rockwell's Los Angeles Division for design, tooling and manufacture of engine nacelle doors for three prototype B-1 bombers and a static test vehicle.

William R. Murray, KAC president, said the new contract brings to $2.4 million the current value of work Kaman will perform on the U. S. Air Force's strategic, supersonic bomber. NR contracted Kaman last July for three aircraft sets of rudders and horizontal stabilizer fairings. The first rudder for static testing was delivered Nov. 17, two weeks ahead of schedule.

The present contracts call for delivery of the first engine nacelle doors next May, with deliveries of both doors and rudders to continue into 1974.

The B-1 will be powered by four General Electric F-101 engines, paired in a nacelle under each wing. Each nacelle has four curved access doors of bonded aluminum construction utilizing titanium skins and a fiberglass core. Kaman is using a modified epoxy adhesive system on the sandwich panels. All components are designed for aerodynamic smoothness, lightness in weight and high strength in the thermal, acoustical and supersonic load environment in which the B-1 will operate.

Mr. Murray also announced that Kaman Aerospace has been contracted by Eastern Air Lines, Miami, to modify engine nose cowls for the RB-211 turbofans on Eastern's L-1011 TriStar jet transport. It is anticipated that 21 cowls will be reworked with kits provided by Rolls Royce, the engine manufacturer.

A major airframe subcontractor for more than 25 years, Kaman currently is producing components for the Grumman F-14 Tomcat and A-6 Intruder, the Lockheed C-5A and C-130, McDonnell Douglas DC-8, Boeing B-52 and General Electric TF-39 turbofan engine on the C-5A.

(Continued on page 26)

KAcarb Renamed

HARTFORD, CONN.—Kamatics Corporation is the new name for the former KAcarb Products Corp., Alan A. Whitfield, president of the Kaman Corporation subsidiary announced recently.

The name change was made to reflect the company's developing business and new potential in products outside its present, major line—KAcarb bearings. The KAcarb bearing is a self-lubricating, corrosion-resistant bearing system which utilizes ceramic and carbon as mating surfaces.

Following initial use in military aircraft, the bearing has more recently been introduced into an ever-widening variety of commerical applications. Included are such airliners as the Douglas DC-9, Boeing 707 and 747 as well as industrial uses involving chemical, steel and food-processing equipment. Another rapidly growing area for the KAcarb bearing is the jet engine field in which bearings must provide extended life at temperatures above 1000° F.

Among several other products is a new type of bearing which has many of the operating advantages of the KAcarb bearing, but through the use of a new proprietary material can be manufactured at a much lower cost. Another product currently undergoing evaluation is the KAflex mechanical drive coupling, which operates on a flexible element principle eliminating rubbing surfaces typical of standard couplings.

Kamatics Corporation was established in 1966 and is located in Bloomfield, Connecticut, near Kaman's corporate offices.

SANTA'S HELPERS—The men and HH-43B HUSKIES of Det 15, 40th ARRWg at Zaragoza AB, Spain, did double duty as Santa's helpers over the past holiday season. In December, Santa arrived via HUSKIE on the base flightline to present gifts to children of base personnel. On Jan 6, a Spanish-speaking Santa played by Det 15's SSgt Gilbert San Miguel, distributed gifts to some 75 children from the Zaragoza area at the annual base orphans' party celebrated on the feast of "Los Tres Reyes Magos" (the Three Wise Men). A heavy fog on Jan 6, the traditional day of gift giving in Spain, could not keep the HH-43B and Santa from their important mission. (USAF photos)

Zaragoza Air Rescue Unit Medevacs Sergeant

ZARAGOZA AB, Spain—An HH-43B helicopter of Det 15, 40th ARRWg based here flew to Jaca, Spain (approximately 90 miles northwest of Zaragoza AB), recently to medevac an injured U. S. Army sergeant.

SFC Henry D. Luthy, assigned to Klint Kasern in Bad Tolz, Germany, suffered a compound fracture of his right leg while at the Spanish Army Mountain Training School. A temporary cast had been applied to his leg, but he was still suffering a moderate amount of pain. His team chief made a direct call to the USAF Hospital, Zaragoza, requesting aeromedical evacuation.

Piloted by 1stLt Jack Brooks and Maj Dennis M. Chase, the HH-43 departed Zaragoza AB at 12:30 p.m. and landed in an open area adjacent to a school in Jaca one hour later. The Sergeant was placed aboard and airlifted to the Zaragoza Hospital.

He remained at Zaragoza for three days then was returned to Germany on the USAFE C-9 Nightingale Medevac aircraft.

Other Det 15 personnel taking part in the mercy mission were TSgt Ron House, crew chief; Sgt Joe Barthelow, medic; and SSgt Joe Walenta, fireman and interpreter.

Contracts—*Continued from page 25*

A few weeks ago, Kaman Aerospace received a contract for approximately $58,000 from the Eustis Directorate, U. S. Army Air Mobility Research and Development Laboratory, to evaluate an application of a Kaman invention which prevents severe vibration of loads slung beneath helicopters. The device, developed at Kaman, is known as the Cable Operated Zero Impedance Decoupler (COZID).

Vibration transmitted from a helicopter rotor to a sling-supported cargo beneath can result in a resonant condition called "vertical bounce" which sometimes has catastrophic results. When installed between the helicopter and the underslung cargo, the COZID eliminates the possibility of "vertical bounce" through its natural dynamics. The COZID is a mechanically simple device requiring no outside power or control. It has only one moving part and will have an unlimited useful life. Compact and light in weight, the COZID has potentially wide application.

The contract with Kaman Aerospace calls for analytical and experimental evaluation of the COZID's application to military helicopters utilizing cargo hook systems, including the Bell UH-1, the UTTAS, the Boeing Vertol CH-47 and CH-46 and the Sikorsky CH-53.

LAMPS—*Continued from page 9*

NAS IMPERIAL BEACH, Calif.—HSL-31 held its First Anniversary Ball on March 2. The formal occasion, at the El Cortez Hotel, signaled the one-year mark for the only West Coast LAMPS (Light Airborne Multi-Purpose System) squadron.

LAMPS became operational in April 1970, however, HSL-30 has been deeply involved with the LAMPS concept since its inception in 1969. LAMPS is a modern weapons system which has added to the U. S. Navy's ASW/ASMD (Anti-Submarine Warfare/Anti-Ship Missile Defense) capabilities.

On 7 January, 1972, HSL-31 (then HC-5) deployed its first LAMPS detachment aboard USS Sterett (DLG-31) to the Western Pacific. Two months later, on 1 March, 1972, Helicopter Combat Support Squadron Five (HC-5) was redesignated HSL-31. This redesignation tasked the squadron with a new, dual mission. HSL-31 provides deployable detachments of pilots, aircrewmen and maintenance personnel for aviation facility ships of the Pacific Fleet under the LAMPS concept, and provides readiness training for Fleet replacement pilots, aircrewmen and maintenance personnel for LAMPS. The concerted efforts of the highly specialized SH-2D helicopter and the Navy's surface vessels' weapons systems will best ensure this nation's control of the seas.

Accident Victims Medevaced By Det 14

NELLIS AFB, Nv.—Four children who survived an automobile accident which took the lives of four adults were medevaced to the hospital by HH-43 crews from Det 14, 42nd ARRSq, at this base.

One HH-43 "Pedro 38," launched after notification that an automobile with eight occupants had plunged down a 100-foot embankment and come to rest in an almost inaccessible spot. Sergeant Steelman of the Nevada Highway Patrol had attached a rope to his car and lowered himself to the wrecked vehicle before calling for assistance.

Maj Paul R. Schildgen landed the HH-43 near the accident scene and the crew went to assist the injured. After it was determined that the adults in the car were dead, SSgt Terry K. Foster, the medical technician, began giving aid to the children who ranged in age from three to six. The Sergeant, who established priorities of injuries, was later credited with possibly saving the youngest girl's life. She had suffered a broken neck, facial lacerations and collapsed lungs.

The two most seriously injured were placed in Pedro 38 but, due to the nature of the patients' condition, it was decided to wait until the second HH-43, '"Pedro 28," arrived from Nellis with a doctor aboard. It touched down soon afterward and a flight surgeon, Wing Cmdr Donald A. Smyth (MC), Royal Australian Air Force, examined the injured. The remaining survivors were placed in Pedro 28 and both helicopters returned to Nellis where the accident victims were transferred to medical facilities.

Sergeant Steelman later told newsmen, "if we had to wait for an ambulance to come to that remote area and bring the kids back to Las Vegas,I'm sure the three-year-old girl would not have survived."

Others sharing in the life-saving mission were, in Pedro 38, 1stLt Michael P. Winters, copilot; and MSgt William F. Pell, flight mechanic. In Pedro 28, Capt Samuel L. Ferguson, pilot; 1stLt Royce R. DuBose, copilot; A1c Michael S. Arends, flight mechanic; SSgt Michael T. Tool, medical technician.

Night Medevac For Eglin Det

EGLIN AFB, Fl.—A seriously-ill military dependent was airlifted from Eglin AFB to the Pensacola Baptist Hospital by an HH-43 crew from the LBR Det, 44th ARRSq, here. A night landing was made on the comparatively small rooftop pad without incident although numerous buildings and power transmission lines are near the approach path.

Capt William H. Austin, pilot on the mission, said Eglin METRO assisted by relaying requests through Eglin Tower to Pensacola Approach Control after a temporary problem arose with the UHF radio in the helicopter.

Others aboard the HH-43 were Maj Leonard N. Buck, copilot; LtCol John A. Johnson, Jr. (MC), a flight surgeon; Sgt Andrew Porras, Jr., firefighter; and SSgt Charles E. Veasey, helicopter mechanic.

Children Saved By Det 12

U-TAPAO RTNA-Thailand—A seven-year-old girl with a brain abcess and a 21-month-old boy with a serious breathing problem, were medevaced to the hospital in Bangkok by HH-43 crews attached to Det 12, 40th ARRSq, at this airfield.

The mercy missions were flown a few weeks apart. Members of the Pedro crew which airlifted the little girl to the hospital were Capt Ronald C. Green, pilot; and 2ndLt Don E. Bresett, copilot; Sgt Larry L. McCall, medical corpsman; and SSgt William R. Pendleton, flight mechanic. Also aboard was LtCol Wesley E. Romberger, commander, 11th USAF Hospital.

Manning the HH-43 on the other mission were Capt Gregor P. Noe, pilot; 1stLt David G. Rousseau, Jr., copilot; Capt Eldridge H. Pearsall, flight surgeon; SSgt Alan L. Suit, medical technician; and SSgt Frederick R. Marshall, helicopter mechanic.

HISTORIAN

Examining a model of the HOK, forerunner of the HH-43, is Aviation Historian H. L. "Larry" Elman, a research engineer at the Kaman Aerospace plant in Bloomfield, Conn. His speciality is called to the attention of Rotor Tips' readers who may share a similar interest in gathering, cataloguing and preserving records, photographs or other material concerned with the history of aviation.

Mr. Elman is vice president for research in the Connecticut Aeronautical Historical Assn; and editorial consultant and aircraft specialist for the American Aviation Historical Society. A former missile officer in the U. S. Air Force, Mr. Elman has published a large number of journal and magazine articles on aviation history. He began to specialize in details of aircraft camouflage and markings in 1959 and joined CAHA in 1963. Since then he has worked on a number of association research projects including WWI, WWII aircraft, early jets and so on.

At the present time, Mr. Elman and other aviation enthusiasts are restoring the K-16B, an early Kaman aircraft.

He may be contacted at the Connecticut Aeronautical Historical Assn., Box 44, Hebron, Ct. 06248.

Sup Det 35 Aids Hydrofoil Injured

Two hazardous night medevacs were made by an HH-2D crew from HSL-30's Support Det 35 after the hydrofoil gunboat USS Tucumcari ran aground six miles from Puerto Rico. Eight men were injured, two seriously, in the mishap. The detachment, operating with the USS El Paso, received a call for assistance at 1:30 a.m. and launched in the rain with a crew of six, including a doctor and corpsman.

Once over the grounded vessel, Lt William S. Fellner held the HH-2D in a 75-foot hover to avoid the high antenna and the doctor and medical equipment were lowered to the deck. A 12-knot wind was blowing at the time. As the patient was prepared for hoisting, the tall whip antenna on the ship was disassembled at the request of the helo pilots and the pickup was made from 40 feet. The injured man was taken to NAS Roosevelt Roads.

The helicopter hot-refueled and launched to pick up the second man. After delivering him to the air station, the HH-2D crew returned to the El Paso. An LCM from the El Paso evacuated the other injured personnel from the Tucumcari.

Afterward, a "well done" message from Capt K. J. Carroll, was received by the HSL-30 crew. Captain Carroll, commander of Amphibious Squadron 10, said, ". . .the helo medevac of two injured Tucumcari crewmen is an example of the aviation expertise of Lt W. S. Fellner and his detachment. . .accomplished under conditions with obstacles that could have been legitimate reasons to abort the mission."

Captain Carroll also commended the LCM coxswain and crew from the El Paso for their "daring rescue effort under extremely hazardous sea conditions."

With Lieutenant Fellner on the mission was the copilot, Lt(jg) Maynard B. Skidmore, and crewmen ADJ2 Walter J. Antonik and ADJ3 Bruce F. Christopher.

Spanish Train Wreck Victims Aided

USNS ROTA, Spain—A UH-2C crew from the SAR Unit here responded to a call for assistance after the worst train wreck in Spanish history occurred approximately 20 nautical miles from Rota.

The alert helicopter was rigged with two litters and launched to the scene within 15 minutes with LCdr Stephen Tobey, as aircraft commander, Lt(jg) Anthony S. Montemarano as copilot; ADJ1 Donald D. Hejtmanek, as rescue aircrewman and AMS1 David L. Hoffman, as crewman. Spanish officials in control at the crash scene requested medical assistance and rescue equipment to remove personnel still pinned in the train wreckage. The UH-2C responded by shuttling doctors and acetylene torches from Naval Station Rota, and also removed a badly injured Spanish Marine from the scene to the U. S. Naval Hospital for treatment.

In another mission, a UH-2C crew from the Unit medevaced an injured merchant seaman from the USNS O'Brien, 110 miles from Rota, to the naval hospital.

The alert helicopter was airborne within 10 minutes after verification of the ship's .position off the south Portugese coast. With LtCommander Tobey, the aircraft commander, were LCdr E. Paul Bateman, copilot; Petty Officer Hejtmanek, rescue aircrewman; and LCdr Gil A. Vasquez (MC), the station flight surgeon.

Although prepared for a litter lift, Doctor Vasquez was lowered to the ship's fantail and both he and the injured seaman were hoisted by rescue sling, completing the hoist after sunset. An hour later, the UH-2C landed at Rota and the injured seaman was transported to the hospital.

Pensacola Unit Rescues Pilot, Medevacs Sailor

NAS PENSACOLA, FL—A pilot who ejected from his A-7 after a ramp strike during night operations off the USS Lexington, was rescued by a UH-2C crew from the SAR Unit here. The incident took place 45 miles off-shore in the Gulf of Mexico as the SEASPRITE was flying plane guard for the carrier.

Manning the rescue helicopter were Lt Richard W. French, pilot; Ens James Adamson, copilot; AMS2 Morrison, first crewman; AMS2 Charles Wheatley, second crewman.

In another mission, a SEASPRITE from the Pensacola Unit medevaced a sailor from the Lexington to the hospital at NAS Corpus Christi, Tx. The UH-2C was on standby aboard the carrier when requested to take the patient, suffering from acute appendicitis, to shore. Helo pilot was Lt Michael S. O'Leary and Lt Philip C. Jamison was copilot. Crewmen were AN Peter Godinez and HM3 D. A. Pittman.

1000-HOURS—LCdr Lee Wright, left, officer-in-charge of the SAR Det at NAS Pensacola, Fl., presents Kaman Aerospace plaque to Lt Roy Hey who recently logged his 1000th flight hour as an H-2 pilot. At right is Homer Helm, KAC service representative. Other pilots whose names were recently added to the list of those similarly honored by the company are:
H-2 – Lt Curtis W. Huffman, Jr., HSL-31, NAS Imperial Beach, Ca.
HH-43 – LtCol Charles E. Trapp, Jr., 1550th Flying Training Squadron, Hill AFB, Ut. Maj John L. Debevec, Det 6, 42nd ARRSq, Holloman AFB, N. M.; Capt Cortland D. Field, Det 11, 44th ARRSq, Craig AFB, A1.; Jalil Khademolama, IIAF, Vahdati AFB, Iran. (USN photo)

33rd ARRSq Makes Rescues, Medevacs

KADENA AB, OKINAWA, Japan—Two rescues and four medevacs were numbered among missions flown by HH-43 crews from the 33rd ARRSq, here.

Pilot Rescued From Sea

An HH-43 scrambled after a May Day call was received from an A-4 pilot 18 miles west of Kadena. A minute later Futema Marine Corps tower advised that members of an A-4 flight had a "good chute" in sight. ADF bearings were taken on the A-4 transmissions and a course plotted to spot where the downed pilot had landed in the open sea. The entire HH-43 crew assisted in maintaining sight of the survivor once his initial position was identified.

The downed pilot had not deployed his dye marker, one-man raft, or used any survival equipment other than his life vest. This created a situation where he could easily be lost in the five-foot swells. Smoke bombs were placed to mark his position and the rescue sling was lowered. The survivor had difficulty in getting into the sling and Capt John L. Belina was about to send Sgt Michael Stearsman, a medical technician, to his aid when the pilot entered the sling correctly. After he was aboard, it was found that he had a strained knee and ankle plus shock. He was treated for his injuries while enroute to Camp Kue Army Hospital. Other members of the HH-43 crew were Major Williams, the copilot; and SSgt John Lewis, helicopter mechanic and hoist operator.

Two Saved By HH-43 Crew

Two pilots who ejected from a crippled T-33 were located and taken to the hospital by an HH-43 crew from the Kadena unit. "Pedro 51" scrambled when an in-flight emergency was declared by the T-33 and was in the area when the ejections took place. Enroute, Captain Belina directed his crew to prepare for both a water and land hoist pickup since the bail-out area was on a peninsula and could easily be overshot.

As both pilots ejected, it became evident that they would land in a hilly sugar cane/quarry area. While SSgt Daryl Kubotsu, a medic, kept the survivors in sight, Sergeants Floyd Calhoun and Kenneth Early, firefighters, prepared the cabin for multi-litter loading. Pedro 51 was on final as the downed airmen landed. One pilot suffered minor injuries and was on his feet almost immediately, however, the other landed on a log-covered area and didn't move.

Captain Belina landed in a small clearing near the most severely injured pilot and Sergeant Kubotsu and Sergeant Calhoun went to his aid. Meanwhile, Sergeant Early found and began calming the other pilot who was in shock. The medic gave first aid to both survivors and they were airlifted to the hospital.

Seaman Airlifted From Ship

A Filipino seaman suffering from suspected acute appendicitis was evacuated from a ship 48 miles from Kadena by an HH-43 crew from the 33rd.

Due to low ceilings and visibility, Captain Belina flew the rescue helicopter well below mountain peaks, through valleys, and eventually, along the coast, so that the crew could maintain a known reference from which to begin the open sea leg of the mission. Radio and radar communications were lost five miles north of Kadena due to the low altitude of the helicopter, mountains, and rainshowers. Navigation throughout the flight was extremely difficult and the entire crew was occupied with "terrain avoidance," identifying landmarks, and, in the open sea, maintaining search area coverage.

Once the ship was located, Sergeant Kubotsu was lowered on the forest penetrator. The ship's masts and antenna, plus the wind direction, made the hoist letdown and pickup extremely hazardous from the pilot's seat. Subsequent pickups were made with LtCol Roy L. Crawford, the copilot, hovering the HH-43 at the bow. The vessel's captain had ordered the ship stopped dead in the water, which further complicated the pickup.

The medical technician examined the patient and had him carried to the bow where he was secured to the Stokes litter and hoisted to the helicopter. Sergeant Kubotsu was then hoisted aboard and the helicopter headed back through heavy rain showers to the hospital.

Also aboard the HH-43 were Capt Donald Thompson (MC), a flight surgeon, and SSgt William Amendalare, helicopter mechanic and hoist operator.

Wounded Evacuated

In other medevacs, an HH-43 crew headed by Major Richard A. Smith airlifted two Marines to the hospital after they were seriously wounded in an accidental shotgun blast. Other members of the helicopter crew were 1stLt Wayne A. Hargrove, copilot; SSgt Michael Stearsman, medical technician; and Sgt James R. Middleton, helicopter mechanic.

Accident Victim Aided

A Marine seriously injured in an automobile accident was airlifted to the hospital in an HH-43 flown by Maj Isamu S. Momii. Lieutenant Hargrove was copilot and Sergeant Stearsman, medical technician.

Japanese Helped

A 19-year-old Japanese seriously injured in a motorcycle accident on the island of Kume-Shima was airlifted to Naha AB for further transfer to nearby medical facilities. Major Smith was pilot on the mercy mission and 1stLt Daniel J. Grzych was copilot. Also aboard were Sergeant Middleton, helicopter mechanic; Sergeant Johnson, medical technician; and Capt Bruce Buchler (MC), a flight surgeon.

THE WORD IS "GO"—The LSE of HSL-30 Sup Det 31 gives the thumbs-up signal to inform the pilots that everything is "GO" for the next mission.

THE THUMBS-UP HELO DETACHMENT OF HSL-30

Story by *Lt Gordon I. Peterson and PH2 Harry Deffenbaugh*

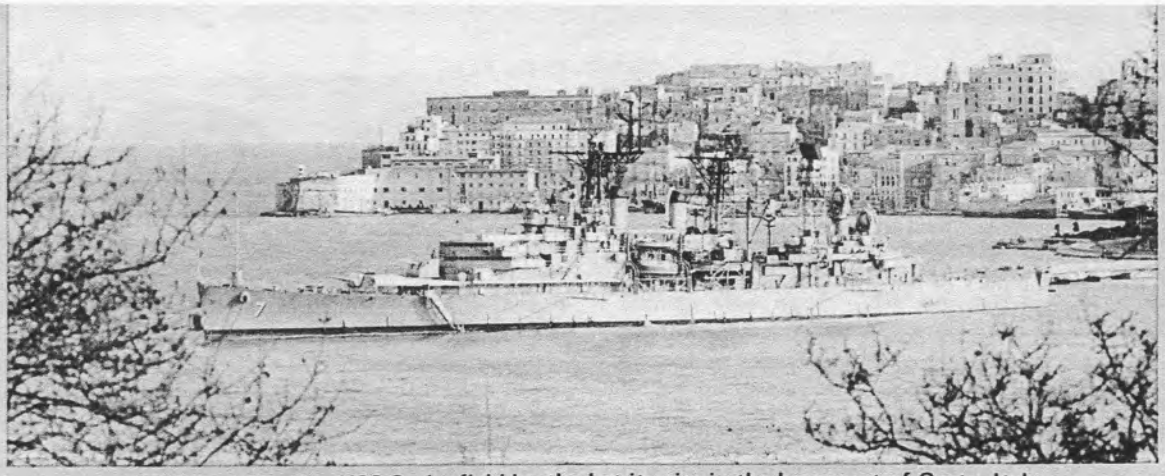
USN Photos by *PH1 "Moon" Mullins and PH2 Deffenbaugh*

An airdale helo crew stationed aboard a blackshoe cruiser with a three-star admiral for a boss is quite a job, but the men of Helicopter Anti-Submarine Squadron Light Thirty, Support Detachment Three One are handling everything with a thumbs-up, "can do" attitude.

Tasked with helicopter support to Commander U. S. Sixth Fleet, VAdm G. E. Miller, aboard the fleet flagship USS Springfield, the detachment became permanently established in September 1972 after a long history of crew rotation from the parent squadron on a six-month cycle. The assignment of three officer pilots and eight enlisted men for a two-year tour of duty will provide better continuity in the administration of the unit. Utilizing an HH-2D helicopter manufactured by Kaman Aerospace Corporation, the detachment has fulfilled a wide variety of missions.

Foremost on the list of responsibilities is to stay abreast of the busy schedule of a fleet commander. The helicopter's interior has been configured for VIP transfers by the ingenuity and resourcefulness of the crewmen and at no cost to the government. The Admiral's duties normally require helo transfer from ship to ship at sea, protocol visits in numerous foreign ports, and a mode of transportation that is convenient, speedy and dependable. The sometimes frantic pace is always kept up with by the men of Support Detachment 31. For the year 1972 the detachment transferred 1500 passengers, including the Secretary of the Navy, 37 different flag officers, and 15 high ranking civilian VIP's. The detachment assumes other missions aboard a fleet cruiser as well. The day's mission may range from cargo or mail transfer, photographic reconnaissance, search and rescue, or medical evacuation. Although no record by any means for a utility helicopter

"CAN DO" DETACHMENT—Sup Det 31 personnel shown with Capt V. O. Harkness, far right, commanding officer of the USS Springfield, are: left to right, Lt G. Peterson, officer-in-charge; Lt L. Poh, team pilot; ADJC D. Greene, crewleader; AMH2 C. Rose, AE3 R. Perkins, AT2 E. Kaprocki, AMH2 C. Labhart, AE2 T. Dearing, ADRAN E. Barth, Lt T. Ziemer, team pilot; ADJ2 P. Lopiano.



HOMEPLATE—The USS Springfield berthed at its pier in the homeport of Gaeta, Italy.

PROFESSIONAL ACHIEVEMENT—Lt Tim Ziemer was recently presented the Navy Achievement Medal by VAdm G. E. Miller, Commander U. S. Sixth Fleet, upon his rotation back to HSL-30 after a year's tour with Support Detachment 31. Lieutenant Ziemer was cited for his significant contributions to the administration of the detachment and his professional initiative. Lieutenant Ziemer's wife Jody looks on.

RESCUE READY—As the helo hovers above the deck of the cruiser, a crewman is lowered to the flight deck during a practice drill. (USN photos)

VIGILANT—A crash crew member poises at the ready as the aircraft makes a landing aboard the Springfield.

detachment, the 40,000 pounds of mail and cargo carried by helo over the past year is significant when the special mission of the detachment is considered.

As might be imagined, the effort required to maintain a sophisticated, all-weather aircraft aboard a ship with limited aeronautical provisions often taxes the ingenuity of the maintenance personnel. Major maintenance is normally planned for performance at the Naval Air Facility at Naples, just a 30-minute flight down the coast of Italy from the Springfield's homeport of Gaeta. The parent squadron, located at NAS Lakehurst, N. J., is also responsible for the administrative and maintenance support of the detachment. Aircraft are assigned to the detachment on a 12 - 18 month rotation. The outstanding support of all hands is reflected

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throughout the long days of flight quarters and the maintenance and upkeep that follow, the team effort that enables the detachment to forge ahead safely is paramount. The concern felt by each member of the detachment for the successful accomplishment of each mission is reflected in their faces. The men flying the helo and the crewmen waiting on the small deck of the cruiser below are all of the same agreement: CAN DO!

"BIRD WATCHING-NAVY STYLE"—A crewman of the helo detachment, AMH2 C. Labhart, looks to the horizon as the helicopter departs on another mission.

Air Force Rescue Crews Save 1748 Lives In 1972

Nearly 1,750 people around the world owe their lives to daring rescue efforts by Aerospace Rescue and Recovery Service (ARRS) aircrews in 1972.

In what proved to be an exciting and busy year for U. S. Air Force rescue teams, 1,748 people were saved from probable death. Of that total, 301 were downed American flyers in Southeast Asia, 101 were rescues in Southeast Asia in other than combat conditions, and 1,346 were rescued in other areas of the world.

ARRS crews proved once again that, while primarily designed to support U. S. Military installations, their expertise is available to all nations of the world, and to all people—military or civilian. More than 1,270 of the total saves were civilians, and the bulk of those were foreign nationals. Flying search and rescue fixed-wing aircraft and helicopters, including HH-43 HUSKIES, ARRS units are located at numerous sites in the continental United States, western Europe and the Pacific to provide rescue resources for emergencies.

One massive effort during the summer of 1972 didn't result in any saves being directly credited to ARRS crews, however, it did result in the airlift of more than 100,000 pounds of food and clothing to flooded villages in central and northern Luzon in the Philippines. HH-43 and other helicopters from Clark Air Base, R. P., also transported U. S. Army DART (Disaster Area Relief Teams) squads to various towns in the Philippines to assist in organizing joint American-Philippine disaster relief work.

The Military Assistance for Safety in Traffic (MAST) program accounted for more than 50 lives saved. In this program, military helicopters respond to civilian medical emergencies when time is critical and no other civilian resources are available. Two ARRS units utilizing HUSKIE's participated in this program. On many occasions, newborn or premature babies were rushed from remote sites to medical facilities.

Two HH-43 crews placed second in the 1972 International Helicopter Search and Rescue Competition held in England during July. As runners-up in the six day event, the ARRS team claimed the Kaman Aerospace trophy plus the Rolls Royce Trophy for placing first in the "Scramble" phase of the competition.

Another massive effort sparked by serious flooding near Seoul, Korea, accounted for nearly 750 saves. ARRS crews stationed at Osan AB, Korea, used HH-43 HUSKIE and HH-3 helicopters to pluck survivors from roof tops, telephone poles, and floating debris in the raging Han River near Seoul. When the flood waters began to recede, there were more than 233,000 refugees. Switching from rescue to relief efforts, the ARRS crews airlifted disaster teams, food, clothing, and medical supplies to the stricken villages.

The year 1972 was another rewarding one for ARRS crews. Their feats and accomplishments now total more than 13,000 lives saved in the 27-year history of the command.

More than 33,000 military awards and decorations have been presented to ARRS personnel in Southeast Asia since 1964—including 1 Medal of Honor, 39 Air Force Crosses, and over 600 Silver Stars.

Lakenheath Det Aids Civilian

RAF LAKENHEATH, England—An HH-43 crew from Det 3, 40th ARRWg, RAF Lakenheath, England, airlifted a seriously-ill patient from the USAF Hospital at Lakenheath to Addenbrook's Hospital in Cambridge. The night flight was made without incident and a landing was made on a football field adjacent to the hospital. The area, which was lighted by police and fire vehicles, is a designated landing site which had been surveyed and photographed for helicopter landing purposes.

Maj Thomas E. Rodgers was pilot on the flight and Capt Horace P. Holland, Jr., copilot. Also aboard were SSgt Ernest A. Muckle, attendant; Capt Jack O. Sipperly (MC), doctor; and Capt Craig R. McLeod (MC), anesthetist.

THAT OTHERS MAY LIVE

By A1c David S. Roderick
Office of Information, Luke AFB, Az.

LUKE AFB, Az.—"That Others May Live"—an honorable code to live by. That's the motto of the Aerospace Rescue and Recovery Service (ARRS) of which Det 15, the 42nd ARRS Squadron, at Luke AFB is a part.

On the first duty day of 1973 the men of the Detachment not only lived up to this code, they did it honor. The crew, flying an HH-43 HUSKIE helicopter, was sent to rescue two mountain climbers of a six-member party who were stranded on Humphrey's Peak near Flagstaff, Az.

The group had begun the ascent of the highest peak in Arizona New Years eve. The weather was fair, but soon changed. By noon the winds picked up, reaching gusts of 70 knots, and snow was falling. The wind-chill factor was measured at 40 degrees below zero. Ten hours later four members of the party decided to dare the descent in sub-zero weather. The remaining two, Clint Miller, 24, and Allison Clay, 17, both victims of frostbite and fatigue, decided to remain with their survival gear and wait for help to arrive.

Thirty-six hours later, after repeated attempts to reach the stranded climbers, the Flagstaff Sheriff's Department called Luke for assistance. Within minutes an HH-43 was dispatched to the area. The HUSKIE made the 110 mile trip in 90 minutes.

"An emergency helicopter of the Safety Department would normally have handled the emergency," explained LtCol Zack Stockett, Detachment 15 commander and copilot of the rescue helicopter, "but it was unable to land to make the pickup. And due to the waist-deep snow, the ground rescue team was having a hard time reaching them, although one man did make it to the site."

Once there, the man pushed, pulled and slid the two climbers some 20 feet to an open area where they could be hoisted up to the helicopter.

TSgt William Dean, a medical technician on the flight, was lowered to the ground and picked up Miller. "It was clear, cold and windy," recollected Sergeant Dean. "The snow was up to my waist, hard packed and it was extremely hard going."

SSgt Robert Vecchio, a second med tech on the flight, waited in the helicopter to render assistance and check Miller's vital signs. "He was suffering from shock and frostbite," stated the sergeant. "But he was breathing on his own so I made him as comfortable as possible."

The body of Miss Clay, who had died the night before, was brought up by litter. Ten minutes later the rescue helicopter arrived at the Flagstaff Hospital.

"It wasn't over though," added Colonel Stockett. "The sheriff's department then asked us to pick up three men from the original rescue party who were having a difficult time descending the peak."

On January second Detachment 15 was credited with its first save of the New Year. Other members of the helicopter crew were Maj Ralph L. Gaede, aircraft commander, and Sgt Russell Reffitt, flight engineer.

'Premie' Medevacs Continue

As 1972 drew to a close, HH-43 crews at Luke continue making their life-saving flights to medevac premature babies born on Indian reservations or in small, isolated mining towns. At the same time, the detachment began sharing all MAST missions with a newly-developed unit of the Arizona Highway Patrol. However, the police helicopters cannot handle the incubator required for the premature infant mission.

A request for premature infant medevacs is only authorized through two doctors in the state. They, in turn, will only request the HH-43 if the infant is in critical condition. Generally, the infants are "extremely premature" with weight ranging from as little as one pound, six ounces, to three pounds. Most of these missions originate in small mining towns or Indian reservations that are staffed only by a small clinic. Because of this, it is critical that the infant be placed in an isolette unit (incubator) and flown

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ARRS Vice Commander Retires

HQ. ARRS, Scott AFB, Il.—Air Force Col Saleem Aswad recently ended a colorful 31-year military career that included personal contact with kings and other royalty, numerous combat bombing missions during World War II, command of communications units, staff direction of the Air Force's rescue operations, and international travel.

At ceremonies here, Colonel Aswad was retired from active duty and presented the first oak leaf cluster to the Legion of Merit by BrigGen Frank K. Everest, Commander, Aerospace Rescue and Recovery Service. His other military decorations include the Distinguished Flying Cross with one oak leaf cluster and the Air Medal with seven oak leaf clusters.

Colonel Aswad's international diplomatic travel and his contact with royalty came about not so much because of his rank as an Air Force officer, but more because of his unique talent—his fluency in the Arabic language.

"One of those unusual jobs," explained the Colonel, was as the Air Force liaison officer working with the U. S. State Department and the Libyan government to negotiate the Base Rights and Status of Forces Agreement covering the U. S. military occupancy of Wheelus Air Base, Tripoli, Libya.

"While there," commented the Colonel, "I met several times with the king of Libya, King Idriss I."

Colonel Aswad entered the service in 1942 as an aviation cadet and was commissioned in July 1943. As a B-25 pilot he made 67 bombing runs over North Africa, Italy, France, and Yugoslavia.

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Hazardous Night Rescues Save Six

NAKHON PHAN RTAFB, Thailand—Two B-52 crewmembers who ejected from their crippled aircraft at night and landed in thick jungle, were rescued by an HH-43 Pedro from the 40th ARRSq's LBR Det here.

In order to make the first pickup, Capt Robert D. Thompson and his copilot, 1stLt George S. Tarrant, held the rescue helicopter in a tree-top hover. Sgt Cleveland Sheffield, Jr., the crew chief, was lowered on the forest penetrator seat and assisted the dazed survivor onto the rescue device. Sgt Lawrence Crouch, a firefighter, hoisted the man aboard where he was treated for shock by Sgt Harold D. DeLoma, the medic.

Another survivor was spotted by the light of a flare and Pedro moved to that area. Although injured, the downed airman was able to mount the penetrator seat and was hoisted aboard where he was treated by Sergeant DeLoma and SSgt Kenneth L. Summy, the other firefighter. The rest of the survivors and Sergeant Sheffield were picked up by other helicopters.

In another hazardous night rescue by the Nakhon Phanom LBR Det, four crewmembers from an EC-47 were rescued after it crashed and burned in a heavily wooded area two miles from the base. A rice paddy 150 yards south of the impact point was the closest spot to land so the fire suppression kit was placed there. The firefighters, SSgt Walter J. Heller and Sgt Gary R. Brunty, left Pedro and headed for the wreckage. They were accompanied by Sgt Joseph Castlen, the medic.

Capt Theodore McKnight then hovered the HH-43 over the wreck to illuminate the area, while 1stLt Jerry M. Brewton, the copilot, coordinated with a night recon helicopter for a flare drop. Pedro landed and Lieutenant Brewton leaped out to assist in bringing the injured aboard. SSgt Ronald T. Jerome, crew chief, and Lieutenant Tarrant got aboard to assist with litter loads at the crash scene.

The downed pilot was placed aboard and airlifted back to the base. Three other survivors were placed aboard when the rescue helicopter returned and others were taken back to the base in another helicopter after a request for assistance from Pedro.

Afterward, Sergeants Heller and Brunty, were particularly commended for the part they played in assisting the injured at the risk of their own lives. They repeatedly entered the burning wreckage to ensure that there was no one left on board and while inside, braved not only the flames, but small arms ammunition that was "cooking off" from the intense heat. Their efforts were described as "outstanding."

In a third mission—of a civic action nature—an HH-43 crew from the Nakhon Phanon LBR detachment medevaced a baby girl to the base hospital from a small village after it was found she was suffering from an advanced state of protein starvation. The child's condition was discovered during physical examinations being given the villagers by a field medical team of doctors, a dentist and medical technicians. Soon after lift off the tiny patient went into a coma but her life was saved by the promptness with which she was airlifted to the hospital. Maj J. Harry Stow, III, was pilot on the mission; Lieutenant Tarrant, copilot; Sergeant Sheffield, crewman.

That Others May Live. . . *Continued from page 33*

to a larger Phoenix hospital as soon as possible after birth. The quicker the infant is placed in the isolette, the better his chances are for survival. Premature infants usually require a complete blood change, oxygen, and special care within hours of birth.

Medical technicians that fly with Det 15 play a vital role in keeping the infant alive during the trip. Treatment varies with each infant, but generally the medic is required to 'bag' or pump oxygen into the child the entire trip to keep the baby breathing. He also must give the child IV solution by hand, as an IV bottle is too large to use on the baby. The medics attend a special school given in a Phoenix hospital on premature infant care. It is certain that without their professional help, many would not survive the flight.

LtCol Zack L. Stockett was pilot on five of the missions flown during the last months of 1972, and Capt Cole E. Walker was also pilot on five of the medevacs. Capts Robert O. Nelson and John Drexler flew one each. 1stLt Ralph S. Winton was copilot on five of the medevacs, Capt Larry Lindberg flew five as copilot and Captain Walker was copilot on one flight.

A1c David L. Perry flew three missions as helicopter mechanic; four were flown by Sgt Robert Prunty; Sgt Ralph Gay was helicopter mechanic on four and Sgt David Joe, Jr., helicopter mechanic on one. Medical technicians and the number of flights made were: A1c Albert V. Schaff, four; Sgt Jeff Miekam, two; Sgt M. E. Bankson, one; Sgt Robert Vecchio, three; Sgt Peter J. Lee, one; SSgt William Dean, one.

Colonel Aswad—*Continued from page 33*

After the war, he attended Air Tactical School at Tyndall AFB, Fl., and served with the Airways and Air Communications Service in Canada and at Andrews AFB, Md. He attended the Air Command and Staff College followed by his assignment in Libya.

In 1955, Colonel Aswad was assigned to Headquarters Military Air Transport Service at Andrews AFB, now the Military Airlift Command (MAC) at Scott AFB, then served a four-year tour of duty as director of War Plans, 322nd Air Division (MAC) at Chateauroux AB, France. He was reassigned as Deputy Chief of Staff for Plans, Headquarters 22nd Air Force (MAC) until August 1967, when he assumed command of the 40th ARRWg at Ramstein AB, Germany.

He came to Scott in November 1970 as the Vice-Commander of ARRS headquarters—assisting in the direction of an elite force which provides global air search and rescue coverage. While in this position, his worldwide command accounted for more than 3,000 lives saved, including more than 700 downed American crewmen in Vietnam.

Retirement won't mark the end of his international travel. Colonel Aswad will now work for the Lockheed Aircraft Corporation and be in charge of their sales office in Beirut, Lebanon, traveling extensively throughout the Middle East and Western Europe.

Variety of Missions For Oceana Unit

NAS OCEANA, Va.—A variety of missions were reported recently by H-2 crews from the SAR Unit here.

Aid Injured Accident Victim

A SEASPRITE piloted by Lt William R. Butler, Jr., with Lt(jg) John J. Stahl, III, as copilot, responded to a call for assistance after a truck containing four people fell from a high level bridge. The helo arrived overhead and AME3 Timothy J. Patrick was lowered to a boat where he gave first aid to a seriously-injured survivor. The man was hoisted to the helo and given additional aid on the flight to Portsmouth Naval Hospital by AT1 Richard L. Holmes and ADJ2 Joseph B. Oates. The H-2 returned to the accident scene and, with another SEASPRITE from the SAR Unit, began an unsuccessful search for another man who had been in the truck when it plunged into the water. The two helos flew a total of 9.6 hours before the search was given up. Manning the second Oceana H-2 were Lt Robert H. Pasco, pilot; Lt(jg) Thomas B. Stables, copilot; AE2 Ted Wicker and AMSAN B. C. Smith, crewmen.

Airlift Rare Blood

A SEASPRITE crew from the Unit airlifted urgently needed rare blood for a young girl in Portsmouth Naval Hospital. Lt Joseph M. Hutnik and his crew were the "final leg" in a cross-country relay formed to rush the blood to the patient. Takeoff with the precious cargo was after 1 a.m. and a landing was made a few minutes later in a baseball field illuminated by automobile lights. Other members of the mercy crew were Lieutenant Stahl, copilot, and Petty Officers Holmes and Patrick, crewmen.

Ocean Medevac

An HH-2D crew from the Oceana SAR Unit launched after a request was received to medevac a suspected appendicitis victim from the USS Barney, a DDG 50 miles off the Virginia coast. Once over the ship, Lieutenant Pasco held the H-2 in a hover between two missile turrets and AT3 Joseph P. Shelton was lowered to the deck. He checked the Stokes litter rig, hooked it to the hoist cable and used a rope to stabilize the litter as it was hoisted to the aircraft. Petty Officer Holmes and HM2 David L. Evans brought the patient into the cabin and then Shelton was hoisted aboard. The H-2, accompanied by a Coast Guard helo, then headed for the Naval hospital. Copilot on the mission was Lt(jg) Johnnie E. Ford.

Downed Marines Aided

When a Marine helicopter developed engine trouble and landed in a field at night, an H-2 from the SAR Unit was dispatched to the scene to investigate. Lieutenant Stahl landed the helo near the downed ship and picked up most of the downed airmen. They were taken back to Oceana and the H-2 crew returned to the field with food and blankets for the pilot and crewman of the downed helicopter who planned to spend the night in the aircraft.

Others manning the Oceana helo were Lt(jg) William G. Miller, copilot; AMS3 Walter P. Mueller and Petty Officer Moses, crewmen.

Helos Fight Ship Fire

First helo on the scene when a small ship caught fire at Cape Charles, Va., dock was an H-2 from the Oceana Unit. The SEASPRITE, piloted by Lieutenant Butler, was dispatched to the Coast Guard station at Little Creek to pick up 400 pounds of a fire extinguishing agent. It was airlifted to a small field near the docks and delivered to volunteer firemen fighting the blaze. The H-2 then returned for more of the extinguishing agent and airlifted it to the field. Other members of the SEASPRITE crew were Lt(jg) Warren R. Eckert, copilot; and AM2 Kenneth N. Conner and AT3 Dennis L. Moses, crewmen.

SAR SIGN—In an effort to better illustrate the full scope and various facets of their mission, the NAS Pensacola Search and Rescue Detachment recently held a contest for a new insignia. The winning entry was an elaboration of a basic design submitted by AE1 William Jukola. By using the palm tree and aircraft carrier, he exhibited both the land and sea SAR capabilities of the Detachment. The lightning bolt and futuristic helicopter represent the quick response to emergencies and the forward-looking attitude of the detachment. (USN photo)

HC-2 Det 67 Rescues Seven

NAS LAKEHURST, N.J.—The four-man crew of an aircraft which ditched a short distance from the USS J. F. Kennedy, was rescued soon afterward by an HH-2D from HC-2's Det 67 deployed aboard the giant carrier. Manning the SEASPRITE were Lt L. E. Hays, pilot; Lt J. C. Harrison, copilot; ADJ2 D. T. Warmkessel,first crewman; ADJ2 J. C. McDonald, second crewman.

The detachment, which returned to HC-2 at this naval air station a few months ago, also utilized an HH-2D to rescue a pilot from his crippled aircraft and landed in the sea. As Lieutenant Hays held the SEASPRITE in a hover, ADJ2 G. H. Trouton, was lowered to the survivor's assistance. Both men were then hoisted aboard by AMH3 F. L. Barthold, first crewman. Copilot on the mission was Lt R. E. Hey.

Two "men overboard" were rescued from the sea by an HH-2D manned by Lt H. Hosp, pilot; Lieutenant Harrison, copilot; Petty Officer McDonald, first crewman; and AMH3 G. J. Gambescia, second crewman. Petty Officer Gambescia was lowered to the water twice during the rescue mission to aid the survivors.

From HSL-31 LAMPS Detachment Two

SH-2D Recovers Drone

NAS IMPERIAL BEACH, Ca—Capping off a successful WestPac cruise, HSL-31's Detachment Two embarked aboard USS Harold E. Holt made a successful recovery of a drone aircraft. After receiving word that the drone was down, the ship launched the SH-2D which immediately flew toward the area. The helicopter's LN66 radar picked up the drone at eight miles, allowing the sensor operator to guide the helo directly to the drone. When on top, it was marked with MK25 smokes to guide the ship in for recovery.

After checking the weight charts for the drone and the helo, Lt D. H. Christian, officer-in-charge of the detachment, suggested that the recovery could be made easier and more quickly if it were "vertreped" aboard—thus illustrating another of the "multi-purpose" uses of the LAMPS concept.

Two swimmers, AWC A. H. Blood and AT2 M. R. Selander, were dropped near the drone to clear the parachute and attach a pendant. The helo entered a low hover over the 2500-pound drone to allow one swimmer to rig the pendant to the VertRep hook. As the drone broke the surface and drained, the helo was pulling 62% torque. This decreased to 45% as translational lift was achieved. Over Holt's flight deck 52% torque was required, as the drone was placed gently on the ship. The actual recovery took less than 15 minutes with no damage to aircraft or drone.