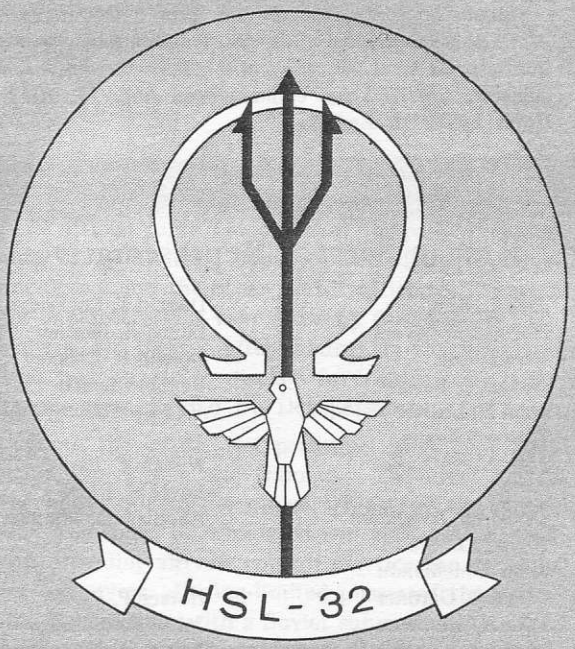
KAMAN Rotor Tips



MARCH-APRIL, 1974

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Rotor Tips

Dan A. D'Amelio *Editor* **Barbara R. Thompson** *Assistant Editor* Volume VIII No. 3

On The Cover

Insignia of the W. S. Sims and HSL-32. Commander of U. S. naval forces during WWI, Admiral Sims was an innovator in naval gunnery and a noted writer on naval subjects. HSL-32 was commissioned Aug. 17, 1973. Cover by E. M. Enders.

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First Long Med Deployment For SH-2F

HSL-32 HELO, USS W. S. SIMS FORM LAMPS TEAM

The SH-2F, Kaman Aerospace Corporation's newly configured helicopter, successfully completed its first extended Med deployment recently aboard the USS W. S. Sims.

One event of the deployment was a series of flight and static demonstrations given by personnel from HSL-32's Det 4 for members of the Royal Netherlands Navy staff and their Danish guests.

The extended cruise included visits to two enroute ports, Amsterdam and Lisbon. At both ports, all hands took advantage of the sights.

When the ship left Mayport and headed toward the open sea, several passes were made by the Det's SH-2F, piloted by LCdr Henry Clay and Lt Thomas Cochran, copilot. As the "Foxtrot" touched down, it marked the first time an SH-2F had ever landed on board the Sims. The Det 4 helo, assigned nickname "Pacesetter 68," and crew were soon integrated into the ship operation as the Sims Air Group.

With the ship heading toward Amsterdam, flight operations were held around the clock to sharpen pilot and crew destroyer operation proficiency.

Off the Netherlands coast, on September 25, the ship received the official party. Members of the party included Commodore F. Polderman, Deputy Chief of Staff, Royal Netherlands Navy and the other RNLN officers. The next day, flight demonstrations were given by Commander Clay at Valkenberg Air Base. After landing at the base, the SH-2F was put on static display for the official party and questions were fielded by Det personnel.

Throughout the cruise, Det personnel were kept busy with routine operations and training. The crew logged 477 flight hours during the cruise. Most of the crew's flying time was spent on simulated and actual ASW/ESM flights and providing aircraft control practice for the Sims and other destroyers. During-limited phases of the operation, contact was made with a Soviet submarine and spotlights from a Soviet ship were directed at the helicopter.

While on board the Sims, the helo group worked well with the ship's company. The relationship that developed between both groups was described as outstanding. One of the Det personnel, reflecting that relationship, said: "It was a good ship and we got along fine."

'. . . a good ship a

HSL-32 LAMPS Det 4/Sims Air Group

First row, left to right, Lt(jg) Alan E. Para, AE3 Mark Campi, AT3 Thomas J. McCann, AE3 Mario R. Marino. Second row, ADJ3 Thomas Z. Craig and AX2 Lewis A. Monnin. Standing, Lt Charles R. Carroll, AMS2 Bruce E. Brand, ADJ1 Robert O. Fite, AX3 James R. Cunio, AW3 James B. Crandall, AT1 Orrin J. Bloodworth, AW2 Joseph C. Blackman, Lt(jg) Walter S. Howdyshell, LCdr Henry L. Clay, III, Officer-in-Charge. In helo crew door, AMH3 Dwight R. Williams; in cockpit, Lt Thomas J. Corcoran.

USS W.S. Sims

Cdr Thomas J. Moore
Commanding Officer

LCdr William A. Hartman
Executive Officer

226 Enlisted Personnel
Represented by the following
Department Heads:

Lt William S. Phillips
Engineer Officer

Lt(jg) David M. Mosey
M Division Officer

Lt Joseph P. Leahy
Weapons Officer

Lt(jg) Charles R. Rodriguez
Communications Officer/CMS Custodian

Lt Michael D. Hooth
Supply Officer

Ens Stuart C. Lilly
Gunnery Officer

Lt William F. Berthiaume
Operations Officer

Ens William G. Hudson
First Lieutenant

Lt(jg) Edwin H. Bouton, Jr.
CIC Officer

Ens Kenneth M. Wallis
Damage Control Assistant

Lt(jg) Mark E. Brender
Personnel Officer/Navigator

Ens Michael T. Doyle
Boiler Officer

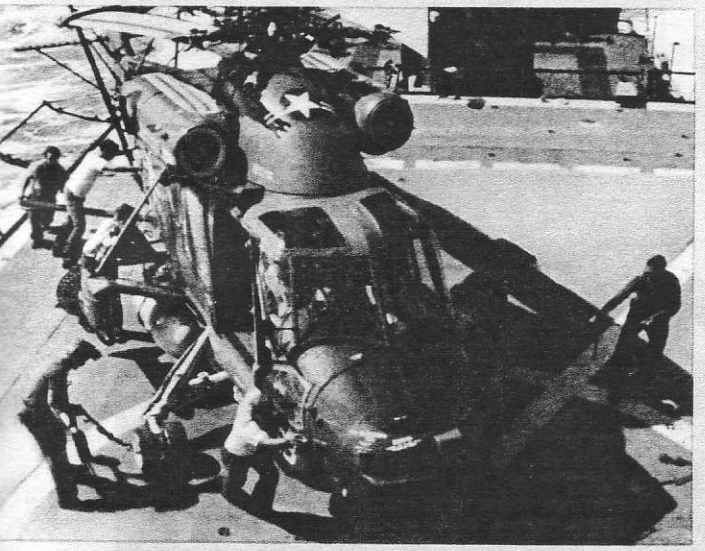
Lt(jg) Frank B. Guest, III
ASW Officer

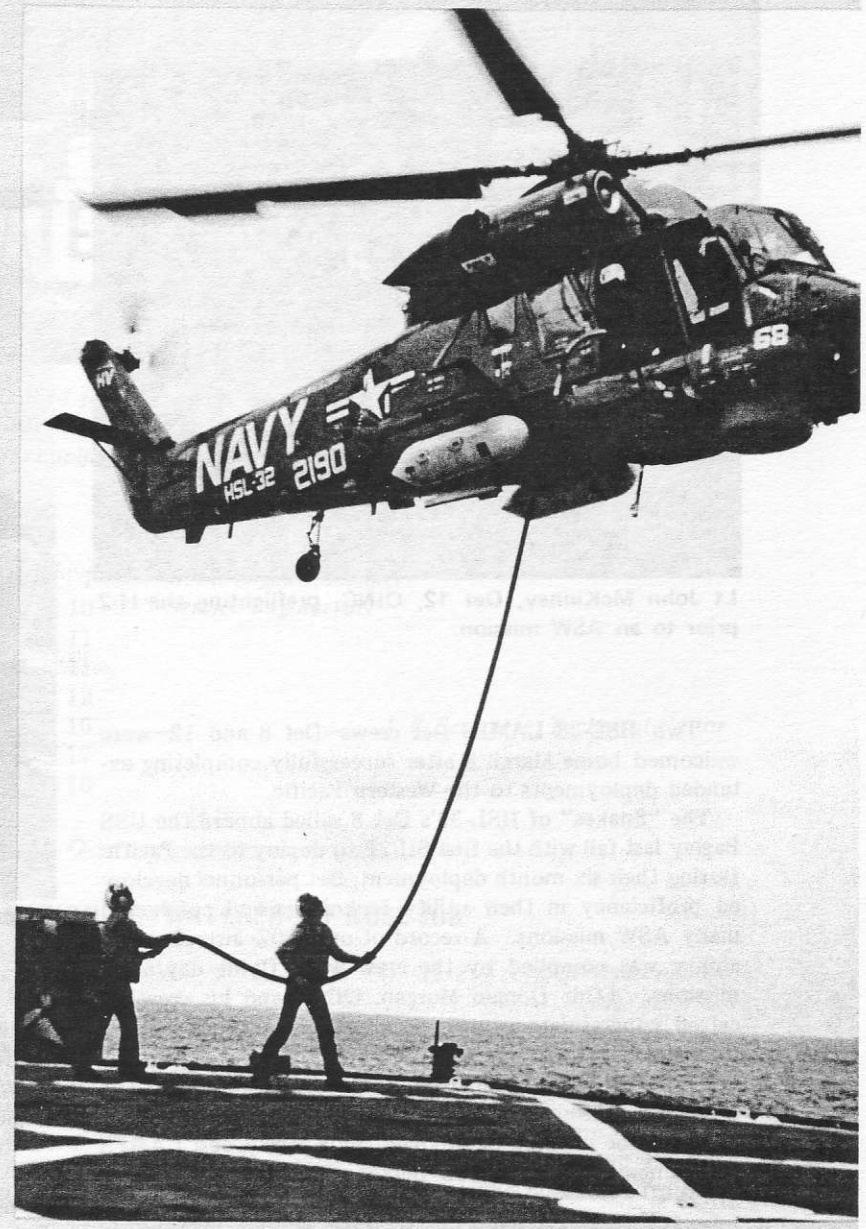
Ens David L. Kane
Disbursing Officer

The USS W. S. Sims (DE-1059) is a Knox (DE-1052) class destroyer escort.

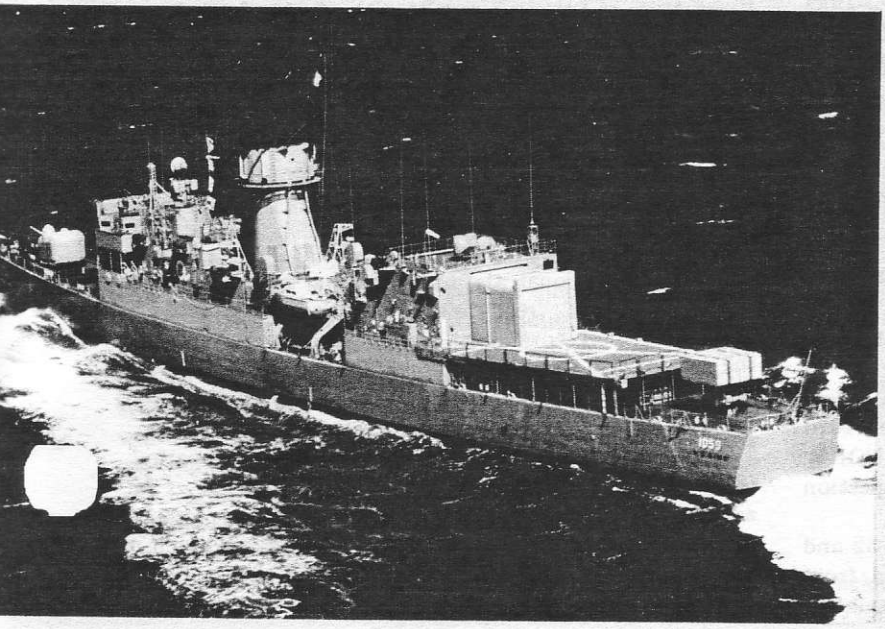
Length	438 Feet
Beam	46 Feet 9 Inches
Draft	24 Feet 9 Inches
Displacement	4100 Tons
Propulsion	Single Screw, Steam Turbine, Automatic Combustion Control
Horsepower	35,000 Shaft HP
Maximum Designed Speed	In Excess of 27 Knots
Fuel Capacity	220,000 Gallons
Allowance	16 Officers/ 226 Enlisted
Armament	5 Inch 54 Caliber Mount, ASROC, Hull Mounted Homing Torpedoes and Basic Point Defense Surface Missile System
Launched	4 January 1969
Commissioned	3 January 1970

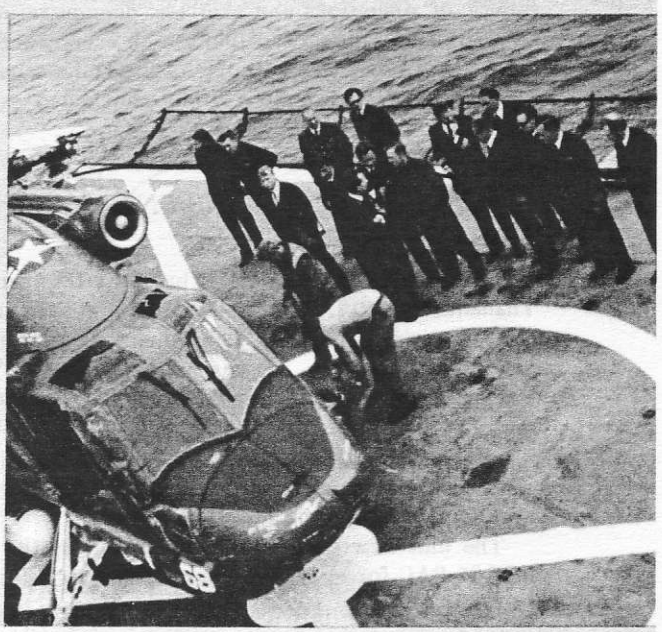
we got along fine.'



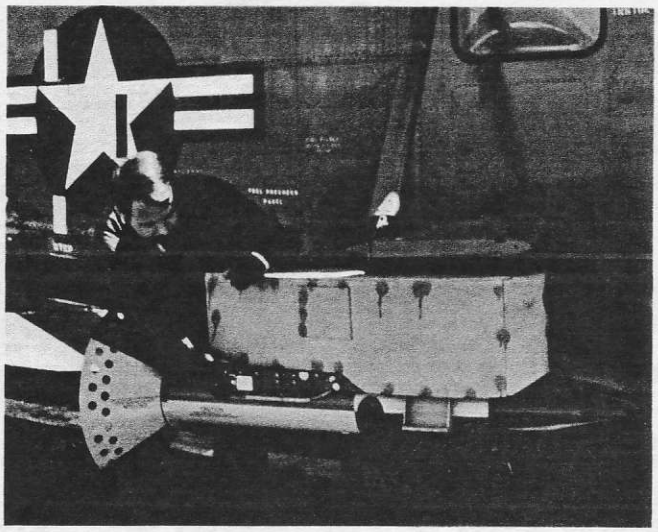


Above,crew pushes Foxtrot into "barn." Right, a common sight during the extended cruise—in-flight refueling. At right below, Royal Netherlands Navy staff members and their guests are given a briefing on the SH-2F. The LAMPS helicopter has twin T58-GE-8F engines, ASMD (Anti-Ship Missile Defense), ASW (Anti-Submarine Warfare), rescue capabilities. Below, the USS W. S. Sims—one of a new class of ocean escort destroyers equipped with the latest Sonar and anti-submarine fire control systems.





'Snakes' Return From WestPac Deployment



Lt John McKinney, Det 12, OINC, preflighting the H-2 prior to an ASW mission.

Maintenance, while deployed, is a continuous process.

Two HSL-33 LAMPS Det crews—Det 8 and 12—were welcomed home March 8 after successfully completing extended deployments to the Western Pacific.

The "Snakes" of HSL-33's Det 8 sailed aboard the USS Bagley last fall with the first SH-2F to deploy to the Pacific. During their six-month deployment, Det personnel developed proficiency in their utility techniques and conducted many ASW missions. A record of over 90% aircraft availability was compiled by the crew while flying day/night missions. LCdr Donald Morgan, OINC, and his crew received congratulatory messages on the successful completion of their deployment.

HSL-33's Det 12 departed from San Diego aboard the USS Marvin Shields on August 15, 1973, with the last SH-2D to be used on deployment by a West Coast LAMPS detachment. All HSL-33 detachments are now using SH-2F's.

The seven-month deployment of Det 12 was marked by a variety of operations and exercises demonstrating a wide range of LAMPS/ship capabilities. In exercises Fly-a-Way, the LAMPS team demonstrated its all-around capabilities in a multi-threat environment. The ship acted as an ASW platform, an anti-air warfare picket unit, and a naval gunfire support unit for amphibious operations. Other ASW forces—including the LAMPS Det 8, aboard the Bagley—also took part in the exercise.

In addition to participating in U. S. Navy operations, Det 12 was also called on to give LAMPS presentations to military officials from Korea and Japan. In November, Det 12 participated in exercises with the Republic of Korea Navy and the Japanese Maritime Self-Defense Force. The exercises provided ASW training for the three naval forces and strengthened mutual understanding between the services.

MAINTENANCE AWARD GOES TO THAILAND UNIT

Detachment 12, 40 ARRS, based at U-Tapao Airfield, Thailand, recently won the Aerospace Rescue and Recovery Service's 1973 Best Detachment Level Maintenance Section Award.

The competition was among other detachment-size organizations with H-43, H-1 and H-3 helicopters. The award was based on a number of factors, including NORS, NORM, and In Commission Rates, Higher Headquarters Inspection Results and Staff Assistance Team visits.

The unit flew over 600 hours supporting the B-52 and KC-135 SAC force, plus transient traffic at U-Tapao, from July 1972, to July 1973. During this period, the unit was never non-operational—the only Thailand based H-43 unit that was always "ready"—and provided continuous 24 hour daily alert coverage. The maintenance section had the highest OR rate in SEA and never received a rating less than Satisfactory on over twenty inspections during the year from base, squadron and wing personnel.

The Maintenance Superintendents, during the period, were SMSgt Paul Koon, now assigned to AFLC as an advisor to Indonesia, and MSgt William Brooks, presently assigned to Hill AFB, Utah. The commander for much of the period was LtCol Norman Buck, who is now in Tanker Operations at Lockbourne AFB, Ohio.

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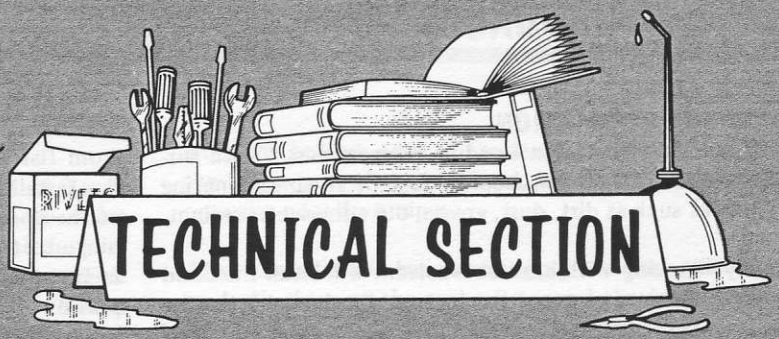

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H-2 NOSE DOOR SEAL INSTALLATION OR "WATERPROOF NOSE JOB"

H. Zubkoff, Service Engineer

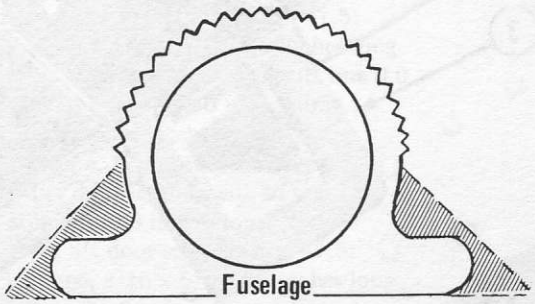
Reports from the field indicate an increase in water damage to "black boxes" located in the forward fuselage tub. Investigation of several aircraft revealed numerous cases of improperly installed, deteriorated, cracked or missing nose door seals. A subsequent review of seal installation procedures prompted preparation of the following article.

The nose doors and forward fuselage rubber seals must be "alive" and installed properly in order to keep water out. If the seals have deteriorated, are cracked and/or improperly installed (with gaps where butt joints should be), rain, spray, or wash water will enter and cause corrosion and possible malfunction of black boxes in the vicinity of the leakage.

Although nose door and fuselage seals are included in the Daily Inspection, the criteria will be amplified and added to the Calendar Inspection. The requirement will specify inspection of the seals for deterioration, deformation, damage, and evidence of water intrusion. Associated instructions in the airframe MIM (NAVAIR 01-260HCA-2-2) will include the intent of this article and also state that any damaged seals or evidence of water intrusion will be grounds for replacement of that seal.

GENERAL INFORMATION

There are two types of seals used on the nose door installation: flat rubber sheet (MIL-C-3133, Type SB42LFF; 3/16-inch thick) and the bulb-shaped rubber extrusion (MIL-R-6855, Class II, Grade 40) shown in Illustration 1. Both seals are synthetic rubber and may be purchased from the Continental Rubber Works, 2000 Liberty Street, Erie, Pa., 16512. One-piece seals should be used; do not use several pieces to make up the necessary length. Joints, when absolutely necessary, must be without gaps between the pieces.



Enlarged cross-section bulb-seal.
Note shaded areas indicating sealant.

Illustration 1

SERVICE ENGINEERS: N. L. Hankins, J. M. Nenichka, Avionics; R. J. Trella, Drive/Lube; W. J. Wagemaker, Rotors/Controls/Hydraulics; H. Zubkoff, Engine/Airframe/Fuel/Utilities.

SURFACE PREPARATION

The most critical step in bonding is cleanliness. Both surfaces, seal and structure, must be free of all contaminating substances such as dirt, dust, grease, old adhesive or sealant.

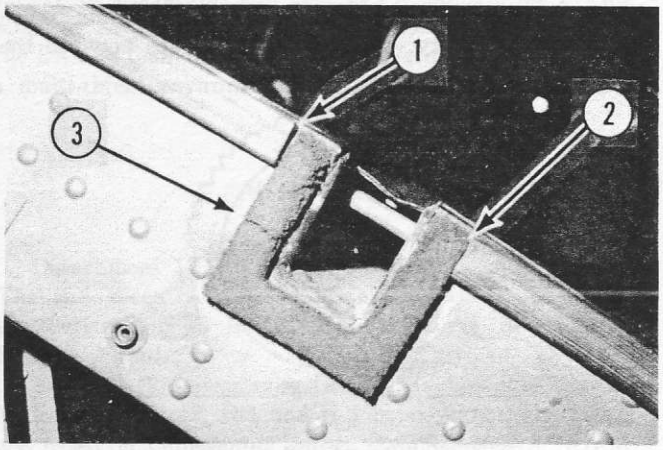
Usually, washing with a suitable solvent will clean the bond surfaces. In some cases, however, an abrasive may also be required in order to remove previously applied coats of adhesives. Final cleaning should be accomplished using Methyl-Ethyl-Ketone (MEK) in accordance with Federal Specifications, TT-M-261. Dry cleaning or safety solvents are suitable substitutes.

To clean the surfaces, soak a clean lint-free cloth in MEK and wash all contacting areas. Follow up with another cloth dampened in MEK. Wipe dry with a third, clean, dry cloth and allow surfaces to air-dry. Be sure all traces of moisture have evaporated before applying adhesive.

Use rubber-to-metal adhesive conforming to MIL-A-5092, as listed in NA01-260HCA-2-1. Apply the adhesive to both bond surfaces, being sure to apply a slightly wider band of adhesive to the structure than the width of the seal to be installed. Allow the adhesive to dry until tacky (approximately 15 minutes). The seal should be firmly pressed against the metal to ensure full contact of the two mating surfaces. The adhesive should be allowed to cure for approximately 12 hours (nose doors open).

NOSE DOOR SEALS

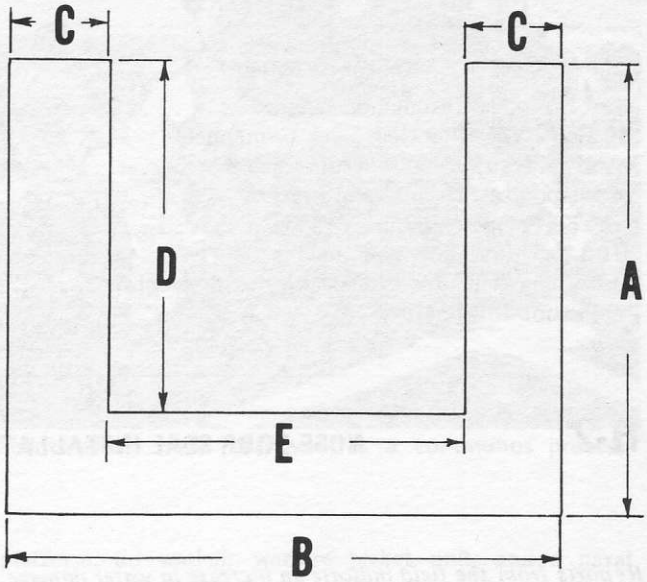
Each door latch seal (2 per door; see Photo 1) is fabricated from a single piece of flat rubber to the dimensions listed on Illustration 2. The remaining seals at the BL 0.0 frame on the RH door are made from flat rubber (Illustration 3, items D, E and F). The remaining seals at the BL 0.0 frame for the LH door are made from the bulb-type extrusion seal (Illustration 3, items I, J and K). Lengths are listed in Illustration 3. Install nose door seals with edges flush with the skin and trim off excess lengths.



1. Poor butt joint
2. Acceptable joint
3. Cracked; should replace with new U-shaped seal

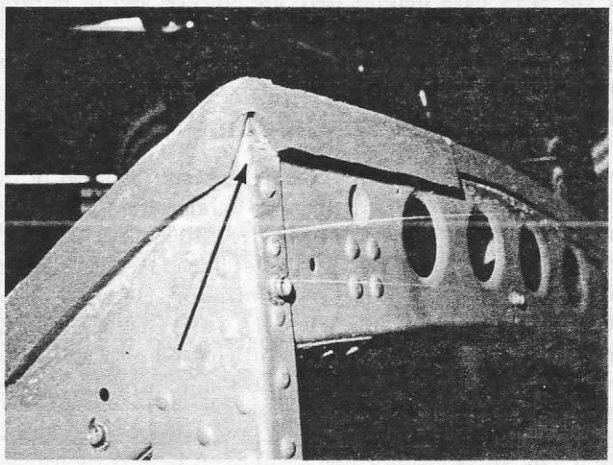
Photo 1

The nose doors aft frame seals (station 47.5) are fabricated from flat rubber sheet and are dimensioned in Illustration 3. Install 35-inch seals, items G and H on the lower half of the door aft frame, from the bottom of one lower door hinge to the lower end of the BL 0.0 vertical door frame member. Install 52-inch seal, items C and L on the upper portion of the door aft frame from the top edge of the lower door hinge, up along the aft frame and AROUND THE UPPER CORNER of the BL 0.0 vertical frame member. It may be necessary to make a relief cut at the door corner as shown in Photo 2 to obtain a proper fit.



A. 2-1/2 inches
B. 2-3/8 inches
C. 5/8-inch
D. 1-7/8 inches
E. 1-1/8 inches

Illustration 2



Arrow points to relief cut

Photo 2

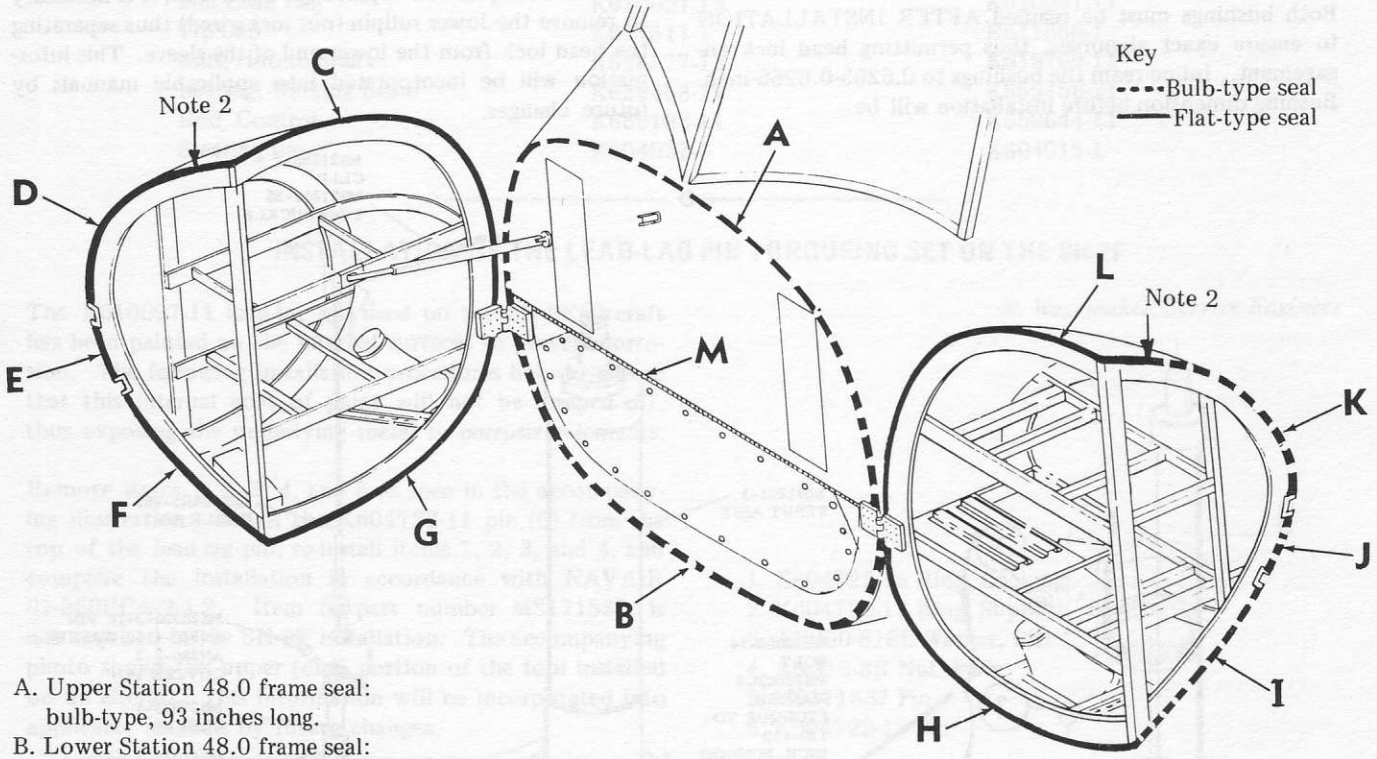
STATION 48 FRAME SEAL
(Refer to Illustration 3.)

When it becomes necessary to replace a station 48.0 seal, remove all traces of the old seal, close the nose doors against the fuselage and lightly trace the outline of the nose door frame (station 47.5) onto station 48 bulkhead. This line indicates maximum outer position of the bulkhead seal; optimim position for the seal is approximately 1/16-inch inside the line.

Two lengths of bulb rubber extrusion seals are required. The 93-inch length (index A), extends from the upper edge of one lower nose door hinge, across the upper part of the bulkhead, to the upper edge of the opposite lower nose door hinge. (Seals are not installed on the hinges.) The 68-inch length (index B), is bonded to the frame, from the bottom edge of the lower nose door hinge, across the lower part of the bulkhead, to the bottom edge of the opposite nose door hinge.

After the adhesive has cured, apply a sealant fillet at joint on both sides of the seal, all around the frame, as shown in Illustration 1. Use sealant, EC1239A in accordance with MIL-S-7502A, or a suitable substitute such as EC1675 or EC801. Allow the sealant to air-dry with the nose doors open for at least 12 hours.

As an added precaution, to exclude water entry from the forward tub area, apply sealant to the upper joint formed by the nose door curtain mounting strap and the fuselage frame, (item M, Illustration 3).



A. Upper Station 48.0 frame seal: bulb-type, 93 inches long.
B. Lower Station 48.0 frame seal: bulb-type, 68 inches long.

RH DOOR SEALS: (See Note 1.)
C. Upper aft door seal, Station 47.5: flat-type, 3/16 x 5/8 x 52 inches long.
D. Upper door latch to end of seal C: flat-type, 3/16 x 5/8 x 19 inches long.
E. Between door latch seals: flat-type, 3/16 x 5/8 x 19-1/2 inches long.
F. Lower door latch to lower butt line 0.0 corner: flat-type, 3/16 x 5/8 x 30 inches long.
G. Lower aft door seal, Station 47.5: flat-type, 3/16 x 5/8 x 35 inches long.

LH DOOR SEALS: (See Note 1.)
H. Lower aft door seal, Station 47.5: flat-type, 3/16 x 5/8 x 35 inches long.
I. Lower door latch to lower butt line 0.0 corner: bulb-type, 30 inches long.
J. Between door latch seals: bulb-type, 19-1/2 inches long.
K. Upper door latch to end of seal L: bulb-type, 19 inches long.
L. Upper aft door seal, Station 47.5: flat-type, 3/16 x 5/8 x 52 inches long.
M. Add sealant to frame at nose door curtain mounting strap.

NOTES: 1. Install U-shaped latch seals, then remainder of seals.
2. Seals C and L continue around corner to this point.

Illustration 3

H-2 SH-2F TAIL LANDING GEAR LOCKING COMPONENTS

H. Zubkoff, Service Engineer

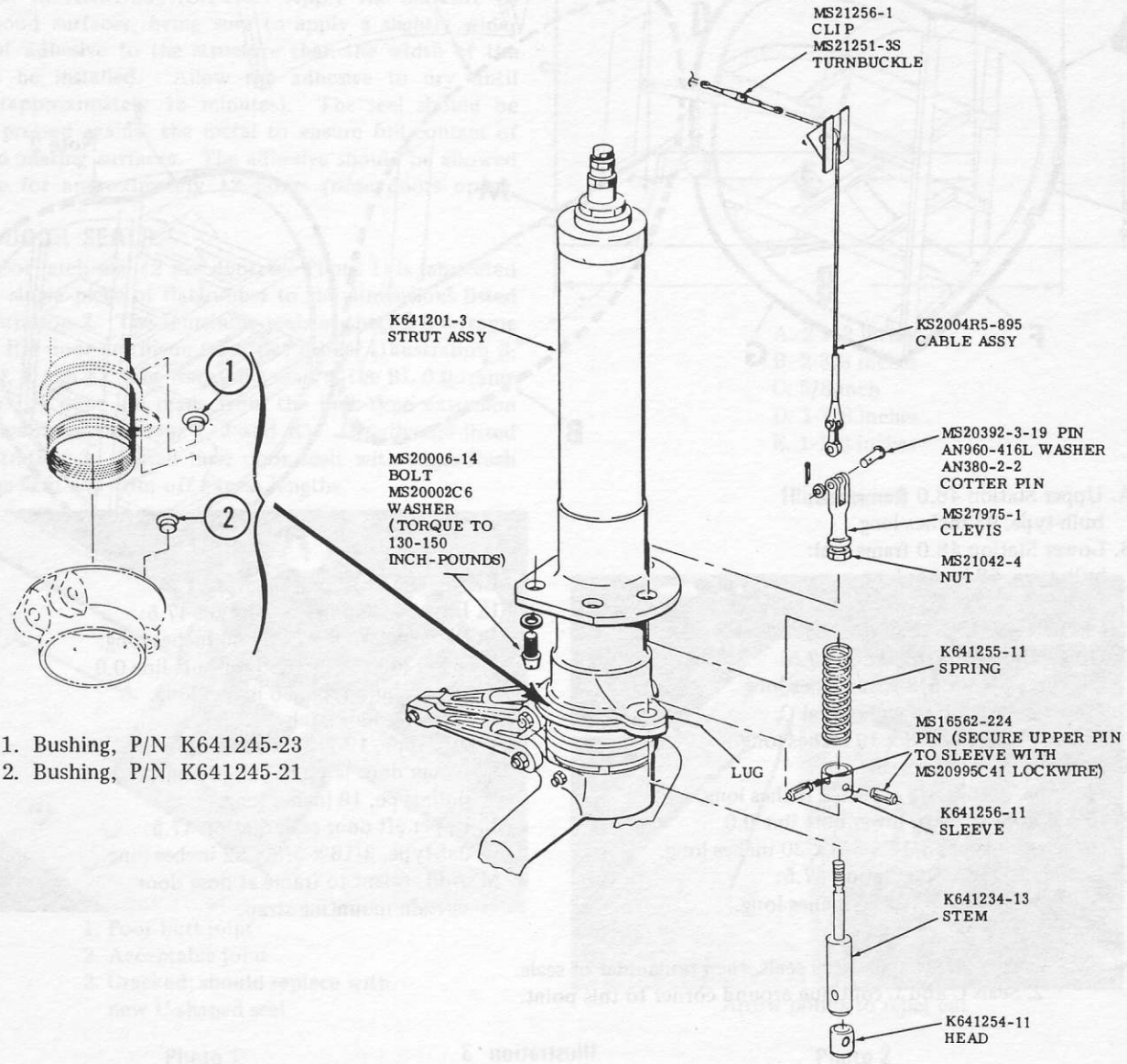
The SH-2F tail landing gear locking components are shown in the accompanying illustration. The details, including appropriate part numbers, will be incorporated into applicable manuals (including NAVAIR 01-260HCB-4-2) by future changes. Note the position of the bushing, item 1. It must be installed *from the top down* so that the shoulder rests on top of the strut flange or lug, otherwise, the bushing may be forced down and out of the strut flange by the head lock.

Both bushings must be reamed AFTER INSTALLATION to ensure exact alignment thus permitting head lock engagement. Inline-ream the bushings to 0.6255-0.6265-inch. Bushing dimension before installation will be:

Item	Part Number	Length	ID
1	K641245-23	0.465-inch	0.614-0.617-inch
2	K641245-21	0.385-inch	0.614-0.617-inch

For a further listing of part numbers, refer to NAVAIR 01-260HCB-4-2.

Note the head lock is attached to the sleeve with a rollpin and the sleeve is then secured to the stem by a second, lockwired rollpin. To replace the head lock, it is necessary to remove the lower rollpin (not lockwired) thus separating the head lock from the lower end of the sleeve. This information will be incorporated into applicable manuals by future changes.



1. Bushing, P/N K641245-23
2. Bushing, P/N K641245-21

LAMPS PACKUP PECULIAR SPARES

R. Collier, Logistics Representative

Introduction of the SH-2F model aircraft necessitated uprating certain components found in LAMPS shipboard "packups." The items cannot be interchanged with other model aircraft. The following list reflects the available information which can be used by fleet personnel.

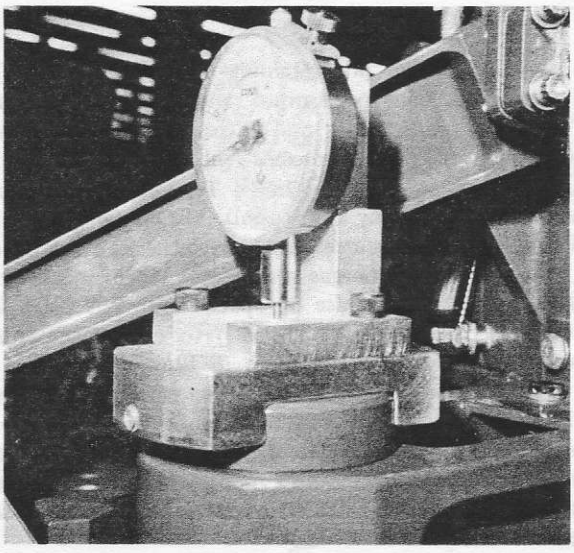
Nomenclature	SH-2D Peculiar P/N	SH-2F Peculiar P/N
Damper Assy, Blade	101264 (610029-1)	K610100-1 (7-3733)
Blade Assy, Main	K611008-309/K611670-3	K611670-1
Blade Assy, Tail Rotor	K614701-1	K614701-3
Chassis Assy, Sensor Unit	K687040-309	K687040-403
Amplifier Assy, A. S. E.	K687703-5	K687703-9
Transducer Assy, Airspeed	K687704-1	K687704-3 (And -5)
Liquid Spring	3283300-15	3323300-1
Pin, Lead Lag	K610027-13	K610097-11
Tip Cap	K611517-1	K611666-1
Bolt, Hub to Shaft	K618677-13	K618769-11
Bearing, Walking Beam	K659458-17	K659458-21
Rod, Control	K659108-11	K659644-11
Steering Bar	K604037-1	K604015-1

INSTALLATION OF THE LEAD-LAG PIN TORQUEING SET ON THE SH-2F

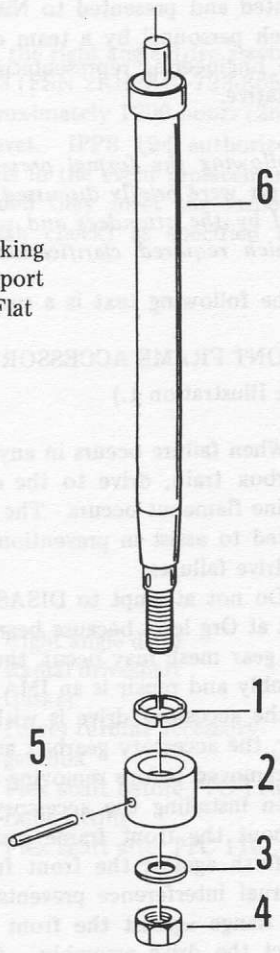
W. Wagemaker, Service Engineer

The K610097-11 lead-lag pin used on the SH-2F aircraft has been painted on the internal surfaces to prevent corrosion. The following installation procedures help to ensure that this internal coat of paint will not be scraped off, thus exposing the underlying metal to corrosive elements.

Remove items 1, 2, 3, 4, and 5 as seen in the accompanying illustration. Install the K604722-11 pin (6) from the top of the lead-lag pin, re-install items 1, 2, 3, and 4, and complete the installation in accordance with NAVAIR 01-260HCA-2-4.2. Item 5, part number MS171537, is not required in the SH-2F installation. The accompanying photo shows the upper (dial) portion of the tool installed on an aircraft. This information will be incorporated into applicable manuals by future changes.



1. K604722-15 Ring, Locking
2. K604722-13 Ring, Support
3. AN960-816L Washer, Flat
4. AN315-8R Nut, Plain
5. MS171537 Pin
6. K604722-11 Pin



H-2 GE T58 ENGINE MAINTENANCE REFRESHER TIPS

H. Zubkoff, Service Engineer

A noticeable increase in engine malfunctions and failures during 1972 and 1973 was the basis for a series of meetings between Kaman and General Electric in an effort to determine cause factors and corrective action. It was decided that a joint Kaman-GE refresher training program would be presented to H-2 operating activities. To make the presentation more meaningful to the operators, specific malfunctions and failures which resulted in accidents/incidents or mission aborts were selected as the subjects for the formal presentation. Eleven specific failures were reviewed and analyzed. They were:

Front frame accessory drive	3
Power turbine accessory drive	2
Nf flex shaft	2
Fuel pump spline wear	1
Rigid fuel detuner line	2
Fuel control jammed shaft	1

The refresher training corrective action concept was then discussed with cognizant Navy Commanding Officers, and was enthusiastically received. The program was implemented and presented to NAS Norfolk and NAS Imperial Beach personnel by a team composed of one Kaman Service Engineering representative and one GE Service representative.

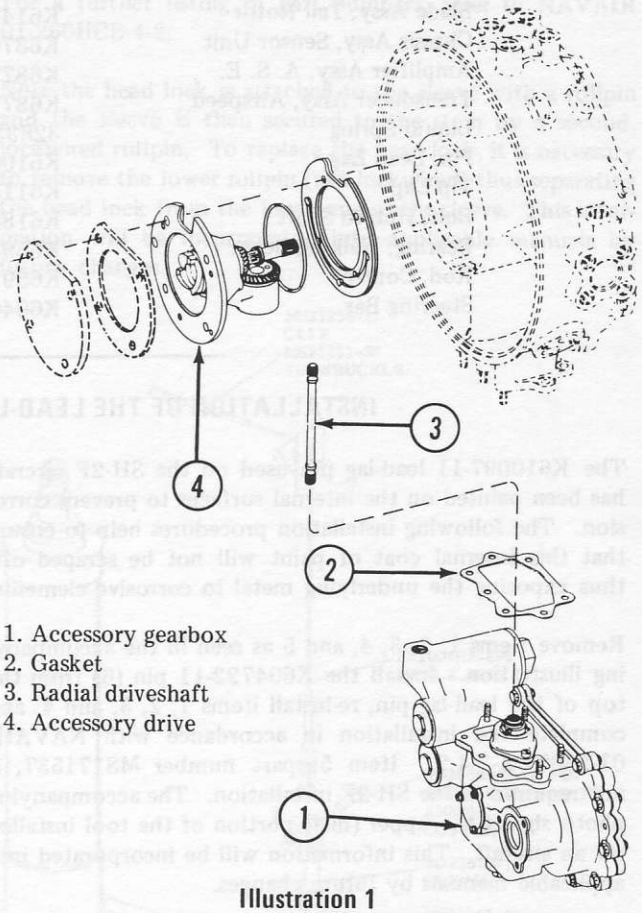
Following the formal presentation, several non-agenda items were briefly discussed. These items were submitted by the attendees and were considered as problems which required clarification and further explanation.

The following text is a summary of the presentation:

FRONT FRAME ACCESSORY DRIVE FAILURES.
(See Illustration 1.)

When failure occurs in any component of the accessory gearbox train, drive to the engine accessories is lost and engine flameout occurs. The following suggestions are presented to assist in prevention of the more frequent causes of drive failures.

Do not attempt to DISASSEMBLE the accessory drive unit at Org level because bearing damage or disturbance of the gear mesh may occur, thus accelerating failure. (Disassembly and repair is an IMA function.) REPLACEMENT of the accessory drive is within Org level capability; however, the accessory gearbox and the radial drive-shaft must be removed before removing the accessory drive assembly. When installing the accessory drive, first insert the drive without the front frame gasket. A serviceable unit will fit flush against the front frame without the gasket. If internal interference prevents contact of the drive assembly flange against the front frame (without the gasket), reject the drive assembly. (This occurs when the drive assembly splined shaft bottoms in the compressor shaft, creating an unacceptable condition.) Draw another drive assembly from supply and be sure to check the replacement unit in the same manner. If the replacement unit fits flush without bottoming (without gasket installed), remove, install the gasket, and complete the installation.



1. Accessory gearbox
2. Gasket
3. Radial driveshaft
4. Accessory drive

Illustration 1

Be sure the starter jaw retaining bolt (Illustration 2) is tightened to the proper torque value and the tab washer is bent over to prevent loss of torque during operation. Do not rotate the compressor with a speed handle or ratchet on the starter jaw bolt. To discourage use of a speed wrench (or any other tool), install the plastic ring (PPC 105) over the starter jaw bolt so that the bolt cannot be used to rotate the gas generator. When necessary to rotate the compressor, use the special tool, P/N 21C2172P 010 (FSN 1RM4920-888-3934EQ) to engage the starter jaw. (Tool operation is shown in Illustration 3.)

Caution should be exercised when using ground power units because most are capable of providing more power than the starter can handle. Excessive voltage during start can cause severe initial high impact starting loads and result in eventual failure of the front frame accessory drive assembly.

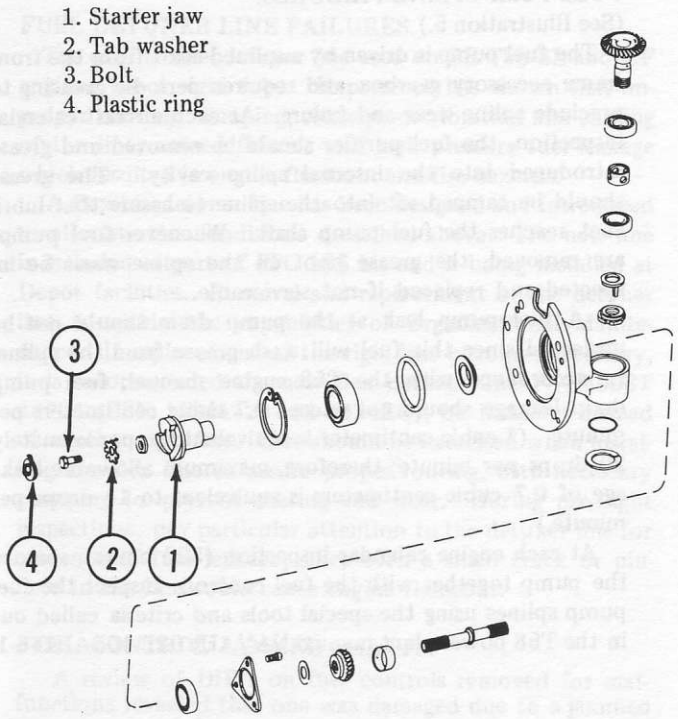
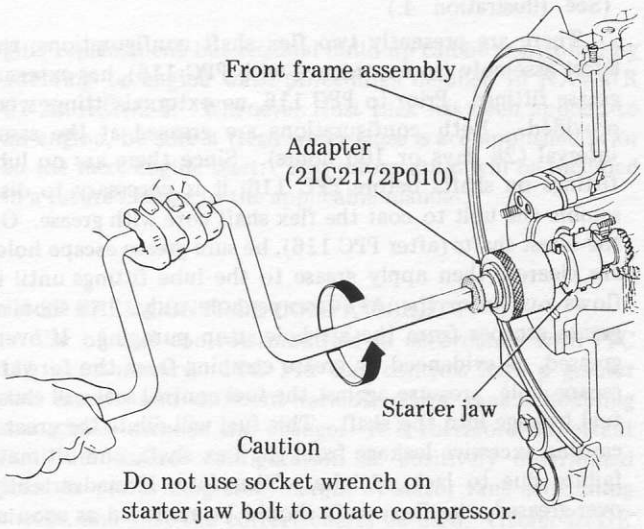


Illustration 2



Caution

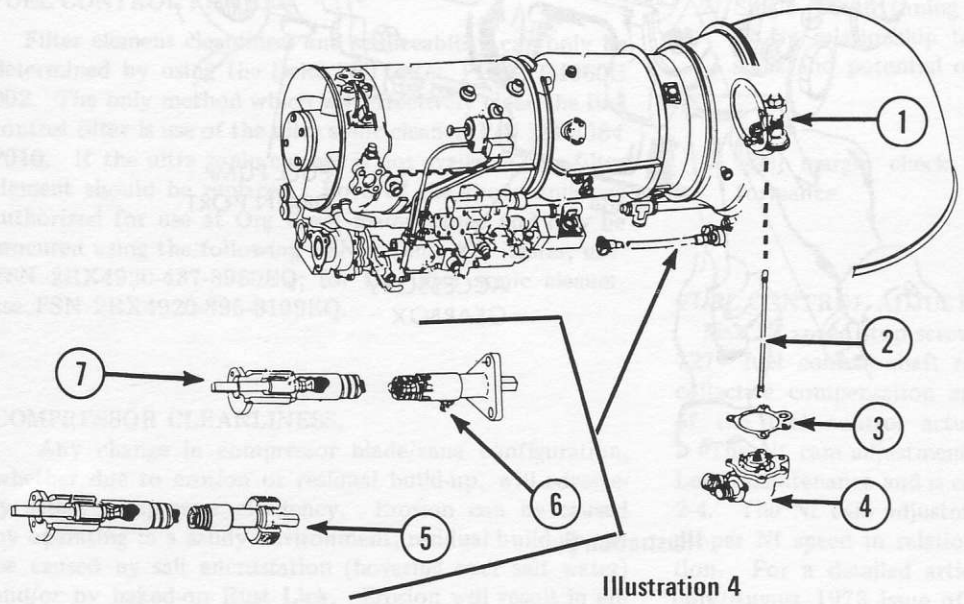
Do not use socket wrench on starter jaw bolt to rotate compressor. It will dislodge the locking tangs and loosen the bolt.

Illustration 3

POWER TURBINE RIGHT ANGLE DRIVE AND ACCESSORY DRIVE FAILURES. (See Illustration 4.)

Power turbine RPM is transmitted through the right angle drive, the radial drive shaft, the power turbine accessory gearbox and the flex shaft, to the fuel control. This provides the fuel control with the power turbine RPM (Nf) signal (one of the parameters required for automatic governing of the engine). Failure of any part of this system can cause a possible engine overspeed.

In accordance with IPPB 194, the right angle drive assembly, part number 278D998G003 (FSN 2RH2840-723-8651 EQ), should be replaced at approximately 1200 hours (2nd cal inspection) at the IMA level. IPPB 194 authorizes continued use of high time units in the event replacement drives are not available provided they meet the inspection criteria (including backlash check) as specified in the Bulletin.



1. Right angle drive
2. Radial driveshaft
3. Gasket
4. Power turbine accessory gearbox
5. Flex shaft before PPC 116
6. Lube fitting
7. Flex shaft after PPC 116

Illustration 4

Nf FLEXIBLE DRIVE SHAFT FAILURES.
(See Illustration 4.)

There are presently two flex shaft configurations; the latest assembly (in accordance with PPC 116), has external grease fittings. Prior to PPC 116, no external fittings were provided. Both configurations are greased at the same interval (28 days or 100 hours). Since there are no lube fittings on shafts before PPC 116, it is necessary to disasemble the unit to coat the flex shaft core with grease. On the latest shafts (after PPC 116), be sure grease escape holes are cleared, then apply grease to the lube fittings until it flows out from the AFT escape hole only. As soon as grease escapes from the aft hole, stop pumping. If over-greased, as evidenced by grease escaping from the forward escape hole, pressure against the fuel control seal will cause fuel leakage into the shaft. This fuel will dilute the grease, causing excessive leakage from the flex shaft, and ultimate failure due to lack of lube. Therefore, if inadvertently over-greased, the flex shaft should be removed as soon as practicable and the grease purged. Reinstall the flex shaft and grease properly. Instructions for removal and installation of flex shafts are detailed in the T58 manual. These instructions should be closely followed.

FUEL PUMP SPLINE FAILURES.
(See Illustration 5.)

The fuel pump is driven by a splined shaft from the front frame accessory gearbox and requires periodic greasing to preclude spline wear and failure. At each aircraft calendar inspection, the fuel purifier should be removed and grease introduced into the internal spline cavity. The grease should be tamped aft into the spline to assure that lubricant reaches the fuel pump shaft. Whenever fuel pumps are removed, the grease boot on the spline must be inspected and replaced if not serviceable.

A fuel pump leak at the pump drain should not be neglected since this fuel will wash grease from the spline. In accordance with the T58 engine manual, fuel pump drain leakage should not exceed 0.7 cubic centimeters per minute. (1 cubic centimeter is equivalent to approximately 20 drops per minute; therefore, maximum allowable leakage of 0.7 cubic centimeters is equivalent to 14 drops per minute.)

At each engine calendar inspection (500 hours), remove the pump together with the fuel control. Inspect the fuel pump splines using the special tools and criteria called out in the T58 power plant manual,NAVAIR 02B-105AHD-6-1.

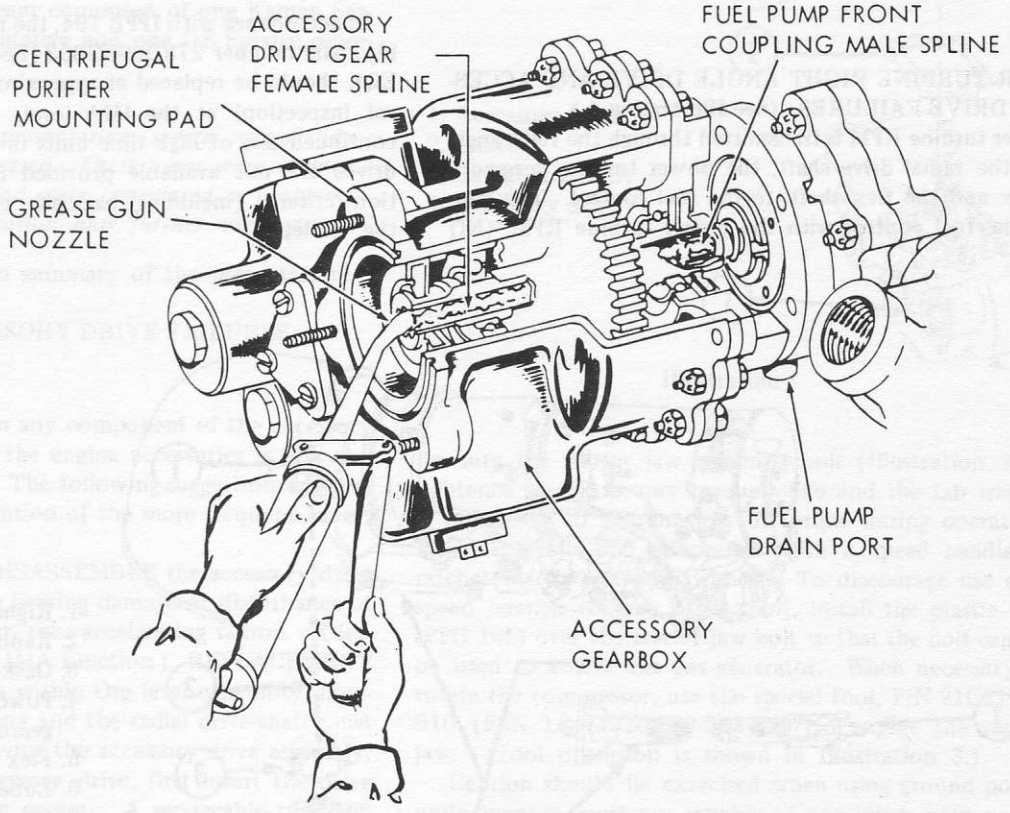


Illustration 5

FUEL DETUNER LINE FAILURES.

The original fuel detuner line used on GE T58-8B and -8F engines was a rigid tube. Experience has shown that improper routing, clamping, subsequent vibration and chafing of the line, caused failures and high pressure fuel leakage which resulted in engine flameout and fire hazards.

A flexible detuner line has been designed and introduced to alleviate the conditions described above. The new line is included as part of PPC 106 kit and is being installed at Depot facilities. Removal and replacement of the detuner line is within the capabilities of Organizational Maintenance. If replacement of the rigid line becomes necessary, it is recommended the new flex detuner line P/N 4008T 48P04 (FSN 1RM4720-191-9024EQ), be installed instead of another rigid line. Care should be exercised when installing the flex line to assure proper routing, with necessary clamping to prevent chafing and wear. During pre-flight inspections, pay particular attention to the detuner line for evidence of fuel leakage, since even a small crack or pinhole in the line could cause engine flameout.

FUEL CONTROL JAMMED SHAFTS.

A review of DIR's on fuel controls removed for malfunctions revealed that one was damaged due to a jammed shaft, caused during installation of the control onto the fuel pump. Since shaft line-up cannot be visually determined while on the engine, it is recommended that the fuel control and the fuel pump ALWAYS be removed and installed as an assembly. Use the instructions in GE power plant manual to separate the two units, repair or replace as necessary and reassemble prior to re-installation onto the engine. It is imperative that force never be used to mate the flanges together. To ensure pump and control spline alignment, use the GE alignment tool, P/N 21C4066G001 (FSN 1RM4920-944-8341EQ).

GENERAL DISCUSSION ITEMS:

FUEL CONTROL FILTERS.

Filter element cleanliness and serviceability can only be determined by using the Delta "P" tester, P/N 21C4060G 002. The only method which will effectively clean the fuel control filter is use of the ultra sonic cleaner, P/N 21C4084 P010. If the ultra sonic cleaner is not available, the filter element should be replaced. Both of the above units are authorized for use at Org Level maintenance and may be procured using the following FSN's: Delta "P" tester, use FSN 2RX4920-437-3980EQ; for the ultra sonic cleaner, use FSN 2RX4920-895-8109EQ.

COMPRESSOR CLEANLINESS.

Any change in compressor blade/vane configuration, whether due to erosion or residual build-up, will adversely affect compressor efficiency. Erosion can be caused by operating in a sandy environment; residual build-up can be caused by salt encrustation (hovering over salt water) and/or by baked-on Rust Lick. Erosion will result in engine replacement but residual build-up can be controlled by adhering to engine wash procedures detailed in NAVAIR 01-260HCA-2-4. Whenever Rust Lick has been applied to an engine, be sure a fresh water rinse is accomplished prior to the next engine start. This information will be included in a future change to the applicable manual.

SH-2F FUEL CONTROL COMPATIBILITY.

Use of fuel controls modified in accordance with PPC 111 is mandatory. PPC 111 fuel controls have a greater stall margin and different variable stator vane scheduling than those without the change. It is therefore important that fuel control configuration be positively determined prior to performing stall margin or stator vane scheduling checks, and that the correct charts be used. (Refer to GE PP manual; will be included in -2-4.)

STATOR VANE SCHEDULING, TUNING, AND STALL MARGIN CHECKS.

These checks are necessary to insure optimum engine performance and should be accomplished at every engine calendar inspection, fuel control change, and stator vane actuator change. Since they are Org maintenance level checks, they will be included in NAVAIR 01-260HCA-2-4.

1. Stator vane scheduling is required to obtain proper variable stator vane action as a function of engine speed and therefore, full power, without exceeding engine limits.

2. Single point tuning is required to insure correct T5-Ng relationship to preclude "decel" compressor stalls and potential over temps.

3. Stall margin check insures proper compressor performance.

FUEL CONTROL ADJUSTMENTS.

Max Nf speed stop screw must be set to permit 126° to 127° fuel control shaft rotation in order to provide for collective compensation and to insure automatic shutoff of the fuel control actuator in the maxpower range.

The Nf cam adjustment is authorized at Organizational Level Maintenance and is covered in NAVAIR 01-260HCA-2-4. The Nf cam adjustment may be required to obtain proper Nf speed in relation to the fuel control shaft rotation. For a detailed article on the subject, refer to the July/August 1973 issue of Kaman Rotor Tips.

UH-2 TAIL ROTOR FLAPPING BEARING TOOL

While an arbor press is usually utilized to remove the tail rotor flapping bearings, P/N K616300-1, from the grip assembly, an alternate method may be used during field replacement when a press is not available. This entails fabrication of the bearing installation and removal tool shown in the accompanying drawings and photographs. Steel stock should be used and all tolerances are ± 0.015-inch unless otherwise specified. Figure 1 shows the finished tool which consists of a bolt, installed in the back-up housing, and a bearing follower. Figure 2 shows the tool in position on the tail rotor blade grip during bearing removal. The bearing follower, in the inboard position, has eased the bearing out of the grip assembly and into the recess in the back-up housing. When using the tool, carefully align the bearing follower and the back-up housing while slowly turning the bolt clockwise until it is finger tight. Check the alignment and then use a wrench to slowly turn the bolt. As the bolt is turned clockwise, the bearing follower pushes the bearing out of the blade grip and into the recess in the back-up housing. When the follower butts against the grip the bearing has been removed (See Figure 2). Remove the bolt from the follower and remove the old bearing from the recess in the back-up housing. Figure 3 shows the position of the tool at bearing installation. Note that the bearing follower is positioned outboard. Place the back-up housing inboard, against the grip. Push the bolt through the back-up housing and insert a new bearing in the chamfer on the blade grip. Thread the bearing follower onto the bolt. Before using a wrench on the bolthead, check to see that the back-up housing, new bearing and bearing follower are all in line. When the tool and the bearing are lined up with the grip, slowly turn the bolt clockwise. If the new bearing is lined up properly, it will slide into the grip. If the bearing does not enter the grip, recheck the alignment. When the bearing follower butts against the grip as shown in Figure 3, the new bearing is installed. Remove the tool from the grip.

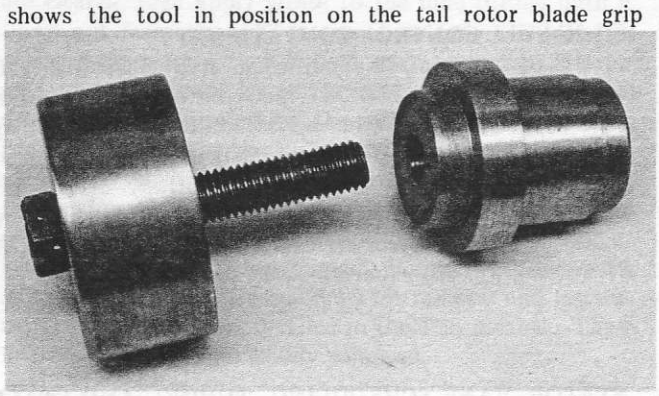


Figure 1

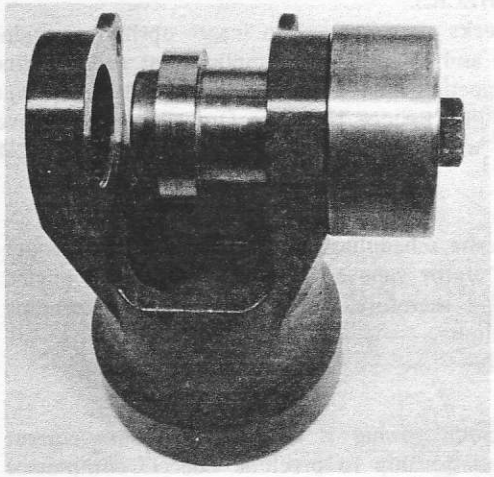


Figure 2

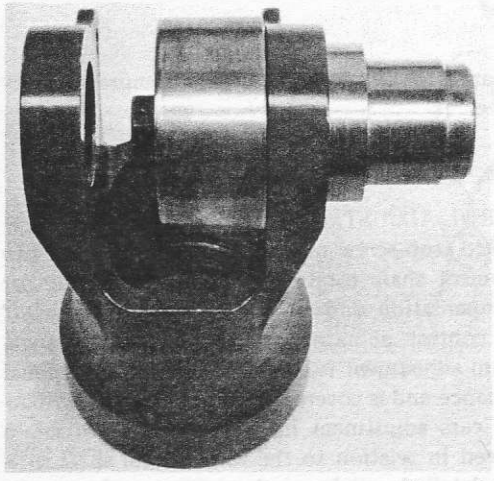
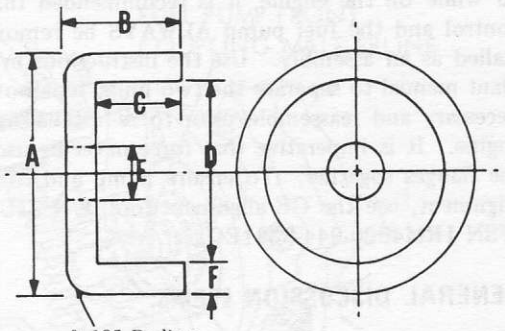


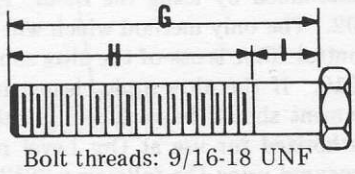
Figure 3



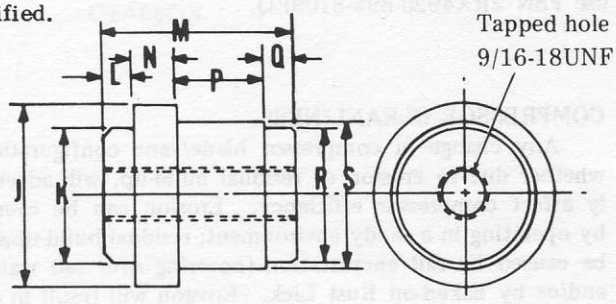
DIMENSIONS *

A	2.750	K	1.500 +.000 -.002
B	1.375		
C	1.000	L	0.375
D	2.125	M	2.250
E	0.578	N	0.500
F	0.312	P	1.000
G	3.250	Q	0.375
H	2.500	R	1.500 +.000 -.002
I	0.750		
J	2.060	S	1.623 ±.002

*All tolerances ± 0.015 inch unless specified.



Bolt threads: 9/16-18 UNF



POSITIONING MAIN ROTOR BLADE RIGGING PROTRACTOR

W. Wagemaker, Service Engineer

The main rotor blade flap rigging protractor, P/N K604701-201 and/or the -301, is used when rigging the flight controls. To ensure proper blade/flap response, the protractor, when installed, should form a 90° angle in relation to the blade span and should be placed in the same station location on each blade.

Kaman experience has determined that the position approximately 2 inches outboard of the inboard edge of the flap provides the most consistent reference. It also provides a ready reference for squareness by utilizing the flap bracket and flap edge.

It is suggested that a 1/2-inch wide white paint stripe be applied to the underside of the blade as shown in the accompanying photos. When all four blades are so marked, mechs will have a designated location, the full width of the blade, to aid in positioning the protractor.

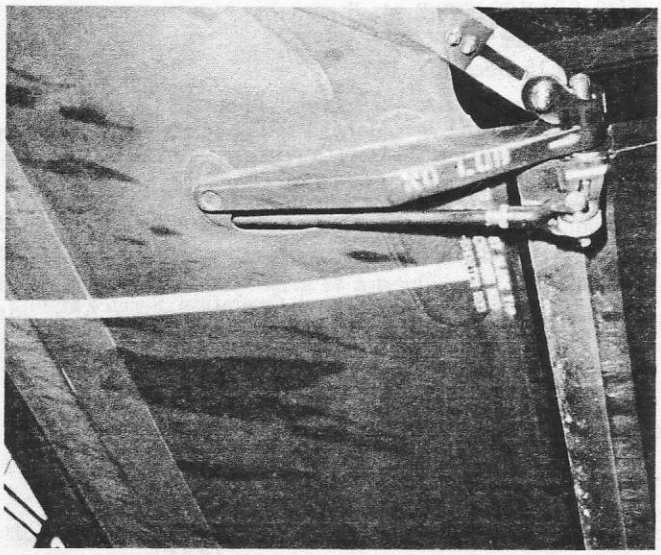


Photo A—Paint stripe

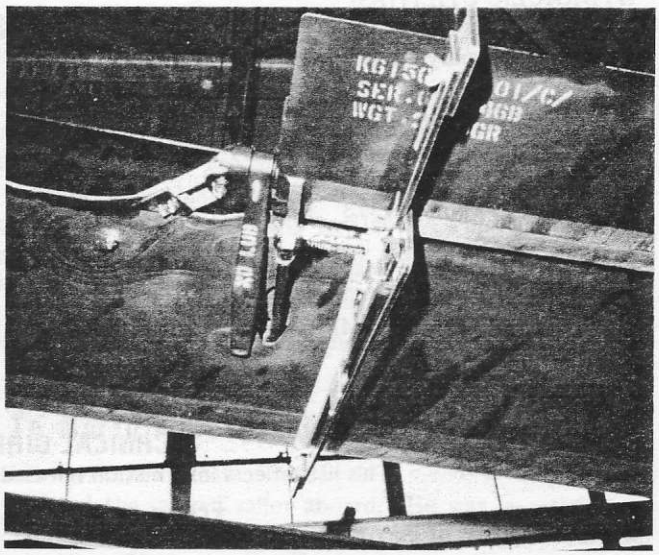
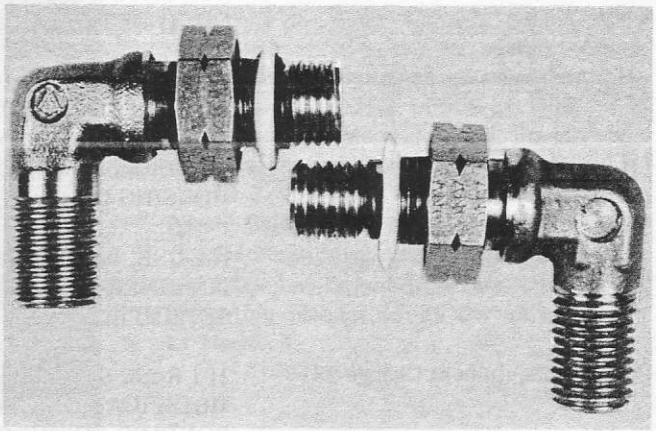


Photo B—Protractor lined-up with stripe

Q. (Applies H-2) A special 90° elbow, P/N 37B200243P 101, on the fuel control connects the auxiliary fuel bypass line to the battery start shut-off valve. May a similiar size standard "AN" elbow be used?

A. No. Substitute elbows installed at the auxiliary metering inlet port on the fuel control will probably bind the emergency throttle control valve. Careful selection of the proper part is required because some standard elbows closely resemble the special elbow required. The illustration shows two elbows—the one on the left is the correct part; the one on the right is a standard elbow. Both elbows have a machined recess between two threaded portions to receive a washer and an O-ring. Close inspection of the two elbows will show that the one on the right has two more threads on the outer portion. If the longer threaded end is installed, it may restrict movement of the emergency throttle control. The correct installation procedure is to select the designated elbow by Part Number (37B200243P 101), thread it into the opening up to the last outer thread and, while holding the elbow in position, tighten the nut.



H. Zubkoff, Service Engineer

PUBLICATION INFORMATION

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

R. H. Chapdelaine, Manager, Service Publications

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

NAVAIR 01-260HCA-2-2 — Manual, Maintenance Instructions, Navy Models UH-2C/HH-2D/SH-2D/ SH-2F Helicopters, AIRFRAME
30 November 1971
changed 15 December 1973

NAVAIR 01-260HCA-2-3 — Manual, Maintenance Instructions, Navy Models UH-2C/HH-2D/SH-2D/ SH-2F Helicopters, EQUIPMENT (FURNISHINGS, HYDRAULIC UTILITIES)
1 March 1972
changed 1 February 1974

NAVAIR 03-95D-25 — Illustrated Parts Breakdown, COMBINING GEARBOX ASSEMBLY, K674702-3, -5
1 October 1970
changed 15 December 1973

NAVAIR 03-95D-26 — Manual, Overhaul Instructions, RESOLVER AND TACHOMETER GENERATOR DRIVE GEARBOX ASSEMBLY, P/N K674826-5, -7
15 November 1970
changed 15 December 1973

NAVAIR 03-95D-30 — Manual, Overhaul Instructions, MAIN GEARBOX ASSEMBLY, P/N K671802-1, -5, -7, -105, -107
15 November 1970
changed 1 November 1973

NAVAIR 03-95D-31 — Illustrated Parts Breakdown, MAIN GEARBOX ASSEMBLY, K671802-1, -3, -5, -7, -105, -107
1 November 1973
changed 15 December 1973

NAVAIR 17-15KL-3 — Manual, Overhaul and Service Instructions, with IPB, SENSOR UNIT BENCH TEST SET, P/N K604609-2, -4, -6
15 December 1968
changed 15 December 1973

NAVAIR 17-15KL-9 — Manual, Intermediate and Depot Maintenance with IPB, ACTUATOR CONTROL UNIT BENCH TEST SET (COCKPIT BLADE TRACKER), P/N K604617-3
15 December 1973

NAVAIR 17-15KL-23 — Manual, Operation, Service and Overhaul Instructions with IPB, ELECTRIC THROTTLE TEST SET, K604624-1
1 November 1973

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 209	Rotor System, REMOVAL OF TAIL ROTOR FLAPPING LOCKS	21 November 1973
H-2 Airframe Change 212	Electrical System, MAD CABLE CUT CIRCUIT MODIFICATION AND CONVERTER WARNING LIGHT TIME DELAY ELIMINATION	6 December 1973
H-2 Airframe Change 214	Radio and Radar System, ADDITION OF JUMPER WIRE IN AN/AKT-22(V) (XL-1) DATA LINK SYSTEM	6 December 1973
H-2 Airframe Change 218	Torpedo Arming System, REPLACEMENT OF TORPEDO ARMING UNIT	6 December 1973
H-2 Airframe Change 221	Transmission System, MAIN GEARBOX HOUSING CHANGE	18 January 1974
Support Equipment Change 2294	H-2 GSE, TAIL ROTOR SHAFT ROCKING PIN LINER INSTALLATION AND REMOVAL SET, IMPROVEMENT OF	9 January 1974
Support Equipment Change 2313	101 Rotor System Integrated Support, MODIFICATION OF LEADING EDGE BOOT BONDING FIXTURE	15 December 1973

Helo Medevacs Seaman From Ship Far At Sea

ANDERSEN AFB, Guam—A seaman suffering from acute appendicitis and requiring immediate medical attention was picked up from aboard ship by an HH-43F crew from Det 12, 41 ARRWg (MAC), at this base.

The ship, the U. S. Anchorage, was far out to sea and steaming for Guam in an effort to save the seaman's life. The commander of the Pedro crew, 1stLt Charles Brandi, decided on a rendezvous point where the helo would meet the ship at first light and medevac the seaman.

Low scattered clouds and light rain were encountered as "Pedro 53" proceeded to the pick-up point. On sighting the ship, the HH-43 flew several reconnaissance patterns around the ship before beginning an approach. A PT boat, along with other large items, secured to the aft deck necessitated an approach to a hover. Because the ship was maintaining a speed of 20 knots into a 12-knot wind over moderate seas, pilot Lt Brandi had to hold a "very accurate" hover. The ship's conning towers and deck cargo, combined with the rolling of the ship, further increased the difficulty of the hoist recovery.

Hoist operator SSgt Erskine Brewington gave "precise" hover instruction to the pilot, thereby preventing the sedated patient from contacting any of the surrounding obstructions as he was raised aboard the Pedro. It was also necessary for copilot Major Arthur Machado to monitor the helicopter's position in relation to the on-deck PT boat, which the pilot could not see.

The entire pick-up required 10 minutes of hovering, formation flying with the ship. Pararescueman Donald Aldridge, A1C, attended to the patient's comfort on the return flight to the Naval Hospital at Agana, Guam.

PEDRO CREW RESCUES DOWNED AF PILOT

UDORN, Thailand—A downed 0-1 Air Force pilot was picked up recently by an HH-43 crew from the Pedro Rescue Unit, Det 5, 40 ARRSq, stationed here.

The Udorn tower call came at 1605 and—three minutes later—at 1608 the aircraft became airborne. (Launching in three minutes is no unusual occurrence for the HH-43, but incidents like this may serve as a reminder of the Pedro's ability to respond quickly.) The Pedro headed toward the crash site some thirty-five miles southeast of Udorn.

At the scene, Lt Stephan Hatfield found the pilot with no search problems and made a tactical approach into the area that proved too small for the tiny 0-1 to handle.

Medic MSgt James Martin attended the rescued pilot's abrasions on the return trip to Udorn. Then an awaiting ambulance took the pilot to the hospital where he was later released.

The crew, in addition to Lt Hatfield and MSgt Martin, included 1stLt Gary Mullins and Sgt Steve Limperopulos.

H-2 Airlifts Sailor To Norfolk Hospital

NAS OCEANA, Va.—The SAR det here recently added to a growing list of mercy missions flown by its H-2 crews. A SEASPRITE launched from the air station recovered an injured Yugoslavian sailor from the freighter "Mediterranean Carrier," which had been located by a Coast Guard C-130.

The C-130 crew gave the helo vectors to the freighter where the H-2 hovered amidship while AME2 T. Patrick hoisted the injured sailor aboard. He was in satisfactory condition and further attended to by LCdr R. Bloomfield, the Navy flight surgeon. The patient was flown to Norfolk General Hospital and released to waiting medical personnel.

Coordination between the Coast Guard and Navy was "directly responsible" for the success of the mission. Pilot of the mission was Lt Thomas Stables and Lt(jg) John Enderle was copilot.

1000-hour plaques were awarded recently to three H-2 pilots—Lt Dick Carroll and Lt Mike Hartwell, Pensacola Search and Rescue Department, and Lt J. G. Marsh, HSL-35, Imperial Beach, Calif. In the photo, Kaman Service Representative Homer Helm, left, and LCdr Lee Wright, right, are shown presenting plaques to Lt Carroll and Lt Hartwell.

Imperial Iranian Police Aviation

Maj Belash Bahrami, Officer-in-Charge; 1stLt Hassan Yazdanian; 1stLt Heshmat Asefnia; 1stLt Sarshar;1stLt M. Shayesteh; 1stLt Bijan Rafiee.

Police copter saves girl

TEHRAN, Sunday — A police helicopter yesterday rushed to rescue of a 23-year-old girl, identified only as Farideh, who suffered a heart attack while mountaineering with a group of friends on the Alborz range, and brought her to the city in time to be removed to a hospital for prompt treatment.

Farideh was struck down while at Kolak-Chal from where her companions made a frantic telephone call for assistance to police headquarters. Under the orders of State Police Chief Lt. Gen. Samad Samadianpour a police helicopter was rushed to Kolak-Chal. At the same time an ambulance was ordered to proceed to the Manzarieh helicopter landing pad.

Farideh was brought by the 'copter to Manzarieh and from there rushed Reza Pahlavi hospital at Tajrish where timely treatment is said to have saved the girl's life.

Traffic Control and Accident Assistance. . . .Escort Patrol and Special Assignments. . . .Search and Rescue Operations. . . .These are the tasks carried out by the dedicated members of the Imperial Iranian Police Aviation unit.

The IIPA operates from the Police University during normal work hours and the rest of the time from Mehrabad AFB. Four helicopters, including two HH-43F's are utilized by the unit to carry out its numerous missions like the one reported in the news clipping on the left. Pilot of the HH-43F used on the mercy mission was Maj Belash Bahrami, Officer-in-Charge of the IIPA. Crewman was A1C Abouhassan Hadadi, IIAF.

In a similar mission, an HH-43F crew from the IIPA responded to a call for assistance after a man was struck by a speeding car, tossed into the air, hit the roof of the vehicle and then fell to the ground. Local police rendered first aid until the rescue helicopter arrived. The accident victim was given oxygen, plasma and other medical aid on the speedy flight to the hospital in Tehran which, doctors said afterward, saved his life.

Piloting the HH-43 was 1stLt Hassan Yazdanian, IIPA. The copilot was 1stLt Hesmat Asefnia, IIPA. Crewmen were 2WO M. Shahsavar (RS): A/C Hassan Farahani (HM) and A/2C Ardestani (MT), IIAF.

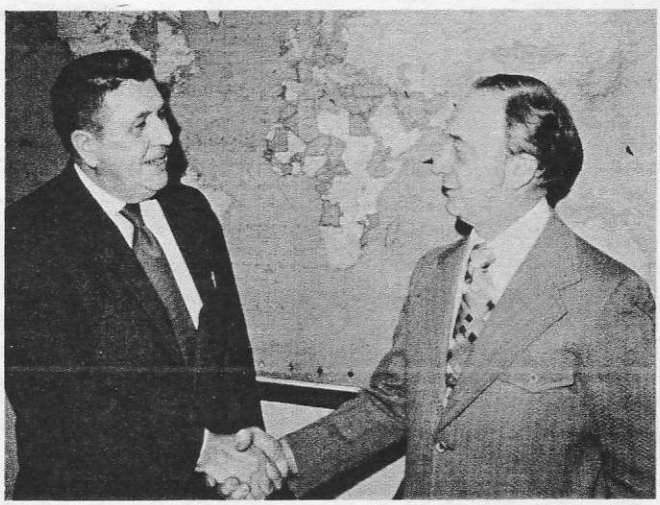
So far, four of the six pilots attached to IIPA have been awarded Kaman Rescue Pins for missions such as these. They are: Major Bahrami, 1stLt Yazdanian, 1stLt Asefinia and 1stLt B. Rafiee.

When not engaged in mercy missions, the IIPA uses its helicopters for traffic control. FM radio is utilized to maintain voice contact with ground units. Escort patrol for "VIP's" is another duty performed by the group.

The mercy flights made by IIPA are similar in nature to the MAST (Military Assistance to Safety and Traffic) missions flown by the Aerospace Rescue and Recovery Service in the United States. Hundreds of persons were saved or otherwise assisted by USAF crews while flying MAST missions. Thousands of miles away their counterparts—the IIPA—are also utilizing HH-43F's for this humanitarian service.

Editor of Kaman Rotor Tips Turns Over Helm

by Robert J. Myer
Director, Customer Service



Ev Hoffman, left, receives good wishes from Robert J. Myer, Director of Customer Service Dept.

After 14 years of diligent service, Ev Hoffman has left us to pursue other business interests. His departure has caused us much regret, as he was considered a key member of the KAC support team.

At a company farewell get-together, Ev's contribution to Kaman was duly recognized and he was commended for his professionalism and accomplishment in the development of this publication, which progressed from a figment of an idea to one of the top publications of its kind in industry today.

Dan D'Amelio, left, new editor of Kaman Rotor Tips, and Mr. Myer discuss upcoming features in the magazine.

We know fellow employees and readers alike will miss Ev; however, changes of this nature are to be expected and we all wish him well.

On the positive side, we feel fortunate in obtaining the services of Mr. Dan A. D'Amelio to take over the KRT Managing Editor position. Mr. D'Amelio has been a writer for 21 years and has served as editor of educational and business publications. A former teacher and journalist, Mr. D'Amelio also has authored two textbooks and a biography.

We are certain that the quality and informative nature you have become accustomed to expect from Kaman Rotor Tips will continue under the management of Mr. D'Amelio, ably supported by his Assistant Editor, Mrs. Barbara R. Thompson, and our Service Engineering Technical Editor, Mr. John P. Serignese.

Serving as Editor of Rotor Tips 'a Privilege' for Ev Hoffman

Since 1960 I have had the privilege of reporting the activities of Navy and Air Force crews manning Kaman helicopters in many parts of the world. The word "privilege" is used deliberately, for it has been just that. In these times, when cynicism seems the rule rather than the exception, I have found a continual source of personal inspiration from the thousands of mission reports which have crossed my desk. These reports proved to me that, contrary to common belief, people still care for people—and not only care for them, but are willing to lay down their lives for them.

In the last 14 years, since joining Kaman, there have been literally hundreds, even thousands, of instances where "helicopter people" have braved death to save others. They have made rescues and medevacs under circumstances sometimes so hazardous that only the pilot's skill and crew's professionalism stood between them and death. There have been hundreds of times when crewmen placed themselves in imminent peril by leaping into the sea to help their fellow man; and there were the paramedics who fought, and sometimes died, while aiding the wounded in Vietnam; and the airborne firemen who unhesitatingly plunged into flames amidst exploding ammunition to free trapped men on a burning aircraft.

Who could forget Medal of Honor winner Lt Clyde Lassen, and his crew, who made repeated night landings under fire to snatch two downed pilots from beneath the noses of the enemy, and another H-2 crew which made a valiant attempt to rescue a pilot downed over North Vietnam, but was forced to turn back—the helo almost shot to pieces, one man dead, the other wounded.

For 14 years I have read the mission accounts and been astounded—and extremely moved—by the unselfish dedication shown by the helicopter people. Indeed, it has been a privilege to serve as your reporter.

Everett F. Hoffman

A familiar scene at Det Cubi these days. AMS3 Keith works on Det 4's aircraft with Det 8's helo side-by-side.

Det Cubi

Sets Record Pace

By LCdr Vincent C. Secades
USN photos

LCdr Secades and KAC Representative Saul Freedman inspect a newly arrived helo.

NAS CUBI POINT, R.P.I.—December, 1973 and January, 1974 were record-setting months in the short history of Det Cubi.

During December, for the first time since it was commissioned in February, 1973, the det was tasked to support four H-2 detachments here at the same time. LAMPS detachments Four, Eight and Twelve from the USS Kirk (DE 1087), USS Bagley (DE 1069), and USS Marvin Shields (DE 1066) along with the Marine Coast and Geodetic Survey detachment aboard the USNS Chauvenet, arrived at Subic Bay for ship's upkeep and aircraft maintenance.

Det Cubi provided technical assistance and services to these units at Cubi with LCdr Vincent Secades as Officer-in-Charge, ADJ2 Stevens Hill, AZ3 Gary Broach, AMS3 Roy South and Kaman Aerospace technical representatives, Donald Lockridge, Saul Freedman, Donald Delaney, Lionel Bentley and Kenneth Smith.

The wide variety of services rendered by Det Cubi included:

1) transportation assistance and liaison with the Naval Calibration Laboratory for the calibration of detachments' tools and test equipment

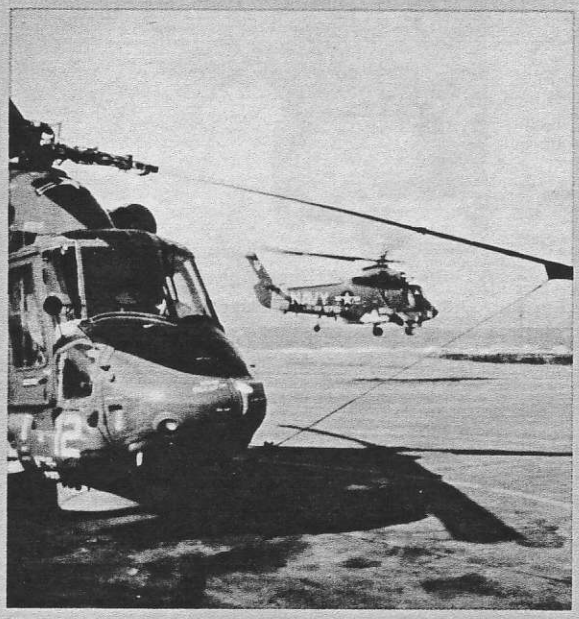
2) liaison with AIMD for expeditious repair of avionics components and inspection of aviation and survival equipment

3) coordination with Patrol Wing One Det Cubi for the scheduling of ASW ground training for LAMPS personnel

4) liaison with FAWPRA for airframe repairs

5) making arrangements for the shipment to the U.S. of H-2's due for PAR induction.

Dets 4, 8 and 12 practice formation flying. A destroyer's bow is in the foreground, the airfield in the background.



H-2 operations have again become a typical scene at NAS Cubi Pt. heliport.

The most important services rendered by Det Cubi were procurement of parts and maintenance. Three calendar inspections, an engine change, two mid-deployment corrosion control inspections and trouble-shooting of various aircraft malfunctions were accomplished during December, 1973, and January, 1974.

The training and expert guidance provided by the KAC representatives greatly helped the detachments maintenance efforts and saved a substantial number of maintenance manhours.

The record of activity substained during December was rapidly surpassed in January when Det 10 from the USS Brewton and Det 32 aboard the USS Oklahoma City arrived at Cubi joining the other dets already here.

Det Cubi also had the opportunity to host the visit to WestPac of Cdr M. A. Belto, Commanding Officer of HSL-33. During his visit, Commander Belto had the opportunity to observe all the dets at work and the value of Det Cubi's services and especially those provided by KAC reps.

But during Commander Belto's visit, it wasn't all work. He was welcomed with a party and evening dinner. All the officers from the detachments attended the enjoyable event. The next day, an all-hands beach party gave enlisted personnel a chance to enjoy a free exchange of ideas with their Commanding Officer—as well as to burn off steam on the volleyball court.

With the arrival in Subic of the USS Kitty Hawk, the first aircraft carrier to deploy to WestPac under the new CV concept, Det Cubi had an opportunity to demonstrate its value and versatility. The KAC avionics reps were called on to provide technical assistance to the HS and VS squadrons embarked. Lionel Bentley and Donald Delaney assisted the squadrons in troubleshooting the ASQ-81 MAD gear newly installed in the aircraft flown by HS-4, and the AKT-19 Data Link installed in the S-2E aircraft.

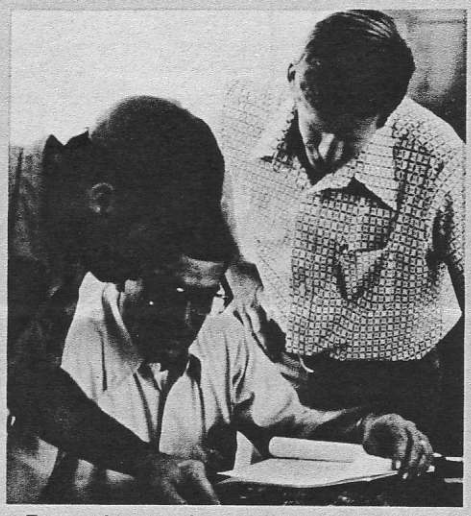
Despite its small size, Det Cubi renders invaluable support to the H-2 detachments in WestPac. Because the detachments are small, they sometimes do not have the technical expertise to cover all the areas of maintenance; they find such expertise in the avionics, mech/airframe and logistic services at Det Cubi.

Furthermore, the success of a one-aircraft detachment is highly dependent on the quickness with which its parts needs are fulfilled. In this respect, Det Cubi plays a vital role. By expediting the flow of information regarding requisition status and by directing supply assist requests to the appropriate supply agency, Det Cubi has often been responsible for reducing NORS time by coordinating parts delivery by the fastest means available.

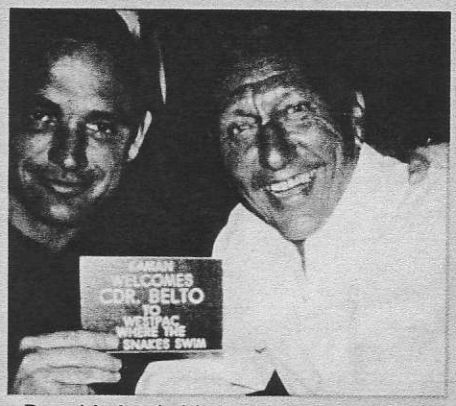
With the commissioning of HSL-35 in mid-January, the level of activity sustained at Det Cubi during recent months will be the rule rather than the exception. This will require augmenting the assets of this "LAMPS community home away from home" with additional highly motivated personnel who are willing to expend long hours of hard work to support this still-young but highly successful ASW/ASMD program. (continued on next page)

Det Cubi Sets Record Pace

Lionel Bentley trains AT3 Park on the complexities of the ASQ-81 MAD Reeling machine.

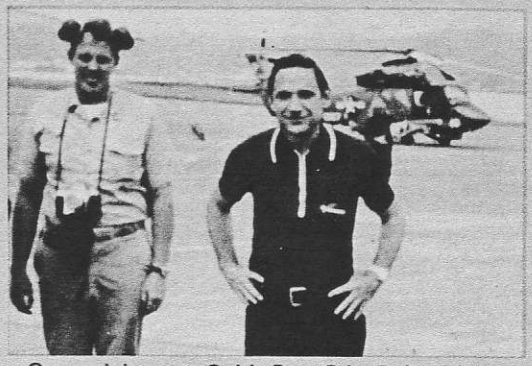


Even the mechs, in this case ADJ Ottem, come to the electronics reps for assistance sometimes. Don Delaney center, and Lionel Bentley right, explain the T5 indicating system.



Donald Lockridge right, presents a plaque to Cdr M. A. Belto, C. O. of HSL-33, marking his visit to WestPac.

Team captains discuss field rules before game at beach party.



On arriving at Cubi Pt., Cdr Belto right, was greeted by Lieutenant Sutton.

Personnel from Dets 4, 8, 12 and Det Cubi get together at a beach party.