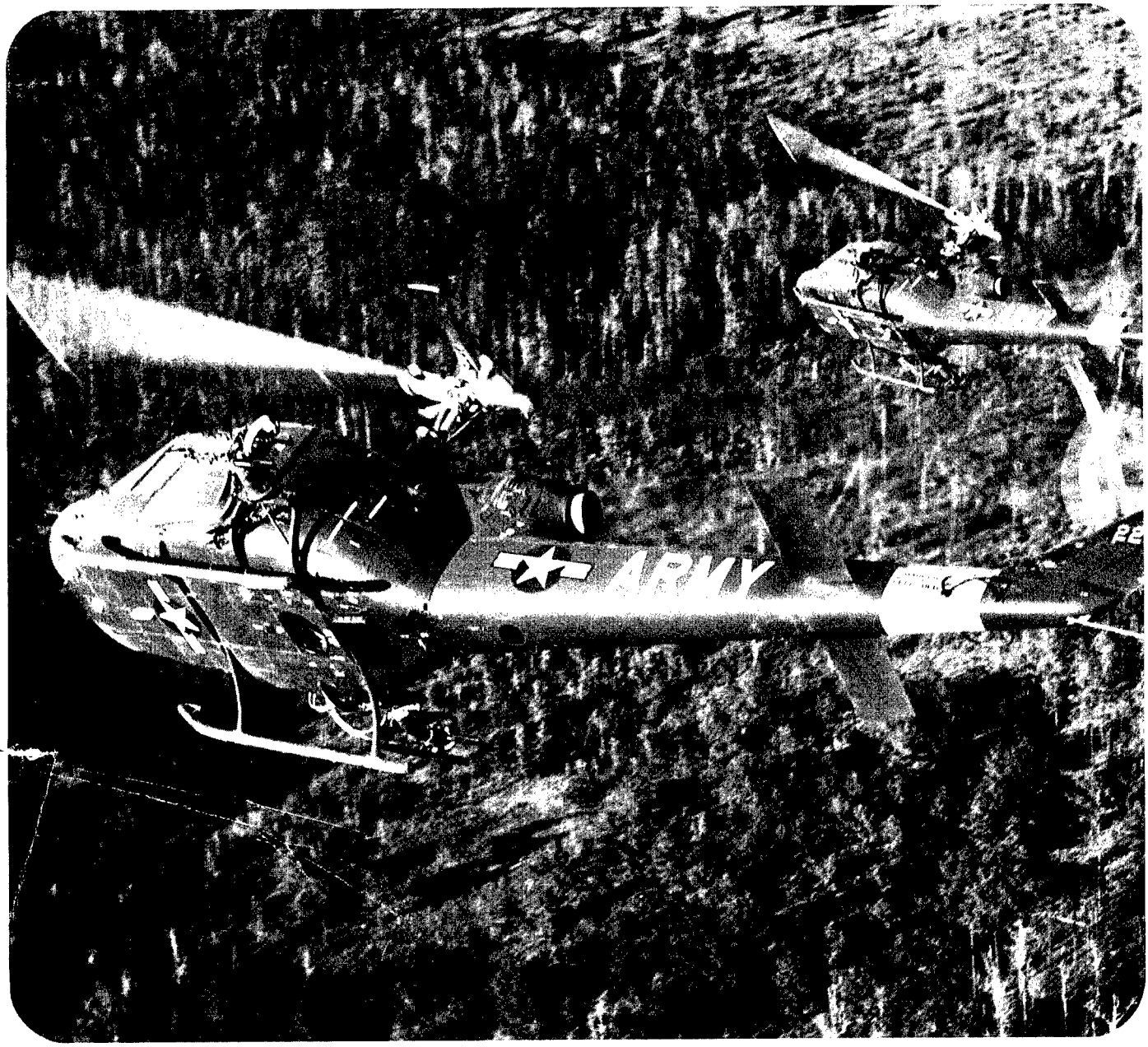
MAJORS, MINORS, INCIDENTS, FORCED LANDINGS, PRECAUTIONARY LANDINGS, FY 1967

UH-1 ACCIDENT SUMMARY



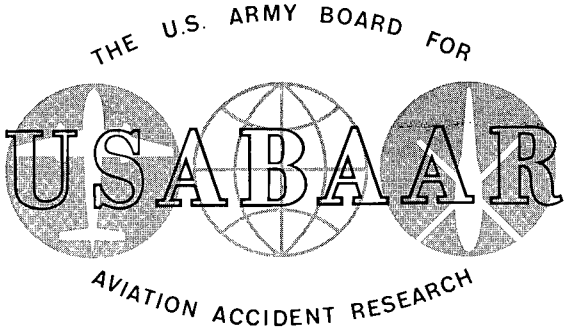
THE U.S. ARMY BOARD FOR AVIATION ACCIDENT RESEARCH • FORT RUCKER, ALABAMA

UH-1 ACCIDENT SUMMARY

1 July 1966 through 30 June 1967

by
P. R. Thompson

Education and Literature Division



COLONEL WARREN R. WILLIAMS, JR.
Director

INDEX

UH-1 ACCIDENT SUMMARY

1 JULY 1966 THROUGH 30 JUNE 1967

INTRODUCTION

This summary was prepared to help commanders at all levels, aviation safety officers, maintenance officers, aviators, and related aviation personnel to prevent future accidents and preserve combat resources through a review of past UH-1 mishaps and their cause factors. The term "mishap," as used in this summary, includes accidents, incidents, forced landings, and precautionary landings, as defined by paragraph 7, AR 385-40. Aircraft losses or damages which were the direct result of hostile action in RVN are not included. Information presented in this summary was taken from accident and other mishap reports submitted from all Army commands, as required by Section IV, AR 385-40. Engineering Change Proposals (ECP's) were furnished by USAAVCOM. Information on Modification Work Orders (MWO's) and Technical Bulletins (TB's) was gathered and compiled by SFC Julien Weil, Department of Maintenance Training, U. S. Army Aviation School.

STATISTICS

Table 1 shows total UH-1 mishaps for the seven year period ending with FY 1967. Major accidents increased by 218 (112%) and minor accidents increased by 31 (221%) during FY 1967. Total flying hours, shown in Table 2, increased by 675,869 (81%) during the same period. These are reflected by the increased accident rate shown in Table 2 up 5.2 (21%) over FY 1966.

Incidents, mishaps resulting in damage which does not meet accident classification criteria, were up 308 (152%) during this period. The increased cost of accidents and incidents, up $37,000,000 (142%) over FY 1966, is shown in Table 3.

The most significant statistics revealed by this summary are the accident injuries shown in Table 4. Fatal injuries were up 187 (256%) and nonfatal injuries were up 321 (151%) over FY 1966. The cost of personnel losses and injuries cannot be determined by monetary value because of variances in training costs and experience levels. The combat readiness lost during the time required to train replacement crewmembers for those lost in accidents cannot be purchased at any price.

CAUSE FACTORS

FY 1967 mishap briefs presented in this summary were selected to illustrate representative samples of the most frequently recurring types and their cause factors. Cause factors included crew error, inadequate and improper maintenance, inadequate operational facilities and unit training, weather, and materiel failure and malfunction. Supervisory factors are frequently apparent for all of these, including:

Assignment of missions incompatible with available equipment or with the training and experience level of aviators.

Failure to schedule unit training to build and maintain required proficiency levels.

Inadequate crew rest and exceeding recommended flying hour limitations.

Failure to comply with TB's and MWO's.

Inadequate maintenance and maintenance supervision.

Also apparent from the review of FY 1967 mishap

TABLE 1

Total UH-1 Mishaps

FY	MAJ	MIN	INCD	F/L	P/L	TOTAL
1961-1965	247	21	227	202	255	952
1966	195	14	202	108	185	704
1967	413	45	510	160	447	1575
TOTALS	855	80	939	470	887	3231

TABLE 2

UH-1 Accident Rates Per 100,000 Flying Hours

FY	No of Acdts	Hr Flown	Rate
1961-1965	268	885,887	30.0
1966	209	829,959	25.2
1967	458	1,505,828	30.4
TOTALS	935	3,221,674	29.0

TABLE 3

Approximate Mishap Costs

FY	UH-1 MISHAPS	ALL ARMY AIRCRAFT MISHAPS
1961-1965	$ 26,000,000	$101,000,000
1966	26,000,000	53,000,000
1967	63,000,000	96,000,000
TOTALS	$115,000,000	$250,000,000

TABLE 4

UH-1 Accident Injuries

FY	FATAL	NONFATAL	TOTAL
1961-1965	101	237	338
1966	73	212	285
1967	260	533	793
TOTALS	434	982	1,416

experience is failure on the part of reporting units to provide follow-up information on the cause factors for incidents, forced landings, and precautionary landings. For example, less than one-third of all T-53 engine failures reported during calendar year 1967 listed suspected or confirmed cause factors. The remaining two-thirds, more than 200 mishaps, were reported as "engine failure, internal engine failure," or simply, "failed in flight." No supplemental information was submitted.

For an effective safety program, specific cause factors must be known. Lack of information about specific cause factors results in wasted effort, time, and resources.

A much greater opportunity to learn and profit from experience is to be found with incidents, forced landings, and precautionary landings. The only thing that keeps an incident from becoming an accident is the degree of damage to major components and man-hour requirements for replacement and repair. In most cases, this is totally unrelated to cause factors and preventive action.

The chance to gain prevention information from forced and precautionary landings is much greater because the crews involved in these were able to successfully cope with inflight emergencies and land without damage. If the full circumstances that brought about the emergencies and the techniques used to cope with them could be shared and learned by all, Army aviators would be in a far better position to prevent accidents resulting from similar cause factors.

Unfortunately, these mishaps rarely generate the investigation interest given to accidents involving major or minor damage. This is apparent in the TWX messages used to report them. Item 7 of this message is supposed to contain a description of how the mishap occurred. Item 7 of a recent UH-1 forced landing message stated: "Engine failed." The message contained no information about the phase of flight or the action taken by the pilot. We can only assume that the helicopter was autorotated, but we know nothing about the circumstances, such as the altitude and attitude at the time of the emergency, the type of terrain, and the procedures used to complete a successful forced landing. No supplemental information was reported to explain why the engine failed.

CONCLUSIONS

A concerted effort on the part of commanders and supervisors at all levels is needed to curb the increasing accidental loss of combat resources. This can best be accomplished through:

Knowledge of past mishap experience and cause factors. This is available through aircraft accident summaries, Weekly and Monthly Accident Summaries distributed by USABAAR, and the Crash Sense Department of the U. S. ARMY AVIATION DIGEST. Distribution of Weekly and Monthly Accident Summaries may be obtained by writing to: Director, USABAAR, ATTN: ELD, Fort Rucker, Alabama 36360. Distribution of the ARMY AVIATION DIGEST may be obtained by submitting DA Form 12-4 in accordance with instructions on the back of the form.

Prevention surveys to isolate potential hazards in facilities, equipment, and personnel. The commander must be personally aware of the status of his accident prevention program. His staff assists in its implementation and in keeping him aware of its progress. Many of the accidents in this summary could have been prevented if the units involved had properly used the survey and taken prompt action on survey findings. The aircraft accident prevention survey is one of the best methods for monitoring a unit's prevention program. Though an accident prevention survey must consider all functions which directly or indirectly affect operations, breaking it down so that each function is reviewed separately will greatly facilitate evaluation of a unit's operations. To be effective, an aviation accident prevention survey should be a revolving project, and those conducting the survey should be thoroughly familiar with staff procedures so that recommendations may be directed to the proper staff member or appropriate agency. One survey will disclose only the potential problem areas of the moment and will not provide assurance that corrective action is taken. Follow-up surveys should be conducted to assure: (1) That corrective action was taken on recommendations made as the result of previous survey; (2) That no new potential problem areas have developed since the last survey; (3) Or that potential problem areas which were overlooked before or which were considered relatively unimportant at the time may be brought into proper perspective. Just how detailed and how often the survey

should be made will vary in individual cases. Answers to these questions will be regulated by the effectiveness of a particular accident prevention program. One commander may decide a particular phase of the survey should be made more often than others. Another commander will find that many items do not apply to his unit (e.g., the section in instrument approaches when the commander has no instrument approaches available). The aircraft accident prevention survey is not intended as a cure-all for an aviation unit commander's aircraft accident woes and weak spots. The question and answer checklist is meant merely to serve as a guide for the commander and to awaken him to an awareness of potential problem areas within his unit. If the survey is used with this in mind, it will serve materially as a foundation upon which to build an effective aircraft accident prevention program. Copies of the Aircraft Accident Prevention Survey prepared by USABAAR may be obtained by writing to: Director, USABAAR, ATTN: ELD, Fort Rucker, Alabama 36360.

Effective Prevention Planning, as outlined in part 1, AR 95-5.

Implementation of Unit Safety Programs, as outlined in Appendix VI, AR 95-5.

Increased Command Emphasis on investigation and reporting of incidents, forced landings, and precautionary landings, to include all information required by paragraph 23e, AR 385-40.

Selected Major Accident Briefs

H553–No. 1 aircraft was waiting takeoff clearance, No. 2 was approaching LZ, and No. 3 was circling for landing. Pilot No. 1 received radio call from pilot No. 2, advising of approach to same LZ. No. 1 pilot saw an aircraft on a high downwind leg and assumed it was No. 2. It was actually No. 3 aircraft nearing LZ. Pilot No. 1 asked for takeoff clearance and began taking off, turning to left to use longest axis of LZ. He saw approaching aircraft to his immediate left and above him. No. 1 moved to right to avoid collision, struck tree, and continued takeoff with negligible damage. No. 2 was nearing bottom of approach when No. 1 began moving forward and turning left in front of it. No. 2 settled while pilot was taking action to avoid collision, forward part of right skid wedged between two tree stumps, and aircraft pitched nose down and to the right, striking ground, collapsing both skids, resulting in major damage to all components. Caused by confusion and misunderstanding between pilots No. 1 and No. 2.

F552–Tail rotor struck obscured mound of dirt during landing. One tail rotor blade was damaged and thrown off, creating an unbalanced condition and causing the 90° gearbox and remaining blade to shear. Caused by terminating forward movement at low altitude over heavily grassed and brush-covered LZ.

F547–Aircraft entered high sink rate prior to touchdown during a practice forced landing, struck ground hard, bounced three times, and turned 150° before coming to rest on its left side, almost inverted. Caused by failure to apply sufficient initial pitch to arrest high sink rate. IP was late with corrective action.

F791–Tail rotor struck tree during 180° turn in confined area. Aircraft settled, tipped to right, and came to rest on side. Caused by attempting a turn in too close quarters.

F831–Crew heard loud noise prior to landing, and antitorque control was lost. Tail rotor was entangled with a roll of concertina wire, and the 90° gearbox and tail rotor were torn from aircraft. Caused by failure to see wire during landing and by failure to keep LZ free of obstacles.

F862–Engine stopped approximately 200 meters from end of runway during approach and aircraft was autorotated. On touchdown, skids sank into deep mud and aircraft pitched over, resulting in major damage. Caused by fuel exhaustion. Fuel cell was not completely filled when aircraft was serviced.

F926–Tail rotor struck tree stump at approach termination. Aircraft came to rest 180° from original heading, with major damage. Caused by failure to see partially concealed stump.

F929–Aircraft struck water in nose low attitude during a right turn at 80 knots and sank inverted. Aircraft destroyed. Caused by extreme low altitude turn.

F944–Tail rotor came loose, flapped, and severed vertical fin during hovering autorotation. Caused by failure of tail rotor pitch change links.

G017– RPM was lost during forward hover in a confined area, and takeoff was aborted. Directional control was lost at touchdown on steep slope. Aircraft turned 180° to right, severing tail boom, spreading skids, and causing major damage. Caused by exceeding gross weight limitations.

G072–Crew heard loud noise, needles split, rotor rpm dropped, and engine appeared to surge. Aircraft touched down 15°-20° from runway in right nose low attitude, rocked forward, then aft, and tail rotor struck high ground. Caused by failure of short shaft due to excessive heat. Suspect insufficient or wrong type lubricant used.

G758–Tail boom separated in flight and aircraft crashed and burned, killing crew of four. Caused by installation of nonstandard bolts in external stores

(armament) attaching points. When loss of bolt from top forward attaching point on left side occurred, the remaining three bolts failed under load and external stores fell down and to rear, with rear brace acting as pivot. Force of impact caused left bottom longeron to fail and tail boom to flex. Unstable condition caused vibration which failed No. 2 drive shaft coupling. Tail rotor drive shaft came loose and ripped through shaft cover, damaging tail boom and causing it to separate. Recommendations to prevent recurrence included (1) command emphasis on correct installation of armament systems, (2) inspection of all external stores attaching points to insure installation of correct hardware, and (3) preflight inspection of armament systems.

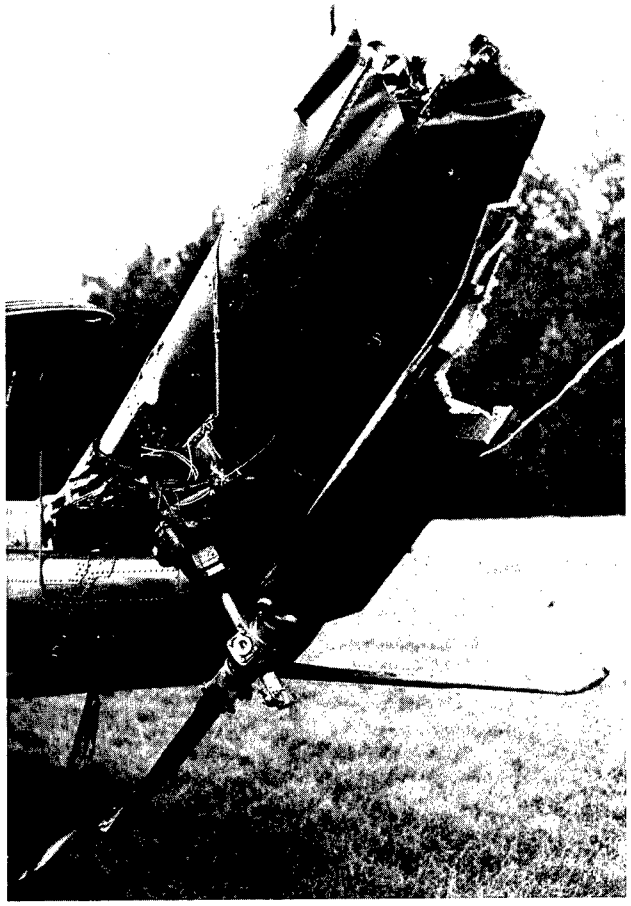
H800–Pilot allowed airspeed and altitude to dissipate and lost rpm trying to regain altitude to clear ridgeline. AC attempted 180° left turn to fly back down the ridge to regain safe airspeed and rpm. When recovery became impossible, AC zeroed airspeed and aircraft settled vertically into trees, hit upright, and rolled to left, coming to rest inverted. Crewchief, gunner, and one passenger were killed. Pilot and one passenger sustained minor injuries. Caused by failure to monitor airspeed and altitude. AC was late with corrective action.

G363–Aircraft was brought to hover and main rotor blades hit main rotor blade tip of the aircraft parked to its left. Pilot lost control and aircraft hovered forward 28 feet while turning 100° to the left, striking the ground with right skid. Aircraft rolled to right and came to rest on right side 40 feet from takeoff point. Caused by failure to clear before lifting off due to lack of crew coordination.

G417–Aircraft yawed to right when IP increased throttle to full open to demonstrate power recovery during a simulated forced landing. Application of left pedal failed to straighten aircraft. Aircraft was flared to dissipate speed, and stinger and tail rotor blade struck ground. Impact broke one tail rotor blade in half and caused separation of the other blade and 90° gearbox. Aircraft became airborne and turned more than 360° right. Tail boom and main rotor blades hit ground and aircraft rolled on its top left side. Chain assembly jumped off sprocket and jammed with left pedal forward, producing fixed-pitch setting on tail rotor blades and causing loss of directional control.

G481–While hovering from parking zone at night, aircraft drifted right and tail rotor blades hit main rotor blades of parked aircraft. Caused by loss of orientation and by preoccupation of copilot due to tuning radios and attempting to correct an inoperative instrument light.

G507–AC went IFR short of intended touchdown point in clouds and rain at night. Pilot lost ground contact and aircraft struck the trees tail first and rolled over on right side. Caused by continuing approach in IFR conditions, high wind encountered on short final, and inability to transition from VFR to IFR because of terrain proximity.



G481 - Copilot was preoccupied and tail rotor blade struck parked aircraft.

G564–Aircraft hit ground approximately 730 meters from takeoff point, became airborne again for 75 meters, and main rotor blade struck ground. Aircraft exploded and burned. Pilot and gunner killed. Crewchief had major injuries and AC had minor injuries. Caused by loss of rpm due to inadequate power setting and attempted 15° bank.

G592–Noise was heard from transmission area, followed by hydraulic failure. Aircraft landed tail low and tail rotor struck ground, tearing off 90° gearbox. Skids and cross tubes were twisted from aircraft. Hydraulic failure caused by failure of right lateral servo "O" ring.

G595–Aircraft touched down in crab at excessive rate of descent during standardization check. Major damage to skids, cross tubes, chin bubble, and underside of fuselage. Caused by failure to maintain directional control and delayed pitch pull. IP was late with corrective action.

H803–Aircraft yawed and spun to right during landing approach. Power and pitch were reduced and

aircraft landed hard, causing major damage to underside. Antitorque failure caused by tail rotor control chain breaking. IP failed to take corrective action by cutting power and terminating with hovering autorotation.

H804–Pilot allowed aircraft to move to right before clearing ground during liftoff. Right skid hit ground and aircraft tipped over, destroying main rotor blades and tail rotor, and damaging main rotor head and transmission. Main cabin buckled above right cabin door. Caused by allowing sideward movement before lifting to safe height.

G641–Aircraft touched down tail low, severing tail rotor blades and gearbox during a demonstration touchdown autorotation. Aircraft spun right and came to rest upright 100 feet from initial touchdown point. Fuselage slid left on aft cross tube, damaging center cross beam and bottom of fuselage and puncturing left fuel cell. Caused by failure to level aircraft prior to touchdown.

G759–Right turn into hill mass was made after aircraft entered fog bank. Main rotor blades struck tree, aircraft rolled to right, fell vertically, and came to rest on steep embankment. Approximately 5 minutes after impact, aircraft was destroyed by fire. Pilot and gunner killed. Eight other occupants sustained minor and major injuries. Caused by entering a fog bank while attempting to fly through mountain pass at low level in marginal weather.

G751–Aircraft struck high tension powerline during a low level route reconnaissance flight, jamming copilot's left antitorque pedal backward and disabling antitorque and collective pitch controls. Chin bubbles and copilot's window were broken. Aircraft landed hard. Details of damage not reported. Caused by failure to see wire.

G778–Aircraft spun rapidly to right approximately 30 feet after takeoff, and landed hard on left skid. Soldier in LZ was struck by main rotor blade and killed. Caused by loss of tail rotor control due to improper bearing installation.

G841–Aircraft struck ground and rolled on left side while hovering out for night takeoff. Fire in vicinity of tailpipe was extinguished. Caused by loss of orientation when navigation lights went out. Student pilot turned on searchlight, but tower instructed him to turn it off.

G853–While in cruise flight and flying in instrument conditions during a predawn weather reconnaissance mission, aircraft flew into trees extending 30-40 feet above ground elevation of 440 feet. Aircraft descended through trees and came to rest in level attitude. Both fuel cells were ruptured. Portions of aircraft, including pilot's door and right synchronized elevator, separated during descent. Pilot, AC, and gunner sustained major injuries, and crewchief had minor injuries. Probably caused by both AC and pilot misreading altimeters.

G910–Engine failed during a night training flight and pilot autorotated into small clearing in wooded area. Main rotor blades struck trees, damaging all major components. Engine failure caused by fatigue of a first stage compressor blade.

G972–RPM was lost during takeoff and takeoff was aborted. Some boxes of ammunition were unloaded and another takeoff was attempted. RPM was again lost, takeoff was aborted, and aircraft settled to ground, striking stumps and tearing skin of cabin belly and bottom of synchronized elevator, bending and cracking formers and bulkheads, and pushing toe of left skid in and to the rear, ripping skin. Caused by miscalculating gross weight and attempt to lift off from high grass.

H822–Pilot was orbiting and providing cover during medical evacuation when cabin filled with smoke. Pilot attempted landing and aircraft touched down straight at estimated 20-knot groundspeed, skidded approximately 60 feet, hit a stump, and came to abrupt halt, damaging forward section and destroying M5 gun kit. Smoke caused by improperly stowed smoke grenade.

H030–Aircraft struck powerline during demonstration confined area takeoff and turned to right. IP bottomed collective, rolled off throttle, made descending turn, and touched down 1,250 feet from takeoff point. Major damage to tail rotor blades, drive shaft, main rotor blades, No. 1 hanger bearing, skin, frame, and transmission output quill. Both windshields and skylights were broken. Caused by low flying in unauthorized area.

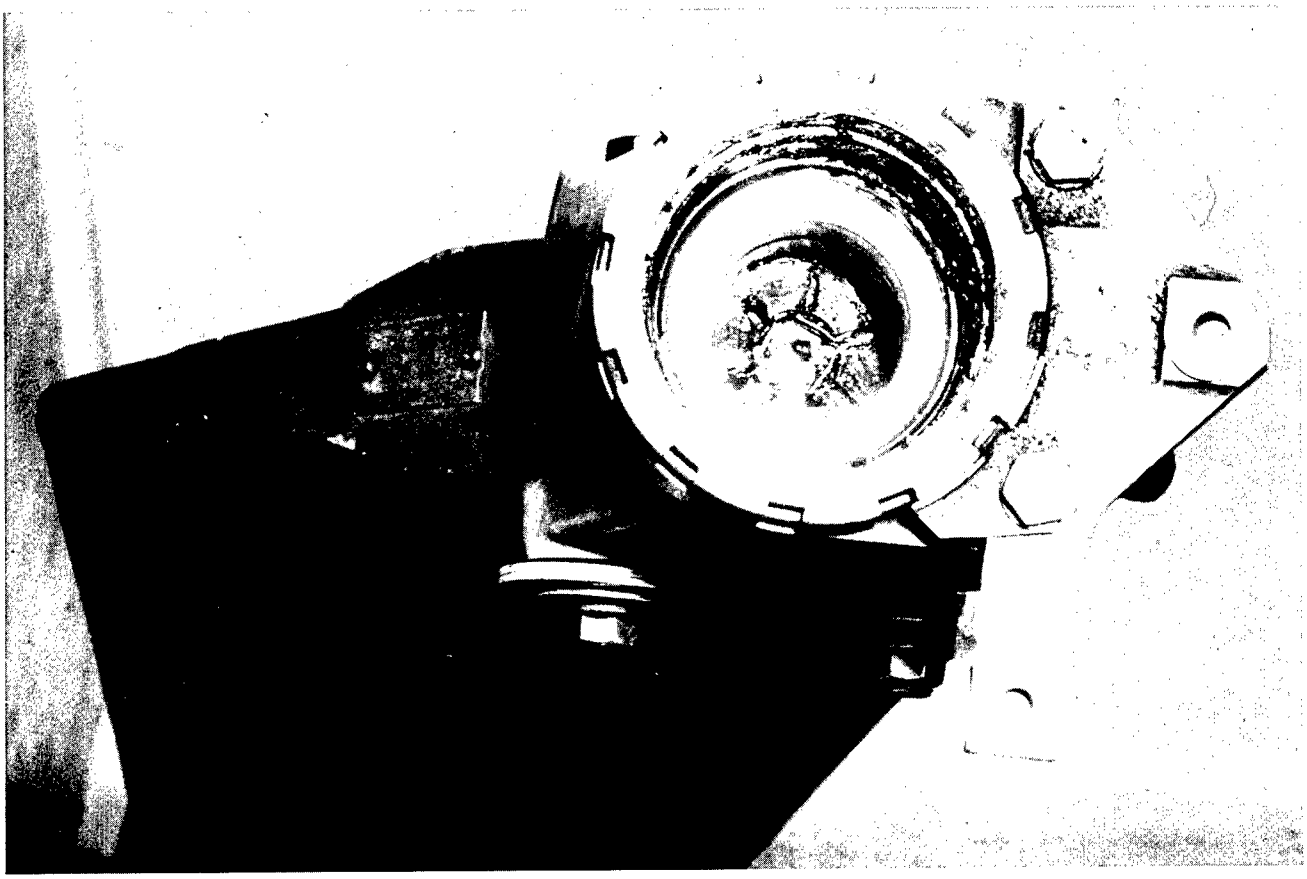
H067–Aircraft struck snow surface during landing approach and skidded 265 feet, losing skids, main rotor blades, and right synchronized elevator. Main transmission was torn from housing and engine was destroyed. Caused by unexpected severe turbulence and whiteout condition. No forecasting service or alternate was available in remote area.

H826–Aircraft struck river adjacent to landing area during night approach in heavy rain, rolled over, and sank in approximately 12 feet of water. Gunner drowned. Remainder of crew rescued. Caused by continuing approach after losing visual contact.

H081–Tail rotor failed at hover and aircraft landed hard, damaging cross tubes, skids, and fuselage. Caused by sheared cotter pin due to incorrect assembly of pitch change rod bearings and resultant excessive outward thrust.

H113–Main rotor blades intermeshed when two parked aircraft were started simultaneously. Caused by failure to insure blade clearance.

H648–Aircraft struck ground approximately 75-100 yards short of intended landing point during night approach. Pilot and copilot killed. It was believed pilots were unable to see ground and misjudged height. Additional factors were landing in inadequate lighted area without using aircraft lights, erroneous tower advisory as to airfield elevation, limited night



H813 - Tail rotor yoke failed because retaining nut was improperly torqued.

flying proficiency, and pilot fatigue.

H248–Pilot applied pitch while attempting to sling lift a downed O-1 from river and nose of aircraft pulled down and to the right. Helicopter, unable to lift O-1 because it was partially filled with water, continued to roll and tuck to right until main rotor blades struck water and aircraft fell on right side. Caused by attempt to exceed lift capability.

H301–Two UH-1's collided in flight, crashed, and burned. There were no survivors. Caused by failure to see and avoid other aircraft.

H300–Tail rotor hit tree branches when aircraft was hovered rearward and to the right in attempt to select drop sites for sling loads. Aircraft hit ground hard and main rotor struck large rock and tree stump. Main rotor blades were demolished and main rotor head, mast, and transmission were torn loose. Caused by failure to clear area behind before hovering rearward.

H327–Engine failed. Aircraft was autorotated, landed short of intended touchdown point, and struck trees, damaging all major components. All seven occupants sustained major injuries. Engine failure caused by failure of No. 2 bearing.

H044–Main rotor struck tree during confined area takeoff and aircraft pitched to the right front and struck ground, coming to rest on right side and falling on soldier. Soldier sustained major injuries. Caused by failure to anticipate delay in reaching translational lift during takeoff from high grass.

H060–Pilot flared excessively close to ground during landing approach. Tail rotor struck ground causing loss of antitorque and directional control. Main rotor struck ground, damaging major components. IP failed to monitor controls and was late with corrective action.

H813–Pilot heard loud explosive noise during hover to takeoff pad for maintenance test flight. Aircraft vibrated and turned to the right. Power was reduced and aircraft landed hard on left skid. Tail rotor and gearbox separated from pylon, and tail boom was severed by main rotor blade. Caused by failure of tail rotor yoke due to loss of retaining nut torque.

H426–RPM dropped during slow left turn after takeoff. Pilot pulled full pitch in attempt to clear high wire and buildings and ran out of left pedal due to low rotor rpm. Aircraft hit hard and skidded 80 feet, throwing out two passengers. Right skid was torn off, bottom of airframe buckled, transmission was torn loose, and main rotor blades were damaged. Two passengers sustained minor injuries. Caused by overloaded takeoff at high density altitude and downwind turn.

H551–Engine failed at night in cruise flight. Pilot autorotated and airspeed dropped. Aircraft struck ground tail first, slammed onto skids, spread the gear, contacted ground with bottom of fuselage, rotated on its nose, and flipped over on right side. Engine failure caused by seizure of N_2 turbine. Maintenance and inspection personnel failed to discover missing fuel divider in a vaporizing tube and maladjusted fuel control which allowed excessive heat, resulting in N_2 turbine blade extension and seizure against turbine housing.

H578–Main rotor blade struck left front half of cockpit causing main rotor hub to sever from mast upon contact with stop. Aircraft travelled approximately 100 yards and crashed inverted. IP, SP, and gunner killed. Caused by failure of adapter damper mounting due to overstress and fatigue.

H833–Left skid struck dirt mound prior to translational during takeoff. Aircraft rolled over and came to rest inverted. Caused by attempted downwind takeoff with heavy load.

010303–Aircraft struck ground during approach to minimum lighted tactical field site, bounced back into air approximately 100 feet, descended in a right turn, crashed and burned. Both pilots killed. Caused by apparent confusion between pilots about control of aircraft.

011404–Tail rotor and portions of 90° gearbox separated from aircraft at approximately 2,000 feet. Aircraft swerved right and pilot made a slow descent, intending to land in cleared area. At approximately 200-300 feet, airspeed dissipated to where aircraft was no longer streamlined. Aircraft yawed further to right and began to settle. Power was applied and aircraft began violent spin to right, rapidly descended to ground, crashed, and burned. Three occupants were killed and the other critically injured. Caused by failure to place aircraft into full autorotation or proceed to area suitable for a running landing. Tail rotor failure caused by failure of blade and hub assembly.

011709–Aircraft fell apart at approximately 2,200 feet, landed inverted, and burned. All eight occupants killed. Caused by separation of push-pull control rod attached to synchronized elevator from nonadjustable end. Separation caused loss of control of synchronized elevator, with sudden release of downward forces exerted by elevator. Release of normal force caused aircraft to pitch nose down around lateral axis and tail boom to travel upward into main rotor disc. Main rotor blades struck tail boom six times, resulting in disintegration of blades and tail boom.

011813–Engine stopped during simulated hydraulic failure approach. IP took control and autorotated. Engine flamed out over unsuitable terrain and aircraft struck tree, damaging major components. Caused by IP inadvertently turning off main fuel switch.

012605–Pilot lost orientation in trail formation and crashed into trees after entering heavy rainshower at night. Caused by restricted visibility and turbulence. Flight commander elected to fly after dark in marginal forecast conditions, violated instructions, and led a flight of eight aircraft into IFR conditions when he was the only pilot possessing a standard rotary wing instrument ticket.

013103–Aircraft fell to ground during steep approach and left skid struck 2-foot mound. Full collective pitch and left rear cyclic were applied and aircraft rolled on right side. Rotor blades struck ground and rotor hub and transmission tore loose. Caused by failure to select and use best approach for existing terrain.

020302–Aircraft vibrated severely during hover and was set down. Tail rotor and 90° gearbox were severed from aircraft and pylon trailing edge was damaged. Ninety-degree tail rotor assembly broke due to improper torque of self-locking nuts securing tail rotor slider to crosshead assembly.

020507–A steep approach was made during short final and low rpm audio signal came on approximately 5 feet above ground. Aircraft was set down in PZ and hit stump. Left fuel cell was punctured and vapors from JP-4 ignited. Aircraft destroyed by fire. Caused by steep angle of descent, coupled with a rapid application of collective, resulting in loss of rpm.

020612–Tail section separated and main rotor struck ground and broke off. One blade passed through cockpit section, separating the left seat, pedals, cyclic, and floor section from rest of cabin and flinging them from aircraft. Remaining portion of aircraft struck ground and rolled over several times, coming to rest on its left side. Six occupants were killed, three sustained critical injuries, and one had minor injuries. Caused by structural failure of lower left-hand longeron at station 243.8 due to wear caused by battery shelf.

021619–AC and pilot of No. 2 aircraft lost ground reference in dust when terminating approach at hover. AC started go-around and pulled pitch. RPM was lost and aircraft crashed, breaking chin bubbles and cross tubes and bending tail boom. Caused by flight leader not advising No. 2 aircraft to go around and land in a better area due to extremely dusty conditions. Airstrip controlling personnel removed laterite surface and did not place strip off limits to rotary wing aircraft.

022416–Aircraft struck wire and crashed during night training flight. Aircraft partially burned and both pilots sustained minor injuries. Caused by confusion about location and violation of verbal order during attempted approach to minimum lighted area without radio contact.

030509–Rotor rpm was lost at approximately 50 feet and 20 knots airspeed. AC overshot landing area and aircraft settled in trees. Main rotor and transmission separated, and aircraft hit nose first on left side. Caused by failure to monitor rpm and take cor-

rective action when rpm was lost.

030707–RPM was lost during takeoff and aircraft settled into hut. Aircraft was removed because of tactical situation and details of damage could not be determined. Caused by taking off with no safety power margin. Aircraft was released from PE with an excessively dirty engine and the GO-NO-GO placard was not updated during PE, as required by command regulation.

030827–Takeoff was attempted and aborted because of excessive drop in rpm and loss of visual reference due to dust. A second takeoff was attempted. Visual reference was again lost, but AC continued forward until a critical loss of rpm occurred. Takeoff was aborted to avoid settling into river and main rotor blade hit parked truck van. Tail boom struck a parked trailer and aircraft fell approximately 6 feet, damaging landing gear, power train, main and tail rotor assemblies, tail boom, and flight controls. Caused by failure to lighten load before attempting second takeoff.

030919–Aircraft crashed into river and caught fire during night takeoff. Five occupants were killed and one sustained minor injuries. Caused by loss of orientation due to failure to monitor instruments in limited visibility.

031001–No. 1 rocket was fired from right side of aircraft and exploded immediately after leaving tube, damaging fuselage, skid, cross tube, and main rotor. Aircraft underwent no unusual or abrupt gyrations. Two causes which may have caused detonation of rocket motor were (1) failure to apply 50 ft/lb of torque in securing warhead to rocket motor, which may have resulted in an air leak, causing uneven burning and instantaneous explosion of the propellent; or (2) damaging, dropping, or rough handling of rocket motor, which could have cracked the propellent and deterred even burning.

031201–Landing approach was terminated at 3-foot hover over landing pad improvised from large rock for resupply missions. Rotor rpm began to drop and AC attempted to gain control of aircraft to set it down on rock to regain rpm. Pilot refused to release controls and attempted right turn and downhill descent. Aircraft lost altitude, crashed, and burned. Pilot was killed. Caused by (1) overgross weight, (2) failure of AC to make initial approach into difficult area (200-meter hill in midst of heavily wooded and rocky terrain), (3) pilot attempting to abort landing with insufficient rpm, (4) inadequate helipad for normal operation, and (5) failure of unit operations personnel to inspect and monitor helipads used for resupply missions.

031421–Aircraft lost rpm and moved to right during lift-off from pinnacle. Pilot lowered collective, main rotor blades struck boulder, and right side of rear cross tube was pushed into fuselage. Force of touchdown caused right door gun mount to cut through right skid. Caused by AC directing pilot to continue takeoff when lateral and longitudinal controls were no longer effective.

031504–Aircraft was picked up to low hover and left pedal turn was started. Skid heel dug in and aircraft pitched up and rolled to right. Main rotor blades struck ground. Aircraft continued to turn and came to rest approximately 90° to left of lift-off point. Caused by failure to assume a safe hovering altitude prior to making pedal turn.

031705–Maximum performance takeoff was made from dusty area during darkness. Aircraft began to lose power and settle prior to clearing dust. Takeoff was aborted and visual contact was lost in dust. Left skid hit ground and aircraft rolled over. Caused by reduced engine performance due to dirty and damaged engine and contaminated fuel, reduced visibility in dust and darkness, insufficient heliport area for conducting safe flight operations, and decrease in rpm below safe operating level. Engine damage was not caused by accident. Engine inlet vanes had old FOD, causing some of the vanes to be bent. The first rotor of the compressor also showed FOD. Inlet housing was covered with dirt and oil to a depth of 1/8 inch at the front, decreasing toward inlet vanes. Inlet vanes, first rotor, and first stator had dirt and oil buildup.

032213–During resupply mission, IP made low reconnaissance over LZ covered with numerous stumps and surrounded by 75- to 100-foot trees. Landing area was unmarked and was not attended by pathfinders. IP selected touchdown point and started approach. He saw that stumps were higher and thicker than previously determined and that touchdown point appeared to be tight. IP slowed rate of descent, attempting to locate a better touchdown point. RPM dropped to 6400-6300 between 40 and 50 feet above ground. At approximately 20 feet, rpm dropped to 5800. Crew reported that tail was not clear, and IP attempted to move helicopter to original touchdown point. Aircraft turned right and tail rotor struck stump, causing structural damage to tail boom and drive train. Caused by attempting a 20-foot hover on final with overgross weight for hovering out of ground effect, and by indecision about the touchdown point in an improperly prepared LZ without a marked touchdown point.

032802–Short shaft failed at 30 knots and 30 feet during takeoff. Aircraft was autorotated, but struck rice paddy dike due to low airspeed and altitude. Skid broke off and pushed into fuselage bottom. Cargo hook was also jammed into aircraft bottom. Short shaft failure caused by improperly seated spring which allowed lock nut to back off of shaft.

033110–Approach was terminated at hover to discharge troops and cargo because landing area was covered with rocks and stumps. As troops departed, aircraft began to rise because of weight loss. Pilot reduced collective and main rotor blades struck rock formation to left of aircraft, severing approximately

2 feet of each blade and causing severe vibration. Pilot, thinking he had come under hostile fire, attempted climbout. AC thought aircraft had tail rotor failure, took controls, overrode pilot, reduced power, and set aircraft down. Aircraft struck ground on rear of skids and slid rearward a few feet, coming to a stop with tail boom resting on ground. Caused by overcorrecting for a gain in altitude at a hover and allowing aircraft to settle or drift into rock formation. Gunner failed to alert pilot of close proximity of rock formation.

040613–Engine failed at 2,500 feet approximately 55 minutes after takeoff. Aircraft was autorotated, flared, and initial pitch was applied at approximately 30-40 feet. Nose was lowered in an effort to level skids before ground contact. Early application of initial pitch and lowering nose resulted in excessive forward speed and lack of pitch for cushioning landing. Aircraft landed hard in dry rice paddy, resulting in major damage to landing gear and tail boom. Crewchief's wrist was injured. Engine failure caused by fuel contamination due to loose self-sealing compound in fuel tank.

041005–Aircraft settled during takeoff and skids scraped runway. Collective was added to clear runway and rpm dropped to 6000. Aircraft shuddered as it entered translational lift. At approximately 7-8 feet above ground, rpm began decreasing and aircraft started settling. Left skid hit dirt mound, causing aircraft to yaw to right and roll left. Left pedal and right cyclic were added. Aircraft responded slowly and right skid hit ground first, causing aircraft to roll left. Main rotor blade struck ground and aircraft came to rest on left side. Accident caused by failure to abort takeoff when low rpm was first experienced. Loss of power caused by foreign object damage. Piece of safety wire was ingested in engine.

042201–Twenty-minute fuel warning light came on in lead aircraft of trail formation flight. Pilot was instructed to break formation and go directly to refueling site. Pilot broke out of formation to right and began descent. Fuel gauge started fluctuating and pilot was told to land immediately. Pilot reported fuel pressure was zero and engine quit at 300 feet. Aircraft continued in a fast, unusually steep descent at approximately 80-90 knots. Pilot turned away from original flight path and headed toward cemetery on edge of large open area. Aircraft was placed in level attitude at 50 feet and continued toward cemetery containing built-up cement tombs and large monument in center. Rotor blades were turning slowly and aircraft hit row of tombs in a level attitude. Tail rotor, tail boom, and skids broke away. Aircraft bounced into air inverted and struck cross on top of monument, coming to rest inverted. Six occupants were killed and four sustained major injuries. Caused by failure to execute proper emergency procedures after engine stopped due to fuel exhaustion. Flight leader allowed fuel exhaustion situation to develop.

042605–Pilot was unable to determine wind direction and assumed he had a left crosswind for takeoff from resupply area. Aircraft was flared to avoid concertina wire approximately 3 feet off the ground and 125 feet from takeoff point. RPM dropped and AC took control, making left turn to avoid a sandbag bunker. Left skid hit ground and aircraft bounced. Gunner, who was not wearing a seat belt, was thrown out, sustaining broken pelvis and multiple bruises and scratches. Aircraft continued right turn and came to rest approximately 80° from original direction of flight, bending cross tubes and supports. Caused by taking off downwind with high gross weight, nonavailability of a wind indicating device in resupply area, and unsatisfactory resupply area.

042704–Smoke filled cargo compartment during fire reconnaissance mission. AC started climb and left turn. By the time he realized the smoke was CS gas from a detonated grenade, it had begun to impair crew vision and breathing. Crewchief removed grenade from container, where it had detonated on its own accord, in an attempt to remove it from aircraft. Grenade was hot and due to chemical intensity, crewchief lost control of it. Further flight was impossible and AC placed aircraft into a power-on slipping autorotation, trying to dispel gas. With vision impaired to the point where he could barely see the ground, AC flared and pulled pitch just above trees to cushion aircraft. Aircraft hit tree in a level attitude and skidded down the tree, coming to rest on its right side, damaging main rotor blades, cabin section, landing gear, transmission, and tail boom. Unit did not have SOP to prohibit carrying CS cannisters or toxic agents except for aircraft on missions to use or resupply them. Crew did not have gas masks and was unprepared to cope with escaping gas. Regulations were established to require one pilot to wear gas mask at all times while toxic agents are aboard.

050512–Tail rotor blade separated and aircraft went into uncontrollable right turn approximately 100 meters from takeoff point at 50-75 feet and 15-20 knots. Tail rotor gearbox and remaining tail rotor blade then separated and aircraft continued to rotate right, also pitching up and rotating to the left on its longitudinal axis until one main rotor blade struck ground. The other blade then severed tail boom in synchronized elevator area as fuselage continued to rotate. Main rotor system began to disintegrate, causing main rotor mast to separate. Fuselage struck ground on upper left side aft of gunner's position and roof structure collapsed. Roof structure of forward cabin area collapsed to height of AC's armored seat and fire broke out. Gunner was killed and other three occupants sustained major and minor injuries. Caused by failure of tail rotor hub assembly due to severance of threaded area of yoke arm, induced by loss of torque on bearing retaining nut.

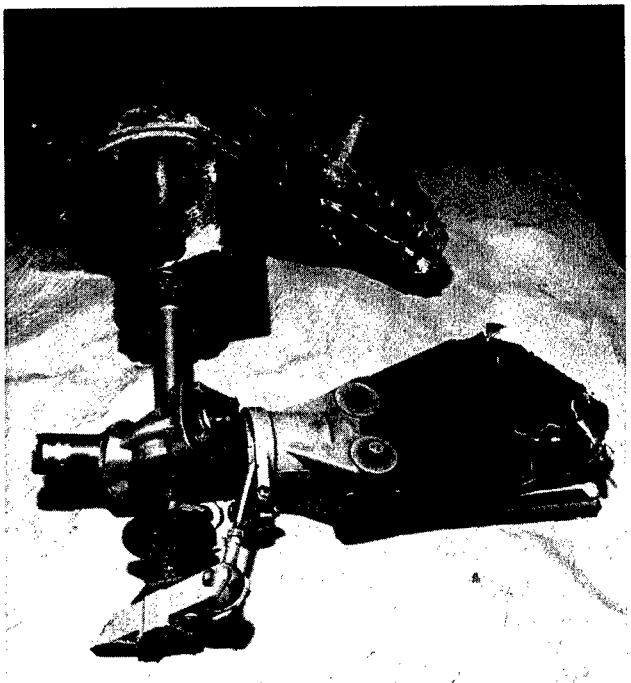
050918–AC decreased rpm to 6000 and aircraft was autorotated to make a rapid descent from 3,000

feet to below traffic pattern. RPM exceeded high side limitations during descent and action was taken to reduce rpm. AC had difficulty in controlling rotor and engine rpm. RPM fluctuated from 6000 to 4200 during descent. Aircraft could not be recovered from autorotation and struck water in a nose low attitude at approximately 30 knots, 75 yards from shore, and sank. Three of 12 passengers were killed, pilot sustained major injuries, and crewchief, gunner, and two passengers had minor injuries. Caused by decreasing rpm prior to autorotative entry and autorotating at 90 knots. Low rpm warning light came on during attempt to recover. AC applied collective, causing rpm to further decrease, and turned right, attempting to stretch glide to beach area. AC failed to decelerate or slow forward speed prior to hitting water. AC failed to roll throttle full on during attempted recovery. When he tried to increase engine rpm with the increase/decrease switch, engine fuel control was not affected. AC autorotated to lose altitude, when a normal descent could have been performed. Autorotation with passengers on board violated paragraph 30, AR 95-1. The number of occupants exceeded the number of seat belts, in violation of command regulations. Flotation gear was not available.

051105–Tail rotor struck GCA reflector when aircraft was hovering near active runway for takeoff. Tail rotor disintegrated and aircraft turned violently to right. Pilot dropped collective and attempted to roll off throttle. Aircraft hit ground and became airborne again. Pilot lost complete control and aircraft hit ground again, causing gear to collapse. Main rotor struck ground and rotor head separated from shaft. Aircraft came to rest right side up. Pilot's attention had been diverted by an aircraft on short final which was initiating landing to same panel and by his concern for another aircraft to left of his flight path being affected by his rotorwash. Caused by improper technique for coping with a tail rotor failure at a hover. GCA reflector was not conspicuously marked as a dangerous obstacle.

051307–Aircraft was on support mission to provide suppressive fire during extraction of a long-range reconnaissance patrol. Two rockets had been fired from the left pod containing seven rockets. After rocket run was completed, pilot began a break to the right. AC began to cover the break over the target area with the M16 flex system. Fire coverage was started by swinging M16 out to left limits of target, then bringing fire from left across target, then down and under aircraft. Left flex system was depressed and traversed to its inboard stops and bolt failed on lower gun, allowing gun to continue swinging inboard. Gun fired two rounds into left rocket pod, left skid and forward cross tube, ammo chutes for M16, left underside of aircraft, and door gunner's ammo box. There was an explosion and intense smoke and fire when rounds ruptured and ignited rocket motor. As gun crossed through chutes, car-

050918 - RPM exceeded high side limitations and aircraft could not be recovered from autorotation.



050512 - Severed threaded area of yoke arm caused by failure of tail rotor hub assembly.

tridges ruptured, creating another fire. Several rockets exploded and the propellent in the motors gave off intense heat. An attempt was made to extinguish fire, but failed. Aircraft was landed and another attempt to extinguish fire failed. Caused by use of an unauthorized bolt on gun, which was common hardware bolt and did not have required strength. It was installed upside down and torqued to such a degree it broke in half.

051410–Aircraft, number three in a formation of six returning from combat assault mission, was flared on short final to prevent overrunning aircraft ahead, and began to settle. Maximum power was applied, but failed to stop descent. Aircraft landed extremely hard into barbed wire barrier fence, damaging all major components. Caused by allowing aircraft to overfly aircraft to front, resulting in too steep and too low an approach, and failure to recognize dangerous situation until too late to successfully recover. The existence of the fence within the refueling area was a hazard that should have been removed after perimeter of POL area was expanded.

051822–Tail rotor separated as aircraft was turning final and aircraft spun to right. A severe unbalanced condition was created when a 71-inch section of the main rotor blade was torn away. The nose pitched up, then down. Aircraft rolled to left and struck ground in a nose low attitude. Fuel tank ruptured at impact and fuel was ignited by hot exhaust. All occupants killed. Failure of tail rotor hub assembly caused by insufficient torque of bearing retainer nut.

052610–Two aircraft collided at 30° angle during night visual reconnaissance over area illuminated by artillery flares. Both crashed and burned. Eight crewmembers and one passenger killed. Caused by loss of visual contact and by flying figure 8 patterns with converging courses.

052801–Pilot had difficulty hovering during downwind turn and AC took control. Cyclic moved to left rear position while aircraft was at 3-foot hover. Aircraft turned left, nose came up, and tail rotor struck ground. Aircraft caught fire and burned. Gunner killed. Remainder of crew and one passenger sustained major and minor burn injuries. Loss of control caused by pivot coming out of servo cylinder. Crewchief performed unauthorized maintenance on right lateral servo and there was improper maintenance supervision. Parts to be replaced by a general support maintenance unit should not have been issued to an organizational maintenance unit.

053006–Takeoff was started and aircraft crabbed to left. Skid hit pipe extending 6 inches above surface and aircraft pitched over on right side, coming to rest inverted. Caused by attempted 8-inch hover.

060906–IP lowered collective and rolled off power to start simulated forced landing at 80 knots and indicated altitude of 400-700 feet. Aircraft hit trees and ground in nose low attitude, bounced, rolled, and landed on mast head. Fuselage separated from mast and transmission, coming to rest upright. IP sustained major injuries and both student pilots had minor injuries. Caused by violating published directives by performing simulated forced landing to an unauthorized area, and by faulty recovery technique.

061803–Pilot made sharp, flat turn to right during low level reconnaissance. RPM was lost and aircraft began to descend. Tail rotor struck tree and separated. Main rotor blades struck trees and aircraft landed hard, remaining upright. Transmission broke loose and crushed left side of cockpit down to top of copilot's seat, killing copilot. Caused by making a rapid pedal turn while flying at less than 45 knots at 100 feet, preoccupation with outside reconnaissance, and failure to monitor rpm. Rotor rpm dropped to 294 (6000 engine rpm).

061909–RPM and left pedal control were lost during lift-off from hover and AC attempted controlled touchdown. Aircraft struck ground and rolled on right side. Hot-end inspection revealed that the seal spring, segments, and asbestos seal were missing, resulting in high egt and low power.

062803–Aircraft began yawing right at 2,000 feet and 80-85 knots. Pilot applied left pedal, partially correcting yaw. Within seconds, aircraft yawed almost 90° to right and airspeed dropped to 40-50 knots. Tail rotor came to a stop and began rotating slowly in opposite direction. AC took control and attempted to streamline aircraft, gain airspeed, and maintain altitude by using various power settings between 20 and 40 psi. Aircraft made two or three 360° turns and nose dropped when power was applied. Power was reduced and aircraft was in a 60°-90° right crab at 50-60 knots, descending at 500 fpm. At 500 feet, AC rolled off throttle, lowered pitch, and autorotated. Aircraft touched down at approximately 8 knots and yawed right about 40°. Right skid hit ground first, then left skid hit, and aircraft rotated over toe of left skid. Main rotor blades hit ground and broke up. Cross tubes broke and tail boom cracked at base and partially folded. Caused by failure of tail rotor flex coupling due to lack of lubrication.

F744–AC flew into fog bank, made climbing left turn, and struck steep hill while flying at low level due to low ceilings. Before impact, aircraft was flared enough so that skids were parallel to 50° slope of hill. Aircraft skidded forward uphill about 35 feet, flipped over, and burned. AC, pilot, crewchief, and four passengers sustained major injuries. Gunner had minor injuries. Caused by intentionally flying into fog and losing orientation. Other factors were (1) making left turn while flying from right seat, further restricting visual reference, (2) frequent changes from visual to instrument flight conditions, and (3) diminishing ceiling and visibility.

012403–Aircraft lost rpm when AC tried to clear

6-foot fence during takeoff for a weapons firing test. AC attempted to land in plowed field and lost directional control due to low rpm. Aircraft hit left skid first, rolled over, and came to rest inverted. Caused by (1) exceeding maximum gross weight, (2) downwind takeoff, and (3) taking off over obstacle when runway was readily accessible and urgency of mission did not require type of takeoff attempted.

Selected Minor Accident Briefs

H595–Right skid shoe caught on lip of PSP during liftoff. Aircraft tilted to right and landed hard, damaging aft cross tube and fuselage. Caused by failure to clear aircraft before takeoff.

H789–Aircraft struck powerlines, breaking FM homing antennas, windshields and center post, and ripping through upper part of pilot's door. One wire slid across bottom of skids and burned holes in right rear skid cap. Pilot straightened aircraft from left crab and made running landing. Caused by pilot diverting attention to turning off bleed air heat control while flying low level in undesignated contour area.

H036–Pilot terminated approach at hover, made left pedal turn, and hovered near marked pad. Right skid hit hole during landing, damaging left longitudinal strap on underside of fuselage. Caused by lack of crew coordination and communication, unqualified copilot, inexperience, and gusty wind.

H255–Aircraft struck ground on heel of skids and bounced during practice touchdown autorotation. Directional control was lost, and aircraft yawed right and landed hard, bending skids and rear cross tubes. Caused by early application of collective pitch and tail low attitude.

012708–Pilots were on a two-ship logistical supply mission when cloud layer was encountered at destination point. Flight leader found an opening and landed without difficulty. Pilot of second aircraft could not find an opening and descended through cloud layer. Aircraft broke out approximately 10 feet above the ground. Pilot applied pitch to stop rate of descent. Aircraft was heavily loaded, causing rpm to drop below operating limits. Pilot made running landing, left skid struck ground, and aircraft bounced to left, damaging left cross tube support saddle. Caused by failure to go around after entering IFR conditions and failure to maintain airspeed during descent. Flight leader did not tell pilot of second aircraft about weather conditions after getting below clouds. Both pilots believed ceiling was higher than it was. Due to low ceiling and visibility, there was very little room for recovery once visual contact was made.

021308–Tail rotor 90° gearbox failed at termination of approach to a hover, cracking diagonally from sight gauge across to where quill leaves gearbox and resulting in loss of antitorque control. Pilot put aircraft down firmly in level attitude, damaging left skid and rear cross tube. Gearbox failure caused by a foreign object going through tail rotor, resulting in ruptured gearbox.

030404–Aircraft windows were blown out and left side of aircraft was dented while aircraft was in LZ. Caused by troops blasting stumps in area of operation.

031316–Steep approach was made to makeshift helipad during night medical evacuation and visual contact was lost at 15 feet in dust. Aircraft hit ground and skids collapsed. Caused by decision to make night landing at makeshift helipad when it was known that extremely dusty conditions would be encountered.

031615–Tail rotor failed during turn to base leg. Aircraft pitched down and turned to right. IP autorotated, added power to clear trees, and aircraft again pitched down and turned right. IP reentered autorotation after clearing trees and aircraft touched down in level attitude, damaging cross tubes, tail rotor chain, drive shaft, hub, blades, tail boom, and 90° gearbox. Tail rotor failure caused by failure of tail rotor blade grip. Fatigue failure could have been the result of a previous compressor stall or excessive vibration, but neither was recorded on maintenance records.

032107–Tail rotor failed while aircraft was turning downwind on a 180° heading for landing. RPM dropped below 6000 momentarily. IP took control and rpm rose to 6600. IP applied pedal to correct yaw, but aircraft failed to respond. Aircraft vibrated and descended in right turn. Partial control was lost before reaching clearing and aircraft was flared over trees. Aircraft settled in trees and struck ground, damaging main rotor blades and bottom portion of cabin skin. Tail rotor failure caused by failure of tail rotor output quill coupling. Coupling failure resulted from damaged splines due to lack of lubrication. Resulting vibration caused spring lock to fail and retaining nut to loosen. Male coupling was not carburized.

042113–Tail boom hit stump during landing approach, damaging underside of fuselage. AC saw stump, but failed to clear it.

050104–IP turned aircraft to check clearance from trees before demonstrating confined area takeoff. Tail rotor struck tree limbs, tearing 90° gearbox from pylon. Aircraft started turning rapidly to right and IP autorotated. Caused by hovering in area too small for safe turn.

050402–Student pilot had collective control difficulties, overshot field, and made go-around during servos-off landing. During second landing attempt, student pilot made long, shallow final approach and

allowed nose to drop, resulting in increased airspeed on short final. Aircraft touched down short of panel and lined up straight on centerline at an airspeed of 30-35 knots. Student pilot maintained directional control and aircraft touched down and slid approximately 800 feet. Student pilot applied forward cyclic, but apparently did not lower additional collective pitch. IP instructed pilot to lower collective and move cyclic to rear. Aircraft began slowing down and drifting to right edge of runway. Left pedal was applied, but aircraft continued skidding and struck sod on edge of runway. It slid for approximately 50 feet and right skid struck runway light. Just before hitting light, IP applied pitch to lift aircraft over obstacle, but was unable to overcome student pilot's downward control pressure. When skid struck light, skid shoe was displaced rearward and right skid was sheared from cross tubes. Left skid broke and aircraft slid an additional 70 feet, damaging underside of fuselage before coming to rest on edge of runway. Caused by student pilot allowing aircraft to touch down with excessive airspeed, not lowering sufficient collective pitch to slow aircraft, and allowing aircraft to drift to edge of runway. IP was late with corrective action.

050906–Aircraft, on night approach with servos off, crabbed into wind and drifted right, due to 10-knot left crosswind. Student pilot failed to correct and aircraft continued to drift right, striking runway light and bouncing forward. IP took control, applied aft cyclic during bounce, and held aircraft at hover to prevent further damage. Servos were then turned back on. IP was late with corrective action.

052606–Engine failed during test flight after fifth PE. Aircraft was too low to attempt restart. Pilot flared to attempt touchdown on grassy area. Aircraft hit tail low, skids were leveled, and aircraft slid 80 feet through tall grass, crossing ditch, and breaking chin bubble. Main rotor blades severed tail rotor drive shaft and cut into tail boom. Engine failure caused by fuel starvation due to improperly connected fuel quick-disconnect coupling. Safety pins were not extended and quick disconnect was not completely seated. Technical inspector signed off improper installation following a PE and pilot failed to check fuel disconnect during preflight.

060820–Aircraft struck wires during low level approach. Both chin bubbles, mount, and windshield were broken. Caused by flying below terrain clearance on instructions from tower, and by reduced visibility due to approaching darkness.

Selected Incident Briefs

F639–Pilot was given wind from the west for takeoff. Wind was from east at 3-5 knots. Aircraft took off to the west, lost rpm, and landed hard, damaging tail boom and skids. Density altitude, 3,600 feet, considered factor.

F743–Aircraft was landed to a panel at field location and panel was drawn into main rotor, damaging blades. Rain-softened ground allowed panel securing pins to pull free.

F940–Aircraft was moving down range, firing, when left set of guns went out of control, firing beneath aircraft. One round ricocheted back into aircraft, damaging chin bubble and main rotor blade.

G032–Large bird smashed through left chin bubble and struck IP on chest. Aircraft was flying at 100 feet during tactical training flight. Incident damage to bubble. No injury to IP.

G044–Pilot attempted to park in tight area between two other aircraft. Main rotor blade hit main rotor blade of parked aircraft, damaging main rotor blades of both aircraft and cross tube of parking aircraft. Wind and rain considered factors.

G071–Aircraft was one of 20 on approach. Aircraft in front stopped abruptly and AC had to execute low flare to avoid collision. Stinger and tail rotor buried in rice paddy mud, damaging tail rotor.

G085–Aircraft hit trees during low level flight, damaging antenna, chin bubble, and navigation light.

G191–Engine lost power in cruise flight. Aircraft was autorotated and landed hard, damaging cross tubes. Power loss caused by oil seepage from N_2 tachometer generator. Oil deteriorated cannon plug seal on fuel control changeover relay. Relay malfunctioned, causing partial fuel flow blockage.

G303–Student pilot applied excessive aft cyclic at touchdown of practice autorotation and main rotor hit tail boom, damaging tail rotor drive shaft and shaft cover.

G364–Sling-loaded O-1A oscillated, damaging underside.

G400–Aircraft descended too low on downwind leg of traffic pattern and struck tree, damaging chin bubble.

G415–Rotor rpm dropped during approach to confined area. Main rotor blades struck tree as pilot aborted approach and regained rpm. Incident damage to main rotor blades.

G587–Hydraulic failure occurred prior to touchdown and aircraft landed hard, damaging skids, cross tubes, and skin. Hydraulic failure caused by ruptured line.

G696–Aircraft had just landed with pitch lowered full down and rpm still at full increase when a poncho and liner were blown by rotorwash from the front side of helicopter to the rear and down into tail rotor, damaging tail rotor blades and gearbox.

G771–Pilot became disoriented during night approach and aircraft landed hard, damaging cross tube and chin bubble. Heavy dust was factor.

G850–Aircraft was on ground preparing to load troops when a soldier moved from the right rear of the aircraft into the tail rotor, damaging tail rotor. Soldier killed.

G951–Aircraft entered patch of ground fog during landing approach and visual contact was lost at approximately 20-30 feet. Visual contact was not regained until approximately 3 feet from touchdown and aircraft landed hard, damaging skids and cross tubes.

G984–Engine stopped at 2,000 feet. Aircraft was autorotated and landed tail low, causing main rotor to flex into tail boom, damaging main rotor blade and tail boom. Engine failure caused by unseated quick disconnect at fuel filter. Quick disconnect was not properly secured.

H138–Engine made popping noise, followed by loss of rpm, after climb to 200 feet. Main rotor blades struck tree during forced landing, damaging blades. Loss of power caused by failure of fuel control unit.

H231–Main rotor blade hit tail rotor drive shaft, damaging shaft and cover. Caused by abrupt cyclic movement during attempt to isolate cause of vertical vibration.

H260–Aircraft had terminated approach and was hovering across ditch between runway and ramp when sudden snap was felt and aircraft started spinning to right. AC held power and moved aircraft to level ground where he made hovering autorotation. Aircraft touched down on heel of left skid while turning to right, damaging cross tube. Caused by improper installation of tail rotor thrust bearing set. Washer seized to inner race of one bearing, placing extreme pressure on retaining nut. Nut sheared cotter key and backed completely off.

010304–Right cargo door came off and hit left synchronized elevator. Caused by failure of door stop. MWO 55-1500-200-20/1 was not complied with. Kit had not been received.

010509–Directional control was lost during termination of approach to confined area on ridge line. Pilot lowered collective rapidly to avoid hitting trees, and aircraft landed hard. Incident damage to cross tubes, swashplate, and scissors assembly. Strong gusty wind around ridge line caused loss of directional control.

010904–Aircraft struck treetop during practice contour flight. Incident damage to synchronized elevator and fuselage.

011708–Pilot climbed to miss three ducks aircraft was overtaking during low level flight. Small bird collided with chin bubble. Incident damage to bubble.

011621–Main rotor blade struck tree during takeoff. Incident damage to blade. Surface wind, gusting to 27 knots, considered factor.

012005–Engine failed and aircraft was landed in rice paddy. Incident damage to tail boom and cross tubes. Diffuser housing found cracked 360° on inner shroud. Suspect faulty weld of inner shroud caused N_1 system to drop, resulting in N_1 blade contacting N_1 nozzles, and causing all blades to shear off.

012202–Pilot, on approach to partially secured LZ, was forced to land short. Incident damage to right skid and door. Restricted visibility and low ceiling considered factors.

012301–Tail rotor hit bush during confined area hover, damaging tail rotor blades.

012314–Tail rotor struck ground during late recovery from practice autorotation, damaging tail rotor blades and stinger.

012721–Aircraft struck trees during landing approach, damaging main rotor blades.

020811–Pilot heard explosion and engine failed. Aircraft, with maximum load aboard, was autorotated. Incident damage to rear cross tube and sheet metal. Engine failure caused by failure of fifth stage compressor section.

021304–Engine was started with main rotor tied down. Tiedown was slung from main rotor blades into tail rotor blade, destroying blade.

021609–AC lost ground reference in dust and aircraft landed hard, damaging skids.

011915–Tail rotor hit tree during pinnacle approach, damaging blade.

021806–2.75 rocket motor blew up, damaging skid, right door, windshield, and side of cabin. Caused by malfunction of rocket motor.

022603–Left door mounting spring broke, causing M-60 barrel to penetrate door and side of aircraft approximately 20 inches below fuel cap.

022605–Right cargo door flew off and hit main rotor blades, damaging blades. Door lost. Aircraft was flying with both cargo doors open. Safety lock pin MWO was complied with. Crewmember failed to install pin.

022608–Aircraft lost rpm during takeoff and flew through tree branches, damaging main rotor blade.

030108–Pilot heard loud grinding noise from transmission area at 200 feet and 80 knots. DC generator warning light came on and needles split. Pilot autorotated to rice paddy, damaging tail boom. Short shaft was stripped at transmission end due to inadequate lubrication. Grease appeared to be burnt, possibly due to use of incorrect grease. Shaft was repacked 25 hours before failure.

030109–Aircraft made rapid turn to right while hovering before takeoff. Pilot cut power and autorotated, damaging undercarriage. Caused by incorrect installation of tail rotor pitch change thrust bearing.

Retaining nut sheared cotter pin and backed off.

030211–Pilot heard noise in aft section. Tailpipe cowling lost. Incident damage to tail rotor drive shaft and cover.

022714–On base leg of landing approach, right and left fuel boost lights came on, followed by rpm warning beeper. Aircraft was autorotated into dry rice paddy and slid to a stop against dike, damaging chin bubble and cross tube. Fuel sample contained water.

031006–Aircraft struck wire during landing approach, damaging main rotor blade.

031007–Directional control was lost during downwind hover into parking area, and aircraft landed hard, damaging skid and stinger. Caused by incorrect installation of tail rotor thrust bearings.

031209–Aircraft, flying low level trail formation, was forced into treetop by rotorwash of lead aircraft, damaging radio compartment and chin bubbles.

031309–IP inadvertently placed fuel control in emergency position, causing overspeed and damaging engine, main rotor hub, main rotor blades, tail rotor hub, and tail rotor blades.

031721–Tail rotor hit loose concertina wire during landing, damaging rotor.

032223–Aircraft turned right with full left pedal while pilot was hovering for takeoff. Caused by incorrect installation of tail rotor crosshead bearings with "V" scribe marks improperly aligned.

032502–Tail rotor of aircraft hovering to refueling pad hit main rotor blade of another UH-1. Incident damage to tail rotor blades of hovering aircraft and main rotor blade of other aircraft.

032627–Aircraft was hovering to unload supplies in LZ because slope was too steep to land. Ration can, picked up by rotorwash, hit main rotor blade, damaging blade.

032815–AC heard noise during takeoff, attempted precautionary landing, and hydraulic system failed just before touchdown. Incident damage to skid and cross tube. Hydraulic failure caused by failure of hydraulic pump.

040108–Aircraft struck powerline during takeoff. Incident damage to left windshield, right overhead bubble, main rotor blade, and windshield wiper.

041113–Tail rotor control was lost during hover and aircraft touched down while turning to right, damaging skids and skid support assembly. Caused by backward installation of outer tail rotor thrust bearing.

042512–Tail rotor failed during hover and aircraft turned 360°. Pilot cut power and aircraft landed hard, damaging cross tubes. Cotter key was not installed, allowing nut holding crosshead to come off.

042604–Engine failed at 3,000 feet and aircraft was autorotated. Main rotor blade flexed and severed tail rotor drive shaft during touchdown. Engine failure caused by foreign object damage to N_1 and N_2 nozzles and N_2 turbine.

042608–Left transmission cowl came off, damaging transmission and engine cowls.

042612–Battery blew up during start, damaging battery and battery hold-down bolts. Caused by battery failure.

050504–Open-end wrench was left in drive shaft section after work was performed on 42° gearbox. Wrench was picked up by rotating retaining clamp and penetrated drive shaft cowling twice, damaging cowling and clamp.

051208–Pilot was shutting down when a jeep with long whip antenna drove under main rotor blades, damaging one blade.

051119–Aircraft touched down hard during practice servos-off landing, damaging skid gear.

051807–Tail rotor struck fence post while aircraft was hovering out of parking area at night, damaging 90° gearbox, tail rotor, and aft cross tube.

051815–Right skid hit dike during landing. Aircraft pitched forward, turned 180°, and landed hard, damaging cross tube and skin.

051912–Aircraft was shutting down when a CH-47 flew over. Rotorwash from CH-47 caused main rotor blade to flex into tail rotor drive shaft, damaging blade and shaft.

052506–Skid hooked on PSP pad during pickup and aircraft tilted, landing hard and damaging skids and skin rivets. Darkness considered factor.

060902–Other aircraft hovering in area while aircraft was shutting down caused main rotor blade to flex down and strike cowling, damaging tail rotor drive shaft and cowling.

061001–LZ required downwind landing because of clouds and obstacles. Landing was expedited and aircraft touched down on rock, damaging skid and internal structure. Gusty wind, low hanging clouds, low visibility, density altitude, and dangerous terrain considered factors.

061904–Expended brass from M-60 door gun struck tail rotor blade, damaging blade.

062302–Quick fuel disconnect came open and engine stopped. Main rotor blade hit tree during forced landing, damaging blade. Quick disconnect was not correctly secured.

Selected Forced Landing Briefs

F474–Engine oil warning light came on. Engine lost oil pressure and failed. Caused by sheared engine oil pump shaft.

F525–Aircraft was on approach for passenger pickup when 90° gearbox disintegrated. Helicopter spun 220° to right and landed. Caused by inadequate lubrication.

F600–Pilot noted loss of rpm and heard loud grinding noise during climb after takeoff. Aircraft was autorotated. Caused by short shaft failure.

F649–Approach was made with fuel in emergency position. At 1,000 feet, N_2 dropped to 5400 rpm, came back to 6400, then dropped to zero. Movement of throttle caused excessive amount of fuel to enter engine.

F746–Pilot experienced partial loss of directional control at 100 feet after takeoff. All directional control was lost as aircraft was brought to a hover. Hovering autorotation landing was made. Caused by loose nut imbedded in grease inside crosshead bearing. Nut bound tail rotor controls, causing deterioration of cotter pin and bearing set retaining nut and loss of tail rotor control.

F756–Aircraft vibrated excessively. Caused by failure of main rotor mixing lever link bearing in universal assembly.

F951–Aircraft had hydraulic failure and pilot landed. Caused by failure to bleed hydraulic system after filling.

G135–Engine seized at hover. Fire around exhaust was extinguished. Nozzle of power turbine oil filter was clogged, resulting in oil starvation to roller and ball bearings, and subsequent engine seizure.

G088–Engine failed after governor switch was placed in emergency position to simulate governor failure. Excessive application of manual throttle in emergency governor position resulted in extreme overtemp.

G346–Engine lost power while aircraft was carrying sling load. Metal filings were found on oil screens. Engine replaced.

G674–Transmission oil pressure caution light came on and aircraft vibrated severely. RPM dropped to 5800. Transmission seized after shutdown. Caused by separation of oil filter bowl bottom radius, resulting in loss of oil filter and oil. Transmission seized due to lack of lubrication.

G745–Engine failed during landing approach at 40 knots and pilot landed with partial power. Caused by failure of second stage compressor. Five turbine buckets were broken off. Foreign material, appearing to be C-rations box, found in intake screen.

G866–Tail rotor failed as aircraft reached flight altitude. Caused by failure of outboard bearing on tail rotor control tube assembly.

H052–Engine failed at hover. Caused by failure of second stage compressor blade.

H053–Engine failed. Caused by dragging N_2 turbine wheel.

H112–Engine failed in cruise flight. Caused by failure of No. 1, 2, and 4 engine bearings due to lack of lubrication.

H228–IP smelled smoke, landed, and found fuel leak. Caused by loose fuel line at manifold.

H278–Antitorque system failed at hover and pilot made hovering autorotation. Caused by backward installation of outboard half of tail rotor crosshead bearing set. Retaining nut on quill shaft sheared cotter pin and backed off.

H566–AC heard high-pitched hum and felt slight lateral vibration 10 minutes from destination. Engine failed when landing approach was terminated at hover, and aircraft was autorotated. Caused by failure of drive shaft. Metal particles from shaft assembly were ingested by engine and caused engine failure.

H572–Engine developed only 70% after autorotation rpm check during maintenance test. Aircraft was autorotated. Caused by water in fuel.

011501–Transmission oil pressure warning light came on and oil pressure indicator dropped to zero. Caused by failure of transmission No. 1 oil jet.

020915–Pilot heard loud snapping noise and rotor rpm dropped, with engine rpm constant. Pilot autorotated. Caused by failure of short shaft.

021704–AC noted rise in transmission oil temperature and landed. Caused by ruptured transmission oil seal. Vibration in blower caused oil line to come loose, resulting in loss of transmission oil.

022108–Engine failed. Caused by fuel control vaporizer assembly (T-cane) breaking off. T-cane went through N_1 turbine, then into N_2 turbine, breaking off six turbine blades, and bending remainder.

030611–Pilot was climbing through 1,000 feet at 70 knots when engine pulsated and lost power. Aircraft was autorotated into rice field. Caused by failure of N_1 turbine blades.

030905–Throttle was closed past flight idle stop during practice autorotation and engine stopped. Flight idle was improperly adjusted.

031402–Engine lost power. Pilot autorotated and engine failed. Caused by fuel contamination and blocked fuel sensing element port.

031703–Aircraft lost rpm on short final for landing. Pilot used power and regained rpm. After power was applied, a series of compressor stalls occurred and rpm bled off. Caused by failure of compressor vane due to ingestion of lock fastener.

040319–Pilot heard loud grinding noise and felt severe vibration at 500-600 feet during climb. Aircraft was autorotated to rice paddy. Caused by failure of short shaft due to "O" ring packing coming loose and causing loss of lubrication.

041003–Master caution light came on and engine oil pressure dropped to zero during descent to LZ. Aircraft was landed with power and shut down. Oil filter housing retaining bolt failed, causing loss of oil. Bolt failure caused by overtorquing nut.

041602–Engine lost power and emitted sparks. Fire warning light came on. Pilot autorotated. Engine fire and failure caused by fuel leak.

051118–Tail rotor failed at hover. Caused by incorrect installation of tail rotor bearing set.

052917–Pilot heard growling noise from engine during climb. Engine failed on short final. Caused

by disintegration of starter-generator cooling fan bearings.

061805–Pilot felt lateral vibration with application of right cyclic during takeoff, and AC took control. Aircraft immediately began severe 1-1 lateral vibrations. Caused by two missing bolts on T-bar holding tail rotor and pitch change links.

Selected Precautionary Landing Briefs

F468–Aircraft yawed abruptly to right during climb and turned to right at approach termination. Caused by failure of tail rotor bearing, resulting in failure of retaining nut and cotter key. Suspect retaining nut was overtorqued.

F491–Pilot felt slight vertical vibration and abnormal feel in collective. Caused by backward installation of bearing liner (P/N 204-011-443-3) which permitted bearing (P/N AN 201 PK10A) to contact and score rotor mast.

F630–Student pilot heard noise and landed. Caused by generator failure.

F742–Pilot heard loud grinding noise and autorotated, terminating with power. Caused by hanger whipping loose from mount due to bearing failure.

F847–Fire warning light came on. Caused by loose connection in fire detection system.

F899–Pilot noted low transmission oil pressure. Caused by loss of oil due to leaking transmission drain valve.

F919–Right pedal jammed during attempt to turn right after takeoff. Caused by broken control chain. Chain jammed in guides.

F948–Tail rotor failed. Caused by failure of tail rotor bearing set. Bearings were installed with thrust side to outboard side of tail rotor assembly instead of to inboard side.

G005–Transmission oil pressure fluctuated from 15-50 psi. Caused by condensation in cannon plug connecting transmission oil pressure sending unit.

G092–Transmission oil pressure lost. Caused by use of fuel "O" rings in transmission oil filter.

G161–Engine oil pressure dropped. Caused by loose oil filler cap. Oil was blown overboard.

G176–Loud grinding noise was heard from engine compartment and master caution light flashed on and off. Hydraulic warning light came on. Caused by ruptured right lateral servo line and failure of hydraulic pump.

G227–Fuel filter warning light came on. Caused by defective fuel filter pressure switch.

G289–Snap was heard in throttle, followed by continuous high frequency vibration during takeoff. Climb was continued and egt began to rise slowly. Aircraft was landed and egt stabilized at 650° for approximately 10 seconds prior to engine shutdown. Caused by failure of No. 2 engine bearing.

G332–Engine fuel pump warning light came on. Caused by broken rivet in pressure switch.

G414–Pilot reported high frequency vibration. Caused by out-of-track tail rotor blades.

G553–Engine chip detector warning light came on. Caused by loose electrical connection.

G562–Vertical vibration reported. Caused by out-of-balance main rotor blades.

G691–Fire warning light came on. Caused by chafed insulation of electrical wire, resulting in short.

G806–Unusual noise heard from engine area. Caused by generator failure.

G940–Electrical fire occurred in overhead DC circuit breaker panel. Fire went out when aircraft was landed and power shut off. Clamp holding large insulated wire in breaker panel was installed inverted. Clamp contacted cargo hook circuit breaker contacts, causing electrical arc.

H014–Pilot reported control problems during landing approach. Caused by loss of hydraulic fluid due to loose fitting.

H091–Fuel pressure dropped to zero. Caused by failure of fuel boost pump.

H131–Hydraulic pressure warning light came on. Caused by short in wire to warning light.

H210–Hydraulic warning light came on. Caused by ruptured hydraulic line due to friction between two lines. Lines were improperly installed.

H503–Smoke entered cockpit. Caused by ARC-55 radio failure.

H533–Servo control lost. Caused by failure of lateral servo.

H559–Hydraulic system failed. Caused by loose hydraulic line.

H656–Torque pressure fluctuated plus and minus 2 psi during high power climb and aircraft oscillated. Power dropped to 30 psi and pilot made running landing. Caused by crack in first stage turbine nozzle. Crack, approximately 200° around nozzle, caused nozzle assembly to drop slightly, allowing combustion turbine assembly to rub on cylinder.

010407–IP felt severe cyclic feedback. Caused by failure of lateral servo.

011009–Aircraft vibrated severely. Caused by loss of torque on uniball in swashplate assembly.

011618–Loud noise was heard from engine area after takeoff. Caused by one blade breaking off first stage rotor.

020803–High frequency vibration developed in tail rotor. Excessive metal filings found on magnetic plug in tail rotor gearbox, indicating gearbox failure.

020918–Pilot smelled and saw smoke coming from overhead electrical panel. Caused by failure of windshield wiper low speed resistor.

021001–Hydraulic power was lost during takeoff. Caused by failure of preformed packing around hydraulic reservoir.

021419–Oil pressure dropped and oil temperature rose. Caused by failure of No. 1 bearing.

021508–Pilot felt unusual vibration. Caused by loose right synchronized elevator.

021525–EGT fluctuated and rose to over 600° C. Engine failed after aircraft was landed. Caused by screwdriver lodged in stator vanes and protruding into first stage axial compressor blades.

021901–Aircraft yawed to right during takeoff. Caused by improper installation of tail rotor bearing. Suspect nut was not safety wired.

022304–Fuel leaked into engine compartment. Caused by crack in right main fuel manifold.

030308–Transmission oil pressure gauge indicated zero. Caused by loose cannon plug.

030911–Chip detector warning light came on. Caused by failure of chip detector plug.

031613–IP smelled smoke. Caused by failure of ARC-55 blower motor.

032111–Pilot reported severe vibration in antitorque pedals. Caused by tail rotor rotating out of plane due to backward installation of tail rotor bearing.

041401–Aircraft vibrated severely. Caused by loose retaining bolts on stabilizer bar mount brackets.

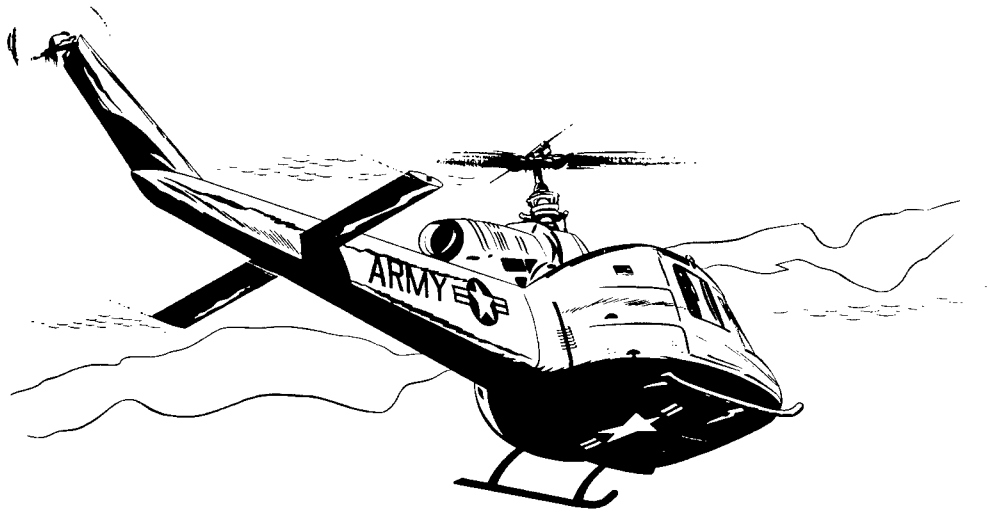
041902–Aircraft vibrated. Caused by loss of tail rotor pitch change link thrust nut due to failure to install cotter pin.

042713–Fuel boost warning light came on. Caused by failure of fuel boost pump.

050409–Engine tachometer failed. Caused by failure of tachometer generator.

050503–Hydraulic system failed during takeoff. Caused by failure of hydraulic line.

062120–Chip detector warning light came on. Caused by dirty and frayed wire at plug terminal.



MWO's and TB's

This listing includes all known MWO's and TB's on UH-1 aircraft. In some instances, MWO's have been superseded by DA circulars.

AIRFRAME

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1500-200-20/1	22 Dec 65	Modification of cargo doors	UH-1A 58-2078 thru 60-3545 UH-1B 60-3546 thru 64-14034 UH-1D 62-2106 thru 64-13661		x	x	
-20/3	7 Apr 66	Removal of engine mount safety leg	UH-1B 55-4461 and 58-2078 60-3546 thru 60-3619 60-6861 thru 61-803 62-1872 thru 62-2105 62-4566 thru 62-4605 62-12515 thru 62-12555 63-8500 thru 63-8738 63-12903 thru 63-12952 64-13902 thru 64-14128 UH-1D 60-6029 thru 60-6034 62-2106 thru 62-2113 62-12351 thru 62-12372 63-8739 thru 63-8859 63-12956 thru 63-13002 64-13492 thru 64-13810	x		x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1500-200-20/4 Change 1	10 Aug 66 6 Dec 66	Modification of cyclic control lug	YUH-1B 55-4461 and 58-2078 UH-1B 60-3546 thru 60-3619 61-686 thru 61-803 62-1872 thru 62-2105 62-4566 thru 62-4605 62-12515 thru 62-12555 63-8500 thru 63-8738 63-12903 thru 63-12952 64-13902 thru 64-14100 UH-1D 60-6029 thru 60-6034 62-2106 thru 62-2113 62-12351 thru 62-12372 63-8739 thru 63-8859 63-12956 thru 63-13002 64-13492 thru 64-13896		x	x	
-20/6	5 Feb 68	Installation of spacer ARC-54 antenna base	UH-1C 63-8684 64-14101 thru 64-14191 65-9416 thru 65-9474 UH-1D 64-13492 thru 64-13901 65-9565 thru 65-10135 65-12773 thru 65-12776 65-12847 thru 65-12852 65-12857 thru 65-12895 66-746 thru 66-1210 66-16000 thru 66-16306		x	x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1500-200-20/7 Change 2	22 Aug 66 6 Dec 66	Modification of internal rescue hoist P/N 205-706-030-1	All hoist assemblies not identified as P/N 205-706-030-5		x	x	
-30/25 Change 2	4 Apr 66 15 Jan 68	Modification of whip antenna mount	UH-1B 60-3546 thru 64-14100 UH-1D 64-13492 thru 64-13901		x	x	
-30/27	12 Dec 66	Modification of fuel boost pump electrical installation to incorporate radio noise filters	UH-1B 60-3546 thru 60-3619 61-686 thru 61-803 62-1872 thru 62-2105 62-4566 thru 62-4605 62-12515 thru 62-12555 63-8500 thru 63-8738 63-12903 thru 63-12952 UH-1D 62-2106 thru 62-2113 62-12351 thru 62-12372 63-8739 thru 63-8859 63-12956 thru 63-13002		x	x	
-30/30	17 Aug 66	Modification of collective friction	UH-1B 58-2078 60-3546 thru 60-3619 61-686 thru 61-803 62-1872 thru 62-2105 62-4566 thru 62-4605 62-12515 thru 62-12555 63-8500 thru 63-8738 63-12903 thru 63-12952 64-13902 thru 64-14191 65-9416 thru 65-9513		x	x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1500-200-30/30	17 Aug 66	Modification of collective friction	UH-1A 58-2081 thru 58-2093 58-3017 thru 58-3047 59-1607 thru 59-1716 60-3530 thru 60-3545 UH-1D 62-2106 thru 62-2113 62-12351 thru 62-12372 63-8739 thru 63-8859 63-12956 thru 63-13002 64-13492 thru 64-13901 65-9565 thru 65-9763		x	x	
-30/32 Change 1	12 Apr 67 7 Jul 67	Addition of auto reset switch for the RPM warning system	UH-1B 60-3546 thru 60-3619 61-686 thru 61-803 62-1872 thru 62-2105 62-4566 thru 62-4605 62-12515 thru 62-12555 63-8500 thru 63-8738 63-12903 thru 63-12952 64-13902 thru 64-14191 65-9416 thru 65-9564 65-12738 thru 65-12744 65-12772 UH-1D 62-2106 thru 62-2113 62-12351 thru 62-12372 63-8739 thru 63-8859 63-12956 thru 63-13002 64-13492 thru 64-13901		x		x

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1500-200-30/35	23 Oct 67	Installation of improved tail rotor yoke nut	UH-1B 60-3546 thru 60-3619 61-686 thru 61-803 62-1872 thru 62-2105 62-4566 thru 62-4605 62-12515 thru 62-12555 63-8500 thru 63-8738 63-12903 thru 63-12952 64-13902 thru 64-14191 65-9416 thru 65-9564 65-12738 thru 65-12744 65-12772 66-491 thru 66-722 UH-1D 60-6028 thru 60-6034 62-2106 thru 62-2113 62-12351 thru 62-12372 63-8739 thru 63-8859 63-12956 thru 63-13002 64-13492 thru 64-13901 65-9565 thru 65-10135 65-12773 thru 65-12776 65-12847 thru 65-12852 65-12857 thru 65-12895 66-746 thru 66-1101		x	x	
-40/1	20 May 65	Modification of scissors assembly	All scissors assemblies P/N 204-011-406-5		x	x	

Number	Date	Title Change	Aircraft or Comp affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1500-201-30/1	28 Sept 65	Installation of AC receptable	UH-1A All aircraft UH-1B 60-3546 thru 64-14100 UH-1D 62-2106 thru 64-13661		x	x	
-202-30/1	8 Feb 68	Modification of engine fuel inlet quick disconnect	UH-1A 58-2078 thru 58-3047 59-1607 thru 59-1716 60-3530 thru 60-3545 UH-1B 60-3546 thru 60-3619 61-686 thru 61-803 62-1872 thru 62-2105 62-4566 thru 62-4605 62-12515 thru 62-12555 63-8500 thru 63-8683 63-8685 thru 63-8738 63-12903 thru 63-12952 64-13902 thru 64-14100 UH-1C 63-8684 64-14101 thru 64-14191 65-9416 thru 65-9564 65-12738 thru 65-12744 65-12759 thru 65-12764 65-12772 66-491 thru 66-745 66-15000 thru 66-15179 UH-1D/H 60-6028 thru 60-6034 62-2106 thru 62-2113 62-12351 thru 62-12372 63-8739 thru 63-8859 63-12956 thru 63-13002		x	x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1500-202-30/1	8 Feb 68	Modification of engine fuel inlet quick disconnect	64-13492 thru 64-13901 65-9565 thru 65-10135 65-12773 thru 65-12776 65-12847 thru 65-12852 65-12857 thru 65-12895 66-746 thru 66-1210 66-16000 thru 66-16586 AH-1G 66-15248 thru 66-15257		x	x	
-30/2	28 Feb 68	Device to transfer loads in event of cracking of synchronized elevator control lug	UH-1A 58-2078 thru 58-3047 59-1607 thru 59-1716 60-3530 thru 60-3545 UH-1B 60-3546 thru 60-3619 61-686 thru 61-803 62-1872 thru 62-2105 62-4566 thru 62-4605 62-12515 thru 62-12555 63-8500 thru 63-8738 63-12903 thru 63-12952 64-13902 thru 64-14100 UH-1D/H 60-6028 thru 60-6034 62-2106 thru 62-2113 62-12351 thru 62-12372 63-8739 thru 63-8859 63-12956 thru 63-13002 64-13492 thru 64-13901 65-9565 thru 65-10135 65-12773 thru 65-12776		x	x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1500-202-30/2	28 Feb 68	Device to transfer loads in event of cracking of synchronized elevator control lug	65-12847 thru 65-12852 65-12857 thru 65-12895 66-746 thru 66-1210 66-16000 thru 66-16586		x	x	
-207-20/23 Change 1	7 Dec 61 28 Nov 62	Provisions for engine fuel control vent line (87000-B4 overspeed governor)	UH-1 57-6095 thru 57-6103 UH-1A 58-2078 thru 58-2093 58-3017 thru 58-3047 59-1607 thru 59-1716 60-3530 thru 60-3545	x		x	
MWO 55-1520-207-10/1	3 May 60	Cabin heater operation--Not a true modification-flight handbook instruction	All UH-1 aircraft All UH-1A aircraft		x		x
-20/1	14 Mar 60	Stabilizer bar damper adjustment--Not a true modification-organizational maintenance instruction	UH-1 57-6095 thru 57-6103 UH-1A 58-2078 and subsequent		x		x
-20/2	24 Mar 60	Preservation of fuel control units--Not a true modification-organizational maintenance instruction	All UH-1 and UH-1A aircraft 57-6095 and subsequent		x		x
-20/3	18 Mar 60	Engine oil filter reassembly--not a true modification-organizational maintenance instruction	All UH-1 series 57-6095 and subsequent		x		x
-20/5	11 Oct 60	Inspection of oil pump fittings of T53-L-1/1A engines	All UH-1 series aircraft		x	x	
-20/7 Change 1	2 Nov 60 28 Nov 62	Modification of battery shelf	All UH-1 series 58-2078 thru 58-3047		x	x	
-20/9	11 Oct 60	Inspection of main rotor blade tip cap assembly	All UH-1 series aircraft		x	x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt-Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1520-207-20/10	11 Oct 60	Replacement of fuel pump assembly	UH-1A 58-3045 thru 58-3047 59-1607 thru 59-1618 59-1620 thru 59-1623 59-1625 thru 59-1654		x	x	
-20/18	8 Sep 61	Inspection and replacement of 42° and 90° gearboxes	All UH-1 aircraft All UH-1A aircraft		x	x	
-20/19	22 May 61	Rotor overspeed damage inspection--Not a true modification-organizational maintenance instruction	All UH-1A aircraft		x		x
-20/20	12 May 61	Inspection and replacement of tail rotor slider (urgent) P/N 204-010-720-1	All UH-1 aircraft All UH-1A aircraft		x	x	
-20/24	29 Dec 61	Modification to install new overspeed governor (87000-B4)	UH-1 57-6095 thru 57-6103 UH-1A 58-2078 thru 58-2093 58-3017 thru 58-3047 59-1607 thru 59-1716 60-3530 thru 60-3545		x		x
-20/26	2 Nov 61	One-time inspection of main rotor pitch change link (urgent)	All UH-1 aircraft All UH-1A aircraft		x	x	
-20/27	25 May 61	Replacement of tail rotor blades P/N 204-010-771-3/5/7	All UH-1 aircraft All UH-1A aircraft		x	x	
-20/30	22 Jun 61	Inspection of droop compensator cam box bolt FSN 5306-151-1943 (urgent)	All cam box assemblies 204-060-741-3 204-060-741-5 204-060-741-7 204-060-777-3		x	x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/ Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1520-207-20/31	7 Jul 61	Inspection of tail rotor pitch control chain (urgent)	UH-1A 59-1607 thru 59-1716 60-3530 thru 60-3545		x	x	
-20/33 Change 1	20 Jul 61 22 Sep 61	Inspection of lockplate (urgent) P/N 204-010-465-1	All UH-1/1A aircraft		x	x	
-20/34 Superseded by -34/64	9 Nov 61 18 Mar 63						
-20/42	12 Apr 63	Installation of 60 gallon auxiliary fuel tank kit	All UH-1A aircraft	x		x	
-34/1 Change 2 Change 3	25 Apr 60 18 Dec 61 22 Apr 63	Inspection of input drive shaft --not a true modification--field maintenance instruction	All UH-1/1A aircraft 57-6095 and subsequent		x		x
-34/2	20 May 60	Inspection of oil cooler fan and drive shaft assembly	All UH-1 series 57-6095 and subsequent		x	x	
-34/3	3 May 60	Modification of door assembly	UH-1A 58-2079 58-2081, 58-2082, 58-2084 thru 58-2089		x	x	
-34/6	9 Nov 60	Modification of droop compensator and linear actuator	UH-1 series 57-6095 thru 57-6103 58-2078 thru 58-3047		x	x	
-34/7	30 Aug 60	Modification of engine input drive shaft couplings (urgent)	UH-1 series 57-6095 and subsequent		x	x	
-34/9	20 Aug 60	Modification of fan drive shaft	Fan drive shaft P/N 204-060-421-7 and 204-060-421-9 installed on UH-1/1A aircraft		x	x	
-34/13	27 Aug 60	Modification of transmission oil line external connector	UH-1A 59-1607 thru 59-1619		x	x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1520-207-34/14	17 Oct 60	Inspection of main rotor stops	UH-1 series 57-6097, 57-6098 57-6100, 57-6103, 57-6095, 57-6096, 57-6099		x	x	
-34/15	30 Oct 61	Modification of droop actuator	UH-1A 59-1607 thru 59-1646		x	x	
-34/16	3 Apr 61	Modification of main rotor blade ballast retention	Main rotor blades P/N 204-010-050-17 204-010-051-1		x	x	
-34/17 Change 1	3 Apr 61 24 May 61	Installation of CF_3 Br fire extinguisher	All UH-1/1A aircraft		x		x
-34/19	11 Mar 63	Provisions for AN/ARC-73 radio set	UH-1A 58-2078 thru 60-3545	x		x	
-34/20 Change 1	11 Mar 63 22 Sept 64	Provisions for AN/APX-44 IFF transponder	UH-1A 58-2078 thru 60-3545	x		x	
-34/21	18 May 61	Inspection and interchangeability of tail rotor static stop cone sets and hub assemblies	All UH-1 aircraft All UH-1A		x	x	
-34/25 Change 1	25 Jul 61 30 Oct 61	Inspection of engine mount support structure (urgent)	All UH-1 aircraft All UH-1A aircraft		x	x	
-34/26	30 Oct 61	Replacement of aft landing gear crosstube	All UH-1 aircraft All UH-1A aircraft	x		x	
-34/27 Change 2	3 Jul 61 22 Apr 63	Inspection and rework stabilizer bar assembly P/N 204-010-370-7	All UH-1/1A aircraft		x	x	
-34/28 Change 1	5 Oct 61 22 Apr 63	Inspection of tail rotor drive shaft hanger bearings P/N 204-040-600-7	All UH-1/1A aircraft		x	x	
-34/31	31 May 63	Replacement of crew doors	UH-1A 58-2078 thru 58-2093		x	x	
-34/33	5 Jul 61	One-time inspection of lockplate (urgent)	All UH-1 aircraft All UH-1A aircraft		x	x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1520-207-34/34	5 Aug 61	Inspection for torque on locknut (urgent)	All UH-1 All UH-1A		x	x	
-34/35 Change 1	27 Oct 61 23 Apr 62	Inspection of lockplate (urgent) P/N 204-101-421-1 and 204-010-465-1	All UH-1 All UH-1A		x	x	
-34/36 Change 1	10 Jan 64 7 Apr 64	Installation and relocation of cabin heater exhaust outlet	UH-1A 58-2078 thru 58-2093 58-3017 thru 58-3047 59-1607 thru 59-1716 60-3530 thru 60-3545		x	x	
-34/37	16 May 63	Installation of 100,000 BTU heater	All UH-1 All UH-1A	x		x	
-34/40 Change 1 Change 2	29 May 62 20 Mar 63 12 Apr 63	Modification of oil cooler fan drive system	All UH-1 aircraft with T53-L-1A engine All UH-1A aircraft with T53-L-1A engine All UH-1 aircraft with T53-L-1 engine having impeller housing assembly P/N 1-100-090-02 All UH-1A aircraft with T53-L-1 engine having impeller housing assembly P/N 1-100-090-02 UH-1 57-6095 thru 57-6103 58-2078 thru 58-2093 58-3017 thru 58-3047 59-1607 thru 59-1716 60-3530 thru 60-3545		x	x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1520-207-34/41	26 Mar 63	Battery vent system modification	UH-1A 58-2078 thru 58-3047 59-1607 thru 59-1716 60-3530 thru 60-3545		x	x	
-34/46 Change 2	30 Jul 62 4 Nov 63	Inspection and modification of 42° gearbox area	All UH-1A aircraft		x	x	
-34/49 Change 1	30 Jul 62 4 Nov 63	Support reinforcement of 42° gearbox	All UH-1A aircraft		x	x	
-34/50 Change 1	18 Dec 62 12 Apr 63	Replacement of upper left hand tail boom attachment fitting	UH-1 57-6095 thru 57-6103 UH-1A 58-2078 thru 58-2093 58-3017 thru 58-3047		x	x	
-34/51 Change 2	29 May 62 12 Apr 63	Synchronized elevator mounting retainers	All UH-1 All UH-1A		x	x	
-34/52	29 May 62	Interim fix, elevator control tube (urgent) P/N 204-001-011-33	All UH-1A		x	x	
-34/54	5 Sep 62	Modification of elevator control tube P/N 204-001-011-33	All UH-1 All UH-1A		x	x	
-34/55	5 Aug 63	Modification of fuel cell for drainage	UH-1A 58-2078 thru 58-2093 58-3017 thru 58-3047	x		x	
-34/57	3 Jun 63	Modification of stabilizer bar assemblies	All stabilizer bar assemblies 204-010-370-3 204-010-370-5		x	x	
-34/58	8 May 63	Installation of tail boom stiffeners	All UH-1 All UH-1A		x	x	
-34/63 Change 1	18 Mar 63 2 Dec 63	Installation of 200 amp starter generator P/N STU-6A (AERNO 42-7031)	All UH-1A	x		x	
-34/64	18 Mar 63	Installation of full length skid shoes	All UH-1A		x	x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1520-207-50/1	9 Nov 60	Inspection of tail rotor blades and 90° gearboxes (urgent)	Tail rotor blades P/N 204-010-771-5 204-010-771-7 90° gearboxes P/N 204-040-004-7 204-040-004-13 204-040-004-19 204-040-004-25		x	x	
-50/5	22 May 61	Rework of 90° gearbox	90° gearbox P/N 204-040-004-7 204-040-004-13 204-040-004-19 204-040-004-19a		x	x	
-50/6	26 Mar 63	Modification of transmission upper and lower spider assemblies	All transmission Serial Nos. A12-2, 3, 46, 47 48,50 thru 53, 55, 57, 58, 59, 62 thru 66, 68, 70 thru 74, 76 thru 83, 86 thru 94, 96 thru 106, 108, 110, 112, 114, 115, 116, 118 thru 126, 128 thru 238		x	x	
-50/15 Change 1	10 Apr 63 15 Oct 63	Modification of 90° gearbox	90° gearbox P/N 204-040-004-19 204-040-004-19 204-040-004-25 204-040-004-31		x	x	
MWO 55-1520-208-20/1	17 Oct 61	Inspection of tail rotor slider P/N 204-010-720-1 (urgent)	All YUH-1B		x	x	
-20/2 Superseded by -34/3	31 Jul 61 30 Oct 61						
-20/7	28 May 63	Installation of 60 gallon auxiliary tank	All UH-1B	x		x	
-34/1 Superseded by -34/3	25 Jul 61 30 Oct 61						
-34/2 Superseded by -34/3	5 Aug 61 30 Oct 61						

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1520-208-34/3 Change 1	30 Oct 61 23 Apr 62	Inspection of lockplate (urgent)	UH-1B 60-3546 thru 60-3578		x	x	
-34/5 Change 1	5 Feb 62 15 Oct 63	Installation of full length skid shoes	UH-1B 60-3546 thru 60-3590	x		x	
-34/7	1 Sep 65	Installation of winterization kit	UH-1B 60-3546 thru 61-803 62-1872 thru 62-12555 63-8500 thru 64-14191	x		x	
-34/9	11 Mar 63	Modification of collective stick	UH-1B 60-3546 thru 60-3590		x	x	
-34/12 Change 2	30 Jul 62 4 Nov 63	Inspection and modification of 42° gearbox area	UH-1B 60-3546 thru 61-696		x	x	
-34/15 Change 1	29 May 62 17 Oct 62	Modification of synchronized elevator retainers	UH-1B 60-3546 thru 60-3619 61-686 thru 61-705		x	x	
-34/16	23 Feb 63	Provision for vent line	UH-1B 60-3546 thru 60-3619 61-686 thru 61-803		x	x	
-34/17	22 Jan 63	Installation of CF3 Br fire extinguisher	UH-1B 60-3546 thru 61-803		x	x	
-34/18	26 Mar 63	Modification of static stop	UH-1B 60-3546 thru 60-3619 61-686 thru 61-726		x	x	
-34/19	29 May 62	Interim fix elevator control tube (urgent)	UH-1B 60-3546 thru 61-719		x	x	
-34/20	7 May 63	Modification of main rotor hub assembly	All UH-1B with P/N 204-011-101-1 installed		x	x	
-34/21	5 Sep 62	Modification of elevator control tube (urgent) P/N 204-001-011-33	All UH-1B with P/N 204-001-011-33 installed		x	x	
-34/22	20 Feb 64	Installation of transmission oil cooler	UH-1B 60-3546 thru 60-3619 61-686 thru 61-803	x		x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1520-208-34/23 Change 1	22 Mar 63 11 Dec 63	Installation of tail boom stiffener	All UH-1B aircraft prior to 61-763		x	x	
-34/25	12 Apr 63	Modification of battery vent system	UH-1B 60-3546 thru 60-3619		x	x	
-34/26	14 Sep 62	Modification for installation of XM6E3 and provision for 2.75 rockets	UH-1B aircraft	x		x	
-34/28 Change 1	5 Jan 64 14 Jan 65	Replacement of right hand mooring fitting	UH-1B 60-3546 thru 60-3619 61-686 thru 61-803		x	x	
-34/31	26 Aug 63	Modification of droop compensator	UH-1B 60-3546 thru 60-3619 61-686 thru 61-735		x	x	
-50/3	10 Apr 63	Modification of 90° gearbox	All 90° gearbox P/N 204-040-012-1		x	x	
MWO 55-1520-210-20/1 Superseded by -34/6	5 May 64 15 Jul 64	Installation of copilot windshield wiper					
-20/2 Change 2	17 Dec 64 26 Sep 66	Installation of parachute line cable	UH-1D aircraft	x		x	
-20/3	4 Nov 64	Modification of litter straps	62-2106 thru 63-8803		x	x	
-20/4	15 Jul 64	Addition of transmission oil hose to mast bearing	62-2106 thru 62-2113 62-12351 thru 62-12372		x	x	
-20/5 Change 1	30 Sep 64 5 Apr 65	Replacement of battery sump	62-2106 thru 62-2113 62-12351 thru 62-12372 63-8739 thru 63-8859 63-12956 thru 63-13002 64-13492 thru 64-13661		x	x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1520-210-20/6 Change 1 2	6 Apr 65 2 Feb 66 30 Jun 67	Relocation of engine deice switch	62-2106 thru 62-2113 62-12351 thru 62-12372 63-8739 thru 63-8859 63-12956 thru 63-13002		x	x	
-20/7	16 Sep 64	Replacement of engine bleed air hose and adapter	62-2106 thru 62-2113 62-12351 thru 62-12372		x	x	
-20/8	2 Nov 64	Installation of M6 gun kit	63-12956 and subsequent	x		x	
-20/10	6 May 65	Installation of governor vent line check valve	62-2106 thru 62-2113 62-12351 thru 62-12372 63-8739 thru 63-8803		x	x	
-20/13 Change 1	25 Apr 66 29 Jul 66	Quick disconnect for EGT line	62-2106 thru 62-2213 62-12351 thru 62-12372 63-8739 thru 63-8859 63-12956 thru 63-13002 64-13492 thru 64-13901 65-9565 thru 65-9810		x	x	
-20/14	16 Sep 66	Installation of servo cylinder boots	62-2106 thru 62-2113 62-12351 thru 62-12372 63-8739 thru 63-8859 63-12956 thru 63-13002 64-13492 thru 64-13901 65-9565 thru 65-9675	x		x	
-20/15 Change 1	12 Nov 65 8 Mar 66	Installation of cargo door bracket	60-6029 thru 66-970		x	x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1520-210-20/16	26 Jan 66	Installation of transmission oil line bracket	60-6029 thru 64-13597		x	x	
-20/17 Change 1	15 Feb 67 28 Feb 68	Modification of aft battery shelf and longeron (urgent)	62-2106 thru 62-2113 62-12351 thru 62-12372 63-8739 thru 63-8859 63-12956 thru 63-13002 64-13492 thru 64-13901 65-9565 thru 65-10135 65-12773 thru 65-12776 65-12847 thru 65-12856 65-12857 thru 65-12889 65-12890 thru 65-12895 66-746 thru 66-1210 66-16000 thru 66-16013 Aircraft having complied with MWO 55-1520-210-30/3		x	x	
-30/1	10 Aug 65	Modification of main rotor hub (safety of flight) P/N 204-012-101-1 (main rotor hub assembly)	62-2106 thru 62-2113 62-12351 thru 62-12372 63-8739 thru 63-8859 64-13527 thru 64-13542		x	x	
-30/2	24 Sep 65	Installation of armor kit	62-2106 thru 64-13586 64-13588	x		x	
-30/3 To be performed in conjunction with MWO 55-1520-210-30/2, 24 Sep 65 and MWO 55-1520-210-20/17, 11 Feb 67 (urgent)	17 Jun 65	Alternate location of battery	62-2106 thru 64-13901		x	x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1520-210-30/4	1 Dec 65	Improved tail boom attachment bolts	62-2106 thru 63-13002		x	x	
-30/5	28 Jan 66	Provisions for personnel rescue hoist	63-8739 and subsequent	x		x	
-30/6 Change 1	23 Nov 66 27 Apr 67	Installation of chip detector in transmission, 42° and 90° gearboxes	60-6028 thru 60-6034 62-2106 thru 62-2213 62-12351 thru 62-12372 63-8739 thru 63-8859 63-12956 thru 63-13002 64-13492 thru 64-13901		x	x	
-30/10 Change 1	23 Jun 66 10 May 67	Installation of gravity hydraulic system	62-2106 thru 62-2113 62-12351 thru 62-12372 63-8739 thru 63-8859 63-12956 thru 63-13002 64-13492 thru 64-13884	x		x	
-30/11	9 Jan 68	Improved lift link installation	62-2106 thru 62-2113 62-12351 thru 62-12372 63-8739 thru 63-8859 63-12956 thru 63-13002 64-13492 thru 64-13661		x	x	
-30/14	3 Jan 68	Provisions for standardization of avionics systems	UH-1D and H 64-13492 thru 64-13901	x		x	
-30/18	14 Jun 67	Installation of engine air inlet filters	62-2106 thru 62-2113 62-12351 thru 62-12372 63-8739 thru 63-8859 63-12956 thru 63-13002 64-13492 thru 64-13901	x		x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1520-210-34/1 Change 1	21 Jul 64 14 Sep 66	48-foot rotor retrofit	62-2106 thru 62-2113 62-12351 thru 62-12372 63-8739 thru 63-8859	x		x	
-34/2	27 Apr 65	Internal provisions for ARC-102 radio	63-8739 thru 63-8859 63-12956 thru 63-13002	x		x	
-34/3 Change 1	15 Jul 64 7 Nov 64	Installation of oil jet to mast assembly	62-2106 thru 62-2113 62-12351 thru 62-12372 Mast assemblies P/N 204-040-366-7 and -5 which have 204-040-136-7 bearings installed		x	x	
-34/4	25 Mar 65	Installation of fuel filter modification	62-2106 thru 62-2113 62-12351 thru 62-12372	x		x	
-34/6 Change 1	15 Jul 64 22 Sep 64	Installation of copilot windshield wiper	62-2106 thru 62-2113 62-12351 thru 62-12372 63-8739 thru 63-8859 63-12956 thru 63-13002	x		x	
-34/9	3 Nov 65	Provisions for T366 VHF radio	64-13492 thru 64-13901	x		x	
-34/10 Change 2 Change 3	6 Dec 65 23 Sep 66 2 May 67	Installation of Decca system	64-13492 thru 64-13901 65-9565 thru 65-10135 65-12773 thru 65-12776 65-12847 thru 65-12852 65-12857 thru 65-12889 65-12890 thru 65-12895 66-746 thru 66-1210 66-16000 thru 66-17138	x		x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1520-211-20/1	8 May 63	Modification of fairlead - tail rotor chain	All UH-1A UH-1B 60-3546 thru 62-1872		x	x	
-20/2	12 Oct 64	Modification of troop seat	60-3546 thru 60-3619 61-686 thru 61-803		x	x	
-20/3	6 Aug 63	Installation of tail rotor pitch change links	UH-1B 60-3546 thru 60-3619 61-686 thru 61-723 All UH-1 acft All UH-1A acft All YUH-1B acft		x	x	
-20/4	7 Nov 64	Installation of M6 kit	61-782 thru 61-787 62-1872 and subsequent	x		x	
-20/5 Superseded by -40/2	21 May 63 4 Apr 67						
-20/6 Change 1	10 Jun 63 2 Oct 64	Installation of external stores kit	61-686 and subsequent	x		x	
-20/7	1 Oct 63	Installation of additional first aid kits	UH-1A 58-2078 thru 60-3545 UH-1B 60-3546 thru 60-3619 61-686 thru 61-803		x	x	
-20/8	30 Dec 63	Modification of servo cylinder	All UH-1A acft All UH-1B acft		x	x	
-20/9 Superseded by -34/29	22 Apr 64 24 Sep 65						
-20/10 Change 1	5 Aug 63 15 Sep 64	Modification of bleed air line	60-3546 thru 60-3619 61-686 thru 61-803 62-1872 thru 62-1915		x	x	
-20/11	4 Nov 63	Installation of tail rotor drive shaft clamps	UH-1B 60-3546 thru 60-3619 61-686 thru 61-695 All UH-1 acft All UH-1A acft All YUH-1B acft	x		x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1520-211-20/12	15 Oct 63	Modification of seat belt fittings	60-3546 thru 60-3619 61-686 thru 61-753		x	x	
-20/14	12 Oct 64	Modification of synchronized elevator	All UH-1B with M3 subsystem installed	x		x	
-20/15	9 Dec 63	Modification of lock pin	All UH-1B with SS-11 subsystem installed		x	x	
-20/16	26 Dec 63	Modification of pylon cross beam	All UH-1B with external stores kit P/N 204-706-035-3		x	x	
-20/17	22 Apr 65	Attachment for parachute line cable	60-3546 thru 61-803 62-1872 thru 63-8658		x	x	
-20/18 Change 1	27 Nov 64 19 Apr 65	Installation of parachute line cable	All UH-1B assigned to airborne		x	x	
-20/19	28 Sep 64	Modification of droop compensator	All P/N 52550-1 thru 52550-5 and 540264-1, Nos. 1 thru 100		x	x	
-20/20	2 Jan 64	Modification of battery shelf	UH-1A 58-2078 thru 58-3047		x	x	
-20/21	15 Jul 64	Addition of oil hose to transmission P/N 204-040-009-7, -13, and -19	60-3546 thru 60-3619 61-686 thru 61-803 62-1872 thru 62-12555		x	x	
-20/23 Change 1	19 Mar 65 12 May 65	Replacement of battery sump jar	All UH-1A UH-1B 60-3546 thru 60-3619 61-686 thru 61-803 62-1872 thru 62-4605 62-12515 thru 62-12555 63-8500 thru 63-8738 63-12903 thru 63-12952 64-13902 thru 64-14100		x	x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1520-211-20/24	21 Aug 64	Replacement of engine bleed hose	60-3546 thru 60-3619 61-686 thru 61-803 62-1872 thru 62-2105 62-4566 thru 62-4605 62-12515 thru 62-12555		x	x	
-20/25 Change 3	20 May 65 14 Sep 67	Installation of ASW-12 adapter	UH-1B 62-1872 thru 62-2105 62-4566 thru 62-4605 62-12515 thru 62-12555 63-8500 thru 63-8683 63-8685 thru 63-8738 63-12903 thru 63-12952 64-13902 thru 64-14100 UH-1C 63-8684 64-14101 thru 64-14191 65-9416 thru 65-12744 65-12772 66-491 thru 66-601	x		x	
-20/28	6 May 65	Installation of governor check valve	60-3546 thru 60-3619 61-686 thru 61-803 62-1872 thru 62-2105 62-4566 thru 62-4605 62-12515 thru 62-12555 63-8560 thru 63-8658		x	x	
-20/29	7 May 65	Installation of 50-gallon auxiliary tank	All UH-1B acft	x		x	
-20/30	9 Feb 67	Modification for M22 adapter kit	62-1997 and subsequent		x	x	
-20/31	3 May 66	Disconnect for egt line	60-3546 thru 65-9524		x	x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1520-211-20/32 Change 1	19 Sep 66 9 Dec 66	Installation of servo cylinder boots	UH-1A 58-2078 thru 58-2093 58-3017 thru 58-3047 59-1607 thru 59-1716 60-3530 thru 60-3545 UH-1B 60-3546 thru 60-3619 61-686 thru 61-803 62-1872 thru 62-2105 62-4566 thru 62-4605 62-12515 thru 62-12555 63-8500 thru 63-8738 63-12903 thru 63-12952 64-13902 thru 64-14100	x		x	
-20/33 Change 1	12 Nov 65 19 Sep 66	Installation of cargo door bracket	62-1872 thru 62-2105 62-4566 thru 62-4605 62-12515 thru 62-12555 63-8500 thru 63-8738 63-12903 thru 63-12952 64-13902 thru 64-14191 65-9416 thru 65-9564 65-12772 66-492 thru 66-692		x	x	
-20/37	17 Nov 66	Device to transfer loads in the event of cracking of the swashplate cyclic control lugs	UH-1A 58-2078 thru 58-2093 58-3017 thru 58-3047 59-1607 thru 59-1716 60-3530 thru 60-3545		x	x	
-30/1 Change 1	9 Dec 65 20 Apr 66	Incorporation of tail boom attachment bolts	60-3546 thru 63-12952		x	x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1520-211-30/2	2 Jun 66	Internal provision for rescue hoist	64-13902 thru 64-14191 65-9416 thru 65-9564 65-12738 thru 65-12744 65-12772 66-491 and subsequent	x		x	
-30/4 Change 2	26 May 66 9 Feb 67	Installation of XM-16 kit	62-1997 thru 64-14191	x		x	
-30/5	3 Nov 66	Installation of chip detector in transmission, 42° and 90° gearboxes	UH-1A 58-2078 thru 58-2093 58-3017 thru 58-3047 59-1607 thru 59-1716 60-3530 thru 60-3545 UH-1B 60-3546 thru 60-3619 61-686 thru 61-803 62-1872 thru 62-2105 62-4566 thru 62-4605 62-12515 thru 62-12555 63-8500 thru 63-8738 63-12903 thru 63-12952 64-13902 thru 64-14100		x	x	
-30/8	18 Jul 67	Installation of XM-21 subsystem	UH-1B acft UH-1C acft	x		x	
-30/9 Change 1	6 Jan 66 9 Feb 67	Provisions for XM-58 sight system	62-1997 and subsequent UH-1B 62-1997 thru 62-2105 62-4566 thru 62-4605 62-12515 thru 62-12555 63-8500 thru 63-8683 63-8685 thru 63-8738 63-12903 thru 63-12952 64-13902 thru 64-14100		x	x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1520-211-30/9	6 Jan 66	Provisions for XM-58 sight system	UH-1C 63-8684 64-14101 thru 64-14191 65-9416 thru 65-9564 65-12738 thru 65-12744 65-12772 66-491 thru 66-601		x	x	
-30/12	1 Feb 67	Installation of M6, XM16 and XM21 sight stow kit	61-686 thru 61-803 62-1872 thru 62-2105 62-4566 thru 62-4605 62-12515 thru 62-12555 63-8500 thru 63-8738 63-12903 thru 63-12952 64-13902 thru 64-14191 65-9416 thru 65-9524		x	x	
-30/13	16 May 66	Installation of synchronized elevator kit P/N 205-030-856-45 and -47	All UH-1C having XM-3, XM-16, and XM-21 subsystems installed	x		x	
-30/14	27 Feb 67	Improved collective mast friction device	63-8684 64-14101 thru 64-14191 65-9416 thru 65-9564 65-12738 thru 65-12744 65-12772 thru 66-491		x	x	
-30/15 Change 1	26 Sep 67 22 Dec 67	Installation of emergency hydraulic system	UH-1C 63-8684 64-14101 thru 64-14191 65-9416 thru 65-9564 65-12738 thru 65-12744 65-12772	x		x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1520-211-30/16 Change 1	31 Mar 67 28 Nov 67	Improved rotating control system	UH-1C 63-8684 64-14101 thru 64-14191 65-9416 thru 65-9564 65-12738 thru 65-12744 65-12772	x		x	
-30/18	15 Jul 66	Main rotor grip retention nut P/N 540-011-101-3 main rotor hub assembly	UH-1C 64-14101 thru 64-14191 65-9416 thru 65-9564 65-12738 thru 65-12744 65-12772 66-491		x	x	
-30/19 Change 1	15 Jul 66 21 Sep 66	Replacement of stabilizer bar support assembly P/N 540-011-300-3 P/N 540-011-300-5 P/N 540-011-303-3 P/N 540-011-303-11	UH-1C 64-14101 thru 64-14191 65-9416 thru 65-9564 65-12738 thru 65-12744 65-12772		x	x	
-30/20	3 Nov 66	Modification of trunnion housing P/N 540-011-101-3, P/N 540-011-101-7 main rotor hub assembly P/N 540-011-106-1 housing assembly	All UH-1C prior to 66-614 having main rotor hub assembly serial numbers A1-301 thru A1-549; AAW-0001 and AAW-0002		x	x	
-30/21	14 Aug 67	Installation of rpm warning device	UH-1A 58-2078 thru 58-3047 59-1607 thru 59-1716 60-3530 thru 60-3545	x		x	
-30/23 Change 3	23 Nov 66 7 Jul 67	Installation of main rotor hub deflector	UH-1C 64-14101 thru 64-14191 65-9416 thru 65-9564 65-12738 thru 65-12744 65-12772 66-491 thru 66-693	x		x	
-30/30	5 Feb 68	Installation of provisions for standardization of avionics systems	UH-1C 66-491 thru 66-745 66-15000 thru 66-15245	x		x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1520-211-30/34	6 Feb 67	Provision for XM 156	UH-1B 62-1997 thru 62-2105 62-4566 thru 62-4605 62-12515 thru 62-12555 63-8500 thru 63-8683 63-8685 thru 63-8738 63-12903 thru 63-12952 64-13902 thru 64-14100 UH-1C 63-8684 64-14101 thru 64-14191 65-9416 thru 65-9564 65-12738 thru 65-12744 65-12772 66-491 thru 66-745 66-15000 thru 66-15245		x	x	
-30/35 Change 1	15 Nov 67 21 Dec 67	Installation of air inlet filters	UH-1B 60-3546 thru 60-3619 61-686 thru 61-803 62-1872 thru 62-2105 62-4566 thru 62-4605 62-12515 thru 62-12555 63-8500 thru 63-8683 63-8685 thru 63-8738 63-12903 thru 63-12952 64-13902 thru 64-14100 UH-1C 63-8684 64-14101 thru 64-14191 65-9416 thru 65-9564 65-12738 thru 65-12744 65-12772 66-491 thru 66-601	x		x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1520-211-34/1	7 Jan 64	Modification of mast assembly	All mast assys 204-040-214-1 204-040-366-1 204-040-214-3 204-040-366-3 204-040-366-5		x	x	
-34/2 Change 2	2 Dec 63 30 Jun 67	Installation of rpm device	60-3546 thru 61-803 62-1872 thru 62-12555	x		x	
-34/3	6 Jun 63	Modification of passenger seat belt fitting	UH-1A 58-2078 thru 58-2093 58-3017 thru 58-3047 59-1607 thru 59-1716 60-3530 thru 60-3545		x	x	
-34/4	17 May 63	Modification of winch assembly P/N 204-070-165-11	All maintenance hoists T101411		x		x
-34/5	16 Jul 63	Modification of APX-44 bracket	60-3546 thru 60-3619 61-686 thru 61-723		x	x	
-34/6	3 Jun 63	Modification of main drive shaft	Main drive shaft P/N 204-040-010-3 204-040-010-7		x	x	
-34/7	18 Apr 63	Modification of hanger bearing assembly P/N 204-040-600-3 204-040-600-5	All UH-1A acft All UH-1B acft		x	x	
-34/8 Change 1 2	16 Jan 64 18 Sep 64 15 Jan 65	Modification of synchronized elevator bearing	All UH-1 acft All UH-1A acft UH-1B 60-3546 thru 62-1872		x	x	
-34/9	17 Mar 64	Transmission oil filter assembly	60-3546 thru 60-3619 61-686 thru 61-803	x		x	
-34/10 Change 1	22 Sep 64 13 Apr 65	Modification of hydraulic cylinder assembly	All hydraulic cylinder assys P/N 204-076-052-1 204-076-052-3		x	x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1520-211-34/11	4 Nov 64	Modification of baffle assembly	60-3546 thru 60-3619		x	x	
-34/12 Superseded by -40/2	21 May 63 4 Apr 67						
-34/15 Change 1	25 Nov 63 30 Apr 64	Adapter kit for external stores	62-1872 and subsequent	x		x	
-34/16	17 May 63	Modification for replacement of aft cross tube	60-3546 thru 60-3619	x		x	
-34/17 Superseded by -40/2	20 Jun 63 4 Apr 67						
-34/19 Change 1	22 Jul 63 17 Jan 64	Modification of ASW-12 system	61-720 thru 61-735		x	x	
-34/20 Change 1	22 Dec 64 2 Aug 65	Installation of fuel filter	60-3546 thru 60-3619 61-686 thru 61-803 62-1872 thru 62-2105 62-4566 thru 62-4605 62-12515 thru 62-12555	x		x	
-34/21 Change 1	12 Oct 64 23 Apr 65	Modification for rearview mirror	60-3546 thru 60-3619 61-686 thru 61-803		x	x	
-34/22	6 Aug 63	Modification of main rotor blade (urgent) P/N 204-011-001-15	The following main rotor blade serial numbers are urgent: A2-807, A2-896, A2-918, A2-1067, A2-1165, A2-1167, A2-1197, A2-1201 thru A2-1684 The following main rotor blade serial numbers are normal: All serial numbers thru A2-1684 except as indicated above		x	x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1520-211-34/23 Change 1 2	1 Apr 65 18 Oct 65 18 Jan 67	Provisions for ARC-102 radio set	62-1872 thru 62-12555 63-8500 thru 63-8738 63-12903 thru 63-12952	x		x	
-34/24	23 Dec 63	Repair of synchronized elevator horn assembly	All UH-1 acft All UH-1A acft		x	x	
-34/25 Change 1	21 Jul 64 14 Jan 65	Installation of oil jet to mast assembly	60-3546 thru 60-3619 61-686 thru 61-803 62-1872 thru 62-12555		x	x	
-34/26	30 Sep 64	Incorporation of mixing valve	60-3546 thru 60-3619	x		x	
-34/27	30 Sep 64	Modification of main rotor blades	All main rotor blades P/N 204-011-001-15		x	x	
-34/28 Superseded by -40/1	2 Sep 64 10 Jun 65	Installation of tail boom fitting					
-34/29 Change 1	24 Sep 65 28 Jan 66	Installation of copilot windshield wiper	60-3546 thru 60-3619 61-686 thru 61-803 62-1872 thru 62-2105 62-4566 thru 62-4605 62-12515 thru 62-12555 63-8500 thru 63-8738 63-12903 thru 63-12952	x		x	
-34/32	18 May 65	Installation of XM-14 kit	62-1997 and subsequent	x		x	
-34/33 Change 1 Change 2 Change 4	20 Jul 65 18 Feb 66 20 Sep 66 19 Apr 67	Installation of M-5 kit	63-8500 thru 63-12952 64-13902 thru 64-14191 65-9416 and subsequent	x		x	
-34/34 Change 3	17 Dec 64 13 Apr 67	Modification of scissors assembly P/N 204-011-401-3, -5, and -7	All UH-1B acft		x	x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1520-211-34/35	15 Jan 65	Provisions for T366 VHF radio	63-8659 thru 63-8738 63-12903 thru 63-12952 64-13902 thru 64-14100	x		x	
-34/38 Change 2 3	19 May 65 10 Jun 66 2 May 67	Installation of Decca system	62-1872 thru 62-1981 62-1893 thru 62-2105 62-4566 thru 62-4605 62-12515 thru 62-12555 63-8500 thru 63-8738 63-12903 thru 63-12952 64-12902 thru 64-14191 65-9416 thru 65-9564 65-12738 thru 65-12744 65-12772 66-491 thru 66-745 66-1500 thru 66-15245	x		x	
-40/1 Change 1	10 Jun 65 29 Jul 66	Installation of tail boom fitting	60-3546 thru 64-14011		x	x	
-40/2	4 Apr 67	Installation of internal provision for XM6E3 subsystem	62-1872 thru 62-1886 62-1887 thru 62-1942	x		x	
-221-20/2	20 Oct 67	Modification of connecting link assembly in the anti-torque forward section (urgent)	AH-1G 66-15249 thru 66-15294		x	x	
-1680-200-20/1 Change 2	7 Jun 65 6 Jun 66	Modification of safety lap belts, type MD-1, MD-2, and type B-1 (51H3977)	All aircraft		x	x	
TM 1-1-1-1001	8 Mar 60	Identification of power turn and bank indicator	All aircraft		x	x	

ARMAMENT

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 9-1000-232-30/1	30 Jul 65	Modification of M60 series machine gun	All M60 series machine gun below serial number 77605		x		x
-239-20	29 Aug 66	Modification of M60C and M60CA1, bolt, buffer, and cover assembly	All M60C and M60CA1 7.62 mm machine guns		x		x
-1005-224-30/1	26 Aug 63	Modification of mounting bracket 7.62 mm machine gun (urgent)	Serial numbers 35,500 thru 37,500		x		x
-243-20/1	29 Apr 63	Improved ammunition feed subsystem M6	Subsystem 101 thru 209		x		x
-20/2	18 Feb 65	Replacement of amplifier card subsystem M6	Subsystem 101 thru 314		x		x
-20/3	6 Jun 66	Removal of capacitor subsystem M6	Subsystem 101 thru 733		x		x
-30/1	23 Sep 63	Installation of resistor subsystem M6	Subsystem 101 thru 315		x		x
-30/2	3 Sep 64	Installation of resistor subsystem M6	Subsystem 273 thru 384		x		x
-30/3	24 May 65	Modification of power supply subsystem M6	Subsystem Nos. 101 thru 314 315 thru 434		x		x
-30/4	11 Oct 65	Conversion of M6 to XM16 subsystem M6	Subsystem 101 thru 539		x		x
-40/1	8 Jun 65	Conversion of M60C to M60CA1 subsystem M6	All M60 7.62 mm machine guns		x		x
-1055-217-30/1 Change 1	22 Jun 66 15 Sep 66	Modification of stepping switch subsystem M3	All interconnecting boxes P/N 8932942		x		x
MWO 9-1090-202-30/1	25 Jul 67	Modification of gunner's sighting station subsystems M6, XM16, and XM21	All subsystems: M6, XM16, and XM21 1 thru 270		x		x
-1270-204-30/1	9 Dec 65	Modification of sight subsystem M3	All M3 subsystems panel mounted		x		x
-205-30/1	29 Jun 66	Modification of sight XM60	All subsystems XM 16 and XM21		x		x

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 9-1400-461-30/1	4 Oct 65	Installation of explosive bolt subsystem M22	Subsystem 301 and subsequent		x		x
		AVIONICS					
MWO 11-5821-200-45/1	21 Nov 60	Modification of antenna coupler	FM antenna couplers serial numbers 801 thru 1498		x		x
-204-20/1	21 Sep 66	Modification of terminal box J-562/AR	All terminal boxes J-562/AR part of AN/ARC -44 and distribution panel SB-329/AR		x		x
-35/1	1964	Modification of ARC-44	All RT-294/ ARC-44 All RT-294A/ ARC-44 All RT-294B/ ARC-44		x		x
-217-35/1	15 Dec 61	Modification of AN/ARC-73A	All 614-U5 controls		x		x
-35/2	14 Dec 61	Modification of AN/ARC-73A	All acft with AN/ARC-73		x		x
-35/3	12 Dec 61	Modification of AN/ARC-73A control	All acft with AN/ARC-73		x		x
-244-30/2 Change 1	12 Sep 66 1 Mar 67	Modification of AN/ARC-54	RT-348/ARC-54 Serial Numbers 1 thru 3676 3677 thru 3923		x		x
-40/1	28 Jun 66	Modification of ARC-54	All RT-348/ ARC-54 utilizing wide band application		x		x
-5826-207-35/1	1 Jun 61	Modification of AN/ARN-30B, ARN-30C, and ARN-30D	All ARN-30B, ARN-30C, and ARN-30D		x		x
-215-35/1	3 Jul 62	Modification of ARN-30D	All ARN-30D Purchase Order No. N383-6627 0A		x		x
-35/2	8 Oct 62	Modification of ARN-30D/E	Purchase Order N383-66270A Serial Numbers 1 thru 1250 Purchase Order 4294-PP-61 Serial Numbers 1 thru 100		x		x

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 11-5895-217-30/3	24 Mar 67	Modification of APX-44	All RT-494-APX -44 Purchase Order Number 3746-PP-59 All RT-494B/ APX-44 Purchase Order Number FR-28-043-P6-22859 (E)		x		x
-35/1	3 Apr 61	Modification of APX-44	All controls		x		x
-35/2	26 Dec 62	Modification of APX-44	All controls below serial no. 2701 Purchase Order 3746-PP-59				
-6605-200-35/1	18 Oct 60	Modification of J2 compass system	All A-2 amplifiers (exceptions)		x		x
TB 11-5826-217-30/1	22 Jan 64	Correction of quad error	All aircraft		x		x
		ENGINE					
MWO 55-1520-207-20/6	22 Jul 60	Inspection of overspeed governor and tachometer drive gearbox housing	All T53-L-1A engines with gear box P/N 1-160 -010-01 installed		x		x
-20/25	19 May 61	One-time inspection of No. 3 and 4 bearing oil nozzle (urgent)	All T53-L-1/1A engines received prior to 1 Apr 61		x		x
-20/29	2 Oct 61	Inspection and replacement of starting fuel manifold lines and clamps (urgent)	All T53-L-1/1A engines		x		x
-34/4	5 Dec 60 7 Apr 61	Engine installation and inspection--not a true modification-field maintenance inspection	All T53-L-1/1A		x		x
-34/5	7 Jul 60	Alignment of power turbine to power shaft--not a true modification-field maintenance inspection	All UH-1 series 57-6095 and subsequent		x		x
-34/8 Change 1	21 Mar 61 7 Mar 62	Overlimits operations inspection--not a true modification-field maintenance inspection	All T53-L-1/1A		x		x

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-1520-207-34/32	16 Nov 61	Modification of engine oil pump relief valve	T53-L-1 engines T53-L-1A engines		x	x	
-50/14	10 Apr 63	Retrofit of T-53-L-1 engine with T53-L-1A impeller housing assembly	T53-L-1 LE-00050 thru LE-00054 LE-00056 thru LE-00078 LE-00080 thru LE-00094		x		x
-2800-200-20/1	6 Aug 63	Replacement of ignition exciter units	T53-L-3 LE-02050 thru LE-02375 T53-L-5 LE-03001 thru LE-03196 T53-L-9 LE-06001 thru LE-06049 LE-06051 thru LE-06055 LE-06057 thru LE-06069 LE-06072 YT55-L-5 LE-01001 thru LE-01032 T55-L-5 LE-01033 thru LE-01078 LE-01080 LE-01082 thru LE-01084		x		x
-30/1	5 Apr 65	Provisions to meter starting fuel	All T53-L-3 eng All T53-L-5 eng All T53-L-9 eng All T53-L-9a		x		x
-30/2 Change 1	15 Jan 65 19 Apr 65	Incorporation of new fuel vaporizer assembly	All T53-L-7 engines prior to LE-05158 All T53-L-11 engines prior to LE-09118		x		x
-40/1 Change 1	15 Aug 63 7 Jan 64	Rework of main lube filter assembly	All filter assemblies P/N SP 933 installed on T53-L-3, T53-L-5, and T53-L-9 engines		x		x

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-2800-200-50/1	18 Apr 63	Modification of second stage turbine nozzle	T53-L-3 LE-02002 thru LE-02035 LE-02050 thru LE-02268 T53-L-5 LE-03001 thru LE-03025 LE-03110 thru LE-03116 T53-L-9 LE-06001 thru LE-06005		x		x
-50/2 Change 1	15 Aug 63 11 Dec 63	Modification of first stage turbine blade wedges	T53-L-3 LE-02002 thru IE-02035 LE-02050 thru LE-02074 LE-02076 thru LE-02100 LE-02102 thru LE-02105 LE-02107 thru LE-02130 LE-02134 thru LE-02144 LE-02147 thru LE-02165 LE-02167 thru LE-02197 LE-02199 thru LE-02203 LE-02205 thru LE-02220 LE-02233, LE-02243, LE-02246 T53-L-5 LE-03001 thru LE-03037 LE-03040 LE-03042 thru LE-03047 LE-03049 thru LE-03055 LE-03057 thru LE-03090 LE-03092 thru LE-03116 T53-L-9 LE-06001 thru LE-06003		x		x

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-2800-200-50/4 Change 1	1 Oct 63 19 Mar 64	Incorporation of interstage seal and modified accessory gearbox	T53-L-3 LE-02050 thru LE-02187 T53-L-5 LE-03001 thru LE-03003 LE-03025 thru LE-03027		x		x
-50/5	3 Jun 63	Modification of compressor housing assembly	T53-L-3 LE-02002 thru LE-02003 LE-02050 thru LE-02233 T53-L-5 LE-03001 thru LE-03009 LE-03025 thru LE-03083		x		x
-50/12	13 Feb 64	Modification of the fuel vaporizer assembly to incorporate aluminum sleeves	All T53-L-1 All T53-L-1A All T53-L-3 All T53-L-5 All T53-L-9 All T53-L-9a		x		x
-202-30/1	27 Jul 67	Inspect and rework of No. 3 and 4 bearing housing rings in the power turbine and bearing housing assembly	T53-L-1A LE-00101 thru LE-00476 T53-L-3 LE-02001 thru LE-02449 T53-L-5 LE-03001 thru LE-03196 T53-L-7 LE-05000 thru LE-05345 T53-L-9/9a LE-06001 thru LE-06587 T53-L-11 LE-09001 thru LE-11304 LE-11400 Suffix a, LE-11305A thru LE-12707A T53-L-11B LE-12262 thru LE-12560		x		x

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
MWO 55-2840-201-50/5 Change 1	11 Jul 63 7 Jun 65	Replacement of power shaft	T53-L-3 LE-02015 thru LE-02233 LE-02237 thru LE-02250 LE-02252 thru LE-02262		x		x
-202-50/1	13 Feb 64	Replacement of rubber quadrant ring seal with cast iron rings in torque-meter assemblies	T53-L-5 LE-03001 thru LE-03134		x		x
-218-20/1	7 May 63	Replacement of main fuel manifold clamps	All T53-L-1 eng All T53-L-1A engines		x		x
-30/1 Change 1	11 Dec 63 11 Jun 64	Replacement of oil filter assembly stud	All oil filter assemblies P/N 02T07487		x		x
-30/2	9 Apr 64	Replacement of first stage nozzle retaining bolts and nuts, and the No. 2 bearing housing and seal retainer tab washers	All T53-L-1 engines All T53-L-1A engines		x		x
-50/1	22 Apr 63	Modification of the combustion chamber assembly and first stage nozzle	All T53-L-1A engines		x		x
-50/3	20 Nov 64	Installation of a flexible bearing support for the N_1 rotor assembly	All T53-L-1 engines All T53-L-1A engines		x		x
TB 55-1500-206-20	1 Mar 67	Inspection of engine for alignment fixture dowels (urgent)	All UH-1B acft All UH-1C acft All UH-1D acft		x		x
-207-20 Superseded by -20/1	11 Feb 67 21 Feb 67						
-20/1	21 Feb 67	Inspection of engine for defective fifth stage disc (urgent)	T53-L-1A LE-003468, LE-00361, LE-00405A, LE-00493 T53-L-3/7 LE-02028, LE-02053, LE-02055, LE-02057, LE-02058, LE-02059,		x		x

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
TB 55-1500-207-20/1	21 Feb 67	Inspection of engine for defective fifth stage disc (urgent)	LE-02066, LE-02251X, LE-02278X, LE-02117, LE-02172, LE-02246, LE-02318, LE-02326, LE-02362, LE-02370, LE-02351X, LE-05011 T53-L-5 LE-03035, LE-03042, LE-03099 T53-L-9/9A LE-06043, LE-06059, LE-06078, LE-06083, LE-06127, LE-06154, LE-06233, LE-06297, LE-06324, LE-06410, LE-06448, LE-06472, LE-06507, LE-06080 T53-L-11 LE-09131, LE-09215, LE-09219 LE-09225, LE-09303, LE-09338, LE-09694, LE-09695, LE-10262		x		x
-1520-207-20/3	28 Jun 62	Installation and adjustment of new overspeed governor P/N 87000B4	UH-1/1A 57-6095 thru 57-6103 58-2078 thru 58-2093 58-3017 thru 58-3047 59-1607 thru 59-1716 60-3530 thru 60-3545		x		x
-208-20/4	28 Jun 62	Installation and adjustment of new overspeed governor P/N 87000B4	All UH-1B acft		x		x

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
TB 55-1520-208-34/1	14 Dec 61	Inspection of T53-L-5 engine first stage turbine wheel wedges (urgent)	T53-L-5 LE-03025 thru LE-03116		x		x
-34/2	3 Jul 62	Adjustment of fuel regulator, T53-L-5 engines (urgent)	T53-L-5 LE-03001 thru LE-03010 LE-03025 thru LE-03179 LE-03186		x		x
-211-20/2	23 Dec 63	Inspection of main fuel regulator (TA-1) cover hold down screws for proper safety (urgent)	All T53-L-1/1A engine main fuel regulator (TA-1)		x		x
-2800-200-20/1	8 Apr 66	One-time inspection of serial numbers on fuel control change over solenoid and valve assembly (urgent)	Change over solenoid and valve assembly P/N 79244 and 79246 serial nos. 65-006, 65-009, 65-026, 65-037, 65-060, 65-061, 65-077, 65-079, 65-093, 65-095, 65-105, 65-110, 65-118, 65-134, 65-142, 65-154, 65-162, 65-165, 65-177, 65-207, 65-228		x		x
-30/1 Change 1	2 Aug 67 23 Oct 67	T53 engine inspection guide	All acft engine models: T53-L-3/3A/5/7/9/9A/11/11B/13		x		x
-6650-300-15	26 Jun 67	Spectrometric oil analysis	All engine and gearboxes		x		x
	AIRFRAME AND COMPONENTS						
TB 55-1500-200-20/8	9 Jun 66	Inspection of main transmission lift link spacer P/N 204-040-118-1 (urgent)	All UH-1A acft All UH-1B thru 65-9417 All UH-1D thru 65-9579		x	x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
TB 55-1500-200-20/9	9 Jun 66	Inspection of all UH-1 tail rotor installations, tail rotor hub and blade assemblies, and tail rotor hub assembly (urgent) P/N 204-011-701-7, 204-040-701-13, 204-011-701-11	All UH-1A acft All UH-1B thru 65-9417 All UH-1D thru 65-9579		x	x	
-20/11	27 Feb 67	Inspection of overhead console electrical installation	All UH-1B thru 64-14100 All UH-1C thru 66-648 All UH-1D thru 66-862		x	x	
-20/12	24 Feb 67	Inspection of scissors and sleeve assemblies P/N 204-011-401-1, -3, -5, -7, and -9 and drive link assemblies P/N 204-011-047-1	UH-1B 60-3546 thru 64-14100 UH-1D 60-6029 thru 60-6034 62-2106 thru 66-1210		x	x	
-30/1	13 Jun 67	Inspection of tail rotor grip nuts P/N 204-010-708-3-21509	All UH-1 series aircraft		x	x	
-206-20/2	17 Mar 67	Inspection of damper adapter mounts (urgent) P/N 204-010-922-1, -3, -5, -7,	UH-1A 58-2078 thru 60-3545 UH-1B 60-3546 thru 64-14100 UH-1D 60-6029 thru 66-16025		x	x	
-20/3 Superseded by -20/10	23 May 67 9 Feb 68						
-20/4 Change 2	5 Jun 67 6 Sep 67	Inspection of cyclic and collective hydraulic control cylinders (urgent)	UH-1A 58-2078 thru 60-3545 UH-1B 60-3546 thru 64-14100 UH-1D 62-2106 thru 66-16447		x	x	
-20/5	26 Oct 67	Inspection of pilot's attitude indicator connector	UH-1C 64-14101 thru 64-14191 65-9416 thru 65-9564 65-12738 thru 65-12744 65-12772 66-491 thru 66-745 66-15000 thru 66-15199		x	x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
TB 55-1500-206-20/5	26 Oct 67	Inspection of pilot's attitude indicator connector	UH-1D/H 65-9565 thru 65-10135 65-12773 thru 65-12776 65-12847 thru 65-12852 65-12857 thru 65-12889 65-12890 thru 65-12895 66-746 thru 66-1210 66-16000 thru 66-16735		x	x	
-20/6 Change 1	18 Aug 67 12 Feb 68	Inspection of tail rotor slider (urgent) P/N 204-010-720-3 and 204-010-720-5	UH-1 57-6095 thru 57-6103 UH-1A 58-2078 thru 60-3545 UH-1B 60-3546 thru 64-14100 UH-1C 63-8684 64-14101 thru 66-15195 66-15198 thru 66-15200 UH-1D 60-6029 thru 60-6034 62-2106 thru 66-16719 66-16721 66-16725 thru 66-16727 66-16729 thru 66-16737 AH-1G 66-15249 66-15252 thru 66-15257		x	x	
-20/8 Change 1	17 Nov 67 5 Jan 68	Inspection of cyclic and collective hydraulic control cylinders (urgent)	All UH-1 acft All AH-1G acft		x	x	
-20/9	8 Dec 67	Inspection of swashplate outer ring assembly (urgent) P/N 204-011-400-9	All UH-1B acft All UH-1D/H aircraft		x	x	
-20/10 Change 1	9 Feb 68 14 Feb 68	Inspection and replacement of tail rotor crosshead-slider retaining nuts and bolts (urgent)	All UH-1 series aircraft All AH-1G aircraft		x	x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
TB 55-1500-206-30/1 Change 2 3	6 Jun 67 12 Oct 67 18 Jan 68	Inspection of tail rotor hub assembly (urgent)	UH-1A 58-2078 thru 60-3545 UH-1B 60-3546 thru 64-14100 UH-1C 63-8684 64-14101 thru 66-15245 UH-1D 60-6029 thru 66-17138 All AH-1G acft		x	x	
-1520-200-20/4	13 May 65	One-time inspection of transmission oil pump (urgent) P/N 8760	All UH-1 acft		x	x	
-208-20/1	14 Dec 61	Tracking of tail rotor blades (urgent)	60-3546 thru 60-3595		x	x	
-20/3	5 Apr 62	One-time inspection of scissors and sleeve assembly (urgent)	60-3546 thru 61-719		x	x	
-20/5	6 Jul 62	Inspection of scissors and sleeve assembly P/N 204-011-201-1, -3, -5, and -7	All UH-1B acft		x	x	
-210-20/1 Superseded by -30/4	30 Mar 65 1 Dec 65						
-20/6	10 Feb 67	Inspection of battery shelf and supporting longerons (urgent)	UH-1D 62-2106 thru 66-16013		x	x	
-20/7 Change 1	14 Apr 67 8 Jun 67	Inspection of synchronized elevator controls	UH-1D 60-6029 thru 60-6034 62-2106 thru 66-16340		x	x	
-30/1	25 Sep 67	Aircraft type, model, series redesignation based on installation of T53-L-9 series-11 series-13 engines	All UH-1D acft converted		x	x	
-211-20/4	22 Dec 65	One-time inspection of scissors lever bolts	UH-1C 63-8636 63-8684, 64-14101 and subsequent		x	x	
-20/5	27 Feb 67	Installation and removal instructions of XM-21 weapons subsystem airframe adapter kit	UH-1B 62-1997 and subsequent	x		x	

Number	Date	Title Change	Aircraft or Comp Affected	Wt/Bal Change		Recorded in 2408-5	
				Yes	No	Yes	No
TB 55-1520-211-20/6	23 Jun 66	Inspection of UH-1B/540 main rotor hub assembly (urgent) P/N 540-011-101-3	Main rotor hub assembly serial numbers A1-212 thru A1-216, A1-468, A1-481, A1-493, A1-496 thru A1-499, A1-501 thru A1-507, A1-517, A1-518, A1-520 thru A1-522, A1-524, A1-525, A1-527, A1-529 thru A1-536, A1-541, A1-543, A1-545 thru A1-549, A1-554, A1-583		x	x	
-20/7	23 Aug 66	Inspection of collective link (urgent) P/N 540-011-453-1 and -5	UH-1C 64-14106 thru 64-14191 65-9416 thru 65-9466 65-9468 thru 65-9564 65-12738 thru 65-12744 65-12772		x	x	
-20/8	27 Dec 66	Inspection of UH-1C main rotor blades (urgent) P/N 540-011-001-5	UH-1C 64-14101 and subsequent		x	x	
-20/9	15 May 67	Inspection of synchronized elevator controls (urgent)	UH-1C 63-8684 64-14101 thru 64-14191 65-9416 thru 65-9564 65-12738 thru 65-12744 65-12772 66-491 thru 66-745 66-15000 thru 66-15022		x	x	
-221-20/2	4 Jan 68	Inspection of SAS servo actuators	AH-1G 66-15246 thru 66-15294		x	x	
-1730-211-20/1	20 Feb 68	Inspection of maintenance hoist assembly P/N T 101452	All T101452 Hoist assemblies		x		x

ECP's

ENGINE

ECP NUMBER	TITLE	APPROVAL DATE
LY-GT-127	Introduction of an improved main pressure regulating valve featuring a universal ball joint design.	4 October 1967
LY-GT-130	Introduction of an improved interstage bleed compressor and impeller housing assembly (stainless steel inserts).	31 March 1967
LY-GT-131	Introduction of an improved fifth stage compressor disc assembly common to all T53 engines except L-1 models.	19 May 1967
LY-GT-132E	Introduction of new configuration fuel manifold "O" rings.	13 December 1966
LY-GT-133	Modification of wrench assembly LTCT 2127.	5 May 1967
LY-GT-134E	Expedited, "Urgent," change to incorporate stainless steel washer into starting fuel solenoid valve.	28 November 1966
LY-GT-135E	Introduction of an improved starting fuel nozzle (P/N 1-300-349-02) for all T53-L-13 engines.	13 December 1966
LY-GT-136	Introduction of an improved independent retaining feature for the position No. 2 bearing housing.	13 January 1967
LY-GT-137	Introduction of an improved carrier and gear assembly common to T53-L-13 engines.	19 April 1967
LY-GT-138	Introduction of a new flow divider and dump valve assembly.	4 October 1967
LY-GT-139	Introduction of an improved position #2 seal configuration for the T53-L-13 engine.	13 January 1967
LY-GT-139R	Introduction of the improved position #2 seal configuration for previously delivered T53-L-13 engines.	3 November 1967
LY-GT-142	Establishment of continuous lubrication to the fuel control/accessory gearbox drive spline.	13 July 1967
LY-GT-144	Introduction of an improved carrier and gear assembly for all T53-L-11 serial number suffix "A" engines.	16 June 1967
LY-GT-145	Introduction of a lube jet to the power shaft bearing retainer assembly in T53-L-7, L-11, L-11A, L-11B and L-11 serial number suffix "A."	27 September 1967
LY-GT-146	Introduction of an improved T_9 thermocouple harness assembly on T53-L-13 engines.	13 November 1967

ECP NUMBER	TITLE	APPROVAL DATE
LY-GT-147E	Field retrofit of sand and dust separator's discrepant top latch hook.	5 May 1967
LY-GT-148	Introduction of an improved scavenging system for the No. 2 bearing package.	13 November 1967
LY-GT-150	Modification of gearshaft holder assembly P/N LTCT 2039.	16 November 1967
LY-GT-152E	Introduction of an improved inlet housing plug retaining bracket.	23 May 1967
LY-GT-156E	Introduction of a new lock tabwasher for the exhaust diffuser cover bolt.	19 July 1967
	AIRFRAME	
UH-1B/D-299E	Internal rescue hoist.	5 July 1966
UH-1B/D-298	To install provisions for Juliet 28 and Wilcox 807 avionics equipment in production UH-1B and D.	4 August 1966
UH-1A-300E	Increasing bolt size connecting control link between pitch horn and mixing lever.	8 February 1967
UH-1B-11 In-House	Trunnion bearing support housing.	6 July 1966
IH-UH-1B-12 In-House	Stabilizer bar support brackets (540-UH-1B).	6 July 1966
UH-1B/D-267R	Antenna mount modification.	5 September 1966
UH-1B-10 In-House	Phenolic block separator for hydraulic lines.	11 October 1966
UH-1B/D/AH-1G-301	Universal transmission for the UH-1B/D and AH-1G helicopters.	11 October 1966
UH-1B/D/E/F and AH-1G-304R	Improved input driveshaft assembly.	3 February 1967
UH-1B/D/E/F and AH-1G-306E	Improved yoke nut and locking feature.	12 August 1966
IH-UH-1A/B/D-1 In-House	Modification of collective friction liner.	6 June 1966
IH-UH-1A/B/D-13 In-House	Modification of lift link attaching bolt.	18 October 1966
IH-UH-1B/D-15 In-House	Avionics retrofit program.	19 October 1966
IH-UH-1B-16 In-House	Installation of Doppler navigation equipment on LLLTV aircraft.	9 December 1966

ECP NUMBER	TITLE	APPROVAL DATE
IH-UH-1B-17 In-House	Acoustic ground fire detector.	31 October 1966
UH-1A/B/D/E/F AH-1G-310E	Remove quick disconnect fuel system couplings from the engine fuel inlet line and replace with aeroquip fittings.	October 1966
UH-1B/D/E/F AH-1G-304R	Improved input driveshaft assembly.	3 February 1967
UH-1D-323 (TWX)	Provide provisions in UH-1D KY 28.	27 April 1967
UH-1B/C/D/F/TH-1F-327	Traction sheave assembly for internal rescue hoist.	11 September 1967
UH-1B/C/D/E/F-AH-1G-328	Improved components for UH-1 and AH-1G series transmissions.	Held for testing
UH-1B/C/D-335E (TWX)	Provide provisions for ARA-50 homer system in UH-1B/C/D aircraft.	July 1967
AH-1G-339 (TWX)	Provide high temperature shield for smoke grenade dispensers.	18 July 1967

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