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UNITED STATES ARMY CONCEPT TEAM IN VIETNAM
APO 143, San Francisco, California

ACTIV-AM (5) 79 210 (11) 31 Dec[redacted]

(1)

(7) Operational Evaluation of Armed Helicopters (C)

[redacted] (6) OPENAH [u] (8)

(9) MONTHLY REPORT, [redacted] 2,

16 Nov[redacted] -- 15 Dec[redacted]
[redacted]62,

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ACTIV-AM

SUBJECT: Monthly Test Report Number 2 -- Operational Evaluation of Armed Helicopters (16 November - 15 December 1962) (C)

TO: See Annex P

1. (C) References:

a. USMACV letter of 29 September 1962, subject: "Test Plan, Operational Evaluation of Armed Helicopters (C)." (NOTAL)

b. JCS message 5972, 6 September 1962. (NOTAL)

c. DA letter of 6 November 1962, AGAM-P (M) 381 (31 Oct 62) DCSOPS, subject: "Army Troop Test Program in Vietnam (U)." (NOTAL)

d. Monthly Test Report Number 1, Army Concept Team in Vietnam, subject: "Operational Evaluation of Armed Helicopters", (C), dated 30 November 1962.

2. (U) Definitions:

See Annex K

3. (C) General:

a. Purpose of the test: To test and evaluate concepts of employment for armed helicopters in escort of transport helicopters and ground troops involved in airmobile operations.

b. Purpose of the report:

(1) This report gives a monthly summary of the operational missions performed by the test unit and a discussion of each test objective with findings and, if appropriate, tentative conclusions. The previous report (reference 1d) will be referred to only to clarify a point or validate a finding.

(2) Monthly reports give an indication of progress and provide for the orderly collection of data to be included in the final test report.

c. Test unit:

(1) The Utility-Tactical Transport Helicopter Company (UTTCO), organized as shown below, has been equipped with armed helicopters and serves as the test unit. A discussion of aircraft and weapons systems is at Annex M.

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(2) UTTCO personnel strength and equipment status (as of 15 December 1962):

(a) Personnel	TD Authorization	Present for Duty
Officers	14	27
Warrant Officers	16	11
Enlisted Men	83	83

(b) Equipment	TA Authorization	On Hand
Helicopter, armed UH-1	25	24 (*)

(*) - 13 UH-1A and 11 UH-1B

d. Concept of test:

(1) All tests and observations were made while the UTTCO was engaged in operational missions. Comments of selected military observers and judgments of other knowledgeable persons provided many of the data from which this report was derived.

(2) The UTTCO is assigned to the 45th Transportation Battalion. It furnished armed escort for the 33rd, 57th, and 93rd Transportation Companies (Light Helicopter). It is employed in direct support of the senior US advisor with the III Army of Vietnam (ARVN) Corps. The number of airmobile operations in the III Corps area during the reporting period provided ample opportunity for evaluation of heliborne activity.

(3) It is anticipated that a portion of the concept testing effort will move to either the I or II Corps during the period 16 December - 15 January 1963. Data obtained from operations in jungle and mountainous terrain are essential for proper evaluation of escort operations. How many of the helicopters can be moved, and where they will be employed, will be determined by COMUSMACV based on operational requirements.

e. Test progress: The test is considered to be approximately 40 percent complete. Employment of newly-arrived UH-1B helicopters, the XM-6 weapons system, and new pilots produced many "first-time" data during this reporting period.

f. Selected mission data:

Operations	16 Oct-15 Nov	16 Nov-15 Dec	TOTAL
Number of missions	24	17	41
Mission hours	202	162	364
Combat support hours	525	376	901
UH-1 sorties	504	391	895
CH-21 sorties escorted	1183	996	2179
CH-34 sorties escorted	0	40	40
Landing zones protected	99	59	158
Eagle Flights escorted	17	9	26
Medical evacuation flights escorted	0	3	3

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SUBJECT: Monthly Test Report Number 2 -- Armed Helicopters (C)

Armament	16 Oct-15 Nov	16 Nov-15 Dec	TOTAL
Missions in which fire was returned	12	7	19
Caliber .30 rounds expended	29,000	5,100	34,100
7.62-mm rounds expended	0	10,000	10,000
2.75" rockets expended	490	127	617
Effects			
Estimated insurgent casualties (KIA + WIA)	124	29	153
US KIA	1	0	1
US WIA	0	0	0
UH-1's hit by insurgent fire	5	0	5
Number of hits on UH-1's	8	0	8
UH-1's shot down	0	0	0
Aircraft availability			
Average Nr of UH-1's on hand	14	18	—
Average Nr of UH-1's flyable	8	12	—
Average Availability rate	60%	67%	—

Notes: (1) Data on escorted helicopters hit by insurgent fire are presented in Annex B.

(2) Some data presented in this report are at variance with data given in reference 1d. Improved data recording techniques have given greater accuracy.

4. (U) Content and format of report:

a. Much material published in Monthly Report Number 1 (reference 1d) will not be repeated here. Both reports should be consulted for full knowledge of test activities to date.

b. Annexes A through J cover the ten test objectives. Supporting data are contained in Annexes L through O.

E. L. Rowny

16 Incl
List on following page

E. L. ROWNY
Major General, USA
Chief

DISTRIBUTION:
See Annex P

ACTIV-AM
SUBJECT: Monthly Test Report Number 2 - Armed Helicopters (C)

LIST OF INCLOSURES

CONTENTS:

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Monthly Test Report Number 2 -- Armed Helicopters (C)

ANNEX A -- Objective 1.
1. (C) Objective:

"Determine the tactics and techniques employed in providing armed escort for transport helicopters."

2. (C) Discussion:

a. Organization for combat:

(1) During the reporting period, five- and six-helicopter platoons have been tested on six and eight missions respectively. UTTCO platoon leaders have stated a preference for the six-helicopter organization; this number gives added firepower and permits formation of three sections of two helicopters each or two three-helicopter sections.

(2) During the previous reporting period (reference 1d), only the five-helicopter platoon was tested.

b. Tactics and techniques:

(1) Tactics employed during the first month of testing were based primarily upon the rocket capability of the UH-1A. Introduction of the UH-1B required a modification of tactics to fit a mix of helicopter models and weapons systems. The A-model/B-model ratio in the unit changed during the second month of testing and will continue to change until all A's are replaced by B's. It has been difficult to evaluate the effectiveness of platoon tactics based on a shifting mix of aircraft models and armament systems. The tactics of a unit composed entirely of B-model aircraft may be expected to vary from tactics developed thus far. It is the opinion of the UTTCO commander that optimum tactical flexibility results when each aircraft has both a machine gun and rocket capability.

(2) Although the tactics and techniques discussed in the first monthly report still are valid, three additional formations have been developed. These are discussed in Appendix 1 to Annex D. The new formations not only meet the requirement for responsive, close-in, discriminating fire, but also give adequate flexibility of coverage in the landing zone.

(3) In nine of the 17 missions performed during the reporting period, the armed helicopters were employed in a force called "Eagle Flight." This is a quick-reaction element that can reinforce an established ground effort, be committed in a gap, or used as a hunter-killer team.

(a) The Eagle Flight normally is organized with four CH-21 helicopters carrying ARVN troops, three UH-1 armed escorts, one O-1 aircraft for observation and control, and a number of T-28 aircraft for close air support.

(b) The decision to employ this force as a hunter-killer team is based on information indicating that insurgents are escaping from an ARVN ground "sweep" maneuver. The O-1 spotter attempts to locate the escapees and a nearby landing zone for the transports. The armed helicopters furnish armed escort for the transports and act as a reconnaissance element to locate

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ANNEX B -- Objective 2.

1. (C) Objective.

"To determine the effect of armed escort on insurgent forces. In this respect, does the presence of armed escort reduce the amount and accuracy of fire placed on transport helicopters by insurgent forces?"

2. (C) Discussion.

a. An objective measure of the effectiveness of the armed helicopter in the escort role is provided by the comparative ground fire hit record before and after the UTTCO became operational. This measure may be computed from the hit record of the escorted units, the 33d, 57th, and 93d Transportation Companies (Light Helicopter), or from the hit record of these companies combined with the UTTCO hit record. Both types of computations have been used in the material that follows.

(1) In Figure 1 (attached), the monthly cumulative averages of number of hits and number of aircraft hit, as reported by the escorted companies, have been plotted for the period 15 January to 15 December 1962. The cumulative average has been used because it is less sensitive to fluctuations and provides a better indicator of the over-all trend. The trend in both average number of hits and average number of aircraft hit is decidely upward until 15 October, the date on which the UTTCO became operational. Since 15 October, the trend has been downward.

(2) Figure 2 (attached) shows that the downward trend is a true shift and is not due to a decrease in the level of activity of the escorted units. Here the number of sorties and the number of combat hours flown by the three CH-21 companies have been plotted. It is evident that the trend in combat support operations has been one of over-all increase.

(3) The actual number of hits and number of aircraft hit have been plotted on Figure 3 (attached). The full impact of the declining curve subsequent to 15 October can be fully appreciated only in terms of the over-all increase in combat support operations during the same period. The graph shows other "valleys" in the hit record -- during the monthly periods ending 15 April and 15 August. Relatively fewer support hours were flown, however, during those periods: 723 and 1,008, respectively, as compared with 1488 and 1458 for the months ending 15 November and 15 December.

(4) Figure 4 (attached) presents the combined hit record of the UTTCO and the supported CH-21 companies. This has been plotted as a rate: number of combat sorties or hours flown per hit received. A rate has been used because the operations of the UTTCO have increased the number of aircraft and combat hours flown per mission. As a result, the number of targets presented to ground fire and the potential opportunities for receiving such fire have increased. Figure 4 shows that, since 15 October, there has been a marked increase in the number of combat support hours flown per hit received. The one other period that showed a considerable increase in hit-free hours occurred relatively early in the history of helicopter operations in South Vietnam and at a time of lower over-all activity.

ANNEX B -- Objective 2 (continued)

b. The preceding examination dealt only with units which had UTTCO escort -- although it considered records compiled both before and since the UTTCO became operational. A second approach to the measurement of escort effectiveness may lie in the comparison of UTTCO-supported units with other transport helicopter units which have not had such support. To this end, the hit records of the US Marine Corps helicopter unit in I Corps and the Army transport helicopter companies in II Corps are being compiled and analyzed. In view of the marked differences in terrain in the different Corps areas, however, the validity of such a comparison must first be established.

c. The effectiveness of armed helicopter escort is evidenced also by CH-21 "saves" attributable to armed UH-1 craft. On four occasions, CH-21s downed by enemy ground fire were effectively protected by UH-1s until the downed aircraft were secured by ground troops or repaired and recovered.

d. CH-21 pilots have indicated in debriefings that the amount of fire received by their units has decreased since the initiation of armed helicopter escort. Records of these debriefings do not exist; an effort is being made to compile a retrospective record through questionnaires and interviews. Such data may or may not support findings on the amount of ground fire received, but they will be revealing in terms of the morale of the supported pilots. Obviously, the effect on morale is an important consideration in any evaluation of armed helicopter effectiveness.

e. Objective evidence concerning the ability of the UTTCO to close with the enemy effectively is given by the record of fires delivered and their results: a total expenditure of 44,000 machine gun rounds and 617 rockets; 153 insurgents killed or wounded -- by UTTCO estimate.

3. (C) Findings.

a. The total number of hits received by transport helicopters and the number of transports hit have declined since the UTTCO became operational. This occurred even though the number of combat support sorties and hours flown have increased. Stated differently, the average number of hit-free hours of combat support flown by the transport helicopter companies and the UTTCO has shown a marked increase.

b. The armed escort helicopters have demonstrated a capability of delivering effective rocket and machine gun fire and to prevent the loss of downed CH-21s.

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ANNEX B

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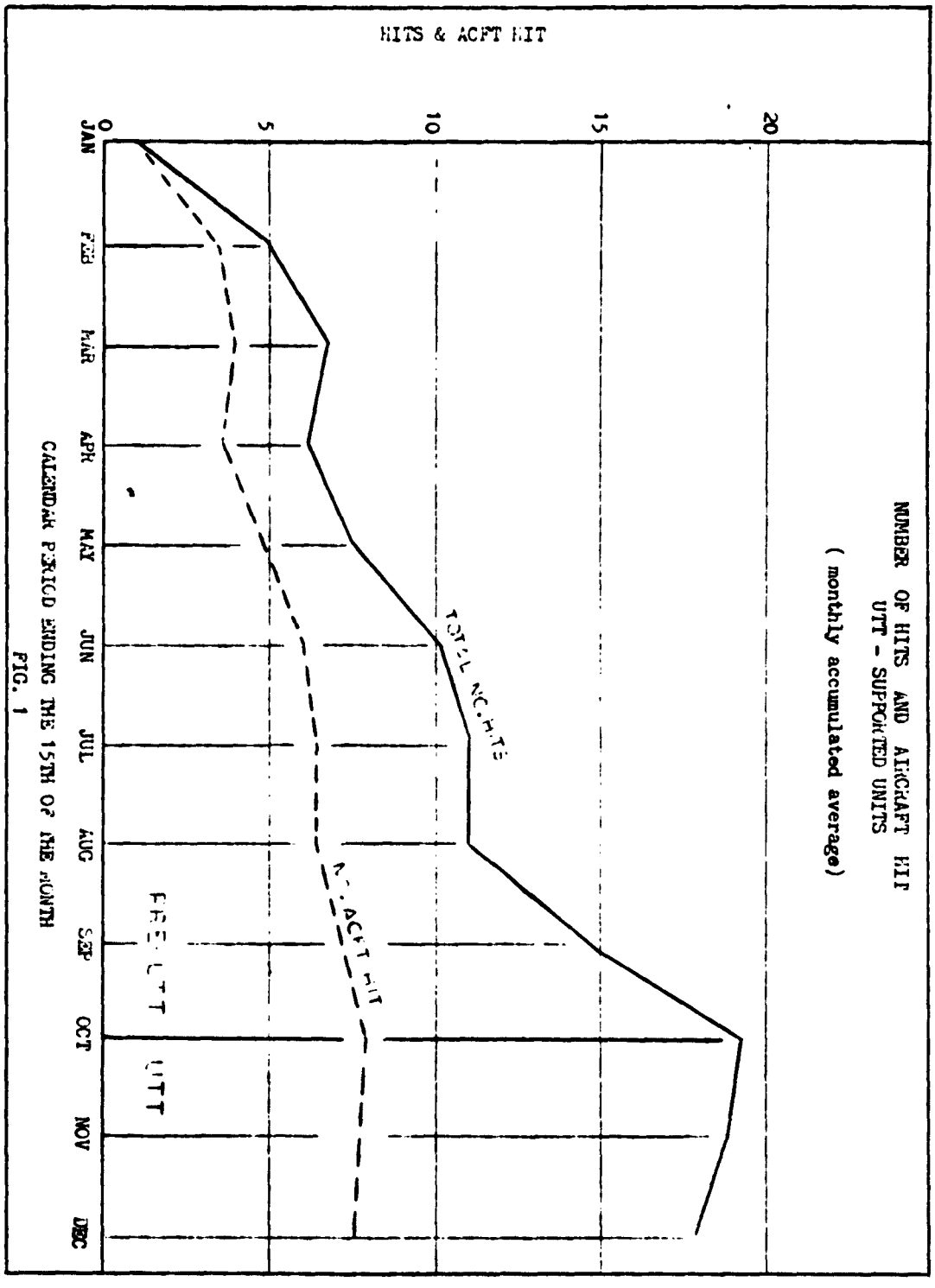

FIG. 1

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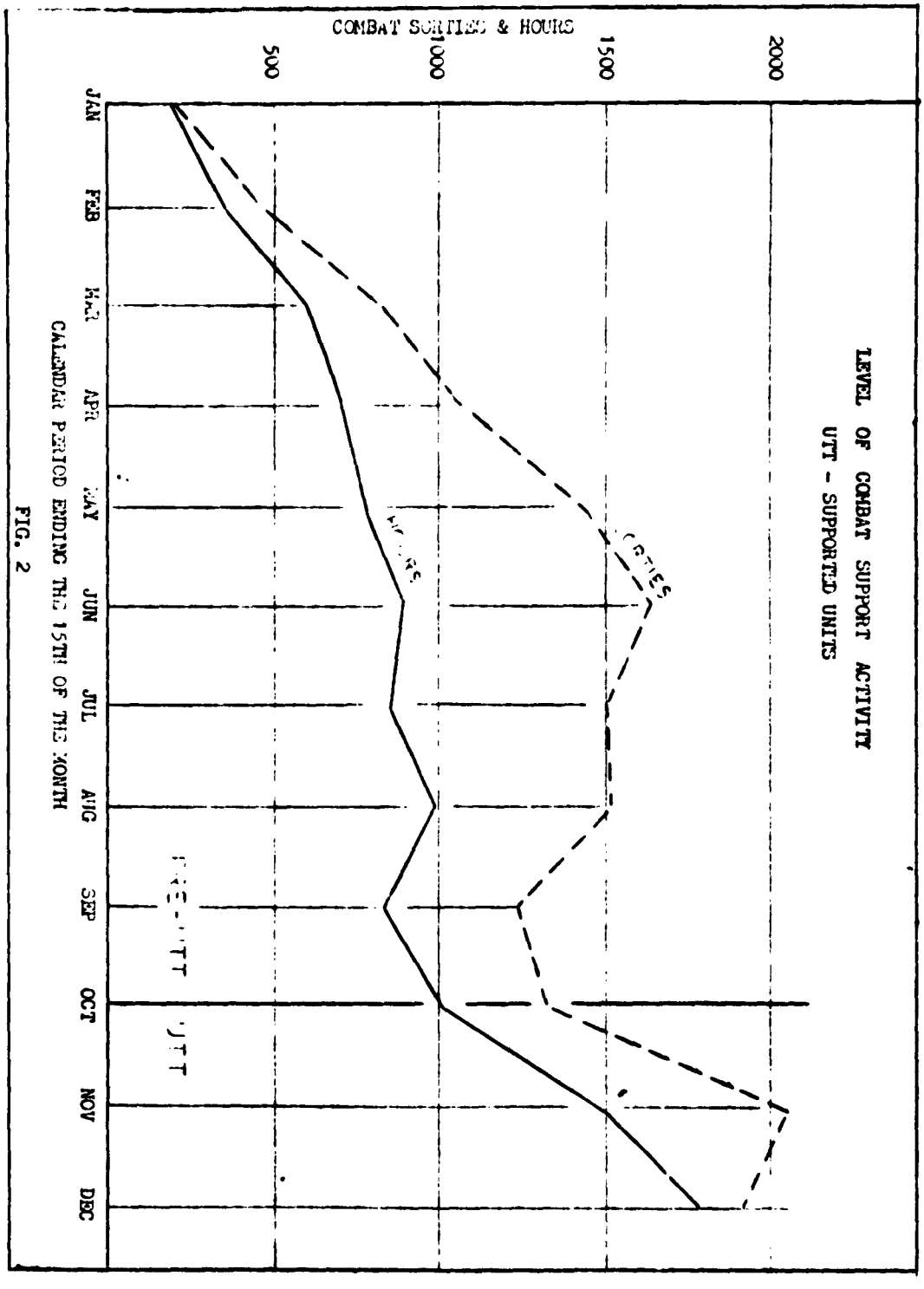

FIG. 2

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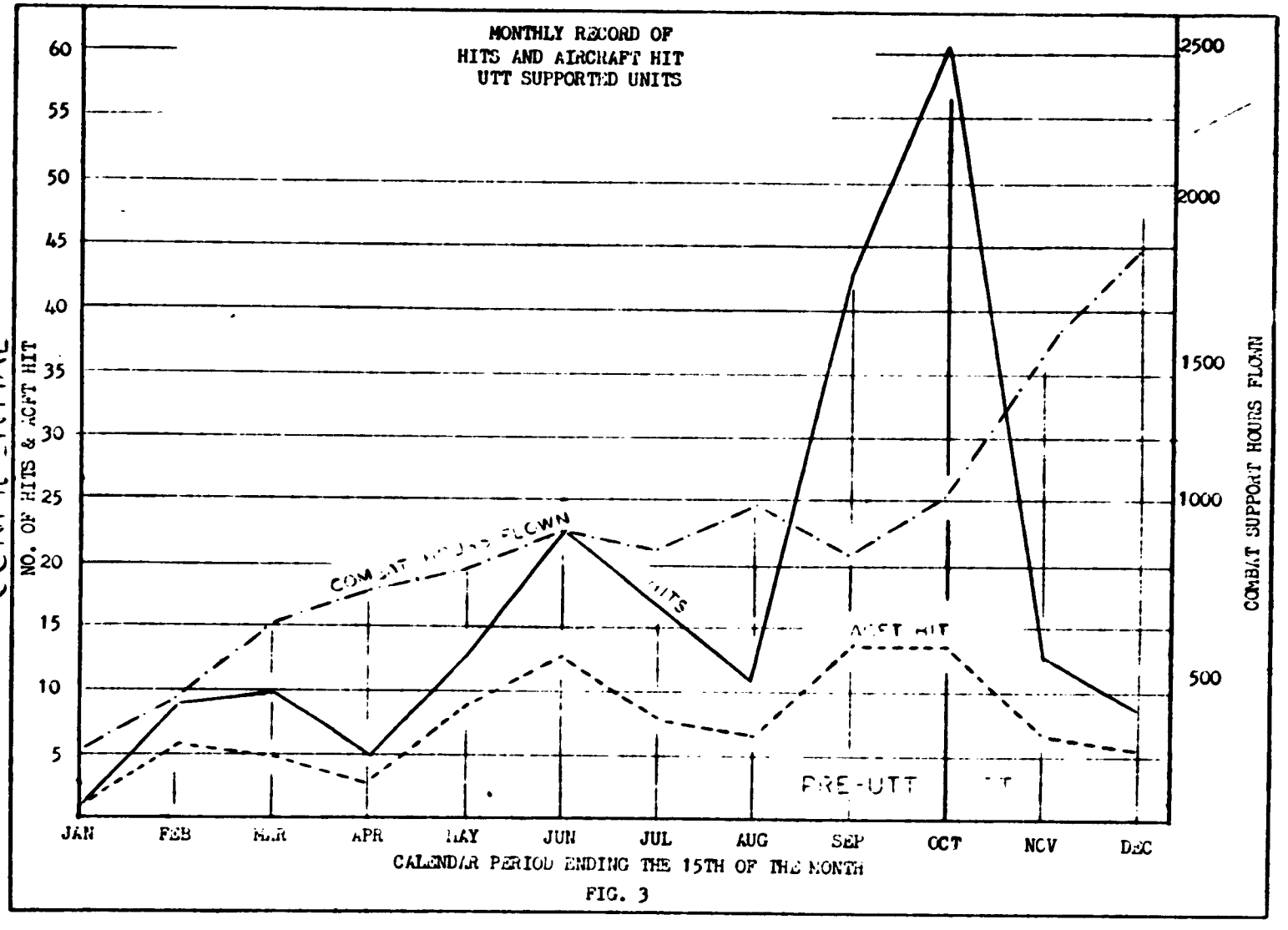

FIG. 3

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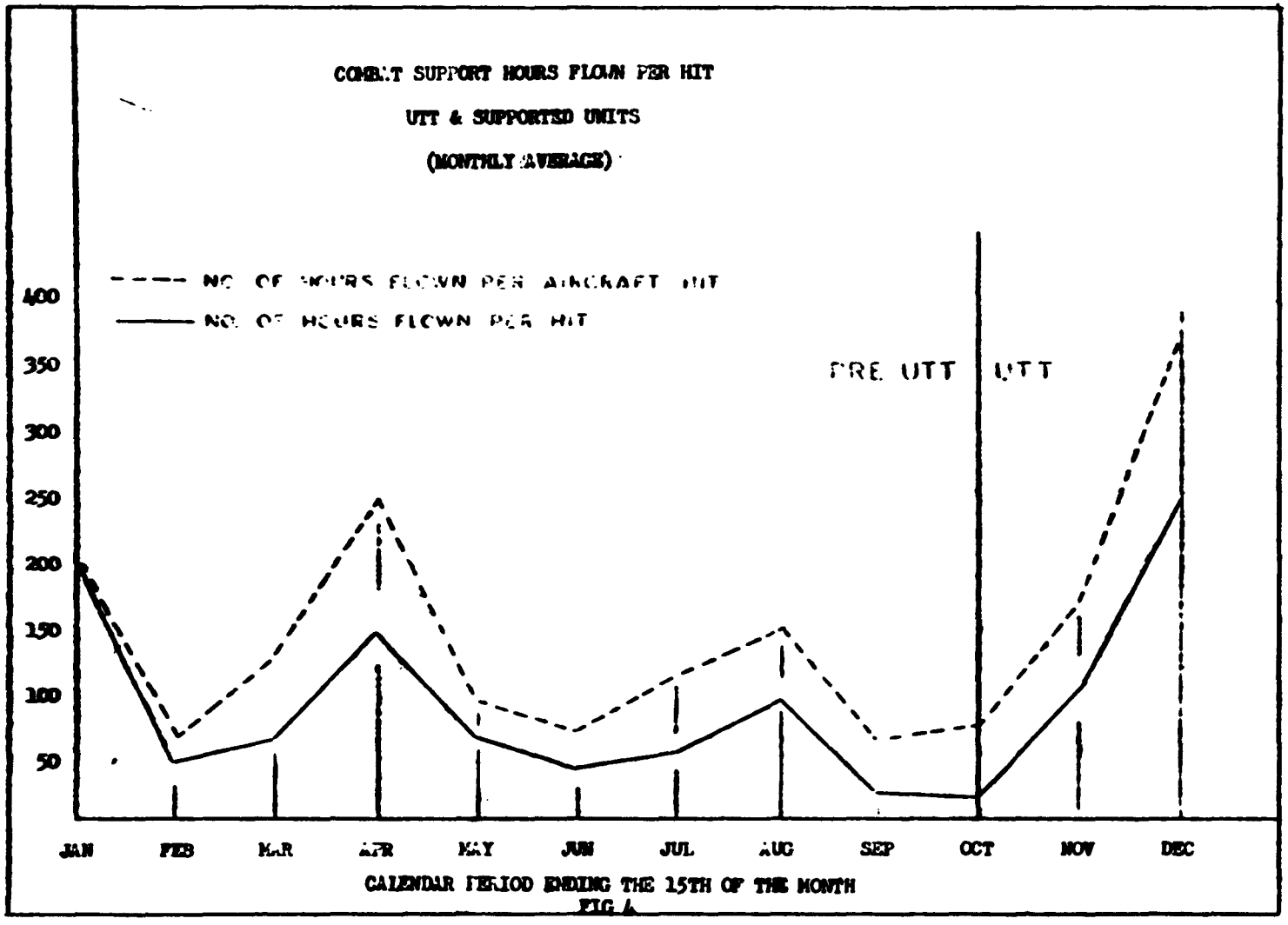

FIG 4

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ACTIV-AM
Monthly Report Number 2 — Armed Helicopter (C)

ANNEX B — Objective 2.

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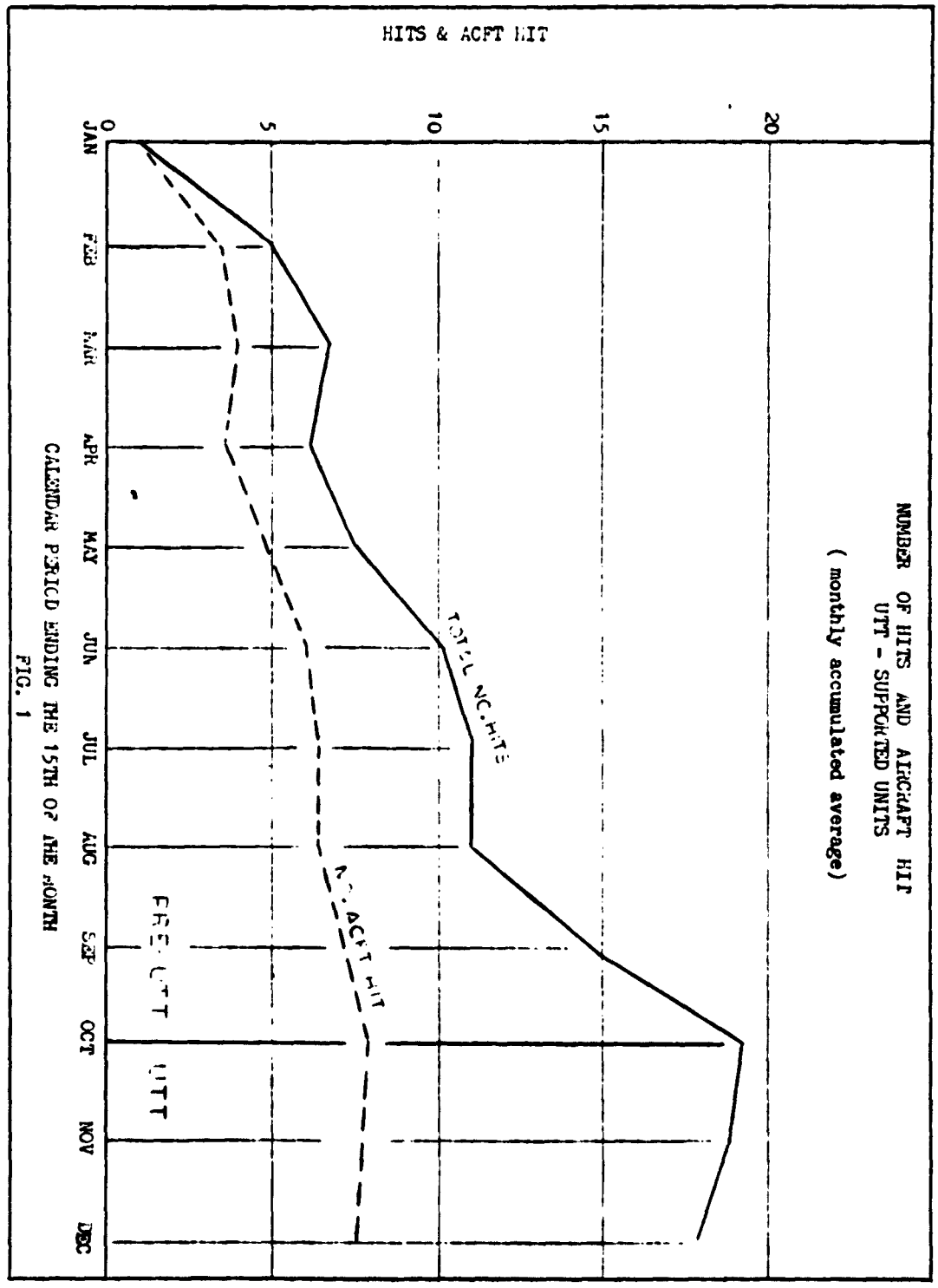

FIG. 1

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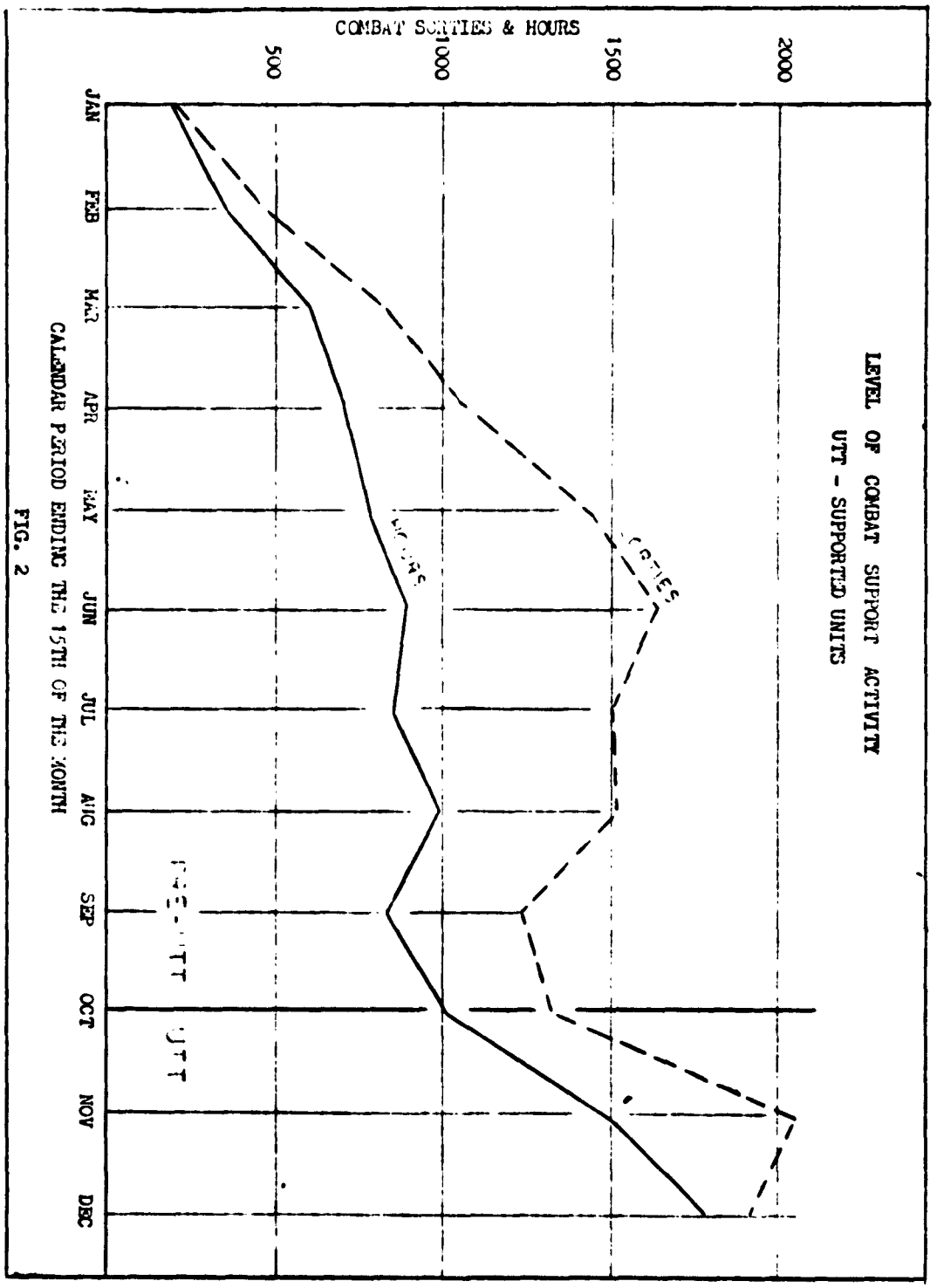
LEVEL OF COMBAT SUPPORT ACTIVITY
UTT - SUPPORTED UNITS
COMBAT SORTIES & HOURS
500
1000
1500
2000
JAN
FEB
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CALENDAR PERIOD ENDING THE 15TH OF THE MONTH

FIG. 2

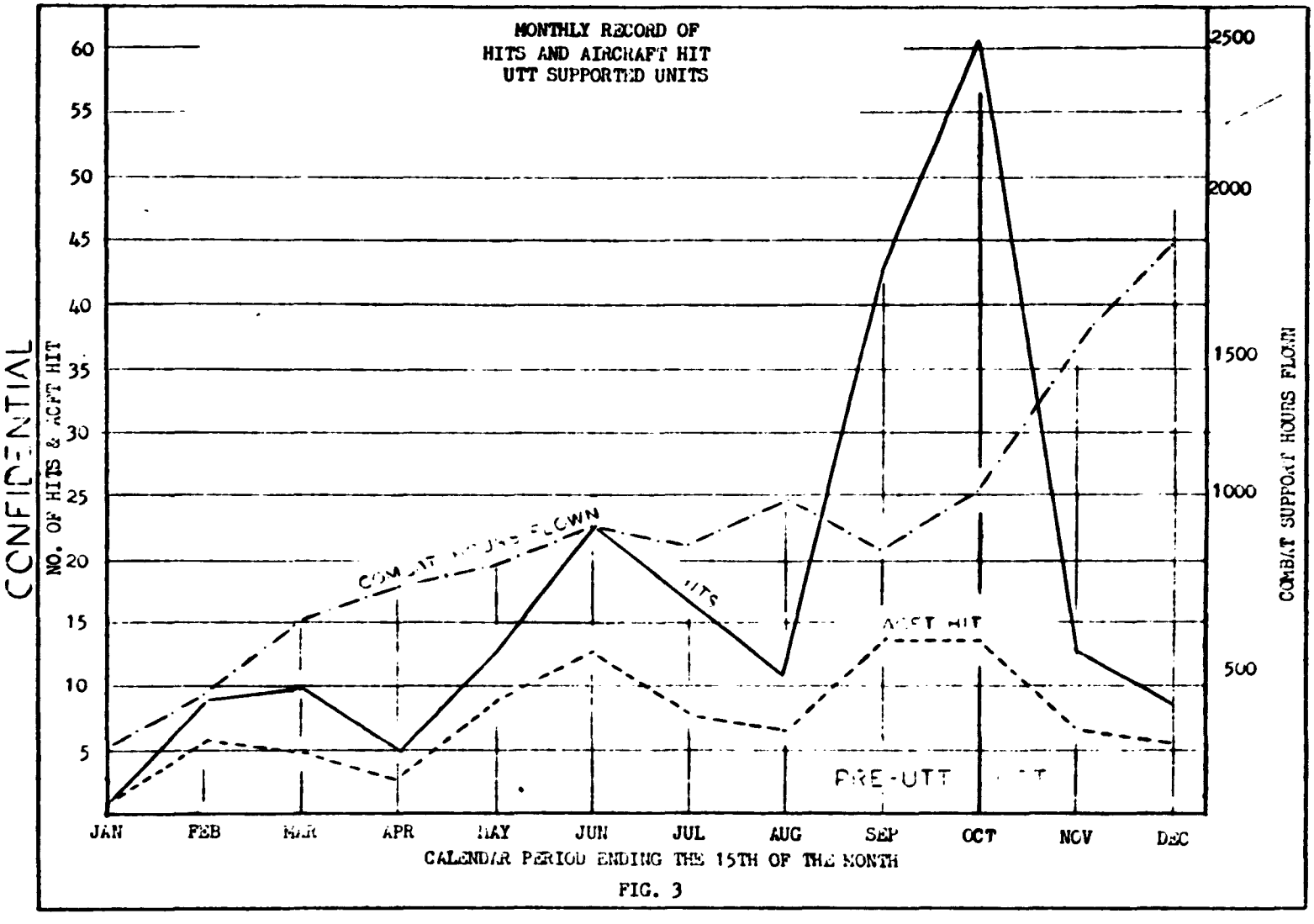

FIG. 3

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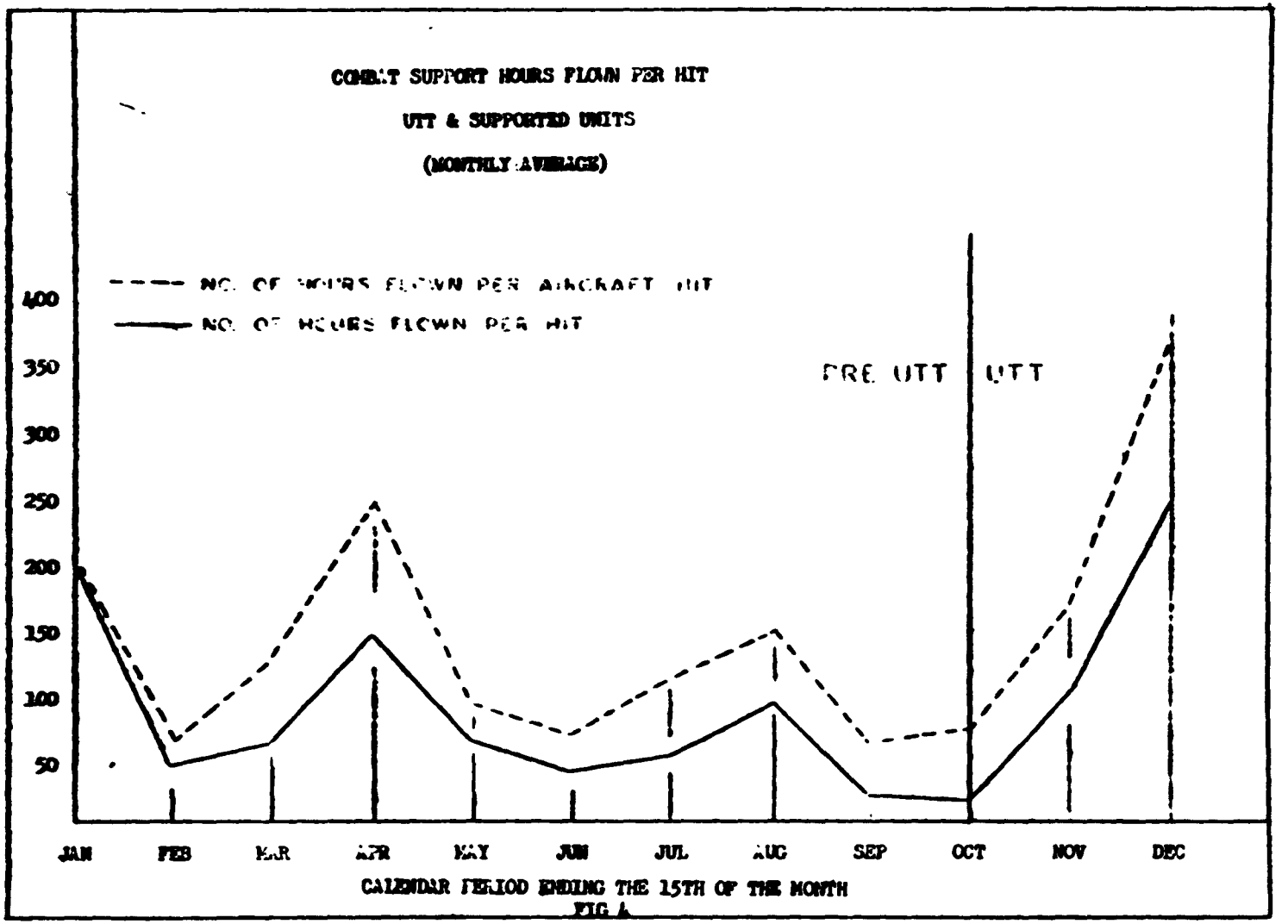

FIG 4

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ACTIV-AM
Monthly Test Report Number 2 -- Armed Helicopters

ANNEX C -- Objective 3.

1. (C) Objective:

"Determine optimum command control, communications, and coordination procedures used between the transport unit, the armed escort, the supported ground commanders, and tactical aircraft."

2. (C) Discussion:

a. Command control: No change from previous report.

b. Communications procedures: The transition from UH-1As to UH-1Bs will give the UTTCO a greater radio communications capability (see Annex M). The addition of VHF receiver-transmitters permits the unit to establish a VHF company command net; the UH-1As were unable to maintain such a net. The B-model also permits monitoring of a VHF-OMNI receiver and a UHF guard frequency. Once the company is fully equipped with B-model aircraft, optimum methods of using the three transmitters and five receivers will be investigated.

3. (C) Finding:

Introduction of UH-1B aircraft has improved the communications capability of the UTTCO.

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Monthly Test Report Number 2 -- Armed Helicopters (C)

ANNEX D -- Objective 4.

1. (C) Objective:

"Determine optimum in-flight formations and deployment of armed helicopters in relation to the transport helicopter formation."

2. (C) Discussion:

a. Some of the considerations applicable to the development of formations are:

(1) Enroute formations of the armed helicopters are based on transport helicopter formations.

(2) Immediate, responsive protection in the landing zone is required. Accordingly, two armed escorts are aligned with the lead transport, one on each flank; they move into the landing zone with the lead transport, often slightly in advance of it.

(3) All-around protection is required for the entire transport formation. With the armed escort deployed at the head and on both flanks of the formation, fire can be placed immediately on insurgents who may appear suddenly and begin firing on the transports. The XM-6 flexible weapons system permits engagement from various angles.

(4) Smooth transition from enroute to landing zone formations often is required. Formations are selected by the platoon leader prior to the operation from a study of aerial maps or photos. If these are not available, the platoon leader, just prior to landing, directs a landing zone formation based on his analysis of the situation.

(5) The capabilities of armed helicopter weapons systems directly affect the tactical formations adopted.

b. These considerations entered into the development of four formations, each of which has advantages and disadvantages. All have been used successfully in the delta terrain of South Vietnam. (See sketches 1 through 8, Appendix 1)

c. Appendix 1 records actions being taken by the UTTCO, on its own initiative and with the encouragement of ACTIV, to find solutions to tactical problems.

3. (C) Findings:

a. Four armed helicopter formations have been used successfully in delta terrain. These are illustrated in sketches 1 through 8, Appendix 1.

b. Although the UTTCO shows a marked preference for a six-aircraft formation, it is not demonstrable that the 20% increase in aircraft over five-aircraft formation gives a proportionate increase in effectiveness.

c. More data are needed on the six- versus the five-aircraft platoon.

d. Additional formations are under development.

APPENDIX 1, ANNEX D, Objective 4.

The initial meeting of the Tactics Review Board conducted by platoon leaders of the UTTCO was convened at 0900 hours, 12 December 1962 by Captain Lollar.

Members present:

Captain Lollar	-	Chairman
Captain Rynott	-	Member
Captain Hanson	-	Member
Captain O'Connor	-	Member
Captain Louis	-	Member

The meeting was opened by Captain Lollar asking for comments on the presently used formations.

I. Formation "Alpha"

A. Advantages:

1. Best formation for use in landing zone where the threat is from all sides.

2. Aircraft in number 4 and 5 position are in position to bring immediate fire to bear in support of number 2 or 3.

3. Best enroute formation for all around coverage.

4. Suppressive fire can be delivered from this formation.

B. Disadvantages:

1. Lacks versatility - maximum of three (3) aircraft committed to either side initially.

C. Recommendations:

When formation "Alpha" is to be used in the landing zone it should also be used enroute to maintain aircraft in position.

II. Formation "Bravo"

A. Advantages:

1. Versatile - maximum fire support can be given to either side if fire is received or shift to formation "Alpha" can be made.

2. Suppressive fire can be delivered from this formation.

B. Disadvantages:

1. Delay involved in support of either side.

C. Recommendations:

None

III. Formation "Charlie"

This formation recommended by Captain O'Connor used formation "Bravo" with one basic modification. This modification commits aircraft 1, 4, 5 & 6 to the right flank of the landing zone for entry into a counter clockwise daisy chain to provide continuous 360 degree coverage of the landing zone.

A. Advantages:

1. 360 degree coverage of the landing zone.

B. Disadvantages:

1. Delay in bringing fire to bear on the left flank initially.

C. Recommendations:

That this formation be accepted for trial by this unit.

IV. Formation "Alpha One"

This formation was recommended for use in landing zones divided by a canal. The formation to consist of six (6) aircraft using formation "Alpha" but with aircraft numbers 1 and 6 committed to the coverage of the canal initially with number 1 joining 3 and 5 in a right hand daisy chain, number 6 to break left and joining 2 and 4 in a left hand daisy chain to give coverage to both the canal and the outher perimeter of the landing zones.

V. UTTCO Recommendations:

1. That "hard" altitudes be abolished and that orbit altitudes be established by leader of particular orbit.

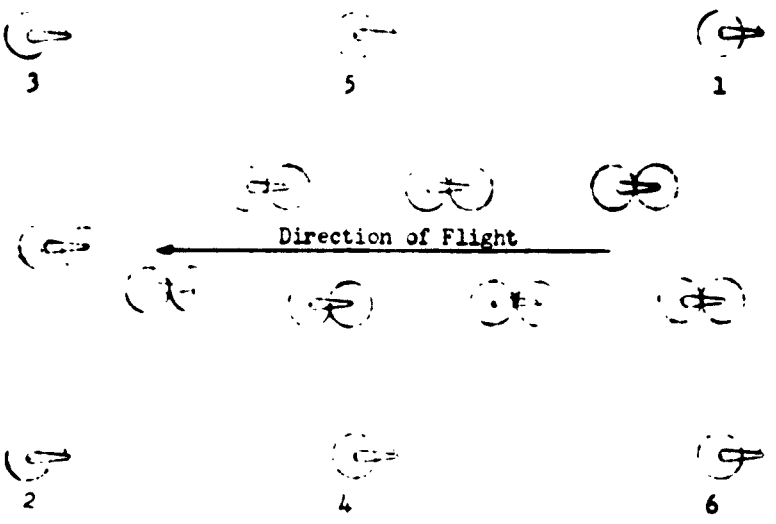
2. That specific orbits be at the direction of the flight leader.

3. That enroute altitude be "on the deck" with the supported aircraft.

4. That a minimum altitude for strikes be set at 200' in order to enable CH-21 gunners maximum coverage.

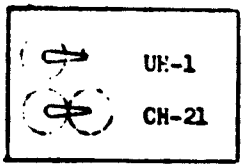
5. That flights consist of six (6) aircraft.

6. That all attacks be made parallel to or away from supported aircraft.

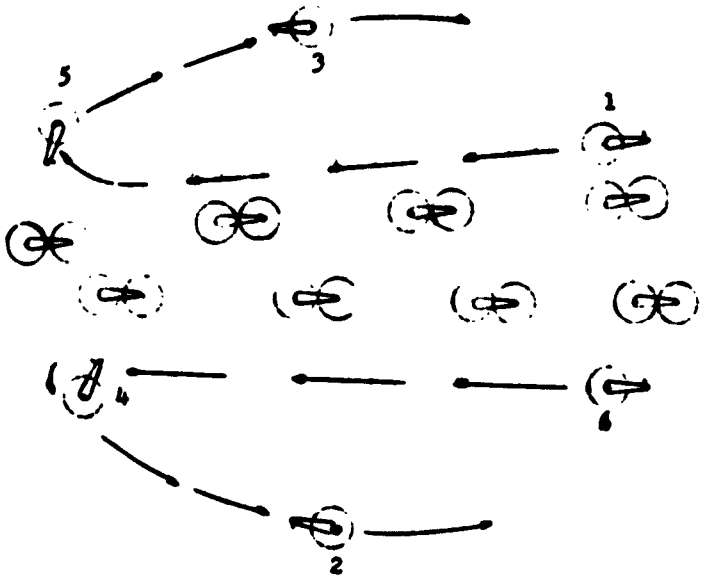


ENROUTE

FORMATION ALPHA



SKETCH 1
APPENDIX 1
ANNEX D



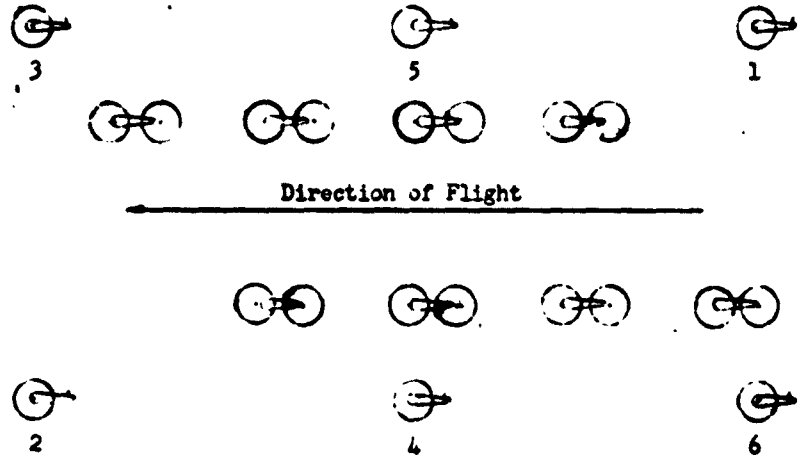
Landing Zone

FORMATION ALPHA

UH-1

CH-21

SKETCH 2
APPENDIX 1
ANNEX D

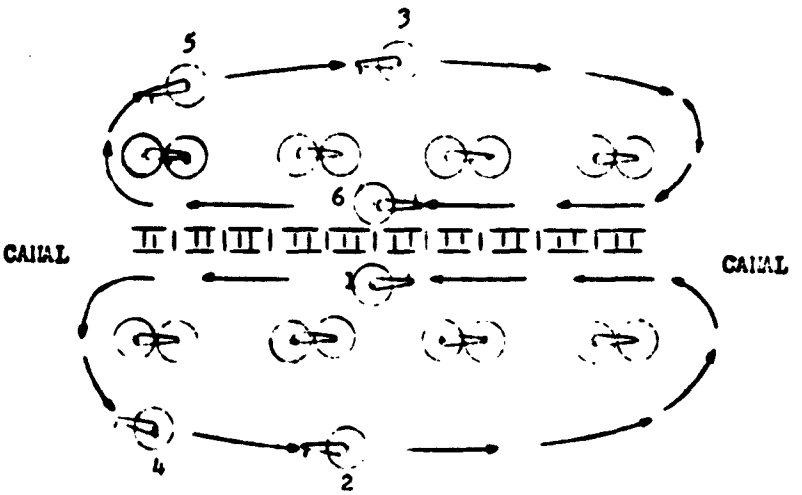


ENROUTE

FORMATION ALPHA 1

UH-1
CH-21

SKETCH 3
APPENDIX 1
ANNEX D



LANDING ZONE

FORMATION ALPHA 1

UH-1

CH-21

SKETCH 4
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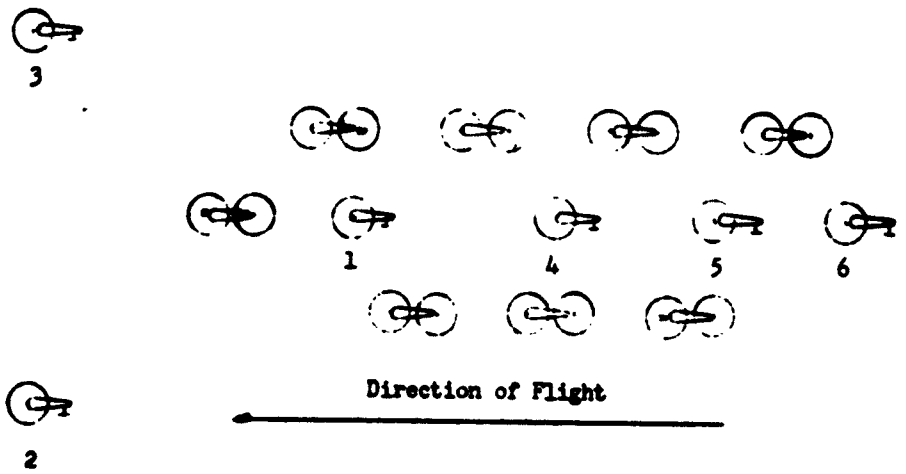
ANNEX D



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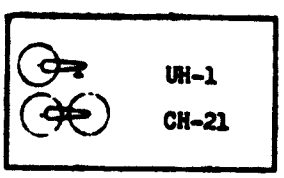
FORMATION BRAVO



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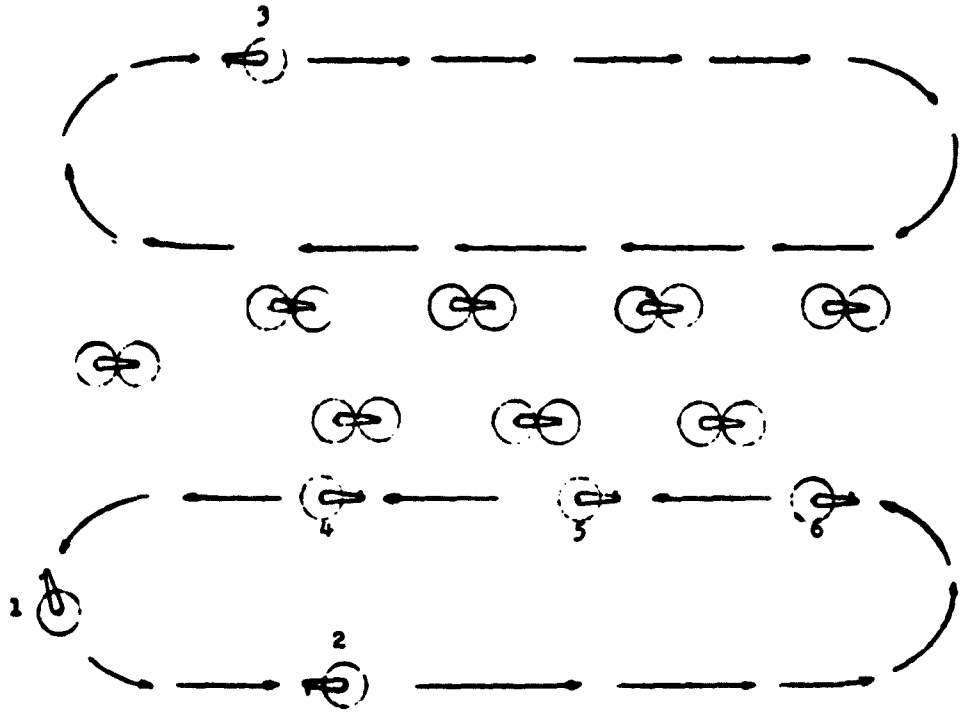
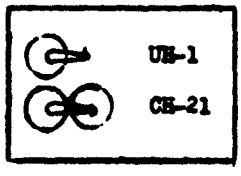
ANNEX D

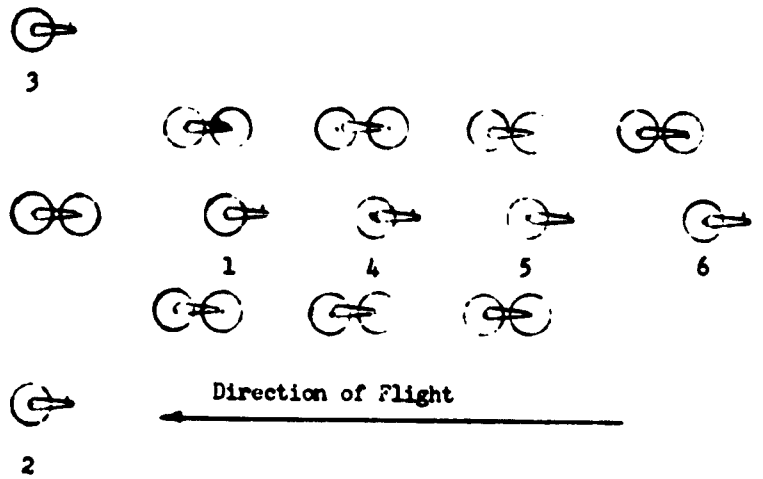


LANDING ZONE

FORMATION BRAVO

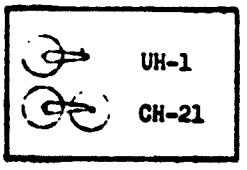


SKETCH 6
APPENDIX 1
ANNEX D

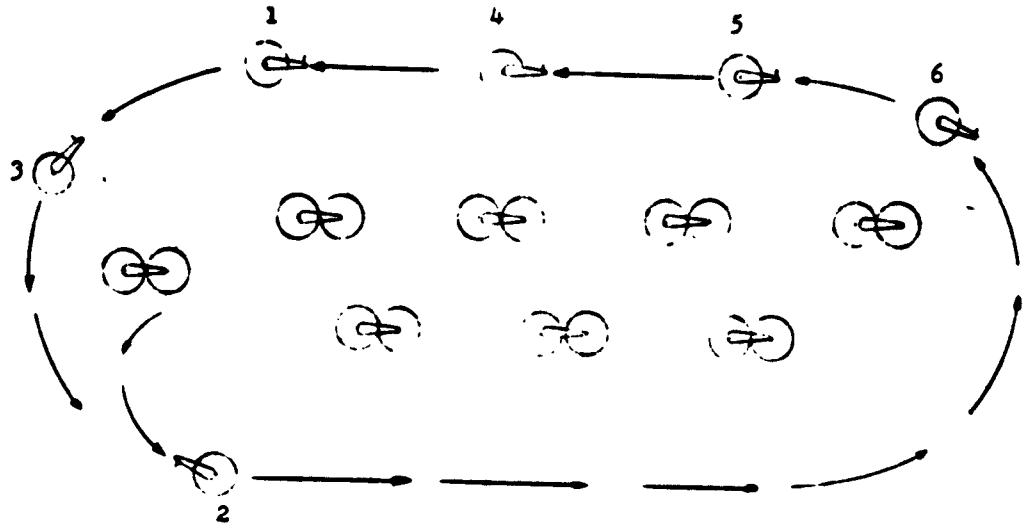


EnROUTE

FORMATIO. CHARLIE



SKETCH 7
APPENDIX 1
ANNEX D



LANDING ZONE

FORMATION CHARLIE

UH-1

CH-21

SKETCH 8
APPENDIX 1
ANNEX D

ACTIV-AM
Monthly Test Report Number 2 -- Armed Helicopters (C)

ANNEX E -- Objective 5.

1. (C) Objective.

"Determine communications procedures to be employed in flight, while landing, off-loading, and during withdrawal of transport helicopters."

2. (C) Discussion.

a. In-flight communications procedures:

(1) For purposes of identification, the platoon leader's helicopter employs a red, rotating beacon which provides all aircraft with a common reference point.

(2) Smoke and tracer ammunition are used to mark insurgent positions.

(3) Instructions for in-flight formations and defensive patterns have been reduced to SOP code words. A communications SOP will be included with the final test report.

b. Communications procedures for landing: As the helicopter platoon approaches the landing zone the platoon leader, using SOP code words, directs the platoon to assume a selected formation. (Example: "RED, this is RED ONE. Formation Alpha. Section Two be prepared to support on the left. Out.") No further communications are required unless insurgent fire is observed or the platoon leader wishes to adjust the formation.

c. Communications procedures during off-loading and withdrawal: Unless insurgent fire is observed during this period, further commands are not required; the armed helicopters automatically assume their enroute escort formation as the transport helicopters depart the landing zone.

3. (C) Finding.

Communications SOP's being developed will improve as experience is gained.

ACTIV-AM
Monthly Test Report Number 2 — Armed Helicopters (C)

ANNEX F — Objective 6.

1. (C) Objective.

"Determine the effectiveness of close-in aerial suppressive fire support delivered in protection of helicopters and ground forces during the off-loading from transport helicopters."

2. (C) Discussion.

a. The AM-6 (photographs 2-4, annex M) system permits a responsive, continuous volume of discriminatory fire on any part of the landing zone. A 6000-round basic load provides a good capability for sustained firing.

b. No satisfactory way has been found to evaluate the effectiveness of suppressive fires from the point of view of the insurgents. However, transport pilot debriefings indicate that insurgent fire ceases as soon as the armed helicopters return the fire. Thus the purpose of close-in aerial suppressive fire is being achieved since it forces the insurgents to take cover and they cease delivering effective fire.

c. Statistics show that hits on transport helicopters continued a declining trend as illustrated in figures 1 through 4, Annex B. Armed helicopters received no hits during this reporting period.

3. (C) Finding.

Responsive, close-in, suppressive fires from UH-1 have markedly reduced the number of insurgent hits on transport helicopters in landing zones. What had been a sharply increasing trend in number of hits for the two months preceding the introduction of the escorts has become an even sharper decrease during the two months the escorts have been used.

ACTIV-AM
Monthly Test Report Number 2 -- Armed Helicopters (C)

ANNEX G -- Objective 7.

1. (C) Objective.

"Determine methods employed by armed helicopters to locate insurgent forces."

2. (C) Discussion.

a. Armed helicopters have not been used for reconnaissance intended to seek out insurgent forces. On some occasions, however, insurgents have disclosed themselves by firing at helicopters or at troops being unloaded in landing zones. Positive identification of 213 insurgents has been made thus far by armed helicopter crews.

b. To provide more future input applicable to this objective, armed helicopter crews will report suspected insurgents as well as insurgents identified positively through hostile acts.

c. The following techniques have been used thus far:

(1) The helicopters' ability to fly slowly and close to the ground permits close visual inspection of woodlines, camouflaged positions, buildings, and people on the ground. UH-1 crews continue to report on personnel moving rapidly away from the landing zones, on foot or by sampan, when ARVN troops begin their sweep maneuvers. In some instances these people are dressed in camouflaged field clothing, with helmets; often they are armed. People in black, peasant garb are observed more frequently; they may or may not be armed.

(2) Although reconnaissance by fire has not been used, the XM-6 weapons system provides an excellent capability for this technique. Against known insurgent strongholds, XM-6 fires could be expected to cause the enemy to reveal himself either by movement or by return fire.

(3) Armed helicopter crews have determined that they can spot muzzle flashes of insurgent weapons more readily by looking through the dark glass visor of the flight helmet; the visor screens out sun glare and gives better definition to muzzle flashes.

(4) ARVN observers assigned to each armed helicopter assist in the identification of suspected or possible insurgents.

d. Gun cameras are being mounted on the reflex sights of the XM-6 system. They will be tested as a means of confirming insurgent casualties. Results of this testing will be discussed in a subsequent report

3. Findings.

a. Insurgents are located by visual inspection made from helicopters flying slowly at a low altitude.

b. Positive identifications of insurgents were made only when they committed hostile acts.

c. Test parameters which confine armed helicopters to the escort role limit the means available for collection of data pertinent to this objective.

ACTIV-AM
SUBJECT: Monthly Test Report Number 2 -- Armed Helicopters (C)

ANNEX H -- Objective 8

1. (C) Objective: "Determine optimum organization to include whether armed helicopters should be included in the TOE of transport companies or should the armed helicopter unit be in support of the transport company?"

2. (C) Discussion:

a. Platoon formations of five and six armed escorts have been tested. There is a need for at least four platoons to work with the transport companies; this would provide one platoon of escorts for each Corps area in South Vietnam. The company may be able to expand from 25 to 28 helicopters with a relatively small personnel augmentation on the order of magnitude shown at Appendix 4. These additional aircraft and personnel will provide adequate resources for:

(1) Placing one platoon in direct support of transport helicopter units in each of the four ARVN Corps.

(2) Continuing tests of the 5-helicopter platoon with an allowance of one (20%) or two (40%) spare aircraft per platoon.

(3) Continuing tests of the 6-helicopter platoon with an allowance of one (17%) spare aircraft per platoon.

b. By separate action, ACTIV will propose to COMUSMACV that the augmentation at Appendix 4 be studied, coordinated, and, subject to his approval, submitted through channels for final action.

c. Operations to date have revealed inadequacies in the current TD (Appendix 1) of the UTTCO. A proposed augmentation for 24-hour-per-day operations (Appendix 2) has been submitted by the company.

d. The most critical need is for light infantry weaponsmen to serve as gunners in the 25 armed helicopters authorized by the letter at Appendix 3. Each helicopter requires two gunners for flank and rear security. The TD does not provide for gunners; the task has been performed by the aircraft crew chief and a mechanic from the maintenance platoon.

e. The UTTCO is authorized 25 XM-6 systems which include 100 M-60 machine guns and related fire control equipment. In addition, 13 UH-1A's are armed with 2.75" rockets. Neither the TD nor the proposed augmentation (Appendix 2) provides maintenance personnel for this equipment. The company will request that an armament section be added to the TD.

f. No information was obtained during the reporting period on the possible inclusion of armed helicopters in the TOE of the transport helicopter company.

3. (C) Findings:

a. A 28-helicopter company (four platoons of seven aircraft each) is indicated.

b. The UTTCO requires immediate augmentation to provide an armament section and light infantry weaponsmen. Beyond this, additional personnel are needed for 24-hour-a-day operations.

c. An additional TD augmentation (at Appendix 4) will be needed if expansion of the UTTCO to 28 helicopters is approved.

ACTIV-AM
SUBJECT: Monthly Test Report Number 2 -- OPEN.H

Appendix 1 to ANNEX H

TABLE OF DISTRIBUTION 76-6750-00 — 7 September 1962

Designation or Job title	Iden	Authorized
CO COMD	C	1
EXEC OFF	O	1
FIRST SGT	E	1
MESS STEWARD	E	1
SUPPLY SGT	E	1
FIRST COOK	E	2
COOK	E	2
CO CLK	E	1
PER RCD SP	E	2
LT VEH DVR	E	1
SUPPLY CLK	E	1
OP PLT HQ		
PLT OP OFF	O	1
PLT OP CH	E	1
PLT OP SP	E	1
LT VEH DVR	E	1
COMM SEC		
COMM OFF	O	1
COMM CH	E	1
SR RAD MECH	E	1
RAD MECH	E	3
3 AIRT PLT HQ		
PLT COMD	O	3
LT VEH DVR	E	3
6 AIRT PLT		
PLT COMD	O	6
PILOT UH-1	W	15
CREW CH	E	24
SVC PLT HQ		
PLT COMD	O	1
A SEC CH RATED	W	1
PLT SGT	E	1
CREW CH	E	1
MOTOR SGT	E	1
W VEH MECH	E	2
SVC PLT HQ		
CLK TYP	E	1
ACFT PRT SP	E	1
POWERMAN	E	1

Page 1
Appendix 1
ANNEX H

ACTIV-AM
SUBJECT: Monthly Test Report Number 2 — OPEN.H

Appendix 2 to ANNEX H

PROPOSED AUGMENTATION TO TD 76-6750-00 SUBMITTED 20 NOVEMBER 1962

MOS	GRADE	JOB DESCRIPTION	AUTH	AUG	REMARKS
941.10	E-5	First Cook	2	1	1
941.10	E-4	Cook	2	1	1
716.10	E-4	Company Clerk	1	1	2
760.00	E-4	Supply Clerk	1	1	3
411.10	E-5	Ammo Storage Specialist	-	2	4
907.70	E-6	Flight Operations Chief	1	1	5
907.10	E-4	Flight Operations Spec.	1	1	5
711.10	E-4	Clerk, General	-	1	5
1982	1Lt	Asst Flight Operations Off	-	1	5
421.10	E-5	Small Arms Repairman	-	6	6
1981	Lt	Rotary Wing Aviator	6	7	7
062B	WO	Rotary Wing Aviator	15	13	7
111.10	E-4	Light Infantry Weaponsman	-	25	8
631.10	E-4	Wheel Vehicle Mechanic	2	2	9
675.20	E-5	Senior SRTUH Mechanic	21	15	10
670.00	E-3	Aircraft Serviceman	4	2	11

REMARKS are on succeeding pages.

Page 1
Appendix 2
ANNEX H

ACTIV-AM
SUBJECT: Monthly Test Report Number 2 -- OPERATION

Appendix 1 to ANNEX H

TABLE OF DISTRIBUTION 76-6750-00 — 7 September 1962

Designation or job title	Iden	Authorized
CO COMD	O	1
EXEC OFF	O	1
FIRST SGT	E	1
MESS STEWARD	E	1
SUPPLY SGT	E	1
FIRST COOK	E	2
COOK	E	2
CO CLK	E	1
PER RCD SP	E	2
LT VEH DVR	E	1
SUPPLY CLK	E	1
OP PLT HQ		
PLT OP OFF	O	1
PLT OP CH	E	1
PLT OP SP	E	1
LT VEH DVR	E	1
COMM SEC		
COMM OFF	O	1
COMM CH	E	1
SR RAD MECH	E	1
RAD MECH	E	3
3 AFT PLT HQ		
PLT COMD	O	3
LT VEH DVR	E	3
6 AFT PLT		
PLT COMD	O	6
PILOT UH-1	W	15
CREW CH	E	24
SVC PLT HQ		
PLT COMD	O	1
A SEC CH RATED	W	1
PLT SGT	E	1
CREW CH	E	1
MOTOR SGT	E	1
W VEH MECH	E	2
SVC PLT HQ		
CLK TYP	E	1
ACFT PRT SP	E	1
POWERMAN	E	1

Page 1
Appendix 1
ANNEX H

Appendix 1 to ANNEX H (Continued)

3 MNT SEC (continued)

MNT SUPV	E	3
SR SRTUH MECH	E	6
SRTUH MECH	E	9
SRTUH MECH H	E	3

SVC SEC

AFLD SVC SUPV	E	1
CRASH RESCUE SP	E	2
ACFT SVCM	E	4

Page 2
Appendix 1
ANNEX H

PROPOSED MODIFICATION TO TO 76-6750-00 (continued)

REMARK 1 - Due to the increase in unit personnal and the requirements for extended operational time per day, additional mess personnel are required. It is anticipated that four (4) meal servings a day will be required to conform to the extended duty requirements. At present the mess personnel duty day extends from 12 to 16 hours per day.

REMARK 2 - The increase in the administrative workload due to required reports and records demand more than can be accomplished. Increase in personnel will increase the demand to such an extent that efficient administration cannot be maintained.

REMARK 3 - The increase in supply activity and line items, especially in the armament field, require additional supply personnel. This unit has always had a shortage of supply personnel, but especially so under the present mission requirements.

REMARK 4 - An immediate need for ammunition specialist personnel exists. Due to the different types of armament systems to be employed the quantity and types of ammunitions will increase. The unit is solely responsible for maintenance, storage and accountability of ammunition. At present this function is an additional duty within the unit. However, ammunition specialists are urgently needed for safe handling of these items.

REMARK 5 - Additional flight operations personnel are urgently needed to handle the increased workload demanded by additional records and reports required and sustained daily operations. Increase in aviators will place a heavy burden on operations personnel for individual record maintenance.

REMARK 6 - Recommend that priority action be taken to obtain small arms repairmen for the unit. The unit does not have qualified personnel to maintain the weapons system on hand. Personnel are needed at platoon level to accomplish maintenance in the field at the mission site. The present maintenance system is an additional duty performed by the Crew Chief. This is unsatisfactory due to the Crew Chiefs primary responsibility rests in maintenance of his aircraft, which can only be accomplished after each daily mission during the hours of darkness.

REMARK 7 - Additional pilots are needed to fill the requirement of two (2) pilots per aircraft while providing combat support in the armed helicopter configuration. This will enable sustained daily operations without exceeding the ability of the pilot. Each mission consists of 12 to 14 hours of preparation, briefing and operation, of which 4 to 7 hours are spent in actual flight under unfavorable conditions. Additional pilots will insure continuous and safe operations.

Page 2
Appendix 2
ANNEX H

ACTIV-AM
SUBJECT: Monthly Test Report Number 2 — OPEN.H

Appendix 2 to ANNEX H

PROPOSED AUGMENTATION TO TD 76-6750-00 SUBMITTED 20 NOVEMBER 1962

MOS	GRADE	JOB DESCRIPTION	AUTH	AUG	REMARKS
941.10	E-5	First Cook	2	1	1
941.10	E-4	Cook	2	1	1
716.10	E-4	Company Clerk	1	1	2
760.00	E-4	Supply Clerk	1	1	3
411.10	E-5	Ammo Storage Specialist	-	2	4
907.70	E-6	Flight Operations Chief	1	1	5
907.10	E-4	Flight Operations Spec.	1	1	5
711.10	E-4	Clerk, General	-	1	5
1982	1Lt	Asst Flight Operations Off	-	1	5
421.10	E-5	Small Arms Repairman	-	6	6
1981	Lt	Rotary Wing Aviator	6	7	7
062B	WO	Rotary Wing Aviator	15	13	7
111.10	E-4	Light Infantry Weaponsman	-	25	8
631.10	E-4	Wheel Vehicle Mechanic	2	2	9
675.20	E-5	Senior SRTUH Mechanic	21	15	10
670.00	E-3	Aircraft Serviceman	4	2	11

REMARKS are on succeeding pages.

Page 1
Appendix 2
ANNEX H

Appendix 2 to ANNEH H (Continued)

PROPOSED AUGMENTATION TO TD 76-6750-00 (continued)

REMARK 8 - In order to insure efficient and timely maintenance and maintain the availability rate required for operations, maintenance personnel must be released to perform their primary function. This can only be accomplished if personnel are available for assignment as crews on operational missions. These personnel must have a general knowledge of operation and function of crew served weapons. Assignment of personnel in MOS 111.10 would fill the requirement and release maintenance personnel to perform maintenance and still have qualified mission personnel for armed helicopters.

REMARK 9 - Only two (2) wheel vehicle mechanics are assigned for the maintenance of 41 pieced of equipment. In the past additional personnel have been available to assist in vehicle maintenance, but under the present conditions this is not possible. Two (2) additional wheel vehicle mechanics would alleviate this difficulty.

REMARK 10 - Presently authorized maintenance structure is not sufficient to maintain twenty-five (25) aircraft. The unit presently has fifteen (15) helicopters. Additional maintenance personnel will be required to support the increase in aircraft.

REMARK 11 - The unit has six (6) fuel tankers assigned and only four (4) drivers authorized in the Service Section to operate the vehicles. Due to stationing of the fuel tankers at distant locations to support operational missions it is necessary to provide operators for all vehicles.

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Appendix 2
ANNEX H

ACTIV-AM
SUBJECT: Monthly Test Report Number 2 — OPENAH

Appendix 3 to ANNEX H

TEXT OF LETTER OF 31 OCTOBER 1961 FROM HEADQUARTERS U. S. ARMY, RYUKYU ISLANDS, APO 331, THROUGH COMMANDING GENERAL, IX CORPS, APO 49, TO COMMANDING OFFICER, U. S. ARMY UTILITY-TACTICAL TRANSPORT HELICOPTER COMPANY, APO 331, AND COMMANDING OFFICER, SPECIAL TROOPS, APO 331.

RID-SE

SUBJECT: Authority for T/E 80-12 Equipment

1. References:

a. Par 15.1, AR 725-5

b. Ltr UTT Helicopter Co, 13 Sep 61, subject: Review, Recapitulation and Change of T/E 80-12.

c. Ltr RID-SE, this headquarters, 6 Jun 61, subject: Equipment in Excess of Allowances.

2. Items in inclosures will be processed for inclusion in Sections II and III, T/E 80-12, within 180 days.

3. This letter is authority for requisitioning or retention of the items under provisions of ref a.

4. Ref c is rescinded.

FOR THE COMMANDER:

/s/Bruce A. Young
/t/BRUCE A. YOUNG
1st Lt, AGC
Asst Adjutant General

10 Incl (Dup)
* * * * *
10. Transportation Control List Major Items

- -

Inclosure #10. Transportation Control List Major Items

Line Item Nr	Item, basis of issue, and remarks	Allowance
* * * * * * *	* * * * * * * * * * * * * * * * *	* * * * *
732600	Helicopter, utility	
	Per USARYIS Flt Sec	1
	Per UTT Hel Co	25
* * * * * * *	* * * * * * * * * * * * * * * * *	* * * * *

Appendix 3
ANNEX H

ACTIV-AM
SUBJECT: Monthly Test Report Number 2 -- Armed Helicopters (C)

Appendix 4 to ANNEX H

RECOMMENDED AUGMENTATION FOR FOUR-PLATOON OPERATIONS
(Order of magnitude proposed by ACTIV)

MOS	IDENT		(*) AUTHORIZED PLUS REQUESTED AUGMENTATION	(#) ADDITIONAL AUGMENTATION PROPOSED	TOTAL
01981	O	Platoon commander (rated)	3	1	4
062B	WO	Rotary wing aviator	28	5	33
111.10	EM	Light infantry weaponsman	25	3	28
675.60	EM	Crew chief	25	3	28
670.00	EM	Light vehicle driver	5	1	6

Note (*) - This column includes TD authorization plus augmentation requested in November 1962 (Appendix 2).

(#) - This column shows additional personnel recommended by ACTIV for four-platoon operations.

Appendix 4
ANNEX H

ACTIV-AM
SUBJECT: Monthly Test Report Number 2 — Armed Helicopters (C)

ANNEX I — Objective 9

1. (C) Objective: "To determine logistical problems".

2. (C) Discussion:

a. The number of spare aircraft per platoon, especially under conditions where platoons must operate independently and away from maintenance facilities, and where the possibility of interchange of spare aircraft among platoons may be limited, requires further study. If the feasibility of a larger number of spare aircraft is demonstrated, the logistical strain of keeping five aircraft per platoon in the air daily may be reduced.

b. A better helicopter availability rate was maintained during this reporting period than during the first month of testing. This resulted from:

(1) Cannibalization of UH-1A's belonging to lower priority units and use of the parts in UH-1A's of the UTTCO.

(2) Receipt of UH-1B's; these aircraft were accompanied by a supply of spare parts.

c. It is doubtful that the present availability rate can be maintained. The supply system is not responsive to requirements for aircraft parts. As the initial supply of UH-1B parts is consumed, the over-all availability rate for UTTCO helicopters can be expected to drop unless more responsive supply action is attained in the near future.

d. Logistical problems associated with the UH-6 system have not yet been revealed. Data collection has begun; data will be presented in the next monthly report.

e. The UTTCO has been able to acquire only 21 of the 47 mechanics' tool sets that are authorized.

3. (C) Findings:

a. The ratio of spares to flyable aircraft needs further study; this can best be accomplished if the number of helicopters authorized for the test unit is increased from 25 to 28.

b. Logistical support is not responsive to the needs of the UTTCO.

ACTIV-ARA
Monthly Test Report Number 2 -- Armed Helicopter (C)

ANNEX J -- Objective 10.

1. (C) Objective.

"To determine a day of supply for ammunition by type."

2. (C) Discussion.

a. Appendix 1 shows ammunition expended during the reporting period, a computed rate of expenditure, and a derived day of supply by ammunition type.

b. Expenditure of ammunition by type will continue to change as UH-1A's are replaced by UH-1B's.

c. The expenditure for a given type of ammunition is computed by use of the formula RE/GTD = ER, where "RE" = "number of rounds expended," "GTD" = "gun or tube days," and "ER" = "expenditure rate per gun or tube per day of engagement." GTD is computed by multiplying the number of days on which ammunition of a given type was expended by the number of guns or tubes using that type.

d. The "day of supply" has been arrived at by dividing the total monthly expenditure of a given type of ammunition by the product of the number of days in the month (30) and the number of guns or tubes that use that type of ammunition. The resulting figures could prove misleading unless interpreted carefully and with full realization of the limited experience on which they are based.

3. Findings.

a. Expenditure of 2.75-inch rocket ammunition will continue to decline and 7.62-mm ammunition to rise as UH-1B's replace UH-1A's.

b. The day of supply figures shown in column 5 of Appendix 1 are considered to be unreliable because of the short period of time on which the computations are based.

ACTIV-AM
Monthly Test Report Number 2 -- Armed Helicopter (C)

Appendix 1 to ANNEX J.

AMMUNITION EXPENDITURES (15 November to 15 December 1962)

(1) TYPE OF AMMUNITION	(2) ROUNDS EXPENDED	(3) GUN/TUBE-DAYS	(4) EXPENDITURE RATE PER GUN/TUBE	(5) DAY OF SUPPLY PER GUN/TUBE
.30 caliber	5,100	36	1.1	5
7.62-mm	10,000	36	278	10
2.75" rkt	127	352	.36	1

NOTE: The above ammunition was expended in a test situation in the counter-insurgency environment of South Vietnam under specific rules of engagement. It is not suggested that these data are valid for other situations.

Appendix 1
ANNEX J

ANNEX K -- Definitions.

For the purposes of this report, the following definitions apply.

a. "Mission" denotes a complete tactical operation. The mission begins when the armed helicopters depart from their base of operation, continues as long as there is a requirement for armed escort or other type of support, and ends when the helicopters return to their base of operation.

b. "In-flight formation" refers to the distribution of and interval between armed helicopters in flight.

c. "Sortie" denotes the operational flight of one armed helicopter providing escort from Point A to Point B and back. If the flight continues from B to Point C and is a continuation of the mission, then this flight, too, is a sortie. Example: One armed helicopter's flight from the loading area to landing zone and back constitutes one sortie; if the flight continued from the first landing zone to a second landing zone and back, the total flight would constitute two sorties.

ACTIV-AM
Monthly Test Report Number 2 - Armed Helicopters (C)

ANNEX L - Daily mission statistics.

1. Monthly Test Report Number 1 contained no daily mission statistics. Figures for both months of testing are included in this report.

2. Statistics were obtained from pilot debriefings and mission summaries. They are presented in the following appendices:

Appendix 1 - Aircraft-Sorties-Hours (16 October - 14 November 1962).

Appendix 2 - Target-Ammunition-Results (16 October - 14 November 1962).

Appendix 3 - Aircraft-Sorties-Hours (15 November - 15 December 1962).

Appendix 4 - Target-Ammunition-Results (15 November - 15 December).

ANNEX L

APPENDIX 1, ANNEX L, Daily Mission Statistics (C)

AIRCRAFT - SORTIES - HOURS
(16 Oct 62 - 14 Nov 62)

DATE:	16 OCT	16 OCT	22 OCT	20 OCT	23 OCT	25 OCT	21 OCT	22 OCT	23 OCT	24 OCT	31 OCT	1 NOV
MISSION #	1	2	3	4	5	6	7	8	9	10	11	12
UH-1A's	5	4	5	5	5	5	5	5	5	4	5	5
UH-1B's	0	0	0	0	0	0	0	0	0	0	0	0
C/S HOURS	15	13	12	19	21	31	24	19	15	21	24	31
UH-1 SORTIES	30	12	0	24	25	36	30	10	25	20	20	30
CH-21's	15	15	0	15	10	9	16	7	9	9	8	12
CH-21 SORTIES	90	45	0	60	60	63	90	21	27	36	32	50
CH-34's	0	0	0	0	0	0	0	0	0	0	0	0
CH-34 SORTIES	0	0	0	0	0	0	0	0	0	0	0	0
LANDING ZONES	1	13	0	1	5	4	6	2	4	2	3	5
EAGLE FLIGHT	0	0	0	0	0	0	3	2	0	1	1	0
MEDICAL EVACUATION	0	0	0	0	0	0	0	0	0	0	0	0
PRISONER PICKUP	0	0	0	0	0	0	0	0	0	0	0	0
MISSION DURATION HOURS	7	6	0	9	9	11	12	9	8	9	7	10

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Appendix 1
ANNEX L

APPENDIX 1, ANNEX L, Daily Mission Statistics (cont'd) (C)

AIRCRAFT - SORTIES - HOURS
(16 Oct 62 - 14 Nov 62)

DATE:	2 NOV	3 NOV	5 NOV	6 NOV	7 NOV	8 NOV	9 NOV	10 NOV	11 NOV	12 NOV	13 NOV	14 NOV	TOTALS
MISSION #	13	14	15	16	17	18	19	20	21	22	23	24	24
UH-1A's	6	5	2	6	5	4	6	4	6	5	5	5	112
UH-1B's	0	0	0	0	0	0	0	0	0	0	0	0	0
C/S HOURS	39	25	9	32	25	18	16	15	17	22	29	22	525
UH-1 SORTIES	36	38	4	49	40	8	12	14	42	27	36	28	504
CH-21's	15	10	2	10	16	5	15	5	16	16	16	16	247
CH-21 SORTIES	75	50	4	60	64	30	30	22	64	64	90	52	1183
CH-34's	0	0	0	0	0	0	0	0	0	0	0	0	0
CH-34 SORTIES	0	0	0	0	0	0	0	0	0	0	0	0	0
LANDING ZONES	8	10	3	7	8	2	2	4	2	5	8	3	99
EAGLE FLIGHT	3	3	0	1	0	0	0	0	0	2	1	0	17
MEDICAL EVACUATION	0	1	0	0	0	0	0	0	0	0	1	0	3
PRISONER PICKUP	0	0	0	0	0	0	0	0	0	0	0	0	0
MISSION DURATION HOURS	12	10	9	10	11	8	5+	7+	10+	9+	12+	10+	202+

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Appendix 1
ANNEX L

APPENDIX 2, ANNEX L, Daily Mission Statistics

TARGET - AMMUNITION - RESULTS
(15 Oct 62 - 14 Nov 62)

MISSION:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
NO. OF TARGET ENG. CREWMEN INSURGENT POSITION: (a)	1	1	0	0	1	4	6	2	0	0	0	0	3	3	16 OCT
OPEN FIELD	0	0	0	0	0	X	X	X	0	0	0	0	X	0	
TREES & WOOD LINE	X	X	0	0	X	X	X	X	0	0	0	0	X		
BUILDINGS	0	0	0	0	0	X	X	X	0	0	0	0	C		
BOATS	0	0	0	0	0	0	0	0	0	0	0	0	0	X	
ROUNDS EXPENDED															
.30 Cal.	4900	7400	0	0	2200	5230	9950	0	0	0	0	1430	2950	0	
7.62 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2.75" ROCKET	42	58	0	0	14	65	19	0	0	0	0	0	NF	165	
TYPE OF FIRE (INSURGENT)															
RIFLE	X	X	0	X	X	X	X	0	0	0	0	0	X	X	
AUTO. WPN.	X	X	0	0	X	X	X	0	0	0	0	0	X	X	
OBSERVED INSURGENTS & FIRE	0	50	0	0	15	25	15	0	0	0	0	0	10	20	
OBS'D. FIRE ONLY	X	0	0	0	0	0	0	0	0	0	0	0	0	0	
INSURGENT EST. CASUALTIES	0	40	0	0	6	16	25	0	0	0	0	0	12	25	
US CASUALTIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
UH-1 HITS (b)	0	0	0	0	1	1	1	0	0	0	0	0	1	2	

NOTES: (a) Insurgent positions indicated by X.
(b) See Annex O, Aircraft Damage Reports.

APPENDIX 2
ANNEX L

APPENDIX 2, ANNEX L, Daily Mission Statistics (Cont'd)

TARGET - AMMUNITION - RESULTS
(15 Oct 62 - 14 Nov 62)

DATE:	5 NOV	6 NOV	7 NOV	8 NOV	9 NOV	10 NOV	11 NOV	12 NOV	13 NOV	14 NOV	TOTALS
MISSION:	15	16	17	18	19	20	21	22	23	24	24
NO. OF TARGET ENGAGEMENTS	0	3	1	0	0	0	1	2	2	0	29
INSURGENT POSITION: (a) OPEN FIELD	0	X	0	0	0	0	0	X	X	0	7
TREES & WOOD LINE	0	X	X	0	0	C	0	X	X	0	10
BUILDINGS	C	0	0	0	0	0	X	0	0	0	0
BOATS	C	0	0	0	0	0	X	0	0	0	2
ROUNDS EXPENDED											
30 CAL	0	1140	10	0	0	0	1090	300	1400	0	38000
7.62 MM	0	0	0	0	0	0	0	0	0	0	0
2.75" ROCKET	0	38	0	0	0	0	33	2	46	0	165
TYPE OF FIRE (INSURGENT)											
RIFLE	0	X	0	0	0	0	X	X	X	0	10
AUTO. WPN.	0	0	0	0	0	0	X	X	X	0	5
OBSERVED INSURG-ENTS & FIRE	0	15	0	0	0	0	4	2	6	0	160
OBSVD. FIRE ONLY	0	0	0	0	0	0	X	X	X	0	4
INSURGENT EST. CASUALTIES	0	3	0	0	0	0	2	2	3	0	12+
US CASUALTIES	0	0	0	0	0	0	0	0	0	0	1 KIA
UNIT HITS (b)	0	0	0	0	0	0	0	0	0	0	5

NOTES: (a) Insurgent positions indicated by X.
(b) See Annex O, Aircraft Damage Reports.

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APPENDIX 2
ANNEX L

APPENDIX 3, ANNEX L, Daily Mission Statistics

AIRCRAFT - SORTIES - HOURS
(15 Nov 62 - 15 Dec 62)

DATE	MISSION #	UH-1A's	UH-1B's	C/S MOVES	UH-1 SORTIES	CH-21's	CH-21 SORTIES	CH-34's	CH-34 SORTIES	HANDLING ZONES	Armed FLIGHT	MEDICAL EVACUATION	PRISONER PICKUP	MISSION DURATION HOURS
15 NOV	25	5	0	29	44	16	160	0	0	8	2	0	0	13
16 NOV	26	5	0	16	25	16	96	0	0	6	0	0	0	10
20 NOV	27	6	0	21	14	40	42	0	0	2	0	0	1	12
22 NOV	28	6	1	33	13	30	75	10	40	2	0	0	0	12
23 NOV	29	2	1	6	12	7	20	0	0	4	0	0	0	4
24 NOV	30	6	0	21	12	20	40	0	0	2	0	0	0	6
27 NOV	31	5	1	16	7	30	45	10	10	1	0	0	0	11
29 NOV	32	4	1	14	15	21	48	0	0	1	0	0	0	10
5 DEC	33	6	0	23	22	10	60	0	0	3	0	0	0	11
6 DEC	34	4	2	25	35	20	40	4	4	5	2	0	0	12
7 DEC	35	5	0	24	37	16	96	0	0	5	1	0	0	12
8 DEC	36	4	2	37	34	10	60	0	0	4	1	0	0	10
9 DEC	37	4	2	22	21	8	32	0	0	3	1	0	0	9
10 DEC	38	4	2	24	35	20	100	0	0	5	2	0	0	10
12 DEC	39	5	0	17	20	10	30	0	0	2	0	0	0	6
14 DEC	40	2	0	17	24	12	48	0	0	4	0	0	0	10
15 DEC	42	5	0	10	20	2	4	0	0	2	0	0	0	4
TOTAL	17	78	16	376	391	288	996	14	40	59	9	0	2	162

Appendix 3
ANNEX L

TARGET - AMMUNITION - RESULTS
(15 Nov 62 - 15 Dec 62)

MISSION:	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	TOTALS
DATE:	15 NOV	16 NOV	20 NOV	22 NOV	23 NOV	24 NOV	27 NOV	29 NOV	5 DEC	6 DEC	7 DEC	8 DEC	9 DEC	10 DEC	12 DEC	14 DEC	15 DEC	
NO. OF TARGET ENGAGEMENTS	0	0	0	0	2	0	0	1	0	3	1	5	3	3	0	0	0	16
INSURGENT POSITION: (a)																		
OPEN FIELD	0	0	0	0	0	0	0	0	0	X	X	X	X	X	0	0	0	6
TREES & WOOD LINE	0	0	0	0	X	0	0	X	0	0	0	0	X	0	0	X	0	4
BUILDINGS	0	0	0	0	X	0	0	0	0	0	0	0	0	0	0	0	0	1
BUNKERS	0	0	0	0	0	0	0	0	0	0	0	X	X	X	0	0	0	3
ROUNDS EXPENDED																		
30 CAL	0	0	0	0	1000	0	0	0	0	1000	30	1370	600	1000	0	0	0	5100
7.72 MM	0	0	0	0	1000	0	0	0	0	2000	0	5000	1000	1000	0	0	0	10000
2.75" ROCKET	0	0	0	0	39	0	0	4	0	25	0	20	7	32	0	0	0	127
TYPE OF FIRE (INCLUDING HIT)																		
RIFLE	0	0	0	0	0	0	0	X	0	0	X	X	0	0	0	0	0	4
AUTO. WPN.	0	0	0	0	X	0	0	0	0	X	0	X	X	0	0	X	0	3
(OBSERVED) INSUR-GENTS & FIRE	0	0	0	0	10	0	0	3	0	7	10	5	9	6	0	1	0	51
(OBSVD. FIRE ONLY	0	0	0	0	0	0	0	0	0	0	0	0	0	X	0	0	0	1
INSURGENT EST. CASUALTIES	0	0	0	0	3	0	0	4	0	7	3	5	4	3	0	0	0	29
US CASUALTIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UH-1 HITS (b)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NOTES: (a) Insurgent positions indicated by X.
(b) See Annex O, Aircraft Damage Reports.

ACTIV-AM
SUBJECT: Monthly Report Number 2 -- Armed Helicopters (C)

ANNEX K -- Aircraft and armament systems.

The UH-1 is a utility type helicopter of compact design featuring a low silhouette. Improved positioning of instruments and controls permits long periods of flight without undue pilot fatigue. Equipped with a free-turbine engine that has excellent power response, the helicopter has good agility and maneuverability and is well-adapted to "nap-of-the-earth" flight. The A-model, with which the UTTCO was originally equipped, is being replaced by the B-model.

1. Military characteristics

	UH-1A	UH-1B
Length with blades unfolded	52' 10"	53'
Fuselage length	39' 6+"	39' 6+"
Main rotor diameter	43' 9"	44'
Total seating capacity (including pilot)	Nine	Seven
Litter capacity	Two	Two
Empty weight (pounds)	4100	4461
Maximum gross weight (pounds)	7200	8500
Internal useful load (pounds)	1928	2115
External hook capacity (pounds)	3000	4000
Maximum speed (knots)	105	120
Maximum range (nautical miles) at maximum gross weight	116	171
Engine	T53-L-1A 760 hp	T53-L-9 1100 hp
Communications, UHF	AN/ARC-55B	AN/ARC-55B
FM	AN/ARC-44	AN/ARC-44
Intercom	AN/AIC-12	AN/AIC-12
VHF	None	AN/ARC-73
Navigation, radio compass	Yes	Yes
Omni receiver set	No	Yes
marker beacon	Yes	Yes

A wide cargo-passenger compartment with large cubic foot volume permits the helicopter to be used to transport personnel or equipment and supplies, for medical evacuation and emergency ambulance service, and as an instrument trainer. In the B-model, external cargo can be carried by means of a short, single-cable suspension unit secured to the primary structure at the center of gravity. The advanced design of the UH-1 contributes to ease of maintenance and a high degree of reliability.

2. Armament systems:

a. The UH-1A illustrated in photograph 1 is equipped with two fixed, 2.75-inch rocket pods, each containing eight tubes. The pods, mounted one on each skid, can be fired in pairs (one left and one right) or in a ripple. In addition, one caliber .30 fixed machine gun is mounted on each skid; 5000 rounds of machine gun ammunition are carried internally. Flank and rear security are provided by gunners stationed in the doors armed with hand-held automatic weapons.

Page 1
ANNEX 1

ACTIV-41
SUBJECT: Monthly Test Report Number 2 -- Armed Helicopter (C)

ANNEX M -- Aircraft and armament systems (continued)

b. The UH-1B has a universal wiring system and structural "hard points" which allow installation of one of three primary weapons systems:

(1) XM-6 quad, 7.62-mm, flexible machine gun system mounted externally, two guns on either side of the aircraft (see photographs 2-4). The guns are aimed by a gunner in the cockpit through a remote sight linked electrically to the guns; they may also be fired by the pilot if the guns are in the stowed position (i.e., pointed straight ahead).

(2) XM-3 rocket system consisting of two, externally-mounted pods, one on each side of the aircraft. Each pod contains twenty-four 2.75-inch rockets. (This system is not yet available in South Vietnam).

(3) SS-11 anti-tank guided missile system consisting of six, externally-mounted missiles, three on each side of the aircraft. (This system is not yet available in South Vietnam).

c. Locally-fabricated, 6-rocket pods for 2.75-inch rockets are being developed for local test as a supplement to the XM-6 system. (See photograph 5).

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ANNEX M

ACTIV-UH
SUBJECT: Monthly Report Number 2 -- Armed Helicopters (C)

Photograph 1, ANNEX H

UH-1A WITH JURY-RIGGED WEAPONS SYSTEMS. One fixed, caliber .30 machine gun is mounted on each skid; these guns are manually charged and electrically fired; 5000 rounds of ammunition is carried in boxes in the gunners' compartment. One 8-tube cluster of 2.75-inch rockets is mounted on each skid; an intervolometer in the cockpit permits rippling the rockets in a selected timing sequence in any quantity from two to 16. Both systems are fired by the pilot. Two gunners with hand-held automatic weapons provide flank and rear security.

Photograph 1
ANNEX I

Photograph 1
ANNEX I

ACTIV-iM
SUBJECT: Monthly Test Report Number 2 -- Armed Helicopters (C)

Photograph 2, ANNEX M

UH-1B WITH XM-6 SYSTEM. The system consists of four M-60, 7.62-mm machine guns, two on each side of the aircraft; a mechanism to manipulate the guns; and a reflex sight mounted in the cockpit. A basic load of 6000 rounds of ammunition is carried internally. The right-hand guns are pictured above in the stowed position -- pointed straight ahead.

Photograph 2
ANNEX M

Photograph 2
ANNEX M

ACTIV-M
SUBJECT: Monthly Test Report Number 2 -- Armed Helicopters (C)

Photograph 3, ANNEX M

UH-1B WITH M-6 SYSTEM. Here the left-side guns are at maximum outboard traverse of 70 degrees. Maximum inboard traverse is 12 degrees. Guns automatically stop firing when traversed to the maximum inboard position.

Photograph 3
ANNEX M

Photograph 3
ANNEX M

ACTIV-AM
SUBJECT: Monthly Test Report Number 2 — Armed Helicopters (C)

Photograph 4, ANNEX M

UH-1B WITH XM-6 SYSTEM. Here the guns are at maximum depression of 60 degrees below the horizontal.

Photograph 4
ANNEX I.

Photograph 4
ANNEX I

ACTIV-AM
SUBJECT: Monthly Test Report Number 2 — Armed Helicopters (C)

Photograph 5, ANNEX M

UH-1B WITH XM-6 SYSTEM AND JURY-RIGGED ROCKETS. The rocket system provides one 6-rocket cluster on each side of the fuselage. Clusters are attached to the aircraft universal mounts; they do not inhibit the flexibility of the XM-6 system. Rockets are fired from the cockpit by the pilot.

Photograph 5
ANNEX M

Photograph 5
ANNEX M

ACTIV-AM
Monthly Test Report Number 2 -- Armed Helicopters (C)

ANNEX N — Aircraft status report.

See next two pages.

ANNEX N

ANNEX N, Aircraft Status Report; 16 November - 15 December 1962.

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DATE: NOVEMBER	16	17	18	19	20	21	22	23	24		25		26		27		28		29		30	
1. ASSIGNED (a)	15	15	15	15	15	15	15	15	19b		17		17		17		17		17		17	
2. OTHER (b)	1	2	2	2	2	2	2	2	2		0		0		0		0		0		0	
3. ON HAND (c)	14	13	13	13	13	13	13	13	17		17		17		17		17		17		17	
									A	B	A	B	A	B	A	B	A	B	A	B	A	B
4. FLYABLE (d)	6	5	5	5	6	6	8	8	6	1	7	3	6	3	8	4	5	4	5	3	6	3
5. NON-FLYABLE	8	8	8	8	7	7	5	5	7	3	6	1	7	1	5	0	8	0	8	1	6	2
6. ORG MAINT	2	1	1	1	0	1	2	2	1	1	1	0	2	0	1	0	3	0	3	1	2	2
7. FIELD MAINT	1	2	2	2	1	0	2	2	6	2	5	1	5	1	2	0	3	0	3	0	2	0
8. E.D.P.	5	5	5	5	6	6	1	1	0	0	0	0	0	0	2	0	2	0	2	0	2	0
9. % AVAILABLE (e)	43	38	38	38	46	46	61	61	41		59		53		70		53		41			
10. % UH-1A AVAILABLE	43	38	38	38	46	46	61	61	46		55		46		61		38		38		38	
11. % UH-1B AVAILABLE	-	-	-	-	-	-	-	-	25		75		75		100		100		75		100	

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NOTES:

(a) First shipment of UH-1B arrived and assigned to the UTT Co 24 November 1962.
(b) Row 2 represents crashed aircraft not available for missions. Aircraft still assigned, but not included in row 9 (aircraft availability percentages).
(c) Row 3 is total of rows 4 and 5.
(d) In rows 4 through 8, both A and B models are shown.
(e) Aircraft availability percentages are derived from a ratio of rows 3 and 4.

ANNEX N, (Cont'd)

DATE: DECEMBER	1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		DAILY AVG	
1. ASSIGNED	17		17		17		17		17		24		24		24		24		24		24		24		24		24		24		18	
2. OTHER	0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		-	
3. ON HAND	17		17		17		17		17		24		24		24		24		24		24		24		24		24		24		18	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
4. FLYABLE	5	3	5	4	7	3	8	2	8	3	10	8	9	9	8	8	8	8	8	10	8	10	7	6	9	9	9	9	10	9	7	5.5
5. NON-FLYABLE	8	1	8	0	6	1	5	2	5	1	3	3	4	2	5	3	5	3	5	1	5	1	6	5	4	2	4	2	3	2	5	1.7
6. ORG MAINT	3	1	3	0	2	1	1	2	1	1	1	2	1	1	0	2	0	2	1	0	0	0	3	4	3	1	1	1	2	1	1	.2
7. FIELD MAINT	3	0	3	0	2	0	2	0	1	0	1	0	2	0	4	0	4	0	3	0	4	0	2	0	0	0	2	0	0	0	3	.3
8. E.D.P.	2	0	2	0	2	0	2	0	2	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	.5
9. % AVAILABLE	41		53		53		53		64		75		75		67		67		75		75		54		75		75		79		57%	
10. % UH-1A AVAILABLE	38		39		54		61		61		76		69		61		61		61		61		54		69		69		69		53%	
11. % UH-1B AVAILABLE	75		100		75		50		75		73		88		73		73		90		90		55		90		90		90		77%	

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AETIV-AH
Monthly Test Report Number 2 -- Armed Helicopters (C)

ANNEX O -- Ground fire damage reports.

1. Reports of ground fire damage suffered by UH-1 helicopters during the initial test reporting period are attached.

2. No UH-1's were hit by fire during the period 15 November - 15 December 1962.

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GROUND FIRE DAMAGE REPORT
(RCS 8-J3 (T)(C)

1. Id of unit USA Utility Tactical Transport Helicopter Company

2. Type acft and serial number HU-1A 59-1687

3. Pilot's name and rank Keith J. Rynott, Capt.

4. Date of mission 21 October 1962

5. Type of mission ARVN Combat Opns (Support ARVN Combat Opns, Resupply, Tng, other)

6. Description of conditions at time ground fire was received:

   a. altitude Unknown

   b. airspeed in knots Unknown

   c. heading in degrees Unknown

   d. _____ position in formation of 1 of 2 acft

   e. visibility or obstruction to visibility NONE

   f. type of formation (trail, echelon. Vee, right, left, other) UNKNOWN

   g. This was the Unk pass thru same area during mission. (Unknown)

7. Source of grnd fire was [redacted] observed.

8. If source was observed or can be estimated, complete following:

   a. direction of source: Unknown o'clock (12 o'clock - direction of flight)

   b. general description of source or terrain at source:

   c. range to source in meters Unknown

   d. type weapon Unknown

9. If fire was returned, what was result? 5 KIA's, 10 WIA's

10. Summary of structural damage and/or casualties received: One ragged hole, size of quarter. One ragged hole size of pencil eraser, left synchronizer elevator sta #336.

11. Remarks: It is not known if the damages were incurred while engaging the targot or later in the mission, as no impact was felt. Damage was discovered during the post flight inspection.

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ANNEX O

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GROUND FIRE DAMAGE REPORT

1. Id of unit 2nd Airlift Plt. UTT HEL CO

2. Type acft and serial number HU-1A 59-1695

3. Pilot's name and rank Heck, Cleatus L. CWO W-2

4. Date of mission 23 October 1962

5. Type of mission Support ARVN Combat Opns

6. Description of conditions at time ground fire was received:

   a. altitude 50 ft

   b. airspeed in knots 70

   c. heading in degrees 350
   Right flank guard in Flt of 10 H-21's and 5 HU-1A's

   d. _____ position in formation of _____ acft

   e. visibility or obstruction to visibility None

   f. type of formation (trail, echelon. Vee, right, left, other)
   H-21 in staggered trail, HU-1A Flank Guards

   g. This was the 2nd pass thru same area during mission.

7. Source of grnd fire was ~~XXXXXX~~ observed.

8. If source was observed or can be estimated, complete following:

   a. direction of source: 10 o'clock (12 o'clock - direction of flight)

   b. general description of source or terrain at source: Pineapple fields & Hedge rows.

   c. range to source in meters 150

   d. type weapon Automatic Carbine

9. If fire was returned, what was result? Three (3) known dead and complete route of running Viet Cong.

10. Su mary of structural damage and/or casualties received: One round entered left side of the A/C at Sta #145, severed stand by Gen Cable, Fire Detection wire then entered eng oil cooler fan where bullet was recovered, two rounds passed through open cargo compartment and struck No. 2 rocket on the R/H side of A/C Sta#120, A fire resulted from this. 2 each rocket tubes were burned beyond reuse.

11. Remarks: None

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ANNEX O

CONFIDENTIAL

GROUNDFIRE DAMAGE REPORT

1. Id of unit UTT HELICOPTER COMPANY

2. Type acft and serial number UH-1A

3. Pilot's name and rank Hanson, Gerald H., Captain

4. Date of mission 25 October 1962

5. Type of mission Support ARVN combat operations

6. Description of conditions at time groundfire was received:

   a. altitude 20 feet

   b. airspeed in knots 40

   c. heading in degrees 30

   d. NA position in formation of NA acft

   e. visibility or obstruction to visibility None

   f. type of formation (trail, echelon, Vee, right, left, other) NA

   g. This was the Unk pass thru same area during mission.

7. Source of grnd fire was [redacted] observed.

8. If source was observed or can be estimated, complete following:

   a. direction of source: 6 o'clock (12 o'clock - direction of flight)

   b. general description of source or terrain at source: Rice Paddy

   c. range to source in meters 50

   d. type weapon rifle

9. If fire was returned, what was result? H-21 forced down by mechanical failure landed in a rice paddy very close to a squad of insurgents. An armed helicopter immediately went to the scene to protect the crew. The VC opened fire fire on the H-21 hitting it several times. The UH-1 opened fire, dispersed the squad into a wooded area and patrolled the area until a ground party arrived. It was in this exchange of fire that the UH-1 was hit.

10. Summary of structural damage and/or casualties received: Bullet passed through the tail pylon missing the 42 gear box, and drive shaft.

11. Remarks: None

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ANNEX O

GROUND FIRE DAMAGE REPORT

1. Id of unit USA U.T HEL CO

2. Type acft and serial number UH-1A 59-1690

3. Pilot's name and rank Wright, Richard W., CWO-2 Mayville, Michael V, CWO-2

4. Date of mission 3 November 1962

5. Type of mission Support ARVN Combat Troops

6. Description of conditions at time ground fire was received:

   a. altitude 150

   b. airspeed in knots 50

   c. heading in degrees _____

   d. _____ position in formation of Unk acft

   e. visibility or obstruction to visibility None

   f. type of formation (trail, echelon, Vee, right, left, other) Left Flank support N LZ

   g. This was the 2nd pass thru same area during mission.

7. Source of grnd fire was not observed

8. If source was observed or can be estimated, complete following:

   a. direction of source: Unk o'clock (12 o'clock - direction of flight)

   b. general description of source or terrain at source: Wooded Area

   c. range to source in meters 50 (approx)

   d. type weapon Automatic weapon

9. If fire was returned, what was result: Fire not returned.

10. Summary of structural damage and/or casualties received: 1 round through bottom of A/C, Rt side just fwd of transmission Fwd bulkhead, struck Crew Chief in right leg. Crew Chief died a short time after Rt to field.

11. Remarks: None

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GROUND FIRE DAMAGE REPORT

1. Id of unit USA UTT MEL CO

2. Type acft and serial number UH-1A 59-1683

3. Pilot's name and rank STEINE, JOEL H. Captain

4. Date of mission 3 Nov 62

5. Type of mission Support ARVN Combat Troops

6. Description of conditions at time ground fire was received:

   a. altitude 200 150

   b. airspeed in knots 50 70

   c. heading in degrees Unknown

   d. NA position in formation of Two acft

   e. visibility or obstruction to visibility. None

   f. type of formation (trail, echelon. Vee, right, left, other) Left flank support for LZ.

   g. This was the 1st pass thru same area during mission.

7. Source of grnd fire was observed

8. If source was observed or can be estimated, complete following:

   a. direction of source: 9:00 o'clock (12 o'clock - direction of flight)

   b. general description of source or terrain at source: Wooded Area.

   c. range to source in meters 100

   d. type weapon Smooth bore firing 30 cal MG

9. If fire was returned, what was refult? Unknown results.

10. Summary of structural damage and/or casualties received: Picked up two hits 30 seconds apart, first in roof cutting several wires Station no 80. 2nd thru windshield and instrument panel Station no 20.

11. Remarks:

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ANNEX O

ANNEX P — Distribution of Report

Addressee	Nr. of copies
Commander, US Military Assistance Command, Vietnam (attention JOEG-V)	15
Commander-in-Chief, US Army Pacific	5
Commanding General, US Army Combat Developments Command	50
Commanding General, US Army Materiel Command	5
Commanding General, US Army Support Group, Vietnam	10
Chief, Military Assistance Advisory Group, Vietnam (attention Chief, Army Section)	10
Deputy Chief of Staff for Military Operations, Department of the Army	5
Deputy Chief of Staff for Logistics, Department of the Army	5
Deputy Chief of Staff for Personnel, Department of the Army	5
Chief of Research and Development, Department of the Army	5
ACTIV Liaison Officer, ODCSOPS, Department of the Army	25

ANNEX P