AD NUMBER: AD0387535
CLASSIFICATION CHANGES
TO: Unclassified
FROM: Confidential
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30 Nov 1969, Group 4, DoDD 5200.10; OAG D/A ltr dtd 29 Apr 1980

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DEPARTMENT OF THE ARMY
OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D.C. 20310

IN REPLY REFER TO
AGAM-P (M) (20 Feb 68) FOR OT RD-674061 23 February 1968

SUBJECT: Operational Report - Lessons Learned, Headquarters, 10th Combat Aviation Battalion, Period Ending 31 October 1967 (U)

TO: SEE DISTRIBUTION

1. Subject report is forwarded for review and evaluation by USACDC in accordance with paragraph 6f, AR 1-19 and by USCONARC in accordance with paragraph 6c and d, AR 1-19. Evaluations and corrective actions should be reported to ACSFOR OT RD within 90 days of receipt of covering letter.

2. Information contained in this report is provided to insure appropriate benefits in the future from Lessons Learned, during current operations, and may be adapted for use in developing training material.

BY ORDER OF THE SECRETARY OF THE ARMY:

C. A. STANFIEL
Colonel, AGC
Acting The Adjutant General

1 Incl
as

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Senior Army Representative, Marine Corps Development & Education Command

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DEPARTMENT OF THE ARMY
HEADQUARTERS, 10TH COMBAT AVIATION BATTALION
APO San Francisco 96377

OPERATIONAL REPORT LESSONS LEARNED

~~After Action Report "HONG KIL DONG"~~

~~Operations Order 32 - 67~~ — Withdrawn, Hqs, DA; published separately as CAAR #67X180.

~~Operations Order 31 - 67~~

~~After Action Report - Operation Aerial Support - Tuy Hoa~~ Withdrawn, Hqs, DA

Aircraft Revetments

Improved Miniport Equipment

Group 4
Downgraded at 3 year intervals,
declassified after 12 years.

FOR OTRO
67-061

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DEPARTMENT OF THE ARMY
HEADQUARTERS, 10TH COMBAT AVIATION BATTALION
APO 96377

AVGD-AE 15 November 1967

SUBJECT: Operational Report for Quarterly Period ending 31 October 1967 RCS CSFOR-65.

TO: See Distribution

SECTION: I Significant Organizational Activities

1. (C) GENERAL: The units assigned to the 10th Combat Aviation Battalion remained the same at the close of this period with the following exceptions:

a. In accordance with paragraph 1, General Orders 19, Headquarters 17th Combat Aviation Group, dated 23 August 1967, the 48th Assault Helicopter Company and the 129th Assault Helicopter Company were reassigned from the 10th Combat Aviation Battalion to the 268th Combat Aviation Battalion, effective 1 September 1967.

b. In accordance with paragraph 1, General Orders 227, and General Orders 226, Headquarters, United States Army Artillery and Missile Center, Ft Sill, Oklahoma, dated 17 November 1966, the 243rd Assault Support Helicopter Company with the 620th Transportation Detachment (cargo helicopter field maintenance) for support was activated effective 1 December 1966 at Ft Sill. The units arrived at Cam Ranh on 29 October 1967 and are assigned to the 10th Combat Aviation Battalion.[1]

c. LTC Eugene F Crooks continued to command the 10th Combat Aviation Battalion during this period. LTC Allen L Junko, assumed the duties of Deputy Commander for Support (DFS) on 11 September 1967 from LTC Billy G Estes. On 12 October 1967, the positions Deputy Commander for Support and Deputy Commander for Operations (DFO) were discontinued and the Battalion Executive Officer was reinstated. On this date the DFO, LTC Carl H Sawls, was transferred out of the battalion and LTC Junko assumed the duties of Executive Officer. Major Earl F Talley replaced Jack W Serig as S-1 on 18 October 1967.

d. Changes of Command within subordinate units during the reported were as follows:

(1) On 9 September 1967, Major John W Mayhew assumed command of the 281st Assault Helicopter Company from LTC Allen L Junko.

(2) On 30 September 1967, Major Travis L Walker relinquished command of the 117th Assault Helicopter Company to Major David G Jayne.

1. No orders of assignment have been published concerning these units at this date and actual assignment is per VOCO.

Group 4 Downgraded at 3 yr intervals, declassified after 12 years.

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(3) During a change of command ceremony conducted on 3 October 1967 at Phu Hiep RVN, Major Francis E Woith replaced LTC Wallace L Tate as Commanding Officer, 180th Assault Support Helicopter Company.

(4) Captain Donald M Dawkins assumed command of Headquarters, Headquarters Detachment, 10th Combat Aviation Battalion from Major Clancy J Faucheux on 23 October 1967.

2. (C) INTELLIGENCE: A Re-evaluation of the physical security plan at Dong Ba Thin was prompted by an increase of enemy activity in the area. The addition of the 243rd Assault Support Helicopter Company to the battalion and the imminent arrival of the 92nd Assault Helicopter Company, which is scheduled to arrive in Dong Ba Thin in November, has caused a reshuffle of perimeter responsibilities. At the close of this reporting period, considerable emphasis has been placed upon improving the passive defense posture. Construction of personnel bunkers, clearing fields of fire from guardposts as well as improving the existing posts have added immeasurably to the physical security of the area. Alert procedures have also been critically examined. Individual responsibilities for key personnel have been delegated and a more flexible and responsive reaction force has been developed.

3. (C) OPERATIONS AND TRAINING ACTIVITIES

a. Plans: At the close of this period, the 10th Combat Aviation Battalion is commanding and coordinating the missions of assigned units from its base camp at Dong Ba Thin, RVN. With the termination of Operation "HONG KIL DONG" on 31 August 1967, and the transfers of the 48th and 129th Assault Helicopter Companies on 1 September 1967, the remaining Vagabond members resumed their general support to the II Corps Tactical Zone, Coastal Region. The 117th Assault Helicopter Company has continued in this role since 1 May 1967, and provided continuing gunship support to Operation "PRAIRIE FIRE", an operation being conducted by the 5th Special Forces Group in Kontum. The 281st Assault Helicopter Company, in addition to its GS missions, provided direct support to Headquarters 5th Special Forces Group, "PROJECT DELTA". The 180th Assault Support Helicopter Company provided general support to the 9th (WHITE HORSE) Republic of Korea Infantry Division and the 173rd Airborne Brigade's Operation "BOLLING".

b. Operations: At the beginning of this period, the Vagabonds were midway through Operation "HONG KIL DONG", a joint operation involving the White Horse and Tiger Divisions (9th ROKA and Capital ROKA). This operation, conducted in the mountainous regions west-south-west of Tuy Hoa was highly successful and marked the end of an era for two of the origional Vagabond units. On 1 September 1967, after the forward TOC had closed out the operation and returned back to Dong Ba Thin, the 48th Assault Helicopter Company (BLUESTARS) and the 129th Assault Helicopter Company (BULLDOGS) were transferred out of the 10th Combat Aviation Battalion to the 268th Combat Aviation Battalion, now established at Phu Hiep RVN. This loss cut the strength of the 10th Battalion to two assault helicopter companies and one assault support helicopter company. Maximum dispersion of crews and aircraft throughout the II Corps Area was prevalent during the months of September and October. The 117th Assault Helicopter Company, at the close of this period, had aircraft located in Qui Nhon, Pleiku, Kontum, Phan Thiet and Nha Trang, furnishing support to DSA II Corps, IFFV and MAC-V Forces. The 180th Assault Support Helicopter Company, with its home base at Phu Hiep, had Big Windy aircraft flying in Ninh Hoa, Qui Nhon,

Dong Ba Thin and Pleiku supporting the 9th ROKA, 173rd Airborne Brigade and 4th Division. The 281st Assault Helicopter Company was concluding the latest of its Project Delta Operations and provided aircraft in Kontum and Qui Nhon in meeting its general support missions. On 12 October 1967, the advance party of the 243d Assault Support Helicopter Company arrived in Dong Ba Thin and a considerable amount of battalion activity was exerted in preparation for the arrival of the main body, and the eventual operational status planned for 23 November 1967.

(1) Operation "HONG KIL DONG". A final after action report on the operation was prepared and forwarded to higher headquarters.[2]

(2) Operations of the 281st Assault Helicopter Company: This period was characterized by the consolidation of the company's aircraft at Nha Trang for use in a general aviation support role. Support of the 5th Special Forces Group Detachment B-52 "Project Delta" continued as well as support to the MACV Recondo School Training Program. Missions in support of II Corps units provided an extensive exposure to new methods of aviation employment to the Mardi Gras crews.

(a) Project Delta (16 July - 16 Aug 67 SAMURAI I)

1 The second and third platoons supported the 5th Special Forces Group and "PROJECT DELTA" in a continuous operation which saw company aircraft working with US Marine Corps CH-46's and aircraft drawn from Task Force Oregon.[3] Long Range Reconnaissance Patrols (LRRP) were infiltrated and extracted in selected areas culminating in a battalion size combat assault of Civil Irregular Defense Group (CIDG) troops which netted thirteen NVA prisoners and provided vital information on enemy units and supply routes in the I Corps area.

2 The area of operations extended west of Da Nang

3 Statistical highlights

a	Tasks	819
b	Sorties	1655
c	Troops	1901
d	Cargo	34.5 tons
e	Hours	986

(b) Project Delta (15 September - 18 October SAMURAI II)

1 The second Project Delta in this reporting period was again centered in the I Corps area and provided extensive LRRP coverage despite adverse weather conditions. The operation was highlighted by an Eagle Flight on 27 September at My Hiep. The LLDB[4] troops inserted by company aircraft captured 40 prisoners and 1100 pounds of rice. The gun platoon claimed two enemy KBA. On 5 October, a combat assault was made on an area infiltrated by a Delta Project LRRP Team. Despite heavy enemy ground fire, the 5th LLDB Ranger Company was inserted in the landing zone without loss of aircraft or crews. The ranger company was extracted on 9 October after light contact with

2 After Action Report "HONG KIL DONG" attached as inclosure #1
3 Americal Division Operation in I Corps Area
4 LLDB Luc Lang Dac Biet - Vietnamese Special Forces Troops

scattered NVA elements. The Wolfpack was credited with one enemy KBA while suppressing the intensive enemy fire during the insertion.

2 The operation was conducted in an area southwest of Da Nang.

3 Statistical Highlights:

a	Tasks	722
b	Sorties	1505
c	Troops	1857
d	Cargo	53 tons
e	Hours	1062

4 Because of the inclement weather and the need for additional coverage, an extension of two weeks duration was ordered and designated "SAMURAI III".

(c) Project Delta (19 October - 31 October SAMURAI III)

1 This operation again was centered in the I Corps area and provided extensive LRRP coverage and multi-company sized assaults. On 20 October 1967, a reconnaissance team reported contact with NVA elements and were quickly reinforced with a platoon. They later came upon blood trails which led to several structures of enemy origin. A call to the Wolfpack brought rapid results as the gunships levelled the structures with deadly and accurate fire. On 21 October the Armed Platoon conducted a "Lightning Bug" operation between the hours of midnight and 0200. This night gunship attack annihilated three enemy structures.

2 The operation was conducted west of Da Nang

3 Statistical Highlights

a	Tasks	259
b	Sorties	544
c	Troops	1025
d	Cargo	8.3 tons
e	Hours	326.9[5]

(d) Support to the MACV Recondo School

1 The company's recondo qualified aircraft commanders and newly assigned aviators being trained in LRRP techniques, provided helicopter support for seven classes in the Nha Trang based MACV Recondo School. Support included training in the use of the McGuire Rig, rope ladder, and rapelling techniques. Several large troop lifts and five to eight LRRP insertions per class were also included.[6]

2 The Recondo TAOR includes the mountain area between Nha Trang and Soui Cat.

5 A more detailed report of these operations, classified SECRET, are on file at HQ, 5th Special Forces Group (ABN), Nha Trang, RVN.
6 A detailed account of the training provided is discussed in the 10th CAB ORLL for the quarter ending 30 April 1967.

3 Statistical Highlights

a	Tasks	160
b	Sorties	848
c	Troops	2287
d	Cargo	8 tons
e	Hours	193.0

(c) 5th Special Forces Group Project Prairie Fire (19 October -) This operation is presently in progress and significant highlights will be reported at a later date.

(3) Operations of the 180th Assault Support Helicopter Company.

(a) Upon completion of Operation "HONG KIL DONG" the 180th Big Windys again assumed the role of general support in the central highlands during September with a commitment varying from three to five aircraft throughout the month. With the arrival of the 173rd Abn Bde, in mid September, Operation "BOLLING" got underway in the Phu Hiep area. The 180th Assault Support Helicopter Company, using nine Chinooks, placed three batteries into position on the first day of the operation flying a record breaking 89.1 hours.

(b) The following is a recapitulation for the quarter:

1	Hours flown	3,252.7 (Avg 1,084.2 per month)
2	Sorties	1,7619
3	Troops	3,7506
4	Cargo	15,391.1 tons

(4) Operations of the 117th Assault Helicopter Company: Due to the importance of its present missions, the 117th Assault Helicopter Company was totally committed on combat assaults only twice during the reporting period On several occasions, however, smaller four or five ship CA's were conducted in the II Corps area. One was at Phu Tuc, RVN, in which 157 troops were extracted for the 5th Special Forces Group (Abn) by six UH-1D's with four escorting Sidewinder gunships. Three multi-ship LRRP insertions were also accomplished for the MACV Recondo School at Nha Trang. The two operations in which the entire company participated occurred in the Tuy Hoa Area and were in conjunction with protecting the rice harvests of the valley farmers. During most of the period, the 117th gunships were in Kontum in support of Operation "PRAIRIE FIRE" but did, during a brief respite, manage to inflict heavy casualties upon a Viet Cong battalion in the Tuy Hoa area on 6 and 7 September.[7] A more detailed report on Operation "PRAIRIE FIRE" will be forthcoming upon completion of the operation.

c. TRAINING

(1) 281st Assault Helicopter Company

a The hazardous and diffucult nature of the "Project Delta" mission has made it necessary that the majority of the pilots assigned to the second (Slick) and third (Gunship) platoons be the best qualified pilots in the company. The first platoon which provided aviation support for the MACV

7 An after action report on this is attached as inclosure #2.

Recondo School and the greater part of the various II Corps missions, has been designated as a training platoon. Newly assigned aviators are normally placed in the first platoon where they receive intensive instruction in LRRP techniques. Through the platoons continuing support of MACV Recondo School Program, these aviators rapidly develop the necessary skills in using rope ladders, McGuire rigs, electrical hoists and the techniques of infiltration and extraction of reconnaissance teams. Concurrently, the new aviator receives a general area education through participation in a variety of missions over all types of terrain through the various VIP, supply and combat assault operations included in the II Corps commitments. When considered qualified, the aviator is re-assigned to the second platoon for intensive Project Delta Operations training or to the third platoon for gunship tactics. Selected aircraft commanders are returned to the first platoon during their last few months in country to provide experienced instruction for aviator replacements and thereby complete a workable training cycle.

b In-country training has also been instituted to prepare incoming maintenance personnel for crew chief's positions. The 483rd Transportation Detachment (CHFM), attached to the 281st, has an established on-the-job training (OJT) program through which the newly assigned crew chief receives training within the detachments maintenance teams before being assigned to an aircraft. When a crew chief's position or slot, is vacated, the most qualified individual in the OJT program is selected to fill the position. This "Finishing Process" has substantially improved the quality of the 1st and 2nd echelon maintenance performed on the company's aircraft.

c ROKA Training - The 483rd Transportation Detachment has been conducting an "OJT" program for the Republic of Korea Field Forces Aviation Company, formed in Nha Trang in September, Four ROK Army crewchiefs were given advance training in direct support maintenance. From 15 September through 30 September, the aviation company's Maintenance Officer and Maintenance Sergeant were instructed in helicopter maintenance, scheduling, records and procedures.[8]

(2) The 160th Assault Support Helicopter Company.

As is evident with all the 10th Battalion units, this quarter was significant in that a hugh turnover in assigned personnel occurred. A considerable amount of time was devoted to orientation and in-country training concurrent with assigned combat missions. Special emphasis was placed on aerial classes devoted to sling load techniques. Do to the oncoming monsoon season, special attention has been given to familiarization of aviators with local approach facilities.

(3) The 117th Assault Helicopter Company.

1 Training of slick aviators has progressed normally with one exception. Newly rated aviators assigned to Vietnam appear to be generally less proficient in basic maneuvers than their counter-parts of several months ago. Maneuvers to include, lead, pinnacles, autorotations and confined area operations are poorly planned and, at times, poorly executed by the new aviators. A few are unable to properly perform normal or steep approaches with varying amounts of cross winds. Other problems include poor judgement, immaturity, and sometimes only a rudimentary understanding of military procedures and

8 The 10th CAB also provided OJT to ROKA aviators and crews which was discussed in the 10th CAB ORLL for the quarter ending 31 July 1967.

principles. Integration and training of these aviators are not considered problem at this time. As the time approaches to select aircraft commanders from these ranks, the problem at that time will be to find fully qualified aviators.

(4) In the battalion as a whole, training in all phases continued at an increased tempo primarily because of the huge turnover in personnel during this quarter. Additional training time has been devoted to basic fundamentals. The following is a breakdown of hours devoted to this area.[9]

1	Total training time	1868
2	Total night time	1033
3	Instrument training	609
4	Standardization	163

4. (C) LOGISTICS

a. Combat Support Activities.

The program to provide a large capacity, multi-aircraft, permanent refue... facility at Dong Ba Thin continues. An extensive construction request w... submitted through command channels on 24 September 1967. The request includ... a 30,000 gallon storage capacity, 350 GPM pump/separator system and 12 UH-1 refueling points. Using 2 UH-1 points, 3 CH-47 points are also included. With the arrival of the 243rd Assault Support Helicopter Company at the end of this quarter and the programmed arrival of the 92nd Assault Helicopter Company in November, Dong Ba Thin will house two assault helicopter companies and one assault support helicopter company. This permanent facility will greatly enhance operations. It will also free the TOE equipment now in use so that it may be maintained in a mission ready posture for field use.

b. Airmobile Maintenance Equipment

Several items of airmobile maintenance equipment[10] (Shop sets, mobilizors and fork lifts) are required to achieve 100% airmobility status in the 117th Assault Helicopter Company. A command letter was dispatched on 10 October 1967 requesting assistance in obtaining these items.

c. Post Development Activities

(1) The 10th Combat Aviation Battalion Tactical Operations Center (TOC) was completed and is operational at this time.

(2) Request for construction of ramp, revetments and hanger for the 243d Assault Support Helicopter Company was forwarded through command channels on 24 September 1967. As of this date, extension of the ramp has not begun and construction has not commenced on the hanger. Construction of the aircraft revetments was begun on 31 October 1967. They are to be completed prior to the arrival of the aircraft. Construction requests have been submitted and are still outstanding for the following buildings for the 243d: Operations, Tech Supply, Tech Supply Administration, Unit Vehicle Maintenance and an aircraft wash rack

9 Statistics compiled from training status quarterly report. It is based on quarter ending 30 September 1967 and projected through 31 October 1967.
10 A list of the airmobile equipment is provided in the 10th CAB ORLL for the quarter ending 30 Apr 67.

(3) Outstanding construction requests for two assault helicopter companies, the 117th and the 92nd, include the following buildings: Aircraft Maintenance Hanger, Unit Operations, Tech Supply, Tech Supply Administration and Unit Vehicle Maintenance.

(4) Permanent revetment construction at the Flanders Army Heliport is 92% complete. At the other two locations Nha Trang and Phu Hiep, a corresponding completion percentage has been realized. Problems arising in the discontinuance of engineer support, lack of funds and other higher priority considerations have precluded final completion of the revetment program. Difficulties with permanent revetments already constructed, have caused a re-evaluation of the basic design in an effort to water-proof them and to prevent the fill from seeping out.11

(5) A request for construction of a transient parking and cargo handling ramp for fixed wing aircraft at Dong Ba Thin Army Airfield, was forwarded through command channels on 12 October 1967. Following arrival of the 243rd Assault Support Helicopter Company's CH-47's on or about 8 November 1967, there will be no ramp space available for fixed wing aircraft.

(6) Construction of a Central Power Plant (2,000 KW capacity) and a Telephone Dial Central was initiated during this quarter.

(7) A request for air-conditioning of the dispensary emergency room, laboratory and dental clinic was forwarded on 27 September 1967 through engineer channels. No response has been received on the request.

d. Shortage of Engineer Support

Construction and post development at Dong Ba Thin is being severely hampered by the lack of engineer support. Practically all construction work has recently been on a self-help basis. Many of the critically needed items, especially the aircraft maintenance hangars, cannot be self-help constructed. On numerous occasions there has been less than one squad of engineer support available for the post. A corresponding shortage of engineer equipment (welding machines, cutting torches, and front end loaders) has drastically slowed and periodically even halted aircraft revetment construction.

e. Motor Maintenance

A vigorous motor maintenance program was launched in the battalion. The area most in need of improvement was engineer equipment maintenance. Under the present TOE/MTOE, sufficient specialized personnel are not authorized to properly maintain the engineer equipment. Current drafts of battalion and Assault Helicopter Company MTOE's have included provisions for engineer equipment repairmen.

f. Water Delivery and Distribution

At the present time, the units of this battalion are supplying most of the potable and all of the non-potable water required by our organization. Four TOE fuel trucks are committed full time in Dong Ba Thin as water tankers. These vehicles are no longer fit for their TOE missions. This deplorable situation is a result of inadequate R & U (Pacific Architects and Engineers). A letter sent through channel outlining these problems is attached as Incl 3

11

support. A command letter was dispatched recently citing in detail the inadequacies of R & U support at Dong Ba Thin.

g. Repair Parts

This has increasingly become a serious problem with each of the assigned companies. The often used but frequently frowned upon term "scrounging" has been the savior of the units during this quarter. For the 180th Assault Support Helicopter Company, particularly during the 1st half of the quarter, nine CH-47's deadlined for parts out of a total of sixteen assigned in one day was a factual reality. A change in the direct support unit during August may have accounted for the problem faced by the 117th Assault Helicopter Company in Dong Ba Thin since all outstanding requisitions had to be resubmitted. As a result of transferring parts support from the manual system of the 339th Transportation Detachment (281st AHC DS Unit), to the automated system of the 608th Maintenance Battalion, 682 of the 281st's outstanding requests had to be cancelled and resubmitted in a form compatible with the automated system. It is believed that parts supply for the assault helicopter companies will tend to improve during the next quarter through the use of the automated data processing system but the demand for CH-47 parts continues to exceed the supply of certain parts. The lack of sufficient armament systems for the gunships in both the 281st and the 117th has reduced the available fire support by more than 37 %.

h. Aircraft Maintenance

Despite the parts shortage, the battalion continued to enjoy a high percentage of aircraft availability throughout the quarter. One point of note, considering the extensive normal maintenance requirements for Ch-47 aircraft is the average monthly flying hours logged by the 180th Assault Support Helicopter Company. The unusually high percentage of the programmed flying hours flown may have a bearing on the apparent shortage of repair parts. The following chart depicts the monthly averages of the units assigned to the 30th Combat Aviation Battalion.

UNIT	TYPE A/C	AV NR ASGD	% FLY	% NORS	% NORM	TTL HRS QUARTER	FLY HR PROGRAM	% FLY HR PROGRAM	AV HRS PER A/C PER
117th	UH1	28.6	85.7	2.1	11.6	7882	4160	152.4	91.3
281st	UH1	29.3	78.4	8.5	13.1	5233	5280	99.0	66.8
180th	CH47	16	64.2	17.4	18.3	2898	2400	120.7	60.0
	OH23G[12]	2	32.1	51.4	16.5	5	N/A	N/A	N/A

12 The OH23G is not suited for use in this organization. The obsolescence of this aircraft was discussed in detail in the 10th CAB ORLL for the period ending 31 July 1967. A command letter was submitted during this quarter requesting substitution of a UH1D in lieu of the two OH-23G's authorized.

5. (U) CIVIL AFFAIRS

a. The civil actions program has continued to function in an excellent manner.

b. Considerable progress has been realized at the Tan Binh and the Sui Mai Orphanage. At the former, a weekly English class is conducted and is well received by the children and Nuns as well. The Sui Mai Orphanage is provided food and water weekly. Materials have been obtained and construction has begun on a water reservoir and a 1000 gallon shower system. The battalion has provided presents for the children in both Nha Trang and Cam Ranh City for the Vietnamese Children's holiday. A weekly MED CAP Team also provides medical services for Cam Ranh City.

c. The 117th Assault Helicopter Company has adopted a Montagnard Village in the Phan Rang area and distribution of badly needed supplies and materials has been effected. Plans are presently being finalized for construction of a dispensary. The materials for the building will be scrap lumber gained from various sources. Construction will be accomplished by 117th personnel in conjunction with carpenters residing in the village.

6. (C) PERSONNEL

a. The establishment of proper reporting procedures has enabled the timely receipt of assignment instructions and port calls. Receiving assignments in sufficient time enhances morale, thereby improving individual job performance.

b. The finance records for units not stationed at Dong Ba Thin have been relocated at the finance center nearest each unit. This has proven to be a highly satisfactory solution and has considerably reduced the finance support problems.

c. During this period, each of the units have experienced a considerable turnover in personnel. Approximately 40% of the assigned strength have departed during September and October. Replacements have been reporting in but not totally commensurate with the losses. As a result, critical shortages have been experienced in qualified aviators in the 180th; in maintenance personnel, particularly in sheet metal repairmen, in the 281st; and in the augmented security platoons of all units.

d. Morale continues at a high level. Improved facilities and considerable and varied flying experience have produced a noticable elevation of esprit throughout the battalion. The acquisition of numerous Special Services equipment such as boats, motors, water skiis, skeet shooting equipment and musical instruments have added immeasurably to the uplifted morale in the Dong Ba Thin area. Recently, a well-equipped arts and crafts shop was opened in the battalion and has been enthusiastically received.

7. (C) OTHER

a. Information Officer

(1) The 10th Combat Aviation Battalion Public Information Program continues to be active providing coverage of the forward areas as well as the Dong Ba Thin complex.

(2) A summary of the battalion news releases is as follows:

a	Feature Articles	28
b	Pictorial Releases	18
c	Hometown Releases	327
d	Illustrated Articles	91
e	Formal Press Interviews	3

(3) The battalion continues to utilize the PIO capabilities of higher headquarters to cover important events.

(4) The acquisition of several still cameras for use by the company PIO's to cover activities such as awards, promotions, and other hometown news features could provide valuable assistance to this section as well as providing an organic source of photographs illustrating the history of the unit. A request has been submitted through channels to obtain this equipme

(5) A daily publication, THE DAILY V.C.BOND, was initiated during this quarter. It provides the highlights of the day's activities. Liaison with Armed Forces Radio and TV in Nha Trang established a source of news. The local radio station provides a carbon copy of teletype news from its sources and cooperates fully with the 10th Battalion Information Officer.

b. SIGNAL

(1) A recognizable problem in land line communications continues to exist for the units whose elements are scattered in remote locations throughout the Republic of Vietnam. The lack of proper equipment underlies the roots of this problem and, when it becomes available, this should be resolved. The installation of a Radio/Wire Integration System at the 281st "Vapor" switchboard, using the high frequency single sideband, has considerably eased this problem.

(2) During this period, the communications section of the 10th Battalion continued communication support of Operation "HONG KIL DONG" in the forward area until the operation ended on 31 August 1967. From 1 September until the end of the reporting period, normal permanent operations were resumed. A new sole user teletype circuit was established with 17th Combat Aviation Group. Two new items of communications gear were introduced into the battalion; These were the AN/ASC-11 Aircraft Communications Console, and the AN/VSC-2 jeep mounted HF Radio-Teletypewriter.

c. SURGEON

Each of the assigned companies are located in close proximity to a larger unit having an operational dispensary and flight surgeon. The 180th ASHC, in Phu Hiep, RVN is colocated with the 268th Combat Aviation Battalion while the 281st located in Nha Trang RVN has easy access to the 17th Combat Aviation Group's flight surgeon. In Dong Ba Thin, RVN, in addition to the battalion flight surgeon, the 117th AHC has its own organic medical detachment (130th Medical Detachment) with a flight surgeon assigned.

d. STANDARDIZATION AND FLIGHT SAFETY

The Standardization Officer has during this past quarter, in conjunction with the Battalion Safety Officer, instituted a monthly Standardization Newsletter. The intent of this publication is to keep everyone abreast of new events, accident trends and IP/SIP observations. The purpose is to make everyone aware of some of the shortcomings practiced and to instill "thought" to the professionally minded aviator.

CONFIDENTIAL

SECTION II Commander's Observations and Recommendations

Part 1 Observations (Lessons Learned)

1. (C) Personnel

ITEM: Improper Infusion

DISCUSSION: The 180th Assault Support Helicopter Company's manning level of officers was at 62% of authorized strength on 10 October 1967. This was the first anniversary of the unit's arrival in Vietnam. The company, in order to meet normal mission requirements had to be supported by officers on TDY. This situation resulted from an improper infusion program upon the arrival of the company in the Republic of Vietnam.

2. (C) OPERATIONS

a. ITEM: Hooking up sling loads (CH-47)

DISCUSSION: In recent months, difficulties have been encountered with hooking sling loads because ground personnel hooking up the loads for supported units are reluctant to stand on top of the load to hook up. On one occasion, an aircraft received major damage to the underside when it struck a load because the hook up man did not attempt to stand on the highest portion of the space load.

OBSERVATIONS: Failure of supported units to adequately brief "hook up" personnel is the apparent cause for them not standing on the top of the loads. The 180th Assault Support Helicopter Company has repeatedly briefed all personnel involved in proper hook up methods in an effort to correct this deficiency.

b. ITEM: Use of smoke grenades to mark sling loads.

DISCUSSION: The identification of sling loads in a pick-up zone presents a problem for the pilots, particularly in the execution of an artiller battery move where there are numerous loads in a congested area. The use of smoke grenades is a very effective method of marking the load on the first time into the pick-up zone as it helps to identify it as well as give the pilot an excellent wind reference. Presently, however, an excessive number of smoke grenades are expended.

OBSERVATION: The misuse of smoke grenades to mark selected sling loads has resulted in not only a waste of grenades but often it gives the pilot a confusing picture of what he is supposed to do. This is especially true where more than one aircraft is making a pickup from an LZ. Often, succeeding aircraft will be coming in while two or more grenades are smoking. This creates confusion in finding which is the correct location for him to go to causi unnecessary delays.

c. ITEM: Hazards inherent in using of the McGuire Rig[13]

13 A description of this extraction device is given in the 10th CAB ORLL for the period ending 30 April 1967.

DISCUSSION: The McGuire Rig has proven to be a simple and effective means to extract personnel from secure areas. However, its usage is not recommended in insecure areas or in extracting injured personnel.

OBSERVATIONS: The McGuire Rig is static in construction and cannot be lengthened or shortened to meet the requirements of the mission. Its use necessitates an initial one hundred foot hover over the pick-up zone regardless of the jungle height. After the personnel are placed in the slings, the helicopter must climb an additional twenty-five or thirty feet before the slack is taken out of the rope. It then must continue in a vertical ascent until the slings are clear of the jungle canopy. During this time, the aircraft is highly vulnerable, as it hovers above the trees. After clearing the canopy, the rescued personnel must still ride the rig to a suitable drop zone where they can be let down. The electrical hoist[14] allows the pilot to place his aircraft just above or actually even in the jungle canopy where he is hidden from most enemy fire. From this position, the hoist can be lowered with a jungle penetrator[15] through all types of jungle and the rescued personnel can be drawn up into the aircraft. After the extraction is completed, the aircraft can move off at tree top level avoiding enemy detection. Enroute to the safe areas, the rescued personnel may also be administered first aid.

d. ITEM: Brass strikes on UH-1C tail rotors.

DISCUSSION: The battalion experienced several tail rotor strikes on UH-1C aircraft from brass ejected from the right door gun during suppressive firing. There have also been incidents in which expended brass from the XM-21 system have caused tail rotor damage.

OBSERVATION: Brass ejected from the right door gun has a tendency to pass over the tail boom and strike the tail rotor. Loose brass from the XM-21 system falling into the aircraft slipstream also tends to pass on this route. Several tail rotors have been damaged due to the absence of "Brass Bags" on the free guns used on the armed UH-1C.

e. ITEM: Smoke grenades used to mark water areas.

DISCUSSION: Although smoke grenades are supposed to float and produce smoke in water, the grenade often fails to ignite in water-filled rice paddies. Often, when the grenades do ignite, the smoke produced is insufficient. After striking the water, the grenade normally sinks and rises to the top only after most of the smoke generating material inside has been consumed, creating the buoyancy.

OBSERVATION: During the rainy season, smoke is sometimes required instantly on a target or landing zone which is inundated. The smoke grenades, if used in their present configuration will not always produce desired results. With a slight modification, requiring only materials found in any aviation unit, a grenade can be modified which will always float and will produce the full amount of smoke intended by the manufacturer. This modification requires only the grenade container, green tape and a knife. The firing mechanism is sawed off from the top of the grenade. A square hole is cut

14 A description of this extraction device is given in the 10th CAB ORLL for the period ending 30 April 1967

15 Ibid

in the smaller of the two sections of the container approximately one inch by one inch and several smaller ones are punched in the end of the other section. The firing mechanism is then inserted through the square hole and then screwed back to the grenade. The bottom portion of the grenade casing is replaced and green tape is used to seal it.

3. (U) Training and Organization

a. ITEM: Operating RPM for UH-1 Aircraft

DISCUSSION: While reviewing accident reports of UH-1 aircraft, it was noted that loss of RPM was becoming a major factor in an increasing number of accidents. This fact was discussed recently in a meeting of all Safety and Standardization Officers in USARV. In addition, all assigned aviators have been alerted to this alarming trend. It was pointed out that the procedure of decreasing RPM in cruise flight (beeping down) and on some approaches to 6400 RPM, was partly responsible for this type of accident.

OBSERVATION: The USARV Standardization Board changed this procedure to one of maintaining 6600 RPM for all operations. All Safety and Standardization Officers have been alerted to the impact of this change.

b. ITEM: Loss of engine oil pressure and subsequent engine failure of UH-1 Aircraft.

DISCUSSION: Due to an increase in the number of engine failures, a study was made to determine if a trend was evident. It was determined from this study of accident reports that aviators were relying on the engine oil temperature gauge when the engine oil pressure gauge or caution light indicated either low or no oil pressure. A Lycoming engine technical representative was contacted and it was found that the life expectancy of the T-53 engine was approximately 30 to 45 seconds if complete oil pressure loss was experienced. No increase in engine oil temperature would be indicated.

OBSERVATION: A safety memo was published to alert all aviators of these findings with a recommendation that if both the pressure gauge and caution light come on in flight, a landing would be made immediately if at all possible.

4. (U) Intelligence. None

5. (C) Logistics

a. ITEM: Lack of sling materials in supported units.

DISCUSSION: Because of the lack of slings, nets, clevises and donuts in supported units, many loads have been carried internally during this quarter that could have been more efficiently transported as sling loads.

OBSERVATION: Some units have attempted to use rope slings for external loads. Severe vertical bounce may be encountered when using rope slings and dropped loads have resulted from broken ropes in past operations. Pilots have been instructed not to pick up sling loads which do not have nylon straps, clevis and donuts. The 180th Assault Support Helicopter Company has assisted the ROKA Units in obtaining proper sling materials and has given them assistance and instruction in the proper rigging of sling loads.

b. ITEM: Improved Miniport Equipment.

DISCUSSION: During operation "HONG KIL DONG", the establishment of forward support areas for aircraft refueling proved to be highly successful.[16]

OBSERVATION: These highly efficient forward area refueling sites could not possibly be established using TOE equipment. As it was previously pointed out, this equipment provided a 350 GPM fuel delivery system for the Chinooks in addition to the 100 GPM pumps authorized under the TOE.

c. ITEM: Night Maintenance.

DISCUSSION: It has been a policy in the past to conduct Intermediate Inspections at night if the aircraft returned late from missions. Since adequate lighting was not always available, these inspections were often performed under extremely adverse conditions such as using vehicular lights. This practice was discontinued after it was determined that two precautionary landings were, in part, caused by crew chief errors made while pulling the Intermediate under poor lighting. Normal maintenance by the direct support detachments is generally conducted at night but with specifically designed TOE lighting sets.

OBSERVATION: By restricting to daylight hours all first and second echelon maintenance there has been a noticeable improvement in the overall quality of the maintenance performed. These detailed and properly executed Intermediate Inspections have resulted in a corresponding decrease in the work required for the Periodic Inspections.

d. ITEM: Immediate Maintenance Response

DISCUSSION: The 117th Assault Helicopter's Maintenance alert crew stood by in the maintenance area for early morning takeoffs and evening arrivals. Difficulties arose when several calls had to be made to marry up the crew with the proper parts to the aircraft with maintenance problems in a timely manner. This problem has been alleviated by placing a PRC-25 radio with the maintenance crew in the spare parts area. Using this system, the crew chief or pilot can explain his needs explicitly to the maintenance personnel, using the company's FM frequency. In addition to keeping operations informed of any possible delay, who monitor the frequency continuously, this method has the required parts and personnel enroute to the aircraft within minutes.

OBSERVATION: Since adopting this inter-company communications net, fewer aircraft have had delays due to maintenance difficulties. Use of this maintenance radio throughout the day has saved immeasurably in time and effort when a ship has been required to return from a mission with maintenance problems. Time has also been saved in the late afternoons and more deficiencies are now being corrected during daylight hours.

e. ITEM: Logistical representation in airmobile planning.

16 For a discussion of this, see Inclosure 1, Forward Support Areas, para 13e, page 7.

DISCUSSION: During the operation "HONG KIL DONG", it was evident that operational and logistical buildup in the planning of an operation must be concurrent.

OBSERVATION: The success of any operation is dependent on the support that is rendered. The degree of support desired must be known at the earliest possible time so that the required coordination may be made to provide it.

6 (C) Other

Signal

ITEM: Teletype Equipment

DISCUSSION: This battalion has a requirement to maintain permanent installation teletype in addition to mobile teletype facilities. At present, no TOE/MTOE authorizes permanent teletype equipment and it is frequently necessary to use mobile equipment for this purpose.

OBSERVATION: This problem could be alleviated by TOE/MTOE action authorizing each battalion headquarters enough equipment to operate both mobile and fixed station teletype. Suggested equipment additions to permit this have been included during the recently staffed proposed combat aviation battalion MTOE 1-256G.

PART II - RECOMMENDATIONS

1. (C) PERSONNEL

Reference: Improper infusion

Recommend that a thorough infusion program be initiated immediately after the arrival of a unit.

2. (C) OPERATIONS

a. Reference: Hooking up sling loads (CH-47)

Recommend that the following procedure be established as SOP for all hooking up operations. The CH-47 will hover over the load to be lifted at a safe height with the cargo hole centered over the load. The crew chief signals for the hook up man to climb up to the top of the load and directs the pilot to descend just low enough so that the hook up man must stretch high over his head to attach the sling.

b. Reference: Use of smoke grenades for marking sling loads

Recommend that smoke grenades be used only for marking load on the first sortie. Subsequent loads can be easily identified by having a man with a bright colored vest of the type material used in panel marking sets. This procedure enables the pilot to spot the load from a considerable distance away and to set up an approach that will take him directly to the load. The use of a bright vest in both the PZ and the LZ can save the supported units as many as 50 smoke grenades in the movement of one artillery battery.

c. Reference: Hazards inherent in using the McGuire Rig

Recommend that the McGuire Rig be replaced with electrical hoists as a primary extraction device.

d. ITEM: Brass Strikes on UH-1C Tailrotors.

Recommend that the free door gun on the right side of the UH-1C gunship be fired from the inverted position so that the ejected shells are thrown into the aircraft's cabin section. Door gunners, using this method, report little difficulty in adjusting to the inverted position and find that accuracy is not impaired. A 1" x 4" board, placed in the doorway, will keep the ejected brass on the cargo compartment floor from rolling out of the aircraft. Locally produced "mounts" are presently being constructed for the UH-1C door guns in an attempt to solve the "brass strike" problem. An evaluation of this system is programmed for the month of November.

e. Reference: Smoke grenades used to mark water areas

Recommend that each gunship and Command and Control Aircraft have the modified type grenade aboard during the monsoon season for marking targets and LZ's in wet areas.

3. (C) TRAINING AND ORGANIZATIONS:

a. Reference: Operating RPM for UH-1 Aircraft

Recommend that 6600 RPM be standardized for all UH-1 operations.

b. Reference: Loss of engine oil pressure and subsequent engine failure of UH-1 aircraft.

Recommend that increased emphasis be placed in the Aviation School and in all agencies using UH-1 aircraft of the critical relationship between the loss of engine oil pressure and engine failure without an indication of increase in oil temperature.

4. (U) INTELLIGENCE: None

5. (C) LOGISTICS

a. Reference: Lack of sling materials in supported units.

Recommend that supported units be made aware of sling load requirements and that the proper sling equipment be made available to them.

b. Reference: Improved miniport equipment

Recommend that the battalion and Assault Support Helicopter Company TOE/MTOE be revised to include two 350 GPM refueling systems with 10,000 gallon bladders. Present TOE system uses 100 GPM pumps which give an inadequate flow rate for Chinook refueling. Results of a recent experiment conducted by the 10th Combat Aviation Battalion S-4 Section, verifies the need for this improved equipment.17 (See Incl 4)

c. Reference: Night maintenance

Recommend that night maintenance be restricted only to when adequate lighting is provided. Mission scheduling should allot time daily for daylight maintenance.

d. Reference: Immediate maintenance response

Recommend that all units consider the feasibility of placing a radio in maintenance to provide "on call repair".

e. Reference: Logistical representation in airmobile planning

Recommend that the supporting aviation unit logistician be included during the planning phase of operations from the earliest conception. The selection of forward support areas is critical. Necessary engineer support for site and route improvement should be included in the operation order, as should convoy control measures to insure an uninterrupted flow of POL and ammunition.

6. (C) OTHER

17 Inclosure 4 outlines in detail the results achieved in developing an improved miniport system.

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Reference: Teletype equipment

Recommend that each battalion headquarters be authorized the following in addition to equipment already included in present and pending MTOE.

a.	Teletypewriter TT-4	2
b.	Teletypewriter TT-76	2
c.	Terminal Telegraph AN/TCC-142	2

Eugene F. Crooks

EUGENE F CROOKS
LTC, INF
Commanding

4 Inclosures

~~1. After Action Report, Hong Kil Dong W/INC 1 and 2~~ Pub. as CAAR #67X180
~~2. After Action Report, Operation Aerial Support~~ Withdrawn, Hqs, DA
3. Aircraft Revetments
4. Improved Miniport Equipment W/INC 1,2,3 and TAB A

DISTRIBUTION (U)

1 CY THRU: 17th CAG
THRU: I FFORCEV
THRU: 1st Avn Bde
THRU: USARV
THRU: USARPAC
TO: ACSFOR DA

2 CY THRU: 17th CAG
TO: ACSFOR DA

2 CY TO: USARPAC

3 CY TO: USARV

1 CY TO: 1st Avn Bde

1 CY THRU: 17th CAG

TO: I FFORCEV (Filo)

1 CY TO: 17th CAG (File)

AVGD-SC (15 Nov 67) 1st Ind
SUBJECT: Operational Report for Quarterly Period Ending 31 October 67

HEADQUARTERS, 17TH COMBAT AVIATION GROUP, APO 96240 28 Nov 67

TO: Commanding General, I Field Forces, Vietnam, APO 96350

1. The 10th CAB Operational Report for Quarterly Period Ending 31 October 67 is forwarded for information and action as necessary.

2. This headquarters concurs with the report.

FOR THE COMMANDER:

s/A. H. Krapf II
t/A. H. KRAPF II
MAJOR, Infantry
Adjutant

AVFA-GC-OT (15 Nov 67 2d Ind
SUBJECT: Operational Report-Lessons Learned for Quarterly Period Ending 31 October 1967, RCS CSFOR-65 UIC WFAJAA, 10th Cbt Avn Bn (U)

HEADQUARTERS, I FIELD FORCE VIETNAM, APO 96350 10 DEC 1967

TO: Commanding General, 1st Aviation Brigade, APO 96307

(C) This headquarters has reviewed the 10th Combat Aviation Battalion operational report-lessons learned for quarterly period ending 31 October 1967 and concurs with the observations and recommendations of the basic document and makes the following comments:

Reference Section II, Part II, (pages 6 and 8), Commander's Recommendations:

a. Paragraph 1: Concur. Infusion problems should be alleviated by the USARV Infusion Program established in October 1967.

b. Paragraph 6: Concur. This equipment can be requisitioned under provisions of AR 310-34, paragraph 22d.

FOR THE COMMANDER:

JAMES P. GASTON
Captain, AGC
Assistant Adjutant General

Downgraded at 3 year Intervals
Declassified after 12 years
DOD DIR 5200.10

AVBA-C (15 Nov 67) 3rd Ind
SUBJECT: Operational Report - Lessons Learned for Quarterly Period Ending 31 October 1967, RCS CSFOR-65 UIC WFAJAA (U)

DEC 2 0 1967

HEADQUARTERS, 1ST AVIATION BRIGADE, ATTN: AVBA-C, APO 96384

THRU: Commanding General, US Army Vietnam, ATTN: AVHGC-DST, APO 96375
Commander in Chief, US Army Pacific, ATTN: GPOP-OT, APO 96558

TO: Assistant Chief of Staff for Force Development, Department of the Army (ACSFOR DA), Washington, D.C. 20310

1. (U) This headquarters has reviewed subject report of the 10th Combat Aviation Battalion and concurs with the report as indorsed except as indicated.

2. (U) The following additional comments are considered pertinent:

a. Reference Sect I, para 4c, pg 7: Construction at many airfields including Dong Ba Thin and Phu Hiep has been halted pending a USARV G-4 base development study group findings. This group is eliminating many construction projects.

b. Reference Sect I, para 4d, pg 8: The command-wide shortage of engineer support to assist in site improvements will continue to cause many of these improvement projects to be accomplished by self-help.

c. Reference Sect I, para 4f, pg 8: A new water delivery system is being designed by the USARV engineer and has an expected BOD of 15 Jan 67.

d. Reference Sect II, Part I, para 2a, pg 13: observation: Non-concur; Training of sling load rigging teams and hookup personnel is a function of the supporting helicopter unit. Units rendering sling support must pursue an aggressive training program with supported units to insure that correct techniques and procedures are used. When possible, pathfinders or other qualified personnel should be used at pick up sites to assist in inspection of rigging equipment and proper preparation of loads.

FOR THE COMMANDER:

JAMES M. GOLDMANN
1LT, AGC
Asst Adjutant General

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AVHGC-DST (15 Nov 67) 4th Ind (C)
SUBJECT: Operational Report for Quarterly Period Ending 31 October 1967
RCS CSFOR-65

HEADQUARTERS, UNITED STATES ARMY VIETNAM, APO San Francisco 96375 19 JAN 1968

TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-DT,
APO 96558

1. (U) This headquarters has reviewed the Operational Report-Lessons Learned for the period ending 31 October 1967 from Headquarters, 10th Combat Aviation Battalion (FAJA) as indorsed.

2. (C) Pertinent comments follow:

a. Reference item concerning hooking-up sling loads, page 18, paragraph 2a: Nonconcur. To have the hook-up man stand on top of the load and stretch high over his head to attach the sling creates an accident prone situation. ACTIV is presently preparing a report on the results of the evaluation of a Vertical Reach Pendant for the CH-47. This pendant will reduce the required accuracy with which the aircraft must hover over the load, and at the same time permit the ground crewman to remain on the ground while attaching the load.

b. Reference item concerning use of smoke grenades for marking sling loads, page 18, paragraph 2b: Concur. It should be unnecessary once the PZ or LZ has been initially identified, to reidentify it for each sortie.

c. Reference item concerning brass strikes on UH-1C tailroters, page 18, paragraph 4d: Nonconcur. Five hundred Sagami mounts and ejection bags are being procured. Input to Vietnam should reach 80 per month by January 1968.

d. Reference item concerning operating RPM for UH-1 aircraft, page 19, paragraph 3a: Concur. Reference Flight Standardization and Instrument Examiner Conference conducted 20 October 1967. The conference concluded that all UH-1 flights should be conducted at 6600 RPM to preclude aviators attempting to hover 6400 RPM after failing to increase RPM prior to commencing approach.

e. Reference item concerning lack of sling materials in supported units, page 19, paragraph 5a: Concur. The supporting unit liaison officer makes the supported unit aware of sling load requirement and advises as to equipment that should be on hand. The specific equipment required is obtained through the supported unit supply channels.

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AVHGC-DST (15 Nov 67)
SUBJECT: Operational Report for Quarterly Period Ending 31 October 1967
RCS CSFOR-65

f. Reference item concerning improved miniport equipment, page 19, paragraph 5b: Concur. A request for MTOE to provide the 350 GPM refueling system should be submitted by the unit concerned.

g. Reference item concerning night maintenance, page 19, paragraph 5c: Concur. The unit maintenance officer is responsible to assure that adequate lighting is provided when night maintenance is performed.

h. Reference item concerning immediate maintenance response, page 19, paragraph 5d: Concur. Direct support aircraft maintenance units presently have communications equipment, frequencies assigned, and do respond for on call support.

i. Reference item concerning logistical representation in airmobile planning, page 19, paragraph 5e: Concur. To assure adequate logistical support for the aviation elements during an operation, it is essential that aviation support requirements be given early consideration.

3. (U) A copy of this indorsement will be furnished to the reporting unit through channels.

FOR THE COMMANDER:

D. E. TUMAN
Major, AGC
Asst Adjutant General

cy furn:
HQ, 10th Cmbt Avn Bn
HQ, 1st Avn Bde

30

GPOP-DT(15 Nov 67) (U) 5th Ind
SUBJECT: Operational Report for the Quarterly Period Ending 31 October 1967 from HQ, 10th Cbt Avn Bn (UIC: WFAJAA)(RCS CSFOR-65)(U)

HQ, US ARMY, PACIFIC, APO San Francisco 96558 14 FEB 1968

TO: Assistant Chief of Staff for Force Development, Department of the Army, Washington, D. C. 20310

This headquarters has evaluated subject report and forwarding indorsements and concurs in the report as indorsed.

FOR THE COMMANDER IN CHIEF:

HEAVRIN SNYDER
CPT, AGC
Asst AG

CONFIDENTIAL

DEPARTMENT OF THE ARMY
HEADQUARTERS, 10TH COMBAT AVIATION BATTALION
APO 96377

Incl 3
AVGD-AE

27 October 1967

SUBJECT: Aircraft Revetments

TO: Commanding Officer
17th Combat Aviation Group
APO SF 96240

1. Reference TWX AVGD-BD 5245-67, Subject: Aircraft Revetments, dated 18 October 1967.

2. All companies with the type revetments described have waterproofed them in accordance with the US Army Command Vietnam (P) Drawing, Modular Fortification for Army Aircraft, Number 4006, dated 1 February 1967.

3. There is a flaw in the basic construction design for aircraft revetments. This battalion has had one revetment collapse despite the fact that the prescribed capping was accomplished. **Design criteria must specify complete waterproofing.**

4. Initially, the emphasis in revetment construction was placed upon speed of construction and this resulted in a substandard product in many cases.

a. Inadequate equipment, provided the companies at the outset, produced a variety in the quality of the constructed units.

b. Lack of overall technical supervision within the companies resulted in many discrepancies. Holes were drilled in the matting to join sections; joints were not fitted properly and provisions were not incorporated to prevent the fill from escaping around the base of the revetments.

c. Fill seepage from the holes, cracks, and base resulted in the capping gradually sliding down into the body of the revetment.

d. A request to obtain a suitable waterproofing material "Membrane Rubber" FSN 5660-921-8731, submitted to IFFV on 30 August 1967 by this battalion was disapproved.

5. It is imperative that the sides, base, and cap be completely waterproofed.

a. All revetments constructed in the future will be completely waterproofed by having the base, sides, joints, and tops sealed.

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AVGD-AE
SUBJECT: Aircraft Revetments

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b. Fill, in the revetments, must be kept completely dry. Expansion pressure caused by water seepage splits seams and joints allowing loss of the fill and eventual collapse of the revetment.

6. Those revetments already constructed pose a serious problem. This battalion has attempted to correct the flaws by:

a. Filling the holes with tar. This was not successful. When the tar was heated and softened by the sun, it ran down and exposed the holes again.

b. An experimental plastic putty, "Sealing Compound, Brushing" FSN 8030-579-8691, is presently being used by the 117th Assault Helicopter Company. This substance has proven effective in sealing the smaller holes, but the larger cracks and holes cannot be effectively sealed.

7. Cement, either in the form of concrete or mixed with the sand used for fill is probably the best answer to this problem. As a thickly mixed concrete, it would be packed along the base and to plug up even the larger holes. It was brought out in the recently concluded Brigade Operations Manual Conference that several units have achieved considerable success in mixing the sand fill with cement as the revetments were filled.

8. A support problem exists using the cement or concrete method of revetment repair.

a. Cement mixers, which are required for a project as large as this, are not available.

b. Using assigned crew chiefs, mechanics and other similar personnel to accomplish the work is not practical since it would deeply tax the operational capability of the companies. Funds are not available to hire local labor.

9. Maintenance of constructed revetments is causing considerable concern within the companies. The use of sand bags to cap the revetments is unsatisfactory. The sand bags, in use for only a few months of the dry season, are already rotting out and bursting. Continuous replacement will be a recurring problem.

10. These problems are widespread throughout the battalion and immediate action is required to correct the situation. Recommend the following:

a. Revetment design be improved to include provisions for complete waterproofing.

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AVGD-AE
SUBJECT: Aircraft Revetments

b. Sufficient funds, equipment and materials be authorized to rectify the basic flaw in the design of current revetments to make them watertight.

FOR THE COMMANDER:

EARL H. TALLEY
Major, Infantry
Adjutant

CONFIDENTIAL

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DEPARTMENT OF THE ARMY
HEADQUARTERS, 10TH COMBAT AVIATION BATTALION
APO 96377

Incl 4
AVGD-AF

4 November 1967

SUBJECT: Improved Miniport Equipment

TO: Commanding Officer
17th Combat Aviation Group
ATTN: AVGD-SC
APO 96240

1. Reference: 17th Combat Aviation Group unclassified message AVGD-SC 5330-67, dated 24 October 1967, subject: Miniports.

2. This headquarters has long advocated the concept of improved POL delivery equipment for airmobile operations. In numerous past operations the concept of a battalion operated Forward Support Element (FSE) has proven invaluable. The backbone of the refueling portion of the FSE has been a 350 G miniport. Due to the severe shortage of 350 GPM pumps, this system has been augmented with 100 GPM Kenco Denco pumps, a much less efficient system.

3. During the period 30 August 1967 to 1 November 1967, this headquarters conducted an extensive test of all available POL delivery equipment. These tests were performed in an effort to obtain positive results (figures) that may be utilized in justification of the more advance equipment. The tests were not conducted under laboratory conditions, but every effort was expended to assure accurate results within the limits defined by equipment availability and field conditions.

4. The results of these field tests and an explanation of how they were conducted is attached (inclosure 1).

5. The following recommendations are based on the past field experience of this organization as substantiated by the aforementioned tests:

a. Augment each Combat Aviation Battalion with a POL section consisting of one Sergeant (E-5), MOS 76W40 and two Specialist (E-4), MOS 76W20. Section equipment should include two 350 GPM miniports. Each miniport would have a storage capacity of 20,000 gallons and eight refueling points.

b. Replace most of the current Assault Support Helicopter Company (CH-47) POL equipment with two systems as described above. Additional personnel are not required for this equipment. The 100 GPM pumps and 3000 gallon bladders currently authorized are completely inadequate for CH-47 operations. Two or three 100 GPM pumps should be retained for fuel transfer operations and emergency back-up.

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AVGD-AF
SUBJECT: Improved Miniport Equipment 4 November 1967

6. A detailed list of the major items of equipment required for the GPM field miniport is shown in inclosure 2.

7. On 24 September 1967 a formal construction request (DD Form 1391) was submitted for a permanent miniport at Dong Ba Thin. This request was for a 350 GPM, 30,000 gallon, 12 point system. The plan was approved by 1st Aviation Brigade on 6 October 1967 and forwarded to USARV. No response has been received from USARV as of this date. Equipment required for this facility is indicated in inclosure 3.

FOR THE COMMANDER:

3 Incl
as

EARL H. TALLEY
MAJ, Inf
Adjutant

Information Copy: Commanding Officer
17th Combat Aviation Group
ATTN: AVGD-SD
APO 96240

CONFIDENTIAL

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EQUIPMENT LIST

Field Miniport

(350 GPM, 20,000 gallon capacity, 8 outlets)

FSN	NOMENCLATURE	QUANTITY
5430-641-8552	Tank Assembly, Fabric, Collapsible 10,000 Gal. cap., Petroleum	2
4320-691-1071	Pumping Assy, Flammable Liq., Gas, Wheel Mtd., 4" Inlet, 4" Outlet, 350 GPM	1
4320-933-4509	Filter Separator, Liquid Fuel, 350 GPM, 4" Inlet, 4" Outlet	1
PART # 81718	Elbow, Aluminum, 4", 90° Std.	2
4720-083-0044	Hose Assembly, Suction, 4" x 12'	5
4730-075-2407	Fitting Assembly, "H"	1
4720-083-0046	Hose Assembly, Discharge, 4" x 50'	2
4730-769-3014	Manifold, Spider, 4" Inlet with 5-4" Outlets	2
4730-075-2415	Reducer, 4" - 3" (4" Female - 3" male)	8
4730-075-2414	Reducer, 3" - 2" (3" Female - 2" Male)	8
4730-842-0851	Fitting Assembly, "A"	1
4720-083-0050	Hose, Liquid Fuel, Discharge, 2" x 25'	16
4930-705-9550	Nozzle, Dispensing, Liquid Fuel, 2"	8
4730-889-2382*	Reducer, 2" - 1½" (2" Female - 1½ Male)	8
4720-079-4771*	Hose, Liquid Fuel, Discharge, 1½ x 25'	16
PART #5Z 718A210*	Nozzle, Dispensing, Liquid Fuel, 1½"	8

* Additional items required if 1½ inch discharge system is desired. Two (2) inch hoses and nozzles would not be required.

Incl 2 to Incl 4

1. Conduct of the Test

a. Tests were conducted to determine the exact output achieved with the various types of POL delivery equipment normally employed by Army Aviatic in RVN. Pumps tested included 100 GPM, 225 GPM, 240 GPM and 350 GPM. With the exception of the 100 GPM Kenco pump, a 350 GPM separator was used in conjunction with each of the systems. The Kenco pump has a built in filter separation system.

b. Test measurements were made with 55 gallon drums. Flow rates were computed mathematically using the recorded times required to fill a 55 gallon drum under varying circumstances. Standard hoses, fittings, manifolds etc. were used and routed similar to a field set up. During phases of the operation requiring more than one hose in simultaneous operation, the non-tested hoses were emptied into an empty 1200 gallon tanker. As barrels were filled they were also emptied into the tanker utilizing a 100 GPM pump. Upon termination of the test the fuel was returned to the storage bladder.

2. Analysis.

a. Test results (TAB A) were significant. The gallon per minute figures may not be exact throughout the test, but comparative analysis is valid since all test were conducted in the same environment.

b. The tests indicated that the 350 GPM pump can adequately suppor eight refueling points (simultaneous operation). Increasing the number of points beyond eight degrades the individual point performance to an unacceptable level. Since increased performance resulting in decreased refueling time is desired, operation of more than eight points per pump is not deemed feasable for field operations. Simultaneous operation of eight hoses would refuel four CH-47 aircraft in slightly less than five minutes. NOTE: When less than four hoses are in simultaneous operation, the throttle of the 350 GPM pump must be reduced to preclude activation of the filter separator pressure release valve.

c. The comparative results obtained with 1½ inch and 2 inch discharge hose were also significant. Due to non-availability of equipment these tests were incomplete, but initial results indicate definite advantages with the larger discharge hose.

Incl 1 to Incl 4

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EQUIPMENT LISTS

Long Ba Thin Permanent Miniport

(350 GPM, 30,000 Gallon capacity, 12 outlets)

FSN	NOMENCLATURE	QUANTITY
5430-641-8552	Tank Assembly, Fabric Collapsible, 10,000 Gal, Petroleum	3
4320-691-1071	Pumping Assembly, Flow Liq, Gas, Whl Mtd, 4" Inlet, 4" Outlet 350 GPM	1
4320-933-4509	Filter Separator, Liquid Fuel, 350 GPM, 4" Inlet, 4" Outlet	1
PART # 81718	Elbow, Aluminum, 4" 90° Male Standard	3
4720-083-0044	Hose, Liq Fuel, Discharge 4" x 12'	5
4730-842-0851	Fitting Assembly, "A"	2
4710-203-0186*	Tubing, Steel, Lightweight 4" Vic 20' Section	38
4730-273-8322*	Elbow, 4" 90° Vic.	12
4730-769-3014	Manifold, Spider, 4" Inlet 5-4" Outlets	3
4930-705-9550	Nozzle, Dispensing, Liquid Fuel 2"	12
4720-083-0050	Hose, Liquid Fuel, Discharge 2" x 25'	48
4730-075-2415	Reducer, 4" - 3" (4" Female - 3" Male)	12
4730-075-2414	Reducer, 3" - 2" (3" Femalt - 2" Male)	12
4730-075-2404	Valve, Gate, 4" Inlet 4" Outlet	3
4730-555-1227*	TEE, Vic 4"	1
4730-277-9720*	Coupling, Grov Typ 4"	30
5330-141-4224*	Gasket, Coupling Grove Type 4"	30
4730-889-2382**	Reducer, 2" - 1½" (2" Female - 1½" Male)	12
4720-079-4771**	Hose, Liquid Fuel, Discharge, 1½" x 25'	48
PART #5X 718A210**	Nozzle, Dispensing, Liq Fuel, 1½"	12

* These items, which would give the capability of burying the main flow lines, may be replaced with 4" rubber discharge hose if the steel tubing is unavailable.

** These items required for 1½" discharge hose capability. Two (2) inch nozzles and hosesmay be deleted.

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T.B. Inclosure 1 To Inclosure 4 POL TEST WORK SHEET

PUMP SIZE (GPM)	FILTER SEPARATOR SIZE (GPM)	DISCHARGE HOSE SIZE	NO. OF HOSES IN OPERATION	TIME REQ(MIN&SEC) TO FILL 55 GAL DRUM 1st TRIAL	2nd TRIAL	AVG TIME (MINUTES)	COMPUTED FLOW RATE (GAL/MIN/HOSE)	TOTAL GPM FLOW RATE
100	N/A	1½	1	1+20	1+30	1.417	38.8	38.8
100	N/A	1½	2	1+50	2+00	1.917	28.7	57.4
225	350	1½	1	0+55	1+05	1.0	55	55
225	350	1½	2	1+18	1+18	1.3	42.3	84.6
225	350	1½	3	1+27	1+30	1.484	37.0	111
225	350	1½	4	1+39	1+37	1.634	33.6	134.4
225	350	1½*	1	0+58	0+58	.967	56.7	56.9
225	350	2*	1	0+57	0+56	.942	58.4	58.4
240	350	1½	1	0+20	0+19	.325	169	169
240	350	1½	2	0+28.5	0+29	.478	115	230
240	350	1½	3	0+46	0+46	.767	71.7	215.1
240	350	1½	4	0+53	0+53.5	.896	61.4	245.6
240	350	1½	5	1+01	1+02	1.025	53.6	268
240	350	1½	6	1+10	1+11.5	1.18	46.6	279.6
240	350	1½	7	1+20	1+19	1.323	41.5	290.5
240	350	1½	8	1+33	1+35	1.565	35.1	280.8

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TAB A Inclosure 1 to Inclosure 4 (CONT'D) FOL TEST WORK SHEET

PUMP SIZE (GPM)	FILTER SEPARATOR SIZE (GPM)	DISCHARGE HOSE SIZE	NO. OF HOSES IN OPERATION	TIME REQ (MIN & SEC) TO FILL 55 GAL DRUM 1st TRAIL	2nd TRAIL	AVG TIME (MINUTES)	COMPUTED FLOW RATE (GAL/MIN/HOSE)	TOTAL GPM FLOW RATE
240	350	1½*	1	0+19	0+18.5	.312	176	176
240	350	2*	1	0+17.5	0+17.5	.292	188	188
350	350	1½	1	0+13	0+14	.225	244	244
350	350	1½	2	0+16.5	0+16.5	.275	200	400
350	350	1½	3	0+22	0+21.5	.363	151.5	454.5
350	350	1½	4	0+34.5	0+35	.579	95	380
350	350	1½	5	0+42.5	0+42	.704	78.1	390.5
350	350	1½	6	0+50	0+50.5	.838	65.7	394.2
350	350	1½	7	0+57.5	0+57	.954	57.6	403.2
350	350	1½	8	1+02	1+03	1.042	52.7	421.6
350	350	1½*	1	0+11.5	0+12	.196	281	281
350	350	2*	1	0+09.5	0+09	.154	357	357

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* All tests incicated by asterisk were conducted without nozzles on the hose. Two (2) inch nozzles were not available, therefore the comparizon tests (2" hose to 1½" hose) were performed without nozzles.

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UNCLASSIFIED
Security Classification

41

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY *(Corporate author)*
OACSFOR, DA, Washington, D.C. 20310

2a. REPORT SECURITY CLASSIFICATION
Confidential

2b. GROUP
4

3. REPORT TITLE
Operational Report - Lessons Learned, Headquarters, 10th Combat Aviation Battalion

4. DESCRIPTIVE NOTES *(Type of report and inclusive dates)*
Experiences of unit engaged in counterinsurgency operations, 1 Aug - 31 Oct 1967

5. AUTHOR(S) *(First name, middle initial, last name)*
CO, 10th Combat Aviation Battalion

6. REPORT DATE
15 November 1967

7a. TOTAL NO. OF PAGES
38

7b. NO. OF REFS

8a. CONTRACT OR GRANT NO.

b. PROJECT NO.

c. N/A

d.

9a. ORIGINATOR'S REPORT NUMBER(S)
674061

9b. OTHER REPORT NO(S) *(Any other numbers that may be assigned this report)*

10. DISTRIBUTION STATEMENT

11. SUPPLEMENTARY NOTES
N/A

12. SPONSORING MILITARY ACTIVITY
OACSFOR, DA, Washington, D.C. 20310

13. ABSTRACT

38

DD FORM 1 NOV 65 1473

UNCLASSIFIED
Security Classification