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AUTHORITY
AGO, d/a ltr, 29 Apr 1980

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AD 879920



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

AGDA-A (M) (27 Jan 71) FOR OT UT 703244

1 February 1971

SUBJECT: Operational Report - Lessons Learned, Headquarters, 165th
Aviation Group, Period Ending 31 July 1970

SEE DISTRIBUTION

1. The attached report is forwarded for review and evaluation in accordance with para 4b, AR 525-15.
2. The information contained in this report is provided to insure that lessons learned during current operations are used to the benefit of future operations and may be adapted for use in developing training material.
3. Information of actions initiated as a result of your evaluation should be forwarded to the Assistant Chief of Staff for Force Development. ATTN: FOR OT UT within 90 days of receipt of this letter.

BY ORDER OF THE SECRETARY OF THE ARMY:

1 Incl
as

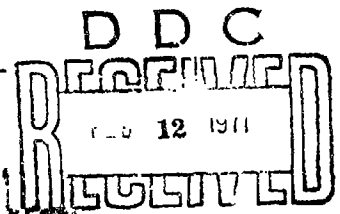
Kenneth G. Wickham

KENNETH G. WICKHAM
Major General, USA
The Adjutant General

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ASSISTANT CHIEF OF STAFF FOR FORCE DEVELOPMENT
(ARMY) ATTN: FOR OT UT, WASHINGTON, D.C. 20310

DEPARTMENT OF THE ARMY
HEADQUARTERS 165TH AVIATION GROUP
APO San Francisco 96384

AVBACD-C

9 August 1970

SUBJECT: Operational Report - Lessons Learned (Headquarters, 165th
Aviation Group) Period Ending 31 July 1970, RCS CSFOR-65 (R2)

SEE DISTRIBUTION

1. Operations: Significant Activities.

a. (U) Command.

(1) Unit Mission. No changes. The Group operations have been normal for the last 92 days.

(2) Organizational changes. None.

(3) Major unit activities.

(a) Air Traffic Control. There were 3,041,181 recorded operations at forty-five 165th Aviation Group controlled airfields. The Group flight following system averaged 3,706 flights per day, for a total of 337,288. Two approach control facilities conducted 8,983 operations. Fifteen ground controlled approach facilities performed 20,515 approaches, of which 17,862 were for training and 2,653 for flight under instrument flight rules. Four surveillance radars conducted 3,974 radar vectors. The 500,000 increase in operations at airfields over the last reporting period was due primarily to the Cambodian operations. Airfields along the Vietnam-Cambodia border doubled their operations.

(b) Joint Air Operations Group (JAOG). The 165th Aviation Group participated in the JAOG activities during the reporting period, providing representatives to the education and air traffic control working committees. The education committee member traveled throughout the Far East with JAOG, presenting lectures.

(c) Air Coordinating Committee (ACC). The 165th Aviation Group provided one permanent representative to the ACC. The representative assisted the committee in the airfield survey of Tan Son Nhut.

(d) Commander's Conference. The Quarterly Commander's Conference was held on 3 June 1970 in the USARV auditorium. The attendees were briefed by the Acting Group Commander and his staff on current operations, problem areas, and future plans. LTC Cox, USMC, presented a lecture and demonstration on anti-intrusion sensing devices.

FOR OT UT
703244
Inclosure

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SUBJECT: Operational Report - Lessons Learned (Headquarters, 165th Aviation Group) Period Ending 31 July 1970, RGS CSFOR-65 (R2)

(e) Inspections. Command visits were made to 87 units during this period by the Group Commander, Command Sergeant Major, and representatives of each staff section. Units visited are shown at Inclosure 1.

(f) NCO Conference. There was no NCO Conference held this period.

(g) POL Conference. A POL Conference was held on 8 July 1970 in the USARV (Log) conference room, and was attended by AD(N) Commanders. Instruction was presented by USARV on POL handling, contamination and operation of POL facilities. A visit was then made to the POL point at Sanford Army Airfield.

b. (U) S-1 (Personnel)

(1) Authorized and present for duty strengths as of 31 July 1970 are as follows:

	<u>Authorized</u>	<u>Present for Duty</u>
OFF	124	132
WO	89	70
EM	1514	1392
Am Civ		
USAASO Flt Fac Rep	1	1
ECOM Rep	1	0
FSR (ITT Gilfillan)	6	6

(2) Principal personnel changes that have occurred during this reporting period are listed in Inclosure 2.

(3) Morale. Excellent.

(a) There were 89 six month extensions during this reporting period.

(b) R&R. 83% of allocations were filled.

(c) Discipline: 1 Court-Martial and 17 Article 15's.

(d) Reenlistments.

<u>MONTH</u>	<u>ELIGIBLE</u>	<u>RE-UPS</u>	<u>% OF RE-UPS</u>
May	20	4	20.0
Jun	30	5	16.6
Jul	30	6	20.0

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(e) Mail. No problem areas.

(h) Awards and decorations: See Inclosure 3.

c. (U) S-2 (Intelligence).

(1) The following statistics pertain to personnel security for the reporting period:

(a) Clearances granted - 9 Confidential, 48 Secret.

(b) Clearances validated - 136 Secret, 23 Top Secret

(c) Total personnel security administrative actions - 240.

(2) A representative of the S-2 conducted inspections of security at HHC, CAC, 120th Aviation Company, and 125th Aviation Company.

d. (U) S-3 (Operations).

(1) During the reporting period extensive planning and preparation for future troop withdrawals was initiated. Detailed surveys were undertaken to determine the feasibility of numerous sites for the future redeployment of ATC facilities.

(2) Plans were implemented in the area of transferring air traffic control equipment between existing installations. The redeployment of equipment is in preparation for the VNAF Improvement and Modernization Plan. The redeployment of US Army and Allied aviation resources within RVN has tasked the Group with upgrading the capability of several of our facilities. No major problems have been confronted in meeting the above requirements.

(3) Input has been submitted to USARV for the revision of USARV Reg 95-7. The present regulation has caused some confusion and misunderstanding in coordinating Tactical Air Traffic Control Teams (TATCT) with supported units. The proposed revision should remedy this.

(4) On 15 July 1970, the 165th Aviation Group became a separate "Sector of Defense" in the Long Binh Post Defense Plan. Revision of the Operations Order for the defense of Sanford Army Airfield has been completed to meet the new requirements. Steps are being taken to upgrade the security of the airfield.

e. (U) S-3 (Training).

(1) The 165th Aviation Group Radar Repairman School (MOS 26D) graduated nine students, five on 9 May 1970 and four on 2 July 1970. The eighth radar repairman class is currently in session, and scheduled for completion on 4 August 1970. All personnel attending the course during this reporting period were from the 165th Aviation Group

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(2) The 165th Aviation Group Ground Controlled Approach School (MOS 93J) was not in session during the quarter. In April, the school was relocated from Long Thanh North to Long Binh. The course of instruction was not presented due to a lack of qualified instructors, classroom facilities, and students to attend the course. Action is being taken to obtain suitable facilities.

(3) Eleven personnel attended the Engineer Troop Vietnam Logistics School Course in prescribed load lists (PLL) conducted by the 135th Light Equipment Maintenance Company at Long Binh, RVN.

(4) The Army Aviation Refresher Training School was attended by five personnel for the 165th Aviation Group. Four attended the Tech Supply (PLL) Course and one the Armament Enlisted Course.

(5) One aviator attended the USARV UH-1 IP Course.

(6) Coordination was made with MECCM for the establishment of a course of instruction on the operation and maintenance of the 15kw and 30kw generators. Classes are scheduled to begin in August.

(7) Three personnel attended the 1st Signal Brigade (USASTRATCOM) Audio-Visual Course conducted by the 221st Signal Company.

(8) During the period 1 May thru 31 July 1970, there were 52 training inspections of Aviation Detachments (Div) conducted. (Five were courtesy inspections, nine unsatisfactory, and eight re-inspections.)

(a) DA Form 3479, ATC Training and Proficiency Record, and 165th Aviation Group Form 1-39 Series (ATC Training) continue to reflect minor discrepancies.

(b) Proficiency testing. Several units were not conducting and recording the required over-the-shoulder evaluations.

(c) Monthly ATC testing is not being administered by all units.

(9) A new semiannual ATC examination was published to supplement the previous examination. Copies of this examination were distributed to the 125th Aviation Company (ATC), An Khe Army Airfield Command, and all Aviation Detachments (Div). Results of the examination were compiled and forwarded to the units.

(10) During the period, six training assistance visits were conducted. Assistance was provided to units in order to upgrade and standardize controller proficiency, the training program, and the ATC record system.

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(11) Three detachments NCOIC's were facility rated by S-3 Training personnel during the period. The facility rating authorizes the detachment NCOICs to conduct examinations and award ratings to subordinate personnel. In addition, eleven facility ratings were awarded to other controllers.

f. (U) S-4 (Logistics).

(1) Difficulties encountered in the repair and maintenance of air conditioners has been temporarily solved by HQ USARV approving the issue of twenty-five 19,000 BTU and twenty-five 10,000 BTU commercial type air conditioners. All air conditioners have been drawn, with twenty presently on hand, for issue. There should be no serious problem in this area for the next six months. (USARV Engineers have indicated that they are in agreement that more commercial type equipment will be issued as the need arises, since it is more economical than drawing the military air conditioners.)

(2) The shortage of 30kw generators continues to exist throughout RVN. Units will continue to operate with substitute 15kw and 60kw generators.

(3) During the quarter, 51 supply and maintenance visits were made to the detachments and aviation companies.

(4) The Turbine Engine Conditioning Program, for all UH-1 type helicopters, will be formally implemented on 15 August 1970. The purpose of this program is to identify potential engine failures before they occur.

(5) The consolidated PLL section became operational on 1 July 1970. All detachments are now ordering avionics repair parts through this section.

(6) Aircraft status (HHC, 165th Aviation Group):

<u>TYPE</u>	<u>AUTHORIZED</u>	<u>ON HAND</u>
U-1A	1	0
U-6A	1	1
U-21A	2	1
UH-1	1	1 UH-1D 1 UH-1H

g. (U) Flight Check.

(1) The continued use of the service evaluation and technical assistance team, composed of two flight check pilots, two air traffic control examiners, and an IIT Gilfillan representative, has proved to be the most effective means for complete service evaluation of tower and GCA facilities.

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During the reporting period, service evaluations were conducted on 42 control towers, and 30 GCA facilities. To update the service and evaluation team, one additional air traffic control examiner will be added to inspect all phases of ATC training conducted at the facility. This should insure complete standardization of all 165th Aviation Group air traffic control personnel.

(2) The two Group FAA, CTO Examiners facility rated 19 control tower operators and 18 GCA operators. Six of the 18 GCA facility ratings were retests of controllers who had previously failed the practical portion of the test. In addition, three GCA controllers and one tower operator were suspended for thirty days. Insufficient training in emergency procedures has been the primary cause for controllers failing the practical portion of the facility rating test. Investigation revealed a lack of thorough training on emergency procedures. Training is currently being updated to include all emergency conditions. Correspondence has been initiated between this office and the ATC school at Ft. Rucker, Ala., with recommendations for improving controller techniques during emergencies.

(3) During the period covered by this report, seven elevation antennas of the TPN-18 radar were changed because they did not meet flight check criteria. Mr. C. B. Sproul, ATC specialist from USAASO, Cameron Station, Va., has been working with flight check for the past four weeks on a courtesy visit. Mr. Sproul was able to determine that the clinometers on the elevation antennas were improperly set at the time of overhaul, and will work this problem out with Tobyhanna Depot on return to CONUS.

h. (U) Safety.

(1) The Group experienced two aircraft accidents during the reporting period.

(2) Cumulative Group accident rate for the completed fiscal year 1970 was 8.97 accidents per 100,000 hours flown. This is in comparison to 26.5 accident rate for FY 1969.

(3) Safety surveys and assistance visits were conducted at all company aviation units and six aviation detachments.

(4) An airfield safety survey was conducted at Sanford Army Airfield.

(5) The Group safety officer participated as a member of the USARV safety survey team, conducting a survey at the 10th Aviation Battalion.

1. (U) Signal.

(1) Beacon availability rates continue to remain at a high level of operational readiness. The establishment of a flexible and responsive

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SUBJECT: Operational Report - Lessons Learned (Headquarters, 165th
Aviation Group) Period Ending 31 July 1970, RCS CSFOR-65 (R2)

maintenance support program, in combination with the quality of assistance provided by contact teams, is considered to be the determining factor.

(2) The reliability of GCA radars has shown improvement over the last reporting period. The availability of this equipment is still highly dependent upon the services provided by the FSR's. The status of repair parts to support the radars is improving; however, transportation difficulties involved in the direct exchange of major components will continue to be a problem.

(3) Problems encountered in relocating AN/FSQ-75 control towers have been minimal. The only difficulties experienced have been:

(a) The lack of installation hardware, e.g. wires, ropes, clamps, tiedowns and grounding rods.

(b) Receiving support from PACAF for installation of power poles and concrete pads.

j. (U) Command Airplane Company (CAC).

(1) The following summary of operations is submitted:

Sorties flown: 6,498
Passengers flown: 20,144
VIPs flown: 2,153
Missions flown: 1,076
Passenger miles: 3,603,909

(2) Transition training: Fifteen officers completed U-21A transition. Major Kin, Sae Siak, of the Korean Army received transition and instrument training.

(3) Weather conditions encountered during the rainy season had very little effect upon mission accomplishment. However, an additional ten minutes per flight was normally required for instrument approaches into the Saigon area during afternoon periods.

(4) Aircraft Status:

<u>TYPE</u>	<u>AUTHORIZED</u>	<u>ON HAND</u>
U-21A	26	25

k. (U) 120th Aviation Company (Assault Helicopter).

(1) The following summary of operations is submitted:

Sorties flown: 14,553

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Total passengers: 21,270
Total hours flown: 6,787
Cargo carried: 17 tons
Enemy KIA: 4
Structures destroyed: 2
Sampans destroyed: 2
Aircraft losses: 1 (accident)
Aircraft damaged: 0

(2) Transition training: Five pilots were transitioned into the OH-58A. An IP was supplied to the 3/17 Armored Cavalry Squadron, DI An, for transitioning OH-58A pilots.

(3) On 31 May 1970, the 120th Aviation Company had an accident involving one UH-1H helicopter. There were nine fatalities. The accident investigation board found weather to be a contributing factor.

(4) Aircraft Status:

<u>TYPE</u>	<u>AUTHORIZED</u>	<u>ON HAND</u>
OH-58A	0	6
UH-1H	29	28
UH-1B	8	8

1. (U) 125th Aviation Company (ATC).

(1) The following operational summary is submitted:

Sorties - 1,978
Passengers - 540
Cargo - 50 tons
Hours flown - 804

(2) Aircraft status:

<u>TYPE</u>	<u>AUTHORIZED</u>	<u>ON HAND</u>
U-6A	4	3
UH-1	1	2

(3) Tactical Air Traffic Control Teams (TATCT):

(a) On 9 May 1970, a TATCT equipped with a TSQ-70A was deployed to An Long, and relocated to Chau Duc on 12 May. The TATCT was then redeployed to Vi Thanh on 28 May to support elements of the 164th Aviation Group.

(b) On 1 June, a TATCT equipped with a TSQ-70A control tower was moved from Ha Tien to Moc Hoa.

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(c) During the period 18-30 May, a TATCT with a TSQ-70A control tower was stationed at Duc Co. On 24 June, the TATCT, with control tower, was reassigned to Duc Co. The operation terminated on 10 July 1970.

(d) Two controllers were deployed to Duc Lap for the period 15-23 May 1970. The two controllers furnished to Thien Phouc on 15 June are still assigned there.

(e) On 8 May, a TATCT, equipped with a TSQ-72 GCA radar and control tower, was deployed to Katum in support of the 1st Air Cav Division's Cambodian operations. The operation was terminated on 13 May and re-initiated on 12 June. The TATCT supplied a ground controlled approach facility, which was additionally used to vector aircraft into Cambodia. The mission ended on 1 July.

2. Lessons Learned: Commanders Observations, Evaluations, and Recommendations.

a. Personnel. None.

b. Intelligence. None.

c. Operations.

(1) Tactical Air Traffic Control Support.

(a) OBSERVATION. Air Traffic Control equipment deployed adjacent to artillery pieces developed malfunctions due to shock waves loosening electronic tubes in their sockets.

(b) RECOMMENDATION. That air traffic control equipment not be placed in the vicinity of artillery pieces.

(c) COMMAND ACTION. In the reconnaissance and planning stages of an operation, determine if it is feasible to position ATC equipment in an area sufficiently apart from artillery positions, so that artillery shock waves will not disturb the equipment. Inform supported unit of possible malfunctions which could arise.

(2) Movement of Air Traffic Control Equipment.

(a) OBSERVATION. Facilities for loading and off-loading ATC equipment from aircraft are not the same at all installations. A large air-base has the capability of supplying a variety of different type fork lifts and cranes for handling equipment. A field site at an unimproved or abandoned airfield does not have this same capability, and off-loading may not be possible without sustaining damage to sensitive ATC equipment.

(b) RECOMMENDATION. That the supported unit be made aware of this fact and makes arrangements to furnish the proper equipment.

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SUBJECT: Operational Report - Lessons Learned (Headquarters, 165th Aviation Group) Period Ending 31 July 1970, RCS CSFOR-65 (R2)

(c) COMMAND ACTION. Insure that the supported unit is aware of this in the planning stages of the operation and is taking action to provide the loading and off-loading capability at the tactical site.

d. Organization.

(1) OBSERVATION: The present organizations for providing both terminal and enroute Army air traffic control, and for providing airfield operations with supporting facilities in the Field Army, have not been totally responsive to the needs of Army Aviation and Allied Services.

(2) RECOMMENDATIONS: That the Combat Development Command conduct a study of Army air traffic control and airfield operational needs to establish concepts and doctrine compatible with the increased use of Army aviation in the combat structure of the Army.

(3) COMMAND ACTION: Inclosure 4 is a staff study, prepared by this command, for a feasible organization to satisfactorily provide air traffic control and airfield operations in the Field Army Area.

e. Training. None.

f. Logistics. None.

g. Communications. None.

h. Material. None.

i. Other. None.

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as

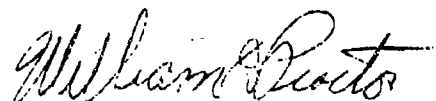
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WILLIAM D. PROCTOR
Colonel, Infantry
Commanding

AVBAGC-O (9 Aug 70) 1st Ind
SUBJECT: Operational Report-Lessons Learned, 165th Aviation Group (Combat)
Period Ending 31 July 1970, RCS CSFOR-65 (R2) (U)

DA, HEADQUARTERS, 1ST AVIATION BRIGADE, APO 96384 15 September 1970

THRU: Commanding General, United States Army Vietnam, ATTN: AVHGC-DST,
APO 96375
Commander-in-Chief, United States Army Pacific, ATTN: GPOP-DT,
APO 96558

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

This headquarters has reviewed subject report and concurs with the contents.

FOR THE COMMANDER:

for R. L. Peterson CPT
WARREN A. PETERSON
CPT, AGC
Asst Adjutant General

AVHDO-DO (9 Aug 70) 2d Ind

18 OCT 1970

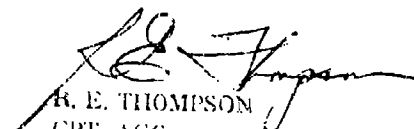
SUBJECT: Operational Report - Lessons Learned (Headquarters, 165th
Aviation Group) Period Ending 31 July 1970, RCS CSFOR-65 (R2)

Headquarters, United States Army Vietnam, APO San Francisco 96375

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

1. This Headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 31 July 1970 from Headquarters, 165th Aviation Group and comments of indorsing headquarters.
2. Reference item concerning "Organization," page 10, paragraph 2d. The experience gained by the 165th Aviation Group in Air Traffic Control provides an excellent basis upon which to study requirements for future field armies. The proposed organization provides the depth, skills and responsiveness required in a highly mobile field army. Unit has been so advised.

FOR THE COMMANDER:


R. E. THOMPSON
CPT. AGC
Assistant Adjutant General

Cy furn:
1st Avn Bde
165th Avn Gp

GPOP-DT (9 Aug 70) 3d Ind
SUBJECT: Operational Report of HQ, 165th Aviation Group for Period
Ending 31 July 1970, RCS CSFOR-65 (R2)

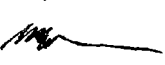
HQ, US Army, Pacific, APO San Francisco 96558

NOV 70

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

1. This headquarters concurs in subject report as indorsed with the following comments.
2. Operations in SEA have proven that ATC activities are best controlled under a single manager. Recently, USAEIGHT completed an air traffic study which also recommends "one unit" management of ATC, which reinforces the concept that centralized control is an essential requirement for the most effective method of employing ATC equipment and personnel. With the ever increasing requirement for positive air traffic control, the current ATC doctrine set forth in FM 1-60, Nov 68, has been rendered obsolete. Since the publication of FM 1-60 there have been various commands and Army agencies which have contributed studies in an effort to resolve the problem of airspace over the battlefield and the control of air traffic therein. It is recommended that studies on the subject of air traffic control be made available to CDC for consideration during the preparation of the revised edition of FM 1-60.
3. Reference paragraph 4e(3), page 7, Inclosure 4: The parenthetical phrase in the discussion portion of the staff study at Inclosure 4 states that the Field Army Aviation Group dedicated to ATC "could also serve as a command headquarters for aviation units assigned directly in support of the Field Army Headquarters." Aviation support of any element should come from aviation units commanded by an aviation headquarters. An ATC group should not be operating or controlling an aviation battalion. Army aviation support required by the ATC group should be in the manner of direct support from aviation units.

FOR THE COMMANDER IN CHIEF:


L.M. OZAKI
CPT, AGC
Asst AG

DEPARTMENT OF THE ARMY
HEADQUARTERS 165TH AVIATION GROUP (CBT)
APO San Francisco 96384

STAFF STUDY
TACTICAL AIR TRAFFIC CONTROL
AIRFIELD OPERATIONS

There were many growing pains experienced during the rapid expansion of Army aviation over the past several years. One of the most significant problems encountered was that of developing viable aviation organizations sufficiently flexible to keep pace with the rapidly changing hardware, and concepts of employment. Pre-Vietnam units were not organized to fight a limited unconventional war. Much of the support required for extended operation of these units was based on logistical concepts not yet implemented. Units could not be employed in the traditional Theater-Field Army-Corps and Divisional zones of operation with relatively secure rear areas and lines of communication. Time did not exist for the usual, carefully analyzed, tested, and evaluated TOE development procedures of the Combat Developments Command. The only course of action that could be taken by Department of the Army was the modification of existing units through the newly adopted NAADS/TAADS MTOE system. However, these units were reorganized under the duress of ill defined doctrines and concepts of a yet to be proven method of employment. Personnel and equipment were allocated to units under the constraints of space ceilings and equipment availability. From within this framework, Army aviation organization was developed. Many excellent units were structured through the MTOE tailoring process. However, there were also some that were pieced together to meet the exigencies of the moment. Units that were based on an immediate requirement, as it developed, and had no basis in existing concepts or doctrine. Such a unit is the subject of this study. The evolution of this unit, and the need which dictated its existence, are essential to an overall understanding of the problem. Army Air Traffic Control, especially in a combat environment, has never received its proportionate share of attention in the development studies which have structured the rest of Army aviation. Prior to Vietnam, Army aviation depended on the FAA for air traffic control services in CONUS, except at established Army airfields. Overseas, small detachments were formed to provide the requisite flight following, while towers, when manned by trained controllers, were the responsibility of tactical aviation units based on the airfield. Army controllers were trained by the Air Force in limited quantities. During the early to mid 1960's, Army airfields at many major Army installations within CONUS shifted to civilian tower operators. Each position converted to a civilian space represented one less Army air traffic controller capable of deployment to an overseas theater to fill a tactical requirement. The inevitable, and predictable situation developed. During the mid 1960's Army aviation units were rapidly flowing into Vietnam. The majority of tactical aviation companies had their organic air traffic control capability deleted by MTOE action, the authorized spaces being

devoted to other more pressing and immediate needs. Army air traffic control in Vietnam, except for limited enroute and terminal services provided by the 18th AOD, and its successor, the 125th Aviation Company (ATC), was wholly inadequate; for the most part non-existent. Desperate measures had to be taken. Department of the Army contracted with Lear Siegler Incorporated to furnish civilian air traffic controllers for one year. During the interim period, the Army hurriedly organized and deployed 35 small aviation detachments to operate those airfields that were primarily Army responsibility. These detachments were originally not pure air traffic control units, but evolved into such over a period of time. Employment of the units was to widely separated areas throughout Vietnam. The Lieutenant Colonel, who commanded each detachment, was invariably assigned as airfield commander at the airfield to which his unit was assigned. He found himself in a most peculiar, and difficult position, as he was almost always charged with the responsibility for operating all aspects of an airfield without the requisite resources. The theory upon which the concept was based, ie; tenant units would furnish personnel and equipment not already provided, was for the most part ineffectual. The commander was faced with what amounted to an impossible task. Major tactical unit commanders could not provide either the priority of attention or resources to these small detachments to make the concept effective. There was no centralized direction of effort. Over a period of time, all capabilities for anything but terminal air traffic control were removed from the detachment's authorization documents. The air traffic effort was tied together by assigning each of the separate detachments to one command headquarters. This command headquarters was initially the 58th Aviation Battalion (FFM) which, through evolutionary processes and the assignment of two command and control flying companies, became the 165th Aviation Group (Combat). This unit became a veritable organizational monstrosity with forty subordinate units spread throughout the entire length of Vietnam, each reporting directly to the same control headquarters. The experiences gained through making this unique organization a workable entity, and the expertise developed by those individuals who have made it work, constitute the major portion of the Army's experience in the field of tactical Air Traffic Control today. The avowed purpose of this study is to present for consideration an organization, manned and equipped, to perform the essential functions of operating major Army airfields throughout a Field Army zone of operation, and to provide tactical vectoring of aircraft, approach control, GCA, and limited enroute IFR control. An organization that is sufficiently flexible to be effectively employed in both conventional and unconventional combat environment.

1. **PROBLEM:** To determine the optimum organization for providing Army Air Traffic Control within the Field Army Area of operation, and for the essential operational needs of major Army airfields servicing the Field Army.

2. **ASSUMPTIONS:**

- a. That the United States Army will continue to require a high level of aviation support for combat operations.
- b. That the United States Air Force will continue to retain the intra-theater air lift mission. That this mission will continue to require transport,

by large cargo aircraft, of major quantities of combat essential supplies and equipment to forward area airfields maintained and operated by the United States Army.

c. That both VFR and IFR terminal and enroute operations are essential to the safe and orderly flow of air traffic within the Field Army Area.

d. That radar monitoring of Army aircraft by Army surveillance radar will contribute significantly to the effectiveness of ground combat operations and the safety of Army aircraft.

3. FACTS BEARING ON THE PROBLEM:

a. Current doctrine provides for tactical units to have an organic terminal air traffic control, fire fighting, and airfield service capability.

b. Current doctrine provides for enroute air traffic control through an Aviation Air Traffic Control Unit, TOE 1-207G.

c. Most separate aviation companies currently employed in Vietnam have all organic air traffic control spaces and equipment deleted by MTOE action.

d. Army Air Traffic Control in Vietnam is provided by the 35 Aviation Detachments (Divisional), An Khe Army Airfield Command, and the 125th Aviation Company (ATC), all under the control of the 165th Aviation Group (Combat).

e. With isolated minor exceptions, the 165th Aviation Group exercises centralized management over all Army Air Traffic Specialists in Vietnam not assigned to the two air mobile divisions. This management includes standards of training, operational evaluations, personnel assignment, promotion, and military justice.

f. The safe and efficient conduct of air traffic control is predicated on highly skilled individuals adhering to standardized procedures and precise phraseology.

g. Tactical aviation unit commanders deeply involved in the conduct of combat operations neither have the expertise nor the time to insure dedicated compliance with air traffic control procedures on a fragmented basis.

h. With the exception of An Khe Army Airfield Command, and to a lesser degree Quang Tri Army Airfield, detachments of the 165th Aviation Group have no organic capability to provide anything in support of airfield operation other than air traffic service.

i. Habitually, 165th Aviation Group Detachment Commanders are assigned a dual responsibility of being the Airfield Commander. Conceptually, the predominant user of the installation is to provide the Airfield Commander with personnel and equipment resources required to operate the airfield (POL, crash rescue, operations and transient maintenance). In actual practice the installation commanders can not, and for the most part do not, provide the additional personnel and equipment required for the airfield commander to efficiently and effectively accomplish this mission.

j. Since the 165th Aviation Group has no capabilities outside of air traffic control, it must disavow responsibilities for all other aspects of airfield operations. Supervision of everything but air traffic control must be fragmented to each predominate user, thus making standardization of all other aspects of airfield operations extremely difficult and frequently haphazard.

k. In addition to the air traffic control responsibility, the 165th Aviation Group has assigned the Command Aircraft Company and the 120th Aviation Company (Assault Helicopter). These two units provide command and control fixed and rotary-wing support to HQ MACV and HQ USAFV.

4. DISCUSSION:

a. In view of the assumptions set forth above, the Army will continue to be required to operate numerous airfields in the forward areas. This not only includes operation of the air traffic control facility but, to varying degrees, all other aspects of operating an active airfield. Experience has proven that traffic into and out of these airfields is so dense that highly effective control is absolutely mandatory to prevent excessive drawdown on manpower and equipment resources through needless accidents, and to bring about an efficient flow of supplies and equipment. Further, this traffic is not confined to operation of Army aircraft, but includes frequent use by heavy aircraft from other services delivering critically needed supplies and equipment. Aviators from all services can, and frequently do, refuse to use airfields when they consider the safety of their aircraft is in question for any one of various reasons.

b. The Army has built into its existing fleet of aircraft the potential to operate under instrument conditions. This has been accomplished through equipping aircraft with extremely expensive avionics equipment including transponders, communication and navigation radio systems. During combat operations the Army is realizing only a very small percentage of this potential. Essentially, combat assaults, and to a lesser degree combat support missions, are limited to VFR operations. There are two basic reasons for this, one being the lack of proficient instrument pilots, the other the lack of ability to navigate over the battlefield when ground contact is lost. The first reason can be corrected through intensive training of pilots; the latter can not be corrected as easily. There must be a system established by which aircraft can be radar vectored through bad weather to where they are needed. IFR navigation could be accomplished within friendly lines through the establishment of non-directional beacon network. However, this is not feasible over enemy controlled territory and the enemy's ability to set up false beacon signals could easily lead aircraft into a trap. Positive radar identification and vectoring presents the most feasible solution, and would be the best method of the Army to take maximum advantage of the potential already built into its aircraft.

c. The absolute requirement for a well organized air traffic control system in the Field Army area of operations is unquestioned. The extent and complexity of the system will be dictated by the degree to which the modern battlefield and future battlefields are dependent upon Army Aviation and Air Force support. The

more aircraft involved in supporting combat action and the air lines of communication, the more essential a well organized and operated air traffic control system becomes. The inability of the Army and the Air Force to resolve the academic battle over who owns the airspace notwithstanding, effective air traffic control must be provided as far forward as tactical brigade's base camps, as well as forward operating bases on an "as required" basis. Who provides the air traffic control at forward airfields is also a somewhat academic question. The acid test as to who should operate the system can be resolved quite easily by determining who can not accomplish their mission as efficiently if the function is not performed. Using this rationale, there is little question but that the Army's capability to effectively perform its mission is the governing factor. Further, experience in Vietnam has shown that the Air Force has little interest or desire to extend their air traffic control system to the Army's forward tactical base airfields. Therefore, it becomes axiomatic that the Army must own and operate its own air traffic control system which services the entire Field Army Area of responsibility. Given this premise as a base point, consideration must be given to what functions the system will perform and what type unit(s) is needed to accomplish the mission.

d. An analysis of traffic count at Army operated airfields/heliports in RVN indicates a monthly average of 1,000,000 operations. The variance is large between different airfields; however, from the average traffic count, it becomes immediately apparent that, if terminal VFR control (tower) was not available, aircraft movement to and from the airfield would become paralyzed, and utter chaos would develop. Combat operations are not limited to fair weather. Aircraft must be able to support combat units during all conditions of weather. There must be a capability to launch and recover aircraft during marginal weather and instrument conditions. From the preceding, it can easily be determined that both VFR and IFR terminal operations are required. The next facet to take into consideration is that of enroute air traffic control. Should the system provide both VFR and IFR enroute control? A finite answer to this question should be based on a careful analysis of the capabilities already in existence in the areas of most probable commitment. This type analysis is not within the capabilities of this study. However, rationalization based on practical experience makes it readily apparent that a local national flight following system, if in existence, would be quickly overloaded with VFR flight following operations (1,312,612 annually in Vietnam). Local systems could not absorb the increased workload, even if equipment was compatible with that of the Army. Further, a local system would not be geared to provide for tactical vectoring of aircraft to targets of opportunity and re-arming zones. The Army needs the capability to provide simplified IFR flight following throughout the Field Army Area, with special emphasis on the forward tactical zones of operation. A system should be such that it could be entered through VFR in-flight filing and simplified IFR procedures. The ideal system envisions a low altitude radar coverage of the Field Army Area that will service both VFR and IFR traffic. This could be accomplished through the employment of medium range (80 mile) surveillance radars deployed throughout the area. If such a capability were employed with each forward division, it could serve to meet the tactical vectoring requirement, radar monitored VFR enroute flight following, and radar control of IFR traffic.

Further, it could also serve as an approach control facility for instrumented airfields within the division's zone of responsibility. Under normal conditions of deployment, the eighty mile capability of the medium range radar would provide sufficient overlap to establish coverage throughout the Field Army Area.

c. Accepting the need for a well organized and operated air traffic control system within the Field Army, consideration must be given to the type(s) of unit(s) required. The current doctrine of providing a terminal capability to tactical aviation units does not appear feasible for several reasons:

(1) There must be an inherent flexibility in employing terminal facilities. No two airfields require exactly the same number of personnel and equipment. Experience in Vietnam has proven the configuration of airfields and number/type aviation units based there frequently require services of two or more towers. Additionally, not all airfields/heliports require an IPR terminal capability. While it is recognized that individual units can not be designed for every possible contingency, flexibility must be built into a unit that permits maximum latitude in employment. Where the terminal capability is organic to separate tactical aviation units, the assets can not be easily shifted to meet varying demands. Under the existing concept, the ATC effort is fragmented, and can not be centrally controlled. The concept of one unit responsible for Air Traffic Control on an area basis, permits the employment of highly skilled personnel and complex equipment where the need exists. Further, it permits the rapid redeployment of these assets when the air traffic activity shifts to other areas.

(2) The fragmentation of assets to separate aviation units precludes centralized training and quality control of highly skilled technicians. Precise standardization of phraseology and procedures are absolutely mandatory, especially where the traffic is so dense that critical transmission time can not be wasted on constantly repeating instructions. Both the pilot's and the controller's ears must be tuned to what they expect to hear. Variation in verbiage or procedures frequently results in confusion and misinterpretation of instructions. If the Army is going to safely control large volumes of air traffic, techniques used by individual controllers must be standardized, and the responsibility for any deviations directly established. A tactical commander's primary problems center around aircraft availability, tactical employment and safe operation of aircraft. The importance of standardization and training of air traffic controllers is overshadowed by more pressing operational needs. To insure the quality control needed, centralized command and control of all air traffic control assets is mandatory. Where this does not exist, numerous variations in phraseology, procedures, and techniques will develop and go uncorrected. The lack of standardization will inevitably lead to confusion and unsafe practices in the control of traffic.

(3) The assignment of highly complex, difficult to maintain, ATC equipment to tactical units imposes an additional maintenance burden on the unit. Maintenance of ATC equipment can not help but become secondary to that of aircraft. In order to insure the air traffic control function is continuously operational, dedicated maintenance support is required. This support must be the direct responsibility of air traffic control oriented unit commanders.

f. Since the Air Force will continue to deliver large tonnages of supplies to forward Army airfields, close and continuous coordination of airspace usage must be accomplished at major command levels. Further, the Army air traffic control effort within the Field Army area of responsibility would be best controlled from that level of command. A type organization which could effectively command and control ATC units, coordinate with the Joint Services and local national airspace activities, would be a Field Army Aviation Group dedicated to air traffic control. This group could also serve as a command headquarters for aviation units assigned directly in support of the Field Army Headquarters. It is envisioned that this group would have one air traffic control battalion assigned for each tactical corps area and one for the Field Army Service Area. Each battalion would be assigned an air traffic control company for each committed division and one for the corps service area. The company would be capable of operating three instrumented airfields in the division area of responsibility (one at division base airfield and one at each committed brigade airfield/heliport). Further, it would have organic an air traffic control facility equipped with a medium range radar. This facility would tie into the Field Army air traffic route structure and provide all VFR and IFR enroute flight following. Additionally, the facility would be capable of vectoring aircraft to targets of opportunity and tactical landing zones in the division area of responsibility.

g. The absolute requirement for unit(s) capable of operating Army airfields (less air traffic control) can not be as readily established as the need for a viable air traffic control system. The current procedure of tasking the predominate user with all aspects, other than air traffic control, of supporting the operation of airfields does work to a degree. However, it is sporadic; duties and responsibilities are fragmented; and essential areas frequently go unattended. Where the functions are performed to the degree needed, it requires personnel and equipment to be dedicated on a full time basis. Where this is not the case, a coordinated effort of operating the necessary functions can not be expected. Additionally, dependence on contract personnel to perform essential functions such as fire fighting, crash rescue, and airfield R&U work can be rationalized only during a protracted involvement expected to go on indefinitely. This type of support is inherently inflexible and unresponsive to changes in tactical deployments. Based on experience gained in Vietnam, there is a strong indication that a "total package" airfield would result in a far more effective, safer operation, and require less personnel in the long run. There is little question that such a package could be better controlled and achieve better standardization in training and operations.

h. The current Army doctrine of providing organic air traffic control, fire fighting and airfield service capability to each tactical aviation company is extremely wasteful of highly specialized personnel and costly equipment. Habitually, more than one aviation company is based on the same installation. Frequently, several aviation companies use the same facilities resulting in an uneconomical duplication of capability. Further, the fragmentation of highly trained air traffic control personnel precludes any centralized effort of standardization and quality control.

1. Maintenance and repair of airfields in Vietnam has been a constant problem area. For the most part this service has been provided by a contractor which would not be available during conventional type warfare. Military engineer support is normally so deeply committed to ground operations that very little time can be devoted to routine improvements on airfield facilities. Improvements and repairs are desperately needed to maintain, or improve on, runways, taxiways, and approach zones to insure that safe operations are possible. The "Type" Field Army Aviation Group envisioned in para e would be capable of operating forty-eight instrumented and sixteen non-instrumented airfields. This number of airfields would require the dedicated support of numerous engineer units almost continually. Strong consideration should be given to placing one engineer battalion, specifically organized to perform airfield repair and construction under the operational control of the Field Army Aviation Group. (ATC & Airfield Opns).

5. CONCLUSIONS:

a. That the Army will be required to provide for its own air traffic control during combat operations.

b. That the type control required will be VFR and IFR terminal area control, VFR and IFR enroute flight following, IFR Approach Control and radar vectoring for tactical employment.

c. That the Army's existing doctrine for providing air traffic control service:

(1) Is not sufficiently flexible to meet the requirements of both conventional and unconventional type warfare.

(2) Will frequently result in duplication of highly trained personnel and equipment at one location. (more than one tactical unit with identical equipment and similarly trained specialists).

(3) Does not provide for centralized standardization and quality control of critical skills essential to the safe, orderly, and efficient control of air traffic within the Field Army Area of Operation.

d. That a requirement does exist for the development of a TOE structured organization that is responsible for the operation of the Field Army Air Traffic Control System. Further, that such an organization could provide the framework for a "Total Package", which would provide essential needs required for the operation of an airfield. A concept which could conceivably result in a significant savings of both manpower and equipment.

e. That the entire concept of Army Air Traffic Control, as embodied in current doctrine, should be re-evaluated through an in-depth study of operational changes made to meet the needs of Vietnam.

* * * * *

THE AVIATION GROUP (ATC AND AFLD OPNS) AS ENVISIONED IN THIS STUDY WILL NUMBER

APPROXIMATELY 5200 INDIVIDUALS. WHILE AN IN-DEPTH ANALYSIS WOULD BE REQUIRED TO DETERMINE THE NUMBER OF SPACES CURRENTLY IN THE FORCE STRUCTURE OF A "TYPE" FIELD ARMY, THERE IS LITTLE QUESTION THAT ADDITIONAL SPACES WOULD BE REQUIRED. HOWEVER, THE ADDITIONAL COSTS INVOLVED IN OPERATING SUCH A SYSTEM WOULD BE OFF-SET MANY FOLD BY THE INCREASED FLEXIBILITY PROVIDED THE GROUND COMMANDER IN REALIZING THE FULL POTENTIAL OF AIRMOBILITY UNDER ALL CONDITIONS OF WEATHER AND TERRAIN. MY EXPERIENCE IN OPERATING SOME 36 AIRFIELDS, 11 TACTICAL AIR TRAFFIC CONTROL TEAMS, AND 27 GROUND CONTROL APPROACH AND TACTICAL VECTORING RADARS IN VIETNAM HAS MADE IT ABUNDANTLY CLEAR THAT: CENTRALIZED CONTROL OF THESE SERVICES IS ESSENTIAL FOR EFFECTIVE OPERATIONS; AND, THAT THE ARMY HAS TO THIS DATE ONLY SCRATCHED THE SURFACE IN BRINGING ABOUT ALL-WEATHER AIR TRAFFIC CONTROL ESSENTIAL TO THE FULL EXPLOITATION OF THE ARMY'S VAST FLEET OF AIRCRAFT.

* * * * *

6. RECOMMENDATIONS:

It is recommended that:

- a. Combat Developments Command conduct a study of the Army's air traffic control needs to establish concepts and doctrine compatible with the increased use of Army Aviation in the combat structure of the Army.
- b. Serious consideration be given to a "Total Package" concept of operating tactical Army airfields.
- c. Consideration be given to a "Type" Field Army Aviation Group, (ATC and airfield operation), properly structured for command, control, and logistical support, similar to that set forth in inclosure one.

1 Incl
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William D. Proctor
WILLIAM D. PROCTOR
COL, IN
Commanding

THE FIELD ARMY AVIATION GROUP (ATC & AIRFIELD OPERATIONS)

1. MISSION: To provide command and control of the Field Army Air Traffic Control system. To operate instrumented and non-instrumented airfields/heliports in the Field Army area of operations. To provide approach control, enroute IFR/VFR air traffic control, and tactical radar vectoring throughout the Field Army area.
2. ASSIGNMENT: Organic to the Field Army.
3. CAPABILITIES:
 - a. To provide one air traffic control battalion per corps area.
 - b. To organize and operate the Field Army air traffic control system and approach control for major airports/heliports in the Field Army area.
 - c. When organized with four air traffic control battalions, it can organize and provide limited airfield operations for forty-eight (48) instrumented airfields/heliports and sixteen non-instrumented tactical airstrips/heliports within the Field Army area, to include airfield operations, tower, GCA, navigational aids, POL, and crash rescue.
 - d. To operate the Field Army NOTAM system.
 - e. To establish and maintain enroute IFR/VFR ATC throughout the Field Army area of operations through sixteen approach control and enroute facilities.
 - f. To provide tactical radar vectoring of Army aircraft in support of combat operations.
 - g. When assigned an airfield engineer construction battalion, provide limited airfield/heliport construction and maintenance.
 - h. When assigned fixed wing and rotary wing aviation companies, provide command and staff transport for the Field Army headquarters.
 - i. Coordinates policies and procedures pertaining to civil/military ATC requirements with the other military services and appropriate civilian agencies.
4. BASIS OF ALLOCATION: One per Field Army.
5. CONCEPT OF EMPLOYMENT: The Field Army Aviation Group (ATC & AO) would be employed to plan, organize, and operate the Field Army air traffic control system, including the operation of instrumented and non-instrumented airfields, and the establishment and control of enroute IFR/VFR ATC systems. Conceptually, the group would be assigned one aviation battalion (ATC & AO) per committed corps and one aviation battalion (ATC & AO) to operate the Field Army service area. In the normal "type" Field Army, this would consist of four such "type" battalions.

AVIATION GROUP (ATC & AIRFIELD OPERATIONS)

1. CAPABILITIES:

- a. The group can operate forty-eight (48) airfields to include:

Tower
GCA
Navigation Beacon
Airfield Operations
POL
Crash & Rescue

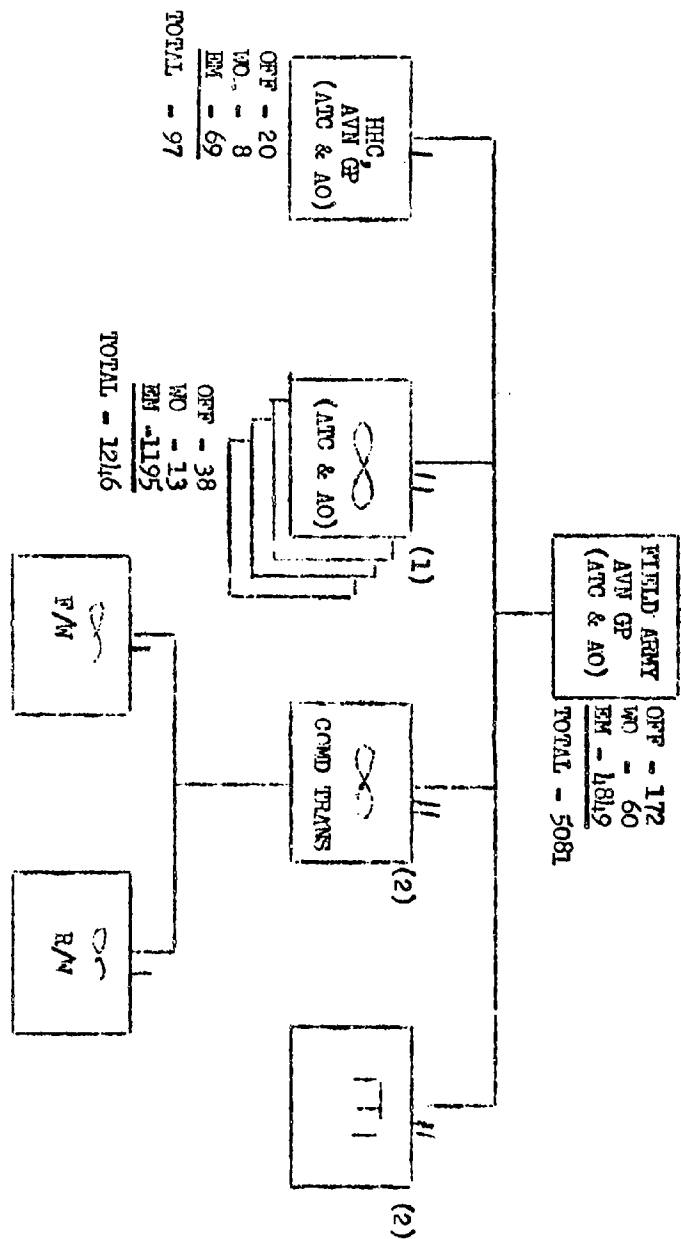
- b. Sixteen (16) Tactical Air Traffic Control Teams (TACT) with tower and navigation beacons.

- c. Sixteen (16) approach control/flight following stations.

2. MAJOR END ITEMS:

6 Observation Helicopters
30 Utility Helicopters
3 Utility Airplanes
64 Non-directional Beacons
64 Control Towers
48 GCA Radars
48 Refueling Stations
16 Flight Facilities Vans

THE FIELD ARMY AVIATION GROUP (ATC & A REFIELD OPERATIONS)

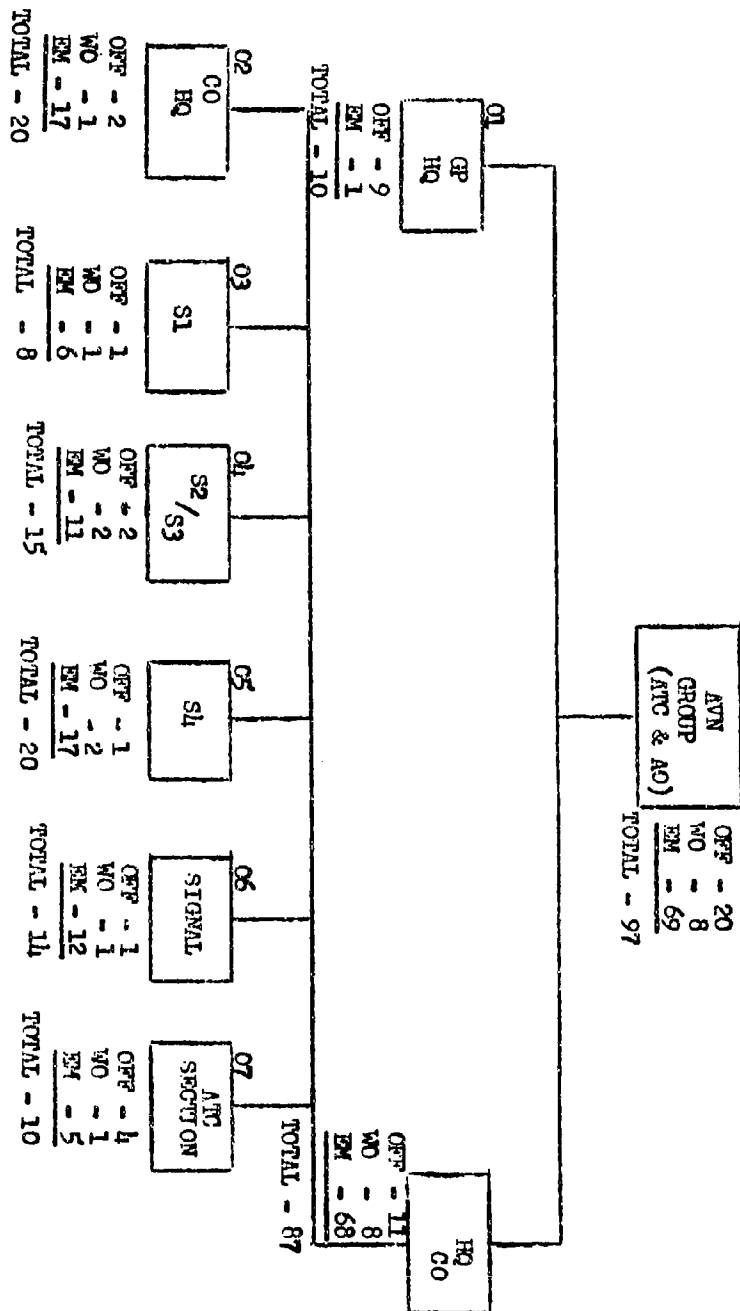


1. ONE PER CORPS AREA
2. OPTIONAL

HEADQUARTERS AND HEADQUARTERS COMPANY
AVIATION GROUP (ATC & AIRFIELD OPERATION)

1. MISSION: Furnish command and control for the aviation group and provide staff planning, personnel administration, supply supervision, and signal support. Provide flight check and ground inspection of air traffic control facilities and airfields in the Field Army area.
2. ASSIGNMENT: Organic to the Aviation Group (ATC & AO).
3. CAPABILITIES:
 - a. Provides command and control for organic battalions.
 - b. Provides staff planning for the establishment of airfields and ATC facilities, and inspects and improves them through continuous staff visits.
 - c. Provides supervision and insures the maximum utilization of communications and electronics equipment throughout the group.
 - d. Provides flight check of ATC facilities and ground inspections of airfields and heliports. Evaluates and certifies tower operators and ATC controllers.
 - e. Controls and monitors supply actions throughout the group.
 - f. Establishes and monitors ATC training programs for the ATC battalions.
4. BASIS OF ALLOCATION: One per aviation group.
5. CONCEPT OF EMPLOYMENT: The headquarters and headquarters company provides command and staff personnel to control and supervise the group. It is normally employed as a unit, and is located at an airfield established by an organic unit. Command and liaison aircraft are provided to aid in the supervision of widely separated units.

HQS, THE FIELD ARMY AVIATION GROUP (ATC & AIRFIELD OPERATIONS)



GP HQ

<u>PAR NO</u>	<u>LINE</u>	<u>JOB TITLE</u>	<u>GRADE</u>	<u>MOS</u>	<u>AUTH</u>
01	01	Group Commander	NO 06	1983	1
	02	Group XO	05	1983	1
	03	S-1	04	62110	1
	04	S-2	04	69301	1
	05	S-3	05	62162	1
	06	S-4	04	62010	1
	07	Sig Off	SC 04	60205	1
	08	Safety Off	04	67423	1
	09	ATC Facilities Off	05	1984	1
	10	Sgt Major	NC E9	00Z50	1
				<u>TOTAL</u>	<u>10</u>

CO HQ

<u>PAR NO</u>	<u>LINE</u>	<u>JOB TITLE</u>	<u>GRADE</u>	<u>MOS</u>	<u>AUTH</u>
02	01	Company Commander	NO 04	2900	1
	02	XO	" 03	2900	1
	03	Prop Book Off	WO	761A	1
	04	LSG	NC E8	93L50	1
	05	Mess Sgt	E7	94B40	1
	06	Supply Sgt	E7	76Y40	1
	07	Motor Sgt	E6	63D40	1
	08	1st Cook	E6	94B40	1
	09	1st Cook	E5	94B20	1
	10	Co Clk	E5	71K20	1
	11	Clerk/Typist	E4	71B20	1
	12	Cook	E4	94B20	2
	13	Wh Veh Mech	E5	62B20	1
	14	Wh Veh Mech	E4	63B20	2
	15	Supply Clk	E4	76Y20	2
	16	Armorer	E4	76Y30	1
	17	Mail Clerk	E3	70A10	1
				TOTAL	20

S-1

<u>PAR NO</u>	<u>LINE</u>	<u>JOB TITLE</u>	<u>GRADE</u>	<u>MOS</u>	<u>AUTH</u>
03	01	Asst Adj	AG 03	02110	1
	02	Pers Tech	WO	711A0	1
	03	Pers NJO	NC E7	71H40	1
	04	Pers Mgt Supv	E6	71H40	1
	05	Sr Pers Mgt Spec	E5	71H20	1
	06	Pers Rcds Clk	EL	71H20	2
	07	Pers Actg Spec	EL	71H20	1
TOTAL					8

S-2/S-3

<u>PAR NO</u>	<u>LINE</u>	<u>JOB TITLE</u>	<u>GRADE</u>	<u>MOS</u>	<u>AUTH</u>
04	01	Asst S-3	NO 04	62162	1
	02	Opns & Tng Off	03	62162	1
	03	R/W Aviation	WO		2
	04	Opns ATC Chief	NC E9	93L50	1
	05	Opns Sgt	E8	71P50	1
	06	Intell Sgt	E8	96B50	1
	07	Tng NCO	E7	93H40	1
	08	Safety NCO	E6	71P40	1
	09	Opns Spec	E5	71P20	1
	10	Opns Spec	E4	71P20	1
	11	Clerk/Typist	E5	71B20	1
	12	Cartographer	E5	81C20	1
	13	Draftsman	E5	81A10	1
	14	Clerk/Typist	E4	71B20	1
TOTAL					15

S-4

<u>PAR NO</u>	<u>LINE</u>	<u>JOB TITLE</u>	<u>GRADE</u>	<u>MCS</u>	<u>AUTH</u>
05	01	Asst S-4	NO 03	64010	1
	02	Supply Tech	WO	761A0	1
	03	Auto Maint Tech	WO	631A0	1
	04	Supply Sgt	NC E8	76250	1
	05	Mat Read NCO	E7	67250	1
	06	Stk-Actg NCO	E6	76Ph0	1
	07	Gen Sup Spec	E5	76Y20	1
	08	Supply Clerk	EL	76Y20	1
	09	Reports Clerk	EL	71320	1
	10	Acft Maint Supv	E7	67250	1
	11	R/W Tech Insp	E6	67W20	1
	12	U-21 Crew Chief	E5	76Q20	3
	13	UH-1 Crew Chief	E5	67W20	2
	14	Doorgunner	EL	67V20	2
	15	OH-58A Crew Chief	EL	67V20	2
TOTAL					20

SIGNAL SECT

<u>PAR NO</u>	<u>LINE</u>	<u>JOB TITLE</u>	<u>GRADE</u>	<u>MOS</u>	<u>AUTH</u>
06	01	Asst Sig Off	SC 03	0205	1
	02	Radar Tech	WO	282A0	1
	03	Commo Chief	NC E8	31G40	1
	04	Radio TT Tm Chief	E5	05C40	1
	05	Radio TT Oper	E4	05C20	3
	06	Sr Fld Swb Oper	E5	36K20	1
	07	Fld Swb Oper	E4	36K20	3
	08	Fld Radio Mech	E4	31B20	1
	09	Sr Msg Clerk	E4	36K20	1
	10	Msg Clk	E3	36K20	1
TOTAL					14

ATC SECT

<u>PAR NO</u>	<u>LINE</u>	<u>JOB TITLE</u>	<u>GRADE</u>	<u>MOS</u>	<u>AUTH</u>
07	01	Flt Check Off	WO 04	1984	2
	02	Flt Check Off	03	1984	2
	03	ATC Tech	WO	Undev	1
	04	ATC Tng NCO	NC E8	93L50	1
	05	ATC Facilities NCO	E8	93L50	1
	06	ATC Chief	E7	93H40	1
	07	ATC Chief	E7	93J40	1
	08	Clerk/Typist	EL	71B20	1
TOTAL					10

AVIATION BATTALION (ATC & AIRFIELD OPERATIONS)

1. MISSION: The battalion provides command and control of the corps air traffic control systems, and establishes and maintains twelve airfields/heliports and four enroute IFR/VFR and approach control facilities. The battalion provides tactical radar vectoring for Army aircraft in the corps area.
2. ASSIGNMENT: Organic to the Field Army Aviation Group (ATC & Airfield Operations).
3. CAPABILITIES:
 - a. Provides limited airfield operations for twelve fully instrumented airfields or heliports, to include airfield operations, tower, GCA, navigational aids, POL, and crash rescue through four aviation companies (ATC & AO).
 - b. Provides four enroute IFR/VFR and approach control facilities in the corps area.
 - c. Provides limited aviation support for command, liaison, and emergency supply action.
 - d. Provides communication net and technical assistance for organic electronic equipment.
 - e. Provide limited battalion level aircraft maintenance for organic aircraft.
 - f. Can operate independently when assigned to a separate corps or task force. When augmented, it can provide personnel and administrative support for its assigned and attached units.
4. BASIS OF ALLOCATION: Four per aviation group.
5. CONCEPT OF EMPLOYMENT: The battalion is employed to provide command and control of air traffic control and airfield operations in the corps area. It is normally located at an airfield established by one of its subordinate units. It is most effectively employed as a unit; however, its airfield operating companies can be placed under operational control, or attachment (for a limited time or special operation), to other units as the mission demands.

AVIATION BATTALION (ATC & AIRFIELD OPERATIONS)
(4 Companies)

1. CAPABILITIES: The battalion can provide:

a. Twelve airfield operations, to include:

Tower
GCA
Navigation Beacon
Airfield Operations
POL
Crash & Rescue

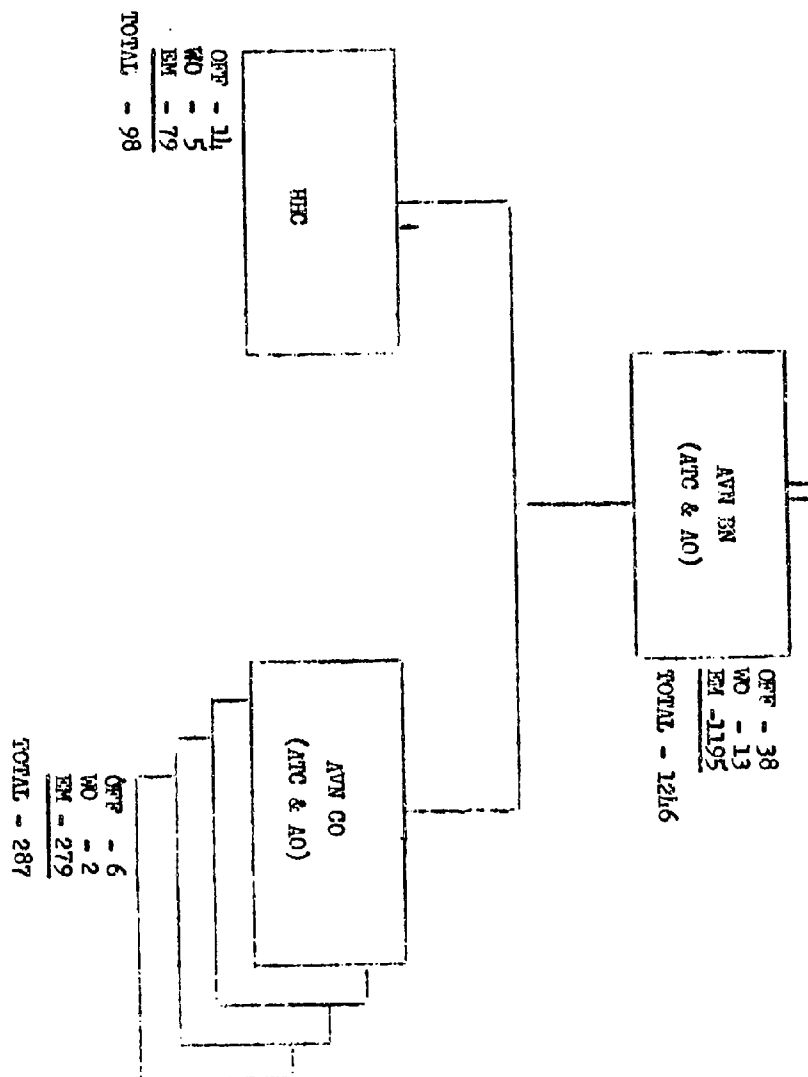
b. Four Tactical Air Traffic Control Teams (TATCT) with tower and navigation beacons.

c. Four enroute IFR/VFR and approach control facilities, each with the capability of remoting one relay station.

2. MAJOR END ITEMS: (Four companies)

7 Utility Helicopters
1 Observation Helicopter
16 Control Towers
12 GCA Radars
16 Non-directional Beacons
12 Refueling Systems
4 Flight Facilities Vans

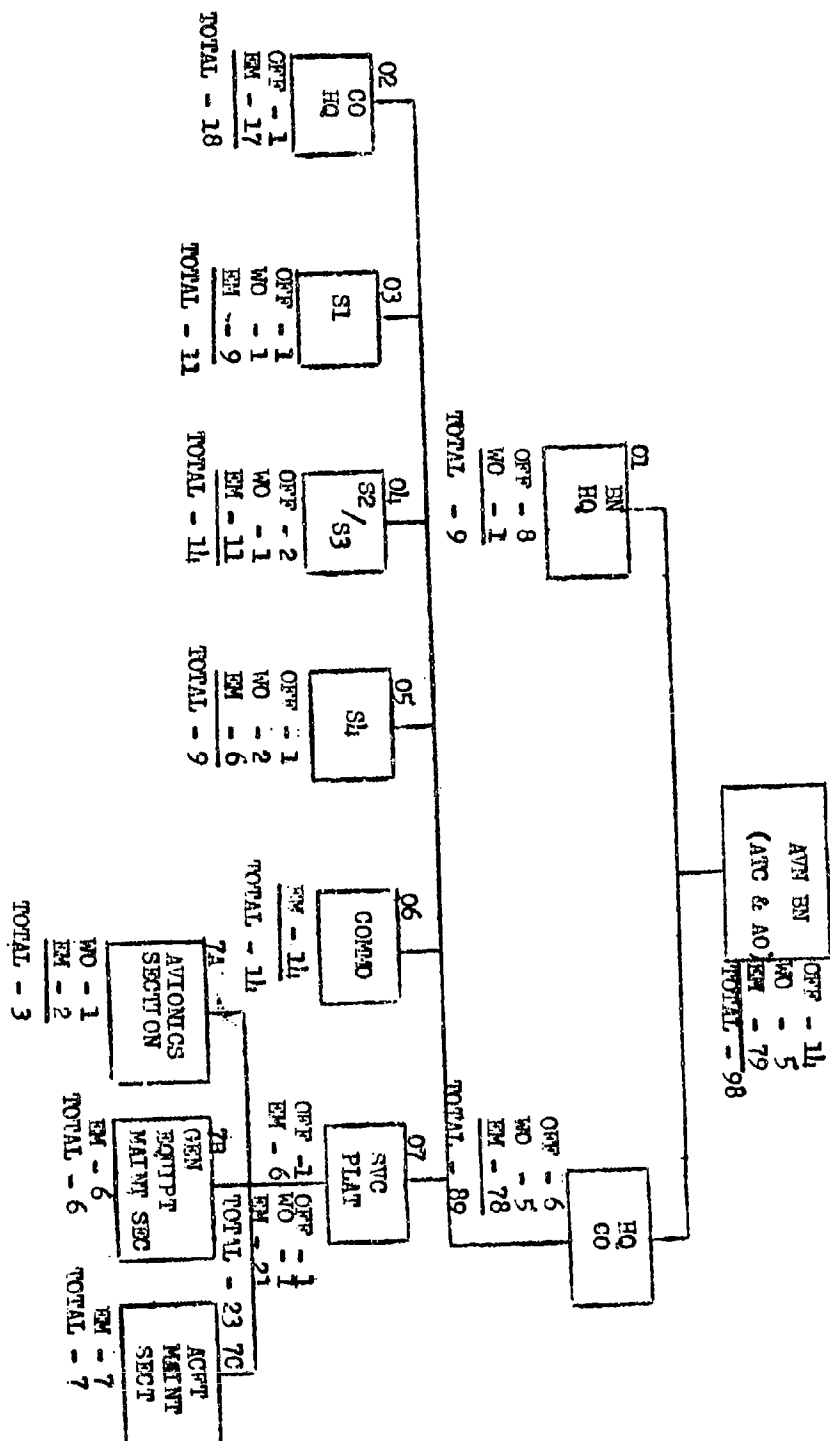
AVIATION BATTALION (ATC & AIRFIELD OPERATIONS)



HEADQUARTERS AND HEADQUARTERS COMPANY
AVIATION BATTALION (AIR TRAFFIC CONTROL & AIRFIELD OPERATIONS)

1. MISSION: To provide command and control for four airfield companies (ATC & AO) in establishing twelve airfields or heliports and four enroute IFR/VFR and approach control facilities in the corps area.
2. ASSIGNMENT: Organic to the aviation battalion (ATC & AO).
3. CAPABILITIES:
 - a. Commands, controls, and provides staff planning for four companies in establishing twelve airfields/heliports and four enroute IFR/VFR and approach control facilities in the corps area.
 - b. Provides limited aviation maintenance and avionics support for organic command and control aircraft.
 - c. Provides signal support for organic air traffic control electronic equipment, and provides a command and control communication net.
 - d. Provides "NOTAM" information for its organic units and facilities.
 - e. Monitors the ATC training program of the companies.
 - f. Can operate independently with four companies when attached to a separate corps or task force headquarters.
4. BASIS OF ALLOCATION: One per aviation battalion (ATC & AO). Four per aviation group.
5. CONCEPT OF EMPLOYMENT:
 - a. The battalion headquarters and headquarters company would be employed at an organic unit's airfield to provide command and control of the facilities and airfield/heliports established by its four companies.
 - b. The battalion headquarters and headquarters company can be employed with separate corps and task forces; if necessary, supply and administrative section augmentations are provided.

HHC, AVIATION BATTALION (ATC & F FIELD OPERATIONS)



BN HQ

<u>PAR NO</u>	<u>LINE</u>	<u>JOB TITLE</u>	<u>GRADE</u>	<u>MOS</u>	<u>AUTH</u>
01	01	Bn Cmdr	NO O5	1983	1
	02	Bn XO	OF	1983	1
	03	S-1	03	62110	1
	04	S-2	03	69301	1
	05	S-3	04	62162	1
	06	S-4	03	64010	1
	07	Signal Off	03	60205	1
	08	Safety Off	03	67423	1
	09	Sgt Major	NC E9	00250	1
				TOTAL	9

CO HQ

<u>PAR NO</u>	<u>LINE</u>	<u>JOB TITLE</u>	<u>GRADE</u>	<u>MOS</u>	<u>AUTY</u>
02	01	Company CO	NO 03	2900	1
	02	LSG	NC E8	71P50	1
	03	Mess Sgt	E7	94B40	1
	04	Supply Sgt	E6	76Y40	1
	05	Motor Sgt	E6	63B40	1
	06	1st Cook	E6	94B20	1
	07	1st Cook	E5	94B20	1
	08	Co Clk	E5	71H20	1
	09	Clerk/Typist	E4	71B20	1
	10	Cook	E4	94B20	2
	11	Wh Veh Mech	E5	63B20	1
	12	Wh Veh Mech	E4	63B20	2
	13	Supply Clerk	E4	76Y20	2
	14	Armorer	E4	76Y30	1
	15	Mail Clerk	E3	70A10	1
TOTAL					18

S-1

<u>PAR NO</u>	<u>LINE</u>	<u>JOB TITLE</u>	<u>GRADE</u>	<u>MOS</u>	<u>AUTN</u>
03	01	Asst Adj	AG 02	02110	1
	02	Unit Pers Tech	WO	711A0	1
	03	Pers NCO	NC E7	71H10	1
	04	Sr Pers Mgt Spec	E5	71H30	1
	05	Sr Pers Rcds Spec	E5	71H20	2
	06	Pers Rcds Spec	EL	71H20	2
	07	Pers Mat Supv	NC E6	71H40	1
	08	Pers Actg Spec	EL	71H20	1
	09	Pers Rcds Clk	EL	71H20	1
TOTAL					11

S-2/S-3

<u>PAR NO</u>	<u>LINE</u>	<u>JOB TITLE</u>	<u>GRADE</u>	<u>MOS</u>	<u>AUTH</u>
04	01	Asst S-3	WO 03	62162	1
	02	Opn & Tng Off	03	62162	1
	03	ATC Tech	WO	Undev	1
	04	ATC Chief	WO E8	93L50	1
	05	Opns Sgt	E8	71P50	1
	06	Intell Sgt	E7	96B40	1
	07	Tng NCO	E6	93H40	1
	08	Safety NCO	E6	71P40	1
	09	Opn Spec	E5	71P20	2
	10	Clerk/Typist	E5	71B30	1
	11	Cartographer	E5	81C20	1
	12	Clerk/Typist	E4	71B20	1
	13	Gen Draftsman	E5	81A10	1
				<u>TOTAL</u>	<u>14</u>

S-4

<u>PAR NO</u>	<u>LINE</u>	<u>JOB TITLE</u>	<u>GRADE</u>	<u>MOS</u>	<u>AUTH</u>
05	01	Asst S-4	NO 02	61010	1
	02	Auto Maint Tech	WO	631A0	1
	03	Unit Supply Tech	WO	761A0	1
	04	Supply Sgt	NC E2	76Z50	1
	05	Stk-Cnt Acctg NCO	E6	76P40	1
	06	Mat Read NCO	E7	67Z50	1
	07	Gen Sup Spec	E5	76Y20	1
	08	Supply Clerk	EA	76Y20	1
	09	Reports Clerk	EA	71B20	1
				<u>TOTAL</u>	<u>9</u>

COM40

<u>PAR NO</u>	<u>LINE</u>	<u>JOB TITLE</u>	<u>GRADE</u>	<u>MOS</u>	<u>AUTH</u>
06	01	Commo Chief	NC E7	31G40	1
	02	Radio TT Tm Chief	E5	05C40	1
	03	Fld Radio Mech	E4	31B20	1
	04	Radio TT Oper	E4	05C20	3
	05	Sr Msg Clerk	E4	36K20	1
	06	Sr Fld Swb Oper	E5	36K20	1
	07	Fld Swb Oper	E4	36K20	3
	08	Msg Clerk	E3	36K20	1
	09	Lineman	E4	36G20	2
TOTAL					14

SVC PLAT HDQ

<u>PAR NO</u>	<u>LINE</u>	<u>JOB TITLE</u>	<u>GRADE</u>	<u>MOS</u>	<u>AUTH</u>
07	01	Plat Cmdr	NC 03	60205	1
	02	Plat Sgt	NC E7	35P40	1
	03	Clerk/Typist	E3	71A10	1
	04	Stk Cnt Supv	E6	76P40	1
	05	Sr Stk Cnt Spec	E5	76P20	1
	06	Stk Cnt Spec	E4	76P20	2
				<u>TOTAL</u>	<u>7</u>

AVIONICS SECT

<u>PAR NO</u>	<u>LINE</u>	<u>JOB TITLE</u>	<u>GRADE</u>	<u>MOS</u>	<u>AUTH</u>
07A	01	Avionics Tech	WO	286AO	1
	02	Avionics Supv	NC E7	35PHO	1
	03	Radar Room Supv	E6	26M2O	1
				TOTAL	3

GENERAL EQUIP SECT

<u>PAR NO</u>	<u>LINE</u>	<u>JOB TITLE</u>	<u>GRADE</u>	<u>NOS</u>	<u>AUTH</u>
07B	01	Pwr Gen Supv	NC E6	52D40	1
	02	Sr Pwr Gen Mech	E5	52B30	1
	03	Pwr Gen Mech	E4	52B20	2
	04	Sr Refrig Spec	E5	51L20	1
	05	Refrig Spec	E4	51L20	1
				TOTAL	6

AVN MAINT SECT

<u>PAR NO</u>	<u>LINE</u>	<u>JOB TITLE</u>	<u>GRADE</u>	<u>MCS</u>	<u>AUTH</u>
07C	01	Acft Maint Supv	NC E7	67250	1
	02	R/W Tech Insp	E6	67V20	1
	03	UH-1 Crew Chief	E5	67V20	3
	04	OH-58A Crew Chief	EL	67V20	1
	05	Doorgunner	EL	67A1F	1
				TOTAL	7

AVIATION COMPANY (ATC and AIRFIELD OPERATIONS)

1. MISSION: Provides units to operate three airfields or heliports and an enroute IFR/VFR and approach control facility.
2. ASSIGNMENT: Organic to the aviation battalion (ATC & AO).
3. CAPABILITIES:
 - a. Provides limited airfield operations for three instrumented or non-instrumented airfields or heliports, to include airfield operations, tower, GCA, navigational aids, POL, and crash rescue.
 - b. Provides one enroute IFR/VFR and IFR approach control facility located at the major division airfields.
 - c. Provides one tactical air traffic control team (TATCT) equipped with tower and navigation beacon, for use at tactical pioneer airfields.
 - d. Has the capability of limited aviation support for its units through organic aircraft.
 - e. Provides the division commander with advice and planning for the location and construction of division airfield..
 - f. Approach control provides radar target vectoring for tactical aircraft and radar vectors to landing zones for assault helicopters throughout the division area; APC radar will have an 80 mile range. Additionally, approach control will have an ASUCC capability to plot strikes and impacts, and vector aircraft safely through these areas.
 - g. A flight facilities radar van will normally be located at the company's airfield. The van will have six (6) scopes for approach control and IFR/VFR enroute ATC and tactical radar vectoring. Two (2) additional scopes will be provided for GCA. Thus, one shift supervisor can supervise both enroute and GCA personnel, in addition to allowing GCA operators to rotate throughout other positions.
 - h. One RTT group can be located by the runway and remoted to the APC van.
4. BASIS OF ALLOCATION: Four (4) per aviation battalion.
5. CONCEPT OF EMPLOYMENT: The company will be located at one of the three airfields/heliports it establishes. The company is usually employed with division sized units and provides all airfield support and enroute IFR/VFR and approach control within the division area. The company will move with the division and provide continuous airfield support, artillery and air strike warning service, and radar target vectoring.

AVIATION COMPANY (ATC & AIRFIELD OPERATION)

1. CAPABILITIES: The Company can provide:

a. Three airfield operations, to include:

Tower
GCA
Navigation Beacon
Airfield Operations
POL
Crash & Rescue

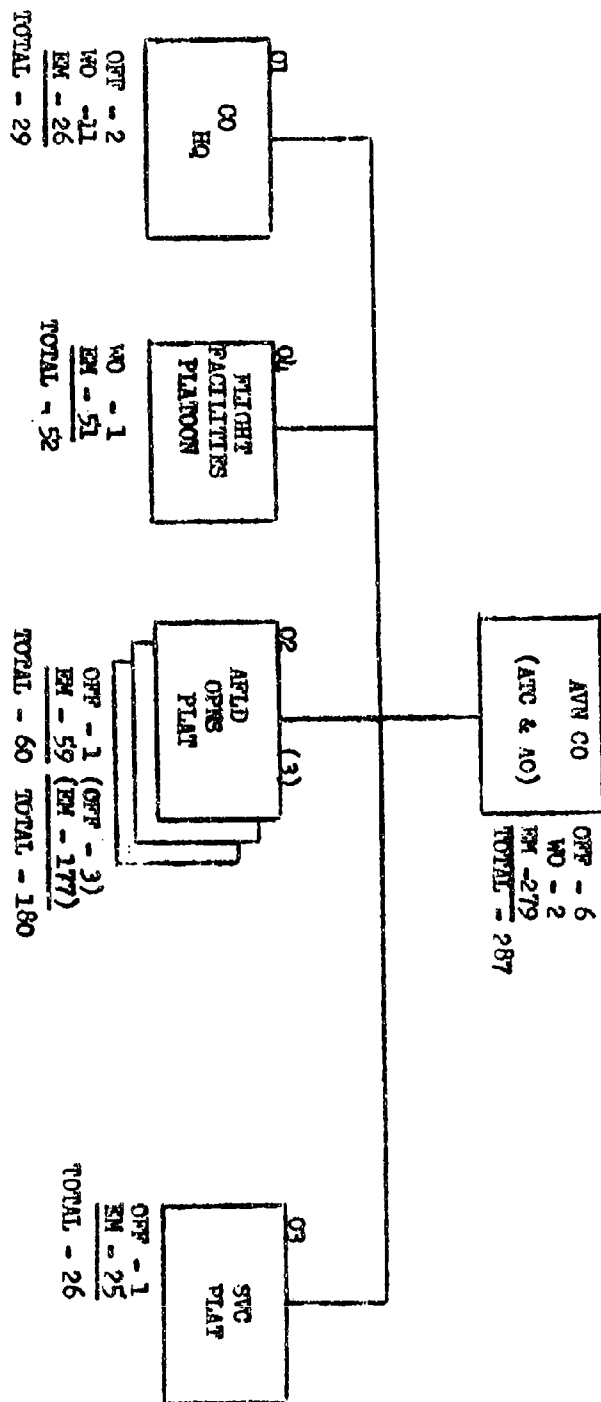
b. One Tactical Air Traffic Control Team (TATCT) equipped with tower and navigation beacons.

c. One enroute IFR/VFR and approach control facility.

2. MAJOR END ITEMS:

1 Utility Helicopter
4 Control Towers
4 Non-directional Beacons
3 GCA Radars
3 Refueling Systems
1 Flight Facilities Van

AVIATION COMPANY (ATC & AIRFIELD OPERATIONS)



CO HQ

<u>PAR NO</u>	<u>LINE</u>	<u>JOB TITLE</u>	<u>GRADE</u>	<u>MOS</u>	<u>AUTH</u>
01	01	Company Cmdr	NO 04	1983	1
	02	XO	O3	1982	1
	03	ISG	NC E8	93L50	1
	04	Mess Sgt	E7	94B40	1
	05	Supply Sgt	E6	76Y10	1
	06	1st Cook	E6	94B20	1
	07	1st Cook	E5	94B20	2
	08	Cook	E4	94B20	2
	09	Co Clk	E5	71H20	1
	10	Clerk/Typist	E4	71B20	1
	11	Supply Tech	WO	761A0	1
	12	Supply Clk	NC E5	76Y20	1
	13	Supply Clk	E4	76Y20	2
	14	Mail Clk	E3	70A10	1
	15	Armorer	E4	76Y30	1
	16	Commo Chief	NC E6	31G40	1
	17	RTT Tm Chief	E5	05C40	1
	18	RTT Oper	E4	05C20	2
	19	Sr Fld Swb Oper	E5	36K20	1
	20	Fld Swb Oper	E4	36K20J	2
	21	Opns Sgt	NC E7	71P40	1
	22	Opns Spec	E6	71P40	1
	23	Opns Spec	E5	71P20	2
TOTAL					29

AFLD OPN PLAT (3 per Co)

<u>PAR NO</u>	<u>LINE</u>	<u>JOB TITLE</u>	<u>GRADE</u>	<u>MOS</u>	<u>PLT REQ</u>	<u>TOTAL REQ</u>
02	01	Plat Ldr	NO 03	1982	1	3
	02	Plat Sgt	NC E7	71P40	1	3
	03	Opns Sgt	E6	71P40	1	3
	04	Opns Spec	E5	71P20	2	6
	05	Opns Spec	E4	71P20	2	6
	06	Clerk/Typist	E4	71B20	1	3
	07	Pump Sta Fmn	E6	76W40	1	3
	08	Sr Pump Sta Oper	E5	76W20	1	3
	09	Pump Sta Oper	E4	76W20	4	12
	10	Asst Pump Sta Oper	E3	76A10	2	6
	11	Fire Chief	E6	51M40	1	3
	12	Fire Company Chief	E5	51M40	2	6
	13	Fire Fighters	E4	51M20	10	30
	14	Truck Driver	E4	64B20	1	3
	15	Cook	E4	94B20	2	6
	16	RTT Oper	E4	05C20	2	6
	17	Pwr Gen Mech	E5	52B30	1	3
	18	Pwr Gen Mech	E4	52B20	1	3
	19	ATC Tower Chief	NC E7	93H40	1	3
	20	ATC Tower Chief	E6	93H40	4	12
	21	ATC Tower Oper	E5	93H20	4	12
	22	ATC Tower Oper	E4	93H20	4	12
	23	ATC GCA Chief	NC E6	93J40	1	3
	24	ATC GCA Spec	E5	93J20	4	12
	25	ATC GCA Spec	E4	93J20	4	12
	26	Avionics Rpmn	E4	35L20	1	3
	27	GCA Radar Rpmn	E4	26D20	1	3
TOTALS					60	180

SVG PLAT

<u>PAR NO</u>	<u>LINE</u>	<u>JOB TITLE</u>	<u>GRADE</u>	<u>MOS</u>	<u>AUTH</u>
03	01	Plat Ldr	NO 03	1982	1
	02	Plat Sgt	NC E7	35P40	1
	03	Stk Cont Spec	EL4	76P20	2
	04	Clerk/Tydist	E3	71B20	1
	05	Motor Sgt	E6	63B40	1
	06	Sr Wh Veh Mech	E5	63B20	2
	07	Wh Veh Mech	EL4	63B20	2
	08	Wh Veh Mech Helpr	E3	63A10	1
	09	Avionics Rpr Supv	E6	35P40	1
	10	Avionics Rpmn	E5	35L20	2
	11	Nav Equip Rpmn	E5	35M20	2
	12	Radar Rpmn	E5	26D20	2
	13	Ground Radio Rpmn	E5	31E20	1
	14	Sr Pwr Gen Mech	E5	52B30	1
	15	Pwr Gen Mech	EL4	52B20	2
	16	Sr Refrig Spec	E5	51L20	1
	17	Refrig Spec	EL4	51L20	1
	18	UH-1 Hel Crew Chief	E5	67N20	1
	19	Doorgunner	EL4	67V20	1
				<u>TOTAL</u>	<u>26</u>

FLIGHT FACILITIES PLAT

<u>PAR NO</u>	<u>LINE</u>	<u>JOB TITLE</u>	<u>GRADE</u>	<u>MOS</u>	<u>SHIFT AUTH</u>	<u>TOTAL AUTH</u>
04	01	ATC Tech	wo	Undev	1	1
	02	ATC Chief	NC E8	93L50	1	1
	03	ATC Shift Supv	E7	93Kh0	1	5
	04	ATC Enroute Spec	E5	93K20	6	30
	05	ATC Enroute Spec	El	93K20	3	15
TOTALS					12	52

UNCLASSIFIED

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