

UNCLASSIFIED
AERIAL DIVISION
AVIATION

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I. PURPOSE: The purpose of this study is to compare the aviation organization and resultant capabilities of the Americal Division with those of a standard ROAD division which is supported by sufficient non-aviation aviation to give it approximately the equivalent aviation resources as are found in the Americal Division.

II. BACKGROUND: In November 1968, the Deputy Commanding General USAFV, recommended through a memorandum to General C.W. Abrams, that a proposed reorganization of the Army aviation assets supporting the Americal Division be approved (TAB A). As a result Headquarters and Headquarters Company, 16th Aviation Group (Combat) was attached to the Americal Division on 1 December 1968. On 15 December 1968, the 16th Aviation Group was fully operational as a major subordinate headquarters unit under the Americal Division with three major units under its command. These were the 16th Aviation Battalion (Combat), the 123d Aviation Battalion, and the 3rd Transportation Company. This organization was unique in that the Americal Division was the only standard infantry division in the Army with an attached aviation group.

Early in 1969, Brigadier General Edwin L. Powell Jr., Assistant Division Commander, reasoned that the experience of the Americal Division should be evaluated to determine if an organic aviation group was more effective than equivalent aviation resources organized in separate major elements of a standard ROAD infantry division supported by non-aviation aviation units. Such an evaluation would be valuable in determining the future optimum organization of aviation resources in the Army.

On 20 May 1969, General Powell initiated a series of letters to determine whether plans for an evaluation had ever been prepared. Return correspondence confirmed that a formal test had been considered, but had never been directed. It was therefore decided to compare the aviation organization of the Americal Division, and the results achieved, with those of a standard ROAD division in order to evaluate the effectiveness of the two organization structures.

The 4th Infantry Division located at Fort Huachuca, AZ, was chosen as a typical standard ROAD division with which to make a comparison of operations. It must be emphasized that the 4th Infantry Division was not selected as an index of comparison because of any unique characteristics, but that the comparison in this study would only be restricted to divisions in the U.S. Army.

III. GENERAL: There are many kinds of characteristic differences between divisions of the Americal Division and a standard ROAD Division which create a need for the comparison being made in this study. The most significant differences is at the

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IV. DISCUSSION:

A. Assignment of non-organic aviation to the Americal Division:

1. In December 1963, the 16th Aviation Group (Combat) was attached to the Americal Division from the 1st Aviation Brigade. This change permits evaluating the feasibility of assigning to an infantry division all the aircraft normally required for the division missions. The airmobile division uses the aviation group concept of assigning all necessary aircraft to the division, but the Americal Division is the only standard infantry division operating under this concept. All other infantry divisions are basically augmented by nondivisional aviation units.

2. The airmobile division is not pertinent to this paper. It should be pointed out, however, that where the airmobile division had to sacrifice many of its ground vehicles and artillery for aircraft, the Americal Division did not. The Americal Division retained its authorized complement of surface transportation thereby affording it greater flexibility in conducting tactical operations.

B. Aviation Group:

1. To provide sufficient command and control for the aviation assets of the Americal Division, the 16th Aviation Group (Combat) was attached to the division with three major units under its command. These units are the 123d Aviation Battalion (the division's organic aviation battalion), the 14th Aviation Battalion (Combat), and the 395th Transportation Company (attached aircraft maintenance company). In addition, the division has its normal organic brigade aviation sections (three), a division artillery aviation detachment, and an organic air cavalry troop. Although the brigade aviation sections and division artillery aviation do not come under the command of the Aviation Group Commander, he has staff responsibility as the division aviation officer for all the aviation assets within the division. The aviation group headquarters is staffed and equipped to function as a tactical command and control headquarters. It can supervise the activities of three to seven separate aviation battalions depending on the situation. There are sufficient personnel to supervise the administrative and logistical functions of the subordinate units and provides a chain of command from company, through battalion, to group. After some experience with various command arrangements of the aviation companies and air cavalry troops, the highly functional organization at TAB 9 was established. This arrangement placed all the aviation units under the control of a major headquarters. It also placed all the air cavalry type units under a single commander.

a. The 123d Aviation Battalion, the organic aviation battalion of the division, is comprised of a Headquarters and Headquarters Company, Alpha Company (general support company), Bravo Company (air cavalry troop provision), D/1-1 Air Cavalry Troop (a divisional unit attached to the group, 1 Troop)

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3th Cavalry (a nondivisional unit attached to the group), and Echo Company, 723d Maintenance Battalion (the aircraft maintenance company normally organic to the maintenance battalion). With this organization the battalion in essence became an air cavalry squadron, since all the air cavalry troops are under a single command. This organization also provides continuity in the planning and operations of air cavalry tactics within the division.

b. The 14th Aviation Battalion (Combat) contains the primary lift units for the division. The battalion is comprised of a Headquarters and Headquarters Company, three assault helicopter companies, and two assault support helicopter companies. The disposition of the three assault helicopter companies provides flexibility for direct support when necessary. When the aircraft of the assault helicopter companies are not being employed in the role of combat assaults, they provide command and control and resupply for eleven infantry battalions (divisional) and one armored cavalry squadron (divisional) and in addition, provide gunship close support and general support to the division. The two assault support helicopter companies provide general support to the division and direct support to the brigades on a mission basis. The Tactical Area of Interest (TAOI) is geographically divided in half with the 132d Assault Support Helicopter Company providing direct support to the battalions in the south, and the 173th Assault Support Helicopter Company providing direct support to the battalions in the north. They also provide aerial resupply and movement of the direct support artillery attached to the brigades.

c. The 335th TC (TOE 55-4573), normally the transportation aircraft direct support company assigned to the Field Army, Corps, or Logistical Command, is attached to the aviation group of the Americal Division. This unit provides direct support maintenance to division artillery and the three brigade aviation sections and back-up direct support maintenance to all other aviation units in the division. This unit will be discussed in greater depth when the maintenance capabilities of the division are considered.

d. Divisional aviation units not attached to the aviation group are Division Artillery and the three brigade aviation sections. However, as mentioned earlier, the Division Aviation Officer provides technical and professional guidance and assistance to all units in the division.

2. The ROAD division has an organic aviation battalion to provide support to the division. This battalion can be equated to the organic support units of the division such as the engineer battalion, the medical battalion, and the S&T battalion. Where these battalions normally control the majority of their subordinate units supporting the division, the aviation battalion commander controls only those aviation assets organic to the aviation battalion. The remainder of the aviation assets in the division are controlled by their respective headquarters, such as division artillery, the armored cavalry squadron, and the three infantry brigade Headquarters (I B D).

a. The aviation battalion is comprised of a headquarters and headquarters company, an aviation general support company, and an administrative company (light).

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(1) Alpha Company, airmobile company (light) provides support to the division headquarters and the division base.

(2) Bravo Company, the general support company, provides support to division headquarters, the division support command, and other units without organic aircraft. In addition, it provides limited general support and reinforcement to units with organic aircraft.

b. The ROAD division has an air cavalry troop organic to the armored cavalry squadron which provides direct aviation support to the squadron.

c. The division also has its normal three brigade aviation sections and a division artillery aviation detachment.

d. A disadvantage of the aviation organization of the ROAD division is that it does not provide a higher aviation command which is especially familiar with aviation problems to assist in the planning and utilization of the division's aviation assets.

C. Senior Aviation Personnel:

1. The aviation assets of the Americal Division are managed by the Division Aviation Officer who is an experienced aviator in the grade of Colonel. Additionally, as the Aviation Group Commander, he operates on the same level as the Division Artillery, Support Command and the Brigade Commanders. In this capacity he attends discussion meetings and planning conferences with major commanders. Aviation commitments, aircraft availability, employment, and tactics can be determined at these conferences. Since the aviation group commander is also the Division Aviation Officer, each subordinate battalion commander is able to devote all his energy to his battalion. The Assistant Division Aviation Officer is an experienced aviator in the grade of Lieutenant Colonel who supervises the Army Aviation Element (AAE) at the Division Tactical Operations Center (DTOC). Two additional Lieutenant Colonels (MO and S-3) are authorized on the aviation group staff to assist the group commander.

2. The Division Aviation Officer of the ROAD division is an experienced aviator in the grade of Lieutenant Colonel who is also the organic aviation battalion commander. He commands the battalion and advises the division commander on matters pertaining to aviation. However, he does not control the remaining organic aviation elements of the division. The allocation of Army aviation means to support the division is the responsibility of the division G-3 based on recommendations of the division aviation officer. An Assistant Division Aviation Officer in the grade of Major supervises the AAE at the DTOC.

D. Organic Aircraft:

1. To support the aviation requirements of the Americal Division, a total of 255 aircraft are authorized. Aircraft authorization for the Americal Division and a standard ROAD division are shown at Table 1.

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Experience has shown that there are sufficient UH-1H's in the division to provide all the necessary command and control, administrative flights, tactical airlifts, and portions of the resupply missions required of the division. This arrangement ensures that sufficient aircraft are available to meet any contingency on a moments notice. It also provides immediate response to offensive actions by the enemy and eliminates the requirement for outside aviation support. If these aircraft were not readily available, it could possibly delay offensive or counteroffensive actions against enemy operations. The Division Aviation Officer has the authority, in conjunction with G3, to redistribute or task organize the aviation assets within the division in order to better accomplish the mission.

2. The standard ROAD division is authorized a total of 88 aircraft as compared with the 255 in the Americal Division. These aircraft are found in the organic aviation battalion headquarters, two aviation companies, one air cavalry troop, three brigade aviation sections and the division artillery aviation detachment. These aircraft are not sufficient to provide the standard ROAD division with the support required; therefore, the remaining aircraft must come from nondivisional aviation units in the corps area. In the case of the 4th Infantry Division, the majority of the nondivisional aviation support is provided by the 52d Aviation Battalion, but all mission requests must go through IFFV. Daily commitments throughout the Field Force area may preclude the division from receiving the amount of aviation support desired.

E. Tactical Lift Capability:

1. Of the aircraft authorized the Americal Division, there are 118 UH-1H's and thirty-two OH-47 helicopters that may be used for tactical lift of troops and cargo. The twenty-three UH-1H's in each of the three assault helicopter companies are used for command and control and resupply in addition to their primary mission of providing tactical lift for infantry troops on combat assaults. Although the eighteen UH-1H's in the cavalry units are used primarily for tactical airlift of their organic infantry platoons, they may be diverted or used for resupply as necessary. The twenty-five UH-1H's in the general support company may be used in an emergency for the tactical lift of troops and supplies. However, their primary mission is to support the division headquarters and the division base. There are three UH-1H's in the 123d Aviation Battalion in support of the division in the Night Hawk role, and three UH-1H's in the maintenance companies that could be used in an emergency for tactical airlift. The primary tactical cargo lift capability of the division is the two organic assault support helicopter companies with sixteen OH-47 helicopters each. These units are in general support of the division and provide sufficient logistical and tactical airlift to accomplish all mission requirements of the division. Coordination between the major commanders, the division staff, and the Division Aviation Officer provides sufficient forewarning of aviation requirements and allows the aviation commander sufficient time to plan the best way to accomplish these missions. Since the aviation units are organic and come under the control of the Group Commander, he may task organize the necessary aircraft to meet these requirements. If these

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aircraft were not organic to the division, a considerable effort would be required to coordinate with higher headquarters and the supporting nondivisional aviation units to accomplish the mission. Even then, assignments of the aviation required would depend on the availability of assets in the Field Force area.

2. To accomplish the tactical and logistical requirements of a standard ROAD division, thirty-six UH-1H helicopters are available (organic aircraft). Twenty-five of these aircraft are in the airmobile company (light), two in the aviation general support company, seven in the organic air cavalry troop and two in the maintenance battalion. Since the ROAD division is not authorized organic medium lift helicopters and the twenty-five UH-1H's mentioned above provide support to the division headquarters and the division base, outside support must be provided from units within the Field Force aviation assets. If Field Force cannot provide the necessary support required, then organic surface transportation must be used or the missions postponed until a later date.

F. Air Cavalry Capability:

1. The air cavalry capability of the Americal Division was greatly enhanced with the reconfiguration of the general support company into an air cavalry troop provisional. This coupled with the attachment of the air cavalry troop from the organic armored cavalry squadron and F/2 Cavalry to the 123d Aviation Battalion made the battalion, in essence, an air cavalry squadron. This arrangement placed all the air cavalry type units under a single commander who is an experienced aviator and who has an experienced staff to assist him in planning and supervising the operations of the battalion. The battalion provides general support to the division and direct support to the three brigades as required. The air cavalry troops are a highly centralized controlled asset that can be employed as an air cavalry squadron, or the control can be decentralized so that the air cavalry troops provide direct support to each of the three brigades.

2. The air cavalry capability of the ROAD division is one air cavalry troop organic to the armored cavalry squadron. The troop extends the reconnaissance and security capability of the ground units and engages in offensive, defensive, and delaying actions within its capability to seize and dominate lightly defended areas or terrain features. With this one air cavalry troop, it is difficult to provide support to the three brigades on a daily basis. If additional support is required, it must be provided from Field Force aviation assets.

G. Aviation Maintenance Capability:

1. The maintenance organization required to support the Americal Division is a unique organization in that it does not exist in any other unit in the Army (TAB F). Six of the nine aviation companies in the division have their own direct support maintenance; the three assault helicopter companies,

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aviation. In addition to the aviation staff of the AM, there is a team of one major, five captains, and three lieutenants. The group staff, each of the aviation battalions has a staff to concentrate on mission planning for the units under their command.

2. Since the 2048 division does not have an aviation group staff to assist in the planning and coordination of aviation matters, most division level planning of aviation operations is based on the recommendations of the aviation battalion commander and his staff.

I. Aviation Special Staff:

1. To assist the Americal Division Aviation Officer (group commander) in the accomplishment of his mission, additional experienced aviation personnel are available to provide supervision and technical assistance in the fields of operations, administration, aircraft maintenance, flight standardization, aviation safety, and aviation medicine.

a. An Aviation Standardization Officer in the grade of Major is available to ensure flight standardization among all aviation units throughout the division.

b. The Group Maintenance Officer in the grade of Major monitors all aviation throughout the division and provides technical assistance and guidance in matters pertaining to aviation maintenance. He also keeps the group commander advised on the status of aviation maintenance in each of the units and makes recommendations on how to solve maintenance problems.

c. The Division Aviation Safety Officer in the grade of Major supervises and monitors all aviation safety within the division. The majority of his time is spent on accident prevention which has contributed to the Americal Division staying below the MACI aircraft accident rate.

d. The Group Flight Surgeon in the grade of Major is responsible to the group commander for the evaluation of the current health status of aviation personnel under his command. He is able to supervise and offer assistance to the flight surgeons in each of the aviation battalions.

e. The Group Commander also has an S1, S2, and S3 to monitor the activities in their area of responsibility.

(1) The S1 in the grade of Major makes the assignments (for the commander) of all aviation personnel assigned to the division. He also the Group Commander to adjust aviation assignments to ensure proper utilization of personnel, proper career development of officers, proper distribution of experience, and proper maintenance of aviation equipment and facilities.

(2) The S2 in the grade of Major is responsible to the Group Commander and the aviation battalions for the maintenance of aviation personnel records.

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(3) The staff in the division is organized to provide the normal functions as outlined in the standard divisional staff.

f. By virtue of the staff organization and the use of ground carriers, this allows the battalion staff to devote a majority of their time and effort to battalion operations. The ground staff also provides a direct link between the battalion and division in planning and monitoring operations.

2. The standard BMD division does not possess an experienced aviation group staff to assist in the control, planning, and supervision of their aviation assets. However, the nondivisional units supporting the division do have a higher (battalion, group) staff to provide direct assistance to their aviation units.

J. Nonorganic Aviation Support:

1. In addition to the organic aviation previously discussed, the Aerial Division receives support as required from nonorganic Army aviation units for medical evacuation (UH-1H), aviation rotary wing lift requiring CH-54's, fixed wing observation, aerial photography, and electronic surveillance.

2. Experience in Vietnam has proven that a standard BMD infantry division requires nondivisional aviation support to satisfactorily accomplish its mission. A desirable situation would be to have a nondivisional aviation battalion with a mix of aircraft, including heavy lift aircraft, in direct support of the division. However, frequently the organization of the theater resources does not permit a single aviation battalion to be placed in permanent direct support of an infantry division. Such is the case with the 4th Infantry Division (used as an example here), which receives approximately sixty percent of their aviation support from the 52d Aviation Battalion (Combat). However, the 52d Aviation Battalion provides support for approximately ten units other than the 4th Infantry Division and is CROB to IFFW. Mission requests are submitted to IFFW daily and priorities established. If the 4th Infantry Division missions are of a lower priority than those of other units supported by the nondivisional aviation battalions, then the division must rely on other means to accomplish the missions or postpone them until a later date.

K. Reports:

1. As discussed earlier, all the aircraft supporting the Aerial Division are either provided to or for the staff of the division or for the Officer. With three separate communication channels and the direct support troops supporting their respective units on a daily basis, a communication link is established between the supported ground unit and the supporting aviation unit. The ground carriers provide the necessary information to the aviation unit to accomplish the need for personnel, equipment, and supplies. This communication allows the aviation unit to provide the necessary support to the ground unit and to assist the ground unit in accomplishing its mission. The ground unit, supporting the aviation unit, provides the necessary information to the aviation unit to accomplish the need for personnel, equipment, and supplies. This communication allows the aviation unit to provide the necessary support to the ground unit and to assist the ground unit in accomplishing its mission.

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with the terrain, flight routes, and other conditions and in the zones thereby providing an increased effectiveness in the accomplishment.

2. Since the majority of the units comprising a WAA division are nondivisional, a certain amount of time before the supporting units change frequently and are not familiar with the various supported unit methods of operation.

L. Comparison with Airmobile Divisions:

Although it is not the purpose of this study to compare the Americal Division with an airmobile division, a brief comparative statement is appropriate, because the Americal Division aviation strength, as mentioned before, has frequently caused it to be referred to as a "mini-airmobile division". However, there are many differences. This paper has already stated the characteristics of the Americal organization and maintenance command structure, many of which differ radically from those of an airmobile division. Probably the most significant difference is that the Americal Division is not a "light" division. It has not given up any of its standard infantry capabilities to acquire mobility as has the airmobile division. The Americal aircraft are in addition to the normal units of a standard infantry division, having twelve maneuver battalions and six artillery battalions, one of which is a composite 81mm/175mm battalion. Despite this, the Americal possesses most of the qualitative capabilities of an airmobile division, although in reduced quantity. The major qualitative capability of an airmobile division lacking in the Americal is the absence of an aerial rocket artillery unit.

V. CONCLUSIONS:

A. Structure Within Division:

AMERICAL: The aviation group headquarters is similar to a brigade headquarters. It is a tactical headquarters for command, control, and planning. It can be structured with the necessary number of subordinate units to accomplish the mission. The chain of command is through aviation channels from company, through battalion to group. Each echelon units familiar with the peculiarities of aviation to process all requests of problems and complete action at the lowest feasible level.

KAMM: The division aviation battalion is similar to support battalions within the division, i.e. engineers, signal, SF, etc. They are these support battalions control the majority of their type units throughout the division. The aviation battalion is not a tactical headquarters for the division, supervising the division. It is a tactical headquarters for the aviation battalions does not provide for a higher echelon of command and control of the division peculiarities or problems. However, it does command all the units that exist for nondivisional support within the division.

CONCLUSION: The American concept provides the division commander with the more effective command and control of aviation resources.

B. Division Aviation Officer:

AMERICAL: The group organization provides an experienced senior aviation officer, in the rank of Colonel, who operates on the same level as the brigade commanders. The division aviation officer attends discussion meetings and planning conferences with major commanders. Aviation commitments, aircraft availability, employment, and tactics can be determined at these conferences. The division aviation officer is also the Group Commander. This arrangement allows each subordinate battalion commander to devote all his energy to his battalion, providing better aircraft support to division units.

ROAD: The ROAD concept provides a less experienced aviation officer, in the rank of Lieutenant Colonel, who is responsible for keeping the Division Commander informed and advised on all matters concerning the employment of Army Aviation. He is present at major commanders conferences and is normally contacted by G3 to write the aviation memo to operations orders and plans. He is also the aviation battalion commander and therefore must divide his time between division level planning, operational planning, and command and control of the aviation battalion.

CONCLUSION: The American organization provides more effective command of aviation resources with the division and more effective aviation staff advice to the division commander.

C. Aircraft Under Division Control:

AMERICAL: The division is assigned sufficient aircraft to accomplish all normal daily missions. Aircraft are available for all necessary command and control, administrative flights, air resupply, visual reconnaissance, gunship support, and company size assaults. The total number of aircraft authorized within the division is 250. The allocation of these aircraft to specific units is determined by the division aviation officer in conjunction with G3.

ROAD: The division is assigned aircraft to provide relatively limited command and control, administration, resupply, visual reconnaissance and gunship support. The total number of aircraft within the ROAD division is 83, which is not sufficient to support the division. The remaining aircraft required must be requested from the field force. All requests for aircraft are allocated to the division based on the field force requirements, priorities, and available assets.

CONCLUSION: The American concept provides the division commander with greater assurance of the availability of aviation resources on any given day, greater flexibility in the allocation of aircraft to units for tactical operations, and a more effective command and control of aviation resources in reacting to late changes in the tactical situation.

ROAD: The aviation unit does not possess an organic direct support aircraft maintenance capability. Aircraft support maintenance for division aircraft is provided by the aviation aircraft maintenance company, maintenance battalion, organic to the division. The aviation battalion commander must rely on another unit for all direct support maintenance.

CONCLUSION: The Americal organization provides more positive control of aviation maintenance. During the course of the developing tactical organization, the increasing percent availability would be noted, thereby producing greater utilization.

G. Division Level Planning:

AMERICAL: The group staff is of sufficient size to adequately perform all aviation planning and coordination. The group staff is included in all division staff planning to ensure proper aircraft utilization and tactics, plus establishment of aircraft requirements, ATC procedures, airfields or LZ layout, refuel, and rear points, etc. Use of the group staff for this planning enables the battalion staff to concentrate on mission planning to ensure proper mission support.

ROAD: The battalion staff is not of sufficient size to accomplish both division level and operational level planning. Consequently, most division level planning is done without benefit of aviation personnel. The aviation staff is consulted for information and recommendations when needed necessary by the division staff and then the aviation staff briefs the aviation annex after the planning has been concluded.

CONCLUSION: The Americal organization provides experienced planners and more thorough planning.

H. Special Assistance:

AMERICAL: The group provides the division with additional experienced aviation oriented personnel in the field of operations, administration, aircraft maintenance, flight standardization, aviation safety, and aviation medicine. This additional supervision and technical assistance provides the division with greater control and more efficient operations. It provides the aviation battalions with experienced guidance and assistance in all aspects of aviation.

ROAD: The division does not have a group level staff to provide assistance to the divisions aviation units; however, the nondivisional aviation units supporting the division have channels open all the way to HARRV and provide experienced skills and technical assistance in aviation matters.

CONCLUSION: The Americal organization provides more effective control of the employment of aviation.

I. Control of Aircraft Units in Support of the Division:

AMERICAL

AMERICAL: The division commander exercises operational control over Army aircraft assigned to the division. The division commander coordinates with the Field Force commander regarding the coordination of aircraft operations with the Field Force, depending on the needs of the division.

ROAD: The ROAD Division aviation officer exercises operational control over the small number of aircraft organic to the division. The Field Force retains control over its remaining aircraft resources. The Division Aviation Officer can direct or control only those aircraft organic to the division. Approval must be granted by Field Force for any changes affecting the support aircraft.

CONCLUSION: The Americal organization permits the division commander to exercise more positive control over the aviation available to him.

J. Rapport:

AMERICAL: The aircraft supporting the division are all organic. The same ground and aviation units continually operate together establishing a rapport and an effective method of operation. On all combat assaults, the air mission commander will be either the aviation battalion commander or the aviation company commander. The ground commanders respect their aviation support and appreciate the need for proper aircraft utilization. The aviation unit understands the problems of the ground units and attempts to assist in every possible way. Constant support to the same unit affords the aviation unit the knowledge of the terrain, flight routes, artillery locations, and landing zones.

ROAD: A majority of the supporting aircraft units are nondivisional and change frequently. Although the aviators adequately accomplish the mission, they lack the familiarity with the unit, mission, and terrain to complete the mission with the same degree of effectiveness as an organic unit.

CONCLUSION: The Americal organization permits greater effectiveness through the psychological benefits of continuous person-to-person relationships.

K. Effectiveness:

1. General: The statistical data presented at TAB J reflect the aviation accomplishments of the Americal Division in different categories. This data, provided by the U.S. Army Analysis Center, Long Binh, RVN, was compiled from the monthly OPR-5 and aircraft inventory status and flying time reports. All data listed was performed by the Americal Division's Army aviation units, the 2nd Aviation Battalion, 1st AVF, 1st AVF, 1st AVF, and 1st AVF, and represents the period from 1 January 1968 to 31 December 1969. A comparison of this data provides a measure of the effectiveness of the two schemes of organization. The available data is being the category of mission, and the number of the aircraft assigned to the mission. The data shows the division commander's ability to coordinate the aviation units and the effectiveness of the aviation units.

80% versus 20% were superior to the 4th Division than the Americal Division's overall position was superior to the 4th Division's position based on the total accomplishment of the two divisions. The figures of 80% versus 20% were derived by dividing the total year accomplishments of the two divisions, in each category, an 80% part into the 100% figure into each division total to arrive at a proportionate amount of the 100%. Using the table of "Cargo Carried", we find that the total cargo carried by both divisions was 167,498 tons and represents 100% accomplishment. Dividing each division's total by 167,498, we find that the Americal averaged 80.7% of the total accomplishment of the two divisions.

2. Total Sorties: The Americal Division performed 678,515 sorties compared to 203,981 sorties performed by the 4th Division. The figures reflect favorably of the Americal, indicating an achievement 3.3 times that of the 4th Division.

3. Total Hours: The Americal Division flew 188,639 hours compared to 80,783 hours flown by the 4th Division. These figures reflect favorably of the Americal, in that the division accomplished its missions by flying only 2.3 times the hours required by the 4th Division.

4. VC killed by Aircraft: The Americal Division killed 5,452 Viet Cong compared to 1,496 killed by the 4th Division. These figures reflect favorably of the Americal, indicating an achievement 2.9 times that of the 4th Division.

5. Passengers Carried: The Americal Division carried 1,066,023 passengers while the 4th Division carried 247,067 passengers. These figures reflect more favorably of the Americal, indicating an achievement of 4.2 times that of the 4th Division.

6. Cargo Carried: The Americal Division carried 462,373 tons of cargo compared to 4,625 tons carried by the 4th Division. These figures reflect quite favorably of the Americal, indicating an achievement of 35.2 times that of the 4th Division.

7. Operational Status: The comparison of the readiness status of the two divisions for the entire year indicates favorably of the 4th Division. It should be noted, that during the latter half of the calendar year, the Americal Division's availability increased significantly. By the end of the year, it averaged higher than the 4th Division.

8. Aircraft Accidents: Although detailed records are not available prior to July 1969, the data processed reflect fewer accidents in the 4th Division. However, due to the differences of hours flown and numbers of aircraft assigned are considered, the Americal Division's accident rate is lower.

9. Conclusions: Although this obviously is not a conclusive comparison of the capabilities of the two divisions, it does point out an important fact: a ROAD Infantry Division will require nondivisional aviation support resulting in significantly more total aircraft available to the division than the 255 aircraft in the Americal in order to achieve the same results as the Americal Division. Sufficient statistical data is not available in RVN to make a more conclusive comparison of the advantages and disadvantages of providing organically to a standard ROAD division all the necessary organic aviation it uses to accomplish its mission. However, the facts and statistics presented in this paper should be sufficient to demonstrate that this study should be continued in detail to determine whether the aviation base of the Americal Division represents the ultimate aviation organization structure organic to the ROAD divisions of the future. Using the concept of a group headquarters to provide control and expertise to the subordinate aviation units; one assault helicopter company and one air cavalry troop in direct support of each infantry brigade; sufficient medium lift helicopters to provide general support to the division; adequate organic direct support maintenance units commensurate with aircraft maintenance requirements; and sufficient organic aircraft to perform all the division's missions, it may be possible that the aviation base and concept of the Americal Division could be the ultimate organization to provide aviation support to the U.S. Army Division of the future. Even if Army planners decide to cut the size of the Army Division to improve their fighting effectiveness and reduce cost, the aviation base as presented here could be tailored to meet any requirement. In other words, instead of having nondivisional aviation units performing the majority of the standard ROAD infantry division's missions, such as in the case of the 4th Infantry Division, or for the ROAD division to sacrifice the majority of their heavy surface transportation to acquire aircraft such as an airmobile division, the Americal's concept of aviation support would provide a more effective organization for employment of the aircraft required to accomplish all the division's missions and in essence have the staying power of the ROAD division and the mobility of the airmobile division.

L. Summary Conclusions:

1. A standard ROAD infantry division, such as the 4th Infantry Division, has sufficient organic aircraft to provide only a portion of the aviation support required of the division and the remaining aircraft must come from nondivisional aviation units.

2. Whenever sufficient aircraft are available to provide significantly more aviation support for an infantry division than its organic aviation, these aviation resources will be more effectively employed if they are formed into an aviation unit similar to the Americal Division organization, than if they are used under higher headquarters control and placed in direct general support of the division.

3. The aviation concept of the Americal Division, as presented in this study, provides sufficient data to warrant appropriate COMUS agencies to continue an expanded study to determine if the Americal Division aviation concept and organization is in fact the ultimate aviation organization for the divisions of the future.

V. RECOMMENDATION: That a detailed analysis and study, using this report as a basis, be conducted by the Combat Development Command, Fort Belvoir, Virginia, to determine the merits of using the Americal Division concept of increased aviation assets, organizational structure, and command lines as a basis for the composition of future organic division aviation elements.