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

IN REPLY REFER TO

AGAM-P (M) (22 Oct 68) FOR OT RD 683236

24 October 1968

SUBJECT: Operational Report - Lessons Learned, Headquarters, 164th Aviation Group, Period Ending 31 July 1968

SEE DISTRIBUTION

1. Subject report is forwarded for review and evaluation in accordance with paragraph 5b, AR 525-15. Evaluations and corrective actions should be reported to ACSFOR OT RD, Operational Reports Branch, within 90 days of receipt of covering letter.

2. Information contained in this report is provided to insure that the Army realizes current benefits from lessons learned during recent operations.

3. To insure that the information provided through the Lessons Learned Program is readily available on a continuous basis, a cumulative Lessons Learned Index containing alphabetical listings of items appearing in the reports is compiled and distributed periodically. Recipients of the attached report are encouraged to recommend items from it for inclusion in the Index by completing and returning the self-addressed form provided at the end of this report.

BY ORDER OF THE SECRETARY OF THE ARMY:

Kenneth G. Wickham

KENNETH G. WICKHAM
Major General, USA
The Adjutant General

1 Incl
as

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DEPARTMENT OF THE ARMY
Headquarters, 164th Aviation Group
APO San Francisco 96215

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AVGN 13 August 1968

SUBJECT: Operational Report of Headquarters 164th Aviation Group for the Period Ending 31 July 1968, RCS CSFOR-65 (RI)

SEE DISTRIBUTION:

1. Section 1, Operations: Significant activities.

a. Unit mission: No change

b. Organizational changes: The 7th Squadron, 1st Air Cavalry (Minus B Troop) was assigned to the 164th CAG on 3 June 1968. See organizational chart "Incl 1".

c. Personnel Changes:

(1) Colonel Robert L. McDaniel, 027771 passed command of the 164th Combat Aviation Group to Colonel Worthington M. Mahone, 065282, on 29 June 1968.

(2) Four personnel changes occured within the Group primary staff during this reporting period. The Group S-1, LTC Richard P. Keating, 0187888 was replaced on 1 July 1968 by MAJ Kenneth W. Scherz OF105820; the Group S-2, MAJ Gerald Lord, 094213 was replaced on 30 June 1968 by CPT James J. Gallacher 05420886; the Group S-3, LTC James G. Humphrys 070198 was replaced on 29 July 68 by MAJ Carl H. McNair Jr. 072155; and the Group S-4 LTC Daniel P. Steinke 01925685 was replaced on 8 May 68 by MAJ Gregory F. Roche Jr. OF105811.

(3) One of three attached Airfield Support Detachments changed commanders during this reporting period. Command of the 345th ASD at Can Tho passed from MAJ Billy Brown 01941153, to LTC Burges B. Fite 020C2846 on 5 July 68.

(4) MAJ Ernest L. Isbell, OF114120 passed command of HHC, 164th CAG to CPT Jose Medina-Virvet, 01888802 on 9 June 1968.

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d. Unit strengths as of 31 July 1968:

(1) Military

	OFFICER		WO		EM		TOTAL	
UNIT	AUTH	OH	AUTH	OH	AUTH	OH	AUTH	OH
HHC, 164th CAG	18	31	2	5	65	81	85	117
*345th ASD	3	6	1	1	85	96	89	103
*346th ASD	2	4	1	1	67	84	70	89
*347th ASD	2	5	1	1	61	99	64	105
H Btry 29th Arty	7	7	0	0	144	145	151	152

* Strength figures include attached units as listed in Incl 1

(2) Civilian

	DAC		VN		3D NATL		CONTRACTOR	
UNIT	AUTH	OH	AUTH	OH	AUTH	OH	AUTH	OH
HHC, 164th CAG	0	0	3	6	0	0	0	0
345th ASD	0	0	6	12	0	0	0	0
346th ASD	0	0	32	36	0	0	0	0
347th ASD	0	0	25	28	0	0	0	0
H Btry 29th Arty	0	0	0	0	0	0	0	0

e. Aircraft status as of 31 July 1968:

UH-1D/H		OH-6A		U-1A	
AUTH	OH	AUTH	OH	AUTH	OH
2	2	3	2	1	0

f. Operational results as of 31 July 1968 (See Incl 2)

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g. Chronological Narrative

OH-6A AIRCRAFT:

During this reporting period the 164th CAG was assigned ten OH-6A helicopters. These observation helicopters are consolidated in one platoon in support of IV Corps and 164th CAG Staff. Utilization of the OH-6A helicopters in accomplishment of administrative missions has released a like number of UH-1D aircraft for use in tactical operations.

VISIT BY THE DIRECTOR OF ARMY AVIATION:

Colonel Edwin Powell, Director of Army Aviation, visited the 164th CAG on 7 June 68. Colonel Powell toured installations throughout the Delta, presented awards to members of the 164th CAG, talked to aircraft crew members and viewed Delta Falcon aviation operations in Chau Duc Province. Colonel Powell was escorted by Colonel Robert L. McDaniel, 164th CAG Commander.

164TH CAG CHANGE OF COMMAND:

Command of the 164th CAG was passed from Colonel Robert L. McDaniel to Colonel Worthington M. Mahone on 29 June 68. The 164th Combat Aviation Group Colors were presented to Colonel Mahone by Colonel Mitchell J. Hazam, Deputy Senior Advisor/Chief of Staff, IV Corps. Commanders from each organic unit participated in the ceremony at Can Tho AAF, RVN.

COUNTER MORTAR RADAR DETACHMENTS:

The 261st and 262nd Counter Mortar Radar Detachments were assigned to the 164th CAG in July 68. The Group now has a total of three AN/MPQ4 radars. The radars are stationed at Soc Trang, Vinh Long, and Can Tho Airfields.

AIR CAVALRY SQUADRON:

The assignment of the 7th Squadron, 1st Air Cavalry to the 164th CAG in early June 68 has greatly expanded aviation operations within the Delta. Elements of the Squadron have participated in operations throughout the IV Corps Tactical Zone. Their employment in the 44th Special Zone (Chau Duc, Kien Phong and Kien Tuong Provinces) has been most noteworthy.

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SUBJECT: Operational Report of Headquarters 164th Aviation Group for the Period Ending 31 July 1968, RCS CSFOR-65 (RI)

VNAF AIRMOBILE TRAINING:

The 164th CAG is tasked with training the 211th and 217th VNAF Helicopter Squadrons in the principles and techniques of airmobile operations in support of ARVN forces. Emphasis during this period was directed to mission commander qualification, airmobile planning, night operations, and suppressive fires. Training objectives for this period have been completed. VNAF helicopters continue to support airmobile operations within IV CTZ daily.

h. Awards and Decorations.

(1) HHC, 164th Aviation Group.

(a) Submitted.

SS	LM	DFC	BSM	AM	ACM
2	1	6	17	135	5

(b) Received.

SS	BSM"V"	BSM	ACM"V"	AM	ACM	PH
1	4	13	13	130	7	1

(2) 345th ASD.

(a) Submitted

SS	BSM"V"
1	4

(b) Received.

AM"V"	ACM"V"	ACM
1	1	6

(3) 346th ASD.

(a) Submitted.

BSM"V"	ACM
2	2

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(b) Received.

BSM"V"	ACM
2	4

(4) 347th ASD.

(a) Submitted.

LM	BSM"V"	AM
1	1	2

(b) Received.

BSM"V"	BSM	AM	ACM
5	2	2	5

2. Section 2, Lessons Learned: Commander's Observations, Evaluations and Recommendations.

a. Personnel: None

b. Operations:

(1) Air Cavalry Utilization:

(a) OBSERVATION: The assignment of an Air Cavalry Squadron to the Group has increased the depth of major airmobile operations in the Delta and given the ground commander a wider capability to detect Viet Cong on the periphery of the operational area.

(b) EVALUATION: When limited armed helicopter assets are engaged in escorting transports or covering friendly troops from one objective to another, the Viet Cong frequently seek refuge on the periphery of an operational area and can go undetected. Utilization of Air Cavalry to recon the AO and LZ and screen the fringes of the AO has produced excellent results in detecting Viet Cong who might have otherwise gone totally unnoticed. The OH-6A/AH-1G scout/gunship team are especially suited for this independent find, fix and finish operation. It is not at all uncommon for the Cavalry screening/search operation on the periphery of a major operational area to yield far more results in VC KBA, bunkers destroyed, and sampans destroyed than the major operation itself.

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(c) RECOMMENDATION: That an Air Cavalry troop support each major airmobile operation and perform a screen/search operation on the periphery of the AO.

(2) Helicopter Interdiction Effort:

(a) OBSERVATION: Independent gunship interdiction missions into VC sanctuary and base camp areas have yielded lucrative results in aerial patrol type actions independent of any ground maneuver.

(b) EVALUATION: Use of a heavy fire team of AH-1G gunships with a command and control aircraft operating within a given AO in a known VC base camp or sanctuary area capitalizes on the immediate intelligence provided by the saturation surveillance program using O-1 and OV-1 aircraft. Earlier, O-1's on reconnaissance would report sighting and reaction times frequently precluded target engagement. Based on accumulated intelligence and sighting patterns, key areas are selected for interdiction by a heavy fire team. The aircraft operate independent of a ground maneuver and are free to react to all targets of opportunity in a given AO. Substantial results have been achieved under this concept and it has served to expand the offensive capabilities of the armed helicopter.

(c) RECOMMENDATION: Periodic interdiction type missions should be scheduled in or near VC sanctuaries utilizing a heavy fire team independent of a ground maneuver. Should lucrative ground targets develop, they can be exploited by troop insertions.

(3) Minimum Operational Altitudes for AH-1G (Cobras)

(a) OBSERVATION: The AH-1G helicopter because of the absence of door gunners is more vulnerable than UH-1B/C gunships during low level visual reconnaissance and LZ marking operations.

(b) EVALUATION: The low level gunship tactics long associated with UH-1B/C have not proven to be totally compatible with the AH-1G. The Cobra, because of its more sophisticated armament system and higher speed does not and should not have to operate at the most vulnerable altitudes in the Deadman Zone (50 - 500 ft). In this region, it is totally exposed from the rear on its break and does not have the advantage of covering door gunners who can fire down and to the rear. Further, in the closed cockpit, it is virtually impossible to detect ground fire unless the aircraft sustains a hit. In view of these considerations, the AH-1G is considered more vulnerable at lower altitudes and the full advantage of its improved performance is not capitalized upon to remain above the most vulnerable altitudes. See Incl 3 for additional discussion.

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SUBJECT: Operational Report of Headquarters 164th Aviation Group for the Period Ending 31 July 1968, RCS CSFOR-65 (RI)

(c) RECOMMENDATION: That AH-1G helicopters use 500 feet as a minimum operational altitude.

(4) Minimum Operational Altitudes for UH-1B/C gunships.

(a) OBSERVATION: An analysis of UH-1B/C gunship accidents during low level operations has revealed that aviators in evading enemy fire have exceeded the maneuver limit of the aircraft, lost lift and contacted the ground during hard breaks.

(b) EVALUATION: This unit has experienced six low level accidents/incidents by UH-1B/UH-1C gunships during the past nine months. Although some of these were induced by the intensity of enemy fire and steep banks at low altitudes to escape this fire, they were not necessarily directly attributed to the enemy weapons. An in-house program was initiated to rectify this serious safety matter when it became evident that the pilots were actually unaware of the maneuver limits of their aircraft. Steep banks or climb outs at low level in a heavily loaded UH-1B/C will almost always exceed the rotor thrust limit and result in a loss in altitude prior to a visible loss in RPM. Gunship pilots were briefed on this phenomenon and made more aware of the aerodynamic limitations of the aircraft. The recommendation was also made that should enemy fire force them into a steep break, they must be prepared to give up altitude, thus target attacks or reconnaissance should be accomplished at higher altitudes. See Incl 3 for additional discussion.

(c) RECOMMENDATION: That UH-1B/C gunships use 100 feet as a minimum operational altitude.

c. Training: None

d. Intelligence: None

e. Logistics.

(1) LOW LEVEL DELIVERY SYSTEM

(a) OBSERVATION: The heavy impact of loads when delivered by the Air Force Ground Proximity Extraction System (GPES) or Low Altitude Parachute Extraction System (LAPES) has resulted in losses when the palletized load breaks apart.

(b) EVALUATION: The Low Level Extraction Systems presently being used are not effective in some cases. The major problem lies in recovery and damage

to delivered drums (55 gallon) of fuel. This problem is generated when the pallet bands break during impact, thus causing the drums to be damaged and/or scattered into adjacent flooded paddies and swamps, making recovery a major problem. The problem has been further compounded during the wet season because paddies and swamps are now flooded to a greater depth. Procedures have been established to preclude losses by reducing sorties in locations where flooded areas exist adjacent to the runway. At this time limited operational experience precludes a detailed recommendation, however it appears that a slower rate of descent or better shock absorbent material will be necessary.

(c) RECOMMENDATION: Develop a stronger strapping for the down pallets or a container which could withstand greater shock upon impact.

f. Organization: None

3 Incl

WORTHINGTON M. MAHONE
Colonel, Infantry
Commanding

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3 CG, USARV ATTN: AVHAGC-DST
5 CG, 1ST AVN BDE, ATTN: AVBA-C

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AVBA-C (13 Aug 68) 1st Ind

SUBJECT: Operational Report of Headquarters 164th Combat Aviation Group for the Period Ending 31 July 1968, RCS CSFOR-65 (R1) (U)

DA, HEADQUARTERS, 1ST AVIATION BRIGADE, APO 96384 SEP 1 1968

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

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

This headquarters has reviewed this report, considers it to be adequate, and concurs with the contents except for the following:

Reference, paragraph 2b (4), Page 7: Nonconcur. Restriction of UH-1B/C to a minimum operational altitude during combat operations is considered unrealistic and unenforceable. While it is recognized that normal situations will not require operations below 100 ft altitude, certain combat situations will require that gunships be flown below 100 ft absolute altitude during the conduct of operations. Low level accidents are normally the result of exceeding the limitations of the aircraft and/or the pilot. The policy of this headquarters to continually educate the pilots and keep them aware of aircraft and their own limitations is considered a more appropriate recommendation.

FOR THE COMMANDER:

J. D. SEGAL
1LT, AGC
Assistant Adjutant General

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AVHGC-DST (13 Aug 68) 2d Ind MAJ Klingman/ds/LBN 4433
SUBJECT: Operational Report of Headquarters 164th Aviation Group for the Period Ending 31 July 1968, RCS CSFOR-65 (RI)

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 1968 from Headquarters 164th Aviation Group.

2. Comments follow:

a. Reference item concerning minimum operational altitudes for AH-1G (Cobras) page 6, paragraph 2b(3): Nonconcur. The tactics employed in the accomplishment of any particular combat mission depend upon the commander's evaluation of the mission requirements versus the limitations of his pilots and aircraft. Imposition of a commandwide minimum operational altitude would interfere with a commander's flexibility in responding to mission requirements. The vulnerability of the AH-1G in a low-level environment is recognized and must be emphasized in training aviators at every echelon.

b. Reference item concerning minimum operational altitudes for UH-1B/C gunships, page 7, paragraph 2b(4) and 1st Indorsement: Concur with 1st Indorsement. It is the responsibility of every commander to continue the training of his aviators and to insure they are aware of aircraft and crew limitations.

c. Reference item concerning low-level delivery system, paragraph 2e(1), page 7: Concur with the observation and evaluation but nonconcur with the recommendation. The stated problem further substantiates DA position not to adapt the LAPES or GPES systems Army-wide or classify them Standard A because they do not satisfy the Army requirements for a low-level aerial delivery system as described in the QMR. Some major objections to the system are the continued poor load survivability because of restraint problems, and the necessity for a prepared slideout area to prevent the loads from breaking up during the ground slide. The USARV position on LAPES is that the utilization of assault type aircraft, combined with helicopters and standard airdrop systems, are adequate to the task in support of USARV requirements for emergency and combat essential airlift. Further development of equipment to support other systems is therefore not recommended.

FOR THE COMMANDER:

A L Buster
[illegible]

Cy furn:
HQ 1st Avn Bde
HQ 164th Avn Bn

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GPOP-DT (13 Aug 68) 3d Ind
SUBJECT: Operational Report of HQ, 164th Avn Gp for Period Ending 31 July 1968, RCS CSFOR-65 (R1)

HQ, US Army, Pacific, APO San Francisco 96558 1 1 OCT 1968

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

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

FOR THE COMMANDER IN CHIEF:

C. L. SHORTT
CPT, AGC
Asst AG

Incl 1

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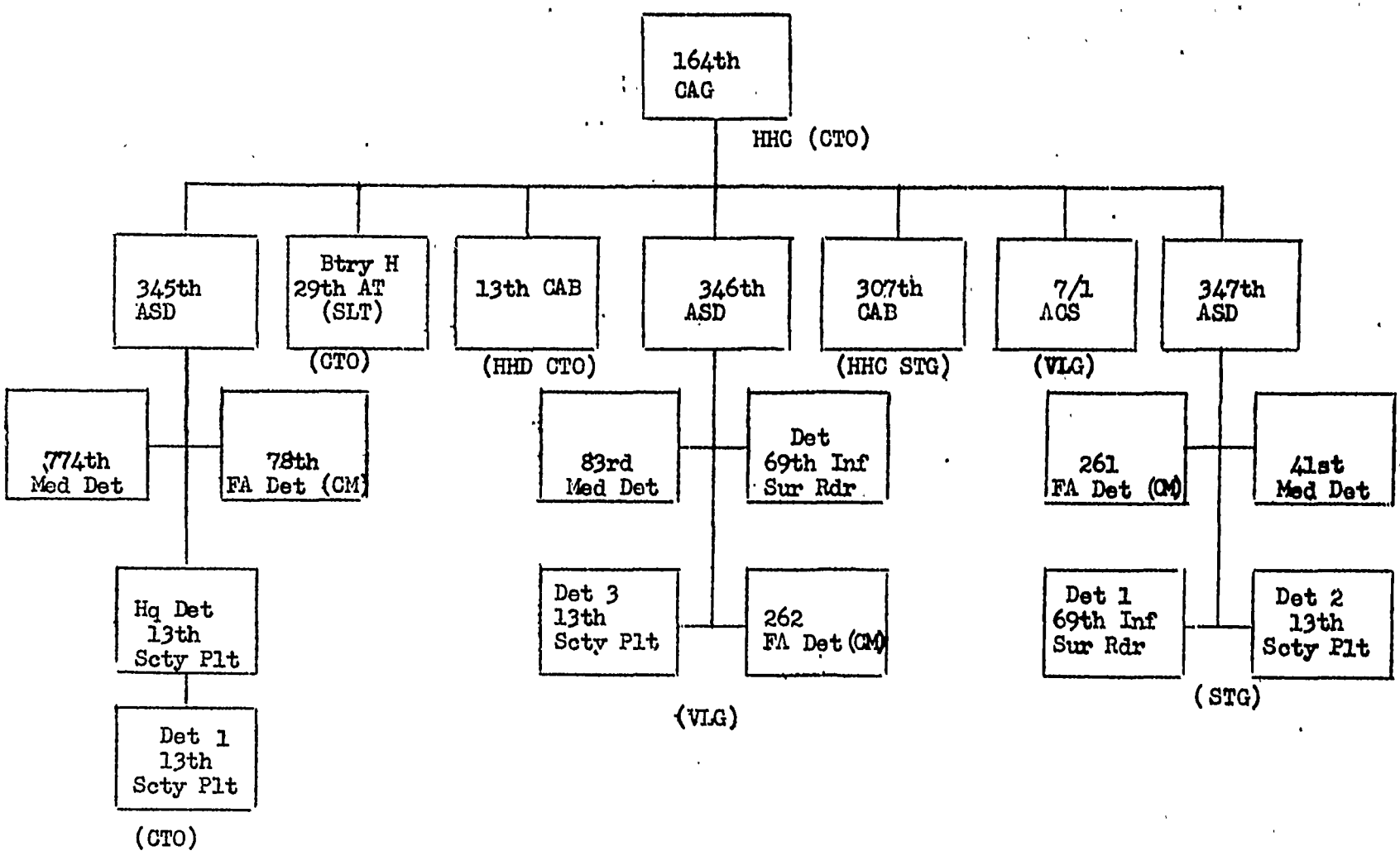
ORGANIZATION CHART



Incl 2

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164TH CAG OPERATIONAL STATISTICS
QUARTER ENDING 31 JULY 1968

Subordinate Unit	Sorties Flown	Troops Lifted	Cargo Lifted (Tons)	Enemy KIA	Structures Dam	Structures Dest	Sampans Dam	Sampans Dest	Aircraft Confirmed Loss	Aircraft Damaged
HHC 164th CAG	826	2512	27	0	0	0	0	0	0	0

DEPARTMENT OF THE ARMY
Headquarters, 164th Aviation Group
APO San Francisco 96215

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AVGN

20 July 1968

SUBJECT: Minimum Operational Altitudes for Gunships

Commanding General
1st Aviation Brigade
APO 96384

1. Reference:

a. 1st Bde Unclas Msg AVBA-Sa 1412210, subject; "Comments from Group Commanders with regard to Establishment of Minimum Operational Altitudes for Gunships."

b. "Operations Manual" 1st Aviation Brigade, dtd 1 February 1967.

c. FM 1-40 (Draft). "Attack Helicopter Gunnery" dtd April 1968.

2. In compliance with request contained in reference message to provide an opinion concerning gunship operating altitudes, a detailed analysis of all aspects of gunship operations in the 164th Combat Aviation Group has been accomplished. This analysis addressed safety, vulnerability, and operational effectiveness while weighing the mission, enemy and terrain peculiar to the IV Corps Tactical Zone and the Mekong Delta.

a. Terrain: The topographical make-up of the Delta sets it apart from the other Corps areas in Vietnam in that the miles of flat open terrain are broken only by tree lined canals. The terrain itself offers little cover or defilade for airmobile assets while providing excellent cover and concealment for the Viet Cong. In this flat terrain, a "shoot and scoot" technique is ineffective unless one capitalizes on airspeed and altitude for passive defense. Since gunships are extremely limited in dash airspeed, the only passive element remaining is altitude and cover is obtainable only by discrete selection of operating altitudes.

b. Enemy: Enemy forces in the Delta are principally made up of Viet Cong main force units and local force guerillas with some NVA advisors or cadre present. The quantity and quality of enemy weapons have increased however, the greatest single threat to the armed helicopters continues to be automatic

Incl 3

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SUBJECT: Minimum Operational Altitudes for Gunships

weapons such as the AK-47, K-50, and 12.7 mm MG's.

c. Mission: The mission of the armed helicopters within the 164th Group vary as the unit of assignment, hence in addressing the question of minimum operating altitudes, it would be necessary to treat these aircraft by type and mission.

(1) UH-1B/C: The armed platoons of the four assault helicopter companies in the 13th Combat Aviation Battalion are equipped with UH-1B/C aircraft. Those aircraft perform the escort and direct fire support mission during airmobile operations.

(2) AH-1G:

(a) Assault Helicopter Co: The AH-1G's within the 235th Escort Helicopter Co supplement the resources of the 13th Combat Aviation Battalion in support of airmobile operations. In addition, they perform independent aerial search and destroy operations in special areas delineated by IV Corps. For purpose of this analysis, their mission closely parallels that of the UH-1B/C aircraft.

(b) Cavalry Troop: The AH-1G's of the 7/1 Cavalry provide the protection, cover and direct fire support for the OH-6A scout helicopters in the classical cavalry role. Once a tactical situation has been developed by the OH-6A/AH-1G team, the AH-1G reduces the target or supports the airmobile insertion of ground troops to further develop the situation.

(3) OH-6A: The OH-6A employed in the scout role with an XM-27E1 system is not a gunship per se, but for purpose of this analysis and in view of its operation in the low altitude gunship environment, it must be considered. As a scout, it is essential that it operate at low altitudes to accomplish its primary mission.

3. Vulnerability versus Operational Effectiveness:

a. Deadman Zone: Based on our experience, it is generally concluded that a deadman zone exists wherein the helicopter is most vulnerable to small arms fire. This zone is a direct function of the observation range of the enemy and is between 50 and 1000 feet in open areas such as we have in the Delta. The airspace between 50 and 500 feet is the most hazardous. To minimize combat vulnerability by remaining above 500 or 1000 feet would also minimize combat effectiveness in accomplishing the missions described above, hence

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operations in the deadman zone is essential when the mission warrants but should be the exception rather than the rule. Such missions are low level visual reconnaissance (after a high recon has been made and fire has not been received) and target attacks at ranges where weapons systems' accuracies dictate low altitude delivery. Representative of this deviation would be delivery of discrete suppressive fires to cover attacking friendly troops. 1st Aviation Brigade Circular number 350-1, dtd 7 June 1968 stipulates optimum range/altitude selection for the M151 rocket W/XM429 proximity fuze down to 200 feet attack altitudes.

b. Hit Data Versus Mission Profile: A Ballistics Research Laboratory analysis of hits sustained by Army helicopter in Vietnam during 1966 revealed that over 50% (687 of 1273) were received during either reconnaissance or target attacks. Because of the nature of the mission and the equipment utilized, the vast majority of these hits were almost inevitable. Improved tactics and equipment are doing much to reduce the magnitude and effect of these hits, but higher altitude consideration for target attacks and reconnaissance would do even more. In this regard, during the period 25 Nov 1967 - 11 May 1968, UH-1B/C helicopters of this command were hit on 128 separate occasions with altitude distribution as follows:

ALTITUDE (FEET)	NUMBER OF HITS
0-25	24
26-50	25
51-100	16
101-500	49
501 and above	14

This limited sampling of data does not necessarily substantiate the fact that the UH-1B/C will be hit less on the surface than at 50, 100 or even 500 feet, but it does validate the Deadman Zone discussed earlier.

c. AH-1G Vulnerability at low Altitudes: The low level gunship tactics long associated with UH-1B/C have not proven to be totally compatible with the AH-1G. The Cobra, because of its more sophisticated armament system and higher speed does not and should not have to operate at the most vulnerable altitudes in the Deadman Zone. In this region, it is totally exposed from the rear on its break and does not have the advantage of covering door gunners who can fire down to the rear. Further, in the closed cockpit, it is virtually impossible to detect ground fire unless the aircraft sustains a hit. In view of these

considerations, the AH-1G is considered more vulnerable at lower altitudes and the full advantage of its improved performance is not capitalized upon to remain above the most vulnerable altitudes.

4. Flight Safety:

a. Helicopter Maneuver Limits: This unit has experienced six low level accidents/incidents by UH-1B/UH-1C gunships during the past nine months. Although some of these were induced by the intensity of enemy fire and steep banks at low altitudes to escape this fire, they were not necessarily directly attributed to the enemy weapons. An in-house program was initiated to rectify this serious safety matter when it became evident that the pilots were actually unaware of the maneuver limits of their aircraft. Steep banks or climb outs at low level in a heavily loaded UH-1B/C will almost always exceed the rotor thrust limit and result in a loss in altitude prior to a visible loss in RPM. Gunship pilots were briefed on this phenomenon and made more aware of the aerodynamic limitations of the aircraft. The recommendation was also made that should enemy fire force them into a steep break, they must be prepared to give up altitude, thus target attacks or reconnaissance should be accomplished at higher altitudes.

b. Flight Envelope:

(1) Equally important and frequently forgotten during low level operations is the height/velocity limitations of a helicopter. TM 55-1520-211-10 stipulates that at airspeeds above 60 KTS, the UH-1B should not be operated below 50 feet. from a pure safety of flight standpoint, this could or should represent the absolute minimum operational altitude for a UH-1B gunship.

(2) The OH-6A on the other hand is designed to permit safe operation down to an altitude of 5 feet at all airspeeds. The pilot's reaction time in a committed combat engagement may not be able to utilize the full safe envelope, yet the aircraft can be operated safely therein.

5. Summary

a. Enroute Altitudes: On combat support flights and enroute to and from operational areas, all armed helicopters should fly at a minimum altitude of 1500 feet to minimize exposure unless the mission specifically requires a lower altitude. This enroute minimum is currently prescribed in the 164th Combat Aviation Group Tactical SOP for all Group assets.

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AVGE

SUBJECT: Minimum Operational Altitude for Gunships

b. Minimum Operational Altitudes:

(1) UH-1B/C: The necessity for surface level operations of armed helicopters has not been clearly established, yet the disadvantages of such operation are readily apparent. At an altitude of one hundred feet or more on a visual reconnaissance (the most demanding of low level missions), crew members actually have more time to view the surrounding area more effectively and distractions, hostile fire or malfunctions can be coped with more readily with an altitude safety factor. The relative vulnerability and exposure time of a helicopter between surface level and one hundred feet is probably inconsequental while the safety dividend of a minimum altitude would outweigh any possible operational advantage. Target attacks at shallow angles on the surface are extremely inaccurate and serve only to suppress with area fire rather than reduce targets with accurate aimed fire. Suppression itself can be accomplished more effectively at altitudes above one hundred feet. Considering UH-1B/C helicopters operating in the Delta and their missions, it appears that a minimum prescribed operational altitude of one hundred feet at all times would be feasible and offer increased safety of operation without detracting from the mission itself.

(2) AH-1G: The improved armament and performance of the AH-1G coupled with the absence of door gunners dictate a change in tactics from that of the UH-1B/C. For this reason, the AH-1G should not be operated below 500 feet. Target engagements can be made at altitude between 1500 and 2000 feet and the breaks made no lower than 500 feet in order to remain out of the most hazardous area of the Deadman Zone.

(3) OH-6A: Because of its unique role as a scout vehicle to descend to the tree tops and find the enemy, the OH-6A limitations must be based on a combination of safety and vulnerability. Because of its small size and the fact that it is normally covered by AH-1G's, the OH-6A should operate in the nap-of-the-earth between 20 and 50 feet, actually below the Deadman Zone.

c. Attack Helicopter Operations: Regardless of the altitude of operation, the basic principles of armed helicopter operations must be observed in order to minimize vulnerability. This includes engaging targets at the maximum effective range of the weapons system, disengaging before reaching the effective range of enemy weapons and lastly avoiding target overflight at all times.

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SUBJECT: Minimum Operational Altitudes for Gunships

6. In recognition of the foregoing analysis and having considered the principal advantages and disadvantages, it is recommended that the following minimum operational altitudes be prescribed for gunships:

UH-1B/C: 100 feet

AH-1G: 500 feet

OH-6A: 20 feet

s/Worthington M. Mahone
t/WORTHINGTON M. MAHONE
Colonel, Infantry
Commanding

"A TRUE COPY"

JAMES L. PERSON
Major, Artillery

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UNCLASSIFIED

Security Classification

DOCUMENT CONTROL DATA - R & D

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

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3. REPORT TITLE

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4. DESCRIPTIVE NOTES (Type of report and inclusive dates)

Experiences of unit engaged in counterinsurgency operations, 1 May - 31 Jul 68

5. AUTHOR(S) (First name, middle initial, last name)

CO, 164th Aviation Group

6. REPORT DATE	7a. TOTAL NO. OF PAGES	7b. NO. OF REFS
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8a. CONTRACT OR GRANT NO.	9a. ORIGINATOR'S REPORT NUMBER(S)
b. PROJECT NO. N/A	683236
c.	9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)
d.	

10. DISTRIBUTION STATEMENT

11. SUPPLEMENTARY NOTES	12. SPONSORING MILITARY ACTIVITY
N/A	OACSFOR, DA, Washington, D.C. 20310

13. ABSTRACT

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UNCLASSIFIED

Security Classification

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The following items are recommended for inclusion in the Lessons Learned Index:

ITEM 1

* SUBJECT TITLE _____

** FOR OT RD # _____

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ITEM 2

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ITEM 4

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ITEM 5

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* Subject Title: A short (one sentence or phrase) description of the item of interest.

** FOR OT RD # : Appears in the Reply Reference line of the Letter of Transmittal. This number must be accurately stated.

***Page # : That page on which the item of interest is located.