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AUTHORITY

AGO ltr 29 Apr 1980

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

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IN REPLY REFER TO

DAAG-PAP-A (M) (6 Dec 71) DAFD-OTT

5 January 1972

SUBJECT: Operational Reports - Lessons Learned, USAAMMC, 765th Trans Bn,
34th Gen Spt Gp, 520th Trans Bn for Period Ending 30 Apr 71,
RCS CSFOR-65(R3)

AD 890487

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2. The information contained in these reports 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.
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4. As Section 1 of the report is not pertinent to the Lessons Learned program, it has been omitted.

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SUBJECT:

Operational Report of Headquarters, United States Army Aviation Material Management Center (AMMC) for the period 1 November 1970 to 30 April 1971
RCS CSFOR (R2)

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

a. Personnel

(1) The Vietnamization Program

With the forecasted phase downs in military strengths coupled with the knowledge that US Army Aircraft are to be retained in theater for a long time, AMMC began a program to hire as many Local Nationals as possible.

(a) Observation: The Vietnamization program to date has allowed the AMMC to reduce requirements for 94 military personnel by substitution of Local National personnel. Military slots that were converted were chosen

from a pool of one-half of all military personnel in the grade of E-4 or below.

(a2) Evaluation: The program requires between 3 and 5 months to complete. Recruiting and hiring require a minimum of one month and can take as much as three months. On the job training for Local Nationals is conducted for 60 days using military personnel currently filling the slot to be converted. TAADS action must be submitted to permit military replenishment of converted slots.

(a3) Recommendations: This method of Vietnamization can be used by all units to quickly reduce military personnel levels as the jobs chosen for conversion do not require long periods of training.

(b1) Observation: English speaking Vietnamese employees if selected with care will make excellent programmers.

(b2) Evaluation: Six Local National females were hired as programmers. Two are graduates of the Vietnamese Computer Corporation School and four are graduates of the Logistics Data Service Center School. At USA AMMC they have been instructed in both COBOL and basic assembly language. In addition, they have been instructed in the correct use of disk files as well as various file organization techniques. These programmers are even more aggressive and competitive in task accomplishment than military programmers of comparable background. Their attitude is excellent and they have been assimilated into the organization as equals. With proper motivation Vietnamese personnel can take over more complex tasks. However, patience must be exercised in order to assist such employees in overcoming their inherent shy nature.

(b3) Recommendations: That all organizations hiring Vietnamese employees in new skill areas conduct at least three hours of instruction each week for those employees. That every effort be made to make these employees both an integral and an equal part of the organization. Finally, that these employees be included in organizational activities such as sports and parties.

b. Intelligence: None

c. Operations:

(1) Program Documentation:

(a) Observations: When the responsibility of checking documentation procedures rests with the programmer and his immediate supervisor, documentation standards are not always maintained.

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(b) Evaluation: The longer a programmer/analyst works on a system the greater the tendency to bypass or lower documentation standards. The closer the immediate supervisor is to the project, the greater the chance that he will allow substandard documentation to pass. Great familiarity with a system because of constant and prolonged exposure to it leads to poor documentation, possibly because the personnel read into the existing documentation much more than a person unfamiliar with the job. Weaknesses in the documentation are ignored because of the intuitive knowledge of the person about that job.

(c) Recommendation: An independent third party not assigned to particular projects should review documentation before a job is turned over as completed. Poor documentation would be caught by this person and rejected.

(2) Computer Manuals:

(a) Observation: Up to date manuals on new equipment continue to be scarce.

(b) Evaluation: The USA Aviation Materiel Management Center is preparing for the RCA Spectra 70 computer to replace the IBM 360. Many critical decisions on conversion are being made without the benefit of technical manuals. It is assumed that manuals will come with the new computer, yet the great majority of actual conversion work takes place before the arrival of the new computer. It is unknown how much extra work will have to be completed because of hardware and software manuals not being available during this early conversion period.

(c) Recommendation: The award of a contract to a computer vendor should stipulate early shipment of hardware and software manuals so that preconversion work can be accomplished as soon as possible. This will prevent some of the last minute rush conversion work usually present when new hardware comes to an organization.

(3) Program Testing Procedures:

(a) Observations: Much computer time can be saved by using master test tapes and proper testing procedures.

(b) Evaluation: The use of master test tape files which are exact duplicates of existing files, but with a small volume of records can save valuable computer time. Not only are the runs shorter, but known values on the system test tape helps audit test results. Where system test tapes are not available, utilities to create temporary tape and disk files in early system testing again save time while checking out basic program logic.

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(c) Recommendation: All standard 3S files used frequently with unique programs should have test tapes created which can be used for testing purposes. These tapes should be dumped and the dump kept available for checking out program logic. 6

(4) Percentage Change Factor (PCF)

(a) Observation: During early FY 71, AMMC faced a period of decreasing customer demands caused by a 15% programmed reduction in the USARV flying hour program and a significant aircraft redeployment schedule. The USARPAC Standard Supply System (3S) replenishment subsystem was not sufficiently sensitive to current changes in customer demands and was incapable of compensating for projected decreases in customer demands.

The 3S replenishment system utilizes a Requisitioning Objective (RO) which is calculated, for each FSN, from the weighted moving average of the most recent 12 months' demand history. AMMC gives the most recent month's demand value a weight of 15% and the average of the eleven preceding months a value of 85%. An adjustment had to be made to the 3S replenishment subsystem to overcome the inertia of the historic demands and to allow for projected future demands when computing future stockage requirements.

(b) Evaluation: AMMC analyzed three alternatives for overcoming the inertia of the historic customer demands so that the RO would be more reflective of future customer demands. The following were the alternatives analyzed:

(b1) Increase the weight of the most recent month's customer demands in the monthly RO computation.

(b2) Alter the customer history file so that historic demands would be reduced in consonance with projected decreases in demands.

(b3) Write a new program which would apply a percentage change factor (PCF) to the RO in order to compensate the newly computed RO for both the inertial effect of historic demands and projected changes in demands.

The first alternative was discarded for two reasons. It would not account for projected future customer demands and the RO computation would lose the smoothing effect inherent in weighted moving averages during those months of abnormally large or small customer demands. The second alternative was discarded because it would violate the integrity of the demand history file.

The third alternative (utilization of a PCF) was adopted. AMMC assigns a commodity manager code to each FSN which identifies the FSN's use by end

item or major end item component. A PCF can be applied by commodity manager code to factor the ROs for each system. The PCF has the capability of overcoming the inertia of historic demands used in computing the RO as well as considering future issue requirements.

Actual experience has shown that the PCF is responsible for reducing AMMC's ROs (by aircraft system) in advance of projected customer demands. The evidence appeared in the computer listings for the Quarterly Stratification of Inventory Report which showed approximately a \$1.5 million difference between one month's Stock Fund value of the factored RO and one month's actual average monthly demand for Stock Fund items. This difference appeared on the report listings for 31 December, 31 March and on the interim report run as of 18 February. The difference signifies that the 3S replenishment cycle recommended \$1.5 million fewer Stock Fund new orders during each month from December through March.

(c) Recommendation: The use of the PCF be considered for use by all supply agencies with increasing or decreasing customer demands sensitive to future rather than historic customer demands.

(5) Shipment of Retrograde Aircraft:

(a) Surface Shipment

(1a) Observation: Aircraft stowed internally in the vicinity of the hatches were exposed to slight salt water seepage dropping down from overhead.

(1b) Evaluation: The hatches are not completely water tight and will allow some spray to enter.

(1c) Recommendation: That aircraft stowed in the vicinity of the hatch area be wrapped with appropriate Herculite covers or covered with a suitable one coat plastic base coating.

(2a) Observation: Use of Herculite Shipping Covers. As indicated above, under Sea Train utilization, four Sea Trains had deck cargo that necessitated the use of Herculite Covers.

(2b) Evaluation: The use of Herculite Covers did not pose a problem in any of the Sea Train shipments cited in that the number of aircraft deck loaded did not exceed the limited number of covers available. The use of a suitable one coat, strippable, plastic base spray coating is operationally desirable, economical, easily applied and requires little training for the personnel performing the application. A one coat spray was utilized for several aircraft on the last Sea Train, however, due to sufficient internal stowage aboard the vessel they were not carried on the weather deck.

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(2c) Recommendation: That a suitable one application strippable spray coating be accepted to take the place of Herculite covers.

(3a) Observation: Removal of synchronized elevators from all rotary winged aircraft is desirable for all future Sea Train shipments.

(3b) Evaluation: Removal of synchronized elevators permits closer storage of aircraft in the hold and removes a major cause of damage by inexperienced cargo handlers.

(3c) Recommendation: That all synchronized elevators be removed and secured in the cabin area of the respective helicopters for all aircraft being shipped aboard Sea Train vessels.

(4a) Observation: A requirement exists for a small processing kit to go aboard the Sea Train vessel as it begins to receive retrograde aircraft. This kit should include but not limited to the following:

(4a1) Barrier Paper

(4a2) Green tape, cloth, pressure sensitive

(4a3) Ground handling wheels for aircraft to be shipped

(4a4) General Mechanics Tool Set (to remove synchronized elevators if not already accomplished, etc.)

(4b) Evaluation: The absence of the proposed processing kit caused significant delays on several occasions in that items had to be called for and sent from the processing units on the beach. In some cases the processing units were several miles from the loading site.

(4c) Recommendation: That each processing unit that prepares retrograde aircraft for Sea Train vessels provide a processing kit to take care of last minute problems that develop.

(b) C5A Missions

(1) Observations: The large and outside load capability of the C5A can be a great asset to the Army in RVN for inbound and retrograde aircraft.

(2) Evaluation: To date the only RVN airfield the C5A will land at for cargo discharge and backhauls is Cam Ranh Bay. To fully utilize the C5A capability in delivering Army aircraft to RVN and backhauling retrograde aircraft, the Air Force must be flexible enough to land at Saigon, Tuy Hoa,

Da Nang and Cam Ranh Bay. This requirement is considered essential in that the major processing point for Army inbound and outbound aircraft is located at Saigon. Additionally, the retrograde aircraft are directed into the nearest aircraft processing unit for preparation. The limitation to one airfield in RVN requires retrograde aircraft to be shipped several hundred miles to be evacuated by air. This puts an additional transportation burden on the theater merely to accommodate the aircraft that was "designed to land in the forward Brigade areas, on dirt strips".

(3) Recommendation: That the CSA aircraft be utilized for delivery and backhaul of Army aircraft to at least four (4) RVN locations, Saigon, Tuy Hoa, Da Nang, and Cam Ranh Bay.

(c) Processing Retrograde Aircraft

(1) Observation: Retrograde aircraft are turned in with ammunition and/or ammunition components on board.

(2) Evaluation: During the past three months several aircraft have arrived in CONUS with an assortment of ammunition and ammunition components on board. The shipment of retrograde aircraft with ammunitions and/or components aboard creates a serious threat to the safety of the personnel and equipment who handle these aircraft. It is the responsibility of the using unit and the DSU who is turning in retrograde aircraft to insure that all areas have been searched to remove any form of explosive materiel.

(3) Recommendation: That command emphasis be directed to all DSUs and using units on the importance of making complete inspection of all aircraft which are being retrograded. Unit commanders should insure that supervisors at all levels take a personal interest in the processing of retrograde aircraft to eliminate the shipment of ammunition and other explosive devices in these aircraft.

(6) 3S as a Management Tool:

(a) Observation: The Standard Supply System, as employed at AMMC provides the following advantages:

(1) Provides listings which enable each manager to manage by exception.

(2) Provides flexibility in permitting the manager to change lines from computer managed to manager managed for intensive control with no interruption to the operation.

(b) Evaluation: The Standard Supply System, as employed at AMMC, provides the commodity manager with the means for monitoring the status of

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his supplies and enables him to vary the degree of management of items. The use of asset protection procedures and variable maximum releasable quantities by ADP, permit the managers to apply necessary controls over his assets while providing required customer satisfaction and maximizing use of the computer. Continuous coordination between data processing and the commodity managers provides the ability to rapidly react to any required changes and optimize the capabilities and advantages of ADP.

(c) Recommendation: That supply activities explore the capabilities of modifying ADP supply procedures employing advantages of ADP while providing required managerial control of assets and reducing manual reviews.

(7) Sick List:

(a) Observation: The Sick List continues to be an effective management tool.

(b) Evaluation: The Sick List compiled on a weekly basis, provides the commodity manager a detailed report analyzing those lines which the on-hand balance is at or below 20 percent of the Requisitioning Objective. The listing provides the status of all requisitions, due-in and due-out, for lines qualifying. Accurate and timely evaluation of potential problem lines enables necessary supply actions to be initiated if required. A detailed recap listing of all "sick lines" provides management indicators and trends for monitoring the Sick List activity.

(c) Recommendation: That all supply inventory control centers develop a procedure to provide a means to identify potential problem lines in a timely manner to minimize zero balance stockage of needed items.

(8) DSSA Excess:

(a) Observation: The previous excessing procedures were found to be inadequate for providing responsive disposition to units within RVN, due to volume of excess and unorthodox conditions. Programs B3100 and B3200 have proven highly effective under unique circumstances involving a steady phase down rate and an increasing number of transfers to the Vietnamese. The programs have given AMMC commodity managers valuable information concerning excess assets, allowing for redistribution of assets among the supported units and preventing unnecessary replenishment by the AMMC.

(b) Evaluation: The new excessing program was found to be easy to use. It allows AMMC to process a much larger volume of reported excess and increase customer satisfaction. Unit conversion problems were minimal and no programming difficulties were encountered.

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(c) Recommendation: To meet the present excess requirements within RVN, the present AMMC excessing policy should be maintained. Recommend that consideration be given to implementation of this type system in other activities with a mission similar to that of AMMC.

(9) SMAR Flights:

(a) Observation: Special Mission Aircraft Requirement (SMAR): Heavy demands placed on in-country transportation assets during the LAM SON 719 Operation made efficient use of such assets imperative.

(b) Evaluation: The requirements of the northern customers most directly involved with this operation exceeded the capabilities of the existing SMAR program while II Corps customers were not able to use the SMAR to its full extent. The rescheduling of the SMAR during this crucial period assured that critical parts reached the LAM SON units as demanded, without loss of service to units not so involved. The success of the SMAR Flight in supporting northern units during LAM SON 719 indicates that by responding rapidly to supply requirements the overall number of aircraft required for use in-country are reduced through increased operational ready rates.

(c) Recommendation: That consideration be given to expanding the use of SMAR Flights to customers other than those located in northern South Vietnam.

(10) Standard PLL:

(a) Observation: The Standard PLL for airframe, engine and avionics for all type rotary wing aircraft is now available.

(b) Evaluation: Common hardware items in the FSC 4730, 5303 and 5306 have been removed from the PLL. These items are available in the Common Hardware Conex container. The PLL when forwarded, to a unit utilizing a new type aircraft is annotated, "Use as a guide only." A constant review of PLLs to achieve a more compact PLL is under study. A review of the armament on rotary wing aircraft indicates it would be impossible to prepare a Standard PLL without knowing specific type weaponry involved.

(c) Recommendation: That consideration be given to utilizing Standard PLL information based on demand data by other activities with a similar mission to that of AMMC.

(11) System Stockage Criteria:

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(a) Observation: Prior to 1 Feb 1971, AMMC was operating with a single stockage criteria. Twelve demands for any aviation peculiar line of supply in 360 days qualified the line for addition to the ASL and 4 demands for an ASL line in 360 days qualified the line for retention on the ASL. Otherwise, any aviation peculiar line of supply was a fringe line to AMMC.

This system produced an ASL to meet and surpass the USARV goal for overall demand accommodation but it did not accommodate each supported aircraft system (i.e., U-6, U-21, UH-1, OH-58) equally. Since these systems' densities (number of aircraft per system) varied so much, demands for their respective lines of supply varied greatly. This resulted in the very dense (relatively speaking) systems which produced many demands having even their least active lines stocked. These systems were accommodated far better than was required for adequate support. Conversely, the low density sparse systems produced few demands, few of their lines qualified for stockage and they suffered with low accommodation.

This situation clearly indicated the need for an individual stockage criteria for each aircraft system (System Stockage Criteria) in order to accommodate all systems equally.

(b) Evaluation: Since each line of supply was already assigned a single character code to identify it with the aircraft system it supported, all AMMC lines of supply were easily arranged into subgroups. Each subgroup was thus identified with the appropriate system. The lines within each system were stratified (by computer from most active to least active) according to the number of demands for each line. A graph was drawn for each system plotting cumulative percent of total demands on the system versus the stratified lines. A scale giving actual number of demands corresponding to the stratified lines was plotted parallel to the horizontal axis (See attached graph).

It can be shown that for a particular demand picture, reflected by the graph, the stockage criteria establishes lower and upper bounds on accommodation, and the reverse is also true. That is, we can select acceptable bounds on accommodation and let the demand history indicate what stockage criteria should be used. This assumes, of course, the demand history is complete and accurate and is the same as the future demand picture.

AMMC has thus scientifically selected System Stockage Criteria and has established procedures to review and verify these criteria quarterly.

(c) Recommendation: The System Stockage Criteria concept has proven to be an excellent management tool for the purpose of determining the appropriate RO. Recommend that other units having similar functions consider

the system stockage criteria program as a possible aid in their management program.

(12) Central Aircraft Processing:

(a) Observation: The mission of the 166th Aviation Maintenance Detachment is to outprocess retrograde aircraft to CONUS. Aircraft processing includes loading, assembly and test flying of new aircraft and disassembly, preserving and decontaminating retrograde aircraft.

(b) Evaluation: The 166th Aviation Maintenance Detachment accomplishes this mission with 3 officers, 30 enlisted men and 75 contract civilians. The unit processes 60% of the total aircraft coming into and being retrograded from RVN, and has processed 234 aircraft within one 30 day period. During LAM SOM 719 the unit sent 19 personnel to a DSU to assist in assembling aircraft arriving in country. This 19 man element processed 84 aircraft in a 30 day period. The production of the 166th AMD far outstripped the production of the DSU in processing aircraft into or out of RVN. This concept of utilization of a separate aircraft processing unit is both feasible and operationally desirable when a high volume of aircraft are shipped into and out of a theater.

(c) Recommendation: Recommend that units such as the 166th Aviation Maintenance Detachment continue to be utilized to process aircraft when the volume of aircraft shipments makes it feasible.

d. Organization:

(1) Observation: The manpower resources of the 110th Transportation Company (Depot) were inadequate to operate the Saigon Aviation Depot.

(2) Evaluation: The Saigon Aviation Depot processes approximately 80,000 supply transactions per month and stores approximately 40,000 different lines. The MTOE strength of 9 officers and 156 enlisted men is augmented by 131 contract civilians and 289 Local Nationals to accomplish its mission. The MTOE for the 110th Trans Co (Depot) is being abandoned in favor of a TDA which will provide a more flexible structure and permit a reduction in manning levels. The MTOE is inadequate as the structure does not allow for the following considerations:

(a) Due to command emphasis personnel are required to perform inspection, preservation and packaging of materiel being returned to CONUS. This function requires approximately 100 people; 25 technical inspectors, 50 packaging and preservation workers and 25 equipment operators.

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(b) Due to high dollar value and hence importance of aviation repair parts, technical inspectors are required in the receiving and storage sections to determine serviceability prior to issue. These talents are not provided through the MTOE.

(c) Requirements for internal guard duty prevent the full military strength of the MTOE being used to accomplish the depot's mission.

(3) Recommendation: Chief of Staff - Force Development, USARV, review the TOE depot company concept for possible revision to a TDA approach which utilizes a high number of Local Nationals and civilians.

- e. Training: None
- f. Logistics: None
- g. Communication: None
- h. Materiel: None

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 COL, TC
 Commanding

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SUBJECT: Operational Report-Lessons Learned, Aviation Materiel Management
Center for Period Ending 30 April 1971, RCSCSFOR-65 (R-2)

DA, Headquarters, 34th General Support Group (AM&S), APO 96309 21 JUN 1971

TO: Commanding General, United States Army Vietnam, ATTN: AVHDO-DO,
APO 96375

This headquarters has reviewed the ORLL Report from Aviation Materiel
Management Center (AMMC), and concurs with the comments.

FOR THE COMMANDER:



VERNON OAKS
CPT, AGC
Adjutant

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20 AUG 1971 16

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SUBJECT: Operational Report-Lessons Learned of Headquarters, United States
Army Aviation Materiel Management Center (AMMC) for the period
1 November 1970 to 30 April 1971. RCS CSFOR (R3)

Headquarters, United States Army Vietnam, APO San Francisco 96375

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

This Headquarters has reviewed the Operational Report-Lessons Learned
for the period ending 30 April 1971 from Headquarters, United States
Army Aviation Materiel Management Center (AMMC) and concurs with comments
of indorsing headquarters.

FOR THE COMMANDER:



J. L. CHILDRESS

CPT AGC

ASSISTANT ADJUTANT GENERAL

Cy furn:
USAAMMC
34th GS Gp

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GPOP-FD (undtd) 3d Ind
SUBJECT: Operational Report-Lessons Learned, HQ US Army
Aviation Materiel Management Center (AMMC), Period
Ending 30 April 1971, RCS CSFOR-65 (R3)

HQ, US Army, Pacific, APO San Francisco 96558 17 SEP 1971

TO: HQ DA (DAFD-ZA), WASH DC 20310

This headquarters concurs in subject report as indorsed.

FOR THE COMMANDER IN CHIEF:

M. L. Mah

M. L. MAH
1LT, AGC
Asst AG

AVGFV

15 May 1971

SUBJECT: Operational Report-Lessons Learned, 765th Transportation Battalion
Period Ending 30 April 1971, RCS: CSFOR-65 (R2)

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

a. Personnel: None

b. Intelligence: None

c. Operations:

(1) Structural Panels:

(a) Observation: Units are allowing small holes in floor and structural honeycomb panels to go uncorrected. This practice allows water to seep into the panel causing corrosion and bending separation.

(b) Evaluation: Floor panels and structural panels are in short supply throughout the supply system. Once water or oil seeps into structural panels, it takes only a short period of time for this contamination to render the panel completely unserviceable.

(c) Recommendations: That command emphasis be placed on making temporary repairs to structural panels immediately after the damage is detected. Field expedient repairs can consist of plugging the hole with zinc chromate putty, tape, pro-seal or even chewing gum, until the proper repair can be effected. The proper repairs should be effected as soon as possible to prevent the bonding void from expanding.

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15 May 1971

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SUBJECT: Operational Report-Lessons Learned, 765th Transportation Battalion
Period Ending 30 April 1971, RCS: CSFOR-65 (R2) (U)

(2) Switching Decks 8A2284 P/O AN/APS-94C.

(a) Observation: A number of the above switches FSN 5841-918-6161 with an excessive length of wire between the switch and the connectors have been arriving in the field.

(b) Evaluation: The excess length of wiring makes it impossible to install this switch in the allotted space of AN/APS-94C. These switches must be returned to the Sacramento Army Depot and new switches requisitioned. Equipment Improvement Recommendations have been submitted by 317th Maintenance Company (LE) addressing this deficiency.

(c) Recommendations: That wide dissemination of this information be made to all units who use this switch so that further maintenance delays for AN/APS-94C can be avoided.

(3) Pilferage of Retrograde Aircraft:

(a) Observation: Aircraft being shipped from RVN to CONUS are very susceptible to pilferage while in transit.

(b) Evaluation: Aircraft that are being shipped by surface vessel or by air are very susceptible to pilferage during transit, since there is no means to secure the compartment access doors. Avionics equipment that is stored in their appropriate avionics compartments are very accessible. Aircraft Basic Issue Items (BILI) including eight day clocks are also very accessible through the cargo doors.

(c) Recommendation: Aircraft that are being shipped by surface vessel or by air should have radio equipment packed in specially padded shipping crates or boxes that can be placed in a larger shipping container. It is recommended that the avionics crate and BILI gear, to include the eight day clocks, be packed in a wooden shipping box. The shipping container should be banded with metal banding material and secured in the aircraft cargo compartment with metal banding. Equipment stored in this manner would be less susceptible to pilferage than loosely stored equipment.

(4) Criteria for aircraft to be transferred to Vietnamese Air Force (VNAF).

(a) Observation: Aircraft scheduled for transfer to VNAF have been rejected for honeycomb panel repairs that had been performed at a depot facility.

(b) Evaluation: Several aircraft designated for VNAF transfer were rejected because the depot had not identified each repair they had performed by station number, water line and butt line on the DA Form 2408-15. Repairs were

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SUBJECT: Operational Report-Lessons Learned, 765th Transportation Battalion
Period Ending 30 April 1971, RCS: CSFOR-65 (R2) (U)

considered temporary and therefore unacceptable. Entries in the DA Form 2408-15 were made by the Depot facility stating that the aircraft had been overhauled and that major repairs had been performed for battle damage or crash damage. This situation was brought to the attention of the 34th general Support Group and further relayed to USAAVSCOM.

(c) Recommendation: That all airframe repairs performed at depot be identified by aircraft station number, water line and butt line and that each repair be listed on the DA Form 2408-15 indicating that the repair was performed at a depot facility, thereby documenting the repair as being permanent.

(5) Shipment of Excess:

(a) Observation: Increased managerial emphasis has been placed on shipping excess repair parts from the DSSA's to the Aviation Material Management Center (AMMC) for further shipment to other DSSA's or to CONUS. Customer satisfaction and accommodation has continually improved as excess items have been shipped out.

(b) Evaluation: A continued effort is being made to keep stockage at a minimum. This requires expeditious shipping of serviceable turn-ins from using units. Items that are above the requisitioning objectives or are fringe are shipped to AMMC as expeditiously as possible. The condition of stock is improved due to a faster turn-over rate as well as the fact that it is easier to maintain stock that is in demand and not subject to long periods of storage. The resulting situation gives greater customer satisfaction and accommodation because better management of demand supported items is possible.

(c) Recommendations: That continuing emphasis be directed at the DSSA level to expedite shipment of accumulated excesses and that depots assure that timely disposition instructions are issued to the DSSA's.

(6) Engine oil by-pass on the AH-1G.

(a) Observation: A few AH-1G helicopters have been received for direct support maintenance during the last six months with the cannon plug for the engine oil by-pass disconnected.

(b) Evaluation: Inspection indicated that oil by-pass lines were operational, but had been disconnected by the unit for two reasons:

1 When oil is changed for PMP, the reservoir is refilled initially, but after the first maintenance operational check, the system remains 2 to 3 quarts low due to trapped oil in the system. When the system is 2 to 3 quarts low during operation, it will sense an oil low condition and will start to by-pass with the warning light illuminated.

2 The system will sense a low oil condition when the aircraft is put into a steep dive and pilots are getting an engine oil by-pass warning light. This actually shows the system is working properly.

AVGFV

SUBJECT: Operation Report-Lessons Learned, 765th Transportation Battalion
Period Ending 30 April, RCS: CSFOR-65 (R2) (U)

(c) Recommendations: That all disconnected oil by-pass indicators be connected and checked for proper operation of the system. If the system is inoperative, it should be repaired and kept in operation. The engine oil by-pass is a safety feature and will prevent possible extensive damage to the aircraft or injury to crew in the case of an emergency.

(7) Armament.

(a) Observation: A few supported units are turning in M-60D machine guns with unauthorized modifications. These include placing a penny or equivalent thickness washer behind the buffer assembly and filing certain portions of the bolt. Both of these modifications increase the cyclic rate of fire approximately 200 rounds per minute.

(b) Evaluation: Although the cyclic rate of fire is increased, the weapon life expectancy is reduced by 30 to 50 percent.

(c) Recommendation: That unit armament officers be advised of these unauthorized modifications and ways of detecting them.

d. Organization: None

e. Training:

(1) MOS Technical Training.

(a) Observation: Very few sheet metal repairmen are familiar with aircraft honeycomb and fiber glass panel repairs.

(b) Evaluations: Sheet metal repairmen appear to be getting very little instruction on honeycomb and fiber glass panel repair at MOS producing schools. Many aircraft in the army inventory have fiber glass and honeycomb structural panels, however very few repairmen are experienced in the repair of these panels. Those that have experience in this area seem to be self taught or have been taught the skill by another experienced individual.

(c) Recommendation: That the Advanced Individual Training Schools for sheet metal repairmen establish an extensive training program in the repair of structural panels. This area is so vast that a special MOS could be established for Structural Panel Repairman.

f. Logistics:

(1) Electron Tubes, FSN 5960-617-3541:

(a) Observation: The above electron tubes manufactured by Litton Industries do not meet the minimum power out put necessary to operate the AN/ARC-51BX.

AVGFV 15 May 1971
SUBJECT: Operational Report-Lessons Learned, 765th Transportation Battalion
Period Ending 30 April 1971, RCS: CSFOR-65 (R2) (U)

(b) Evaluation: At frequencies between 225 and 400 MH, the Litton Industries tubes will not meet necessary specification for it's use in the system. However, General Electric Company's electron tube, type 6442 (MFG P/N DSA 900-70-C-8606) will meet the needs and specifications required to operate the AN/ARC-51BX system. Equipment Improvement Recommendations have been submitted by 317th Maintenance (LE) concerning this deficiency.

(c) Recommendation: That only the General Electric Company's tube be used until the Litton Industries tube has been re-evaluated.

(2) Fixed Wing Aircraft Shipped by Surface Vessel.

(a) Observation: OV-1, U-8 & U-21 aircraft that have been shipped by surface vessel have sustained excessive salt water corrosion damage to the magnesium wheels.


(b) Evaluation: Each of these aircraft that has arrived in Vung Tau by surface vessel has had extensive damage to its magnesium wheels. Although all aircraft have been preserved properly, there is no protection for the aircraft wheels. Therefore they are directly exposed to salt water. Once magnesium begins to corrode from salt water, the deteriorating process is rapid and in most cases it can not be arrested. These wheels were salvaged locally and new wheels ordered.

(c) Recommendation: After an aircraft is loaded aboard a surface vessel, some easily removable protective compound or material should be applied to the wheels. If there is no such material available an alternate solution to the problem would be to install inexpensive shipping wheels on the aircraft. These shipping wheels would be for ground handling the aircraft only. The facility receiving the aircraft could install the proper wheels upon receipt of the aircraft and return the shipping wheels to supply.

g. Communications: None

h. Material: None

i. Other: None


WALTER A. RATCLIFF
LTC, TC
Commanding

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AVGF-B (151 May 71) 1st Ind 1LT Soucek/js/923-4325
SUBJECT: Operational Report-Lessons Learned, 765th Transportation Battalion
for Period Ending 30 April 1971, RCSCSFOR-65 (R-2)

DA, Headquarters, 34th General Support Group (AMES), APO 96309 21 JUN 1971

TO: Commanding General, United States Army Vietnam, ATTN: AVHDO-DO,
APO 96375

This headquarters has reviewed the ORLL Report from 765th Transportation
Battalion (AMES), and concurs with the comments.

FOR THE COMMANDER:


VERNON OAKS
CPT, AGC
Adjutant

24

20 AUG 1971

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AVHDO-DO (15 May 71) 2nd Ind
SUBJECT: Operational Report-Lessons Learned, 765th Transportation
Battalion Period Ending 30 April 1971, RCS CSFOR-65 (R3)

Headquarters, United States Army Vietnam, APO San Francisco 96375

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

1. This Headquarters has reviewed the Operational Report-Lessons Learned for the period ending 30 April 1971 from Headquarters, 765th Transportation Battalion and concurs with comments of indorsing headquarters.

2. Additional comment follows:

Reference it. concerning "Engine oil by-pass on the AH-1G," page 11, paragraph 2c(6). When the AH-1G aircraft is flown within the normal flight envelope, with sufficient amount of oil, and the oil by-pass indicator (low oil level) illuminates an EIR should be submitted to initiate modification of deficiency. Unit has been so advised.

FOR THE COMMANDER:



J. L. CHILDRESS

CPT AGC

ASSISTANT ADJUTANT GENERAL

Cy furn:
765th Trans Bn
34th GS Gp

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GPOP-FD (15 May 71) 3d Ind
SUBJECT: Operational Report-Lessons Learned, 765th
Transportation Battalion, Period Ending 30 April
1971, RCS CSFOR-65 (R3)

HQ, US Army, Pacific, APO San Francisco 96558

17 SEP 1971

TO: HQ DA (DAFD-ZA), WASH DC 20310

This headquarters concurs in subject report as indorsed.

FOR THE COMMANDER IN CHIEF:

M. L. Mah

M. L. MAH
1LT, AGC
Asst AG

GPOP-FD

SUBJECT: Operational Report-Lessons Learned of HQ, 34th Gen Spt Gp (AMS) for period ending 30 Apr 71, RCS CSFOR-65 (R3)

2. Section Lessons-Learned: Commander's Observations, Evaluations and Recommendations (U).

a. PERSONNEL

(1) CRITICAL GRADE STRUCTURE

(a) Observation: The 34th Gen Spt Gp is authorized 1891 enlisted men in aircraft maintenance related MOS's. There were 1791 enlisted personnel assigned with aviation related MOS's--a shortage of 100. By total grade structure there is a 95% fill; however, examination of the grade structure reveals a larger number of men in the lower grades as compared with those in the higher grades. Therefore the critical shortage is not in number assigned, but in the technical experience and supervisory capability.

(b) Aircraft Maintenance

	<u>TOTAL</u>	<u>E-4 & BELOW</u>	<u>E-5</u>	<u>E-6</u>	<u>E-7</u>
Authorized	1891	925	609	203	129
Assigned	1791	916	584	169	79
Shortage	100	9	25	34	50
% Fill	95	99	95	83	61

(c) Avionics

Authorized	515	38	354	89	34
Assigned	327	92	152	68	15
Shortage	188	54	202	21	19
% Fill	64	252	43	76	44

(d) Evaluation: Junior enlisted men for the most part cannot fill the NCO positions due to their lack of technical and supervisory experience.

(e) Recommendation: That Headquarters, USARV continue to review the assignment of all subject NCO's, MOS 67, 68, and 35 to insure proper use of all in-country personnel. Continued coordination with DA to provide these personnel, even on TDY status, if required.

(2) TECHNICAL INSPECTORS

(a) Observations: The percentage of fill has greatly improved in the last 3 months due mainly to the increase in 67W. However, the other types of inspectors still remains critical.

<u>Type of Technical Inspector</u>	<u>AUTH</u>	<u>ASG</u>	<u>% FILL</u>
67N30 (UH-1)	54	9	16
67U30 (CH-47)	23	6	26
67V30 (CH-6/58)	22	3	14
67W30 (R/W Gen)	96	108	113

(b) Evaluation: The assignment of qualified technical inspectors does not meet minimum mission requirements.

(c) Recommendation: That coordination with DA be continued to insure that sufficient CONUS school quotas are established to train the required personnel. The use of personnel TDY from CONUS should be continued to fulfill immediate requirements. The civilian contract for aviation supply and maintenance assistance must remain in effect until such time as the military has attained the required numbers and experience levels.

b. OPERATION:

(1) COMPLETION OF VNAF I&M, PHASE II

(a) (U) Observation: Phase II began 1 Sep 70 and was completed 3 April 1971.

(b) (U) Evaluation: 34th GSG completed the entire program within 72 hrs of the scheduled completion date. Early program problems firmly established the necessity for close coordination, between the U.S. Army, USAF and the VNAF. Monthly preactivation meetings were initiated in Sep 70. Lessons learned during the previous months transfer were discussed, problem areas resolved and the upcoming transfer personnel briefed. Aircraft selected for VNAF transfer sometimes failed the final transfer inspection after expenditure of hundreds of manhours by the losing unit, initial, and final DSU's. To counteract this, 34th GSG technical inspectors visited units from which the selected aircraft were to emanate. The selection or rejection of the aircraft was accomplished on site prior to maintenance manhour expenditure. The owning unit technical inspector participated in all inspections. Identification and inspection of aircraft must take place early in the month preceding the transfer to allow adequate unit/DSU preparation and transfer of aircraft to the final transfer DSU.

(c) (U) Recommendation: That newly overhauled aircraft be utilized to the maximum extent possible in phase III. That VNAF aircraft acceptance be accomplished at the overhaul facility by an on-site acceptance team. Immediate correction of problem areas at the depot maintenance level would be readily available. Those aircraft selected for the VNAF I&M Program could be monitored by the acceptance crew throughout the overhaul cycle negating to some degree the necessity for thorough time-consuming final inspections. Implementation of the overhaul site acceptance program will of course eliminate a portion of the RVN workload at a time of continued strength reduction.

(2) AHIG ENGINE CONVERSION TO THE T53-L13B

(a) (U) Observation: High failure rate being experienced in the T53-L13A engine pointed out the need for an improved version. The titanium compressor rotor installed in the T53-L13B was developed to eliminate the 2nd and 4th Stage Compressor Failures common to the T53-L13A.

(b) (U) Evaluation: Due to the operating envelope and heavier flying weight of the AH-1G versus the UH-1H aircraft, higher failure rates were being experienced by the Cobra. Authorization to initiate the installation of the L-13B engine in the AH-1G was received in USAAVSCOM Msg 131445Z August 1970. Projected completion date was set at 31 Dec 70. A total of approximately 434 aircraft were involved. Subsequent to the required planning and receipt of a sufficient quantity of L-13B engines, the program was initiated in October 1970. By the end of December the change over had been completed with a few isolated exceptions.

(c) (U) Recommendations: That service life and failure rate of the L-13B engine be closely monitored to detect any unfavorable failure trend.

(3) UH1H CONVERSION TO THE T53-L13B ENGINE
(As of 30 Apr 71)

(a) (U) Observation: Above average failure rate of the T53-L13A compressor rotor prompted consideration of T53-L13B installation in the UH1H series aircraft.

(b) (U) Evaluation: Changeover of designated command aircraft was accomplished in October of 1970. Fleet changeover began in early December. The present fleet density is 1359 aircraft and the scheduled completion date for UH-1H fleet conversion is 31 Jul 71.

(c) (U) Recommendation: That the present changeover prerequisite of 800 engine hours since new or overhaul be reduced as rapidly as possible commensurate with L13B engine stock status. That the L13B engine be considered for installation in all UH1 series aircraft.

(4) LOGISTICAL PRIORITIES FOR LARGE-SCALE TACTICAL OPERATIONS.

(a) Observation: During Operation LAM SON 719, difficulty was experienced in moving personnel, equipment, and supplies in support of Army aviation.

(b) Evaluation: As LAM SON 719 got underway, all in-country common user airlift assets were devoted to Combat Essential (CE) and higher priority missions. The movement of lesser priority personnel and material, even 999 NORF aviation repair parts, ceased. This headquarters and USAAMMC requested and had approved Combat Essential airlift for personnel and material required to support aviation in LAM SON 719. However, since the entire airlift system was devoted to Combat Essential missions, aviation personnel and material still did not move expeditiously. Delays were caused because no priorities were established within the Combat Essential category.

(c) Recommendation: During large-scale tactical operations when common user transportation systems are fully obligated, further priorities must be established. In the case of LAM SON 719 when so much carried a Combat Essential priority, further definition of priorities on a commodity or unit basis within Combat Essential would have facilitated movements. The responsibility to set priorities for support of tactical operations is that of operations staffs not logistical staffs.

(5) AVIATION LOGISTICS SUPPORT FOR LAM SON 719.

(a) Observation: Early in the operation of LAM SON 719,

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it became apparent that the 5th Trans Bn (AM&S), 101st Airborne Division was not adequately staffed to coordinate and manage the logistics support for both Divisional aircraft and these non-divisional aircraft that were attached to the 101st Airborne Division for operational control.

(b) Evaluation: A decision was made to establish a forward aviation logistics control element to coordinate and manage the aircraft maintenance and support effort; therefore, the 34th GSG (AM&S) established a forward element organized as shown.

DIRECTOR OF
AVN LOGISTICS

COL Jersey

DEPUTY
(DDAL)
LTC Needles

DIRECTOR OF
MATERIAL
LTC Burns

AMMC
LIAISON
OFF
MAJ Hixon

CENTRAL TECHNICAL
ASSISTANCE
LTC Dismuke

Avionics - MAJ Harris
Armament - CPT Carroll
Tech Supply - CWO Ayala
ACFT Maint - CWO Conway

TECHNICAL SUPERVISORS (T/S)

101 Div T/S <u>LTC Goode</u>	223rd CAB T/S <u>LTC Mansfield</u> <u>LTC Pitts</u>	14TH CAB T/S <u>LTC Goode</u>	1/5 MECH T/S <u>MAJ Pratt</u>	XXIV CORPS SUPPORT T/S <u>MAJ Pratt</u>
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The mission of this central control element was to coordinate and manage aviation logistics for the entire operation to include divisional, non-divisional aviation units with an organic direct support capability and back-up maintenance and supply furnished by the 58th Trans Bn (AM&S).

(c) Recommendation: When divisional and non-divisional aviation units are employed in an operation of the magnitude of Lam Son 719, an aviation logistic control element be established at the highest echelon of command responsible for the overall operation.

(6) ENGINE CLEANING TEAMS

(a) Observation: When aircraft are operating in adverse

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environmental conditions such as those encountered in Lam Son 719, dust ingestion, high ambient temperatures and heavy loading of aircraft, increases the engine malfunction and failure rate.

(b) Evaluation: Adverse operating conditions cause excessive aircraft turbine engine failure or loss of power. This is primarily due to dust ingestion which coats the turbine blades with a silicone-like substance. This combined with high ambient temperatures causes the exhaust gas temperature (EGT) to rise above safe limits when the engine is required to produce maximum power output for heavy load operations. To reduce the silicone-like coating that accumulates rapidly in adverse operating conditions, engine cleaning teams were employed by the 34th CSG (AMHS) to train unit personnel in engine cleaning techniques and actually clean engines on aircraft that were in back-up direct support shops. All turbine engines were cleaned on a regular and frequent basis. Out of an average strength of 750 aircraft employed during Lam Son 719 only an average of 14 aircraft were down at a given time for engine problems of any type.

(c) Recommendation: Units operating aircraft in adverse environmental conditions should establish a regular and frequent engine cleaning schedule. Engines should be cleaned as often as every two or three days in extreme adverse conditions.

(7) MOVEMENT OF AVIATION DIRECT SUPPORT COMPANY

(a) Observation: An accurate listing of a unit's personnel and equipment is needed for developing transportation requirements for a unit move.

(b) Evaluation: This headquarters planned the movement of an aviation direct support company during the period covered by this report. A listing of unit personnel and equipment was required for use in developing transportation requirements. While fairly definitive rosters and property records existed in the unit, these did not provide all the necessary data for transportation planning. The lack of a listing containing the necessary data caused much productive effort to be expended in locating and counting equipment. A report exists which is designed specifically for the purpose of providing data for unit moves: The Force and Material Report (FAMREP) (RCS CINSPACINST 52309). The previous parent unit of this company had not required submission of this report.

(c) Recommendation: All units update and submit the FAMREP as directed. This report will provide necessary data for development of transportation requirements in support of unit moves.

(8) KEYSTONE AVIATION PROCESSING POINT (KAPP):

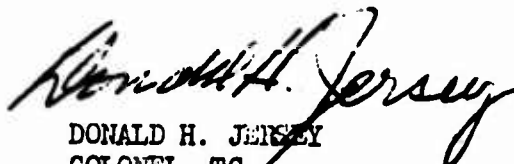
(a) Observation: Keystone Robin Increment 6 started on 20

January 1971 for USARV aviation units. During Increment 6 approximately 400 aircraft authorized to RVN were scheduled to be inactivated/re-deployed. The majority of aircraft were assigned to Keystone designated units operating in Military Region 3. In order to expeditiously process the large quantities of aviation related shop sets, kits, and outfits, a Keystone central turn-in point was established under the 520th Transportation Battalion (AM&S) (GS) at Phu Loi, RVN.

The mission of the KAPP was to inventory, clean, pack, preserve, document and ship all aviation related shop sets, kits and outfits generated as a result of Keystone operations in Military Region 3. Personnel from 34th Group headquarters, Headquarters USAAMMC, and the 520th Transportation Battalion formed the cadre to operate the point. Personnel from units under Keystone were placed on site at the KAPP to assist in the processing of equipment. Equipment to operate the KAPP was obtained from operating 34th General Support Group units, and temporary loans from USARV. Pacific Architects and Engineer's (PA&E) resurfaced the yard and erected a fence to provide security. A free turn-in area was also established to accept the turn-in of any aviation related items that did not require credit for turn-in.

(b) Evaluation: The KAPP proved to be successful in expediting the processing of aviation shop sets, kits, and outfits during Increment 6 of Keystone Robin. In previous Keystone Increments, the units were required to process all aviation equipment themselves with little outside assistance. Through the use of the KAPP the stand-down has been simplified, and it has significantly increased the effectiveness of the entire operation.

(c) Recommendation: The KAPP should continue to be operated to expedite the turn-in and disposition of Keystone Robin assets.


DONALD H. JERSEY
COLONEL, TC
Commanding

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AVHDO-DO (Undated) 1st Ind

SUBJECT: Operational Report-Lessons Learned of Headquarters, 34th General Support Group (AM&S) for Period Ending 30 April 1971, RCS CSFOR-65 (R3) (U)

Headquarters, United States Army Vietnam, APO San Francisco 96375 25 JUN 1971

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

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

1. This Headquarters has reviewed the Operational Report-Lessons Learned for the period ending 30 April 1971 from Headquarters, 34th General Support Group (AM&S).

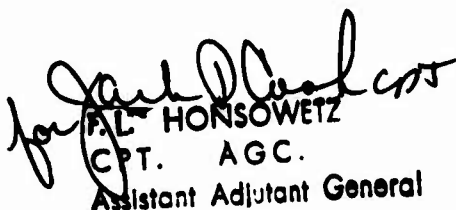
2. Comments follow:

a. Reference item concerning "CRITICAL GRADE STRUCTURE," page 4, paragraph 2a(1): Concur. This Headquarters reviews, on a daily basis, strength and grade structure of all MOS's within Major Commands. Based on total authorized and assigned strength by MOS, equitable quantitative and qualitative distribution is made to the maximum extent possible. In addition DA is informed monthly of critical shortages in specific MOS's and grades. No action by USARPAC is recommended. Action is required by DA to insure timely fill of requirements by MOS and grade.

b. Reference item concerning "UH-1H CONVERSION TO THE T53-L13B ENGINE," page 7, paragraph 2b(3). The L13B engine has already been considered for all UH-1 series aircraft except the UH-1B. There is presently a program in progress of changing the L11 to the L13B on the UH-1C. This change redesignates the aircraft to a UH-1M. The conversion of the UH-1B is not considered feasible because of costs involved in other modifications. Unit has been so advised.

c. Reference item concerning "ENGINE CLEANING TEAMS," page 8, paragraph 2b(6): Nonconcur. Units should state an hourly requirement rather than "every two or three days." Aircraft will fly a varied number of hours in three days. Unit has been so advised.

FOR THE COMMANDER:


PAUL HONSOWETZ
CPT. AGC.
Assistant Adjutant General

Cy furn:
34th GS Gp

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GPOP-FD (undtd) 2d Ind (U)

SUBJECT: Operational Report-Lessons Learned of HQ, 34th Gen Spt Gp (AM&S)
for period ending 30 Apr 71, RCS CSFOR-65 (R3) (U)

HQ, US Army, Pacific, APO San Francisco 96558

26 JUL 1971

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

This headquarters concurs in subject report as indorsed.

FOR THE COMMANDER IN CHIEF:

M. L. Mai

M. L. MAI
2LT, AGC
Asst AG

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AVGFP-CO

18 May 1971

SUBJECT: Operational Report - Lessons Learned 520th Transportation Battalion
(AM&S) (GS) Period Ending 30 April 1971, RCS CSFOR-65 (R3)

2. Lessons Learned: Commander's Observation, Evaluation and Recommendations

a. Personnel: None

b. Intelligence: None

c. Operations:

(1) Contamination of OH-58 Honeycomb panels.

OBSERVATION: A number of OH-58's have been worked by this battalion which have had the battery compartment panels replaced or have had extensive sheet metal repairs because of contamination of honeycomb by spills or leaks from the battery.

EVALUATION: On the OH-58 the battery rests directly on the honeycomb panel, mounted by four bolts. There is no provision to prevent spills or leaks from contaminating the panel.

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18 May 1971

SUBJECT: Operational Report - Lessons Learned 520th Transportation Battalion
(AM&S) (GS) Period Ending 30 April 1971, RCS CSFOR-65 (R3)

RECOMMENDATION: That a considerable amount of money and manhour expenditures could be reduced by initiation of a modification work order which would allow the installation of some protective plate or battery pan to prevent contamination of the panel.

(2) OH-58 Induction Fairing

OBSERVATION: On the OH-58 the induction fairing is installed with a row of screws in the engine side of the firewall assembly.

EVALUATION: Because the fairing is installed in this manner, it is necessary to remove engine armor in order to remove the fairing. The exhaust stacks and the anti-collision light must also be removed. Removal and replacement of all these components makes necessary a fifteen minute run-up and a retorquing of the exhaust clamps.

RECOMMENDATION: Remove the nut plates from the induction fairing and install them on the firewall assembly.

(3) OH-58 Panel Installation

OBSERVATION: On the OH-58 all panels are installed with screws.

EVALUATION: Removal and installation of panels is made more difficult because of the screws. It is necessary to drill out stripped screw heads and an extractor is needed to remove or replace nut plates.

RECOMMENDATION: Use a bolt and washer instead of screws. A recommended torque setting could be established for nut plates. This procedure will decrease time needed to change panels, and the torque setting will eliminate replacement of nut plates because of over-torque.

(4) Goniometer Motor in the R-1496/ARN-89

OBSERVATION: The goniometer motor in the R-1496/ARN-89 frequently fails in the climate of Vietnam. The motor becomes "sticky" or reaches seizure.

EVALUATION: Pending.

RECOMMENDATION: Clean the motor with "Hush" (a freon based silicone lubricant). "Hush" is being tried by AVEL Company at this time, but results have not yet been evaluated.

(5) Improper Use of Signal Generators AN/USM-44

OBSERVATION: Technicians using these signal generators have often blown the 1/8 ampere radio frequency fuses and/or the 1/8 watt 53 resistors in the generator.

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AV6FP-CO

18 May 1971

SUBJECT: Operational Report - Lessons Learned 520th Transportation Battalion (AM&S) (GS) Period Ending 30 April 1971, RCS CSFOR-65 (R3)

EVALUATION: The main cause is the technicians' failure to remove the RF cable from the RT antenna connector prior to checking the transmitter section of the RT.

RECOMMENDATION: Recommend that switching relays be used in conjunction with the AN/USM-44. The relays will switch the high RF power when the transmitter is keyed from the signal generator to the watt meter and/or the antenna.

(6) Accidental Damage to Aircraft

OBSERVATION: Aircraft in hangars are often damaged by the careless moving and placing of work stands, hydraulic platforms, and other items necessary to maintenance operations.

EVALUATION: This type of equipment has sharp edges. When this equipment is inadvertently pushed into aircraft, it often causes metal damage which is time consuming to repair.

RECOMMENDATION: All sharp edges and corners of work stands and maintenance platforms should be taped or padded.

(7) N1 Lock-up on the OH-58

OBSERVATION: Many OH-58 aircraft have experienced N1 Lock-ups.

EVALUATION: Inspection has revealed that the primary problem has been improper engine cleaning procedures.

RECOMMENDATION: Cleaning the aircraft engine on a regular basis will significantly reduce N1 Lock-ups. The cleaning procedures is outlined in TM 11-1520-228-20, dated 7 Oct 70.

(8) Tube Assemblies, FSN 1615-831-0329

OBSERVATION: Tube assemblies, FSN 1615-831-0329, used in the rebuild of UH-1 stabilizer bars are being received in such a condition that they will not balance.

EVALUATION: If both tubes on a UH-1 stabilizer bar need replacing, they must be ordered as two (2) each tube assemblies. Tubes are being received at this station of such a weight difference that the stabilizer bar will not balance when reassembled. This necessitates the requisition of another tube assembly.

RECOMMENDATION: That these tube assemblies be issued as a matched set, or that the manufacturer be required to produce all tubes at a predetermined weight. It is desired that no two tubes differ in weight by more than four ounces.

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18 May 1971

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SUBJECT: Operational Report - Lessons Learned 520th Transportation Battalion (AM&S) (GS) Period Ending 30 April 1971, RCS CSFOR-65 (R3)

(9) Obsolete training aids being used at the Army Aviation Refresher training school.

OBSERVATION: The assigned category D Training Aids used in refresher training are completely out of date.

EVALUATION: The 3 UH-1, 1 AH-1G, 1 OH-6, and 1 CH-47 training aids are in unsalvageable condition. The components and airframe are thoroughly worn out and give a false impression to the students when performing practical exercises.

RECOMMENDATION: That the Army Aviation Refresher Training School be authorized two category A maintenance trainers of each type aircraft on which instruction is now being offered. The aircraft could be maintained by the students during practical exercises and made flyable upon termination of the particular course of instruction. Working on a current model aircraft would give students more realistic training to take back to their units.

(10) Sheetmetal damage to OH-58

OBSERVATION: Many OH-58 aircraft are being structurally damaged by rear seat belts banging against the exterior skin of the aircraft during flight.

EVALUATION: The cause of this damage is the failure to secure the rear seat belts when the rear seat is not occupied.

RECOMMENDATION: That all OH-58 pilots and crewchiefs take extra care to insure that rear seat belts are secured before flight. Passengers should be cautioned not to leave the aircraft without securing the rear seat belts. A caution placard should be put on the rear of the front seats: "Buckle seat belts before leaving aircraft".

(11) Installation of AN/ARC 116 radio in OH-58 aircraft

OBSERVATION: The AN/ARC 116 radio, which is now replacing the AN/51EX radio, has a serious drawback for use in the Republic of Vietnam.

EVALUATION: The design of the AN/ARC 116 radio requires the pilot, in an emergency, to dial the guard frequency in order to broadcast a "Mayday" call. Since the AN/ARC 116 is primarily designed for use in the OH-58 aircraft, which is normally flown with one pilot, the pilot would have to divide his attention for a minimum of five seconds to dial the guard frequency. This delay jeopardizes a pilot's ability to survive an emergency.

RECOMMENDATION: That installation of the AN/ARC 116 be delayed in the Republic of Vietnam until a field acceptance test can be conducted.

d. Organization: None

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18 May 1971

SUBJECT: Operational Report - Lessons Learned 520th Transportation Battalion
(AM&S) (GS) Period Ending 30 April 1971, RCS CSFOR-65 (R3)

- e. Training: None
- f. Logistics: None
- g. Communications: None
- h. Material: None
- i. Others: None



CHARLES F. DRENZ
LTC, TC
Commanding

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AVGP-B (18 May 71) 1st Ind 1LT. Soucek/js/923-4325
SUBJECT: Operational Report-Lessons Learned, 520th Transportation Battalion
for Period Ending 30 April 1971, BCSCSFOB-65 (B-2)

DA, Headquarters, 34th General Support Group (AM&S), APO 96309 81 JUN 1971

TO: Commanding General, United States Army Vietnam, ATTN: AVHDC-DO,
APO 96375

This headquarters has reviewed the ORLL Report from 520th Transportation
Battalion (AM&S), and concurs with the comments.

FOR THE COMMANDER:



VERNON OAKS
CPT, AGC
Adjutant

4

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AVHDO-DO (18 May 71) 2nd Ind
SUBJECT: Operational Report-Lessons Learned 520th Transportation Battalion
(AM&S) (GS) Period Ending 30 April 1971, RCS CSFOR-65 (R3)

20 AUG 1971

Headquarters, United States Army Vietnam, APO San Francisco 96375

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

This Headquarters has reviewed the Operational Report-Lessons Learned for the period ending 30 April 1971 from Headquarters, 520th Transportation Battalion (AM&S) (GS) and concurs with comments of indorsing headquarters.

FOR THE COMMANDER:



T. L. CHILDRESS
CPT AGC
ASSISTANT ADJUTANT GENERAL

Cy furn:
520th Trans Bn
34th GS Gp

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GPOP-FD (18 May 71) 3d Ind
SUBJECT: Operational Report-Lessons Learned, HQ 520th
Transportation Battalion (AM&S)(GS), Period
Ending 30 April 1971, RCS CSFOR-65 (R3)

HQ, US Army, Pacific, APO San Francisco 96558

17 SEP 1971

TO: HQ DA (DAFD-ZA), WASH DC 20310.

This headquarters concurs in subject report as indorsed.

FOR THE COMMANDER IN CHIEF:

M. L. Mah

M. L. MAH
1LT, AGC
Asst AG

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UNCLASSIFIED

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