



UNITED STATES GENERAL ACCOUNTING OFFICE  
DALLAS REGIONAL OFFICE  
ROOM 500, 1512 COMMERCE STREET  
DALLAS, TEXAS 75201

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JUN 2 1970

Commanding General  
Department of the Army  
U. S. Army Aviation Systems Command  
P. O. Box 209  
St. Louis, Missouri 63166



Dear Sir:

We have reviewed selected aspects of the Army's aviation maintenance program. Our review was performed at the Army Aeronautical Depot Maintenance Center, Corpus Christi, Texas (ARADMAC), the Army Aviation Systems Command, St. Louis, Missouri (AVSCOM), and the Army aircraft contractor, Bell Helicopter Company, Fort Worth, Texas (Bell).

The review, in our opinion, disclosed a need for a more responsive Army aviation maintenance program. A draft report covering our major findings and recommendations was sent to the Secretary of Defense on April 1, 1970. Copies were also sent to the Secretary of the Army for his information.

In addition, we wish to call to your attention other findings disclosed during our review which we believe indicate a need for improvement in management procedures and controls.

With the exception of the data obtained at Bell concerning deficiencies in inspection and preservation, details of these findings were previously furnished in our statements of facts and summary of information.

NEED FOR IMPROVEMENT IN ASSET REPORTING  
FOR AIRCRAFT MATERIEL MANAGEMENT

The Army's supply control study (SCS), designed for the computation of aircraft component requirements, is dependent on underlying reporting systems to provide asset and other pertinent data in order for it to produce valid requirements data. If such data, including full asset visibility and world-wide status are not available, requirements computations of doubtful validity may result in both under and over-procurement of spare aircraft components. Our review disclosed that two of the principal reporting systems, Aircraft Component Intensive Management System (ACIMS), and the Ownership and Accountability for Selected Secondary Items in Overseas Theater Depots (OASIS), have not provided complete and therefore accurate, asset data.

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Ownership and Accountability for Selected Secondary Items in Overseas Theater Depots (OASIS)

OASIS, a system under which selected high dollar value items stored in overseas theater depots would be transferred to Army Materiel Command (AMC) ownership and accountability, was implemented in May 1968 for Continental United States (CONUS) and various overseas depots. Its objectives were to facilitate full visibility for centralized management and to provide an improved basis for requirements determinations, budgeting, procurement, storage, distribution, and supply. Implementation in Vietnam was planned for August 1968 but was not achieved. Since Vietnam was not covered, the system did not provide complete asset data. We were told, however, that as of July 1, 1969, OASIS items were being reported from Vietnam under another program developed around the basic principles of OASIS. Since this program was initiated near the end of our review, it was not evaluated.

Aircraft Component Intensive Management System (ACIMS)

The objective of ACIMS is to provide world-wide control of selected high cost components through reporting by serial number directly to AVSCOM any change in status. It was initiated on a test basis in January 1967. Although the UH-1 transmission was included in the ACIMS reporting system in February 1968, our review disclosed that as of March 31, 1969, only 64 percent had been reported. As a result of this incomplete reporting, ACIMS data was not used in the supply control study made on UH-1 transmissions in June 1969.

Assets recovered from attrited aircraft

In supporting documentation for a supply control study on UH-1 transmissions in March 1968, the item manager indicated a lack of inventory data on a world-wide basis and accounted for only assets purchased as spares, giving no consideration to possible gains from 1,035 attrited aircraft. As the March 1968 study resulted in procurement of 301 transmissions at an estimated cost of about \$4 million, we inquired why additional transmissions accumulated through salvage were not considered. We were told that AVSCOM had no record of assets accumulated from salvaged aircraft.

Our review, however, disclosed crash damage files at AVSCOM for about 100 UH-1 aircraft covering the period from January 1967 to July 1969. These files (DD Form 598) were in the AVSCOM Directorate of Maintenance, Fixed Wing Section, Aircraft Maintenance Management Division. These files covered only a part of the total attrited aircraft; however, they showed a recovery of transmissions from about 59 percent of the salvaged aircraft. A projection of the 59 percent recovery rate would show 610 transmissions recovered from attrited aircraft as of March 1968.

Also, in the supply control study made on UH-1 transmissions in June 1969, no consideration was given to possible gains from 2,775 attrited aircraft. This study, however, did not result in procurement of additional spare transmissions.

Based on our review, we conclude that neither OASIS nor ACIMS have provided complete asset data for supply control studies and requirements determinations. Data, therefore, were not available to show world-wide distribution and status.

Also, in March 1968 and in June 1969, in estimating the transmissions available in the supply system, the item manager accounted only for those transmissions procured as spares, ignoring any possible gains from attrited aircraft. While data at AVSCOM was incomplete, the evidence was sufficient, in our opinion, to indicate the quantity to be significant and that consideration of these gains would have precluded some new procurement. The gains at the time of the latest procurement of 301 transmissions could have been as great as 610 units; consequently, inclusion of these transmissions in the study would have precluded the entire procurement which cost an estimated \$4 million.

While we recognize that action has been initiated to improve asset reporting, we recommend that these systems be monitored closely to assure complete and accurate asset reporting for use in supply control studies and requirements determinations. Specific provision should be made to assure inclusion of assets recovered from attrited aircraft.

#### NEED FOR IMPROVED CONTROLS AND DISTRIBUTION OF SERVICEABLE ASSETS STORED AT ARADMAC

A limited review of serviceable components on hand at ARADMAC disclosed instances in which such components, including high value intensive managed (AIMI) items had been allowed to remain at ARADMAC for long periods after overhaul, and in one case AVSCOM Master Data Records (MDR), did not show these items. Following are two examples of conditions noted.

#### UH-1 transmissions

Based on inventories taken in October and November 1968, we found that ARADMAC had on hand large quantities of serviceable UH-1 transmissions, some for long periods of time. For example, in October 1968, we found 451 transmissions, representing an investment of approximately \$6.3 million, on hand at ARADMAC an average of 153 days after the date of preservation (after overhaul) shown on the container. Some of these transmissions had been on hand at ARADMAC in a serviceable condition since mid-1967. Most were overhauled during fiscal year 1968 during which time the transmission shop worked more than 18,000 hours of overtime.

In February 1969, and again in September 1969, we noted lesser quantities of serviceable transmissions, which had been at ARADMAC for more than a year after the date of preservation shown on the container. These transmissions were AIMI items which according to AR 710-50 required monthly supply control reviews by AVSCOM.

AVSCOM officials informed us that the reasons for these transmissions remaining on hand for long periods after overhaul involved the transition from specific model transmissions (UH-1B/C/D) to the universal model transmission. Field activities, they said, were submitting requisitions against the Federal Stock Number (FSN) assigned to the universal transmission which was not coded as interchangeable on a two-way basis. As a result, requisitions for the universal transmission were back ordered and stocks on the specific configurations were allowed to accumulate in the storage facilities. Finally, we were told, action based on specific Vietnam UH-1 populations was initiated on a manual basis which has resulted in shipment of the specific configurations as needed.

#### CH-47 auxiliary power units

In April 1969, we noted 30 CH-47 aircraft auxiliary power units, FSN-2835-906-6766, on hand at ARADMAC in a serviceable condition. We found that these units had been on hand an average of 374 days after the date of preservation shown on the container. ARADMAC records indicated a fiscal year 1969 program for only 8 which was completed in August 1968. AVSCOM's Master Data Record (MDR) as of February 19, 1969, reported no serviceable power units at ARADMAC. This power unit, according to the MDR, had an acquisition cost of \$8,651 each, and at that time, the MDR indicated outstanding orders for more than 300 spares. On July 24 and August 29, 1969, our staff called this situation to the attention of ARADMAC and AVSCOM officials, respectively; however, on November 20, 1969, 15 serviceable power units were still on hand at ARADMAC, now an average of about 20 months after the date of preservation shown on the container. AVSCOM's MDR as of November 13, 1969, again reported no serviceable power units at ARADMAC and indicated about 180 on order as spares.

Although this condition was brought to the attention of AVSCOM officials in August 1969 in our statement of facts and comments requested, no specific comments on this item were received.

Accordingly, our limited review indicated that AVSCOM's management controls and distribution procedures covering serviceable aircraft components stored at ARADMAC need strengthening since some of these serviceable components were allowed to remain at ARADMAC for long periods after overhaul while new spares were on order. In addition, AVSCOM records, the MDR, did not accurately reflect the quantity of power units on hand at ARADMAC which indicates a need for strengthening the controls and

improving the accuracy of the data reporting system between ARADMAC and AVSCOM.

We recommend that the appropriate procedures at both AVSCOM and ARADMAC be reviewed, and steps taken, as necessary to improve the data reporting system to assure more accurate records and more expeditious distribution of serviceable components stored at ARADMAC.

NEED FOR IMPROVEMENT IN PHYSICAL  
INVENTORY PROCEDURES AT ARADMAC

ARADMAC supply personnel under AMCR 780-1 are required to take periodic cyclic physical inventories of aircraft components on hand at ARADMAC and report to AVSCOM for the purpose of updating AVSCOM's Master Data Records (MDR) for the components inventories. Since this MDR data is used at AVSCOM in making periodic supply control studies which establish or update requirements, inaccurate inventories may result in erroneous requirements computations.

Our review at ARADMAC disclosed significant discrepancies in the inventories of UH-1 transmissions and OH-6A rotor blades as detailed in our statement of facts previously furnished to both ARADMAC and AVSCOM. The discrepancies noted were apparently counting or location errors and not involving "in-float items". ARADMAC officials advised us that special attention was being given to this problem including higher level management to the Inventory Branch and a continuing purification of the location survey system.

While recognizing that corrective action has been initiated by ARADMAC management officials, in view of the importance of accurate inventory data, we recommend that AVSCOM review current conditions and procedures with the view of achieving further improvements and accuracy of inventories.

INSPECTION AND PRESERVATION OF REPARABLE  
COMPONENTS AWAITING OVERHAUL

ARADMAC and other depots have stored large quantities of reparable aircraft components awaiting overhaul, many of which were not adequately preserved. As a result, overhaul costs may be increased and some components condemned as beyond economical repair due to damage occurring because of inadequate preservation during the time awaiting overhaul. Our draft report to the Secretary of Defense covered this deficiency at ARADMAC; however, information recently obtained from Army officials at Bell Helicopter Company, Fort Worth, Texas, indicates that this deficiency currently exists at other depots as well. From April 1969 through February

1970, 24 reports of packaging and handling deficiencies (DD Form 6) were issued by the Army office at Bell covering UH-1 components received for overhaul at Bell from Red River Army Depot (RRAD) and Sharpe Army Depot (Sharpe) as well as from ARADMAC.

For example, DD Form 6, Report 12-69, dated November 13, 1969, reported 120 UH-1 transmissions received not adequately preserved from RRAD. DD Form 6, Report 13-69, same date, reported 36 transmissions received from Sharpe showing a similar lack of adequate packaging and preservation. Color photographs accompanying these reports graphically show the inadequate packaging and preservation and in some instances the resultant corrosion.

Accordingly, we conclude that in addition to the conditions previously reported at ARADMAC, other depots are not inspecting and represeving reparable components awaiting overhaul. While we do not know the extent to which this lack of preservation has resulted in the condemnation of components as beyond economical repair or additional costs of overhaul, an examination of the photographs accompanying these reports indicates that it must be substantial.

We recommend, therefore, that provisions be made to promptly inspect and represeve, as necessary, the large volume of reparable aircraft components at all depots awaiting overhaul.

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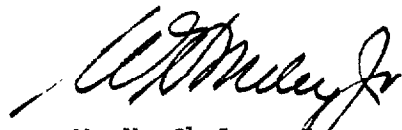
We are bringing these matters to your attention because of their continuing nature. If more information is desired, we will be happy to make it available.

We would appreciate advice as to the actions taken with respect to these problems. Work to evaluate improvements in these areas may be programmed for additional attention in the future.

We appreciate the cooperation and courtesies shown our staff members during this review by the personnel at AVSCOM and ARADMAC.

Copies of this letter are being sent to the Secretary of the Army.

Sincerely yours,

  
W. H. Sheley, Jr.  
Regional Manager

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