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UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D C 20548

LOGISTICS AND COMMUNICATIONS
DIVISION

SEPTEMBER 6, 1979

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The Honorable Harold Brown
The Secretary of Defense

Dear Mr. Secretary:

Subject: [Unnecessary Procurement of A-10 Aircraft
for Depot Maintenance Floats] (LCD-79-431)

In our May 22, 1979, report (LCD-79-420), we pointed out the need to reduce the number of F-14 and F-15 aircraft the Department of Defense plans to procure. Our concern was based on an October 1977 report (LCD-77-423) which found that the military services used inconsistent and imprecise criteria to forecast requirements for support aircraft. The Defense Audit Service similarly concluded in a classified report (79-003) that the number of F-14s and F-15s needed for training, peacetime attrition, and substitution for aircraft undergoing overhaul were overstated.

In response to our May 22, 1979, report, the Assistant Secretary of Defense (Comptroller), forwarded data to us on August 2, 1979, which indicated that, based on recent experience, the requirements for the substitute F-14s and F-15s to be used while aircraft are undergoing maintenance have increased and the number of aircraft being procured for this purpose are needed. However, the Assistant Secretary pointed out that your staff is reviewing the F-14 and F-15 procurement programs as part of the annual review of the services' 5-year program objectives. The aircraft procurement programs will be reduced should the staff find them excessive based on an assessment of total tactical air capability, readiness, and affordability.

We believe that our current work on reducing Defense aircraft time in maintenance further demonstrates the necessity to reevaluate aircraft needs for depot maintenance float. We focused on the potential procurement of 61 A-10 aircraft as substitutes for aircraft undergoing depot maintenance--currently called backup aircraft inventory for maintenance. Specifically, we found that:

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✓--Even though the A-10 is being procured under a concept designed to eliminate the need for depot overhaul, the Air Force is still using a 10-percent factor to justify the purchase of 61 A-10 aircraft for maintenance float purposes.

--While Air Force criteria also allows substitutes for aircraft undergoing modifications, the full extent of the modification program for the A-10 is not known.

--In developing the 10-percent maintenance float factor, Defense has not systematically determined how quickly aircraft in the depot could be "buttoned up" and returned to their units under a wartime compressed work schedule and the influence of this rapid return on the requirements for maintenance float aircraft.

The A-10, as well as other newer weapon systems, are being procured under a concept designed to eliminate the need for depot overhaul. New design features and reliability centered maintenance concepts have improved maintainability and reliability so that work which used to be performed in depot facilities can now be performed in the field and at intermediate facilities. In spite of this change, we find that the planned procurement for the 61 A-10 maintenance float aircraft is still being justified using a 10-percent factor. Historical experience has been used in the past to justify the procurement of float aircraft as substitutes for those aircraft undergoing periodic overhaul. Since the A-10 is not scheduled to undergo periodic overhaul, the justification for 61 A-10s is questionable.

Air Force criteria does allow substitutes for aircraft undergoing modifications. However, the full array of modifications the A-10 is to undergo over its life cycle is not known. For example, current Air Force planning documents show modification programs for the A-10 through fiscal year 1983, the completion date of the aircraft production schedule. After fiscal year 1983, Air Force personnel do not know what modifications may be necessary. If modifications indeed represent a sizable workload, then the Air Force should carefully assess how many aircraft are really needed for a maintenance float. This assessment should take into account how much of this workload is a peacetime workload (would not be performed in wartime) and

how quickly these aircraft in the depot would be needed for deployment. Only after these questions are answered should a decision be made that substitute or maintenance float aircraft are indeed needed and how many.

In our October 1977 report, we noted that the services indicated that substitute aircraft could be used as backup for contingencies in wartime. However, we suggested that, if Defense needs additional aircraft for reserve, then it should request them from the Congress on that basis--and not as substitutes. In the past, the Congress has not provided funds during peacetime for the procurement of aircraft to fill wartime attrition needs.

CURRENT PLANS FOR A-10 MODIFICATIONS

The Air Force plans to have an average of 46 A-10s at its depots for modification by 1982. Average processing time is based on a 2-shift, 5-day-a-week operation. Under a wartime maintenance program (3-shifts, 7-days-a-week), processing time could be drastically reduced. Some aircraft would become available earlier than others depending upon which point in the modification process they had reached when hostilities broke out. Under that program, aircraft are buttoned up and returned to the units as quickly as possible.

As of July 16, 1979, 13 A-10s were undergoing wing structure rework and other modifications at Sacramento Air Logistics Center. Regular schedule flow days to complete the modifications ranged from 4 to 88 days. The Center projected that in an emergency these aircraft could be buttoned up in 1 to 31 days as shown below.

<u>Depot aircraft</u>	<u>Scheduled flow days to complete modifications</u>	<u>Computed flow days to button up</u>
1	31	14
2	42	13
3	88	31
4	4	3
5	11	3
6	17	7
7	23	13
8	30	17
9	60	19
10	60	17
11	66	10
12	58	10
13	67	1

B-173850

Under the compressed schedule, six A-10s could be operational in 10 days or less, six could be operational in 20 days or less, and only one would take more than 20 days to button up.

We believe that a similar schedule would apply to the average 46 A-10s projected for depot modification. Namely, aircraft would be at different stages of a modification and could be rapidly buttoned up under a compressed schedule. Therefore, assuming aircraft in the depots were needed by the units for deployment, the number of aircraft actually needed for a depot maintenance float would not necessarily be the total in the depots. This is because aircraft may be deployed into combat at different times, i.e., 5, 10, or more days after mobilization or 10, 20, or 30 days after the outbreak of hostilities. The accelerated depot release data outlined above shows that sufficient aircraft could be made available to the later deploying units which would, under contingency situations, be providing aircraft to the units scheduled for early deployment. Currently, however, we found that in developing the 10-percent maintenance float factor, Defense has not systematically analyzed how quickly aircraft in the depots could be buttoned up and returned to their units for deployment into combat under a wartime compressed work schedule. We believe this analysis needs to be made and only those aircraft not meeting mission needs within required time frames should be considered for potential maintenance float.

Air Force officials told us that the Air Force is starting a study of how it builds its weapon system forces. The study will focus on how program factors, including the percentages for backup aircraft, are developed. We suggest that this study include an analysis of the availability of aircraft in the depots to meet combat deployment needs.

WHAT DATA IS NEEDED?

We recognize that, under modification programs, the number of aircraft to be processed through the depots and the extent of modifications are uncertain. For some systems there may be a lot of modification activity throughout a system's life. For others it may be limited to the early life of a system. The A-10, still in production, is an example of the latter. The Air Force, therefore, needs better data to ensure prudent investment of scarce resources. The following data should be developed and decisions for such procurements should consider the following tradeoffs.

--What depot workload constitutes a valid wartime need? And how will this be tracked in the future? Current historical data is of limited value, since the maintenance philosophy has been changed.

--Procuring aircraft to cover interim modification in a new system versus spending these funds to increase mission capability of existing aircraft. The A-10 is an excellent example since its mission is degraded by armament shortages, munitions loaders, and new deployment concepts. Therefore, perhaps the moneys spent on procurement of substitute aircraft could be better used elsewhere to achieve improved readiness.

The Assistant Secretary of Defense (Comptroller) noted in commenting on our October 1977 report, that all programs must be based on realistic and supportable data. We believe this policy should be implemented.

Current Air Force planning documents show that, in addition to the A-10 and F-15, substitutes for the F-16 aircraft are scheduled for procurement. Therefore, the type of analysis suggested above could apply to these aircraft as well.

POTENTIAL SAVINGS

On the basis of pricing data furnished the Congress, the A-10 will cost about \$5.2 million per aircraft. In addition, sizable annual operating costs per aircraft are involved. Therefore, if maintenance float aircraft on this weapon system were not needed, \$317 million in procurement funds and sizable annual operating funds could be saved. Similar savings would be available on other new systems, such as the F-16, which uses a similar maintenance concept.

RECOMMENDATIONS

The Secretary of Defense should
~~We recommend that you~~ direct the Air Force to develop more precise justifications for maintenance float aircraft for the new Air Force systems and that meaningful data be systematically accumulated, tracked, and updated to properly justify these aircraft requests to the appropriate oversight and appropriations committees. We also recommend *added* that no procurements of aircraft, such as the A-10 maintenance float, *showed* be authorized, unless they can be adequately justified.

We informally discussed this report with Air Force officials. They generally felt that the additional aircraft were needed. However, they did state that in an effort to improve the criteria for determining aircraft requirements, the Air Force is starting a study of how it develops its weapon system forces. According to these officials, the study will focus on how program factors, including the percentages for backup aircraft, are developed and if there is a better way to determine these factors.

As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the Senate Committee on Governmental Affairs and the House Committee on Government Operations not later than 60 days from the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

Copies of this report are being sent to the Chairmen, House and Senate Appropriations Committees; House and Senate Armed Services Committees; Senate Committee on Governmental Affairs; and the House Committee on Government Operations; the Director, Office of Management and Budget; and the Secretaries of the Air Force and the Navy.

Sincerely yours,



R. W. Gutmann
Director