UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

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LOGISTICS AND COMMUNICATIONS DIVISION

JULY 8, 1980

B-199357

The Honorable Harold Brown
The Secretary of Defense

Dear Mr. Secretary:

Subject: Comparison of Air Force and Navy Aircraft Engine Parts Reparability Coding (LCD-80-85)

We have completed a survey of depot overhaul and repair procedures for aircraft engines and their associated costs. We visited the Air Force Logistics Command at Wright-Patterson Air Force Base, Ohio; the Air Force Oklahoma City Air Logistics Center at Oklahoma City, Oklahoma; the Defense Logistics Service Center at Battle Creek, Michigan; the Naval Aviation Supply Office at Philadelphia, Pennsylvania; the Naval Air Systems Command at Crystal City, Virginia; the Naval Air Logistics Center at Patuxent River, Maryland; and the Naval Air Research Facility (NARF) at Norfolk, Virginia.

Although the information developed in this survey will be used in planning future work, we noted one problem which we wish to bring to your attention now. Some aircraft engine parts, which both the Air Force and the Navy repair are coded as "reparable" by the Air Force and "nonreparable" by the Navy. When this occurs, all potential savings to be gained from repairing a part may not be realized. In addition, it hinders the Department of Defense's (DOD) efforts to integrate the management of parts used by two or more services.

The Air Force and Navy code the majority of aircraft engine parts the same; that is, either reparable or non-reparable. However, based on purchase price, cost to repair, and the number of parts in each inventory, the Air Force might code a part reparable, whereas the Navy might code the same part nonreparable. We contacted the Norfolk NARF to determine if they could repair, or accept the Air Force repair of, selected TF-30 engine parts coded reparable by the Air Force and nonreparable by the Navy. We found that the NARF repairs each of these items. According

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to Norfolk NARF officials, they repair parts coded nonreparable if they determine it is economical to do so.

We discussed this practice with Naval Air System Command officials who stated such repair was unauthorized unless the parts had been recoded as reparable or the part was in critical short supply. Neither condition existed for the parts we discussed. While such repairs may be unauthorized because the parts have not been recoded reparable, we believe the repair should not only be authorized but required when savings can be achieved by repairing the parts. In our opinion, significant savings can be achieved if all economically reparable parts are coded appropriately.

POTENTIAL SAVINGS NOT FULLY REALIZED

The nonreparable parts being repaired at depots, such as the Norfolk NARF, should be recoded as reparable. Otherwise, parts found to be unserviceable at maintenance levels below the depot will be condemned and disposed of at that level, rather than being returned to the depot for repair. Thus, the savings which would result if these parts were repaired is not being fully realized.

The following chart shows six TF-30 aircraft engine parts coded nonreparable by the Navy which Norfolk NARF repairs.

Part	Cost	
	New	To repair
Igniter plug cable fairing assembly	$623	$90
No. 6 cylinder roller bearing	507	18
Turbine stage 2 nozzle vane	127	49
Turbine stage 3 nozzle vane	84	60
No. 2 bearing seal seat	161	15
No. 4-1/2 bearing seal spacer	163	15

While the Norfolk NARF repaired each of these parts at the time of our visit, one part was not repaired in fiscal year 1979 and two others had limited repair when compared to the number condemned. New equipment being installed at the time of our visit will increase the number of these two items that can be repaired in the future. Even so, the Norfolk NARF saved $21,000 in fiscal year 1979 by repairing these parts.

We estimate that an additional $11,000 could have been saved if these parts had been coded as reparable and the parts which had been condemned at maintenance levels below the depot had been returned to the depot for repair. According to Norfolk NARF officials, they requested maintenance activities below the depot to return parts such as these when returning engines for repair or overhaul. However, no procedures existed to assure that the lower level maintenance activities were complying with their request.

Air Force experience supports the Norfolk officials' statements that these parts can be economically repaired. The Air Force, like the Navy, repairs these parts at its depots. Unlike the Navy, the Air Force codes these parts as reparable, thereby insuring that the parts found unserviceable below the depot level are returned for repair. On the basis of Air Force depot experience as to the number of such parts received that can be repaired rather than condemned and the standard cost to repair them, we estimate that the Air Force saved $285,000 by repairing these parts in fiscal year 1979. Air Force savings were significantly larger than the Navy's because the Air Force overhauled more TF-30 engines and repaired large numbers of those parts for which the Navy's repair was limited in fiscal year 1979.

In addition to the parts listed above, we noted five other TF-30 engine parts repaired by both services which were also coded reparable by the Air Force and nonreparable by the Navy. The full savings from repairing these parts were realized, as they could only be condemned at the depot. However, the fact that these or any other parts are coded differently by the services will hinder DOD's efforts to integrate the management of such parts.

DOD's EFFORTS TO INTEGRATE THE MANAGEMENT OF PARTS

Since the late 1960s, DOD has encouraged the services to integrate the management of parts used in common by more than one service. This led to the creation of what is now the Defense Logistics Agency to purchase and manage parts and material of a commercial nature. This concept was later applied to nonreparable parts with unique military application. For each part used by more than one service, a designated using service purchased and managed the parts for the other services. In 1974 DOD expanded the integrated management concept to reparable parts. DOD divided the move to integrated management for reparable parts into two phases.

In Phase I, one service was designated to purchase the parts for the other using services. The advantages of integrated management in Phase I result from consolidating purchases, reducing procurement actions and their administrative costs, and eliminating interservice competition on leadtime and delivery dates for parts from sole sources of supply. With Phase I substantially complete, the services are working on Phase II.

In Phase II, the designated service assumes management and repair responsibility for the parts used by other services. The advantages of integrated management in Phase II result from eliminating duplicate management of parts in inventory and their storage; achieving economies by one service repairing parts for the other users; and eliminating the need for the other services to train repair personnel and purchase or maintain specialized test equipment, technical data repair manuals, and repair facilities.

According to Air Force officials, a part repaired by two services will never be integrated beyond Phase I if each service codes the parts differently. Parts coded reparable and nonreparable are funded separately and have different requirements computations for new purchases. These differences are such that it is impractical for one service to effectively manage the parts of another service unless both code the parts the same.

Thus, the parts repaired by both the Air Force and Navy but coded differently will not be integrated beyond Phase I unless the Navy recodes the parts as reparable. As a result, DOD's efforts to integrate the management of the parts will be hindered by the difference in coding, and the advantages resulting from complete integration will not be achieved.

POTENTIAL SIGNIFICANCE OF THE PROBLEM NOTED

In total, we discussed 16 TF-30 aircraft engine parts coded differently by the Air Force and Navy with officials of the Naval Aviation Supply Office, the Naval Air Logistics Center, the Norfolk NARF, the Naval Air Systems Command, and the Oklahoma City Air Logistics Center. On the basis of these discussions, we eliminated five parts from consideration because they were obsolete or because classification changes were pending. The remaining 11 parts were repaired by both the Air Force and Navy and are discussed in this report.

According to cataloging information maintained by the Defense Logistics Service Center, about 1,900 aircraft engine parts are coded as reparable by the Air Force and nonreparable by the Navy. The parts we discussed with Air Force and Navy officials were not selected in a manner which would permit statistical projections to this universe. However, if the parts we discussed in this report are representative, there would be approximately 1,300 parts being repaired by each service which are coded differently. All are parts which will never be fully integrated without a coding change by the Navy. On the basis of our review of the 11 parts discussed on pages 2 and 3, we estimate that 700 of the 1,300 parts are parts which could be condemned below depot level. The potential savings from their repair could total $1.3 million if the difference between their cost to repair and their cost to replace is similar to that of the parts discussed on page 2.

RECOMMENDATION

We recommend that you require the Navy to review its coding of aircraft engine parts now coded nonreparable and to recode these parts appropriately if they can be economically repaired by either the Navy or the Air Force.

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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 after 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.

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

Sincerely yours,

R. W. Gutmann
Director