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## THESIS

DLA STOCK LOCATION POLICY --  
A CASE STUDY OF HIGH PRIORITY  
REQUISITIONS FROM NADEP, NORTH ISLAND

by

Scott R. Thon

December, 1993

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A Case Study of High Priority  
Requisitions from NADEP, North Island

by

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Lieutenant, SC, United States Navy  
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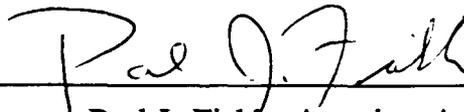


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## ABSTRACT

As a consequence of recent Defense Management Review Decisions the Department of Defense (DoD) has consolidated the physical distribution functions for wholesale consumable materiel under the management of the Defense Logistics Agency (DLA) and recommended that current DLA stock location policies be reviewed. This thesis examines certain aspects of these policies. The primary focus was on how DLA is managing items which experience a large percentage of high priority requisitions. Initial analyses considered the magnitude of the high priority requisition problem by identifying all requisitions that were submitted to DLA during FY92 using Issue Priority Group (IPG) I designation and a specified Required Delivery Date (RDD). Then, the six top items from this group requisitioned by the Naval Aviation Depot, North Island (NADEP NI), California were selected for detailed case studies. This study found the current stockage location of these items was neither nearest the customer nor nearest the vendor. Additionally, the lack of on-hand inventory was the most significant common factor causing shipment delays of the items.

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## I. INTRODUCTION

### A. MOTIVATION

The recent Department of Defense Management Review Decisions (DMRD) has changed the past business practices of the military services. In particular, these include the centralization of DoD inventory management and physical distribution for consumable items. The motivating factors for consolidation were that there were potential savings in terms of transportation costs and reduced safety stock. However, in a memorandum to the Deputy CNO for Logistics (N4) from Commander, Naval Supply Systems Command, Rear Admiral James E. Miller warned against the DMRDs creating giant monopolies instead of process improvements which would result in cost savings. He also pointed out that the trend in the private sector is toward greater decentralization of management in order to maintain close contact with customers.

A Rand Issue Paper by Marygail Brauner and Jean Gebman (Mar 93) entitled "Is Consolidation Being Overemphasized for Military Logistics?" concluded that "Industry experience has already demonstrated that innovative business practices can be used to achieve economies in an uncertain market. Some of these practices -- most notably technology exploitation, process redesign, inventory reduction, and delegation of

decision authority -- have a proven track record in reducing costs and improving service. Practices such as these, when used as alternatives or as adjuncts to consolidation, may be what the DoD needs to deliver responsive logistics at the least cost. The benefits they can provide may far outstrip what can be achieved by continuing to emphasize consolidation as the most cost-effective direction."

The debate over consolidation presented a rich topic area for research. Several potential topics relating to inventory management were obtained from the Defense Logistics Agency Operations Research and Economic Analysis Office (DORO). The author selected a project titled "Trading off Inventory Costs for Transportation Costs (DLA-BA-P00184)" as an initial problem area. The project called for the investigation of DLA's stockage policy in regards to high priority requisitions.

#### **B. OBJECTIVE**

This study explores the question of whether to locate consumable inventories used to fill high priority requisitions at DLA stock points within the geographical region where the majority of the demands have been experienced or are anticipated.

### C. SCOPE, LIMITATIONS, AND ASSUMPTIONS

The scope of this research project was limited to high priority requisitions received by DLA for consumable material during FY92. These requisitions were selected as the primary focus because of the high cost of expediting such requisitions through the supply system and the related high transportation costs. These requisitions also have a significant impact on military readiness. High priority material is defined as material that has a historically based and identifiable trend as an IPG I demanded item with an RDD of 999, N\_\_, or E\_\_.

The project analyzes actual requisition information obtained from DLA in an attempt to understand the problem area and to propose viable recommendations. All high priority requisitions submitted to DLA during FY92 were initially sorted and analyzed. Due to the complexity of the topic, however, six National Stock Numbered (NSN) items submitted by the Naval Aviation Depot (NADEP), North Island, California were selected as the basis for an indepth investigation into DLA stock location policy. These six NSNs represented material that was among the most frequently requisitioned items in the DLA database using a high priority designator. NADEP NI was selected as the focal point because it was the primary activity submitting requisitions for these NSNs. Using this information, case histories of each were developed to help identify opportunities for stock location policy improvement.

Additional questions such as the issue of whether DLA's physical distribution system is fulfilling established UMMIPS time standards was not directly investigated. It was determined that this aspect of high priority requisitions was beyond the primary objective of the project. Such an investigation would have required the reconstruction of actual dates of demand, processing and receipt. The current data bases do not accurately track this information. The system currently tracks only the time taken by the supply depots to issue the material. The actual date of the demand is not necessarily the julian date assigned to the requisition document. In addition, the date of receipt by some units depends upon their accessibility and capability to receive material.

A basic assumption of this thesis is that consolidation of inventories can provide overall cost savings to an organization. The benefit is realized if safety levels are reduced and transportation costs do not exceed holding cost savings.

#### **D. PREVIEW**

The remaining sections are organized in the following manner. Chapter II gives background information regarding applicable DMRDs to the issue of inventory management. It also contains a discussion of current DLA stockage policies and related studies. Another section provides a brief

description of the procedural guidance and time standards for high priority requisition processing. Finally, a brief history and business description is provided for NADEP North Island.

Chapter III provides the methodology used by the author in his investigation. The analysis begins with an overall examination of DoD high priority demands experienced during FY92. The next two sections focus on Navy-wide requisitions and the San Diego area. Finally, transportation costs related to high priority requisitions are examined.

Chapter IV presents a case study using six NSNs selected from the data sort discussed in Chapter III. The discussion will focus on all of the requisitions submitted for these NSNs during FY92. The data will be analyzed in terms of customers, vendors, stock location and depot processing times. Particular emphasis will be placed upon how the DLA supply system handled IPG I requisitions.

Chapter V summarizes the main points and conclusions of the thesis and presents five recommendations.

## II. BACKGROUND

### A. DEFENSE MANAGEMENT REVIEW

The external threat to the United States dramatically changed with the collapse of the Soviet Union and the break up of the Warsaw Pact countries towards the end of the 1980's. As a consequence, attention was turned toward economic issues and Congress and the Executive branch began to seriously question how much national defense was needed. President Bush announced shortly after his inauguration, that a comprehensive review would be conducted in the DoD to identify economies and efficiencies which could be achieved in the department. This process was called the Defense Management Review (DMR). The result of the DMR was the identification of a long list of potential cost savings which were presented in late 1989 as a series of 38 DMRDs.

#### 1. DMRD 902

One of the directives resulting from the report was DMRD 902 which initiated action to place the management of all supply physical distribution activities under one agency. On 12 April 1990, the Deputy Secretary of Defense directed the consolidation under the Defense Logistics Agency of all the defense material distribution functions at the DoD supply depots. These material distribution functions include direct

distribution operations such as receipt, storage and disposal, packing and preservation, shipping and transshipment, physical inventory and reconciliation. This consolidation applies to all stocks above the consumer level.

On April 13, 1990, the Assistant Secretary of Defense for Production and Logistics approved a DLA consolidation prototype in the San Francisco Bay area and directed DLA to develop further consolidation plans at other sites in CONUS. The Bay area prototype consolidated the physical distribution functions at Sharpe Army Depot in Stockton, the Naval Supply Center in Oakland, and DLA's Defense Depot in Tracy. These sites formed the basis for the establishment of the Defense Distribution Region West (DDRW). Two other regions were also created under DLA's regional management concept; Defense Distribution East (DDRE) and Defense Distribution Region Central (DDRC).

The guiding principle behind DMRD 902 is that consolidation of inventory management and distribution functions will increase efficiency and lower operating costs over the long run. The projected savings should result from reduced overhead and administrative support, merging common inventory items, centralizing packing, increasing shipment consolidations, reducing transportation costs, and maximizing the use of existing facilities. In addition, the quality of customer service is promised to be as good or better than the

de-centralized system it replaces (Riley, July/August 1992, p. 7).

## 2. DMRD 926

At the time of the DMR, over 4 million consumable items were being managed by the Department of Defense. Various Inventory Control Points (ICP) had the responsibility for the purchase and distribution of these items. The Navy, Air Force, Army and DLA operated 20 major ICPs and stored material in 34 different depots. DLA was responsible for the management of over 2.9 million consumable items. The DMR questioned "how many ICPs were needed to support DoD's logistics needs as well as why the services should even be in the business of managing consumable parts" (Andrew, July/August 1992, p. 16)

In response to these concerns, DMRD 926 was issued for consolidation of inventory control points. After being reviewed, however, the wholesale consolidation of the ICPs under DLA or a single service was deemed not practical. Instead, the most significant result of DMRD 926 was the migration of material management of an estimated 981,000 consumable items to DLA (Hekman, Sept/Oct 1990, p. 23). The Navy's share was originally estimated to be 335,000 items out of 485,000. The only items exempted from this transfer were Level 1/Subsafe, nuclear reactor, strategic weapons systems, and selected parts deemed either engineering or safety

critical. As a result of further review by the Navy's Ships Parts Control Center (SPCC), the actual number of Navy managed NSNs to be transferred between 1 August 1991 and 1 July 1994 will be approximately 155,000 (Aramowicz, May/Jun 1992, p. 34).

The net effect of DMRD 902 and 926 was to expand DLA's control over the purchase, storage, distribution and shipment of consumable items.

### **3. DMRD 901**

DMRD 901 directed the DoD and the services to review their current operating practices and to find ways to reduce supply system costs. The Office of the Secretary of Defense identified several initiatives which were expected to achieve significant cost savings. One of these ideas included an inventory management policy change that suggested the stocking of material closest to the vendor rather than the customer. This concept was further suggested during a hearing before the Senate Committee on Governmental Affairs, March 6, 1990 (p. 142);

Another initiative that affects stocking policy is to allow the storage of materiel close to the vendor rather than the customer. In these times of overnight delivery, transportation can be efficiently managed and this initiative is expected to result in savings.

### **B. DLA STOCKAGE POLICY**

Stockage policy refers to how and where inventory resources are positioned. The objective of any system is to

minimize the sum of first and second destination transportation costs, inventory holding costs and ordering costs, backorder costs, while also minimizing processing times. Another objective of an inventory system is to maximize customer service. In order to minimize transportation costs, both the concepts of positioning inventories closest to the customer and closest to the vendor have been used by DLA.

Until recently, DLA's policy has been to locate stock closest to the customer. This policy was promulgated in DLAM 4145.10, August 25, 1978 (p. 2-3),

Least cost outbound transportation involves stock positioning to minimize the distance and time for delivery of materiel by surface mode from the DLA distribution point to the requisitioner ship-to-address. This concept has been determined to be most effective for stock positioning in support of CONUS geographic area demands. It involved basically a long haul in and a short haul out in overall depot distribution missions wherein distance from depot to customer is given more consideration than distance from procurement source to depot for depot stock replenishment.

This concept was further substantiated in a policy letter from DLA in which it stated that, "We can accomplish this objective (of minimizing transportation costs) by positioning our items as close to the source of demands as economically and operationally possible, using both DLA and military service locations (Cassity, 26 Nov 1984)."

DoD instruction 4140.7, June 7, 1985 provided the overall guidance to use the closest to the customer concept. The instruction directed the Integrated Materiel Manager (IMM) to

determine the location and the number of units of an item that was to be stocked. The IMM is to consider various factors including:

- a) frequency of demand and forecasting reliability;
- b) dollar value, weight, and cube;
- c) inventory carrying costs (that is, the added costs to receive and to store at a greater number of locations) plus costs of multi-destination versus single destination shipments, and first destination transportation costs to multiple locations versus savings in responsiveness and second destination transportation costs;
- d) wartime plans, surge and mobilization requirements.

While the final decision made by the IMM may not necessarily be the optimal solution for the minimization of transportation cost given these other factors, the over-riding principle in all the DoD policies is still that transportation costs can be minimized through a closest to the customer approach. (DoDINST 4140.7, 1985, pp. 2-3)

During the late 1980's, the contradictory notion was posed that the government could save money through a stockage policy of leaving inventories at locations closest to the vendor. As discussed earlier, the study of this concept was directed by DMRD 901. DLA's Operations Research and Economic Analysis Office (DORO) completed four studies of this subject. The first study, "Bulk Stock Location Study", (Jernigan, 1991) found that DLA could have saved an estimated \$10.5 million

(FY88 dollars) annually if the DLA depots in the study had not used the closest to the customer policy. The study recommended "that items should be stocked in depots under a 'least cost' strategy." It also suggested further study of the issue since the data used was before the depot consolidation initiative and the recent DoD and force structure changes.

The second study, "Primary Distribution Site (PDS) Location Analysis", (Bertrand, 1991) analyzed concepts for managing the consolidation of depot locations. "A PDS is (defined as) a major distribution facility that is the primary shipping, receiving, returns processing, and freight consolidation hub for a geographic region." The study attempted to answer the question of how many PDSs there should be and where they should be located. The analysis "indicated that a three PDS configuration consisting of Mechanicsburg/New Cumberland, Pennsylvania, Memphis, Tennessee and Tracy/Sharpe, California provided the lowest cost while not overly exceeding sites' capacities to process workload." The study did not consider the second destination transportation costs of IPG I demanded material. DLA has since designated the three sites recommended in the report as PDS and is still considering a two-site system.

Another DLA report, "Stockage Location Policy Analysis", (Hobbs and Lanagan, 1992) investigated the comparative costs associated with alternative stockage policies under the

assumption of the three PDSs. The results of the study "found a closest to vendor stockage policy is potentially more economical than a closest to customer policy." This is based upon their findings that "demand is not geographically stable. Significant demand variability was found to exist for the Agency's "fast" moving items (i.e., those items which had an annual demand frequency greater than six)." The conclusions should not be interpreted to suggest that all items should be located closest to the vendor; only those items where geographic demands are variable. The study found that significant savings would result from this policy. Issues relating to military readiness, however, were not addressed by the study.

The authors recommended that the process of shifting from a stock closest to the customer must be evolutionary. The information systems must be developed to include information concerning actual vendor's manufacturing or distribution points. The authors also recognized that the closest to the customer strategy "will be continued to be used for selected items."

The most recent study, "Comparative Cost Support Pattern Analysis for High Demand Navy customers Under a Single Site Storage Option" (DLA Supply Management Policy Group, July 1993), analyzed DLA's stockage policy involving materiel requisitioned by Navy activities. This study was different from the previous studies because it incorporated DLA

wholesale and Navy retail level data in its analysis. Using this additional data, the Policy Group found that the two largest Navy sites in the study (Naval Supply Center Norfolk and San Diego) had significantly higher customer demand patterns within a 50-mile radius than any DLA storage site. Both sites were also found to have a significant number of vendors located within the geographical area. The report concluded that "Customer distribution patterns are significantly different between DLA, Navy, and the Army (Air Force retail level data was unavailable for this project). Navy customers are highly concentrated around Norfolk and San Diego. Army customers are widely dispersed across the country (and) DLA customer patterns are less dispersed than Army's." (DLA Supply Management Policy Group, 1993 , pp 4-1)

The study offered three recommendations:

1. Establish a storage assignment team to review those Federal Supply Classes (FSCs) where the Navy is the principal customer. This team would then evaluate selected FSCs for possible item storage at a "least cost" alternative depot site closest to Navy customers.
2. Develop a comprehensive DoD stockage analysis for wholesale and retail.
3. Conduct a comprehensive DoD transportation trade-off analysis which evaluates benefits that might result from alternative business practices.

These recommendations are significant in that they recognize significant operating differences and needs between DoD components. As the report pointed out, however, no "rule of

thumb" could be established regarding which FSCs should be located in which geographic region.

The most recent guidance regarding DoD stockage policy is contained in DoD Instruction 4140.1-R, "DoD Material Management Regulation," of January 1993. The instruction provides the following stockage policy guidance: (DoDINST 4140.1-R, 1993, pp 4-19)

Items justified for stockage will be positioned so as to maximize customer responsiveness while minimizing the aggregate stockage, distribution and transportation costs. Items shall be positioned to minimize the aggregate inbound and outbound transportation costs, unnecessary long-distance shipments, cross-hauling, circuitous routing, and to maximize shipment consolidation and the efficient use of transportation resources.

The policy does not favor closest to the customer nor closest to the vendor policies. It is the responsibility of the item manager to track customer demand and frequency information to aid in the decision making process.

Stockage alternatives are also presented in the DoD Material Management Regulation. The new guidance states that direct delivery from the vendor to the retail level should be used wherever cost effective and responsive to the user (DODINST 4140.1-R, 1993, p. 4-16). This policy is based upon the cost savings that can be achieved under a "just-in-time" inventory arrangement. That is, the customer activity would not need to carry inventory in excess of current operating requirements. A vendor would deliver required materiel just prior to the time the item is needed by the customer. The

direct delivery method is recommended for 1) Consumables that are commercial in nature, bulky fast moving, hazardous, fragile and/or have a short shelf life, 2) Nonconsumables available through existing contracting vehicles (indefinite quantity contracts, GSA Federal Supply Schedules). The policy never explicitly mentions the possible use of the direct delivery alternative for high priority requisitions.

### C. UMMIPS CRITERIA

Because the supply system receives millions of requisitions per year from a large number of different types of activities, the Department of Defense developed the Uniform Materiel Movement and Issue Priority System (UMMIPS) to provide "a ready basis for expressing the relative rank of requisitions and materiel movement transactions by a series of two-digit codes known as priority designators (DODINST 4410.6, 1980, p. D-13)." The principle of the system is to ensure that greater management attention and resources are dedicated toward materiel requirements that impact essential mission completion.

The priority designator code is based upon combining designator codes that relate to the mission of the requisitioner [Force/Activity Designator (FAD)] and the urgency of need of the end user [Urgency of Need Designator (UND)]. The FAD is categorized by the military importance of the activity as determined by the Secretary of Defense

(SECDEF), the Joint Chiefs of Staff (JCS), or by the DoD Component. FAD I represents those units, projects or forces which are the most important militarily in the opinion of the JCS and as approved by the SECDEF. "FAD II is assigned to U.S. combat and combat-ready support forces deployed to or operating from areas outside the fifty states and adjacent waters, Panama and other such areas as may be designated by the JCS. It also includes those Continental United States (CONUS) forces being maintained in a state of combat readiness for immediate (within 24 hours) employment or deployment." (DODINST 4410.6, 1980, p. D-14) FAD III is assigned to all other U.S. combat ready and direct combat support forces outside CONUS not included under FAD II. It also includes those CONUS forces being maintained in a state of combat readiness for deployment to combat within 30 days. FAD IV is assigned to U.S. forces being maintained in a state of combat readiness for deployment to combat within 90 days. FAD V is assigned to all other U.S. forces or activities including staff, administrative, and base/post supply type activities.

The requisitioning activity is responsible for determining the UND for the materiel using the guidance of DOD and OPNAV instructions. UND A is assigned to requisitioned materiel that is required for immediate end-use and without which the activity is unable to perform assigned operational missions. The UND B is used for items that are required for immediate end-use and without which the capability of the activity to

perform its assigned mission is impaired. Finally, a UND C is used for requisitions involving materiel required for on-schedule repair, maintenance, manufacture or replacement of all equipment. It also includes the replenishment of stock to meet authorized stockage objectives.

The priority designator is determined by combining the assigned FAD and appropriate UND as shown in Table I. Supply activities that do not have the requisite FAD but require the item for a specific and immediate end-use for a supported activity with a higher FAD, may assign a priority designator commensurate with the FAD of the supported unit. The supply activity may not use this exception for routine replenishment. Appendix G contains the criteria that is used by industrial activities, like NADEPs, for the determination of the proper urgency of need code.

**Table I. FORCE ACTIVITY DESIGNATOR (FAD)/URGENCY OF NEED.**

FAD\UND	A	B	C
I	01	04	11
II	02	05	12
III	03	06	13
IV	07	09	14
V	08	10	15

The priority designators are further grouped into Issue Group Priority (IPG) categories. The priority designators within each priority group are shown in Table II.

IPG I requisitions are the focus of this study. More specifically, the focus will be only on IPG I requisitions with a Required Delivery Date (RDD) of 9\_\_, N\_\_, or E\_\_. An RDD of 999 indicates expedited handling requirement for a non-mission capable, supply (NMCS), overseas customer or a CONUS customer deploying overseas within 30 days. N\_\_ indicates expedited handling due to a NMCS requirement for a CONUS customer. E\_\_ indicates expedited handling due to an anticipated NMCS requirement for a CONUS customer.

UMMIPS time standards for processing IPG I requisitions have been established in accordance with DODINST 4410.6. These are presented in Table III. The guidelines are based upon the activity's FAD and the applicable UND. The higher the UND, the quicker the required processing time by the

**Table II. PRIORITY DESIGNATORS.**

---

ISSUE GROUP	PRIORITY DESIGNATOR
IPG I	01-03
IPG II	04-08
IPG III	09-15

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supply system. It should be noted that the times in Table III are averages.

The normal mode of transportation for these hi-priority requisitions is via air shipment or other high speed methods. (OPNAVINST 4614.1F, 1992, p. 13) The cost of the transportation is higher than the contracted transportation for other requisitions. In addition, the processing of an IPG I requisition by a supply activity requires special handling

**Table III. UMMIPS TIME STANDARDS FOR IPG I.**

---

UMMIPS TIME STANDARDS (number of days)	
A. Requisition Submission	1
B. Passing Action	.5
C. ICP Availability Determination	1
D. Depot Storage Site and/or Base Processing and Packaging	1
E. Transportation Hold and CONUS Intransit	1
F. Receipt Take-up by Requisitioner	.5

---

and additional manhours. As a consequence, these requisitions hinder the efficient processing of other material requirements, often causing delays for lower priority requisitions.

UMMIPS is also used by IMMs in designing their supply support systems and allocating their resources. In addition, storage activities and transportation management activities must design their systems and allocate their resources to meet

the priority and service levels that are dictated by the priority designator and RDD assigned by the customer. (DODINST 4140.1-R, 1993, p. 5-18)

DLA has established its own performance objectives with the intent of exceeding the UMMIPS time frames. The UMMIPS standards are to be considered the maximum performance time "limits." The goal of DLA Depots is to surpass these time standards. Performance objectives currently in effect for DLA Depots (with computer system capability to downgrade) are as follows: (DLA Supply Operations Policy & Procedures, 5 Oct 1992, p. 2-3)

a) "High Priority (Issue Priority Designator (IPD) 01 and IPD 02-08 with acceptable qualifiers in the RDD field) Materiel Release Orders (MROs) will be processed and delivered to the customer/Point of Embarkation (POE) within 2 days of receipt;

b) High Priority IPD 02-08 MROs without acceptable qualifiers in the RDD field will be downgraded, processed and delivered to the customer/POE within 21 days;

c) All IPD 09-15 MROs will be processed and delivered to CONUS customer/POE within 21 days;

Note: Acceptable qualifiers include: 999, 777, 555, N\_\_, E\_\_, <21 days, JCS Project Codes (9XX)."

The memorandum provides additional performance standards for activities that do not have the capability to downgrade a shipment priority. Priority downgrading is performed using

the DLA Warehouse and Shipping Procedures Systems/Defense Distribution System (DWASP/DDS). This system is currently available at the larger depots.

In conclusion, the policies related to UMMIPS are essential to the understanding of how the DoD allocates supply and transportation resources among competing demands. Any analysis aimed at improving the military supply system must consider issues relating to these policies.

#### **D. CUSTOMER - NADEP NORTH ISLAND**

NADEP North Island is the primary customer examined in this thesis. It was selected as the focus of this study as a result of its significant use of high priority requisitions during FY92. Chapter III will explain the exact process used to select this activity.

The organization came into existence in 1919, as the Aircraft and Repair Department of the Naval Air Station, North Island. In 1969, it became a separate command and was called the Naval Air Rework Facility (NARF). In 1987 the name was changed to Naval Aviation Depot (NADEP).

NADEP NI provides repair or major modifications to aircraft from carriers and other installations throughout the world. Its 3,800 skilled employees and technical facilities provides the capability of performing Standard Depot Level Maintenance (SDLM) on as many as 200 aircraft a year. The primary aircraft supported by the facility is the F/A-18,

including those flown by the Blue Angels, the Navy's Flight Demonstration Squadron. Other aircraft serviced include F-14s, E-2s, the C-2s and the H-46 helicopters.

The following is the statement of purpose: (NADEP NI, 1993, p. 2)

We are vital to our Nation's defense. Our highly skilled, multi-cultural workforce is dedicated to producing quality products and services on schedule and at lowest cost to our customers. Through creativity and teamwork we will be the leader in aviation maintenance, logistic management and engineering. We are committed to continuous process improvement to ensure fleet readiness.

The NADEP's organization is comprised of eight departments which perform specialized functions. These departments consist of 29 divisions and 213 branches. Operating procedures are different among these departments. CDR W.D. Dolan, Director of the West Coast Business Operating Center at NADEP NI, explained that the NADEP is similar to a holding company, where each department represents a separate company under the parent organization. As a result, the operating procedures for requisitioning, receipt, and inventory management vary among the business centers. It is therefore unwise to analyze specific data for one business center and then attempt to draw conclusions for the entire activity.

The NADEP is considered to be an industrial activity. This qualifies it to use the urgency of need criteria for industrial activities contained in Appendix G. As a result, it can use UND A for materiel needed to eliminate an immediate work stoppage. Since there is currently no clear definition

of work stoppage, shop personnel submit the majority of their requisitions using priority designator 03. NADEP NI is currently trying to establish the definition of what constitutes a work stoppage. (Interview with CDR W.B. Dolan, Oct 1993)

### III. DATA COLLECTION

#### A. DESCRIPTION OF ELEMENTS

This chapter describes the analytical procedures used to process data obtained from DLA files. The first section is a review of all DoD activities that submitted a requisition for a consumable item using a priority designator 01, 02, or 03 and an RDD of 999, N\_\_, or E\_\_. Second, the data base is further sorted and analyze in terms of Navy-wide requisitions. Third, data entries for only the San Diego area were selected and evaluated. All three sections are compared for similarities and differences. Finally, express shipment transportation cost information is compared between carriers.

Various pie charts show the distribution of IPG I requisitions among the DoD elements. Line diagrams and interval tables are provided to show the number of requisitions and the frequency of NSNs demanded Navy-wide and within the San Diego Area. Based upon this data, a discussion of specific NSNs will be made using the Naval Aviation Depot North Island (NADEP NI) as a sample activity.

Information was also obtained through site visits and interviews. One day was spent at DDRW-Tracy Site conducting interviews with production control and transportation personnel. Three days were spent at the NADEP NI conducting

interviews with key system analysts, inventory managers and F-18 equipment specialists. Additional information was gathered through several phone calls and written correspondence to item managers at the Defense Industrial Supply Center, Philadelphia, Pennsylvania.

#### **B. DOD-WIDE ANALYSIS**

Files from the Defense Logistics Agency Integrated Data Bank (DIDB) containing IPG I requisitions submitted to DLA Supply Depots during FY92 were provided by the Defense General Supply Center tape library. Additional files containing all requisitions submitted to DLA during FY92 were obtained after sorting and analyzing the initial files. The data was processed and sorted using the Naval Postgraduate School's Amdahl Model 5995 mainframe computer system and SAS software. The data tapes were prepared using job control language by LT Rob Holmes, SC, USN, a Naval Postgraduate student in the Operations Analysis curriculum, while he was on his experience tour at the Defense Operations Research Office of DLA.

The initial data files were sorted by commodity group codes. The purpose of this step was to get an understanding of the data and to search for significant concentrations of high priority requisitions within the classes of materiel. These codes represented the four major commodities of consumable items managed by DLA. The commodity "G" (General) material is managed by the Defense General Supply Center

(DGSC), Richmond, Virginia, and includes materiel for general purposes (i.e., paper, pens, tools). The commodity group "I" (Industrial) is managed by the Defense Industrial Supply Center (DISC), Philadelphia, Pennsylvania, and includes materiel used for operations and maintenance of equipment (i.e., nuts, bolts, bar stock, sheet steel). Construction materiel, commodity group "C", is managed by the Defense Construction Supply Center (DCSC), Columbus, Ohio, and includes materiel used for building or repairing facilities (i.e., lumber, bricks, cement, nails). Defense Electronic Supply Center, Dayton, Ohio, manages materiel in the commodity group "E" (Electronic). This materiel includes items used for repair of electronic equipment (i.e., circuit cards, indicator lights). Requisitions for fuel, personnel support items or subsistence were not considered.

After the data was sorted by commodity groups, the next sort was within each group and was by priority designator and RDD field. Only records which had a priority designator of 01, 02 or 03 and an RDD of 9\_\_, N\_\_ or E\_\_ were selected in this sort. The result was a sample data base consisting of 913,847 requisitions. Table IV summarizes this sample database. It shows that commodity group "I" received the highest proportion of IPG I requisitions. In addition, this commodity group accounts for almost half of the priority designator 01 requisitions. This was expected given the relative importance industrial material has on military

readiness. Commodity group "G" and "E" are similar in regards to having the least number of requisitions submitted.

Several of the records were listed as still being "open". This could be caused by the requisition being submitted during the year and not filled, or errors in the data base. Both cases were found to be true. Since the intent of the project was to investigate the number of requisitions submitted from an activity, the account open/closed parameter was ignored.

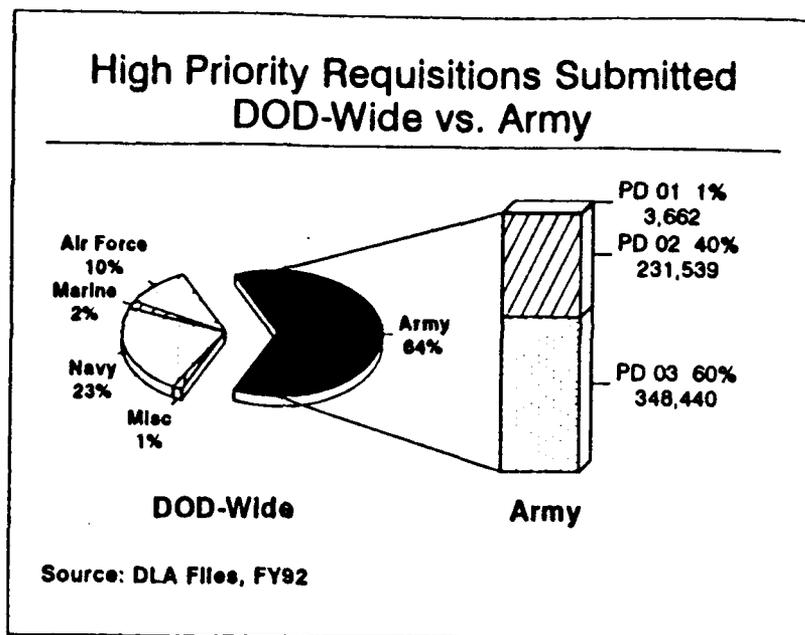
**Table IV.** IPG I CONSUMABLE REQUISITIONS SUBMITTED TO DLA DURING FY92.

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Commodity	PD 01	PD 02	PD 03	Total
C	1,212	124,031	176,542	301,785
E	1,269	53,540	59,102	113,911
G	874	51,897	59,016	111,787
I	2,532	170,133	213,699	386,364
Total	5,887	399,601	508,359	913,847

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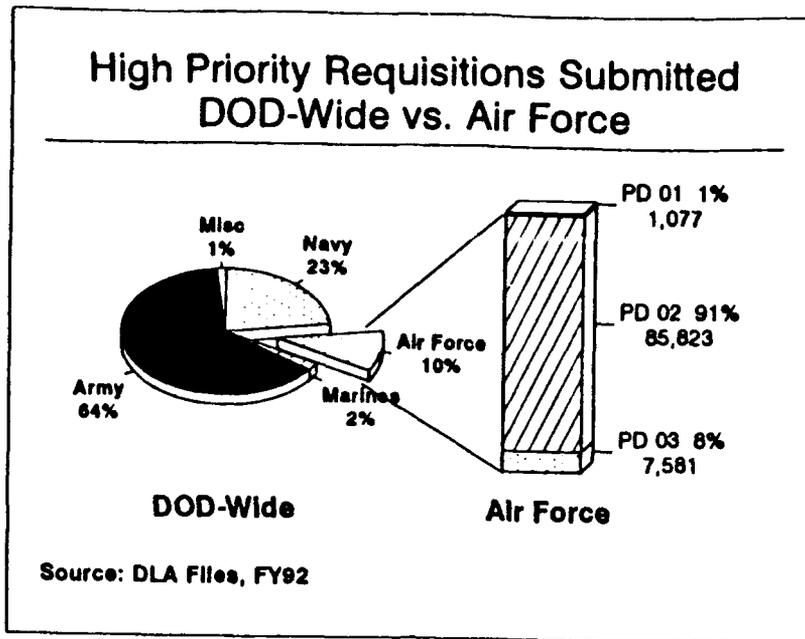
It is therefore important to remember that not all of the requisitions considered in this study will be filled at a future date. Some of the requisitions will be cancelled by the submitting activities. Figure 1 shows the percentages of high priority requisitions of all of the services. It also shows that the Army accounted for 64% of all IPG I requisitions received by DLA for consumable items.



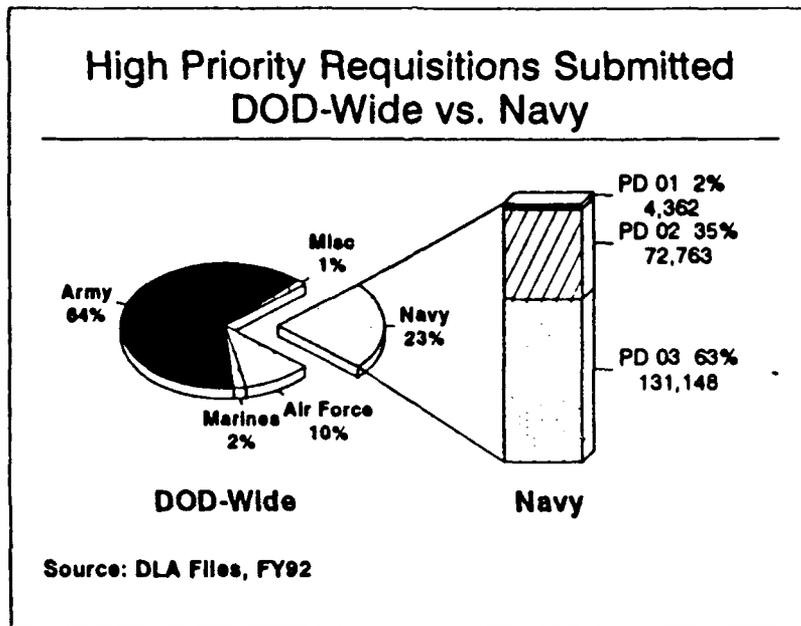
**Figure 1.** High Priority Requisitions Submitted by Army Units During FY92.

The Air Force comprised only 10% of the total. Within this total, however, 91% of the requisitions were submitted using a priority designator 02 as shown in Figure 2. Industrial materiel accounted 40% of the Air Force requisitions.

The Navy represents 23% of the requisitions submitted during FY92. As shown in Figure 3, the Navy use of priority designator 03 is greater than 02 and significantly greater than 01. A review of Figures 1, 2 and 3 shows that the Navy had the highest percentage of priority designator 01 among the services compared.



**Figure 2.** High Priority Requisitions Submitted by Air Force Units During FY92.



**Figure 3.** High Priority Requisitions Submitted by Navy Units During FY92.

Stock location policies should consider what commodity groups comprise the principal high priority usage among each service. Table V shows the percentage of high priority requisitions for each commodity submitted by each military service on a DoD-wide basis and within each service. The top values in each block should be read across the columns to get the percentages within the service. The bottom values in each block should read down across the rows to get the percentages of IPG I requisitions from the four services for a given commodity group.

On a DoD-wide basis, the Army was the principal requisitioner for construction materiel (76%), general items (56%) and industrial items (64%). The Navy, however, was the primary requisitioner of electronic items (42%).

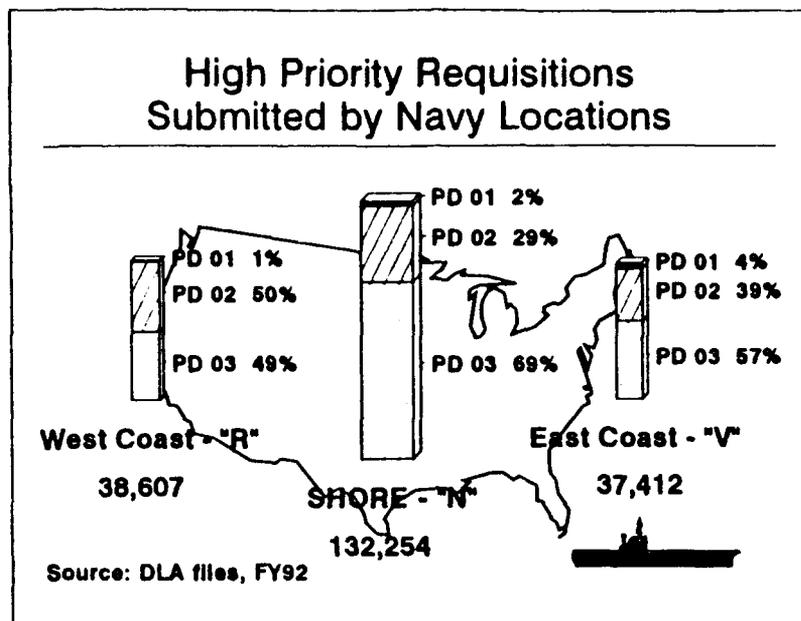
**Table V. COMMODITY PERCENTAGES BY SERVICE.**

ROW COLUMN	C	E	G	I
NAVY	25% 14%	27% 42%	18% 28%	30% 23%
ARMY	39% 76%	7% 38%	11% 56%	43% 64%
AIR FORCE	24% 8%	20% 17%	16% 14%	40% 11%
MARINES	40% 2%	11% 2%	7% 1%	42% 2%

Within each service, the Army's requisitions were predominately for construction materiel (39%), and industrial items (43%). Electronic items only accounted for 7% of the Army's high priority requisitions. In contrast, the Navy's requisitions were much more evenly distributed (relative to the other services) among the four commodity groups. The Air Force submitted requisitions that primarily belonged to the commodity group of construction (40%). The Marines resembled the Army, in that their primary demand was for the commodity groups of construction (40%) and industrial (42%). Clearly, each service has rather different demand characteristics but they must all be considered in the design of a stock location policy.

### **C. NAVY-WIDE ANALYSIS**

All Navy requisitions with a service designator of "N" (shore-based activity), "R" (West Coast afloat activity), or "V" (East Coast afloat activity) were sorted into a high priority requisition data base. This consisted of 208,273 entries. These entries were further sorted using the commodity group designators and the NSNs. The most significant use of the IPG I requisitions within the Navy were activities designated as shore commands. This included both CONUS and OUTCONUS commands. The largest customers were Naval Air Stations, Aviation Depots and Ship Repair Facilities. As Figure 4 indicates, there is little variation of IPG I usage



**Figure 4.** High Priority Requisitions Submitted by Navy Locations During FY92.

between East Coast and West Coast afloat units.

The Navy figure is actually lower if the requisitions for Marine Aviation units were properly assigned to the Marine Corps. The Marines use Navy aviation assets and funding ("Blue dollars") that are provided through Navy appropriations.

The data revealed that the frequency of requisitions submitted for a particular NSN during FY92 ranged from 1 to 173 requisitions. 35% of these NSN's received only one requisition and 90% were for less than 10 requisitions. The highest requisition frequency (173 requisitions) was for NSN 5330-01-116-8118, gasket (commodity group "I").

#### D. SAN DIEGO ANALYSIS

The San Diego area was selected for analysis because of its large concentration of Naval activities (and its proximity to the Naval Postgraduate School, which facilitated the gathering of data). All of the Unit Identification Codes (UICs) for afloat and shore activities in the San Diego area were specified in a SAS data field. The UIC information was obtained from NAVCOMPT Vol.II (Chapter 5) and from a listing provided by the Fleet Industrial Supply Center (FISC) San Diego of afloat units they formerly served. From this UIC list for San Diego, SAS collected, sorted and listed all of the high priority requisitions submitted by these UICs. Out of the 233 different activities in the San Diego area, only 128 submitted an IPG I requisition during FY92. Table VI shows the top 30 of these activities in terms of number of IPG I requisitions submitted.

The frequency pattern for IPG I requisitions in the San Diego area is similar to the pattern of Navy-wide NSN demand (see Figure 5). As expected (since Figure 5 presents typical ABC curves), most of the NSNs experienced few requisitions during FY92. Of all the NSNs requested using IPG I by San Diego activities, 59% received only one requisition and 92% of the NSNs accounted for 5 or less requisitions.

The number of requisitions submitted for any particular NSN from a shore activity ranged from 1 to 42 and the afloat units ranged from 1 to 9. This suggests that shore activities

**Table VI. TOP THIRTY SAN DIEGO IPG I REQUISITIONERS.**

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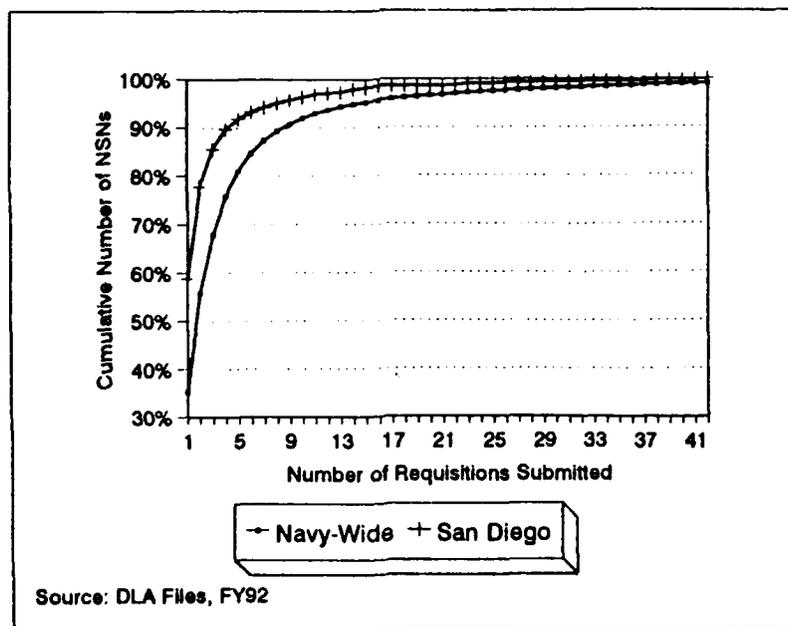
<u>UIC</u>	<u>Activity Name</u>
00246	NAS North Island, CA
60259	NAS Miramar, CA
65888	Naval Aviation Depot, North Island, CA
21118	USS MCKEE (AD-41)
03361	USS RANGER (CV-61)
20132	USS DIXON (AD-37)
65918	Shipboard Intermediate Maintenance Activity, Naval Station San Diego, CA
62791	Supervisor Ship Conversion & Repair, Naval Station San Diego, CA
03363	USS KITTY HAWK (CV-63)
21047	USS ACADIA (AD-42)
20550	USS TARAWA (LHA-1)
08810	USS JASON (AR-8)
21463	USS TOPEKA (SSN-754)
20748	USS PELELIU (LHA-5)
57025	Naval Air Force Pacific Fleet, NAS North Island
52692	USS GRIDLEY (CG-21)
55522	Submarine Development Group 1, San Diego, CA
21437	USS CALLAGHAN (DD-994)
20994	USS HOUSTON (SSN-713)
66001	Naval Command Control & Ocean Surveillance Center RDTE Division, San Diego, CA
05725	USS DRUM (SSN-677)
21063	USS CAPE COD (AD-43)
20575	USS FOSTER, PAUL F. (DD-964)
03651	USS LONG BEACH (CGN-9)
21439	USS CHANDLER (DD-996)
04620	USS PRAIRIE (AD-15)
21100	USS CHICAGO (SSN-721)
21302	USS LOUISVILLE (SSN-724)
21413	USS PASADENA (SSN-752)
20883	USS PORTSMOUTH (SSN 707)

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in the San Diego area utilize the IPG I system more frequently. The most frequent customer of any one specific NSN was NADEP NI with a total of 42 requisitions for NSN 3120-01-130-1040.

The scope of the study was narrowed to focusing on NSNs that were requisitioned most frequently by a San Diego shore command. This decision was made because it would not be reasonable to initially model a stock location policy using items that had experienced a low frequency of demand. The greatest savings in supply related costs should theoretically come from a system designed for those NSNs that have the highest frequency of requisitions.

A data printout was prepared that listed the top NSNs requisitioned by activities located in the San Diego area. Six out of the top eight NSNs were selected as the basis of building a case study. For the convenience of gathering data,



**Figure 5.** Navy-Wide & San Diego High Priority Requisitions Submitted to DLA During FY92.

the six NSNs were chosen because one activity, NADEP NI, had submitted the majority of the 452 DoD-wide IPG I requisitions. In addition, all of these NSN are managed by one inventory control point; namely, DISC Philadelphia. Table VII is a list of these NSNs and their requisition frequency during FY92.

**Table VII. THE SIX SELECTED NATIONAL STOCK NUMBERED ITEMS.**

<u>NSN</u>	<u>Nomenclature</u>	<u>ML-N Price(FY92)</u>	<u>RON Freq</u>
5306011355549	Rod, Threaded End	\$128.97	42
5306011365793	Rod, Threaded End	\$535.29	38
3120011301040	Bushing, Sleeve	\$2.74	26
3120011317640	Bushing, Sleeve	\$19.80	23
3120011436748	Bearing, Sleeve	\$7.76	22
3120011316847	Bushing, Sleeve	\$6.56	16

Additional historical information detailing each NSN's requisition, receipt and issue was obtained from NADEP NI and DISC item inventory managers. This information was combined with the initial database created from the DIDB files. Appendices A through F provide a consolidated listing and summary generated using LOTUS 1-2-3 software. Data that was not available or was not important to the analysis is indicated by a dash in the appropriate cell of the spreadsheet printout. The missing information is the result of merging different sources of data, some of which was not available for every requisition. It is also due to the fact that the requisition data is from FY92 but final action (i.e.,

shipment) occurred during FY93 and therefore not part of the specified database.

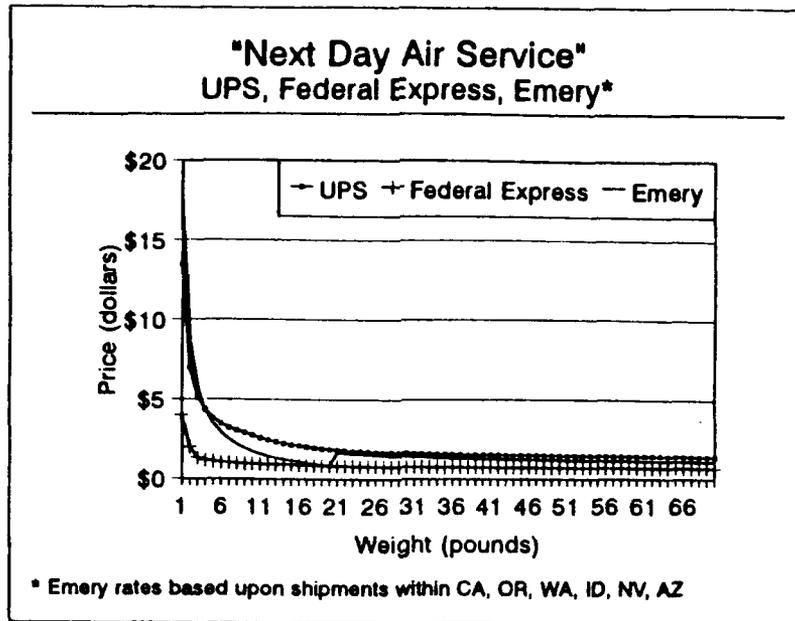
The spreadsheet printouts in Appendices A through F list all of the requisitions submitted to DoD during FY92. The requisitions are arranged numerically by UIC and within each UIC by requisition document number. An observation number was then assigned to each requisition based upon this order to facilitate the analysis. The "SHIP DEPOT" column contains the DLA code for the depot which had shipped the item. The "MODE" column lists the shipment mode used by the depot to transport the item to the customer. Appendix H contains a reference key to the abbreviations used for these two sections. The "DLA DOB" column lists the "date of birth" or the date when the requisition was initially accepted by DLA. The "DISC TRANS DATE" column refers to the date that the DLA ICP released the material to be issued to the customer by a DLA depot. Only those requisitions submitted by NADEP NI will have a date listed under this column. The "DATE SHIP" column is the julian date of when the requisitioned item was shipped from the processing DLA depot. The "NADEP TRANS DATE" is the transaction date that NADEP NI recorded as having received the item. The last five columns will be described later and only contains data related to NADEP NI since it is the main focus of this case study.

#### **E. EXPRESS SHIPMENT DATA**

Information on express shipment rates was collected from the Military Traffic Management Command (MTMC) and from the DDRW Transportation Department. IPG I requisitions must be delivered by the fastest means possible in accordance with UMMIPS time standards. The mode of transportation selected depends upon the customer's distance from the stock point and the weight of the item. For example, the San Joaquin Depot will air ship material using a small package carrier if it is 99 pounds or less. If it is over 99 pounds, the material is forwarded via air freight.

Customers are contacted and challenged by the DLA shipping depot if a shipment is over 250 pounds. A determination is made based upon the customer's needs as to whether to downgrade the IPG I requisition to an IPG III. This allows DLA to select a mode of shipment which conforms to IPG III processing timeframes. This program was successful in diverting 96% of the items challenged to a more economical mode of transportation and saved \$1,236,205 during September 1993 for eight sites under DDRW (Murphy, 13 Nov 93).

The air express carrier of choice for packages under 99 pounds is Federal Express as directed by DLA headquarters. The primary competitors under government contract are Emery Air Express and United Parcel Service (UPS). These competitors are used only if Federal Express cannot provide the service. As Figure 6 shows, Federal Express is the lowest



**Figure 6.** Government Contracted "Next Day Air Service" Rates.

cost "next day" air service under contract with the government. The Federal Express rates range from \$3.99 for a one-pound package up to \$68.11 for a 100-pound package that is delivered within all fifty states and Puerto Rico. Emery Air Express is based upon specified zones within CONUS and OUTCONUS. The minimum charge for Emery is \$17.50 for next-day, two-day, and 3- to 5-day service within CONUS. The price

per extra pound, up to 100 pounds, for these time categories is \$.80, \$.60, and \$.46, respectively, once the minimum charge is exceeded. UPS rates range from \$13.50 for a one-pound package to \$99.00 for a 70-pound package shipped within CONUS.

#### IV. CASE STUDIES

This chapter will present six case studies of the NSNs selected from the data sort. Each NSN is discussed individually because of the unique histories and characteristics discovered during the research. The items were closely examined to help identify problems or opportunities for improving DLA's stock location policy. Appendices A through F contain summary sheets for each item and a listing of all of the requisitions submitted by all DoD and foreign military organizations during FY92 for the six NSNs. All requisitions, regardless of the IPG used, were included in the case study analysis.

##### A. NSN 3120-01-130-1040

The nomenclature for this stock number is bushing, sleeve. It is a consumable part used for the F/A-18 aircraft. The unit of issue is each. The price listed on the Management List-Navy (ML-N) for FY92 was \$2.74 and was changed to \$1.50 during FY93. The price listed in the ML-N is the price that a Navy activity would use to record an obligation for a standard stocked item. The DLA standard price for the item was initially \$2.74 but was reduced to \$1.43 during FY92. Observation 82 in Appendix A is the first requisition

transacted under the new price. The DLA standard price includes a cost recovery rate for estimated transportation costs or foreseeable net losses and authorized overhead expenses in the case of a stock fund item. The DLA standard price should theoretically match the ML-N price. During this study, the author noted re-occurring differences between the ML-N price used by NADEP NI and the DLA standard price. The reasons for this difference were not investigated because it was beyond the scope of the project.

#### 1. Customers

During the review period, 22 different activities requested this NSN a total of 123 times and demanded 4,508 units. The primary customers included the Canadian Royal Navy (PCN04V), 2,732 units, NADEP NI (N65888), 386 units, Fleet Industrial Supply Center (FISC) San Diego (formerly Naval Supply Center San Diego) (N00244), 383 units, and the Marine Aviation Logistics Squadron (MALS) 11, El Toro CA (R09111), 298 units. The requisition size ranged from 1 to 800 units with an average of 36.65 units. The nine orders placed by the Canadians, however, averaged 303.5 units. In addition, they accounted for 60% of the total number of units demanded during FY92. The Canadian Navy orders these items through the Navy International Logistics Control Office (NAVILCO) located at ASO. Their request is then sent to the DLA inventory control point and is filled from available stock.

The largest regional concentration of demand was located in the Southern California area. This area accounted for 59.7% of the total DoD demand if the Canadian Royal Navy's requisitions are excluded from the analysis. The Jacksonville Florida area represented 22% and had the next most significant concentration of demand.

IPG I requisitions with an RDD of 999, N\_\_, or E\_\_, accounted for 35% of all requisitions submitted. Of this percentage, NADEP NI submitted 60.47%. Only seven out of the 53 requisitions submitted by NADEP NI (see third page of Appendix A) had a priority designator higher than 03 (i.e., 04-15).

## **2. Vendors**

The ML-N listed five vendors that supply this material (see first and second pages of Appendix A). Three of the vendors are located within a 300-mile radius of San Diego area and include Avalon Machine Products, Paramount, California, Reid Products, Apple Valley, California and All Power Manufacturing Company, Santa Fe Springs, California. The McDonnell Douglas Corporation address listed was the headquarters located in St Louis, Missouri. The actual source of manufacturing or distribution from McDonnell Douglas was not determined.

During FY92, DLA procured this item from the Engineering Fastener Company, Pennsauken, New Jersey, and Mayday

Manufacturing Company, Lewisville, Texas. During FY93, DLA also received a shipment from the Fastenair Corporation in Wichita, Kansas. The Mayday Manufacturing Company was the only one of these three sources of supply which was also listed on the ML-N.

The fact that there is a difference between the vendors listed on the ML-N and actual vendors selected highlights the point that not all active alternative sources of supply are listed in the Navy's records. The reason why these vendors were chosen or why the ML-N contained different vendors was not investigated. However, based on the geographic locations of the vendors, it can be concluded that they were not selected based upon their proximity to the primary customers. Additional research to determine why they were chosen would involve investigating DLA's procurement procedures for these buys. In particular, who bid, what were the bid prices and what was the possible transportation savings offered by vendors, if any?

### **3. Stock Versus Vendor Locations**

During FY92, material was shipped from Defense Depot Ogden (Utah) (SUI), Defense Depot Columbus (Ohio) (SCI), and Defense Depot Memphis (Tennessee) (SMI). Ogden shipped 59% of all requisitions filled by the DLA system and 72% of the requisitions shipped to NADEP NI during FY92 (see third page of Appendix A). During FY93, Defense Depot Susquehanna-

Mechanicsburg (Pennsylvania) (SAI) received two shipments from Fastenair Corporation and another vendor (document number DLA50093MDS27) which could not be identified. Thus, over a period of two years, four different DLA depots have carried the material. The vendors tended to be closer to the depots than to the customers but still did not ship to the closest DLA depot. Specifically, Engineered Fastener Company shipped to Columbus and Memphis but should have shipped to Susquehanna-Mechanicsburg if the closest to the vendor policy was used.

#### **4. DLA processing times**

The primary mode of shipment used was a small package carrier (J). The most commonly one used was Federal Express. The next most common mode of shipment was the air, parcel post/first class mail (H). Shipments to NADEP NI involved a small package carrier 37 times (see third page of Appendix A). However, the use of the small package carrier was inconsistent between the Depots and between requisitions shipped. Observation 71 and 72 show that Defense Depot Memphis shipped items using a small package carrier for requisitions with a priority designator of 03 and an RDD less than 21 days. Observations 74 and 75 had similar qualifiers but those requisitions were shipped parcel post/first class mail. Observation 80 and 81, shipped from Defense Depot Ogden, both have a priority designator of 03 and an RDD less than 21 days,

but observation 80 was shipped using a small package carrier and 81 was shipped parcel post/first class mail.

The processing time represents the time difference between when the order was received by DLA and when the order was received by NADEP NI. It does not represent the time taken to prepare and submit the requisition by the customer. For this NSN, the average processing time was approximately 14 days for all IPGs. High priority requisitions, however, averaged 11.3 days. This is definitely not within the UMMIPS standards discussed in Chapter II. The data shows, however, that processing times were significantly affected by the availability of inventory in the DLA supply system. The longer processing times were the result of the material being backordered by the ICP. Evidence of this can be seen in observation 83 through 109 in Appendix A. The ship date for these requisitions were between 92161 and 92170 and the processing times decreased from 16 days to a low of 5 days. Other high priority requisitions only took a maximum of three days to be released from on-hand inventory by DISC. For this NSN, the important question is why DLA was out of stock, especially since an extensive demand history for the item has been collected by DLA since 82110. As an interesting side note, quantities requisitioned by NADEP NI and the Canadian Navy were much larger at the start of FY93 than they were during FY92. DLA should determine what the reasons are for these increases. Clearly, their inventory management system

should have a way to respond rapidly to this increase or their backorder problem will get much worse than it was in FY92.

#### **5. General Comments**

A decision was made at NADEP NI to stock this item within their local storeroom because of the demand history. Requisitions for stock submitted by NADEP NI are indicated by the use of "NN" in the last two positions of the document number. Requisitions with a "Y4" or "K5" are for immediate use by NADEP NI work centers. Reviewing the previous demand history, NADEP NI submitted 21 requisitions for 134 units within a 34-day period (observation 64 to 81). All of these requisition were for immediate requirements and used a priority designator of 03 and an RDD less than 21 days. DLA had run out of stock on 92030, however, and could not fill all of NADEP NI's requisitions until a shipment was received on 92045. NADEP NI's records show that a requisition for stock was submitted by them on 92134 for 80 units. The requisition was partially filled by FISC San Diego and 5 units were passed to DLA (observation 82). Why did NADEP NI order only 80 units for stock when recent past demand for the item was much greater than this amount? Then, because this order was insufficient, NADEP NI had to submit 27 requisitions (observations 83 to 110, Appendix A) for a total quantity of 107 units, all high priority, between 92148 and 92163 (15 days). During this same period, DLA had no on-hand inventory

until a shipment was received on 92159 from Engineered Fastener Company.

NADEP NI's transaction history report also showed materiel receipts that did not match the DLA data files. It is reasonable to assume that FISC San Diego is filling these requisitions since the FISC processes all of the NADEP's requisitions into the DLA supply system. The requisitions are filled by FISC San Diego if they have any on-hand inventory. If not, the requisition is then passed to DLA for issue or procurement. For example, the requisition for 80 units was partially filled (75 units) on 92160 but was not listed in the DLA records. The remaining 5 units (observation 82) were filled by DLA and were received by NADEP NI on 92182. During FY92, FISC San Diego submitted two requisitions to DLA for 383 units (observation 4 and 5) compared to NADEP NI's 53 requisitions for 386 units submitted to DLA during the same time period. Note that FISC's second requisition arrived while DLA was out of stock.

It appears that the supply system is currently maintaining a wholesale, intermediate and retail level of inventory for this item. The Navy is managing the latter two. Having multiple levels of inventory tends to distort the data used by DLA's inventory model to forecast demand. In addition, demand appears to be increasing significantly. Both could be contributing to DLA's out of stock problem for this item. In addition, four different depots have been used to stock

this material; Defense Depot Ogden, Defense Depot Memphis, Defense Depot Susquehanna-Mechanicsburg and Defense Depot Columbus. As a consequence, it is hard to determine what DLA's stock location policy is in regards to this NSN. Finally, when a customer such as NADEP NI realizes there is an out-of-stock condition, they appear to believe that using high priority requisitions will resolve the problem.

**B. NSN 5306-01-136-5793**

The nomenclature for this stock number is rod, threaded end. It is a consumable part used for the F/A-18 aircraft. The unit of issue is each. The ML-N price of the part during FY92 was \$535.29 and was changed to \$506.57 during FY93. The DLA standard price changed from \$535.29 to 372.66 to 359.02 by the end of FY92. This represented a difference of \$176.27 between the ML-N price and the DLA standard price. NADEP NI obligates funds and makes payment at the ML-N price. Supporting data is contained in Appendix B.

**1. Customers**

During FY92, seven different commands submitted a requisition for this part. These activities submitted 70 requisitions for a total DoD demand of 332 units. The primary customers included NADEP NI (N65888), 116 units, FISC San Diego (N00244), 74 units, Canadian Royal Navy (PCN04V), 47 units, and the USS Independence (CV-62)(R03362), 71 units. NADEP NI accounted for 34.94% of the total quantity demanded.

The quantity demanded range from 1 to 74 with an average size of 4.74 units. The largest requisition, for 74 units (observation 1), was submitted by FISC San Diego. However, the DISC transaction history file did not indicate that the requisition was filled during FY92 or FY93. It is possible that the requisition was cancelled by either DLA or FISC San Diego. The fact that FISC San Diego submitted a requisition is still an area of concern because it might indicate an intermediate inventory for this item.

The Southern California region had the largest concentration of demand for this part. If the foreign military sale to Canada is excluded, the San Diego area accounted for 97.9% of the units requested. The USS Independence's demand was consider to be part of the San Diego region because the ship had not changed its homeport to Yokosuka, Japan at the time of the transaction.

NADEP NI accounted for 97.44% of all the high priority requisitions submitted for this item. Only 2 out of 52 requisitions submitted by NADEP NI had a priority designator higher than 03 (i.e., 04-15).

## **2. Vendors**

The ML-N only listed McDonnell Douglas as a vendor for this part. DISC received four shipments of the part from McGill Aircraft Parts, Inc, Shreveport, Louisiana during FY93. The shipments were received, according to DISC's

transaction history file, on 93104 and 93105 at Defense Depot Columbus and 93106 and 93206 at Defense Depot Ogden (these transactions are not reflected in Appendix B). In this case, the procurement action split the total quantity ordered relatively evenly between a DLA Depot located in the West (110 units) and one located in the East (91 units). As discussed in section B.1., however, 98% of the total demand was located in the Southern California area. It is apparent that the stock positioning decision in 1993 did not consider the location of the principal customers.

### **3. Stock Locations**

DLA has stocked this part at the Defense Depot Ogden and the Defense Depot Columbus. Ogden shipped 100% of the requisitions submitted to DLA for this item during FY92. Columbus was used during FY93 to fill orders after the shipments were received from the vendor. The question remains, however, why DISC chose to locate stock at Columbus when the historical site was Ogden?

### **4. DLA processing times**

A small package carrier, like Federal Express, was used for 58.8% of the requisitions shipped to all DoD activities for this item. 74.5% of the shipments to NADEP NI were made using a small package carrier.

The average in-transit time for high priority shipments was 4.5 days versus 12.6 days for other shipment modes like

parcel post/first class mail (H) or United Parcel Service (5). Truckload (A) and less-than-truckload (B) motor carriers were selected when the requisition had no RDD. The longest shipment time was 23 days using less than a truck load motor carrier.

Processing time of NADEP NI's requisitions averaged 18.5 days. The average processing time for the 39 high priority requisitions was 16.67 days and a standard deviation of 15.45 days. Processing time for this part were affected by the lack of inventory in the DLA supply system during FY92 and FY93. Observations 40 through 62 show the depot processing time ranged from 46 days down to 3 days. During this period, DLA had no on-hand inventory. 70 units of stock were received from a source other than procurement on 92247. The items were then shipped on 92248 and 92249 from the Defense Depot Ogden to NADEP NI. When DLA had an inventory of the part, the service was quite good. Observations 28 through 39, for example, ranged from 3 to 4 days. These requisitions were received by NADEP NI in an average of 5.5 days and a standard deviation of 1.2 days. DLA's performance in this case is very close to the UMMIPS standards presented in Chapter II, Table III.

#### **5. General Comments**

A decision was made to add this item to the NADEP local storeroom because of the past demand for the part and to

ensure that it is on-hand when needed. From 91296 to 92210, the item had an order frequency of 29 and a demand quantity of 56 units. On 92210 (observation 44), NADEP NI submitted its first order for stock of 6 units to DLA. Between the time the first order for 6 units were ordered and received, however, NADEP NI had placed an additional 18 orders for 36 units. Finally, after DLA's replenishment stock arrived, NADEP NI submitted two more orders for a stock of 6 units.

It is interesting to note that NADEP NI tended to submit two or three requisitions per day, each for two units. The most probable explanation of this is NADEP NI's use of job control numbers on each requisition in order to assign costs to specific jobs. Unfortunately, the transportation and special handling costs for processing these as separate high priority requisitions ends up being paid by DLA. The retail inventory held by the NADEP NI should be substantially increased above the six being ordered now and used to fulfill their immediate needs. NADEP NI can then rely upon DLA to manage the item on a wholesale level and to have the item available when a replenishment order is needed or special small orders are needed because their local inventories have been depleted.

**C. NSN 3120-01-143-6748**

The nomenclature for this stock number is bearing, sleeve. It is a consumable item used for the F/A-18 aircraft. The

unit of issue is each. The ML-N price for the part during FY92 was \$7.76 and changed to \$7.13 during FY93. The DLA standard price fluctuated from \$7.76 to \$5.03 to the most recent price during FY93 of \$3.90. Supporting data is contained in Appendix C.

#### **1. Customers**

This item was requested by 23 different activities. A total quantity of 845 units were demanded by 107 requisitions during FY92. The primary customers were Marine Aviation Logistics Support (MALS) 11, El Toro, California (R09111), NAS Cecil Field, Florida (N09030), NADEP NI (N65888), and FISC San Diego (N00244). The quantity demanded ranged from 1 to 125 with an average of 7.8 units.

The largest regional demand was located in the Southern California area. This area accounts for 56% of the total DoD demand if the demands from NADEP NI, FISC San Diego and MALS 11 were combined. The Jacksonville, Florida area accounts for 26.2% of the total DoD demand.

High priority requisitions represent 32.7% of the total DoD requisitions submitted for this item. NADEP NI, however, accounted for 62.86% of all the high priority requisitions. Only 4 out of the 38 requisitions submitted had a priority designator higher than 03 (i.e., 04-15).

As with the previous two NSNs, this item is being requisitioned by FISC San Diego for possible support of an

intermediate inventory (observation 4 and 5). The MALS has apparently also set up an inventory of this item with a replenishment quantity of 125 units using IPG II (observations 33 and 38). A comparison between the NADEP NI transaction history file and DISC's transaction history file showed that several requisitions from NADEP NI had been sent to and filled by FISC San Diego. Again, this practice tends to distort the demand history of the item and hides the identification of the actual customer.

## **2. Vendors**

The ML-N listed five vendors that can supply this material. Three of the vendors are located within a 300-mile radius of San Diego area and include Avalon Machine Products of Paramount, California, Reid Products of Apple Valley, California and All Power Manufacturing Company of Santa Fe Springs, California.

DLA procured this item from Reid Products and Sentry Fastener of Chesterfield, Michigan in FY92. Reid Products was the only vendor listed on the ML-N and is located within a 300-mile radius of San Diego.

## **3. Stock Locations**

This item was shipped from Defense Depot Ogden, Defense Depot Memphis and Defense Depot Columbus during FY92. The most recent on-hand balance and due-in records show that the current stock location is Defense Depot Susquehanna-

Mechanicsburg. Defense Depot Columbus issued their last stock on 92339, Defense Depot Memphis issued their last stock on 92086, and Defense Depot Ogden issued their last stock on 92332. Why did DLA decide to initiate a new stock location, when an existing location was available (Ogden) and closer to the vendor and customers?

The order from Sentry Fastener was received at Columbus and at Ogden on 92305 and 92310, respectively. From this receipt, Columbus was able to fill all of the outstanding requisitions from NADEP NI. It is hard to determine why DLA decided to stock 300 units at Ogden and 200 units at Columbus. The vendor was located in Michigan and the primary customers are located in Southern California and Florida. It would have been less costly in terms of transportation if the item was procured from Reid Products and stocked at the Defense Depot San Diego.

During FY93, Defense Depot Susquehanna-Mechanicsburg received a turn-in of 110 units from MALS 11, El Toro and a commercial procurement from Reid Products of 63 units (these transactions are not shown in Appendix C).

#### **4. DLA processing times**

Only 12.1% of all requisitions submitted to DLA during FY92 were filled during the year (see the DATE SHIP column in Appendix C). DISC's transaction history file verified that

all of the requisitions submitted by NADEP NI were filled during FY93 (92295 and 92305).

The average processing time for all requisition shipped to NADEP NI was 77.47 days. High priority requisitions were processed in an average of 67.13 days and a standard deviation of 24.18 days. The question remains why an item that has been managed by DISC since 82345 was out of stock for a significant period of time during the year?

**D. NSN 5306-01-135-5549**

The nomenclature for this stock number is a rod, threaded end. It is a consumable item used for the F/A-18 aircraft. The unit of issue is each. The ML-N price of the part during FY92 was \$128.97 and was changed to \$154.94 during FY93. The DLA standard price, however, indicates that the price was reduced from \$109.81 to \$93.68 in FY92 to \$85.50 and \$75.24 during FY93. Unfortunately, NADEP NI obligated funds and made payment based upon the ML-N price. Supporting data is contained in Appendix D.

**1. Customers**

During FY92, 16 different activities submitted 99 requisitions for 328 units. The primary customers included the Canadian Royal Navy (PCNO4V), NADEP NI (N65888), FISC San Diego (N00244), MALS 11, El Toro (R09111), and NAS Cecil Field (N09030). The quantity demanded per requisition ranged from 1 to 35 with an average quantity of 3.3 units. NADEP NI and

the Canadian Royal Navy were the largest single customers with demand quantities of 114 and 116, respectively.

If the demands from the Canadian military are excluded from this analysis, NADEP NI would account for 53% of the total quantity demanded during FY92. Combined with FISC San Diego and MALS 11, El Toro, the total demand from the Southern California area would account for 72% of the total DoD demand for the item.

NADEP NI submitted 68.25% of the all the high priority requisitions for this material. Only 1 out of 51 requisitions submitted by NADEP NI had a priority designator higher than 03 (i.e., 04-15). As noted above for NSN 5306-01-136-5793 (see section B), NADEP NI often submitted two and sometimes three requisitions per day for two units. One day, they submitted six such requisitions (observation 60 through 65, DLA DOB 92225).

FISC San Diego submitted two requisitions to DLA for a total of 22 units during FY92 (observation 1 and 2). It was not possible to determine if FISC Sand Diego was serving as an intermediate stock point for NADEP NI due to incomplete data. However, it is reasonable to assume that FISC San Diego is filling a few of the NADEP NI requisitions since, as noted earlier, the FISC was processing all of the NADEP's requisitions to DLA during FY92 and FY93.

## **2. Vendors**

The ML-N listed McDonnell Douglas Corporation as the only source of supply for this item. The DISC transaction history file revealed that contracts had been completed with Garden Machine Shop, Inc, of Sullivan, Missouri and Indian Aerospace, Inc of Arlington, Texas during FY92. Both contractors shipped their products to Defense Depot Columbus.

## **3. Stock Locations**

During FY92, requisitions were filled from inventories held at the Defense Depot Columbus and from Warner Robbins AFB. Defense Depot Columbus processed 98% of all requisitions shipped to NADEP NI. Stock is currently maintained at Defense Depot Ogden and Columbus. Warner Robbins AFB held only one unit which appears to have been an item that was returned to the DLA inventory system. This one unit was then issued to NADEP NI on 92234 (observation 71).

## **4. DLA processing times**

The average processing time for all NADEP NI requisitions was 68.164 days. High priority requisitions averaged 50.06 days and had a standard deviation of 29.5 days. The processing times ranged from 7 days to 279 days. In the case of the requisition that took 279 days to process, the priority designator was 03 but had no RDD. As a result, an estimated 20 days was added to the processing time because it was shipped using UPS instead of a small package carrier.

The long processing times were again due to a lack of availability of the item within the DLA supply system. All of the requisitions between observation 36 and 69 were released by DISC on 92231 because a vendor order was received from Garden Machine Shop. If the material would have been on hand, the processing time would have been reduce to an average of 8.5 days for high priority requisitions.

The primary mode of shipment from DLA was small package carriers. These carrier accounted for 63.7% of all shipments while UPS ground service accounted for 25.8% of all shipments. All of the high priority requisitions shipped to NADEP NI were shipped using a small package carrier (Federal Express). A random sample of these shipments showed an average in-transit time of 8.5 days for the small package carriers and 28 days for UPS ground service. The data does not indicate why it took 8.5 days from depot to NADEP NI. Possible explanations for the delay include receipt problems at NADEP NI, or delays from the shipping Depot.

**E. NSN 3120-01-131-7640**

The nomenclature for this stock number is bushing, sleeve. It is a consumable item used for the F/A-18 aircraft. The unit of issue is each. The ML-N price of the part during FY92 was \$19.80 and was changed to \$58.56 during FY93. The DLA standard price, however, indicates that the price fluctuated from \$19.80 to \$55.00 during FY92 and from \$8.03 to \$3.48

during FY93. Only six units were issues at the DLA standard price of \$55.00 and only four units at the \$19.80 price. At NADEP NI, thirty-three units were issued by DLA at the standard price of \$8.03 but were received by the activity at the ML-N price of \$58.56. This is a difference of \$50.53 per unit for a total of \$1667.49 excess cost paid by NADEP NI. Supporting data is contained in Appendix E.

#### **1. Customers**

Three activities submitted 33 requisitions for a total demand of 75 units during FY92. The two primary customers, NADEP NI and FISC San Diego, accounted for 97% of the total demand. NADEP NI accounted for 93% of the requisitions submitted and 53.3% of the total demand.

FISC San Diego submitted one requisition for 33 units which is almost equal to the total demand of NADEP NI (40 units). The FISC San Diego requisition was issued by DISC on 93012 which is after all of the other requisitions submitted during FY92 had been filled by DLA. The data did not indicate why FISC San Diego had requisitioned 33 units (observation 1). It appears likely that they intend to stock this item as an intermediate inventory in order to fill demands within their service area, which includes NADEP NI.

#### **2. Vendors**

The ML-N listed five vendors that supply this material (Appendix E). Three of the vendors are located within a 300-

mile radius of the San Diego area. None of these vendors were used during FY92 or FY93 for this material.

The Engineered Fastener Company of Pennsauken, New Jersey was the only source issued a contract during FY92 and FY93. Under contract DLA50092AA599, the company made four shipments to the Defense Depot Ogden. The first delivery was on 92155 for two units and the second delivery was for four units on 92176. The unit price was \$55.00. The third delivery on 92286 was for 30 units at \$8.03. The final delivery was recorded by DLA on 92317 for 30 units at \$8.03. Without the specific contract information, it is difficult to determine why the price changed from \$55.00 to \$8.03 and why the quantities changed.

### **3. Stock Locations**

All of the wholesale inventory is maintained at the Defense Depot Ogden. This location is neither closest to the vendor nor closest to the customer. A better site for the inventory would have been at the Defense Depot San Diego. This would have satisfied 97% of the units demanded during FY92 from activities which were located within a 50-mile radius of the depot. In addition, alternative sources of supply available within Southern California might have offered lower first destination transportation costs and shorter lead times.

#### 4. DLA processing times

The total processing time of NADEP NI's requisitions average 96.5 days. This is the longest processing time of the six NSNs examined. The twenty-three high priority requisitions averaged 100.1 days with a standard deviation of 38.5 days.

The lack of available stock was the most important factor in the slow processing times. Further research into NADEP NI's transaction files reveals that this item does not have a steady demand level. During the most recent four quarters, the activity has only demanded 2 units. This suggests that the FY92 demand was a spike in usage required for specific overhaul procedures. DISC records for the most recent four quarters also indicate only 2 units demanded. It would be unreasonable to expect DLA to have forecasted this unexpected level of demand. In addition, it would be difficult to have a rapid turn-around to this unexpected demand since this item has an administrative and production lead time of 145 days. The item has been managed by DISC since 82143.

The use of an RDD apparently can affect the time it takes to receive the material. Observation 13, 16, 29 and 30 were both priority designator 03 but no RDD listed. The data shows that these requisitions had an shipment time that was approximately 62 days longer than a similar requisition that had an RDD of 999.

**F. NSN 3120-01-131-6847**

The nomenclature for this stock number is bushing, sleeve. It is a consumable item used for the F/A-18 aircraft. The unit of issue is each. The ML-N price for the part during FY92 was \$6.56 and was changed to \$11.46 during FY93. The DLA standard price, however, indicates that the price was reduced from \$6.56 to \$4.57 to \$4.40 during FY92 and from \$6.47 to \$1.91 during FY93. Supporting data is contained in Appendix F.

**1. Customers**

Only three activities submitted requisitions for this item during FY92; NADEP NI, FISC San Diego and the Spanish military (PSPT44). The primary customer was NADEP NI with 60.4% of the total demand and 92.6% of the total frequency. FISC San Diego represented 38.5% of the remaining demand.

NADEP NI accounted for 100% of the high priority requisitions submitted. 16 out of the 25 requisitions submitted by NADEP NI were high priority. Only 3 out of the 25 requisitions had a priority designator higher than 03 (i.e., 04-15). It is interesting to note that all of the requisitions for stock (observations 9, 12, 13 and 19) had no RDD. Consequently, they were among the requisitions with the longest processing times.

FISC San Diego submitted one requisition for 35 units which is approximately 64% of the total demand from NADEP NI

(55 units). FISC San Diego's requisition was issued by DISC on 93004 which is after all of the all of the other requisitions submitted during FY92 had been filled by DLA. The data did not indicate why FISC San Diego had requisitioned 35 units. It appears likely that they intend to stock this item as an intermediate inventory in order to fill demands within their service area, which includes NADEP NI.

## **2. Vendors**

The ML-N listed five vendors that supply this material (Appendix F). Three of the vendors' addresses were located within a 300-mile radius of San Diego. None of these vendors received a contract for this materiel.

The Engineered Fastener Company of Pennsauken, New Jersey was the only vendor used by DLA to supply this item.

## **3. Stock Locations**

All of the wholesale inventory is maintained at the Defense Depot Ogden. This location is definitely neither the closest-to-the-vendor or closest-to-the-customer. A better site for the inventory would have been at the Defense Depot San Diego. This would have satisfied 99% of the units demanded during FY92 from activities which were located within a 50-mile radius of the depot. In addition, alternative sources of supply available within Southern California might have offered lower first destination transportation costs and shorter lead times.

#### 4. DLA processing times

The primary mode of shipment was small package carrier (Federal Express). This mode was used to fill 15 NADEP NI high priority requisitions. The average in-transit time from Defense Depot Ogden to the customer for these shipments were 4.66 days. Items shipped using other modes of transportation took an average of 14.3 days to be received.

Total processing time for the NADEP NI requisitions averaged 38.68 days. The high priority requisitions averaged 36.2 days with a standard deviation of 33.6 days.

The lack of available stock was again the most important factor in the slow processing times. Further research into NADEP NI's transaction files reveals that this item does not have a steady demand level. During the most recent four quarters, the activity has only demanded 10 units. This suggests that the FY92 demand was a spike in usage required for specific overhaul procedures. DISC records for the most recent four quarters also indicate only 2 units demanded and the last demand on 93025. It would be unreasonable to expect DLA to have forecast this unexpected level of demand. In addition, it would be difficult to have a rapid turn-around for unexpected demand since this item has an administrative and production lead time of 251 days. The item has been managed by DISC since 82143.

## G. GENERAL OBSERVATIONS

Each of the six cases presented have several similarities and differences. It is therefore difficult to draw overall conclusions or recommendations. However, each case presents important information concerning how the system is performing and provides insight into areas that could be improved.

The cases showed that processing timeframes from DLA were significantly affected by the lack of on-hand inventory. The longest delays were the result of the material being on back-order. This thesis highlights the need for further study of the DLA wholesale level consumable inventory replenishment decision process. It seems unusual that all six items examined experienced stockouts during FY92.

The use of the high priority designator should make a difference in how quickly the material was received by the customer. Unfortunately, it took several weeks for NADEP NI to receive a part that was in stock at a DLA Depot. Only a 60-day depot maintenance turn-around period is allowed for the F-18. Therefore, such a delay by DLA has a significant impact on the NADEP's ability to complete the production schedule on time.

When high priority requisitions are processed by DLA, they are shipped in individual packages containing only the material specified by the requisition document. The data shows that there were several opportunities for DLA to consolidate these orders when a DLA depot finally receives a

replenishment shipment from a vendor after an item had been in a backordered status. DLA should take advantage of the lower shipping costs resulting from consolidating the orders shipped to a major customer into one large package.

The use of the high priority designation by industrial activities should only be when it is "required for immediate use to eliminate an existing work stoppage..." (OPNAVINST 4614.1F, 15 April 1983, p. 8). NADEP NI, in particular, is a frequent user of the high priority designation due to the ambitious turnaround times for the aircraft being overhauled. The use of IPG I RDD 999 is also a result of the activity not having a clear definition of work stoppage. This allows the technician to apply any definition of a work stoppage. Since they know that the turn-around time must be met, they feel justified in using the highest priority.

It should be noted that requisitions submitted at the beginning of FY92 had a specified RDD which was replaced by 999 on requisitions submitted during mid-year. It appeared that NADEP NI's policy was shifted toward using the RDD of 999 in order to ensure that the requisitions were expedited.

The demands for the six NSNs studied were primarily from activities in the San Diego area. The closest DLA stock point holding stock of these items was Defense Depot Ogden. The other DLA Depots stocking the items included Columbus, Memphis and Susquehanna-Mechanicsburg. As pointed out earlier in this chapter, there were no clear reason why one depot was selected

over another by DLA. A closest-to-the-customer policy would have located all six NSNs at the Defense Depot San Diego.

Consistent use of a closest-to-the-vendor policy was also not evident from the positioning of the material. Vendors for these items exist within the Southern California area. However, the majority of the vendors used by DLA were not within this region. While it was beyond the scope of this thesis to determine why one vendor was selected over another vendor, it does seem odd that Engineered Fastener was selected for most of the items. Selecting the vendors closest to the customer might offer transportation cost savings and/or provide an opportunity for direct delivery of the needed parts. In addition, it seems reasonable that a direct delivery system could be established between these local vendors and the customers in the San Diego area.

Material requirements planning prior to aircraft induction is essential if the supply system is to provide adequate logistical support. Prompt identification and communication of material requirements might have resulted in shorter wait times and possibly reduced costs for NADEP NI. For example, NSN 3120-01-131-7640 appeared to experience a spike in demand during FY92 from the NADEP. If this requirement had been identified during the aircraft induction inspection and communicated to the DLA item manager, it might have been possible for DLA to expedite an order. In addition, options

for direct delivery or in-house manufacturing of the part might have been arranged.

Price differences existed between what was listed in the ML-N and DLA standard price obtained from DISC transaction history file. The customer uses the ML-N to obligate funds for every requisition. The actual cost to DLA for the material fluctuated between each contracted delivery. The price was shown to be significantly different from the price used by Navy customers. In the case of NADEP NI, obtaining parts at the lowest cost is important to its ability to compete for repair business. For example, the price for NSN 5306-01-135-5549 was listed as \$154.94 when the DLA standard price was actually \$85.50. NADEP NI was overcharged \$69.44 per unit. If this difference existed for all of the demands during FY92's, (114 units), NADEP NI would have been overcharged \$7,916.16. It could be argued that these price differences are not important since the Defense Business Operations Fund (DBOF) makes up for overages/shorts in the fund over time and the future ML-N prices will reflect these changes. From the customer's perspective, however, this cost difference could seriously affect their ability to be competitive.

## V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

### A. SUMMARY

The objective of this thesis was to examine how DLA is managing IPG I requisitions with an RDD of 999, N\_\_, or E\_\_. The primary focus was on the stock location policy used by DLA for items that are commonly requisitioned by the Navy using an IPG I priority. A secondary issue considered in this thesis was the processing times of these high priority requisitions by the DLA supply system.

Chapter II introduced the growing importance of the military supply system becoming more efficient and effective. The DMRD's have initiated the consolidation of the physical distribution functions for consumable items under DLA's management and have set the stage for further changes in how the military operates as a business. Chapter II then introduced the principal concepts of the stock location policy used by DLA when deciding where to locate material. The chapter also presented a brief review of DoD's UMMIPs policies and requisition processing time standards. The final section of Chapter II was a history of NADEP NI, which is the primary customer that was examined in this case study.

Data collection and analysis were reviewed in Chapter III. Data collection began by analyzing all DoD requisitions submitted to DLA during FY92 using IPG I and an RDD of 999, N\_\_, or E\_\_. This information was extracted from DLA's Defense Integrated Data Bank. The data was sorted in various ways in order to gain an understanding of issues relating to high priority requisitions. It was learned that 1) each service had different usage rates for IPG I requisitions, 2) each service had different usage rates among the four DLA commodity groups, and 3) the high priority requisition frequency and total number of units demanded for any particular NSN was low. Based on this information, the scope of the research was narrowed to focus on only high priority requisitions submitted by the Navy and further narrowed to Navy activities in the San Diego area. Finally, six NSNs, that were among the most frequently requisitioned items in the San Diego area, were selected for an indepth study of stock positioning and management. Additional historical data concerning these NSNs was obtained from the DISC Philadelphia and from NADEP NI in order to complete the analysis.

Chapter IV presents an indepth analysis of the data collected on the six NSNs. A case study format was used to facilitate the understanding of the differences and similarities each NSN exhibited. Within this analysis, various observations and conclusions were made concerning the supply system's management of these items.

## B. CONCLUSIONS

There are several conclusions that can be drawn from this thesis. First, the use of DoD's UMMIPS priority system varies between military services and among individual activities. The Army was the most significant user of high priority requisitions within the military. Within the Navy, shore activities were the most frequent users. And within the San Diego area, Naval Air Station, North Island, Miramar and NADEP NI submitted 52.8% of the high priority requisitions.

The most significant problem found in this study was the lack of on hand inventory available to met immediate customer needs. Without available inventory, a stock location policy becomes a non-issue.

For the six items examined in detail, it was difficult to determine why a particular DLA stock location was selected over another. If the policy was closest-to-the-customer, the majority of the stock would be located within the San Diego area. If the policy was closest-to-the-vendor, the procurement sources should have shipped to the nearest DLA depot. This was found to be the exception, however, rather than the rule. As discussed in Chapter IV, there were several opportunities to site the item at a location that takes advantage of both policies. This would offer the greatest transportation cost savings to DLA and would also shorten delivery times.

## **C. RECOMMENDATIONS**

The case study approach has highlighted several potential opportunities for improving the DLA stock location policies and DLA supply system.

### **1. DLA's Consumable Item Replenishment Model Should Be Studied**

The most significant problem found in this case study relates to the fact that all of the NSN were out of stock sometime during FY92. As a result, customer demands were not fulfilled in a timely manner. It is recommended that additional research be conducted on the reasons for these stockouts. Perhaps there was unusual customer demand or perhaps the DLA consumable replenishment model is inadequate for this type of item. Perhaps the vendors were excessively late delivering orders.

### **2. Stock Material Within Geographic Regions Based Upon Historical Demand**

In the six cases studied, the demand of various activities within a geographic region presented a clear pattern of usage. In addition, vendors were located within these same areas. DLA should pursue a stock location policy that locates stock nearest the primary customers based upon historical and forecasted demand. In addition, the policy should place emphasis on the utilization of vendors closest to

these customer. This approach offers potential transportation cost savings and reduced delivery lead times.

**3. If the Item was Back-Ordered, Consolidate High Priority Shipments**

As discussed in the case analysis, several of the NSNs were back-ordered by the DLA inventory manager. After being received from the vendor, the material would be individually package by the depot and sent via the appropriate mode. The majority of the requisitions examined were sent using a small package carrier. The reason given for this was that it maintains the traceability of the requisition.

DLA should consolidate high priority shipments following a backordered condition. This would require DLA to batch the Materiel Release Orders (MRO) when the pick tickets are generated by production control after the material becomes available. A memo document could also be prepared that lists the requisition documents to be shipped within a package. Upon receipt by the customer, the contents could be verified and individual documents processed. The customer would spend less time processing individual packages and the packages would spend less time in the receiving queue.

**4. Develop the Capability to Update Item Prices as Contracted Prices Change**

The current requirements for industrial and support activities to compete with each other and the private sector

make it important for these activities to have accurate pricing information. As the case study showed, prices listed on the ML-N and transacted by customers were not necessarily the price paid by DLA. As these activities are required to perform repairs and overhauls within tight turn-around times and at as low a cost as possible, it becomes important for them to have sources of supply that will support their objectives. A procedure should be developed so that the ML-N and DLA prices are always the same. This will require the capability of the DLA computer systems to interface between the wholesale supply system and individual customers. Then, whenever a price change is made, the customers records will automatically be updated.

#### **5. Better Material Requirements Planning**

As aircraft are inducted into the maintenance departments, early identification of material requirements is needed to ensure having the needed logistical support. Better planning and early communication of these requirements to DLA, in particular, might have provided better supply support.

Better planning would also facilitate the exploration of alternative sources of supply. During interviews with shop personnel at NADEP North Island, the author discovered that parts can be manufactured within the activity. When a part is back-ordered, the activity's inventory manager should communicate the problem to the production control schedulers.

A decision could then be made whether to find a direct purchase source or to manufacture the part locally. All the players in the logistical support chain should then be made aware of the alternative selected.

#### **6. Additional Research is Needed**

This thesis has examined several issues related to the topic of DLA's stock location policies and has made several specific recommendations for immediate actions to be taken. The results of this project can also serve as the basis for further research into the costs and benefits associated with a regional demand-based stock location policy. Since IPG I requisitions are important to military readiness and are costly to process, any additional research should consider requisitions from all IPGs. The scope should also be expanded to consideration of additional NSNs and include more than one year of demand data.

**APPENDIX A: NSN 3120-01-130-1040**

Item Name: Bushing, Sleeve  
Weapon System: F-18  
Unit of Issue: EA  
ML-N Price: \$2.74 (FY92)                      \$1.50 (FY93)

**Manufacturers/Suppliers (listed on ML-N):**

Company Name: Avalon Machine Products Inc  
Address: 15337 Allen Street  
Paramount, California 90723-4011  
Cage: 23294

Company Name: Reid Products  
Address: 21430 Waalew Road  
Apple Valley, California 92307  
Cage: 59563

Company Name: Mayday Manufacturing Company  
Address: 2400 Justin Road  
P.O. Box 603  
Lewisville, Texas 75067  
Cage: 65910

Company Name: All Power Manufacturing Company  
Address: 13141 Molette Street  
Santa Fe Springs, California 90670-5523  
Cage: 70265

Company Name: McDonnell Douglas Corporation  
Address: Lambert St Louis International Airport  
P.O. Box 516  
St. Louis, Missouri 63166-0516  
Cage: 76301

**Manufacturer/Suppliers Used FY92-FY93:**

Company Name: Mayday Manufacturing Company  
Address: 2400 Justin Road  
P.O. Box 603  
Lewisville, Texas 75067  
Cage: 65910  
Depot Shipped to: Defense Depot Columbus, Defense Depot Memphis

Company Name: Engineered Fastener Company  
Address: Industrial Center-Bldg 3  
7300 US Highway 130  
Pennsauken, New Jersey 08110  
Cage: 1U749  
Depot Shipped to: Defense Depot Columbus, Defense Depot Memphis

Company Name: Fastenair Corporation  
Address: 10800 East Central Avenue  
Wichita, Kansas 67206-2524  
Cage: 31610  
Depot Shipped to: Defense Depot Susquehanna-Mechanicsburg

**NSN 3120-01-130-1040**

Data includes all requisitions submitted to DLA during FY92.

**ALL DOD**

Total QTY RQN:	4508
Min Qty:	1
Max Qty:	800
Avg Qty (units):	36.650
IPG I, RDD Freq:	43
Total RQN Freq:	123
SHIP DEPOT	
SUI:	73
SCI:	13
SMI:	28
FLI:	0
MODES	
J:	62
H:	25
5:	10
A:	11
B:	5
Q:	1
N:	0
G:	0
Total RQN Shipped:	114
Percent Shipped:	92.7%

**NADEP NI**

Total QTY RQN:	374
Min Qty:	1
Max Qty:	60
Avg Qty (units):	3.041
IPG I, RDD Freq:	26
Total RQN Freq:	53
SHIP DEPOT *	
SUI:	38
SCI:	3
SMI:	12
FLI:	0
MODES	
J:	37
H:	9
5:	2
A:	5
B:	0
Q:	0
N:	0
G:	0
Total RQN Shipped:	53
Percent Shipped:	100.0%
Average Proc Days DOB to RECD *:	14.019

**PERCENT OF  
TOTAL**

8.30%
60.47%
43.09%

\* Includes FY92 and FY93 information.

DOD - Wide Requisitions Submitted\Shipped FY92  
NSN 3120 -01 -130 -1040

OBS QTY	RQN	UIC	REQUISITION DOCUMENT	PRI	RDD	SHIP DEPT	MODE	DLA DOB	DISC TRANS DATE	DATE SHIP	DEPT PROC DAYS	NADEP TRANS DATE	DLA SHIP DAYS	DOB VS. RECD	DLA TRANS PRICE	NADEP RECD PRICE
1	10	N00166	2190G061	03	NAA	SUI	J	92191	-	92192	2	-	-	-	-	-
2	24	N00166	22546640	06	259	SUI	5	92254	-	92258	5	-	-	-	-	-
3	2	N00215	2255G447	03	N	SMI	J	92257	-	92258	2	-	-	-	-	-
4	183	N00244	20151218	15	-	SMI	A	92017	-	92053	37	-	-	-	-	-
5	200	N00244	21341191	08	777	SUI	5	92136	-	92260	125	-	-	-	-	-
6	12	N00421	1353GD10	03	N	SCI	J	91355	-	91357	3	-	-	-	-	-
7	5	V 03360	2143E217	02	777	SUI	H	92146	-	92161	16	-	-	-	-	-
8	6	V 03360	2267E370	05	777	SCI	J	92269	-	92273	5	-	-	-	-	-
9	50	R 03362	2132D977	02	999	SUI	J	92165	-	92167	3	-	-	-	-	-
10	40	V 03366	2058E229	02	-	SMI	J	92062	-	92066	5	-	-	-	-	-
11	2	N09030	2152GV61	03	N	SUI	J	92153	-	92161	9	-	-	-	-	-
12	80	8 09103	21619737	08	-	SUI	5	92164	-	92260	97	-	-	-	-	-
13	8	R 09111	2063G335	03	999	SUI	J	92063	-	92065	3	-	-	-	-	-
14	1	R 09111	20713010	03	777	SUI	H	92074	-	92076	3	-	-	-	-	-
15	25	R 09111	20932A12	03	777	SUI	H	92098	-	92099	2	-	-	-	-	-
16	10	R 09111	20971485	06	-	SCI	B	92115	-	92120	6	-	-	-	-	-
17	6	R 09111	2106G258	03	-	SUI	A	92107	-	92111	5	-	-	-	-	-
18	10	R 09111	21122A07	03	777	SUI	H	92115	-	92118	4	-	-	-	-	-
19	10	R 09111	21122A08	03	777	SUI	H	92115	-	92118	4	-	-	-	-	-
20	10	R 09111	21122A09	03	777	SUI	H	92115	-	92118	4	-	-	-	-	-
21	10	R 09111	21122A10	03	777	SUI	H	92115	-	92118	4	-	-	-	-	-
22	10	R 09111	21122A11	03	777	SUI	H	92115	-	92118	4	-	-	-	-	-
23	10	R 09111	21122A12	03	777	SUI	H	92115	-	92118	4	-	-	-	-	-
24	10	R 09111	21122A13	03	777	SUI	H	92115	-	92118	4	-	-	-	-	-
25	10	R 09111	21122A14F	03	777	SUI	H	92115	-	92118	4	-	-	-	-	-
26	10	R 09111	21122A14G	03	-	SMI	H	92115	-	92118	4	-	-	-	-	-
27	10	R 09111	21122A14H	03	-	SCI	J	92115	-	92118	4	-	-	-	-	-
28	10	R 09111	21122A15	03	777	SCI	J	92115	-	92118	4	-	-	-	-	-
29	10	R 09111	21122A16	03	777	SCI	J	92115	-	92118	4	-	-	-	-	-
30	11	R 09111	21511331	13	-	SUI	A	92159	-	92163	5	-	-	-	-	-
31	10	R 09111	21560867	13	-	SUI	A	92161	-	92168	8	-	-	-	-	-
32	90	R 09111	21681106	06	-	SUI	A	92243	-	92252	10	-	-	-	-	-
33	15	R 09111	21791255	13	-	SUI	A	92185	-	92192	8	-	-	-	-	-
34	2	R 09111	22230318	13	-	SUI	B	92231	-	92238	8	-	-	-	-	-
35	2	V 09131	2129G477	03	999	-	-	92132	-	-	-	-	-	-	-	-

DOD - Wide Requisitions Submitted\Shipped FY92  
 NSN 3120-01 - 130 - 1040

OBS	RQN QTY	UIC	REQUISITION DOCUMENT	PRI	RDD	SHIP DEPT	MODE	DLA DOB	DISC		NAPEP TRANS DATE	DLA SHIP DAYS	DOB VS. RECD	DLA TRANS PRICE	NADEP RECD PRICE
									DATE	SHIP DATE					
36	12	V 09131	2157G701	03	999	SUI	J	92160	-	92161	2	-	-	-	-
37	12	V 09131	2157G748	03	999	SUI	J	92160	-	92161	2	-	-	-	-
38	34	V 09131	21890271	06	777	SUI	H	92192	-	92195	4	-	-	-	-
39	21	V 09131	22520131	13	-	-	-	92267	-	-	-	-	-	-	-
40	2	N 09326	2116GV06	03	999	SCI	J	92118	-	92119	2	-	-	-	-
41	6	N 09328	2121GV40	03	N	SCI	J	92125	-	92127	3	-	-	-	-
42	2	N 30929	1289F548	12	-	SCI	5	91290	-	91294	5	-	-	-	-
43	50	N 30929	2254F520	02	257	SUI	H	92254	-	92258	5	-	-	-	-
44	4	N 60200	2007GJ04	02	777	SMI	H	92008	-	92010	3	-	-	-	-
45	4	N 60200	2009GJ22	02	777	SMI	J	92010	-	92011	2	-	-	-	-
46	26	N 60200	20100385	13	-	SMI	5	92014	-	92056	43	-	-	-	-
47	6	N 60200	2029FZ56	06	777	SMI	J	92030	-	92031	2	-	-	-	-
48	6	N 60200	2029FZ56B	06	-	SMI	H	92030	-	92046	17	-	-	-	-
49	21	N 60200	21200179	13	-	SUI	5	92127	-	92164	38	-	-	-	-
50	12	N 60200	2169GZ11	03	N	SUI	J	92169	-	92171	3	-	-	-	-
51	5	N 60530	2175G264	02	N01	SUI	J	92175	-	92177	3	-	-	-	-
52	151	N 62649	13202571	05	777	SMI	Q	91326	-	91330	5	-	-	-	-
53	6	N 63042	2029GP95	03	777	SMI	J	92029	-	92031	3	-	-	-	-
54	6	N 63042	2033GP01	03	777	-	-	92034	-	-	-	-	-	-	-
55	1	N 63042	2169GB41	03	N	SUI	J	92169	-	92171	3	-	-	-	-
56	11	N 63042	21750182	06	777	SUI	5	92177	-	92178	2	-	-	-	-
57	2	N 65886	205612L7	03	777	SMI	J	92056	-	92058	3	-	-	-	-
58	12	N 65886	207200P3	03	999	SMI	J	92072	-	92076	5	-	-	-	-
59	50	N 65886	207318P3	03	999	SMI	J	92073	-	92076	4	-	-	-	-
60	16	N 65886	226213P5	03	999	SMI	J	92262	-	92266	5	-	-	-	-
61	6	N 65888	128006Y4	06	292	SCI	J	91284	91284	91286	3	91289	4	6	\$2.74
62	2	N 65888	128009Y4	06	292	SCI	J	91284	91285	91287	4	91289	3	6	\$2.74
63	2	N 65888	128911Y4	06	301	SCI	J	91289	91290	91291	3	91295	5	7	\$2.74
64	4	N 65888	202912Y4	03	036	SMI	J	92030	92045	92046	17	92049	4	20	\$2.74
65	1	N 65888	202919Y4A	03	036	SMI	H	92030	92030	92032	3	92043	12	14	\$2.74
66	11	N 65888	202919Y4B	03	036	SMI	J	92030	92045	92046	17	92049	4	20	\$2.74
67	6	N 65888	20291BK5	13	059	SMI	5	92030	92045	92049	20	92058	10	29	\$2.74
68	2	N 65888	203011Y4	03	037	SMI	H	92030	92030	92031	2	92038	8	9	\$2.74
69	12	N 65888	203628Y4	03	043	SMI	J	92036	92045	92046	11	92049	4	14	\$2.74
70	4	N 65888	203633Y4	03	043	SMI	J	92036	92045	92046	11	92049	4	14	\$2.74

DOD - Wide Requisitions Submitted\Shipped FY92  
NSN 3120-01-130-1040

OBS QTY	RQN	UIC	REQUISITION DOCUMENT	PRI	RDD	SHIP DEPT	MODE	DLA DOB	DISC		DEPOT PROC DAYS	NADEP TRANS DATE	DLA SHIP DAYS	DOB VS. RECD	DLA TRANS PRICE	NADEP RECD PRICE
									DATE	SHIP DATE						
71	12	N65888	204120Y4	03	048	SMI	J	92041	92045	92046	6	92049	4	9	\$2.74	\$2.74
72	4	N65888	204136Y4	03	048	SMI	J	92041	92045	92046	6	92049	4	9	\$2.74	\$2.74
73	6	N65888	20421HK5	13	072	SMI	5	92042	92045	92049	8	92058	10	17	\$2.74	\$2.74
74	12	N65888	204515Y4	03	052	SMI	H	92045	92045	92049	5	92055	7	11	\$2.74	\$2.74
75	4	N65888	204541Y4	03	052	SMI	H	92045	92045	92049	5	92055	7	11	\$2.74	\$2.74
76	4	N65888	205108Y4	03	058	SUI	H	92052	92052	92055	4	92062	8	11	\$2.74	\$2.74
77	12	N65888	205121Y4	03	058	SUI	H	92051	92052	92055	5	92062	8	12	\$2.74	\$2.74
78	4	N65888	205124Y4	03	058	SUI	H	92051	92052	92055	5	92062	8	12	\$2.74	\$2.74
79	6	N65888	205204K5	13	082	SUI	A	92052	92052	92057	6	92084	28	33	\$2.74	\$2.74
80	2	N65888	205903Y4	03	066	SUI	J	92059	92052	92060	2	92063	4	5	\$2.74	\$2.74
81	6	N65888	206222Y4	03	069	SUI	H	92064	92052	92066	3	92072	7	9	\$2.74	\$2.74
82	5	N65888	21349ANN	13	-	SUI	A	92134	92159	92163	30	92182	20	49	\$1.43	\$2.74
83	2	N65888	214808Y4	03	999	SUI	J	92149	92159	92161	13	92164	4	16	\$1.43	\$2.74
84	2	N65888	214814Y4	03	999	SUI	J	92149	92159	92161	13	92164	4	16	\$1.43	\$2.74
85	4	N65888	214931Y4	03	999	SUI	J	92149	92159	92161	13	92164	4	16	\$1.43	\$2.74
86	4	N65888	214932Y4	03	999	SUI	J	92149	92159	92161	13	92164	4	16	\$1.43	\$2.74
87	2	N65888	215303Y4	03	999	SUI	J	92153	92159	92161	9	92164	4	12	\$1.43	\$2.74
88	2	N65888	215305Y4	03	999	SUI	J	92153	92159	92161	9	92164	4	12	\$1.43	\$2.74
89	2	N65888	215306Y4	03	999	SUI	J	92153	92159	92161	9	92164	4	12	\$1.43	\$2.74
90	4	N65888	215309Y4	03	999	SUI	J	92153	92159	92161	9	92164	4	12	\$1.43	\$2.74
91	6	N65888	215326Y4	03	999	SUI	J	92154	92159	92161	8	92164	4	11	\$1.43	\$2.74
92	4	N65888	215328Y4	03	999	SUI	J	92153	92159	92161	9	92164	4	12	\$1.43	\$2.74
93	6	N65888	215329Y4	03	999	SUI	J	92153	92159	92161	9	92164	4	12	\$1.43	\$2.74
94	6	N65888	215405Y4	03	999	SUI	J	92154	92159	92161	8	92164	4	11	\$1.43	\$2.74
95	2	N65888	215406Y4	03	999	SUI	J	92154	92159	92161	8	92164	4	11	\$1.43	\$2.74
96	4	N65888	215407Y4	03	999	SUI	J	92154	92159	92161	8	92164	4	11	\$1.43	\$2.74
97	6	N65888	215427Y4	03	999	SUI	J	92154	92159	92161	8	92164	4	11	\$1.43	\$2.74
98	6	N65888	215437Y4	03	999	SUI	J	92154	92159	92161	8	92164	4	11	\$1.43	\$2.74
99	2	N65888	215455Y4	03	999	SUI	J	92154	92159	92161	8	92164	4	11	\$1.43	\$2.74
100	6	N65888	215488Y4	03	-	SUI	A	92164	92165	92170	7	92186	17	23	\$1.43	\$2.74
101	6	N65888	215497Y4	03	999	SUI	J	92155	92159	92161	7	92164	4	10	\$1.43	\$2.74
102	6	N65888	215498Y4	03	999	SUI	J	92154	92159	92161	8	92164	4	11	\$1.43	\$2.74
103	6	N65888	215499Y4	03	999	SUI	J	92154	92159	92161	8	92164	4	11	\$1.43	\$2.74
104	6	N65888	215521Y4	03	999	SUI	J	92155	92159	92161	7	92164	4	10	\$1.43	\$2.74
105	2	N65888	215534Y4	03	999	SUI	J	92155	92159	92161	7	92164	4	10	\$1.43	\$2.74

DOD - Wide Requisitions Submitted\Shipped FY92  
NSN 3120-01-130-1040

OBS	RQN QTY	UIC	REQUISITION DOCUMENT	PRI	RDD	SHIP DEPOT	MODE	DLA DOB	DISC		DEPOT PROC DAYS	NADEP TRANS DATE	DLA SHIP DAYS	DOB VS. RECD	DLA TRANS PRICE	NADEP RECD PRICE
									TRANS DATE	DATE SHIP						
106	2	N65888	215535Y4	03	999	SUI	J	92155	92159	92161	7	92164	4	10	\$1.43	\$2.74
107	5	N65888	216217Y4	03	999	SUI	J	92163	92159	92165	3	92169	5	7	\$1.43	\$2.74
108	2	N65888	216314Y4	03	999	SUI	J	92164	92159	92167	4	92169	3	6	\$1.43	\$2.74
109	2	N65888	216336Y4	03	999	SUI	J	92164	92159	92167	4	92168	2	5	\$1.43	\$2.74
110	60	N65888	21639FNN	03	-	SUI	A	92164	92165	92170	7	92188	19	25	\$1.43	\$2.74
111	20	N65888	22399PNN	15	-	SUI	A	92239	92240	92247	9	92275	29	37	\$1.43	\$2.74
112	20	N65888	22469CNN	03	254	SUI	H	92246	92247	92248	3	92275	28	30	\$1.43	\$2.74
113	40	N65888	22549CNN	03	262	SUI	J	92254	92255	92258	5	92261	4	8	\$1.43	\$2.74
114	10	PATB4V	20365803	06	-	SMI	5	92037	-	92046	10	-	-	-	-	-
115	315	PCN04V	13222160	13	-	SCI	B	91329	-	92022	59	-	-	-	-	-
116	75	PCN04V	13222161	13	-	-	-	92083	-	-	-	-	-	-	-	-
117	316	PCN04V	13222162	13	-	-	-	91329	-	-	-	-	-	-	-	-
118	53	PCN04V	21682183	13	-	SUI	B	92174	-	92184	11	-	-	-	-	-
119	53	PCN04V	21682184	13	-	SUI	B	92174	-	92184	11	-	-	-	-	-
120	500	PCN04V	22602396	13	-	-	-	92266	-	-	-	-	-	-	-	-
121	220	PCN04V	22602397	13	-	-	-	92266	-	-	-	-	-	-	-	-
122	800	PCN04V	22672207	13	-	-	-	92273	-	-	-	-	-	-	-	-
123	400	PCN04V	22672208	13	-	-	-	92273	-	-	-	-	-	-	-	-

**APPENDIX B: NSN 5306-01-136-5793**

Item Name: Rod, Threaded End  
Weapon System: F-18  
Unit of Issue: EA  
ML-N Price: \$535.29 (FY92) \$506.57 (FY93)

**Manufacturers/Suppliers:**

Company Name: McDonnell Douglas Corporation  
Address: Lambert St Louis International Airport  
P.O. Box 516  
St. Louis, Missouri 63166-0516  
Cage: 76301

**Manufacturers/Suppliers Used FY92-FY93:**

Company Name: McGill Aircraft Parts, Inc  
Address: 450 West 61st Street  
P.O. Box 38328  
Shreveport, Louisiana 71133-8328  
Cage: 31339  
Depot Shipped to: Defense Depot Ogden

**NSN 5306-01-136-5793**

**Data includes all requisitions submitted to DLA during FY92**

**ALL DOD**

Total QTY RQN:	332
Min Qty:	1
Max Qty:	74
Avg Qty (units):	4.743
IPG I, RDD Freq:	39
Total RQN Freq:	70
SHIP DEPOT	
SUI:	69
SCI:	0
SMI:	0
FLI:	0
MODES	
J:	40
H:	9
5:	3
A:	7
B:	5
Q:	2
N:	1
G:	1
Total RQN Shipped:	68
Percent Shipped:	97.1%

**NADEP NI**

Total QTY RQN:	116
Min Qty:	1
Max Qty:	6
Avg Qty (units):	2.231
IPG I, RDD Freq:	38
Total RQN Freq:	52
SHIP DEPOT *	
SUI:	52
SCI:	0
SMI:	0
FLI:	0
MODES	
J:	38
H:	8
5:	1
A:	2
B:	2
Q:	0
N:	0
G:	0
Total RQN Shipped:	51
Percent Shipped:	98.1%
Average Proc Days DOB to RECD *:	18.457

**PERCENT OF  
TOTAL**

34.94%
97.44%
74.29%

\* Includes FY92 and FY93 information

DOD - Wide Requisitions Submitted \ Shipped FY92  
 NSN 5306-01-136-5793

OBS QTY	RQN	UIC	REQUISITION DOCUMENT	PRI	RDD	SHIP DEPT	MODE	DLA DOB	DISC		DEPOT PROC DAYS	NADEP TRANS. DATE	DLA SHIP DAYS	DOB VS. RECD	DLA TRANS PRICE	NADEP RECD PRICE
									DATE	SHIP DATE						
1	74	N00244	22678589	15	298	-	-	92272	-	-	-	-	-	-	-	-
2	2	N00421	13190205	07	334	SUI	5	91324	-	91346	23	-	-	-	-	-
3	2	N00421	13250107	07	363	SUI	5	91353	-	91354	2	-	-	-	-	-
4	68	R03362	13170964G	15	777	SUI	G	91323	-	91340	18	-	-	-	-	-
5	3	R03362	13600688	05	777	SUI	N	92065	-	92067	3	-	-	-	-	-
6	2	R09111	13190951	06	-	SUI	A	91325	-	91360	36	-	-	-	-	-
7	1	R09111	1338G513	03	338	SUI	J	91341	-	91346	6	-	-	-	-	-
8	2	R09111	20980082	06	-	SUI	B	92115	-	92122	8	-	-	-	-	-
9	4	R09111	2104G284	03	-	SUI	A	92105	-	92111	7	-	-	-	-	-
10	2	R09111	21610252	06	-	SUI	A	92165	-	92170	6	-	-	-	-	-
11	2	R09111	21762417	03	777	SUI	H	92182	-	92183	2	-	-	-	-	-
12	2	R09111	22210131	06	-	SUI	A	92226	-	92259	34	-	-	-	-	-
13	3	R09111	22500099	06	-	SUI	A	92257	-	92261	5	-	-	-	-	-
14	2	N60530	2021G129	02	N01	SUI	J	92022	-	92024	3	-	-	-	-	-
15	2	N65888	129606Y4	06	308	SUI	H	91296	91345	91346	51	91364	19	69	\$535.29	\$535.29
16	1	N65888	133908Y4	03	346	SUI	H	91339	91345	91346	8	91364	19	26	\$535.29	\$535.29
17	2	N65888	202119Y4	03	028	SUI	H	92021	92022	92023	3	92028	6	8	\$535.29	\$535.29
18	2	N65888	204911Y4	03	056	SUI	H	92050	92050	92052	3	92059	8	10	\$535.29	\$535.29
19	1	N65888	205821Y4	03	065	SUI	H	92059	92059	92062	4	92066	5	8	\$535.29	\$535.29
20	2	N65888	208520Y4	03	-	SUI	A	92085	92086	92091	7	92105	15	21	\$535.29	\$535.29
21	2	N65888	213645Y4	03	999	SUI	J	92139	92139	92141	3	92142	2	4	\$372.66	\$535.29
22	2	N65888	213652Y4	03	999	SUI	J	92139	92139	92141	3	92142	2	4	\$372.66	\$535.29
23	2	N65888	213654Y4	03	999	SUI	J	92136	92136	92139	4	92141	3	6	\$372.66	\$535.29
24	2	N65888	214113Y4	03	999	SUI	J	92141	92141	92143	3	92147	5	7	\$372.66	\$535.29
25	2	N65888	214918Y4	03	999	SUI	J	92149	92150	92151	3	92154	4	6	\$372.66	\$535.29
26	2	N65888	215450Y4	03	-	SUI	B	92154	92155	92161	8	92183	23	30	\$372.66	\$535.29
27	2	N65888	215451Y4	03	-	SUI	B	92154	92155	92161	8	92183	23	30	\$372.66	\$535.29
28	2	N65888	216410Y4	03	999	SUI	J	92164	92164	92167	4	92168	2	5	\$372.66	\$535.29
29	2	N65888	216411Y4	03	999	SUI	J	92164	92164	92167	4	92168	2	5	\$372.66	\$535.29
30	2	N65888	216417Y4	03	999	SUI	J	92164	92164	92167	4	92168	2	5	\$372.66	\$535.29
31	2	N65888	216418Y4	03	999	SUI	J	92164	92164	92167	4	92168	2	5	\$372.66	\$535.29
32	2	N65888	217618Y4	03	999	SUI	J	92176	92177	92178	3	92181	4	6	\$372.66	\$535.29
33	2	N65888	217619Y4	03	999	SUI	J	92176	92177	92178	3	92182	5	7	\$372.66	\$535.29
34	2	N65888	218127Y4	03	999	SUI	J	92181	92182	92183	3	92188	6	8	\$372.66	\$535.29
35	2	N65888	218230Y4	03	999	SUI	J	92183	92184	92185	3	92189	5	7	\$359.02	\$535.29

DOD --Wide Requisitions Submitted\Shipped FY92  
NSN 5306--01 - 136--5793

OBS QTY	RQN	UIC	REQUISITION DOCUMENT	PRI	RDD	SHIP DEPOT	MODE	DLA DOB	DISC		DEPOT PROC DAYS	NADEP TRANS. DATE	DLA SHIP DAYS	DOB VS. RECD	DLA TRANS PRICE	NADEP RECD PRICE
									TRANS DATE	DATE SHIP						
36	2	N65888	218424Y4	03	999	SUI	J	92188	92189	92190	3	92191	2	4	\$359.02	\$535.29
37	2	N65888	218426Y4	03	999	SUI	J	92188	92189	92190	3	92191	2	4	\$359.02	\$535.29
38	2	N65888	219137Y4	03	999	SUI	J	92191	92191	92193	3	92195	3	5	\$359.02	\$535.29
39	2	N65888	219138Y4	03	999	SUI	J	92191	92191	92193	3	92195	3	5	\$359.02	\$535.29
40	2	N65888	220221Y4	03	999	SUI	J	92203	92247	92248	46	92253	6	51	\$359.02	\$535.29
41	2	N65888	220222Y4	03	999	SUI	J	92203	92247	92248	46	92254	7	52	\$359.02	\$535.29
42	2	N65888	220925Y4	03	999	SUI	J	92210	92247	92248	39	92254	7	45	\$359.02	\$535.29
43	2	N65888	220926Y4	03	999	SUI	J	92210	92247	92248	39	92253	6	44	\$359.02	\$535.29
44	6	N65888	22109WNN	03	218	SUI	H	92211	92247	92248	38	92254	7	44	\$359.02	\$535.29
45	2	N65888	221101Y4	03	999	SUI	J	92212	92247	92248	37	92253	6	42	\$359.02	\$535.29
46	2	N65888	221607Y4	03	999	SUI	J	92216	92247	92248	33	92253	6	38	\$359.02	\$535.29
47	2	N65888	221613Y4	03	999	SUI	J	92216	92247	92249	34	92254	6	39	\$359.02	\$535.29
48	2	N65888	223139Y4	03	999	SUI	J	92232	92247	92248	17	92253	6	22	\$359.02	\$535.29
49	2	N65888	223207Y4	03	999	SUI	J	92232	92247	92249	18	92253	5	22	\$359.02	\$535.29
50	2	N65888	223208Y4	03	999	SUI	J	92232	92247	92248	17	92254	7	23	\$359.02	\$535.29
51	2	N65888	223213Y4	03	-	SUI	A	92241	92247	92255	15	92273	19	33	\$359.02	\$535.29
52	2	N65888	223316Y4	03	999	SUI	J	92233	92247	92248	16	92253	6	21	\$359.02	\$535.29
53	2	N65888	223324Y4	03	999	SUI	J	92233	92247	92248	16	92253	6	21	\$359.02	\$535.29
54	2	N65888	223704Y4	03	999	SUI	J	92237	92247	92248	12	92254	7	18	\$359.02	\$535.29
55	2	N65888	224107Y4	03	999	SUI	J	92241	92247	92249	9	92253	5	13	\$359.02	\$535.29
56	2	N65888	224108Y4	03	999	SUI	J	92241	92247	92249	9	92253	5	13	\$359.02	\$535.29
57	2	N65888	224513Y4	03	999	SUI	J	92245	92247	92248	4	92253	6	9	\$359.02	\$535.29
58	2	N65888	224514Y4	03	999	SUI	J	92245	92247	92248	4	92253	6	9	\$359.02	\$535.29
59	2	N65888	224518Y4	03	999	SUI	J	92245	92247	92249	5	92253	5	9	\$359.02	\$535.29
60	2	N65888	224583Y4	03	999	SUI	J	92246	92247	92248	3	92253	6	8	\$359.02	\$535.29
61	2	N65888	224787Y4	03	999	SUI	J	92247	92248	92249	3	92253	5	7	\$359.02	\$535.29
62	2	N65888	224789Y4	03	999	SUI	J	92247	92248	92249	3	92253	5	7	\$359.02	\$535.29
63	6	N65888	22489KNN	03	256	SUI	H	92252	92254	92258	7	92266	9	15	\$359.02	\$535.29
64	2	N65888	22559RNN	06	267	SUI	5	92258	92258	92260	3	92266	7	9	\$359.02	\$535.29
65	6	N65888	22689FNN	03	276	SUI	H	92269	92270	92272	4	92275	4	7	\$359.02	\$535.29
66	4	N65888	22689YNN	03	276	SUI	-	92269	92270	-	-	92275	-	7	\$359.02	\$535.29
67	6	PCN04V	20342127	13	-	SUI	B	92036	-	92044	9	-	-	-	-	-
68	4	PCN04V	20342136	03	-	SUI	Q	92036	-	92041	6	-	-	-	-	-
69	2	PCN04V	21322302	03	-	SUI	Q	92135	-	92139	5	-	-	-	-	-
70	35	PCN04V	21572162	13	-	SUI	B	92164	-	92177	14	-	-	-	-	-

**APPENDIX C: NSN 3120-01-143-6748**

Item Name: Bearing, Sleeve  
Weapon System: F-18  
Unit of Issue: EA  
ML-N Price: \$7.76 (FY92)            \$7.13 (FY93)

**Manufacturers/Suppliers:**

Company Name: Avalon Machine Products Inc  
Address: 15337 Allen Street  
Paramount, California 90723-4011  
Cage: 23294

Company Name: Reid Products  
Address: 21430 Waalew Road  
Apple Valley, California 92307  
Cage: 59563

Company Name: Mayday Manufacturing Company  
Address: 2400 Justin Road  
P.O. Box 603  
Lewisville, Texas 75067  
Cage: 65910

Company Name: All Power Manufacturing Company  
Address: 13141 Molette Street  
Santa Fe Springs, California 90670-5523  
Cage: 70265

Company Name: McDonnell Douglas Corporation  
Address: Lambert St Louis International Airport  
P.O. Box 516  
St. Louis, Missouri 63166-0516  
Cage: 76301

**Manufacturers/Suppliers Used FY92-FY93:**

Company Name: Reid Products  
Address: 21430 Waalew Road  
Apple Valley, California 92307  
Cage: 59563  
Depot Shipped to: Defense Depot Ogden

Company Name: Sentry Fastener Inc  
Address: 25425 Terra Industrial Drive  
Chesterfield, Michigan 48051-2733  
Cage: 7S536  
Depot Shipped to: Defense Depot Columbus, Defense Depot Ogden

**NSN 3120-01-143-6748**

Data includes all requisitions submitted to DLA during FY92

**ALL DOD**

Total QTY RQN:	845
Min Qty:	1
Max Qty:	125
Avg Qty (units):	7.897
IPG I, RDD Freq:	35
Total RQN Freq:	107
SHIP DEPOT	
SUI:	35
SCI:	12
SMI:	4
FLI:	0
MODES	
J:	6
H:	3
5:	0
A:	2
B:	2
Q:	0
N:	0
G:	0
Total RQN Shipped:	13
Percent Shipped:	12.1%

**NADEP NI**

Total QTY RQN:	74
Min Qty:	1
Max Qty:	10
Avg Qty (units):	1.947
IPG I, RDD Freq:	22
Total RQN Freq:	38
SHIP DEPOT *	
SUI:	27
SCI:	11
SMI:	0
FLI:	0
MODES	
J:	0
H:	0
5:	0
A:	0
B:	0
Q:	0
N:	0
G:	0
Total RQN Shipped:	0
Percent Shipped:	0.0%
Average Proc Days DOB to RECD *:	77.474

**PERCENT OF  
TOTAL**

8.76%
62.86%
35.51%

\* Includes FY92 and FY93 information

DOD - Wide Requisitions Submitted\Shipped FY92  
NSN 3120 -01 - 143 -6748

OBS	RQN QTY	UIC	REQUISITION DOCUMENT	PRI	RDD	SHIP DEPOT	MODE	DLA DOB	DISC TRANS DATE	DATE SHIP	DEPOT PROC DAYS	NADEP TRANS DATE	DLA SHIP DAYS	DOB VS. RECD	DLA TRANS PRICE	NADEP RECD PRICE
1	1	N00206	2148C932	06	777	-	-	92149	-	-	-	-	-	-	-	-
2	1	N00206	2156C054	06	777	-	-	92158	-	-	-	-	-	-	-	-
3	2	N00215	2261G454	03	N	-	-	92263	-	-	-	-	-	-	-	-
4	20	N00244	13381365	15	-	SUI	A	91341	-	91351	11	-	-	-	-	-
5	22	N00244	21181405	15	-	-	-	92119	-	-	-	-	-	-	-	-
6	5	V 03360	2143E209	02	777	-	-	92146	-	-	-	-	-	-	-	-
7	3	R 03362	2132D996	15	-	-	-	92134	-	-	-	-	-	-	-	-
8	20	V 03366	2056E382	05	-	SUI	J	92093	-	92095	3	-	-	-	-	-
9	2	R 03368	21220606	06	134	-	-	92125	-	-	-	-	-	-	-	-
10	1	N 08966	2253GL80	03	N	-	-	92254	-	-	-	-	-	-	-	-
11	3	N 08966	2255GL61	03	N	-	-	92255	-	-	-	-	-	-	-	-
12	2	N 09030	2170GV99	03	N	-	-	92171	-	-	-	-	-	-	-	-
13	2	N 09030	2171FV73	06	777	-	-	92171	-	-	-	-	-	-	-	-
14	2	N 09030	2171FV79	06	777	-	-	92171	-	-	-	-	-	-	-	-
15	2	N 09030	2172FV56	06	777	-	-	92175	-	-	-	-	-	-	-	-
16	2	N 09030	2172FV62	06	777	-	-	92175	-	-	-	-	-	-	-	-
17	2	N 09030	2172FV68	06	777	-	-	92175	-	-	-	-	-	-	-	-
18	2	N 09030	2172FV74	06	777	-	-	92175	-	-	-	-	-	-	-	-
19	2	N 09030	2172FV87	06	777	-	-	92175	-	-	-	-	-	-	-	-
20	2	N 09030	2172FV93	06	777	-	-	92175	-	-	-	-	-	-	-	-
21	2	N 09030	2172FV99	06	777	-	-	92175	-	-	-	-	-	-	-	-
22	1	N 09030	2190GV96	06	777	-	-	92191	-	-	-	-	-	-	-	-
23	1	N 09030	2190GV98	03	N	-	-	92191	-	-	-	-	-	-	-	-
24	1	N 09030	2254GV64	03	N	-	-	92255	-	-	-	-	-	-	-	-
25	5	8 09103	21619709	08	-	-	-	92164	-	-	-	-	-	-	-	-
26	10	R 09111	20762A02	03	777	SUI	J	92079	-	92080	2	-	-	-	-	-
27	1	R 09111	20770236	06	-	-	-	92113	-	-	-	-	-	-	-	-
28	10	R 09111	20802A18	03	777	SUI	J	92091	-	92092	2	-	-	-	-	-
29	40	R 09111	20932A35F	03	-	SUI	H	92098	-	92100	3	-	-	-	-	-
30	40	R 09111	20932A35G	03	777	SMI	H	92098	-	92100	3	-	-	-	-	-
31	1	R 09111	21213086	03	777	-	-	92128	-	-	-	-	-	-	-	-
32	2	R 09111	21340004	13	-	-	-	92143	-	-	-	-	-	-	-	-
33	125	R 09111	21640003	06	-	-	-	92182	-	-	-	-	-	-	-	-
34	1	R 09111	2196G303	03	999	-	-	92197	-	-	-	-	-	-	-	-
35	1	R 09111	2196G308	03	999	-	-	92197	-	-	-	-	-	-	-	-

DOD --Wide Requisitions Submitted\Shipped FY92  
NSN 3120-01-143-6748

OBS QTY	RQN	UIC	REQUISITION DOCUMENT	PRI	RDD	SHIP DEPOT	MODE	DLA DOB	DISC		DLA SHIP DAYS	DOB VS. RECD	DLA TRANS PRICE	NADEP RECD PRICE
									TRANS DATE	DATE SHIP				
36	1	R 09111	2207G311	03	999	-	-	92209	-	-	-	-	-	-
37	1	R 09111	2211G507	03	999	-	-	92212	-	-	-	-	-	-
38	125	R 09111	22210350	06	-	-	-	92226	-	-	-	-	-	-
39	12	R 09124	21350183	05	155	-	-	92142	-	-	-	-	-	-
40	1	R 09124	22610258	12	280	-	-	92266	-	-	-	-	-	-
41	1	V 09131	20790312	06	-	SMI	B	92080	14	92093	-	-	-	-
42	2	V 09131	2085G702	03	999	SMI	H	92086	3	92088	-	-	-	-
43	2	V 09131	21470134	06	777	-	-	92149	-	-	-	-	-	-
44	2	R 21297	22650980	06	777	-	-	92269	-	-	-	-	-	-
45	30	N 30929	2254F546	02	-	-	-	92259	-	-	-	-	-	-
46	98	N 60200	2119F312	06	777	-	-	92181	-	-	-	-	-	-
47	5	N 60200	21200272	13	-	-	-	92123	-	-	-	-	-	-
48	10	N 60200	2125ER61	03	777	-	-	92126	-	-	-	-	-	-
49	10	N 60200	2177ER57	03	777	-	-	92191	-	-	-	-	-	-
50	2	N 60200	2178ER58	03	777	-	-	92181	-	-	-	-	-	-
51	1	N 60200	2182GH01	06	777	-	-	92183	-	-	-	-	-	-
52	2	N 60200	2190ER57	03	777	-	-	92179	-	-	-	-	-	-
53	10	N 60200	2200ER53	03	777	-	-	92202	-	-	-	-	-	-
54	1	N 60200	2217GH04	06	777	-	-	92218	-	-	-	-	-	-
55	39	N 62649	13202638	12	-	SUI	A	91326	19	91344	-	-	-	-
56	2	N 63042	2051FD43	06	777	SUI	J	92051	3	92053	-	-	-	-
57	1	N 63042	2063FD29	06	777	SUI	J	92064	2	92065	-	-	-	-
58	10	N 63042	2147AT27	03	777	-	-	92148	-	-	-	-	-	-
59	1	N 63042	2216GB18	06	N	-	-	92223	-	-	-	-	-	-
60	1	N 63042	2231BC01	03	777	-	-	92231	-	-	-	-	-	-
61	2	N 63042	2251AT30	03	777	-	-	92252	-	-	-	-	-	-
62	2	N 63042	2251AT35	03	777	-	-	92252	-	-	-	-	-	-
63	2	N 63042	2251AT76	03	777	-	-	92252	-	-	-	-	-	-
64	2	N 63042	2251AT85	03	777	-	-	92254	-	-	-	-	-	-
65	11	N 63042	22650163	06	777	-	-	92267	-	-	-	-	-	-
66	1	N 63126	2174GAXS	02	N01	SCI	J	92175	14	92188	-	-	-	-
67	1	N 65886	132723P3	03	-	SMI	B	91327	10	91336	-	-	-	-
68	25	N 65886	212591Y4	03	777	-	-	92127	-	-	-	-	-	-
69	4	N 65888	218403KK	03	215	SCI	-	92192	-	92305	92317	126	\$5.03	\$7.13
70	3	N 65888	219002KK	03	221	SCI	-	92192	-	92305	92317	126	\$5.03	\$7.13

DOD - Wide Requisitions Submitted\Shipped FY92  
 NSN 3120 -01 - 143 -6748

OBS	RQN	QTY	UIC	REQUISITION DOCUMENT	PRI	RDD	SHIP DEPT	MODE	DLA DOB	DISC		DEPOT PROC DAYS	NADEP TRANS DATE	DLA SHIP DAYS	DOB VS. RECD	DLA TRANS PRICE	NADEP RECD PRICE
										DATE	SHIP DATE						
71	4	N65888	21919AKK	03	203	SCI	-	92192	92305	-	-	92317	-	126	\$5.03	\$7.13	
72	1	N65888	219840Y4	03	999	SUI	-	92199	92295	-	-	92303	-	105	\$5.03	\$7.13	
73	1	N65888	219841Y4	03	999	SUI	-	92199	92295	-	-	92303	-	105	\$5.03	\$7.13	
74	1	N65888	219842Y4	03	999	SUI	-	92199	92295	-	-	92303	-	105	\$5.03	\$7.13	
75	1	N65888	219843Y4	03	999	SUI	-	92199	92295	-	-	92303	-	105	\$5.03	\$7.13	
76	5	N65888	22059CKK	03	217	SCI	-	92209	92305	-	-	92317	-	109	\$5.03	\$7.13	
77	5	N65888	22069BKK	03	218	SCI	-	92208	92305	-	-	92317	-	110	\$5.03	\$7.13	
78	1	N65888	220909Y4	03	219	SUI	-	92209	92295	-	-	92301	-	93	\$5.03	\$7.13	
79	1	N65888	220910Y4	03	219	SUI	-	92209	92295	-	-	92302	-	94	\$5.03	\$7.13	
80	1	N65888	220911Y4	03	219	SUI	-	92209	92295	-	-	92301	-	93	\$5.03	\$7.13	
81	1	N65888	220912Y4	03	999	SUI	-	92209	92295	-	-	92303	-	95	\$5.03	\$7.13	
82	1	N65888	220913Y4	03	999	SUI	-	92209	92295	-	-	92303	-	95	\$5.03	\$7.13	
83	6	N65888	221301K5	13	243	SCI	-	92216	92305	-	-	92317	-	102	\$5.03	\$7.13	
84	1	N65888	221494Y4	03	-	SCI	-	92225	92305	-	-	92318	-	94	\$5.03	\$7.13	
85	1	N65888	221495Y4	03	-	SCI	-	92225	92305	-	-	92318	-	94	\$5.03	\$7.13	
86	1	N65888	221821Y4	03	999	SUI	-	92219	92295	-	-	92303	-	85	\$5.03	\$7.13	
87	5	N65888	22239AKK	03	231	SUI	-	92228	92295	-	-	92307	-	80	\$5.03	\$7.13	
88	1	N65888	223920Y4	03	999	SUI	-	92239	92295	-	-	92303	-	65	\$5.03	\$7.13	
89	1	N65888	223921Y4	03	999	SUI	-	92239	92295	-	-	92303	-	65	\$5.03	\$7.13	
90	1	N65888	224148K4	03	254	SUI	-	92241	92295	-	-	92301	-	61	\$5.03	\$7.13	
91	1	N65888	224658Y4	03	999	SUI	-	92246	92295	-	-	92303	-	58	\$5.03	\$7.13	
92	1	N65888	224659Y4	03	999	SUI	-	92246	92295	-	-	92303	-	58	\$5.03	\$7.13	
93	1	N65888	224721Y4	03	999	SUI	-	92247	92295	-	-	92303	-	57	\$5.03	\$7.13	
94	1	N65888	224722Y4	03	999	SUI	-	92247	92295	-	-	92303	-	57	\$5.03	\$7.13	
95	1	N65888	224812Y4	03	999	SUI	-	92248	92295	-	-	92303	-	56	\$5.03	\$7.13	
96	1	N65888	224827Y4	03	999	SUI	-	92248	92295	-	-	92303	-	56	\$5.03	\$7.13	
97	1	N65888	224828Y4	03	999	SUI	-	92248	92295	-	-	92303	-	56	\$5.03	\$7.13	
98	10	N65888	22529AKK	13	283	SCI	-	92259	92305	-	-	92317	-	59	\$5.03	\$7.13	
99	1	N65888	225309Y4	03	999	SUI	-	92253	92295	-	-	92303	-	51	\$5.03	\$7.13	
100	1	N65888	225310Y4	03	999	SUI	-	92253	92295	-	-	92303	-	51	\$5.03	\$7.13	
101	2	N65888	226501K5	13	295	SCI	-	92268	92305	-	-	92317	-	50	\$5.03	\$7.13	
102	2	N65888	226502K5	13	295	SCI	-	92268	92305	-	-	92317	-	50	\$5.03	\$7.13	
103	1	N65888	226648Y4	03	999	SUI	-	92266	92295	-	-	92303	-	38	\$5.03	\$7.13	
104	1	N65888	226649Y4	03	999	SUI	-	92266	92295	-	-	92303	-	38	\$5.03	\$7.13	
105	1	N65888	226698Y4	03	999	SUI	-	92266	92295	-	-	92303	-	38	\$5.03	\$7.13	

DOD - Wide Requisitions Submitted\Shipped FY92  
 NSN 3120-01 - 143-6748

OBS	QTY	RGN	UIC	REQUISITION DOCUMENT	PRI	RDD	SHIP DEPOT	MODE	DLA DOB	DISC TRANS DATE	DATE SHIP	DEPOT PROC DAYS	NADEP TRANS DATE	DLA SHIP DAYS	DOB VS. RECD	DLA TRANS PRICE	NADEP RECD PRICE
106	1	N 65888	226699Y4	03	999	SUI	--	92266	92295	--	92303	--	92303	--	38	\$5.03	\$7.13
107	16	N 68836	22520462	15	283	--	--	92253	--	--	--	--	--	--	--	--	--

**APPENDIX D: NSN 5306-01-135-5549**

Item Name: Rod, Threaded End  
Weapon System: F-18  
Unit of Issue: EA  
ML-N Price: \$128.97 (FY92)      \$154.94 (FY93)

**Manufacturers/Suppliers:**

Company Name: McDonnell Douglas Corporation  
Address: Lambert St Louis International Airport  
P.O. Box 516  
St. Louis, Missouri 63166-0516  
Cage: 76301

**Manufacturers/Suppliers Used FY92-FY93:**

Company Name: Garden Machine Shop Inc  
Address: 975 North Service Road West  
Sullivan, Missouri 63080  
Cage: 18463  
Depot Shipped to: Defense Depot Columbus

Company Name: Indian Aerospace Inc  
Address: 427-A West Fork Drive  
Arlington, Texas 76012-3450  
Cage: 1JX19  
Depot Shipped to: Defense Depot Columbus

**NSN 5306-01-135-5549**

Data includes all requisitions submitted to DLA during FY92

**ALL DOD**

Total QTY RQN:	328
Min Qty:	1
Max Qty:	35
Avg Qty (units):	3.313
IPG I, RDD Freq:	63
Total RQN Freq:	99
SHIP DEPOT	
SUI:	0
SCI:	75
SMI:	0
FLI:	1
MODES	
J:	37
H:	0
5:	15
A:	0
B:	0
Q:	6
N:	0
G:	0
Total RQN Shipped:	58
Percent Shipped:	58.6%

**NADEP NI**

Total QTY RQN:	114
Min Qty:	1
Max Qty:	6
Avg Qty (units):	2.073
IPG I, RDD Freq:	43
Total RQN Freq:	55
SHIP DEPOT *	
SUI:	0
SCI:	54
SMI:	0
FLI:	1
MODES	
J:	28
H:	0
5:	9
A:	0
B:	0
Q:	0
N:	0
G:	0
Total RQN Shipped:	37
Percent Shipped:	67.3%
Average Proc Days DOB to RECD *:	68.164

**PERCENT OF  
TOTAL**

34.76%
68.25%
55.56%

\* Includes FY92 and FY93 information.

DOD - Wide Requisitions Submitted\Shipped FY92  
NSN 5306-01 - 135-5549

OBS	RQN QTY	UIC	REQUISITION DOCUMENT	PRI	RDD	SHIP DEPOT	MODE	DLA DOB	DISC		DEPOT PROC DAYS	DLA SHIP DAYS	DOB VS. RECD	DLA TRANS PRICE	NADEP RECD PRICE
									TRANS DATE	DATE SHIP					
1	10	N00244	22092279	08	-	-	-	92212	-	-	-	-	-	-	-
2	12	N00244	22462204	08	-	-	-	92248	-	-	-	-	-	-	-
3	3	N00421	20130117	07	026	-	-	92015	-	-	-	-	-	-	-
4	1	V03367	13071134	05	N30	SCI	5	91312	-	92234	288	-	-	-	-
5	2	N09030	1336GV73	03	N	-	-	91337	-	-	-	-	-	-	-
6	2	N09030	2111GV56	03	N	SCI	J	92112	-	92232	121	-	-	-	-
7	6	809103	22739718	08	-	-	-	92273	-	-	-	-	-	-	-
8	1	R09111	12840367	06	-	SCI	5	91306	-	92232	292	-	-	-	-
9	2	R09111	1302G565	03	999	-	-	91303	-	-	-	-	-	-	-
10	4	R09111	2104G289	03	-	SCI	5	92105	-	92232	128	-	-	-	-
11	2	R09111	2155G260	03	999	SCI	J	92156	-	92232	77	-	-	-	-
12	2	R09111	2156G203	03	-	SCI	5	92157	-	92232	76	-	-	-	-
13	2	R09111	21772420	03	777	-	-	92182	-	-	-	-	-	-	-
14	2	R09111	2199G339	03	999	SCI	J	92205	-	92232	28	-	-	-	-
15	3	R09111	22210119	06	-	SCI	5	92226	-	92232	7	-	-	-	-
16	1	R09112	13280347	05	355	SCI	J	91352	-	92232	246	-	-	-	-
17	1	V09114	21500490	06	-	SCI	5	92164	-	92234	71	-	-	-	-
18	10	N30929	2105F525C	02	999	SCI	J	92106	-	92232	127	-	-	-	-
19	2	N60200	2021GY65	03	777	-	-	92022	-	-	-	-	-	-	-
20	2	N60200	2079GY88	03	N	SCI	J	92080	-	92232	153	-	-	-	-
21	2	N60200	2100GJ28	02	999	-	-	32100	-	-	-	-	-	-	-
22	2	N60200	2113GZ23	03	N	-	-	32114	-	-	-	-	-	-	-
23	2	N60200	2214GZ21	03	N	-	-	32217	-	-	-	-	-	-	-
24	2	N60495	2247G013	02	999	-	-	92247	-	-	-	-	-	-	-
25	2	N60495	2248G012	02	999	-	-	92248	-	-	-	-	-	-	-
26	2	N60530	2021G132	02	N01	-	-	92022	-	-	-	-	-	-	-
27	4	N62269	12736206	05	283	-	-	91275	-	-	-	-	-	-	-
28	2	N63042	1289GE63	02	999	-	-	91290	-	-	-	-	-	-	-
29	1	N63042	1353GT14	03	N	-	-	91354	-	-	-	-	-	-	-
30	3	N63042	20070184	06	777	SCI	J	92009	-	92232	224	-	-	-	-
31	1	N63042	2062GT10	03	N	-	-	92063	-	-	-	-	-	-	-
32	1	N63042	2111GT12	03	N	-	-	92111	-	-	-	-	-	-	-
33	1	N63042	2123GF11	03	N	SCI	J	92123	-	92232	110	-	-	-	-
34	1	N63042	2149GT15	03	N	SCI	J	92149	-	92232	84	-	-	-	-
35	2	N63042	2197GT14	03	N	-	-	92197	-	-	-	-	-	-	-

DOD - Wide Requisitions Submitted\Shipped FY92  
 NSN 5306-01 - 135-5549

OBS QTY	RQN	UIC	REQUISITION DOCUMENT	PRI	RDD	SHIP DEPOT	MODE	DLA DOB	DISC		DEPOT PROC DAYS	NADEP TRANS DATE	DLA SHIP DAYS	DOB VS. RECD	DLA TRANS PRICE	NADEP RECD PRICE
									TRANS DATE	DATE SHIP						
36	6	N65888	13479PNN	03	-	SCI	5	91347	92231	92233	252	92260	28	279	\$109.81	\$128.97
37	2	N65888	135032Y4	06	362	SCI	5	91351	92231	92233	248	92260	28	276	\$109.81	\$128.97
38	1	N65888	203018Y4	03	037	SCI	J	92030	92231	92232	203	92241	10	212	\$109.81	\$128.97
39	1	N65888	205720Y4	03	063	SCI	J	92057	92231	92232	176	92241	10	185	\$109.81	\$128.97
40	2	N65888	208523Y4	03	092	SCI	J	92085	92231	92232	148	92241	10	157	\$109.81	\$128.97
41	2	N65888	208524Y4	03	092	SCI	J	92085	92231	92232	148	92241	10	157	\$109.81	\$128.97
42	1	N65888	212747Y4	03	999	SCI	5	92128	92231	92233	106	92260	28	133	\$109.81	\$128.97
43	2	N65888	213651Y4	03	999	SCI	J	92136	92231	92232	97	92240	9	105	\$109.81	\$128.97
44	2	N65888	213653Y4	03	999	SCI	J	92136	92231	92232	97	92240	9	105	\$109.81	\$128.97
45	2	N65888	214005Y4	03	999	SCI	J	92141	92231	92232	92	92241	10	101	\$109.81	\$128.97
46	2	N65888	214006Y4	03	999	SCI	J	92141	92231	92232	92	92240	9	100	\$109.81	\$128.97
47	4	N65888	21409DNN	03	-	SCI	5	92141	92231	92233	93	92260	28	120	\$109.81	\$128.97
48	2	N65888	216806Y4	03	999	SCI	J	92168	92231	92232	65	92240	9	73	\$109.81	\$128.97
49	2	N65888	216808Y4	03	999	SCI	5	92168	92231	92232	65	92240	9	73	\$109.81	\$128.97
50	2	N65888	217518Y4	03	999	SCI	J	92178	92231	92232	55	92240	9	63	\$109.81	\$128.97
51	2	N65888	218226Y4	03	999	SCI	J	92183	92231	92232	50	92240	9	58	\$109.81	\$128.97
52	2	N65888	218425Y4	03	999	SCI	J	92188	92231	92232	45	92240	9	53	\$109.81	\$128.97
53	2	N65888	219135Y4	03	999	SCI	J	92191	92231	92232	42	92240	9	50	\$109.81	\$128.97
54	2	N65888	219136Y4	03	999	SCI	J	92191	92231	92232	42	92240	9	50	\$109.81	\$128.97
55	2	N65888	219813Y4	03	999	SCI	J	92199	92231	92232	34	92240	9	42	\$109.81	\$128.97
56	1	N65888	220204Y4	03	999	SCI	J	92203	92231	92232	30	92241	10	39	\$109.81	\$128.97
57	2	N65888	220617Y4	03	999	SCI	J	92206	92231	92232	27	92241	10	36	\$109.81	\$128.97
58	2	N65888	220618Y4	03	999	SCI	J	92206	92231	92232	27	92240	9	35	\$109.81	\$128.97
59	2	N65888	221210Y4	03	999	SCI	J	92212	92231	92232	21	92240	9	29	\$109.81	\$128.97
60	2	N65888	221403Y4	03	-	SCI	5	92225	92231	92233	9	92260	28	36	\$109.81	\$128.97
61	2	N65888	221404Y4	03	-	SCI	5	92225	92231	92233	9	92260	28	36	\$109.81	\$128.97
62	2	N65888	221437Y4	03	-	SCI	5	92225	92231	92233	9	92260	28	36	\$109.81	\$128.97
63	2	N65888	221479Y4	03	-	SCI	5	92225	92231	92233	9	92260	28	36	\$109.81	\$128.97
64	2	N65888	222420Y4	03	999	SCI	J	92225	92231	92232	8	92240	9	16	\$109.81	\$128.97
65	2	N65888	222421Y4	03	999	SCI	J	92225	92231	92232	8	92240	9	16	\$109.81	\$128.97
66	2	N65888	222515Y4	03	999	SCI	J	92226	92231	92233	8	92240	8	15	\$109.81	\$128.97
67	2	N65888	223016Y4	03	999	SCI	J	92231	92232	92233	3	92240	8	10	\$109.81	\$128.97
68	2	N65888	223017Y4	03	999	SCI	J	92231	92232	92233	3	92240	8	10	\$109.81	\$128.97
69	2	N65888	223032Y4	03	999	SCI	J	9223J	92231	92232	3	92240	9	11	\$109.81	\$128.97
70	2	N65888	223322Y4	03	999	SCI	J	92233	92234	92237	5	92240	4	8	\$109.81	\$128.97

DOD - Wide Requisitions Submitted\Shipped FY92  
NSN 5306-01-135-5549

OBS	RQN QTY	UIC	REQUISITION DOCUMENT	PRI	RDD	SHIP DEPT	MODE	DLA DOB	DISC		DEPOT PROC DAYS	DLA SHIP DAYS	DOB VS. RECD	DLA TRANS PRICE	NAEP RECD PRICE
									TRANS DATE	DATE SHIP					
71	2	N 65888	223323Y4A	03	999	FLI	J	92233	92234	92235	3	5	7	\$109.81	\$128.97
72	2	N 65888	223323Y4B	03	999	SCI	J	92233	92234	92238	6	2	7	\$109.81	\$128.97
73	2	N 65888	223721Y4	03	999	SCI	-	92237	92291	-	-	-	71	\$85.50	\$154.94
74	2	N 65888	223916Y4	03	999	SCI	-	92239	92291	-	-	-	62	\$85.50	\$128.97
75	2	N 65888	223917Y4	03	999	SCI	-	92239	92291	-	-	-	69	\$85.50	\$154.94
76	2	N 65888	224113Y4	03	999	SCI	-	92241	92291	-	-	-	63	\$85.50	\$128.94
77	2	N 65888	224114Y4	03	999	SCI	-	92241	92291	-	-	-	63	\$85.50	\$128.94
78	2	N 65888	224404Y4	03	999	SCI	-	92245	92291	-	-	-	59	\$85.50	\$128.94
79	2	N 65888	224405Y5	03	999	SCI	-	92245	92291	-	-	-	59	\$85.50	\$128.94
80	4	N 65888	22469ZNN	03	254	SCI	-	92246	92291	-	-	-	66	\$85.50	\$154.94
81	2	N 65888	224785Y4	03	999	SCI	-	92247	92291	-	-	-	61	\$85.50	\$154.94
82	2	N 65888	224786Y4	03	999	SCI	-	92247	92291	-	-	-	54	\$85.50	\$128.97
83	2	N 65888	224824Y4	03	999	SCI	-	92248	92291	-	-	-	60	\$85.50	\$154.94
84	2	N 65888	224825Y4	03	999	SCI	-	92252	92291	-	-	-	52	\$85.50	\$154.94
85	2	N 65888	225918Y4	03	999	SCI	-	92259	92291	-	-	-	49	\$85.50	\$154.94
86	2	N 65888	225919Y4	03	999	SCI	-	92259	92291	-	-	-	42	\$85.50	\$154.94
87	2	N 65888	226653Y4	03	999	SCI	-	92266	92291	-	-	-	35	\$85.50	\$154.94
88	2	N 65888	226729Y4	03	999	SCI	-	92269	92291	-	-	-	35	\$85.50	\$154.94
89	2	N 65888	226730Y4	03	999	SCI	-	92269	92291	-	-	-	39	\$85.50	\$154.94
90	2	N 65888	226731Y4	03	999	SCI	-	92269	92291	-	-	-	35	\$85.50	\$154.94
91	10	P CN04V	13042288	13	-	-	-	91306	-	-	-	-	-	-	-
92	10	P CN04V	13042289	13	-	-	-	91306	-	-	-	-	-	-	-
93	4	P CN04V	13402007	03	-	SCI	Q	91343	-	92239	262	-	-	-	-
94	4	P CN04V	20152135	03	-	SCI	Q	92016	-	92239	224	-	-	-	-
95	20	P CN04V	20342052	03	-	SCI	Q	92036	-	92234	199	-	-	-	-
96	4	P CN04V	20342135	03	-	SCI	Q	92036	-	92239	204	-	-	-	-
97	25	P CN04V	20352091	13	-	-	-	92037	-	-	-	-	-	-	-
98	4	P CN04V	21001504	03	N02	SCI	Q	92101	-	92239	139	-	-	-	-
99	35	P CN04V	21261568A	03	N02	SCI	Q	92127	-	92233	107	-	-	-	-

**APPENDIX E: NSN 3120-01-131-7640**

Item Name: Bushing, Sleeve  
Weapon System: F-18  
Unit of Issue: EA  
ML-N Price: \$19.80 (FY92) \$58.56 (FY93)

**Manufacturers/Suppliers:**

Company Name: Avalon Machine Products Inc  
Address: 15337 Allen Street  
Paramount, California 90723-4011  
Cage: 23294

Company Name: Reid Products  
Address: 21430 Waalew Road  
Apple Valley, California 92307  
Cage: 59563

Company Name: Mayday Manufacturing Company  
Address: 2400 Justin Road  
P.O. Box 603  
Lewisville, Texas 75067  
Cage: 65910

Company Name: All Power Manufacturing Company  
Address: 13141 Molette Street  
Santa Fe Springs, California 90670-5523  
Cage: 70265

Company Name: McDonnell Douglas Corporation  
Address: Lambert St Louis International Airport  
P.O. Box 516  
St. Louis, Missouri 63166-0516  
Cage: 76301

**Manufacturers/Suppliers Used FY92-FY93:**

Company Name: Engineered Fastener Company  
Address: Industrial Center-Bldg 3  
7300 US Highway 130  
Pennsauken, New Jersey 08110  
Cage: 1U749  
Depot Shipped to: Defense Depot Ogden

**NSN 3120-01-131-7640**

Data includes all requisitions submitted to DLA during FY92.

**ALL DOD**

Total QTY RQN:	75
Min Qty:	1
Max Qty:	33
Avg Qty (units):	2.273
IPG I, RDD Freq:	24
Total RQN Freq:	33
SHIP DEPOT	
SUI:	33
SCI:	0
SMI:	0
FLI:	0
MODES	
J:	5
H:	3
5:	0
A:	0
B:	0
Q:	0
N:	0
G:	0
Total RQN Shipped:	8
Percent Shipped:	24.2%

**NADEP NI**

Total QTY RQN:	40
Min Qty:	1
Max Qty:	4
Avg Qty (units):	1.290
IPG I, RDD Freq:	23
Total RQN Freq:	31
SHIP DEPOT *	
SUI:	31
SCI:	0
SMI:	0
FLI:	0
MODES	
J:	5
H:	3
5:	0
A:	0
B:	0
Q:	0
N:	0
G:	0
Total RQN Shipped:	8
Percent Shipped:	25.8%
Average Proc Days DOB to RECD *:	96.516

**PERCENT OF  
TOTAL**

53.33%
95.83%
93.94%

\* Includes FY92 and FY93 information.

DOD - Wide Requisitions Submitted/Shipped FY92  
NSN 3120-01 - 131 - 7640

OBS	RQN QTY	UIC	REQUISITION DOCUMENT	PRI	RDD	SHIP DEPOT	MODE	DLA DOB	DISC		DEPOT PROC DAYS	NADEP TRANS DATE	DLA SHIP DAYS	DOB VS. RECD	DLA TRANS. PRICE	NADEP RECD PRICE
									DATE	SHIP DATE						
1	33	N00244	22678563	15	298	SUI	-	92272	93012	-	-	-	-	-	\$3.48	-
2	2	N65886	216701P5	03	999	SUI	-	92167	92286	-	-	-	-	-	\$8.03	-
3	1	N65888	204520Y4	03	052	SUI	H	92045	92045	5	92055	7	11	\$19.80	\$19.80	\$19.80
4	1	N65888	205711Y4	03	064	SUI	H	92057	92057	2	92066	9	10	\$19.80	\$19.80	\$19.80
5	2	N65888	207114Y4	03	078	SUI	J	92071	92072	3	92076	4	6	\$19.80	\$19.80	\$19.80
6	1	N65888	210522Y4	06	117	SUI	H	92105	92106	3	92118	12	14	\$13.78	\$19.80	\$19.80
7	2	N65888	211413Y4	03	999	SUI	J	92115	92155	42	92157	2	43	\$55.00	\$19.80	\$19.80
8	2	N65888	212002Y4	03	999	SUI	J	92120	92176	58	92181	5	62	\$55.00	\$19.80	\$19.80
9	1	N65888	212724Y4	03	999	SUI	J	92129	92176	49	92181	5	53	\$55.00	\$19.80	\$19.80
10	1	N65888	212733Y4	03	999	SUI	J	92129	92176	49	92181	5	53	\$55.00	\$19.80	\$19.80
11	1	N65888	213415Y4	03	999	SUI	-	92134	92286	-	92289	-	156	\$8.03	\$58.56	\$58.56
12	1	N65888	213418Y4	03	999	SUI	-	92134	92286	-	92288	-	155	\$8.03	\$58.56	\$58.56
13	4	N65888	21345LNN	03	-	SUI	-	92135	92286	-	92337	-	203	\$8.03	\$58.56	\$58.56
14	1	N65888	213621Y4	03	999	SUI	-	92139	92286	-	92288	-	150	\$8.03	\$58.56	\$58.56
15	1	N65888	213627Y4	03	999	SUI	-	92139	92286	-	92288	-	150	\$8.03	\$58.56	\$58.56
16	4	N65888	21409BNN	03	-	SUI	-	92141	92286	-	92343	-	203	\$8.03	\$58.56	\$58.56
17	1	N65888	214725Y4	03	999	SUI	-	92147	92286	-	92289	-	143	\$8.03	\$58.56	\$58.56
18	1	N65888	214806Y4	03	999	SUI	-	92149	92286	-	92289	-	141	\$8.03	\$58.56	\$58.56
19	1	N65888	216034Y4	03	999	SUI	-	92160	92286	-	92288	-	129	\$8.03	\$58.56	\$58.56
20	1	N65888	216317Y4	03	999	SUI	-	92164	92286	-	92289	-	126	\$8.03	\$58.56	\$58.56
21	1	N65888	216326Y4	03	999	SUI	-	92164	92286	-	92288	-	125	\$8.03	\$58.56	\$58.56
22	1	N65888	218207Y4	03	999	SUI	-	92183	92286	-	92289	-	107	\$8.03	\$58.56	\$58.56
23	1	N65888	218822Y4	03	999	SUI	-	92189	92286	-	92288	-	100	\$8.03	\$58.56	\$58.56
24	1	N65888	218823Y4	03	999	SUI	-	92189	92286	-	92288	-	100	\$8.03	\$58.56	\$58.56
25	1	N65888	220233Y4	03	999	SUI	-	92203	92286	-	92288	-	86	\$8.03	\$58.56	\$58.56
26	1	N65888	220234Y4	03	999	SUI	-	92203	92286	-	92289	-	87	\$8.03	\$58.56	\$58.56
27	1	N65888	220286Y4	03	999	SUI	-	92203	92286	-	92288	-	86	\$8.03	\$58.56	\$58.56
28	1	N65888	221313Y4	03	999	SUI	-	92216	92286	-	92289	-	74	\$8.03	\$58.56	\$58.56
29	1	N65888	221466Y4	03	-	SUI	-	92225	92317	-	92345	-	121	\$8.03	\$58.56	\$58.56
30	1	N65888	221468Y4	03	-	SUI	-	92225	92317	-	92345	-	121	\$8.03	\$58.56	\$58.56
31	1	N65888	221828Y4	03	999	SUI	-	92218	92286	-	92288	-	71	\$8.03	\$58.56	\$58.56
32	1	N65888	222603Y4	03	999	SUI	-	92228	92286	-	92289	-	62	\$8.03	\$58.56	\$58.56
33	1	N65888	224536Y4	03	999	SUI	-	92245	92286	-	92288	-	44	\$8.03	\$58.56	\$58.56

**APPENDIX F: NSN 3120-01-131-6847**

Item Name: Bushing, Sleeve  
Weapon System: F-18  
Unit of Issue: EA  
ML-N Price: \$6.56 (FY92) \$11.46 (FY93)

**Manufacturers/Suppliers:**

Company Name: Avalon Machine Products Inc  
Address: 15337 Allen Street  
Paramount, California 90723-4011  
Cage: 23294

Company Name: Reid Products  
Address: 21430 Waalew Road  
Apple Valley, California 92307  
Cage: 59563

Company Name: Mayday Manufacturing Company  
Address: 2400 Justin Road  
P.O. Box 603  
Lewisville, Texas 75067  
Cage: 65910

Company Name: All Power Manufacturing Company  
Address: 13141 Molette Street  
Santa Fe Springs, California 90670-5523  
Cage: 70265

Company Name: McDonnell Douglas Corporation  
Address: Lambert St Louis International Airport  
P.O. Box 516  
St. Louis, Missouri 63166-0516  
Cage: 76301

**Manufacturers/Suppliers Used FY92-FY93:**

Company Name: Engineered Fastener Company  
Address: Industrial Center-Bldg 3  
7300 US Highway 130  
Pennsauken, New Jersey 08110  
Cage: 1U749  
Depot Shipped to: Defense Depot Ogden

**NSN 3120-01-131-6847**

Data includes all requisitions submitted to DLA during FY92

**ALL DOD**

Total QTY RQN:	81
Min Qty:	1
Max Qty:	35
Avg Qty (units):	3
IPG I, RDD Freq:	16
Total RQN Freq:	27
SHIP DEPOT	
SUI:	27
SCI:	0
SMI:	0
FLI:	0
MODES	
J:	15
H:	4
5:	1
A:	2
B:	1
Q:	0
N:	0
G:	0
Total RQN Shipped:	23
Percent Shipped:	85.2%

**NADEP NI**

Total QTY RQN:	45
Min Qty:	1
Max Qty:	10
Avg Qty (units):	1.8
IPG I, RDD Freq:	16
Total RQN Freq:	25
SHIP DEPOT *	
SUI:	25
SCI:	0
SMI:	0
FLI:	0
MODES	
J:	15
H:	4
5:	0
A:	2
B:	1
Q:	0
N:	0
G:	0
Total RQN Shipped:	22
Percent Shipped:	88.0%
Average Proc Days DOB to RECD *:	38.68

**PERCENT OF  
TOTAL**

55.56%
100.00%
92.59%

\* Includes FY92 and FY93 information

DOD - Wide Requisitions Submitted\Shipped FY92  
 NSN 3120-01 - 131-6847

OBS	RQN QTY	UIC	REQUISITION DOCUMENT	PRI	RDD	SHIP DEPOT	MODE	DLA DOB	DISC		DEPOT PROC DAYS	NADEP TRANS DATE	DLA SHIP DAYS	DOB VS. RECD	DLA TRANS PRICE	NADEP RECD PRICE
									DATE	SHIP DATE						
1	35	N00244	22678560	15	298	SUI	-	92272	93025	-	-	-	-	-	\$1.91	-
2	1	N65888	204522Y4	03	052	SUI	H	92045	92045	92049	5	92055	7	11	\$6.56	\$6.56
3	1	N65888	208324Y4	03	090	SUI	H	92083	92083	92084	2	92090	7	8	\$6.56	\$6.56
4	1	N65888	210523Y4	06	117	SUI	H	92105	92106	92107	3	92118	12	14	\$4.57	\$6.56
5	1	N65888	211301Y4	03	120	SUI	H	92113	92114	92115	3	92120	6	8	\$4.57	\$6.56
6	1	N65888	211412Y4	03	999	SUI	J	92114	92114	92116	3	92118	3	5	\$4.57	\$6.56
7	1	N65888	212723Y4	03	999	SUI	J	92129	92130	92132	4	92133	2	5	\$4.57	\$6.56
8	1	N65888	213416Y4	03	999	SUI	J	92134	92135	92136	3	92139	4	6	\$4.57	\$6.56
9	4	N65888	21359FNN	06	-	SUI	B	92135	92136	92142	8	92157	16	23	\$4.57	\$6.56
10	1	N65888	213680Y4	03	999	SUI	J	92139	92139	92141	3	92142	2	4	\$4.57	\$6.56
11	1	N65888	213685Y4	03	999	SUI	J	92139	92139	92141	3	92142	2	4	\$4.57	\$6.56
12	7	N65888	21409ANNA	06	-	SUI	A	92141	92141	92149	9	92175	27	35	\$4.57	\$6.56
13	3	N65888	21409ANNB	03	-	SUI	A	92141	92210	92213	73	92237	25	97	\$4.40	\$6.56
14	1	N65888	214727Y4	03	999	SUI	J	92147	92210	92211	65	92216	6	70	\$4.40	\$6.56
15	1	N65888	214737Y4	03	999	SUI	J	92147	92210	92211	65	92216	6	70	\$4.40	\$6.56
16	1	N65888	215453Y4	03	999	SUI	J	92154	92210	92211	58	92216	6	63	\$4.40	\$6.56
17	1	N65888	216308Y4	03	999	SUI	J	92164	92210	92211	48	92216	6	53	\$4.40	\$6.56
18	1	N65888	216325Y4	03	999	SUI	J	92164	92210	92211	48	92216	6	53	\$4.40	\$6.56
19	10	N65888	21649TNN	03	-	SUI	-	92164	92210	-	-	92233	-	70	\$4.40	\$6.56
20	1	N65888	216930Y4	03	999	SUI	J	92171	92210	92211	41	92216	6	46	\$4.40	\$6.56
21	1	N65888	217106Y4	03	999	SUI	J	92171	92210	92211	41	92216	6	46	\$4.40	\$6.56
22	1	N65888	220235Y4	03	999	SUI	J	92203	92210	92211	9	92216	6	14	\$4.40	\$6.56
23	1	N65888	220308Y4	03	999	SUI	J	92204	92210	92211	8	92213	3	10	\$4.40	\$6.56
24	1	N65888	220318Y4	03	999	SUI	J	92204	92210	92211	8	92216	6	13	\$4.40	\$6.56
25	1	N65888	221312Y4	03	999	SUI	-	92216	92325	-	-	92332	-	117	\$6.47	\$11.46
26	1	N65888	221467Y4	03	-	SUI	-	92225	92325	-	-	92346	-	122	\$6.47	\$11.46
27	1	P SPT44	20176155	06	-	SUI	5	92042	92043	92048	7	-	-	-	\$6.56	-

**APPENDIX G: UMMIPS CRITERIA FOR USE BY INDUSTRIAL ACTIVITIES**

CRITERIA FOR USE BY INDUSTRIAL ACTIVITIES

<u>UND</u>	<u>DEFINITION</u>
A	<p>(1) Required for <u>immediate</u> use to eliminate an <u>existing</u> work stoppage of a pacing or controlling phase of an overhaul or rework schedule at industrial/production activities manufacturing, modifying, or maintaining ships, aircraft, weapons, or other mission essential equipment. (See Note 1)</p> <p>(2) Required for <u>immediate</u> end use to effect replacement or repair of <u>essential</u> physical facilities of an industrial/production activity, without which the activity is <u>unable</u> to perform assigned missions. (See Note 1)</p> <p>(3) Required for <u>immediate</u> end use to eliminate an <u>existing</u> work stoppage on a production line performing repair and maintenance of unserviceable components for which there are outstanding end use requirements. Applies to Repair Levels ONE and TWO defined in reference (m).</p> <p>(4) Items essential to completion of work on mission essential systems and equipments of the ship, aircraft, etc., being worked on, when supply status received from the supply system indicates that with the priority originally assigned to the specific requirement the items will not be received at the time required by the work schedule, and will cause a work stoppage. When upgrading requisition priority designators in this situation the firm RDD should be indicated.</p> <p>(5) Outfitting Operating Space Items that are designated as critical by the ship's PCO without which the ship will be unable to perform an assigned primary mission as described by reference (i). Fire-fighting equipment is an example. UND A is to be applied to these outfitting requisitions not earlier than sixty days prior to first builder's trials.</p>
B	<p>(1) Required for immediate use to effect replacement or repair of essential physical facilities of an industrial/production activity, without which the capability of the activity to perform assigned mission is <u>impaired</u>.</p>

UND      DEFINITION

- (2) Items required for immediate work on weapons and equipment, without which the operational capability of the aircraft/ship being overhauled, repaired, converted, or constructed is impaired or the effectiveness in accomplishing assigned missions or tasks is reduced.
- (3) Items essential to completion of work on mission essential systems and equipments of the ship, aircraft, etc., being worked on, when due to the nature of the work (open and inspect, urgent voyage repair, etc.) the requirement could not have been planned for, and without which there will be work stoppage within 15 days at CONUS activities or 20 days plus the applicable time from Time Segment F of the time standards in enclosure (5) at overseas activities.
- (4) Non-routine replenishment of NIF Store stock for mission essential materiel when stock on hand is below the stock safety level and supply status on outstanding requisitions indicates that stock due-ins plus stock on hand compared to the expected usage rate will not be sufficient to prevent a work stoppage. Materiel falling within this definition must be essential to the mission of the industrial activity (see paragraph 9 of enclosure (1)) and includes such items as 100 percent replacement items, paint, welding electrodes, and electric motor rewinding wire at shipyards. The quantities ordered when applying this definition should be only the amount required for immediate needs to preclude work stoppage prior to receipt of previously ordered materiel and not a standard reorder quantity.
- (5) Outfitting Storeroom Items (SRI) that are essential to the support of mission essential equipment. UND B is to be applied to SRI requisitions not earlier than thirty days prior to first builder's trials. Outfitting Operating Space Items without which the performance of mission essential equipment would be impaired. UND B is to be applied to Operating Space Items requisitions not earlier than sixty days prior to first builder's trials. Those outfitting Operating Space Items and SRI requisitions which satisfy these criteria and are still outstanding at the above times should be upgraded to UND B at those times.

15 APR 1983

UND      DEFINITION

(6) Required for immediate end use to eliminate an existing work stoppage on a production line performing repair and maintenance of repairable components for which there are no outstanding end use requirements. Applies to Repair Levels THREE and FOUR defined in reference (m).

(7) Outfitting and replenishment requisitions for Q COSAL allowed reactor plant components, equipment, repair parts, special tools, and other materiel required to support reactor plant systems.

C      (1) Required for scheduled maintenance, manufacture, or replacement of all equipment.

(2) Required for replenishment of stock to meet authorized stockage objectives.

(3) Required for purposes not specifically covered by any other UND.

NOTE 1: Requirements of this nature are of such consequence as to require a report to higher authority of a slippage in schedule or degradation of a ship/aircraft mission capability.

## APPENDIX H: COMMON ABBREVIATIONS

DCSC	Defense Construction Supply Center, Columbus, OH
DDRC	Defense Distribution Region Central
DDRE	Defense Distribution Region East
DDRW	Defense Distribution Region West
DESC	Defense Electronic Supply Center, Dayton, OH
DGSC	Defense General Supply Center, Richmond, VA
DISC	Defense Industrial Supply Center, Philadelphia, PA
DLA	Defense Logistics Agency
DMR	Defense Management Review
DMRD	Defense Management Review Decision
FAD	Force/Activity Designator
FISC	Fleet Industrial Supply Center
ICP	Inventory Control Point
IMM	Integrated Materiel Manager
IPG	Issue Priority Group
JCS	Joint Chiefs of Staff
LOGAIR	Logistic Airlift (U.S. Air Force)
NADEP	Naval Aviation Depot
NSN	National Stock Number
PDS	Primary Distribution Site
PRI	Priority
RDD	Required Delivery Date
UMMIPS	Uniform Materiel Movement and Issue Priority System
UND	Urgency of Need

### DLA Shipment Codes:

A	Truckload, Motor
B	Less-Than-Truckload, Motor
G	Surface, Parcel Post
H	Parcel Post/First Class Mail
J	Small Package Carrier
N	LOGAIR
Q	Air Freight, Air Express, Air Charter (Commercial)
5	United Parcel Service

### DLA Depots:

SAI	Susquehanna-Mechanicsburg, PA
SUI	Ogden, UT
SCI	Columbus, OH
SMI	Memphis, TN
FLI	Warner-Robbins AFB

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9. LT Scott R. Thon, SC, USN  
Supply Department  
Naval Submarine Support Facility, New London  
Box 300  
Groton, CT 06349-5300

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