16 MARCH 1988

ADDENDUM

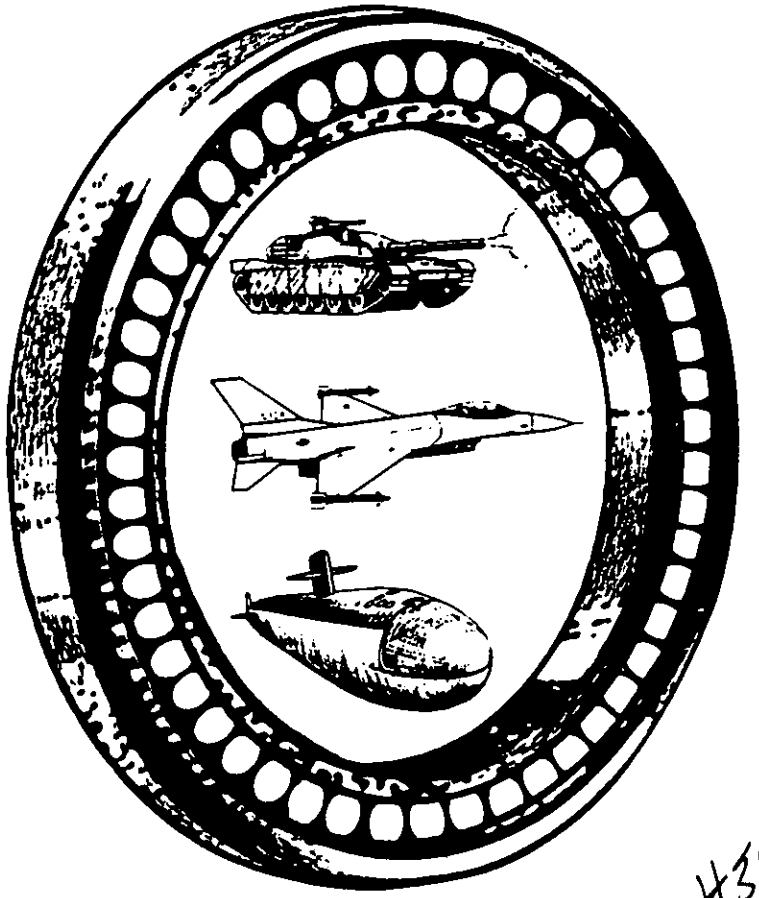
TO

JOINT LOGISTICS COMMANDERS

BEARING STUDY

OF

18 JUNE 1986



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PREPARED BY

THE JOINT BEARING WORKING GROUP

OF

THE JOINT GROUP ON THE INDUSTRIAL BASE

ADDENDUM

TO

JLC BEARING INDUSTRY STUDY OF JUNE 1986

MARCH 1988

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EXECUTIVE SUMMARY

In response to congressional concern over government policies for procurement of ball bearings and how they affect the domestic industry, Deputy Secretary of Defense, William Howard Taft IV, requested the Joint Logistics Commanders (JLC) study the issue with particular emphasis on 30 mm and larger outside diameter bearings. A part of the tasking was to develop a forecast of Department of Defense (DOD) bearing requirements.

The JLC tasked the Joint Group for the Industrial Base (JGIB) to conduct the study and to determine the criticality of the bearing industry to national defense. In response to the JLC request the JGIB established the Joint Bearing Working Group (JBWG) to undertake the study. The JBWG found the domestic bearing industry's ability to support the production of critical weapons systems was dimishing at an alarming rate.

Since it was determined that industry was at risk and that a congressionally mandated suspense of June 30, 1986 had been imposed to answer congressional concerns, the JBWG submitted their findings without having completed the development of the DOD bearing forecast. The critical status of the industry dictated an immediate response be provided to facilitate congressional action. It was further recognized that the recommendations offered were designed to shelter domestic producers from further foreign incursion into the DOD market and to foster capital investment necessary if companies in the industry were to become competitive in the world market.

In the course of their investigation of the ability of domestic bearing producers to support DOD weapons systems it was discovered that the Joint Policy coordinating Group for Depot Maintenance Interservicing (JPCG-DMI) had formed the Joint Bearing Repair Group (JBRG) to establish bearing refurbishment capabilty within the DOD. This effort was undertaken in response to the failure of the bearing industry to adequately support operational requirements and to reduce the cost of this critical component. Clearly this action is in conflict with the recommendations set forth in the JLC bearing study of June 1986.

4. Refurbishment of DOD bearings at both DOD organic and industry facilities relieves operational shortfalls and is cost effective.

Recommendations

1. The Commanders direct that action be taken within their commands to assure the use of both organic and commercially refurbished bearings when applicable.

2. The services direct that appropriate facilities be allocated as repositories for accumulated carcasses identified as refurbishment candidates.

3. The distribution of bearing refurbishment workload be divided as follows:

	Level II		Level IV	Overall Workload	
	Organic	Commercial	Commercial	Organic	Commercial
FY88	14%	86%	-	14%	86%
FY89	14%	86%	100%	6%	94%
FY90	50%	50%	100%	25%	75%
FY91	50%	50%	100%	25%	75%
FY92	100%	As necessary	100%	50%	50%

BACKGROUND

In November 1985, Deputy Secretary of Defense (DEPSECDEF), William H. Taft IV, asked the Joint Logistic Commanders (JLC) to review the Bearing Industry with particular emphasis on the 30 millimeter and above sector. In December of 1985, the JLC tasked the Joint Group on the Industrial Base (JGIB) to undertake the study. The Joint Bearing Working Group (JBWG) was formed to undertake the study and conducted their first meeting in January of 1986.

The Working Group completed most of its work by June of 1986 and reported its findings to the JLC in time to meet the congressionally directed suspense of June 30, 1986. The criticality of the status of the industry dictated that the major conclusion be reported to the commanders as quickly as possible. As a result of this accelerated effort, one element of DEPSECDEF Taft's request was not accomplished. The development of a DOD Bearing Forecast was delayed because the complexity of data gathering would delay reporting the other critical findings. This tasking was intended to provide industry a basis for capital investment strategy necessary to meet DOD Bearing requirements. The JLC continued the JGIB tasking to develop the forecast and the JBWG remained constituted to accomplish the effort. The study team included representatives from each of the services and the Defense Logistics Agency (DLA).

Included in the recommendations offered by the JBWG to the JLC was "the DOD should work with industry to determine the extent of bearing refurbishment and it should decide both DOD and commercial shares of bearing rework." This recommendation stems from DOD's involvement in organic refurbishment developed by the Joint Bearing Repair Group (JBRG) of the Joint Policy Coordination Group, Depot Maintenance Interservicing (JPCG-DMI). This would provide the vehicle by which bearing manufacturers could determine, within their own structure, a practical capital investment plan.

Bearing manufacturers queried for the JLC Bearing Study indicated that one reason for lack of capital investment by companies in the industry was a lack of information on DOD requirements. Without any idea of DOD's annual requirements, manufacturers are not willing to invest in machinery or facilities for which a return could not be accessed. The JGIB responded to this concern by tasking the JBWG to develop a DOD Bearing Forecast.

The JGIB was tasked by the JLC to resolve those policy issues related to conflicting efforts of the JBWG/JGIB and the JBRG/JPCG-DMI. The JGIB tasked the JBWG to address this issue as a separate effort, while continuing the development of a DOD Bearing Forecast.

The JBWG and the JBRG agreed to send a representative to each others meetings. As a result of this exchange of information, a comprehensive approach to the resolution of the seemingly conflicting efforts was developed. An understanding of the goals, capability, and capacity of the organic facilities was necessary to the analysis and calculation of what the DOD/Industry split concerning bearing refurbishment workload should be. This was prefaced with the knowledge that, if companies in the bearing industry were to be protected from unfair foreign competition by government action, then government competition in the lucrative and necessary refurbishment market had to be divided along lines consistent with the critical need for organic facitities to continue to react to operational needs and maintain surge capacity. This conflict had to be resolved in order to accomplish the development of the Bearing Forecast.

would be time consuming, costly, and likely provide only incomplete information. In order to gather such data, each Service would need to task their individual buying commands for this information. The buying commands would have to task the individual program offices and the program offices would have to task their prime contractors, for pertinent data. Neither the prime contractors, nor their subcontractors/vendors use national stock numbers (NSNs) to identify components. Any data provided would be referenced to a company/manufacturer's part number. All such data would need to be entered into an appropriate data base and cross-referenced between NSN/contractor part number in various DOD data bases to be meaningful. Such an effort would require extensive manhours, be extremely costly and provide spotty data, at best. Further, any of these embedded bearings that are replaceable will eventually be broken out and purchased by the logistics support functions of the services. For those reasons, the JBWG decided not to pursue the embedded bearings.

The JBWG concluded that one contractor, Innovative Technology Inc. (ITI), had the requisite capability immediately available under the existing Library of Congress Fedlink contract. ITI had a periodically updated copy of the Defense Logistics Service Center (DLSC) data base contained in their Technical Logistics Reference Network (TLRN). The DLSC data base contains a large portion of DOD purchased bearings from DLA and other data bases. ITI could also provide a broader capability for data sorts, data compilation, and report printouts than was otherwise available in or out of government. For these reasons, ITI was selected as the JBWG's contracted resource.

The JBWG methodology in preparing the DOD Bearing Demand Forecast for 30 mm and over outside diameter (OD) precision bearings is explained below. ITI was tasked to provide a printout of all items in the TLRN data base sorted on the noun "bearing". This resulted in a list of over 94,000 NSNs/line items. The JBWG reviewed this data and concluded that this was an unmanageable quantity. The JBWG tasked ITI to eliminate those bearings in the 3120 (airframe) and 3130 (flanged, mostly instrument) federal stock classes and to provide data on

BEARING HISTORICAL AND PROJECTED DEMAND DATA

---

1. NAVY MANAGED AT N39

   MILITARY SEALIFT COMMAND
   WASHINGTON, DC 20390

2. BEARING NSN: 4410-00-871-6017

3. ITEM NAME: BEARING SET,SOOT

4. DEMAND HISTORY BY QUARTER (____)(____)(____)(____)

5. PROJECTED DEMANDS NEXT 4 (FOUR) QUARTERS(____)(____)(____)(____)

6. PROJECTED DEMANDS FOLLOWING 4 (FOUR) YEARS(____)(____)(____)(____)

7. OVERALL OUTSIDE DIAMETER_____INCHES OR_____MILLIMETERS

8. STANDARD TOLERANCE DESIGNATION (ABEC, REBEC, OR AFBMA)_____

9. LEAD TIME LAST ORDER_____

10. QUANTITY SERVICEABLE ON HAND_____

11. QUANTITY CURRENTLY ON ORDER_____

12. CURRENT ORDER SUPPLIERS CAGE_____

13. CURRENT ORDER DUE DATE (DD/MM/YY)_____

Exhibit I

Questionnaire

Naval Plant Representative Office (Navpro).

The requested data worksheets were returned directely to ITI. The Working Group representatives from each Service, DLA and JDMAG then screened the listings to eliminate items such as tooling and gauges. Review of the data showed that only about 20% of the listed bearings had dimensional characteristics (i.e., outer diameter and tolerance) entered in the data base. Such information would be found in end item technical data packages, field and depot level parts manuals, and engineering drawings. This information is not consistently reported for insertion in the DLSC data base. To identify as closely as possible those NSNs that met the outside diameter and standard tolerance designation required, all identified NSNs with an outside diameter of less than 30 mm were eliminated. ITI upon receiving all replies from the Services matches the following additional data to each NSN:

Maajor Organizational Entity (MOE) rule code
Nonconsumable Item Material Support Code (NIMSC)
Service (SVC) Code
Item Management Code (IMC)
Management Control Data (MCD)
Source of Supply (SOS) code
Repair Code
Unit Price
All CAGEC and Logistics Reference Number (LRN) combinations which could possibly supply the referenced NSN
Sum the last four quarters of demand data as provided by the Services on the completed forms

All of the data was combined (See exhibit II for complete record layout) and placed onto 5 1/4 magnetic disks and given to JDMAG for data manipulation for the reports within this study. ITI then provided JDMAG with the compiled data for further sorting.

The DOD Demand Forecast (Appendix A) contains the following information:

DOD Stock Number - National Stock Number

Logistics Reference Number - Manufacturers Identification Number

CAGEC - Commercial and Government Entity Code

User Codes - The first position identifies the Service using the NSN. (See Appendix C for explanation). The remaining positions are used to further identify specific using commands within that service.

Management Code - Identifies the Service supply point responsible for maintaining supply stock levels. (See Appendix C for explanation).

FY 87 Demand Hist - Fiscal year 1987 Demand History for that NSN.

FY 88 thru 92 Projected Dem Hist - Fiscal years 1988 thru 1992 Projected Demands for that NSN.

The listing shows a separate line for each qualified bearing supplier (CAGE). Demand is shown only for the most recent supplier.

DOD/INDUSTRY SPLIT

The JBWG determined in the JLC Bearing Study published in June of 1986, that there would be a shortfall of DOD manpower during the first month of surge at maximum Level II rework for those bearings that DOD has determined mission critical. The rework of any additional bearings would have to be accomplished by the commercial sector. Therefore, industry as well as DOD must have a minimum workload to maintain skills and for industry to operate economically. In previous years industry had not expressed an interest in bearing refurbishment. Recently concern was expressed about the DOD being in competition with the commercial sector for the Bearing Refurbishment Market. For this reason, a DOD/Industry split for bearing refurbishment had to be determined.

The Joint Bearing Working Group (JBWG) requested Joint Bearing Repair Group (JBRG) assistance to define a population of bearings for potential commercial rework by the U.S. bearing industry. Due to the extensive quantities and types of bearings in use within the Department of Defense (DOD) and the uncertain commercial bearing rework capabilities it was agreed that the initial target population should include all bearings beyond the planned capabilities of a fully implemented organic DOD bearing repair program.

Responding to the request, the JBRG identified a list of 521 National Stock Numbers (NSNs) (Appendix B), which represents each services' planned organic bearing repair candidates. The list will be updated by each service, as needed. The Decision Tree (Exhibit 3) will be one of the methods used to revise organic bearing refurbishment requirements and maintain full usage of the organic rework capabilities.

The following parameters were provided to the JBWG for initial consideration of bearings for rework by bearing manufacturers:

a) Bearings over 12.5 inches outside diameter
b) Cannot be a "noise quite" bearing

The JLC Bearing Report determined the industry to be in a critical state, as a result of foreign competition and recommended measures to protect the Industry from competition. This would allow companies in the industry to rebuild and once again become competitive in the world market and remove this threat to national security.

The obvious conflict of defining and protecting the DOD market and creating a DOD element in direct competition with the private sector had to be resolved.

In order to better analyze the impact of DOD refurbishment on the private sector recovery, the JBRG provided the list of National Stock Numbers for bearings that have been identified as candidates for refurbishment by DOD in Appendix B. It is important to note that, while this accounting is very precise, it is also very dynamic. As work continues, the identification of bearings and the changing circumstances within DOD dictate that specific bearings are no longer in short supply. Therefore this list is constantly being revised. The list, however, is not the only criteria which helps identify what the DOD/Industry refurbishment split should be. The JBRG also established general parameters which are to be considered as qualifying elements of DOD capabilities. DOD refurbishment concerns itself with only Level I and Level II refurbishment. The levels of refurbishment are described as follows:

Level I: Processing: Cleaning, minor metal cleanup of nonactive surfaces, visual and dimensional inspection and lubrication.

Level II: Refurbishment: All of the Level I operations and the following additional operations:

1. Interchange of components of the same part number and manufacturer
2. Replace rolling elements
3. Repair/replace retainer
4. Grind and replate oversize/undersize mounting surfaces
5. Hone raceways of the inner/outer rings

not meet the DOD criteria to be considered a repairable candidate. The services rework facilities will have sufficient capability to rework all of those bearings which can be separated and are smaller than 12.5 inch O.D., once they receive all the support equipment they have on order. Currently, the services are reworking about 3600 bearings per year. This quantity is limited due to the lack of instructions to the field units, directing that all unserviceable bearings be returned to a rework facility. This combined with no rework procedures is the main reason for the low quantity of bearings currently being reworked. Based on planned delivery of support equipment, rework facilities will reach full planned capability in the 1990-1992 time time period. Until that time, unserviceable bearings could be shipped to a commercial activity for Level II/IV rework. The savings to be realized by having bearings reworked by a commercial activity would be less than that realized by rework through the organic rework facilities. However, an additional savings could be realized by having the commercial acitivites accomplish a Level IV effort along with the Level II. Optimistically stating another 11%, or 28,500 bearings could be returned to service through a Level IV effort. The savings realized through a Level II and IV effort would equal or be higher than just the organic effort. The following provides rationale for above statements:

A current Level II rework workload split between the organic facilities and commercial activities (3600 and a potential 24,900) would equate to a 14/86 percent split. These percentage figures would change as the organic capability increases.

	Level II Organic	Level II Commercial	Level IV Commercial	Organic/Commercial Overall Workload %
FY 88	3600 (14%)	24900 (86%)		14/86%
FY 89	3600 (14%)	24900 (86%)	28500 (100%)	6/94%
FY 90	14250 (50%)	14250 (50%)	28500 (100%)	25/75%
FY 91	14250 (50%)	14250 (50%)	28500 (100%)	25/75%
FY 92	28500 (100%)		28500 (100%)	50/50%

Organic rework cost $100 per bearing (Level II)

versus

Est Commercial rework cost 3/5 the price of the bearing (Level II)
Est Commercial rework cost 4/5 the price of the bearing (Level IV)

The organic effort could only return about 28,500 to service while the commercial effort could return about 57,000 to service. The dollar value of each of these efforts would be dependent on the cost of bearings being reworked. Data on the recovery of bearings at Level I and II, however, provides some insight to the potential of refurbishment to relieve operational shortfalls. All bearings are inspected at Level I (100%), however 30% fail and become Level II candidates. Of this 30% only 11% of these were salvaged by a Level II rework action.

There is a commercial bearing refurbishment facility used by the Air Force and the savings realized by that effort differs from that of the organic effort. Their effort only allows a savings of about 40% over the cost of new bearings. This is not a true level II or level IV process but a combination process approved by the Federal Aviation Administration (FAA).

A DOD Industry split accures advantages to both elements of this critical industrial base. DOD would not only have access to additional sources for bearings to support operational requirements, but would contribute to the establishment of a healthy and viable surge capability. The potential savings in the cost of new bearings could (exhibit IV) easily offset the cost of maintaining the DOD refurbishment effort. On the other hand, U.S. companies that make up the private sector would have a new market open to them. This would provide an opportunity to comply with several of the recommendations developed in the June 86 JLC precision bearing study.

Private sector development of refurbishment capacity could contribute to maintaining a more fully employed workforce and develop critical skills

REFURBISHMENT CONCLUSIONS

- A well defined bearing refurbishment capability between DOD and industry is necessary to the support of operational needs.

- Organic facilities address a critical need in DOD.

- The private sector represents a largely untapped resource in bearirg refurbishment.

- The willingness of the private sector to provide bearing refurbishment could provide a means to maintain capacity and capability.

- The combination of DOD and industry in the area of refurbishment provides relief for operational shortfalls and lends itself to maintaining surge capacity.

- The combination of DOD and industry in the area of refurbishment is cost effective.

APPENDIX A

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DEPARTMENT OF DEFENSE DEMAND FORECAST - DEPARTMENT OF THE ARMY

BEARINGS (Additions to Appendix A March 1988 Addendum to JLC Bearing Industry Study of June 1986

U.S. ARMY TROOP SUPPORT COMMAND (TROSCOM)
A12

DOD STOCK NO.	LOG. REF NO.	CAGEC	MGR CODE	87 HIST	88	89	90 PROJECTED	91	92
2915-00-328-2922	RA11067		A12	8	4	8	8	8	8
3110-00-445-0591	26450530	6X016	"	1	100	50	50	150	50
3110-00-596-3415	40-0012306		"	40	16	4	4	4	4
3110-00-603-5013	A5949A		"	0	0	0	0	0	0
3110-00-603-5013	1008085M1		"	Included in above					
3110-01-121-0768	513279		"	0	1	1	1	1	1
3110-01-121-0773	506617		"	10	12	12	12	12	12
3110-01-122-3548	9514-205-000	K1076	"	6	8	8	8	8	8
3110-01-124-1053	6220-694	U2751	"	5	5	4	4	4	4
3110-01-124-1054	NC2-26	U2751	"	7	8	6	7	6	7
3110-01-127-2321	3207L-RIA	43334	"	6	6	6	6	6	6
3110-01-127-7379	50BC03JP3	50706	"	10	14	25	25	25	25
3110-01-127-7380	35BC02XP3	50706	"	8	40	50	50	50	50
3110-01-127-4432	9514-202-00C	K1076	"	7	7	7	7	7	7
3110-01-130-1444	309	05472	"	4	0	0	0	0	0
3110-01-130-2086	1909B80	38443	"	16	16	16	16	16	16
3110-01-135-0069	MR208D80	38443	"	4	4	4	4	4	4
3110-01-135-0069	23003991	63005	"	Included in above					
3110-01-135-5890	309580	38443	"	3	6	6	6	6	6
3110-01-135-5892	J3216	60380	"	3	3	3	3	3	3
3110-01-135-5940	LL641110	K1294	"	0	1	4	4	4	4
3110-01-135-5952	U1017E	K1294	"	0	0	0	0	0	0
3110-01-142-0992	2939227	24617	A12	2	2	0	1	0	1
3110-01-157-5382	KS6020-9	81100	"	1	1	1	1	1	1
3110-01-157-5383	KS1385WDU-17	81100	"	2	2	2	2	2	2
3110-01-157-5407	1642497	79500	"	0	0	0	0	0	0
3110-01-159-4435	907045	72582	"	1	0	1	1	1	1
3110-01-170-5285	1279214	79500	"	1	1	0	0	0	0

DEPARTMENT OF DEFENSE DEMAND FORECAST - DEPARTMENT OF THE ARMY

BEARINGS (Additions to Appendix A March 1988 Addendum to JLC Bearing Industry Study of June 1986

U.S. ARMY TROOP SUPPORT COMMAND (TROSCOM)
A12

DOD STOCK NO.	LOG. REF NO.	CAGEC	MGR CODE	87 HIST	88	89	90 PROJECTED	91	92
3110-01-232-7728	8536-1020	63829	"	Included in above					
3110-01-232-9559	101648-1	51913	"	0	5	5	17	37	39
3110-01-233-8306	176-389-002	66238	"	0	0	0	0	0	0
3110-01-235-7887	28017	70142	"	0	0	1	1	1	1
3110-01-235-7887	4X730	25795	"	Included in above					
3110-01-239-8513	6.0320.04.0.6206	76558	"	0	0	0	0	0	0
3110-01-242-9204	00403	63437	"	0	0	0	0	0	0
6115-01-232-9556	101641-1	51913	"	0	4	4	14	28	34

USA MUNITIONS AND CHEMICAL COMMAND (AMCCOM)
B14

1005-01-095-6792			B14	30	30	30	30	30	30
1025-01-064-9679			"	1	1	1	1	1	1
1220-01-018-9981			"	7	7	7	7	7	7

USA MISSILE COMMAND (MICOM)
B64

3110-00-124-1341			B64	Unknown					
3110-00-133-6731			"	"					
3110-00-306-9205			"	"					
3110-00-340-1075			"	"					
3110-00-341-4955			"	"					
3110-00-388-9650			"	"					
3110-00-447-3663			"	"					

DEPARTMENT OF DEFENSE DEMAND FORECAST - DEPARTMENT OF THE ARMY

USA MISSILE COMMAND (MICOM)
B64

DOD STOCK NO.	LOG. REF NO.	CAGEC	MGR CODE	87 HIST	88	89	90 PROJECTED	91	92
3110-14-201-6860			B64	0	0	0	0	0	0
3110-14-213-5618			"	0	0	0	0	0	0
3110-14-213-5621			"	0	0	0	0	0	0
3110-14-224-1483			"	0	0	0	0	0	0
3110-14-231-6739			"	0	0	0	0	0	0
3110-14-227-7270			"	0	0	0	0	0	0
3110-14-365-1246			"	0	0	0	0	0	0
3110-14-367-3778			"	0	0	0	0	0	0
6920-00-015-6381			"	0	0	0	0	0	0
6920-00-015-9825			"	0	0	0	0	0	0

USA TANK AND AUTOMOTIVE COMMAND (TACOM)
AKZ

DOD STOCK NO.	LOG. REF NO.	CAGEC	MGR CODE	87 HIST	88	89	90 PROJECTED	91	92
2520-00-757-1953			AKZ	18	8	8	8	8	8
2520-00-769-0822		(NDH)	"	2,485	3,210	3,215	3,214	3,170	2,495
2520-00-918-9609			"	41	41	41	41	41	41
2520-01-031-9330			"	2	2	2	2	2	2
2520-01-073-7741			"	72	81	90	90	90	90
2530-00-225-0681			"	1	6	0	0	0	0
2530-00-337-7055			"	2	2	2	1	0	0
2590-00-763-2399			"	10	8	2	2	2	2
2590-00-763-2417			"	1	0	0	0	0	0
2590-00-912-3378			"	0	13	0	0	0	0
2590-00-948-0552			"	245	187	177	177	177	177
2590-00-999-7884			"	11	11	11	11	11	11

DEPARTMENT OF DEFENSE DEMAND FORECAST - DEPARTMENT OF THE ARMY

USA TANK AND AUTOMOTIVE COMMAND (TACOM)
AKZ

DOD STOCK NO.	LOG. REF NO.	CAGEC	MGR CODE	87 HIST	88	89	90 PROJECTED	91	92
3110-01-041-5083			AKZ	128	116	96	90	84	78
3110-01-044-8355			"	2,656	1,504	1,097	743	634	621
3110-01-049-4829			"	84	336	336	336	168	168
3110-01-049-8677			"	14	14	14	14	14	14
3110-01-061-7483			"	248	256	264	264	264	264
3110-01-069-6878			"	2,304	2,376	1,802	1,802	900	450
3110-01-069-8837			"	2,196	2,424	2,425	2,425	2,425	2,425
3110-01-072-9964			"	276	693	658	833	907	993
3110-01-072-9965			"	8	33	39	38	40	36
3110-01-073-0735		21335	"	328	573	500	779	852	933
3110-01-074-3600		70854	"	578	1,113	1,437	1,608	1,746	1,839
3110-01-074-8281			"	0	0	0	0	0	0
3110-01-074-8291		73342	"	68	83	15	14	13	47
3110-01-075-7824			"	236	248	247	247	247	247
3110-01-075-7966		19207	"	114	124	124	124	124	124
3110-01-076-4188		19207	"	10	10	10	10	10	10
3110-01-077-7953		21335	"	11,388	5,988	5,988	8,556	9,624	10,548
3110-01-078-6004		21335	"	1,575	1,944	2,592	2,874	3,120	3,264
3110-01-080-3237			"	70	78	78	78	78	78
3110-01-080-9045		43334	"	2	143	156	183	186	19
3110-01-083-3919			"	0	0	0	0	0	0
3110-01-084-1378		43334	"	5	71	76	65	63	56
3110-01-086-6866			"	0	0	0	0	0	0
3110-01-087-6930		20418	"	168	260	260	260	260	260
3110-01-089-1618		73342	"	21	81	88	73	69	63
3110-01-089-1621			"	92	98	112	112	112	112
3110-01-089-2999		43334	"	22	109	128	140	140	140
3110-01-089-3000		43334	"	18	68	73	59	57	52
3110-01-089-9214		43334	"	240	230	96	98	98	98
3110-01-089-9832		21335	"	411	573	669	747	807	852

DEPARTMENT OF DEFENSE DEMAND FORECAST - DEPARTMENT OF THE ARMY

USA TANK AND AUTOMOTIVE COMMAND (TACOM)
AKZ

DOD STOCK NO.	LOG. REF NO.	CAGEC	MGR CODE	87 HIST	88	89	90 PROJECTED	91	92
3110-01-128-5576			"	11	7	8	4	8	4
3110-01-130-6154			"	92	30	36	41	31	23
3110-01-131-0224			"	80	84	84	84	84	84
3110-01-136-1093			"	10	19	22	27	32	41
3110-01-136-4099		97993	"	5	8	10	12	13	15
3110-01-136-4853			"	120	77	93	118	131	145
3110-01-136-7694		21335	"	9	10	18	19	21	22
3110-01-136-7695		43334	"	12	16	21	18	22	20
3110-01-138-1365		43334	"	12	16	21	18	22	20
3110-01-140-4337			"	7	7	7	7	7	7
3110-01-141-0932		21335	"	0	1	0	1	0	1
3110-01-141-9328		32828	"	0	1	0	1	0	1
3110-01-143-2258		43334	"	5	6	4	5	7	8
3110-01-147-9926		73342	"	0	0	0	0	0	0
3110-01-151-6245		19832	"	272	767	974	1184	1332	1550
3110-01-157-9001		43334	"	4	0	8	8	8	8
3110-01-158-3127			"	138	157	61	41	34	44
3110-01-158-7178		43334	"	164	106	137	156	161	151
3110-01-159-1828			"	21	94	30	30	30	30
3110-01-161-2132		21335	"	423	444	567	627	639	720
3110-01-163-4909			"	48	48	48	48	48	48
3110-01-165-4588		53465	"	10	11	20	25	26	25
3110-01-165-4589		53465	"	0	1	3	5	5	5
3110-01-165-4590			"	10	54	58	60	64	64
3110-01-165-4592		53465	"	8	9	20	27	26	27
3110-01-165-4593		53465	"	8	9	20	25	26	25
3110-01-166-5649			"	49	94	116	136	156	170
3110-01-166-5667			"	32	32	32	32	32	32
3110-01-167-1815		53465	"	4	4	7	12	13	12
3110-01-167-1816		53465	"	4	4	7	12	13	12

DEPARTMENT OF DEFENSE DEMAND FORECAST - DEPARTMENT OF THE ARMY

USA TANK AND AUTOMOTIVE COMMAND (TACOM)
AKZ

DOD STOCK NO.	LOG. REF NO.	CAGEC	MGR CODE	87 HIST	88	89	90 PROJECTED	91	92
3110-01-179-4251			"	99	99	312	300	300	300
3110-01-179-4202			"	51	51	624	144	144	144
3110-01-179-4203			"	0	24	36	36	36	36
3110-01-179-7555			"	42	42	132	108	132	132
3110-01-179-7556		19207	"	0	0	0	0	1	1
3110-01-179-7558			"	0	16	16	16	16	16
3110-01-180-8621		S3465		1	1	2	3	3	3
3110-01-183-8373			"	0	0	0	0	0	0
3110-01-184-1903		S3465	"	1	2	3	5	5	5
3110-01-184-1904		S3465	"	2	4	6	11	11	11
3110-01-184-1904		52676	"	Included in above					
3110-01-185-3114			"	44	25	105	127	128	128
3110-01-185-5777			"	36	36	36	36	36	36
3110-01-189-6440				60	257	49	138	89	40
3110-01-199-5469		73342	"	10	69	72	73	74	74
3110-01-201-3743		38443	"	4	4	4	4	4	4
3110-01-214-8875		43334	"	8	22	32	35	31	32
3110-01-215-0564			"	56	91	90	92	90	91
3110-01-217-1104		9G068	"	52	74	96	88	96	87
3110-01-217-1105		21335	"	52	74	96	88	96	87
3110-01-241-2467			"	244	244	244	244	244	244
3110-01-241-5863			"	0	8	8	10	10	16

APPENDIX B

BEARING REFURBISHMENT CANDIDATE LIST BY SERVICE

SERVICE.....	NSN.....	ENGINE.....	POSITION.....
A/F	3110-00-408-7949		
A/F	3110-00-408-7955		
A/F	3110-00-868-2742		
A/F	3110-00-277-0899		
A/F	3110-00-904-0108		
A/F	3110-00-839-7606		
A/F	3110-00-032-6540		
A/F	3110-00-293-9192		
A/F	3110-00-864-9269		
A/F	3110-01-012-9141		
A/F	3110-00-181-2643		
A/F	3110-00-103-7244		
A/E	3110-00-345-6018		
A/F	3110-00-554-8388		
A/F	3110-00-317-6291		
A/F	3110-00-305-3566		
A/F	3110-00-272-7631		
A/F	3110-00-865-5146		
A/F	3110-00-349-6890		
A/F	3110-00-180-7716		
A/F	3110-00-864-9404		
A/F	3110-00-679-8933		
A/F	3110-00-436-0516		
A/F	3110-00-904-6171		
A/F	3110-00-839-7339		
A/F	3110-00-412-0252		
A/F	3110-00-865-5149		
A/F	3110-00-720-2499		
A/F	3110-00-720-2580		
A/F	3110-01-080-6656		
A/F	3110-00-346-7148		
A/F	3110-01-090-3176		
A/F	3110-00-585-1908		
A/F	3110-00-860-6901		
A/F	3110-00-079-1229		
A/F	3110-00-891-5204		
A/F	3110-00-404-9640		
A/F	3110-00-345-6121		
A/F	3110-01-037-5175		
A/F	3110-01-022-3118		
A/F	3110-00-500-3239		
A/F	3110-00-107-1757		
A/F	3110-00-162-8690		
A/F	3110-00-121-9798		
A/F	3110-00-345-6077		
A/F	3110-00-416-9423		
A/F	3110-00-078-0035		

BEARING REFURBISHMENT CANDIDATE LIST BY SERVICE

SERVICE.....	NSN.....	ENGINE.....	POSITION.....
A/F	3110-00-293-9191		
A/F	3110-01-064-2931		
A/F	3110-01-061-3017		
A/F	3110-00-250-0047		
A/F	3110-01-064-2932		
A/F	3110-01-165-1646		
A/F	3110-01-011-0641		
A/F	3110-01-140-4572		
A/F	3110-00-105-5246		
A/F	3110-00-943-3345		
A/F	3110-00-858-2665		
A/F	3110-00-534-3372		
A/F	3110-00-515-1509		
A/F	3110-00-842-5008		
A/F	3110-00-941-0941		
A/F	3110-00-865-5147		
A/F	3110-00-133-6780		
A/F	3110-00-838-3922		
A/F	3110-00-509-1987		
A/F	3110-01-075-5925		
A/F	3110-01-088-0804		
A/F	3110-00-837-3446		
A/F	3110-00-930-0387		
A/F	3110-00-930-0386		
A/F	3110-01-038-9657		
A/F	3110-00-236-7521		
A/F	3110-00-941-0943		
A/F	3110-00-105-5247		
A/F	3110-00-860-7094		
A/F	3110-01-038-9418		
A/F	3110-01-206-0623		
A/F	3110-01-189-2803		
A/F	3110-01-120-3335		
A/F	3110-01-011-1003		
A/F	3110-01-061-3018		
A/F	3110-00-197-3828		
A/F	3110-00-152-8688		
A/F	3110-00-182-8698		
A/F	3110-01-123-5361		
A/F	3110-00-369-6789		

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ARMY	3110-01-116-4181		
ARMY	3110-00-946-5245		
ARMY	3110-01-185-3073		
ARMY	3110-01-185-3074		

BEARING REFURBISHMENT CANDIDATE LIST BY SERVICE

SERVICE.....	NSN.....	ENGINE.....	POSITION.....
ARMY	3110-00-446-6386		
ARMY	3110-01-164-8447		
ARMY	3110-01-015-8831		
ARMY	3110-00-598-0796		
ARMY	3110-01-033-8647		
ARMY	3110-01-096-5634		
ARMY	3110-00-524-4569		
ARMY	3110-00-727-3032		
ARMY	3110-00-110-4271		
ARMY	3110-00-198-1978		
ARMY	3110-01-138-7075		
ARMY	3110-00-406-1538		
ARMY	3110-00-227-3073		
ARMY	3110-00-455-6168		
ARMY	3110-01-172-8021		
ARMY	3110-00-455-6179		
ARMY	3110-00-841-1142		
ARMY	3110-00-855-9236		
ARMY	3110-00-065-0048		
ARMY	3110-00-179-7349		
ARMY	3110-00-018-9654		
ARMY	3110-00-898-9692		
ARMY	3110-00-621-5243		
ARMY	3110-00-179-7348		
ARMY	3110-00-133-6452		
ARMY	3110-01-011-2093		
ARMY	3110-01-164-8448		
ARMY	3110-01-164-2025		
ARMY	3110-00-788-8376		
ARMY	3110-00-871-6681		
ARMY	3110-00-179-7399		
ARMY	3110-01-172-6213		
ARMY	3110-00-838-7064		
ARMY	3110-00-937-1182		
ARMY	3110-00-141-3750		
ARMY	3110-00-923-7264		
ARMY	3110-01-184-7527		
ARMY	3110-01-164-3919		
ARMY	3110-01-089-4208		
ARMY	3110-00-116-5534		
ARMY	3110-01-170-2911		
ARMY	3110-01-163-4606		
ARMY	3110-00-488-1365		
ARMY	3110-00-133-3379		
ARMY	3110-01-164-6736		
ARMY	3110-01-111-5584		
ARMY	3110-00-135-0560		

BEARING REFURBISHMENT CANDIDATE LIST BY SERVICE

SERVICE.....	NSN.....	ENGINE.....	POSITION.....
NAVY	3110-01-111-5969	TF34	#6
NAVY	3110-00-264-1187	TF30	#5
NAVY	3110-01-125-6882	H53	MAIN GEARBOX
NAVY	3110-01-034-1491	T58	#5
NAVY	3110-00-945-0468	H53	
NAVY	3110-01-143-9924	TF30	#3
NAVY	3110-01-129-3442	F404	#4
NAVY	3110-00-948-6085	H3	
NAVY	3110-00-078-5676	T56	PROP SHAFT
NAVY	3110-00-125-5374	J52	#5
NAVY	3110-00-107-1881	T58	#3
NAVY	3110-00-123-6419	TF34	#1
NAVY	3110-00-178-0183	T56	PINION, REAR
NAVY	3110-01-047-1089	J52	#4 1/2
NAVY	3110-00-915-7921	J52	#4
NAVY	3110-01-158-1701	F404	#5
NAVY	3110-00-919-5040	H46	TRANSMISSION
NAVY	3110-00-729-6500	T56	OIL PUMP
NAVY	3110-01-146-8173	H53	
NAVY	3110-00-440-3915	J79	GEARBOX
NAVY	3110-01-090-8008	TF34	#5
NAVY	3110-00-913-6114	J52	#6
NAVY	3110-01-095-2607	T64	DIFFERENTAL, AFT
NAVY	3110-01-090-8007	TF34	#7
NAVY	3110-00-082-8234	H53	
NAVY	3110-01-088-4445	TF34	#2
NAVY	3110-00-841-6309	TF30	#3
NAVY	3110-01-135-1245	H53	
NAVY	3110-00-332-9096	TF41	
NAVY	3110-00-922-8758	T56	TURBINE, REAR
NAVY	3110-00-293-9174	J79	#3 I.R.
NAVY	3110-00-593-2288	T58	#2
NAVY	3110-01-029-8624	T64	DIFFERENTAL, FWD
NAVY	3110-01-096-5048	TF34	#4
NAVY	3110-00-571-9414	T58	#4
NAVY	3110-00-916-8069	H46	TRANSMISSION
NAVY	3110-00-097-6142	J79	#1 O.R.
NAVY	3110-01-135-8691	TF34	#3
NAVY	3110-00-740-1112	J52	#1
NAVY	3110-01-135-1244	H53	
NAVY	3110-01-158-1700	F404	#2
NAVY	3110-00-425-1837	T64	#2
NAVY	3110-00-078-5670	T56	IDLER, FWD
NAVY	3110-00-044-2344	T56	
NAVY	3110-00-536-5025	T58	#3
NAVY	3110-00-732-0507	T58	#1
NAVY	3110-01-020-2048	T64	#3

BEARING REFURBISHMENT CANDIDATE LIST BY SERVICE

SERVICE.....	NSN.....	ENGINE.....	POSITION.....
NAVY	3110-01-028-7209	T56	
NAVY	3110-01-158-1702	F404	ACCESS GEARBOX
NAVY	3110-01-135-8693	H53	MAIN GEARBOX
NAVY	3110-00-919-9963	H46	DRIVE SHAFT
NAVY	3110-01-158-1703	F404	ACCESS GEARBOX
NAVY	3110-00-870-5335	T64	ACCESS GEARBOX
NAVY	3110-01-158-1705	F404	ACCESS GEARBOX
NAVY	3110-00-870-5332	T64	ACCESS GEARBOX
NAVY	3110-01-046-2087	TF34	ACCESS GEARBOX
NAVY	3110-01-044-9651	TF34	ACCESS GEARBOX
NAVY	3110-01-044-3115	TF34	ACCESS GEARBOX
NAVY	3110-00-269-2152	T64	#2
NAVY	3110-00-870-5271	T64	ACCESS GEARBOX
NAVY	3110-00-921-0938	T64	ACCESS GEARBOX
NAVY	3110-00-870-5292	T64	ACCESS GEARBOX
NAVY	3110-00-186-3082	TF34	#1
NAVY	3110-01-131-8501	F404	ACCESS GEARBOX
NAVY	3110-00-921-0905	T64	ACCESS GEARBOX
NAVY	3110-01-083-2373	T64	#1
NAVY	3110-00-878-6309	TF30	#1
NAVY	3110-00-426-7942	H53	
NAVY	3110-00-732-9164	T58	#2
NAVY	3110-00-938-1974	T56	TURBINE,REAR
NAVY	3110-00-923-7263	H53	MAIN GEARBOX
NAVY	3110-01-084-2368	T700	#5
NAVY	3110-00-762-7422	J52	#4
NAVY	3110-01-062-1549	T56	COMPRESSOR,FWD
NAVY	3110-00-870-5345	T64	ACCESS GEARBOX
NAVY	3110-01-139-6816	F404	#1 & 3
NAVY	3110-01-066-9221	T56	ACCESS DRIVE
NAVY	3110-00-923-7291	H53	
NAVY	3110-00-912-2990	T56	COMPRESSOR,AFT
NAVY	3110-00-426-7933	H53	
NAVY	3110-01-144-4937	T56	CARRIER, REAR
NAVY	3110-00-065-8164	T56	TURBINE,FWD
NAVY	3110-00-548-4705	J79	
NAVY	3110-00-182-8078	TF30	#1
NAVY	3110-00-128-2341	TF34	ACCESS GEARBOX
NAVY	3110-00-870-5259	T64	#3
NAVY	3110-01-206-2212	F404	#4
NAVY	3110-00-185-4085	T56	COMPRESSOR,AFT
NAVY	3110-00-870-5352	T64	ACCESS GEARBOX
NAVY	3110-00-842-7400	J52	MAIN GEARBOX
NAVY	3110-00-912-9216	J79	
NAVY	3110-01-197-1760	T700	#3
NAVY	3110-00-870-5277	T64	ACCESS GEARBOX
NAVY	3110-01-034-1459	TF34	#3

BEARING REFURBISHMENT CANDIDATE LIST BY SERVICE

SERVICE.....	NSN.....	ENGINE.....	POSITION.....
NAVY	3110-00-758-3233	H46	PLANTARY GEAR
NAVY	3110-00-128-2170	TF34	ACCESS GEARBOX
NAVY	3110-00-799-3478	J79	#1 I.R.
NAVY	3110-00-838-5641	T400	ACCESS GEARBOX
NAVY	3110-00-914-5848	T64	ACCESS GEARBOX
NAVY	3110-00-732-2819	T56	PROP BRAKE
NAVY	3110-01-122-7714	F404	MAIN FUEL CONT
NAVY	3110-01-124-0846	F404	#2
NAVY	3110-00-075-2340	J60	
NAVY	3110-01-097-2292	T700	#6
NAVY	3110-00-078-5681	T58	#5
NAVY	3110-00-078-0040	TF30	#5
NAVY	3110-00-078-5680	T56	
NAVY	3110-00-159-0921	TF34	#7
NAVY	3110-00-167-7905	TF34	ACCESS GEARBOX
NAVY	3110-01-089-4209	T700	#2
NAVY	3110-00-184-9436	T56	PINION, FWD
NAVY	3110-00-112-1235	J79	#2
NAVY	3110-01-082-9577	T56	TORQUE METER
NAVY	3110-00-998-6558	T56	
NAVY	3110-00-412-2461	H3	
NAVY	3110-00-167-7906	TF34	#2
NAVY	3110-00-948-6117	J52	#5
NAVY	3110-00-065-8223	T56	TURBINE,FWD
NAVY	3110-00-899-8840	J79	#2
NAVY	3110-01-170-2920	T700	#4
NAVY	3110-00-769-1025	T56	PROP ROD
NAVY	3110-00-904-6172	T58	GEARBOX
NAVY	3110-01-065-8377	J52	#6
NAVY	3110-00-914-6119	T64	#4
NAVY	3110-00-939-8799	H53	
NAVY	3110-00-164-5661	TF34	#6
NAVY	3110-00-052-1855	H3	
NAVY	3110-01-047-1087	TF34	ACCESS GEARBOX
NAVY	3110-01-123-2168	F404	ACCESS GEARBOX
NAVY	3110-00-156-7885	J52	FRT ACC DRIVE
NAVY	3110-00-127-0027	J52	#5
NAVY	3110-00-010-9920	H3	
NAVY	3110-01-087-4251	T700	#2
NAVY	3110-00-128-2285	TF34	ACCESS GEARBOX
NAVY	3110-01-090-4796	T56	DIAPHRAGM
NAVY	3110-00-234-8840	T64	DIFFERENTAL,AFT
NAVY	3110-00-165-6387	T400	#6
NAVY	3110-00-050-0454	T56	DIAPHRAGM
NAVY	3110-00-561-0987	J52	#1
NAVY	3110-00-870-5266	T64	#0
NAVY	3110-00-167-7910	TF34	#5

BEARING REFURBISHMENT CANDIDATE LIST BY SERVICE

SERVICE.....	NSN.....	ENGINE.....	POSITION.....
NAVY	3110-00-923-7331	T56	COMPRESSOR,AFT
NAVY	3110-01-170-2919	T700	#4
NAVY	3110-00-894-2126	J52	MAIN GEARBOX
NAVY	3110-01-062-3756	J52	#6
NAVY	3110-01-145-2147	T56	CARRIER, REAR
NAVY	3110-00-116-5732	J79	#3 D.R.
NAVY	3110-01-072-7433	J52	#1
NAVY	3110-01-198-4702	TF34	#1
NAVY	3110-00-437-8204	T400	#7
NAVY	3110-01-113-8288	J52	#3

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521T

APPENDIX C

DATA ELEMENTS AND DEFINITIONS

TECHNICAL LOGISTICS REFERENCE NETWORK

DATA ELEMENTS AND DEFINITIONS
(IN ALPHABETICAL ORDER)

DATA ELEMENT	PAGE
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DEMIL CODE	17
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PHRASE	38
PMIC	44
QUP	45
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RNCC	50
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F FABRICATE OR ASSEMBLE NON-STOCKED ITEMS
National Stock Numbered items fabricated or assembled from raw materials and finished products as the normal method of support. Procurement and stockage of the items are not justified because of low usage or peculiar installation factors. Distinctions between local or centralized fabricate/assemble capability are identified by the Source of Supply Modifier in the Source of Supply column of the Service Management Data Lists.

G GENERAL SERVICES ADMINISTRATION (GSA) OR VETERANS ADMINISTRATION (VA) INTEGRATED MATERIEL MANAGED, STOCKED, AND ISSUED
Identifies GSA/VA managed items available from GSA/VA supply distribution facilities. Requisitions and fund citations will be submitted in accordance with GSA/VA Service requisitioning procedures.

H DIRECT DELIVERY UNDER A CENTRAL CONTRACT NON-STOCKED ITEMS
Issue, transfer or shipment is not subject to specialized controls other than those imposed by Integrated Materiel Manager/Service/Agency supply policy.

1. The item is centrally procured but not stocked.
2. Issue is by direct shipment from the vendor to the user at the order of the ICP or IMM.
3. Requisitions and fund citations will be submitted in accordance with Integrated Materiel Manager/Service/Agency requisitioning procedures.

I DIRECT ORDERING FROM A CENTRAL CONTRACT/SCHEDULE NON-STOCKED ITEMS
Issue, transfer or shipment is not subject to specialized controls other than those imposed by Integrated Manager/Service supply policy. The item is covered by a centrally issued contractual document, or by multiple-award Federal Supply Schedule for GSA-managed items, which permits using activities to place orders directly on vendors for direct delivery to the user.

J NOT STOCKED, CENTRALLY PROCURED NON-STOCKED ITEMS
IMM/Service centrally managed but not stocked item. Procurement will be initiated only after receipt of a requisition.

K CENTRALLY STOCKED FOR OVERSEAS ONLY
Main means of supply is local purchase. Item is stocked in domestic supply system for those overseas activities unable to procure locally due to non-availability of procurement sources or where local purchase is prohibited (e.g., ASPR; Flow of Gold; or by internal Military Service restraints).
Requisition will be submitted by overseas activities in accordance with Service/Agency requisitioning procedures. Note: CONUS activities will obtain supply support through local procurement procedures.

S RESTRICTED REQUISITIONING-OTHER SERVICE FUNDED (Service use only.)
For Service-managed items whereby the issue, transfer, or shipment is subject to specialized controls of the funding Military Service.

1. Item is procured by a Military Service for the funding Military Service and is centrally managed by the funding Service.
2. The procuring Military Service has no requirement in its logistic system for the item.

T CONDEMNED NON-STOCKED ITEMS
Item is no longer authorized for procurement, issue, use, or requisitioning.

U LEAD SERVICE MANAGED
As a minimum provides procurement, disposal, and single submitter functions. Wholesale logistics responsibilities which are to be performed by the PICA in support of the SICA are defined by the SICA NIMSC code.

V TERMINAL ITEM #
Identifies items in stock, but future procurement is not authorized. Requisitions may continue to be submitted until stocks are exhausted. Preferred item NSN is normally provided by application of the phrase: When Exhausted Use (NSN). Requisitions will be submitted in accordance with IMM/Service requisitioning procedures as applicable.

W RESTRICTED REQUISITIONING-SPECIAL INSTRUCTIONS APPLY NON-STOCKED ITEMS
Indicates stock number has been assigned to a generic item for use in bid invitations, allowance lists, etc., against which no stocks are ever recorded. Requisistions will be submitted only in accordance with IMM/Service requisitioning procedures. (This code will be used, when applicable, in conjunction with Phrase Code S (Stock as NSN(s)). It is considered applicable for use when a procurement source(s) becomes available. The Phrase Code S and the applicable 'stock as' NSN(s) will then be applied for use in stock, store, and issue actions.)

X SEMIACTIVE ITEM-NO REPLACEMENT NON-STOCKED ITEMS
A potentially inactive NSN which must be retained in the supply system as an item of supply because (1) stocks of the item are on hand or in use below the wholesale level and (2) the NSN is cited in equipment authorization documents TO & E,TA,TM, etc., or in-use assets are being reported.

1. Items are authorized for central procurement but not authorized for stockage at wholesale level.
2. Requisitions for in-use replacement will be authorized in accordance with individual Military Service directives.
3. Requisitions may be submitted as requirements generate. Repetitive demands may dictate an AAC change to permit wholesale stockage.

ADPE AUTOMATED DATA PROCESSING EQUIPMENT

A one character numeric identification code indicating an item of Automated Data Processing Equipment or containing ADPE regardless of assigned FSC.

CODE	EXPLANATION
0	Represents items with no ADPE components. Note: Codes 1 through 6 are only to be used when the the item is ADPE in its entirety and is limited to the type meeting only one of the definitions for codes 1 through 6. See code 9.
1	Analog CPUs, ADP Central Processing Units for Computers Analog. Represents only CPUs that accept as input the electrical equivalent of physical conditions such as flow, temperature, pressure, angular position, or voltage and perform computations by manipulating these electrical equivalents to produce results for further use. Note: An analog is a representation of one form of a physical condition existing in another form (e.g., the level or mercury in a tube represents temperature in a thermometer; the angular position of a needle represents speed on a speedmeter.) Excludes CPUs that have both analog and digital capability. See code 3.
2	Digital CPUs, ADPE Central Processing Units for Computers. Represents only CPUs that accept information represented by digital impulses. Specifically, a device capable of performing sequences of arithmetic and logic operations (a program) not only on data but also on the program which is contained in its internal memory (storage) without intervention of an operator. Note: Digital refers to the representation of discrete numbers, symbols, and alphabetic characters by a predetermined, coded combination of electrical impulses. Excludes CPUs that have both analog and digital capability. See code 3.
3	Hybrid CPUs, ADPE Central Processing Units for Computers. Represents only CPUs that have a combination of analog and digital capability as defined in codes 1 and 2 and which have conversion capability required for intercommunication.

AIN/NAIN APPROVED ITEM NAME/NON APPROVED ITEM NAME

Approved Item Name - The official designation for an item of supply. They are composed of either a Basic Name or Basic Name followed by the least number of Basic Name modifiers necessary to differentiate between simple item concepts. Currently there are over 22,000 unique AINs in the Federal Supply Catalog. For every AIN there is a corresponding unique Item Name Code.

Non Approved Item Name - NAINs are grouped into their own miscellaneous INC of 77777. By definition, NAINs are items which could not be identified to a unique INC. The TLRN AIN/NAIN search allows users to enter noun names and search through the domain of NAINs. See the TLRN users manual for details.

AMSC ACQUISITION METHOD SUFFIX CODE

A supplementary code to indicate the primary reason why the numeric Acquisition Method Code was assigned for procurement. For example, item requires special testing, rights to procurement not legally available. Must be used in combination with Acquisition Method Code.

CODE	EXPLANATION
0	Not established.
A	The Government's rights to use data in its possession is questionable and must be resolved. Note: This code is only applicable to parts under immediate buy requirements and only as long as rights to data are still under review for resolution and appropriate recoding. Valid AMCs: 1, 2,3,4 and 5.
B	Procurement of this item is restricted to source(s) specified on Source Control drawings. Valid AMCs: 1,2, 3 and 4.
C	This item requires engineering source approval by the design control activity in order to maintain the quality of the item. Substantiation of alternate sources for these parts must be in accordance with the design control activity's procedures as approved by the cognizant Government engineering activity. Procurement must be made only from the approved source(s). Valid AMCs: 1,2,3 and 4.
G	The Government has unlimited rights to the technical data, and the package is complete.
H	The Government does not have in its possession sufficient, accurate, or legible data to purchase this item from other sources. Note: This code is applicable only to parts under immediate buy requirements and only as long as the deficiency is under review for resolution and appropriate recoding. Valid AMCs: 1,2,3,4 and 5.
K	This item is produced from class 1A castings, e.g., class 1 of MIL-C-6021 and similar type forgings. The part must be procured only from sources which use castings or forgings obtained from approved sources. Valid AMCs: 1 and 2.
L	The low dollar value of procurements makes it uneconomical to undertake to improve the procurement status of this item. Note: This code shall not be used when screening parts entering the inventory. It shall not be assigned in preference to or supersede any other AMSC. Valid AMCs: 1,2,3,4 and 5.
M	Application of master or coordinated tooling, e.g., numerically controlled tapes, is required to produce this item. This tooling is not owned by the Government or, where owned, cannot be made available to other sources. Valid AMCs: 1,2,3 and 4.

CAGEC COMMERCIAL AND GOVERNMENT ENTITY CODE

A nonsignificant code assigned to establishments which either fabricate items of production and/or have design control of items procured by the Federal Government. Commercial and Government Entity Code (CAGEC) are also assigned to identify certain military specifications or standards and to identify certain numbering systems developed by government agencies, panels or committees which are used in connection with the identification of catalog data in the Federal Catalog System.

NATO CAGEC NATO COMMERCIAL AND GOVERNMENT ENTITY CODE

A semi-significant code which identifies manufacturers located in the North Atlantic Treaty Organization (NATO) and other friendly countries. Codes are assigned by the central cataloging offices of the respective countries. The significant portion of the code either prefixes or suffixes the four nonsignificant digits.

CAGE CODIFICATION BUREAU CODES

PREFIX CODE	CODIFICATION BUREAU
A	Italy
B	Belgium
C	Germany
D	Germany
E	New Zealand
F	France
G	Greece
H	Netherlands
J	Japan
K	United Kingdom
L	Netherlands
M	France (Reserved)
N	Norway
P	Portugal
Q	Singapore
R	Denmark
S	Non-NATO Countries
T	Turkey
U	United Kingdom
V	South Africa
W	Argentina
X	Reserved for Non-NATO Countries
Y	Malaysia
Z	Australia

TLRN CAGEC DATA

The TLRN CAGE code data file contains references from both Government and Dun & Bradstreet sources. The records in that file contain the following types of information:

Status Designator - A one position code which reflects the status of the O.E.; i.e., active, obsolete, cancelled with or without replacement. These conditions are set forth below:

A ACTIVE RECORD: O.E. is currently in operation.

B OBSOLETE RECORD: O.E. has undergone a change in name and/or address.

C ACTIVE O.E. RECORD W/RESTRAINT: For cataloging purposes, use O.E. code as indicated.

D UNCODED O.E. RECORD: Use the O.E. code/name indicated.

F OBSOLETE RECORD: Location of O.E. unknown.

H OBSOLETE RECORD: Facility discontinued, and/or code no longer required.

J ACTIVE SPECIALIZED USE RECORD: Denotes the item of production, recorded in the Federal Supply System; is designated to certain industry wide specification(s)/standard(s).

K ACTIVE SPECIALIZED USE RECORD: Denotes the item is produced to Government designed specification(s)/ standard(s).

M ACTIVE SPECIALIZED USE RECORD: O.E. Code is referenced to a special numbering system developed by the Government, used in connection with the identification of cataloging data utilized in the Federal/ NATO/Supply System.

N CANCELLED W/OUT REPLACEMENT RECORD: O.E. is defunct and/or code no longer required. No logistical reference numbers recorded in the Federal/NATO/Supply System. No Known replacement O.E. code.

Second Position:	Type Of Business	F - Construction G - Service Company J - Manufacturer K - Regular Dealer Or Distributor L - Sales Office
Third Position:	Type Of Business	H - 8A Business I - Other Disadvantaged Business
Fourth Position:	Woman-Owned Desg.	Y - Yes (Woman-Owned) N - No

- Standard Industrial Classification (SIC)
  The SIC defines industries in accordance with the composition and structure of the economy and covers the entire field of economic activities. A SIC code is a four digit number. The first three digits loosely define an industry and the fourth number specificially identifies an application. For example, the three digit SIC of 367 pertains to Electronic Components and Accessories. The four digit SIC of 3675 covers Electronic Capacitors.

- Telephone Number (D & B Reference)

- Company SIC(s) (D & B Reference)
  Up to six SIC references are listed for each company.

- Line Of Business (D & B Reference)
  Line of Business is less specific than the SIC, but a better overall guide to the range of business activity for a given firm.

- Duns Number (D & B Reference)

M — MLI - Demilitarize by mutilation (make unfit for intended purpose) by melting, cutting, tearing, scratching, crushing, breaking, punching, neutralizing, etc., overseas only. (As an alternate, burial or deep-water dumping may be used when authorized.) Demilitarization not required in United States, Puerto Rico, and Virgin Islands. This code will be applied only to items identified as being a component of a key point on a major end item.

N — MLI or non-MLI with Sensitive Applications - Demilitarize by removing and destroying all name plates, label plates, meter face plates, tags, stickers, documents or markings which relate the item to a weapons system or sensitive end item application. Demilitarization will be performed by the generating activity prior to physical transfer of the item to the disposal activity.

Q — Strategic List Item - Mutilate to the extent necessary to preclude restoration to normal use and prevent recovery of essential component parts or assemblies (Overseas Only). Mutilation not required in the U.S., Puerto Rico, and the Virgin Islands.

X — Indicates demilitarization requirement or munitions list applicability not determined by the Inventory Control Point (ICP); local determination necessary prior to disposal action. Will be disseminated only upon interrogation (to be recorded in the Defense Logistics Services Center Total Item Record by DLSC only).

Note: (For codes H,J,K and Q) Mutilation requirements may be waived if purchaser elects to ship item to the United States under controls stipulated in the terms and condition of sale.

IMC ITEM MANAGEMENT CODE

A single character alphanumeric code identifying whether items of supply shall be subjected to integrated management under DLA/GSA or retained by the individual Military Services or other DoD components for management. Coding is accomplished under item management classification criteria. Codes are based on DoD criteria for items of supply.

CODE	TITLES AND DEFINITIONS
A	NUCLEAR HARDENED ITEMS: Items which are specifically designed to be nuclear hardened against the effects of electromagnetic pulse (EMP), radiation thermal (heat), blast, shock, etc., so they continue to perform their function in an environment created by a nuclear explosion.
D	MAJOR END ITEMS OF EQUIPMENT: Items of such importance to the operations readiness of operating units that they are subject to continuing centralized individual item management and asset control throughout all command and support echelons.
E	REPARABLES: Centrally managed recoverable items designated as reparable for the reasons that repair of unserviceable quantities of the items are considered by the inventory manager in satisfying requirements prior to or in conjunction with determining procurement quantities.
F	SINGLE AGENCY: Items assigned to a single agency other than the commodity oriented integrated manager for integrated management or control. (These include items controlled by the Energy Research and Development Administration or National Security Agency, or items assigned to TACOM for integrated management.)
G	FIELD LEVEL REPARABLES: Item requiring maintenance or repair and for which a repair capability exists at the field or base level and below the maintenance depot level.
H	NATIONALLY VITAL PROGRAM: Items requiring extraordinary management control techniques and close surveillance within the supply system to insure the successful execution of a nationally vital program. (For such program - related items, Military Services must obtain special exemption from integrated management from the ASD (MRA&L).)

S SECURITY CLASSIFIED ITEMS: Items requiring special management because of security classification.

Y WEAPON SYSTEMS MANAGEMENT SENSITIVE: Consumable items selectively identified and managed because of their criticality to the readiness of the weapon/end item or to the mission performance and are subject to specialized management or controls, such as items in unique service logistics networks; restricted in issue to selected approved activities; requiring extensive quality assurance controls with testing by authorized service activities; requiring a close relationship between inventory management and engineering control; or components requiring management as an entity with the end item.

Z INTEGRATED MANAGEMENT: Relinquishment of Service management of an item in designated commodity-oriented Federal Supply Classes to the Commodity Integrated Materiel Manager (FSC manager) for management.

ISC ITEM STANDARDIZATION CODE

The coding structure provides for the categorization of items as authorized for procurement or not authorized for procurement. Within these two broad categories the specific codes indicate key management information used in assigning the code, the basis for assignment of the code, or in some cases a condition requiring further management attention.

CODE	EXPLANATION
0	Items under the specification control of the National Security Agency (NSA) and Defense Nuclear Agency (DNA).
1	An item authorized for procurement as a result of a formal item reduction study and accepted as a replacement for one or more items not authorized for procurement. In addition, in generic relationships, a code 2 item is related to a code 1 item.
2	An item authorized for procurement which has been included in an item reduction study and which initially does not replace an item not authorized for procurement. In addition, in generic relationships, a code 2 item is related to a code 1 item.
3	An item which, as a result of a formal item reduction study is accepted as not authorized for procurement.
5	An item authorized for procurement that has not yet been subject to item standardization.
6	An item authorized for procurement that is in a specific Federal Supply Class (FSC) or item name grouping consisting primarily of items which are one-of-a-kind; therefore, little or no potential exists for elimination of items through formal item reduction studies.
7 & 8	NATO use only.
B	A new item authorized for procurement, contained in a new or revised superseding specification or standard, that replaces prior items. This item will be assigned a Permanent System Control Number (PSCN) or, if a requirement exists, a National Stock Number (NSN).
C	An item authorized for procurement that has been included in an item reduction study but an intelligent decision could not be made due to lack of sufficient technical data.
E	An item no longer authorized for procurement which has been replaced by an item contained in a new or revised superseding specification or standard. The replacement item will be either a PSCN or, if a requirement exists, an NSN.

MCD MANAGEMENT CONTROL DATA, AIR FORCE

A data chain of management codes used by the U.S. Air Force to designate controls which are essential to the successful operation of the Air Force accounting system.

Positions 1 & 2 - FUND CODE: A two character alphabetic code that classifies items into categories for funding and budgeting purposes.

Position 3 - AIR FORCE BUDGET CODE: A one character alphabetic or numeric code used to identify investment items to budget programs from which procurement of the particular items are funded, or to identify expense items to the various divisions of the air force stock fund.

Position 4 & 5 - AIR FORCE MATERIAL MANAGEMENT AGGREGATION CODE: A two character alphabetic code authorized to identify specific items (National Stock Numbers) to be managed by a specific manager. Mareriol management aggregation codes apply to systems, programs, selected Federal Supply Classes, and aggregation to related equipment.

Position 6 - Always blank.

Position 7 - AIR FORCE PRICE VALIDATION CODE (PVC): A one character code used by the Air Force to indicate the validity of the recorded unit price.

Note: For complete definition data on specific coding refer to DIDS, Volume 10, DoD 4100.39-M.

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MCD MANAGEMENT CONTROL DATA, COAST GUARD

A data chain of management codes used by the U.S. Coast Guard to designate controls which are essential to the successful operation of the Coast Guard accounting system.

Position 1 - Coast Guard Inventory Account Code: A one character alphabetic code used to designate the inventory account in which an item is held in the Coast Guard supply system.

Position 2 - Always blank.

Position 3 - Coast Guard Serial Number Control Code: A one character numeric code identifying whether or not an item is subject to serial number control.

Position 4 - Coast Guard Special Material Content Code: A one character alpha or numberic code that indicates if an item represents or contains peculiar material requiring special treatment, precautions, or management control.

Position 5,6 & 7 - Not used by the Coast Guard.

Note: For complete definition data on specific coding refer to DIDS, Volume 10, DoD 4100.39-M.

MCD MANAGEMENT CONTROL DATA, NAVY

A data chain of management codes used by the U.S. Navy to designate controls which are essential to the successful operation of the Navy accounting system.

Positions 1 & 2 - COGNIZANCE CODE: A two character alphanumeric code used to identify and designate the Inventory Control Point (ICP) or agency which exercises supply management. The first position is numeric and identifies the stores account. The entire code identifies the combined technical bureau/command and inventory managers having jurisdiction over the item.

Posotions 3 & 4 - NAVY SPECIAL MATERIAL IDENTIFICATION CODE: A two character alphanumeric code used to categorize material on the basis of requirements for source or quality control; technical design or configuration control; procurement, stocking and issue control; special receipt, inspection, testing, storage, or handling.

Position 5 & 6 - NAVY ISSUE,REPAIR, AND/OR REQUISITION RESTRICTION CODE: A two character alphabetic or alphanumeric code that indicates restrictions applicable to issue OR procurement, material involved, instructions for item requisitioning, turn-in, exchange or disposal.

Position 7 - NAVY SPECIAL MATERIAL CONTENT CODE: A one character alphabetic or numeric code that indicates an item represents or contains peculiar material requiring special treatment, precautions, or management control.

Note: For complete definition data on specific coding refer to DIDS, Volume 10, DoD 4100.39-M.

NAVY PRICE HISTORY

Users of the Technical Logistics Reference Network (TLRN) now have access to the United States Navy Price History File which contains procurement data concerning stock numbered acquisitions. Both SPCC and ASO buys are contained in the file. Below are comments regarding the 13 included data elements:

1. PIIN — Procurement Instrument Identification Number
   This number specifies the contract number and identifies the Naval activity responsible for the contract.

2. GSA/FSS # — General Services Administration/Federal Supply Schedule Number
   Indicates if the NSN in the header was procured from GSA or FSS.

3. QTY — Quantity
   Number of items involved in the procurement.

4. UNIT PRICE — Dollar Value
   The price per unit for the given procurement.

5. FSCM/DUNS # — Federal Supply Code for Manufacturers/ Dun & Bradstreet Reference Number
   Since this file was added, FSCM has been revised to Commercial And Government Entity Code (CAGEC). The five digit CAGEC is searhable in TLRN. It can yield the name, address and telephone number of manufacturers and vendors. Duns numbers are entry points into the Dun & Bradstreet Dunsprint Network.

6. AWD DATE
   Julian date of contract award.

7. CONT TY CODE — Contract Type Code

CODE	DEFINITION
1	Fixed Price
2	Time & Materials/Labor Hour
3	CPFF (cost plus fixed fee)
4	Lettter Contract
5	CPAF/IF (contract price award fee/incentive fee)
6	IDTC (indefinite delivery type contract)

8. CLIN — Contract Line Identification Number
   The CLIN references a unique line within a contract to the NSN in the header.

NIMSC NONCONSUMABLE ITEM MATERIAL SUPPORT CODE

A code identifying the degree of support received by an individual Secondary Inventory Control Activity (SICA) or identifying the Service(s) performing depot maintenance for a Lead Service Primary Inventory Control Activity (PICA). A nonconsumable item has been defined as an item of supply which is managed by one or more Military Services as a nonconsumable (i.e., major end item, depot reparable, or nonstock-funded consumable).

CODES APPLICABLE TO SICAs (LEVEL OF AUTHORITY (LOA)8D):

1 Exception Item (End Item of Equipment). This code identifies centralized/decentralized items (managed by the SICA as an end item of equipment) assigned to a single service who is responsible for the logistics function of single submitter cataloger, procurement and disposal authority. Supply support requirements will be submitted by the SICA to the PICA on Military Interdepartmental Purchase Requests (MIPRs) unless otherwise directed by the PICA. The SICA is responsible for the stock, store and issue functions in support of SICA activities and has retained depot repair capability, where applicable. In those instances where the item is not consistently managed as an end item, documented justification for retention of depot maintenance repair must be established by the SICA. The SICA Catalog Management Data (CMD) will reflect Source of Supply or SOS Modifiers compatible with the SICA managing activity. The PICA will not be entered in the Defense Automatic Addressing System Integrated Materiel Manager (DAAS IMM) field.

2 Exception Item (Depot-Reparable Component or SICA-Managed Consumable). This code identifies centralized/decentralized items managed by the SICA as depot-reparable components or consumables wherein the SICA cannot utilize repaired items assigned to a single service who has responsibility for the logistics functions of single submitter cataloger, procurement and disposal authority. The SICA Service has retained the wholesale stock, store and issue functions in support of SICA activities and has retained depot repair capability, where applicable. Supply support requirements will be submitted by the SICA to the PICA on MIPRs unless otherwise directed by the PICA. Retention of depot maintenance repair capability for the depot-reparable components requires documented justification by the SICA. The SICA CMD will reflect Source of Supply Modifiers compatible with the SICA managing activity. The PICA will not be entered in the DAAS IMM field.

7 Joint Conventional Ammunition Production (JCAP) Cognizance. Logistics functions and responsibilities determined by the DOD Single Manager for Conventional Ammunition. The SICA CMD will reflect Source of Supply or Source of Supply Modifier Codes compatible with the SICA managing activity. The PICA will not be entered in the DAAS IMM field.

8 Depot Reparable Component (Phase I). This code identifies items which have been reviewed for migration to Phase II, but will be retained under Phase I management. The PICA will have responsibility for the functions of single submitter cataloger, procurement and disposal authority, and depot maintenance to be provided by DMISA. Supply support requirements will be submitted by the SICA to the PICA via MIPRs unless otherwise directed by PICA. The SICA is responsible for stock, store, and issue functions for SICA activities. The SICA Source of Supply/Source of Supply Modifier and Acquisition Advice Code will appear in the SICA CMD. The PICA will not be entered in the DAAS IMM field.

9 Exception Item (Depot Maintenance Review Not Completed). This code identifies items wherein assignment for depot repair has not been established. PICA responsibilities are limited to single submitter cataloger, procurement, and disposal authority. Upon completion of depot maintenance review and assignment for depot repair, code 9 items will be reassigned to code 1,2,3,5,6 or 8. The SICA CMD will reflect the Source of Supply or SOS Modifiers compatible with the SICA managing activities. The PICA will not be entered in the DAAS IMM field.

0 DLSC Files Conversion Code. To be assigned by DLSC program to existing Wholesale Interservice Supply Support Agreement (WISSA) type recordings (LOA 8D) during initial file conversion program. The SICA CMD will reflect the SOS/SOSM and AAC compatible with the PICA. The PICA will not be entered in the DAAS IMM field.

CODES APPLICABLE TO PICAs (LOA 22 ONLY):

A. An activity within the Army is providing depot maintenance support.
B. Multi-Service Organic Repair. The depot repair requirement of two or more Services is being performed organically by more than one service.
E. Excess overflow which is contracted by the PICA.
F. An activity within the Air Force is providing depot maintenance support.
J. JCAP Cognizance. Logistics functions and responsibilities determined by the DoD Single Manager for Conventional Amunition.
M. An activity within the Marine Corps is providing depot maintenance support.
P. Total depot maintenance is being accomplished by commercial contract.
S. Organic overflow to another service(s) possessing organic capability.
U. Unassigned. MISMO review not completed. Current depot repair arrangements remain in effect.
V. An activity within the Navy is providing depot maintenance support.
X. All other conditions.

PHRASE CODE PHRASE CODE

A single character alphanumeric code assigned to a series of phrases to denote changes and/or relationships between National Stock Numbers (NSNs).

CODE	PHRASE	EXPLANATION
blank (space)	DoD I&S Family Master NSN	Indicates the item represented by the NSN in the input/output header is a master NSN in a DOD I&S Family. This blank phrase code must be accompanied by one of the following conditions: (A) Be the first occurence in an I&S Family and reflect a blank Related NSN field, having a valid I&S Master Order of Use, and have at least one additional occurence of phrase data with either phrase code G,S, or 7, or (B) Have a loaded Related NSN field in combination with an OOU of "ZZZ".
A	Consolidated with (NSN)	Indicates that the item represented by the NSN in the input/output header is to be consolidated with the item represented by the NSN in the segment H. The items of supply are identical or completely interchangeable and will be issued under the NSN in the segement H. This phrase is responsive to action either by the DLSC, in accordance with volume 4, chapter 4.10 of the DIDS Procedures Manual, or by an inventory manager reflecting a stock number preference for the NSN in segment H. NOTE: The National Item Identification Number (NIIN) must always change; the Federal Supply Class (FSC) may or may not change.
C	Cancelled-Replaced by (NSN)	Indicates that the NSN in the input/output header was assigned to more than one item of supply in error. Field activities must physically reidentify stocks on hand to the appropriate NSNs reflected in the segment H as correct item(s). Special instructions to field activities may be furnished by a Service-generated R Phrase Code.

K	U/I Contains (Qty and U/M)	Indicates that the item represented by the NSN in the input/output header is assigned a nondefinitive unit of issue. Data reflected in the segment H specifies the content of the nondefinitive Unit of Issue.
L	Superseded by (NSN)	Indicates that the item represented by the NSN in the input/ouput header is to be discontinued and replaced by the item represented by the NSN in the segment H. Dispose of materiel on hand or subsequently received. AAC N,V, or Y must be submitted/recorded with this phrase code.
M	Breakdown into (NSNs)	Indicates that the item represented by the NSN in the input/output header is no longer stocked as an assembly. This phrase will be applied to an item when it is desired to breakdown assemblies into subassemblies and attaching parts, groups of items into single items, or any two or more items that should not be binned together under one stock number. Support will be provided by the NSNs represented in the segment H. Multiple entries will be required for NSNs and may be required for document entries.
N	Disposal	Indicates that the item represented by the NSN in the input/output header is no longer a required item of supply. Dispose of stock in accordance with current instructions. AAC N,V or Y must be submitted with this phrase code.
P	Use Assembly, Assortment, or Kit (NSN)	Indicates that the item represented by the NSN in the input/output header is not, or will no longer be, stocked as an individual item of supply. Requisition the next higher assembly, assortment, or Kit represented by the NSN in the segment H.

Y	Equivalent to (NSN)	Indicates the item represented by the NSN in the input/output header has physical and performance characteristics identical to the item represented by the NSN in the segment H. The items of supply differ only in the unit quantity and/or unit of issue. Multiple records may be required.
Z	Discontinued-Use (NSN)	Indicates that the item represented by the NSN in the input/output header is to be discontinued and replaced by the NSN in the segment H. Stock will be issued until exhausted. AAC N,V or Y must be submitted/recorded with this phrase code.
3	Reversal of Phrase Code S	Indicates that the item represented by the NSN in the input/output header is the (physical) item of production in an I & S Generic relationship. The Generic Master NSN appears in the Segment H and must be used in combination with Phrase Code S.
7	Use (NSN) Until Exhausted	Indicates that the item represented by the NSN in the input/output header is the preferred replacement item Master NSN in the I & S family and is substitutable for the item(s) in Segment H. The replacement item, master NSN in the I & S family, will be issued when the supply of the replaced item(s) is exhausted. Must be used in combination with Phrase Code F.

SERVICE PECULIAR PHRASE CODES

CODE	PHRASE	EXPLANATION
0	Reversal of Phrase Code Z	Marine Corps use only.
2	Reversal of Phrase Code H	Marine Corps use only.
4	Reversal of Phrase Code A	Marine Corps use only.

PMIC PRECIOUS METALS INDICATOR CODE

A one character alphabetic or numeric code identifying items that have precious metals as part of their content. Precious metals are those metals generally considered to be uncommon and highly valuable which are relatively superior in certain properties such as resistance to corrosion and electrical conductivity.

PMIC	TYPE PRECIOUS METAL	CONTENT VALUE
A	No Known Precious Metal.	None
B	Item is known to contain Precious Metal(s) but the amount(s) are unknown.	
C	Presence or absence of Precious Metals varies between items of production for the same item of supply.	
D	Silver	Equals 15 grams or more.
E	Silver	Less than 15 grams.
F	Gold	Equals 10 grams or more.
G	Gold	Less than 10 grams.
H	Platinum	Equals 10 grams or more.
I	Platinum	Less than 10 grams.
J	Palladium	Equals 5 grams or more.
K	Palladium	Less than 5 grams.
L	Iridium	Equals 20 grams or more.
M	Iridium	Less than 20 grams.
N	Rhodium	Equals 15 grams or more.
O	Rhodium	Less than 15 grams.
P	Osmium	Equals 10 grams or more.
Q	Osmium	Less than 10 grams.
R	Ruthenium	Equals 10 grams or more.
S	Ruthenium	Less than 10 grams.
T	Silver-Gold	Combination equals 15 grams or more.
U	Silver-Gold	Combination contains less than 15
V	Silver-Platinum Family	Combination equals 15 grams or more.
W	Silver-Platinum Family	Combination contains less than 15 gms.
X	Silver-Gold-Platinum Family	Combination equals 15 grams or more.
Y	Silver-Gold-Platinum Family	Combination contains less than 15 gms.
Z	Gold-Platinum Family	Combination equals 10 grams or more.
2	Gold-Platinum Family	Combination contains less than 10 gms.
3	Determination of precious metal contents is uneconomical.	

Note: Platinum family includes platinum, palladium, iridium, rhodium, osmium, and ruthenium.

REPAIR REPARABILITY CODES

A one character alphabetic code which indicates the type, level, and degree of reparability of an item. In the absence of service-submitted reparability codes, the DLA reparability code will be utilized if applicable.

DLA

CODE	EXPLANATION
R	This item has been reviewed and a determination made that the item can be restored to a serviceable condition from an unserviceable condition.
N	This item has been reviewed and a determination made that the item cannot or should not be restored to a serviceable condition from and unserviceable condition.
Blank	A blank field indicates that the item has not been reviewed for reparable characteristics.

ARMY

CODE	EXPLANATION
A	Item requires special handling or condemnation procedures because of specific reasons (i.e., precious metal content, high dollar value, critical materiel, or hazardous materiel). Refer to appropriate manuals/directives for specific instructions.
D	Reparable item. When beyond lower level repair capability, return to depot. Condemnation and disposal not authorized below depot level.
F	Reparable item. When uneconomically reparable, condemn and dispose at Direct Support level.
H	Reparable item. When uneconomically reparable, condemn and dispose at General Support level.
L	Reparable item. Repair, condemnation and disposal not authorized below depot/Specialized Repair Activity level.
O	Reparable item. When uneconomically reparable, condemn and dispose at organizational level.
Z	Nonreparable item. When unserviceable, condemn and dispose at the level indicated in column 3 of the uniform Source Maintenance and Recoverability (SMR) Codes.

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MARINE CORPS

CODE	EXPLANATION
A	Item requires special handling/condemnation procedures because of specific reasons (i.e., precious metal content high dollar value, critical material, or hazardous material.) Refer to appropriate manuals/directives for specific instructions.
D	Reparable item. When beyond lower level repair capability, return to depot. Condemnation and disposal not authorized below depot level.
F	Reparable item. When uneconomically reparable, condemn and dispose at the third echelon level.
H	Reparable item. When uneconomically reparable, condemn and dispose at fourth echelon level.
L	Reparable item. Repair, condemnation, and disposal not yet authorized below depot/specialized repair activity level.
O	Reparable item. When uneconomically reparable, condemn and dispose of at organizational level.
Z	Nonreparable item. When unserviceable, condemn and dispose at the level indicated by the first digit of the maintenance code.

NAVY MATERIAL CONTROL CODES

A single alphabetic character (except I) assigned by the inventory manager (NAVY) to segregate items into more manageable groupings (fast, medium, or slow movers) or to relate special reporting and/or control requirements to field activities.

CODE	DEFINITION
A	Field Activity Control Items
B	Material (expendable ordnance) Requiring Lot Number Reporting
C	Material (expendable ordnance) Requiring Serial Number Reporting
D	Field Level Reparables

RNCC REFERENCE NUMBER CATEGORY CODE

A code designating the relationship of a reference number to the item of supply.

CODE	EXPLANATION
1	Source of Control Reference. The number assigned by a design control manufacturer of an end item of equipment, including a Government activity, to a drawing that restricts procurement (1) to the specified item(s) described on the drawing and (2) to the stated source(s) of supply designated thereon. These restrictions are imposed on the cognizant design activity to ensure procurement of the only item(s) known as a result of test or evaluation to be satisfactory for the stated critical application. Includes only those drawings which meet the definition for Source Control Drawing in MIL-STD-100. (Applicable only to type 1, 1B, 2, 4, and 4B item identifications.)
2	Definitive Government Specification or Standard Designator Reference. A part number, style number, or type designator included in or developed in accordance with a Government specification or standard which has the effect of fully identifying an item of supply. This code shall also be used for a Government specification or standard which, although not including part numbers, style numbers, or type designators, covers a single item of supply. These reference numbers may be coded with a variation code of 1 in accordance with volume 2, paragraph 2.9.2.n.(4). (Non-definitive Government specifications or standard designator references shall be coded 4; specification control drawings as defined in MIL-STD-100 shall be coded 7; professional association or standard designator references shall be coded 3.)
3	Design Control Reference. The primary number used to identify an item of production or a range of items of production, by the manufacturer (individual, company, firm, corporation, or Government activity) which controls the design, characteristics, and production of the item by means of its engineering drawings, specifications, and inspection requirements.
4	Non-definitive U.S. Government Specification or Standard Reference. Any Government specification or standard reference other than those indicated in code 2 as definitive references. This code shall be used for non-definitive Government specifications and standard references and non-definitive part numbers, type designators, and style numbers included therein which are coded with a variation code of 1. (Includes the specification number of those specifications for which type designation is used as code 2. Excludes professional association, industrial association, or manufacturer's specification or standard reference which shall be coded 3, and specification control drawings as defined in MIL-STD-100 which shall be coded 7.)

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C Advisory Reference. A number assigned to an item of production or supply not included in the item-of-supply concept to which the NSN has been, or is being, assigned (e.g., an item that may have been used in the preproduction equipment design which has since been redesigned or replaced). Use of this RNCC is restricted to conditions where cross-reference is required to establish identification to an item of supply. Additionally, there is no direct relationship of the reference number to the NSN other than a Service/Agency individual decision. (RNCC C shall be used only in conjunction with the RNVC 1.)

D Drawing Number Reference. A number assigned by a design activity to a drawing or other technical documentation which identifies a drawing/document that is related to an item of supply or production but does not qualify for assignment codes 1, 3, 5, 7, or C. Code D reference numbers will not be used in item-of-supply determinations.

Notes:

1. Each reference number or portion of a reference number shall be coded to indicate the relationship of the reference number to the item of supply.

2. When determination cannot be made as to whether or not a reference number is the design control reference, it shall be considered the design control reference until positive determination can be made. However, only one reference number shall be considered as the design control reference for each type 1A, 1B, 4A, OR 4B FII. In addition, only one reference number shall be considered as the design control reference for each item of production included in the concept of a type 1, type 2, or type 4 FII.

3. The following reference number action (additions, deletions or changes) shall be collaborated: All actions against (1) source control reference, (2) definitive Goverment specifications or standard designator reference, (3) design control reference with exceptions. (See DLDS Volume 10, DoD 4100.39-M). All actions to change RNCC 4 (nondefinitive specification or standard reference) to RNCC 2 (definitive Government specification or standard designator reference); or the change of RNCC 5 (secondary reference) to RNCC 1 (source control reference), or RNCC 3 (design control reference).

4. Reference numbers assigned RNCC D will always be submitted with a RNVC of 9.

5. Inasmuch as the use of RNCC C is a Service/Agency individual decision, the same reference number may be recorded for more than one NSN.

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RNVC REFERENCE NUMBER VARIATION CODE

A code indicating that a cited reference number is or is not item identifying, or is for information only.

CODE	EXPLANATION
1	A design control reference or other reference number that does not identify an item of production without the use of additional information, or is either a specification, part, type, or similar reference number that does not identify an item of supply without the use of additional information.
2	A design control reference or other reference number that is an item-identifying number for an item of production, or is either a source control reference, a specification or a standard part, type, or similar reference number that is an item identifying number for an item of supply.
3	A vendor's reference (part) number on a source control item, as defined in MIL-STD-100A, which is reparable through the removal, exchange, and reinstallation of component parts. The related source control document number will also reflect the code 3. This code is limited to a type 1B or 4B item identification.
9	A specification, standard, or other reference number which has been superseded, cancelled, obsolete or discontinued and is coded Reference Number Category Code (RNCC) 5; a reference number for information only coded RNCC 6, or a reference number coded RNCC D.

Notes: 1. Each reference number or portion of a reference number shall be coded as follows:

a. The reference number for a manufacturer's source controlling reference or a specification controlling reference for a type 1, 2, or 4 item identification shall always contain the variation code 2.

b. For a type 1A, 1B, 4A, or 4B item identification, the reference number for a related non-definitive specification or standard reference number shall always contain the variation code 1.

SEC PHYSICAL SECURITY/ARMS, AMMUNITION AND EXPLOSIVES SECURITY RISK/PILFERAGE CODE

A table of codes indicating the security classification and/or security risk or pilferage controls for storage and transportation of DoD assets. These codes and the explanation of each code are as follows:

A. PHYSICAL SECURITY CODE: A code indicating the material requires protection in the interest of national security.

CODE	EXPLANATION
A	Confidential - Formerly Restricted Data
B	Confidential - Restricted Data
C	Confidential
D	Confidential - Cryptologic
E	Secret - Cryptologic
F	Top Secret - Cryptologic
G	Secret - Formerly Restricted Data
H	Secret - Restricted Data
K	Top Secret - Formerly Restricted Data
L	Top Secret - Restricted Data
O	Item contains Naval nuclear propulsion information; disposal and access limitations are identified in NAVSEAINST C5511.32. Store and handle in a manner which will preclude unauthorized access to this material.
S	Secret
T	Top Secret
U	Unclassified
7	Item displays sensitive information. Prior to disposal, all name plates, label plates, meter face plates, tags, stickers, documents or markings which relate items to weapons system/enditem application must be removed and destroyed.

B. ARMS, AMMUNITION, AND EXPLOSIVES SECURITY RISK CODE: A code indicating the material requires a high degree of protection to prevent the acquisition of such material by terrorist or other criminal elements through loss or theft (DoD manual 5100.76-M, Physical Security of Sensitive Conventional Arms, Ammunition and Explosives).

CODE	EXPLANATION
1	Highest Sensitivity (Category I) - Nonnuclear missiles and rockets in a ready-to-fire configuration (e.g., Hamlet, Redeye, Stinger, Dragon, LAW, Viper) and explosive rounds for nonnuclear missiles and rockets. This category also applies in situations where the launcher (tube) and the explosive rounds, though not in a ready-to-fire configuration, are jointly stored or transported.

S/L SHELF LIFE

A one character alphanumeric code that indicates the storage time period or perishability of an item. Item types and codes for each type are as follows:

TYPE I - An item of supply which is determined through an evaluation of technical test data and/or actual experience to be an item with a definite non-extendable period of shelf-life.

TYPE II - An item of supply having an assigned shelf-life time period that may be extended after completion of inspection/test/restorative action.

TYPE I	TYPE II	STORAGE TIME PERIOD
0	0	Non-deteriorative
A		1 Month
B		2 Months
C	1	3 Months
D		4 Months
E		5 Months
F	2	6 Months
G	3	9 Months
H	4	12 Months
J		15 Months
K	5	18 Months
L		21 Months
M	6	24 Months
N		27 Months
P		30 Months
Q	7	36 Months
R	8	48 Months
S	9	60 Months
X	X	Military essential and medical items with shelf-life of greater than 60 months.

Notes: 1. The Shelf-Life Code field may be blank only if the National Stock Number is in Federal Supply Group (FSG) 11, 13, 14; or in Federal Supply Class 2845, 8905, 8910, 8915, or 9135. The Shelf-Life Code field may be blank when the Unit of Issue is GL and the FSC is 9130 or 9140.

2. Air Force use of Shelf-Life Code X is restricted to medical items with a shelf-life of greater than 60 months. When the Integrated Materiel Manager (IMM)/Lead Service has a Shelf-Life Code of X and the FSG is other than 65, the Air Force must submit a Shelf-Life code of 0 (zero).

B17	US Army Aviation Systems Readiness Command St. Louis, Missouri 63120-1798	CT
B46	US Army Electronics Materiel Readiness Activity Warrenton, Virginia 22186-5141	CU
B56	US Army Communications Security Logistics Activity Fort Huachuca, Arizona 85613-7090	CM
B63	USA Biological Depot, Wash, DC Mail-Commanding General, Walter Reed Army Medical Center, ATTN: Chief Supply Control Branch, Wash, DC 20012	N/A
B64	US Army Missile Command Redstone Arsenal, Alabama 35898-5230	BD
B69	US Army Medical Materiel Agency Frederick, Maryland 21701-5001	AM
FFZ	Sacramento Air Logistics Center McClellan AFB, California 95652-5609	TA
FG5	Ogden Air Logistics Center Hill AFB, Utah 84056-5609	SU
FGZ	Ogden Air Logistics Center Hill AFB, Utah 84056-5609	SU
FHZ	Oklahoma City Air Logistics Center Tinker AFB, Oklahoma 73145-5989	SX
FLZ	Warner Robins Air Logistics Center Robins AFB, Georgia 31098-5609	TG
F01	Warner Robins Air Logistics Center Robins AFB, Georgia 31098-5609	TG
F04	Air Force Medical Logistics Office AFMLO/FOL Fredrick, Maryland 21701-5006	TT
F27	Warner Robins Air Logistics Center Robins AFB, Georgia 31098-5609	TG
FL5	Warner Robins Air Logistics Center Robins AFB, Georgia 31098-5609	TG

F7X	Air Force Cryptologic Support Center (ESC) San Antonio, Texas 78243-5000	SJ
F8U	Oklahoma City Air Logistics Center Tinker AFB, Oklahoma 73145-5999	SX
F92	Air Force Clothing and Textile Office Philadelphia, Pennsylvania 19101-8419	ST
F97	HQ Air Force Engineering and Services Center/AFESC Tyndall AFB, Florida 32403-6001	SR
G0	The General Services Administration 20406 (See note 2)	75
G36	Vetrans Administration Supply Depot (901E) P.O. Box 27 Hines, Illinois 60141	54
HAD	Field Command, Defense Nuclear Agency Kirtland AFB, New Mexico 87115	XB
MHQ	Headquarters Marine Corps Washington, D.C. 20380	PM
MPB	Commanding General Marine Corps Logistics Base Code P850, Bldg. 3700 Albany, Georgia 31704-5000	PA
N17	Navy Resale and Service Support Office Fort Wadsworth Staten Island, NY 10305	N/A
N21	Naval Air Systems Command Washington, D.C. 20360	KA
N22	Naval Supply Systems Command Washington, D.C. 20376	HF
N23	Naval Sea Systems Command Washington, D.C. 20362	HA/HB
N24	Naval Sea Systems Command Washington, D.C. 20362	JK
N25	Naval Facilities Engineering Command Alexandria, Virginia 22332	N/A

N79	Naval Mine Engineering Facility Yorktown, Virginia 23491	GE
N84	Naval Ship Weapon Systems Engineering Station (Code 5200) Port Hueneme, California 93041	N/A
NDZ	Naval Supply Center San Diego, California 92131	N/A
NMP	Navy Ships Parts Control Center P.O. Box 2020 Mechanicsburg, Pennsylvania 17055	HD
NMZ	Navy Ships Parts Control Center P.O. Box 2020 Mechanicsburg, Pennsylvania 17055	N/A
NCB	Navy Ships Parts Control Center (Ammo Div.) P.O. Box 2020 Mechanicsburg, Pennsylvania 17055	JG
NPZ	Naval Publications and Forms Center Philadelphia, Pennsylvania 19120	N/A
PPZ	Naval Air Station Supply Department Pensacola, Florida 32508	N/A
PSZ	Pacific Missile Test Center Point Mugu, California 93042	N/A
P73	Naval Undersea Warfare Engineering Station Supply Department Keyport, WA 98345	N/A
Q6D	Communications Security Material System 3801 Nebraska Ave N.W. Washington, D.C. 20390	JD
Q81	Joint Cruise Missile Project Office Washington, D.C. 20360	JC
RAZ	Naval Plant Representative (SPL-60) Lockheed Missiles and Space Co. P.O. Box 504 Sunnyvale, California 94088	N/A

S9I	Defense Industrial Supply Center Philadelphia, Pennsylvania 19111	KZ
S9M	Defense Personnel Support Center Philadelphia, Pennsylvania 19101	KX
S9P	Defense Personnel Support Center Perishable Subsistence Philadelphia, Pennsylvania 19101	CZ
S9S	Defense Personnel Support Center Nonperishable Subsistence Philadelphia, Pennsylvania 19101	CZ
S9T	Defense Personnel Support Center Philadelphia, Pennsylvania 19101	CY
ZIC	U.S. Coast Guard Yard Curtiss Bay, Maryland 21226	XF
ZNC	U.S. Coast Guard Supply Center Brooklyn, New York 11232	XG
ZQC	U.S. Coast Guard Aircraft Repair and Supply Center Elizabeth, North Carolina 27909	XH

Notes: 1. See volume 12, Data Record Number (DRN) 3690 for definition and format.

2. G O is used in this table as an authorized value to represent all General Services Administration (GSA) supply control divisions and for segment H data edit/validation, publication, and for generating Source of Supply update to the Defense Automatic Addressing System (DAAS).

SVC USING SERVICE CODE

A code used to differentiate between Service, Integrated Materiel Manager, Lead Service and Civil Agency Catalog Management Data.

CODE	EXPLANATION
A	U.S. Army
C	U.S. Coast Guard
F	U.S. Air Force
G	General Services Administration (Civil Agencies)
I	Integrated Materiel Manager
L	Lead Service
M	U.S. Marine Corps
N	U.S. Navy

Note: See DRN 0745 for format.

EA	EACH
FT	FOOT
FV	FIVE
FY	FIFTY
GL	GALLON
GP	GROUP
GR	GROSS
HD	HUNDRED
HK	*HANK
IN	INCH
JR	*JAR
KT	KIT
LB	POUND
LG	*LENGTH
LI	LITER
MC	THOUSAND CUBIC FEET
ME	MEAL
MR	METER
MX	THOUSAND
OT	OUTFIT
OZ	OUNCE
PD	*PAD
PG	*PACKAGE
PM	PLATE
PR	PAIR
PT	PINT
PZ	*PACKET
QT	QUART
RA	RATION
RL	*REEL
RM	REAM
RO	*ROLL
SD	*SKID
SE	SET
SF	SQUARE FOOT
SH	SHEET
SK	SKEIN
SL	*SPOOL
SO	SHOT
SP	STRIP
SX	*STICK
SY	SQUARE YARD

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Defense Logistics Agency, DIDS Procedures Manual: Data Element Dictionary and Glossary of Terms/Acronyms, DOD 4100.39-M, Vol. 12, Department of Defense Directive, 1986.

Defense Logistics Agency, DIDS Procedures Manual: Multiple Application References/Instructions/Tables and Grids, DOD 4100.39-M, Vol. 10, Department of Defense Directive, 1986.

Defense Logistics Services Center, Federal Catalog System Training Program: Catalog Student Handbook H35, Section C, Jan, 1986.

Defense Logistics Services Center, Introduction to Federal Supply Catalogs and Related Publications: Federal Supply Catalog ML, C1-Volume 2, March, 1986.

Defense Logistics Services Center, Introduction to Federal Supply Catalogs and Related Publications: Federal Supply Catalog Federal Item Name Directory (H6-Series), C1-Volume 10, April, 1985.

APPENDIX D

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE LOGISTICS COMMAND
WRIGHT-PATTERSON AIR FORCE BASE, OHIO 45433-5001

REPLY TO ATTN OF: XR

SUBJECT: DOD Bearing Requirements

TO: NAVOP-40
Chief of Naval Operations
Washington DC 20350-2000

1. The Joint Logistics Commanders (JLC) have tasked the Joint Bearing Working Group (JBWG) to review the Department of Defense bearing requirements. To assist the JBWG in accomplishing this effort, request you complete the attached worksheets. The worksheets with instructions reference a specific National Stock Number (NSN) bearing and require completion by the manager of each specific bearing.

2. Please provide this information not later than 29 May 1987 to Mr Stuart Herder, Innovative Technologies, Inc., 7927 Jones Branch Drive, McLean VA 22102, (703) 734-3000. Questions regarding this project should be directed to Mr Martin Gershak, HQ AFLC/XRPI, Wright-Patterson AFB OH 45433-5001, (513) 257-2622 or AUTOVON 787-2622.

FOR THE COMMANDER

RONALD VIA, Colonel, USAF
Asst DCS/Plans and Programs

1 Atch
Bearing Demand Worksheets
and Instructions

Sample Tasking Letter