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**INITIAL REQUIREMENTS DETERMINATION**

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This instruction provides policy and procedures for selection and quantitative computation of spare part requirements for new weapon systems. It implements DoD 4140.1-R, as it applies to the provisioning and item requirements determination processes. This instruction does not apply to the Air National Guard or US Air Force Reserve units and members.

**SUMMARY OF REVISIONS**

This is a new instruction, developed from procedures formerly covered in AFMCR 57-27 and aligns AFMC policy with Air Force Policy Directive 23-1. It includes the latest Air Force automated data processing procedures and reflects the most recent Air Force organizational changes.

**Chapter 1— INITIAL REQUIREMENTS POLICY**

	<b>3</b>
1.1. Purpose. ....	3
1.2. Applicability. ....	3
1.3. Terms and Abbreviations. ....	3
1.4. Responsibility. ....	3
1.5. Program Data. ....	3
1.6. Policy. ....	3
1.7. Program Data. ....	7
1.8. Stockage and Retention. ....	7
1.9. Usage and Demand Rates. ....	8
Table 1.1. Review Cycle Determination. ....	9

1.10. Special Item Categories. .... 9

**Chapter 2— D200H INITIAL REQUIREMENTS DETERMINATION (IRD) SYSTEM 14**

2.1. System Description. .... 14

2.2. System Inputs. .... 14

2.3. System Operation. .... 14

2.4. System Users. .... 14

**Chapter 3— PROGRAMMING CHECKLIST 16**

3.1. General. .... 16

3.2. Source of the PCL. .... 16

3.3. Data from Interfaces. .... 16

3.4. Types of PCLs. .... 17

3.5. PCL Elements. .... 18

3.6. Other PCL Screens. .... 21

Table 3.1. Application for Input Format. .... 22

Figure 3.1. AFMC Form 27 ..... 23

Figure 3.2. Reverse of AFMC Form 27 ..... 24

**Chapter 4— INITIAL REQUIREMENTS COMPUTATION FOR CONSUMABLE ITEMS (ERRC XF3 OR XB3) 25**

4.1. Purpose. .... 25

4.2. Consumable Items. .... 25

4.3. Policy. .... 25

4.4. Computation Methodology. .... 25

**Chapter 5— INITIAL REQUIREMENTS DETERMINATION FOR RECOVERABLE ITEMS (ERRC XD2 OR XD3) 34**

5.1. Purpose. .... 34

5.2. Recoverable Items. .... 34

5.3. Policy. .... 34

5.4. Computation Methodology. .... 35

**Attachment 1— GLOSSARY OF ABBREVIATIONS, ACRONYMS, AND TERMS 44**

**Attachment 2— REQUIREMENTS FORMULAS 52**

## Chapter 1

### INITIAL REQUIREMENTS POLICY

**1.1. Purpose.** This instruction outlines Air Force and Department of Defense (DoD) policy for determining initial stock levels of items that support new or modified weapon systems.

**1.2. Applicability.** This instruction applies to all Air Force Materiel Command (AFMC) personnel who determine initial spare part requirements.

**1.3. Terms and Abbreviations.** Attachment 1 is a list of terms used in this instruction and their definitions. Attachment 3 lists abbreviations.

**1.4. Responsibility.** HQ AFMC/LGI will implement the policies and procedures established in this instruction. The inventory management specialist (IMS) will apply the procedures in this instruction to determine quantitative requirements for new items. The Air Logistics Center financial management function (ALC/FM) will approve deviations from the policies in this instruction.

**1.5. Program Data.** Data used to compute new requirements must be in approved Air Force documents. The D200F Requirements Data Bank (RDB) Applications, Programs, and Indentures (API) segment is the approved source of program data. The IMS, using the procedures in this instruction, applies the basic item data to the approved program to determine new item requirements.

#### 1.6. Policy.

##### 1.6.1. General Policy.

1.6.1.1. The D200H Requirements Data Bank (RDB) Initial Requirements Determination (IRD) subsystem is the approved automated tool for computing recoverable and consumable item requirements. The D200H is an interactive, on line system that builds and displays system and sub-system level programming checklists (PCL) and item worksheets.

1.6.1.2. D200H is the preferred method for initial spares computation since it accommodates multiple weapon systems and includes a simulation capability.

1.6.1.2.1. If direct access to the RDB is not available the IMS may use the manual methodology on AFMC Form 27, Programming Checklist and either AFMC Form 614, Recoverable Item Initial Requirements Computation Worksheet, (recoverable items) or AFMC Form 997, EOQ Item Initial Requirements Worksheet (consumable items) for the item computations. These forms include instructions for calculating each data element. Attachment 1 provides the mathematical formulas that the IRD model employs.

1.6.1.3. Use of mathematical models such as MOD-METRICÆ and the AMDAHL automated computation are encouraged. There are other models currently in use that are also appropriate for initial requirements determination. All mathematical models must follow the guidelines in this instruction. Mathematical models that recommend different wholesale-retail distribution (but not different quantities) of inventory than what this instruction directs may be used to compute requirements if the model conforms to the following criteria:

1.6.1.3.1. The model computes funding constraints by computing the pipeline stock quantity for each item using the average month flying hour program. The resulting dollar value is the funding constraint.

1.6.1.3.2. The model includes an optimization technique to minimize system down time or reduce backorders. This optimization technique would use the funding constraint as its budget goal when computing the optimal mix of items.

1.6.1.3.3. DLM requirements are computed according to this instruction if not included in the model's methodology. The optimized results should include the additional stock and cost.

1.6.1.3.4. No lower limits are placed on the model that will cause an item to be stocked as demand-based if the item would not have been stocked without the lower limit.

1.6.1.3.5. Assumptions used in the computation are realistic and documented.

1.6.1.3.6. Requirements quantities computed by the model are not adjusted outside of the model environment.

1.6.1.3.7. The model computes requirements for all components of an end item. This is necessary to obtain consistency of support among all subsystems.

1.6.1.3.8. If changes are made to factors for any items within a computational group, the entire group of items will recompute to obtain new quantities.

1.6.1.3.9. The ALC Resources Management Division (ALC/FM) approves use of mathematical models. The IMS forwards a request to use a mathematical model to the ALC/FM, who determines if the model is already in use. If so, the model's assumptions (such as two levels of repair instead of three) are validated. If the model passes this review, no further action is required and the model can be implemented. If it is a new mathematical model, the ALC/FM determines that it meets the above criteria, and forwards the request and supporting documentation to HQ AFMC/LGI. The package includes a full description of the model, proposed strategy for its use, an example of the computation printout, and any other pertinent information.

1.6.1.4. Initial spare parts include peculiar repairable and consumable components, assemblies, and subassemblies that must be available for issue at all levels of supply in time to support newly fielded end items during their entire production run. Whole spare engines will be classified as initial spare parts through the life of the system. End items include major items of inventory such as aircraft, missiles, vehicles, and pieces of support equipment.

1.6.1.5. The demand development period (DDP) starts on the end item's preliminary operating capability (POC) date and ends when the accumulated demand or usage history is sufficient to predict future demands. The DDP is not less than 12 months or more than 24 months long. POC is the date the first operational user receives the first end item. If an item only supports depot level repair, the DDP begins on the date the first end item is scheduled for overhaul.

1.6.1.6. Program dataform the basis for requirements computations and budget estimates. There are two types of programs, operational and overhaul. Operational programs are normally expressed as operational (flying) hours or as the monthly average number of end items in the inventory (inventory months). Overhaul programs are expressed as the number of end items or higher assemblies in scheduled to undergo repair or overhaul. In either case monthly flying hour projections, the end item delivery schedule, the number of end items at each site, the overhaul

schedule, and the Program Forecast Period (PFP), determine how the IRD system time-phases program data.

1.6.1.7. The PFP is peculiar to each item. It begins on the POC date and ends three months after the last day of acquisition lead time (AQLT). The PFP is at least 12 months, even if the AQLT plus 3 months is less.

1.6.1.7.1. Acquisition lead time includes two segments, administrative lead time (ALT) and production lead time (PLT).

1.6.1.7.2. Administrative lead time begins when an item's wholesale asset level is reduced to the reorder point, or the time at which a purchase request must be initiated to ensure that, at least in theory, the new stock arrives just as the assets on hand reach the safety level. ALT ends on the date the contractual instrument is executed. ALT includes the time required to identify a requirement and to buy; review, approve and document a purchase request; review technical data; and to process and execute the contractual instrument.

1.6.1.7.3. Production lead time begins on the date that the contractual instrument is executed. PLT ends when a significant quantity (10% of the ordered quantity) of the materiel is received.

1.6.1.8. The required item quantity relates to a demand forecast or to the item's essentiality. The demand forecast is derived from predicted failures, projected programs, and maintenance factors. Acquisition quantities computed outside of the IRD process are permitted if quantity discounts or other acquisition techniques make them more economical. Any decision to buy a larger quantity must consider the risks of overstockage and obsolescence. The item manager must document the reasons for the different buy quantity.

1.6.1.9. Acquisition programs must consider design stability, logistics costs and risks, and the system's acquisition and delivery schedule.

1.6.1.10. Generally, the initial requirements determination process does not apply to items already in the Air Force inventory, i. e. assigned a National Stock Number (NSN). The replenishment systems (D041 for recoverable items, D062 for consumable items) compute requirements for these items.

1.6.1.10.1. Some stock listed items may have experienced usage and developed demand rates with other system applications. When computing demand rates for initial requirements determination, the equipment specialist considers these computed rates with the factors received from the provisioning documents and, if necessary, develops a weighted factor. Consumable item managers should enter an additive requirement in the D062 system to support new applications.

1.6.1.11. Program data should reflect a realistic production schedule and include only quantities of end articles that are reflected in approved DoD appropriations. Effective support planning for any new program includes anticipation of potential technical and production problems.

## 1.6.2. Initial Requirements Policy.

1.6.2.1. The RDB IRD produces a detailed computation for each new spare and repair part authorized for acquisition as an initial spare, using methods covered in this instruction. The IMS considers all DoD assets before initiating a new acquisition.

1.6.2.2. The IMS may compute other services' requirements using the guidance in this instruction, or through the Supply Support Request System (D169). Either a consumable supply support request (SSR) or a non-consumable materiel support request (NMSR) may identify new requirements for non-Air Force managed items.

1.6.2.3. The purpose of the initial requirements determination process is to provide spares support just prior to or in conjunction with the delivery of the weapon system. Initial spares and repair parts requirements provide support for anticipated end article deliveries through a program forecast (PFP).

1.6.2.4. The IMS may defer initial requirements computation if an item is under warranty or covered by interim contract support (ICS). This deferral is valid until the warranty expires or when organic repair capability is available. Requirements for these items must be computed with IRD methodology if they are not stock-listed.

1.6.2.4.1. When Interim Contractor Support (ICS) supports a newly fielded weapon system, contractual arrangements must ensure that the contractor collects spare and repair parts usage data and delivers them in a format compatible with AFMC systems. Where possible and practical the contractor's usage data, rather than engineering estimates, should forecast spare and repair parts requirements. Under ICS, the contractor will repair an item until organic repair is established.

1.6.2.5. Stockage criteria are determined during the provisioning process. This involves decisions whether or not each item will be stocked and, if stocked, how it is to be managed. All items that pass from D220 to the IRD are stocked items. The IRD edits the Source, Maintenance, and Recovery (SMR) code and the Total Organizational Maintenance Demand Rate (TOIMDR, see 1.9.3 below) to determine if an item will be a demand-based or an insurance item. The D220 Provisioning system passes both of these elements.

1.6.2.5.1. Insurance items are not expected to fail through normal usage, but are considered critical for system operation. Therefore, wholesale stockage of minimal quantities is authorized in the event of losses through abnormal equipment failure, accidents, natural disasters, or other unforeseen events. An insurance item is catalogued as such during the provisioning process by assigning an Acquisition Advice Code (AAC) D; an insurance item can change to a demand based item only through a catalog change. The IRD system assigns item category code I to the following items:

1.6.2.5.1.1. Items with both TOIMDR and Overhaul Replacement Percents of 0.

1.6.2.5.1.2. Items with "PB" or "PG" in the first two positions of the SMR Code.

1.6.2.5.2. Demand based items include failure rates and maintenance factors and compute requirements according to projected operational or inventory programs.

1.6.2.5.3. The ALC may elect to manage some items as non-demand based numeric stockage objective (NSO) items. An NSO item is an essential, non-demand-based stocked item for which some failure is expected, but so infrequently or sporadically that it is not possible to predict any meaningful demand rates. NSO items do not qualify for stockage on the basis of demand. But since the lack of a replacement item would hamper the operational capability of a weapon system, the item is stocked as an essential, non-demand-based item.

1.6.2.6. When first-year production quantities are less than ten percent of total production quantities, a request for waiver for an additional two years of provisioning support may be submitted. The waiver, if granted, would apply to a particular program and may cover all or part of the new, peculiar items applicable to that program. The waiver request should include complete justification and a statement of the anticipated impact on funds. It should also include a statement about the type of procurement proposed e.g., competitive on a purchase request (PR), noncompetitive on a PR, or provisioning item order (PIO) and will be submitted for approval to the ALC/FM.

1.6.2.7. Security Assistance (SA) Program. SA initial requirements are unprogrammed and therefore not included in the Air Force initial requirements computation process. However, they may be included as an additive when computing a consolidated requirement. AFM 67-1, Vol 9, *Security Assistance Program Procedures*, provides guidance for SA requirements. If Provisioning Item Orders are used to procure the requirement, the SA requirement and the Air Force requirement cannot be consolidated on a single PIO because the fund cites are different and a PIO relates to a single contract line item.

## 1.7. Program Data.

1.7.1. End item program data must be consistent with program data used for replenishment spares program.

1.7.2. Programs must consider requirements for the depot and base and will be developed in 3-month increments, beginning with the month that includes POC as month 1.

1.7.2.1. To support depot overhaul requirements the system develops an Adjusted Month Program (AMP) over the program time base (PTB). The PTB begins with a period of time equal to a review cycle and is measured with each review. The PTB expands until it equals the item's Program Forecast Period (PFP). For example, an item with a review cycle of 6 would have PTBs of 6, 12, 18, etc., until the PFP has been reached. See chapter 5 for details on AMP development.

1.7.2.2. For base level requirements, the adjusted month program is developed according to the contracted end item delivery schedule to sites being activated during the PFP.

1.7.2.3. After considering the total costs involved in ordering initial requirements, the development of item program data should be tailored to indicate the manner in which orders are to be processed. A decision to deviate from the incremental release of orders policy should be made on an item-by-item basis. The ALC/FM must grant approval.

1.7.2.4. A programming checklist (PCL) contains segmented programs applicable to the weapon system or end article on a production or modification contract. Chapter 3 provides a complete description of the programming checklist. When the item's lead time, plus 3 months, is larger than the highest program time base shown on the provisioning checklist, the largest program time base on the provisioning checklist applies. If no program time base coincides with the required program period, the next higher program time base applies instead.

1.7.2.5. The assigned provisioning office will notify the lateral support ALCs of changes to the PCL by issuing a revised checklist. The responsible provisioning office is usually the ALC/SPM or the ALC/EAIM.

**1.8. Stockage and Retention.** The ALC/FM (or an assigned counterpart) maintains a 3-year history of part-numbered and stock-numbered non-stocked item requisitions received at the wholesale level. The

purpose is to identify for procurement (and possibly stockage) items that later may meet the DoD inventory control point (ICP) stockage criteria.

1.8.1. Items with high reliability may receive little or no demand during the demand development period (DDP). To avoid disposal of an item that may be needed later, the item manager should contact the local disposal office to determine how soon after the preliminary operational capability an item can be a disposal candidate. HQ AFMC/LGI must approve any calculations prior to use. Retention levels shall then be set in accordance with DoD 4140.1-R, Chapter 4. When scheduled end item deliveries extend beyond the PFP, initial spares support is limited to the projected end item deliveries during the PFP.

## **1.9. Usage and Demand Rates.**

1.9.1. The D220 system provides all failure, maintenance, wear-out, replacement, and condemnation rates.

1.9.2. The primary contractor furnishes rates and factors. The ES approves or changes these rates and then provides the factors to the IMS, who uses them to develop initial support requirements. Rates and factors should represent the latest information available (for example, test data, design change information, or experience with a similar item). The ES must notify the end article system manager of their intent to deviate significantly (plus or minus 10 percent) from contractor estimated failure rates on major systems or subsystems being provisioned. The ES should not change contractor furnished data if they were developed as part of a reliability and maintainability program, unless the mission or the maintenance concept changed after the data were developed. The ES retains supporting documentation to justify file maintained factors for at least 3 years.

1.9.3. The maintenance repair rates (MRRs) derive from the total OIM demand rate (TOIMDR), which is an indication of the number of failures to occur for every unit of program (flying hours x 100 or per installed unit). MRRs include base repair rates and depot demand rates as well as the TOIMDR. The base repair rate determines the number of failures that will be repaired at the base maintenance facility. The depot demand rate determines the number of units to be repaired at a depot repair facility. MRRs are expressed as a one-position whole number and a four-position decimal.

1.9.4. Actual experience may determine the appropriate MRRs when at least 3 months of usage history is available. For example, when 3 months of usage data are available, a new MRR should be developed. The actual data should be weighted 25 percent and the estimated MRR should be weighted 75 percent. When 12 months of data are available, the new MRR should be developed by weighting the actual MRR at 50 percent and the estimated MRR at 50 percent. When 18 months of data are available, the weighting for the actual MRR should be 75 percent and the estimated MRR 25 percent. After 2 years of experience is available, the maintenance replacement rate is based entirely on actual data. In some cases, actual experience may not be indicative of future demands. The ES reviews these items and determines the appropriate MRRs. The ES may select 1 year of usage history to indicate future demands.

1.9.5. Review Cycles (RC). The IRD system determines an item's review cycle (RC) according to the dollar value of annual demands (DVAD). The DVAD is the unit repair cost multiplied by the number of base level failures and depot level replacements expected to occur over twelve months during the program forecast period.

1.9.5.1. The purpose of the review cycle is to provide a guide for initiating procurement actions and to determine which program to use for each procurement action. The number of months in the review cycle is the increment in which acquisition actions will be made. Each incremental quantity is the difference between the quantity in the current PTB and the quantity in the prior PTB. Different quantities are authorized if they are more economical. The ALC/FM approves these deviations. The value of buy quantities may not exceed available fiscal year initial spares funds without approval from HQ AFMC/FM and LG.

1.9.5.2. Table 1.1 is an example of the review cycles and their associated dollar values. The values in this table are those that were in effect on the implementation date of this instruction. The HQ AFMC OPR changes this table as required. All users with access to the on-line IRD system can view this table (see Chapter 3).

1.9.5.2.1. The frequency of the SAIP “window” determines the review cycle for spares acquisition integrated with production (SAIP) items. If the SAIP window opens once a year, the review cycle is 12 months. If the SAIP review cycle is greater than the program forecast period, the SAIP quantity purchased with initial spares funds will be limited to the program forecast period. The remainder should be funded with replenishment funds. See 1.10.5 below for the definition of SAIP.

**Table 1.1. Review Cycle Determination.**

Dollar Value of Annual Demands	Review Cycle
\$0 to 50,000	Program Forecast Period
\$50,001 to 1,000,000	Quarterly
\$1,000,001 to 2,500,000	Semiannually
\$2,500,001 or greater	Annually

## 1.10. Special Item Categories.

1.10.1. Insurance Items. Insurance item quantities consider item application, quantity per end item, expected distribution of the end item, and criticality of the item to the operation of the end item. Based on the item essentiality, wholesale stockage of insurance items is limited to: items that apply to high priority weapon system or end items, technically critical items necessary to insure weapon system availability, and items necessary for safety.

1.10.1.1. An insurance level equal to one per wholesale storage activity should be sufficient for most programs. The IMS determines the quantity needed to maintain support. The ALC/FM analyst approves larger insurance levels. The ES may provide the IMS with recommended quantities and their rationale.

1.10.1.2. Insurance items are normally stocked only at the depot. An exception would be if the item supported an end item repair located at only one installation. The major command (MAJ-COM), IMS, and SPM make this determination.

1.10.1.3. Procurement of insurance items with a very high cost (over \$10,000 unit cost) are deferred until lead time prior to production phase-out of the end item. The insurance category must be revalidated prior to all contracting actions.

1.10.1.4. The item manager may initiate immediate acquisition action for an insurance item if a demand occurs, regardless of unit cost. At the same time, however, the equipment specialist should review the item to determine if the insurance code should be removed.

1.10.2. Numeric Stockage Objective (NSO). Items are essential to program support because of a lack of the item prevents mission accomplishment or causes a safety hazard. The IMS determines the NSO level. The ES documents the rationale used to designate the item NSO. NSO items can be stocked at the base levels part of the retail stock level. Since NSO items have demand rates, justification for additional quantities can be based on end item distribution. Only recoverable items can be NSO items.

1.10.3. Initial Spares Support List. An Initial Spares Support List (ISSL) supports new system activations. The ISSL identify items that must be available to fill retail stock levels on the POC date.

1.10.3.1. Retail stock levels support the base order and ship time (O & ST) requirement and the base repair cycle requirement. AFM 67-1, Volume I, Part One, Chapter 12, Section A, Basic Air Force Supply Procedures and AFM 67-1, Volume II, Part Two, Chapter 19, *Standard Base Supply System*, provide policy and detailed procedures for ISSLs.

1.10.3.2. The ES and MAJCOMs select the range of items for the ISSL. Since the D200H computes retail stock levels, no additional quantities are normally needed to support new activations. Instead, the ISSL identifies items that should be stocked at base level. Placement of these items involves determination of how to distribute stock rather than determination of an additional quantity. The system program manager, the IMS, and the major command users decide how retail stock should be distributed. The safety level computation in the recoverable item replenishment system (D041 Aircraft Availability Model) considers all new activation user SRANs with ISSL authorizations to be users with computed demand levels. AFMCM 23-1 provides detailed procedures. Exceptions to this policy are items that apply to low density systems, normally Communication & Electronic networks. The IMS may input to the D200H an adjusted stock level equal to the number of SRAN users if the item meets the following criteria:

1.10.3.2.1. The item is not stock listed.

1.10.3.2.2. The item applies to a low density system. A low density system is one that has four or fewer end items per SRAN.

1.10.3.2.3. The item is critical to the system operation; lack of the item means that the system would not be available.

1.10.4. Interim Contractor Support (ICS).

1.10.4.1. The system program manager determines if a system should be supported through ICS until organic maintenance support is available. The contractor provides maintenance support over a specified time period, during which the system gradually migrates to organic support.

1.10.4.2. During the provisioning conference the contractor assigns to each item a transition date for organic support. As this transition occurs, the contractor or vendor acquires assets in the required configuration to fill support requirements.

1.10.4.3. The contractor provides recoverable item breakdowns (RIB) for items to be repaired under ICS. The item manager will not buy items in the RIB that do not have stable design until acquisition lead time before the transition date from ICS to organic support. The item's POC date is the same as the transition date, and the item's demand development period starts at this point.

1.10.5. Spares Acquisition Integrated With Production (SAIP). The SAIP concept gives price benefits by releasing spares orders concurrently with the release of the contractor's production orders to the vendors. Changes to spare parts requirements must coincide with changes to the end article. Order quantities are stable unless a major program change occurs.

1.10.6. Training Equipment (Mobile Training Sets, Resident Training Equipment, and Support Simulators). The IMS, SPM or EAIM should rely upon Aerospace Education and Training Command (AETC) guidance and apply factors derived from AETC's command experience and peculiar usage of items used for training. Initial quantities of spares and repair parts that support training equipment are determined using programs and assigned factors as follows:

1.10.6.1. Initial spare and repair parts of items that apply only to training equipment are determined according to chapters 2 and 3 of this instruction.

1.10.6.2. The IMS may develop an increased requirement to support items common to both the training equipment and the end item for which training is provided. This quantity supports the requirement for training equipment and is determined by considering the stock levels established for the end item. The IMS should also consider the training schedule. If the training effort starts before end item delivery, procurement should be initiated in time to support the training.

1.10.6.3. ISSLs that support training equipment will include items peculiar to the training equipment, the end item for which training is being provided, and items common to other Air Force systems. However, the IMS procures only items that may be acquired through initial provisioning.

1.10.7. Life-of-Type (LOT Items).

1.10.7.1. DoD 4140.1-R authorizes life-of-type buys when items will not be produced after production of the major end item is completed; therefore, the total issues anticipated during the life of the end item are forecasted and procured. In some cases a contractor may choose to phase out production of an end item and it may not be practical establish capability to produce spare parts. Under these circumstances the system program manager may elect to request authority to initiate a life of type buy.

1.10.7.2. LOT item buys are not normally authorized while the end item is in production. Approval to buy LOT spares requirements depends on an analysis and evaluation of support implications, costs, benefits, and alternatives.

1.10.7.3. An economic analysis must validate the feasibility of this procedure. The analysis must consider the total cost to procure LOT requirements, including the cost of hardware, data and administration, and the total cost to retain production tooling and test equipment, production start-up costs, and spares costs.

1.10.7.4. The item is not a candidate for a life-of-type buy under any of the following conditions:

1.10.7.4.1. The item is subject to design change or technical obsolescence.

1.10.7.4.2. The item can be acquired through competitive procurement.

1.10.7.4.3. The item has shelf life restrictions.

1.10.7.4.4. The item does not have a firm end item program life, including projected use by other services or FMS customers.

1.10.7.4.5. Assets are available from reclamation.

1.10.7.5. The ALC/FM prepares (for ALC approval) a summary of the evaluation and recommendations and includes the total costs of each option. This summary becomes part of the item history file and serves as an audit trail.

1.10.7.5.1. If the value of the LOT buy is \$1 million or greater, the ALC/FM forwards the complete summary indicating ALC approval to HQ AFMC/LGI for evaluation and approval.

1.10.7.5.2. Life of type buys valued at less than \$1 million dollars can be approved in the System Program Manager or Inventory Management division, with the ALC/FM concurrence at division level.

1.10.8. SPRAM. Special Purpose Recoverables Authorized to Maintenance (SPRAM) items support base level maintenance activities. AFM 67-1, Volume I, Part one, Chapter 11, Section AG authorizes the use of SPRAM.

1.10.8.1. The SPM and EAIM equipment specialist, in conjunction with the MAJCOM representative, select logical SPRAM items and quantities during the provisioning process.

1.10.8.2. The provisioning technical documentation (PTD) displays the SPRAM quantity. The IMS enters the quantity in the requirements computation as an additive quantity

1.10.9. Weapons Training Detachments Operating Spares (WTDOS) Program.

1.10.9.1. The WTDOS program provides spare parts support to units that participate in operational training exercises away from their home bases. The system program manager selects items and identifies the requirement to the IMS.

1.10.9.2. The IMS enters the quantity in the requirements computation as an additive quantity, if possible. See AFM 67-1, Volume 1, Part One, Chapter 11.

1.10.10. War Reserve Materiel (WRM).

1.10.10.1. The EAIM and equipment specialist, and the MAJCOM representative, select WRM items and quantities required to support the system or equipment. The IMS may acquire WRM assets at the same time peacetime assets are bought. WRM is procured using replenishment funds. For further information, refer to AFM 67-1, volume 1, part one, chapter 14.

1.10.11. Requirements Computation.

1.10.11.1. Stockage Requirements. Requirements for items that meet the DoD stockage criteria are computed according to guidelines provided in this instruction unless HQ AFMC/LGI approves an alternative procedure

1.10.11.2. Rounding Computed Quantities. D200H computes requirements in several segments, which include operational, pipeline, and additive segments. It rounds the results of each segment to one decimal place, using normal rounding procedures, and adds the results to obtain a total requirement. If the total requirement results in a decimal quantity, the system rounds the quantity up to the next higher integer.

1.10.11.3. Application of Asset and Usage Data. The contractor may provide data lists to AFMC that detail asset and usage data accumulated during pre-operational phase of system development. The equipment specialist determines if the usage data should be used to calculate maintenance rates to be used in the requirements computation. The IMS must apply to the computed quantities any pre-operational assets that the contractor offers.

1.10.11.4. Program Adjustments. If an item is to be installed in only a portion of the end item population, the equipment specialist adjusts the end item program accordingly. Design change notices (DCN) are instances when this can occur. The ES should prorate the published program based on the proportion of the number of end items which the item applies, to the number of end items that the item does not apply. This is the application percent. The on-line item worksheets include a free text area to document adjustments to the published program.

1.10.11.5. Additive Requirements (AR). ARs support special projects or particular, non-recurring programs. Justification for ARs is required and should include identification of the program they support, including any applicable project codes and nicknames. Normally, ARs should not support recurring OIM or depot level maintenance demands. These requirements should be stated through demand and maintenance rates. WRM requirements may be identified and acquired as an additive requirement and positioned with an end item when the end item is assigned to a major military mission.

1.10.11.6. Material Improvement Programs (MIP) and Engineering Change Proposals (ECP). When the service life of a spare or repair part is expected to increase through a component improvement program or changes in design or manufacture of the item, the requirements computation must anticipate the projected increase in service life.

1.10.11.7. Changes to Computed Requirements. One feature of the D200H system is the capability to file maintain data elements on line and instantly see the results. The purpose of this feature is to minimize manual adjustments to computed buy requirements. Normally, a computed buy quantity changes when a computational element, such as demand rate or a logistics pipeline segment, has changed. When a change in buy quantity cannot be attributed to a change in a computational element within the D200H system, the change must be documented on the requirements worksheet and approved by the appropriate level of management according to the value of the change.

1.10.11.8. Interim release of items with long lead times. The contractor may release items with long lead times incrementally and concurrently with production of the end item. When the contractor has interim release authority, the IMS determines item quantities according to this instruction using the average month and adjusted month program that corresponds to the six month program time base on the programming checklist. This is due to the restriction that limits interim release buys to six months. Upon receipt of provisioning documentation, items are recomputed in a normal fashion using the program in the PTB that corresponds to the item's review cycle.

1.10.11.9. Contractor Recommended Quantities. Although the D220 input includes contractor recommended buy quantities, the IMS must compute item requirement according to the guidelines specified in this instruction. This ensures that the contractor has provided accurate estimates and that the necessary data are available to establish of items in the Air Force inventory. The quantity computed in the D200H is the quantity bought.

## Chapter 2

### D200H INITIAL REQUIREMENTS DETERMINATION (IRD) SYSTEM

**2.1. System Description.** The D200H IRD is a subsystem of the AFMC Requirements Data Bank. It is an automated version of a previously manual computation process. It provides on-line support for management data retrieval, factors update, and assessment of changes in factor and logistics data. Users may view and change system data, and generate reports of applicable requirements data.

**2.2. System Inputs.** IRD receives input from other systems via electronic file transfer in batch mode. The IRD receives data from the D220 Provisioning Data System, the K004 Past/Projected Programs System, and from user file maintenance.

2.2.1. Chapter 3 includes a list of elements that each system provides to the IRD. The IRD receives file maintenance transactions daily from each of the ALCs. Chapters 3, 4, and 5 indicate which elements can be file maintained and under what circumstances.

**2.3. System Operation.** The IRD system operates centrally at Wright Patterson AFB OH on the AMDAHL mainframe computer. Users gain access to the system via local area network (LAN) terminals and generate reports at applicable area printers. The system includes two functions, batch processing and on-line processing. Batch functions are grouped by frequency and on-line functions are grouped by user view.

2.3.1. When IRD receives data it builds a programming check list (see Chapter 3) for the system or subsystem. Each system or subsystem is identified by a Provisioning Contract Control Number (PCCN). Each PCL has a unique PCCN. Each item that is a component of the system or subsystem is identified with a Provisioning Line Item Sequence Number (PLISN). The system builds a requirements worksheet for each PLISN.

**2.4. System Users.** Individuals who require on-line access to the D200H complete DISA Form 41 and submit it to the HQ AFMC OPR. The HQ AFMC OPR approves the system access request and submits it to the Requirements Data Bank data system administrator. There are eight categories of users in the IRD system.

2.4.1. HQ OPR. This is the HQ AFMC system OPR. This user can view all screens and file maintain the Standard Data Tables.

2.4.2. ALC Master. This is the ALC OPR. This user can view all screens and file maintain data that originates at the user's ALC.

2.4.3. Inventory Management Specialist (IMS). This is the ALC item manager. This user can view all screens and file maintain data that applies to items assigned to the user.

2.4.4. IMS Supervisor. This user can view all screens and file maintain items in the user's area of responsibility. This user also uses the on-line capability to assign items to item managers that the user supervises.

2.4.5. System Program Manager (SPM). This is normally a program manager. This user can create and file maintain programming checklists (PCL).

2.4.6. End Article Item Manager (EAIM). This user can view the same screens and file maintain the same data as the IMS and the SPM.

2.4.7. Provisioning Specialist. This user can view all screens and file maintain the PCL/PCCN Cross Reference Table in the PCL.

2.4.8. Data User. This is a user who does not fit any of the above user profiles but may be authorized access by the HQ AFMC OPR. This user has “read only” capability and cannot file maintain any data.

2.4.9. Query Capabilities. Users can locate, retrieve, sort, and display almost any data element or group of elements in the D200H with the system ad hoc query capability. The CA/DATAQUERY User Reference and the CA/DATAQUERY User Guide provide complete descriptions and instructions of the RDB query system.

2.4.10. System Screens. Each of the following screens allow authorized users to change global data within the IRD.

2.4.10.1. Stockage Table Screen. This screen displays the four stockage tables by holding and procurement cost categories described in Chapter 1. The HQ AFMC OPR file maintains this table with values that determine the Item Category Code for each item applicable to the system. All users can view this screen.

2.4.10.2. ERRC Standard Data Screens. This is a series of four screens, one each for ERRCs T, C, P, and N. The HQ AFMC OPR enters default lead time, retail pipeline, and repair cycle data. All users can view this screen.

2.4.10.3. Review Cycle Table. This screen allows the HQ AFMC OPR to enter the values that will determine if items are to be reviewed quarterly, semi-annually, or annually. All users can view this screen.

2.4.11. User Screens. Each of the following screens allow authorized users to change or view system or item data:

2.4.11.1. Change Printer ID Screen. This screen displays the printer to which output products will be routed and allows any user to change the printer ID.

2.4.11.2. PIIN Requirements Determination Screen. This screen displays the “Usable On” codes and associated application percents, by PTB, for a requested Procurement Instrumentation Identification Number (PIIN, a contracting instrument for a system or sub-system). Authorized users (SPM, EAIM ALC OPR) can changed the “Usable On” codes and application percents. All users can view this screen.

2.4.11.3. User Maintenance Screen. The ALC OPR can select this screen through the User Maintenance Menu Screen. It allows the ALC OPR to enter or change user profile information.

2.4.11.4. Item Worksheet Listing Screen. This screen allows all users to view a list of all items, in PLISN order, within a PCCN.

2.4.11.5. Item Add Screen. This screen allows authorized users (IMS, IMS Supervisor, EAIM, ALC OPR) to create a new item worksheet by filling in the applicable data fields.

2.4.11.6. Invalid User Screen. This screen appears when a user attempts to log on with a User ID or password that the system does not recognize.

## Chapter 3

### PROGRAMMING CHECKLIST

**3.1. General.** The programming checklist (PCL) is a source document for the program, logistical, and catalog data to be applied across a range of items. The purpose of the PCL is to support spare part computations with consistent, current, and accurate data. The Development contractor may use the PCL to support interim release of items with long lead times. The provisioning function may use the PCL as a guide in Source, Maintenance, and Recoverability (SMR) coding and other related logistical functions.

**3.2. Source of the PCL.** The Requirements Data Bank D200H IRD subsystem is the preferred source of the PCL. If the RDB is not available or its use is not feasible, the provisioning function may develop a manual PCL on AFMC Form 27.

**3.3. Data from Interfaces.** The PCL derives data from interfaces with D220 Provisioning system and K004 Past/Projected Programs system.

3.3.1. The D220 system provides the following logistical and catalog data system.

3.3.1.1. Provisioning list item sequence number (PLISN).

3.3.1.2. Commercial and Government Entity (CAGE) code (formerly FSCM).

3.3.1.3. Manufacturer's Part Number.

3.3.1.4. Item Name (Noun).

3.3.1.5. Quantity Per Application (QPA).

3.3.1.6. Quantity Per End Item (QPEI).

3.3.1.7. Source, Maintainability, Recoverability (SMR) code.

3.3.1.8. National Stock Number (NSN), with separate fields for the Federal Supply Class (FSC), and the National Item Identification Number (NIIN).

3.3.1.9. Use On code.

3.3.1.10. Maintenance Factor. This is the Total Organizational Intermediate Demand Rate (TOIMDR).

3.3.1.11. Materiel Management Aggregation Code (MMAC).

3.3.1.12. Item Management Code (IMC).

3.3.1.13. Production Lead Time (PLT).

3.3.1.14. Unit price.

3.3.1.15. Quantity per Unit Pack (QUP).

3.3.1.16. Shelf Life code.

3.3.1.17. Type of Provisioning Technical Document.

3.3.1.18. Production Lead Time (PLT).

3.3.1.19. Unit price.

- 3.3.1.20. Quantity per Unit Pack (QUP).
- 3.3.1.21. Shelf Life code.
- 3.3.1.22. Type of Provisioning Technical Document.
- 3.3.1.23. Prior Item PLISN.
- 3.3.1.24. Next Higher Assembly (NHA) PLISN.
- 3.3.1.25. Overhaul Replacement Percent.
- 3.3.1.26. Base Condemnation Percent.
- 3.3.1.27. Base Not Repairable This Station (NRTS) Percent.
- 3.3.1.28. Depot Overhaul Condemnation Percent.
- 3.3.1.29. Replaced or Superseded PLISN.
- 3.3.1.30. Quantity of assets shipped.
- 3.3.1.31. Quantity of assets procured.

3.3.2. The K004 system passes the following elements on the last day of each calendar quarter on file D200.PA:

- 3.3.2.1. Application Program Designator (APD).
- 3.3.2.2. Program Type.
- 3.3.2.3. Service Code.
- 3.3.2.4. Projected program quantity by quarter (36 occurrences).
- 3.3.2.5. Past program quantity by month (up to 36 occurrences).

**3.4. Types of PCLs.** The D200H displays active programming checklists in the on-line system and produces hard copy PCLs at the user's request. D200H includes two types of PCLs, the standard PCL and the Line Replaceable Unit/Shop Replacement Unit (LRU/SRU) PCL.

- 3.4.1. Standard PCL. Develops application program data for aircraft, engines, airborne, electronics, armament, support and vehicular equipment, missiles, drones, and communications equipment.
- 3.4.2. LRU/SRU PCL. Develops application program data for items that normally replaced as a single unit. These items have distinctive stock number for which spares are authorized to support replacements. As such, computed programs from the related applications are used to develop computed programs in the LRU/SRU PCL.
- 3.4.3. Program Time Base (PTB). The IRD system projects accumulated program data and requirements across sixteen program time bases. Each PTB is assigned a number from 3 to 48 divisible by three (i.e., 3, 6, 9, 12 . . . 48). Thus, each PTB represents a quarter of accumulated data.
- 3.4.4. Program Development. For purpose of initial requirements determination, the IRD system applies an Adjusted Month Program (ADMP). The IRD system performs the following steps to compute the ADMP.

3.4.4.1. Compute the adjusted month schedule for each quarter. This is the quarterly program (operating, inventory, or overhaul) that passed from the D220 system divided by three. Any remainder is distributed in the first and second months.

3.4.4.2. Compute the average month schedule. This is the average monthly inventory through the 48 months (16 quarters) of the (PTB). In the first month it is the adjusted month schedule computed in the preceding paragraph divided by 2. In the 2nd through 48th months, it is the adjusted month schedule, plus the adjusted month schedule from the preceding month, divided by two.

3.4.4.3. Average Month Program. The average month program is the average month schedule from the preceding paragraph accumulated through the program time base (PTB), divided by the number of months in the PTB.

**3.5. PCL Elements.** The following explains each PCL element in the sequence it appears on the five on-line screen pages. The abbreviated element appears in parentheses as it is displayed on the screen. The D200H User's Manual indicates which elements may be file maintained by certain users.

3.5.1. Page 1 Elements.

3.5.1.1. Application Program Designator (APPL PRGM DES) (APD). This is the official designation of the program being supported. It can appear as an aircraft mission-design-series (MDS), an engine type-mission-series (TMS), a missile or vehicle designator, a program or network element code, a support equipment designator, or a national stock number. Certain users can update or enter the APD when adding a PCL. When file maintaining this element, the APD must conform to a specific format, as illustrated in Figure 3.1.

3.5.1.2. End Item Type Code (EI TYP CD). "E" in this element indicates an engine application.

3.5.1.3. Weapon System Application (WPN SYS APPL). This is the end item's mission category (e.g., fighter, cargo, attack).

3.5.1.4. End Item Name (End Item Name). This is the specific designation of the end item. It can be identical to the Application Program Designator, or a further breakdown of the APD. For example APD F16 can display End Item Name "F16" or "F16A," "F16B," etc.

3.5.1.5. National Stock Number (NSN). If the end item has an assigned national stock number, it is displayed in this field.

3.5.1.6. Creation Date (Creation Date). This is the date that the IRD system first built the PCL.

3.5.1.7. Revision Date (Revision Date). If the PCL had been revised, the date of the latest revision appears in this field.

3.5.1.8. Revision Number (Revision #). The number of times the PCL had been revised. If the PCL had not been revised, this field is blank. The revision date and number change only if data that affects the computation changes.

3.5.1.9. Originator (Originator). The user fills in this field with the name of the individual who originally created the PCL.

3.5.1.10. Office Symbol (Off Sym). This is the user's organization.

3.5.1.11. Air Logistics Center (ALC). This is the Air Force inventory control point to which the user is assigned.

3.5.1.12. Procurement Instrument Identification Number (PIIN). This is usually the system acquisition or modification contract number.

3.5.1.13. Purchase Request or Military Interdepartmental Purchase Request (PR/MIPR). This field applies if the end item is being acquired on a purchase request.

3.5.1.14. Contractor (Contractor Name). Self-explanatory.

3.5.1.15. Contractor's Address (Location). The contractor's city and state (or country).

3.5.1.16. Operational Need Date (Operational Need Date). This is the date the end item will require operational support. It is used to select raw program data that will be the basis of stock level computations.

3.5.1.17. End Item Life Expectancy (EI Life Exp). This is the number of years that the end item is expected to remain in the Air Force inventory. The user fills in this field.

3.5.1.18. Initial Spares Support List (ISSL Req'd). This field contains either "Y" or "N" and indicates if the end item is authorized spares support through an ISSL.

3.5.1.19. Job Routed (Job Routed). This field contains either "Y" or "N" and indicates if spares will be removed from the end item and repaired during depot overhaul of the end item or repair of the next higher assembly.

3.5.1.20. Line Replaceable Unit/Shop Replaceable Unit (LRU/SRU). This is "N" on standard PCLs, "Y" on LRU/SRU PCLs.

3.5.1.21. Recommended Recomputation Indicator (Recomputation). An authorized user enters "Y" in this field to update the system after changing other data on the screen.

### 3.5.2. Page 2 Elements.

3.5.2.1. Program (Program). This field includes separate columns for fiscal year (FY) and program units (QTY). Each column has five lines.

3.5.2.2. Operational And Maintenance Locations. The following fields each include separate columns to indicate continental United States (CONUS) and overseas (OS) locations.

3.5.2.2.1. Number of Operational Bases (Number of Bases). The number of bases that will field the system.

3.5.2.2.2. Number of Aerospace Educational and Training Command (AETC) Bases (Number of ATC Bases). The number of AETC bases that will be users of the system for training purposes.

3.5.2.2.3. Organic Depot Maintenance Facilities (SOR Facilities: Depot). The number of depot level overhaul facilities that will service the end item.

3.5.2.2.4. Organizational and Industrial facilities (O&I). Because of Air Force maintenance practices, this field is normally blank.

3.5.2.2.5. Contract Repair Facilities (CONTR). The number of contractor facilities that will overhaul the end item.

3.5.2.2.6. Order and Ship Time (O&ST) Days For Consumable Items (EOQ O&ST Days). This is the calculated order and ship time value for consumable items. It is based on the data in

the NUMBER OF BASES field above and the O&ST value on the standard data table. The value in this field applies to the calculation of levels for consumable items (see Chapter 4).

3.5.2.3. Reference Documents (Applicable Contractual Acquisition Documents). This section notes relevant program documents, and their amendments, that provided data to prepare the PCL.

3.5.3. Page 3 Elements. Each element on this page appear as a projection through eighteen Program Time Bases (PTB).

3.5.3.1. Operational Need Date. This is the OPERATIONAL NEED DATE on Page 1.

3.5.3.2. Program Projections. Each of the following elements displays 16 values, one in each quarterly projection across two lines. Each value corresponds to the Program Time Base (PTB) displayed across the top of the page. The number assigned to each PTB is the number of months after the operational need date that the particular PTB ends. Each PTB number is divisible by three. Thus, PTB 3 ends three months after the operational need date and represents the first quarter's data; PTB 6 ends six months after operational need date and represents the first and second quarters' data, etc. The K004 system is the source of program data, but the user may file maintain any of the data. However, the IRD overrides any file maintained values with data from subsequent interfaces.

3.5.3.2.1. Operating Program (Operating Program). This is normally the flying hour program for aircraft applications through each program time base. The values are expressed in hundreds. For example, an entry of 912 represents 91,200 flying hours.

3.5.3.2.2. Inventory Installation Program (Inventory Program). This is the number of end items to be deployed through each program time base.

3.5.3.2.3. Engine Overhaul/Programmed Depot Maintenance Program (EOH/PDM Program). This is the projection of scheduled engine or aircraft overhauls through each PTB.

3.5.4. Page 4 Elements. Each of the following elements also displays separate values through sixteen program time base periods:

3.5.4.1. Average Month Operating Program (Average Month Operating Program). This is the projected operating (flying hour) program within each month of the program time base.

3.5.4.2. Adjusted Month Operating Program (Adjusted Month Operating Program). This is the adjusted monthly operating (flying hour) program within each month of the program time base.

3.5.4.3. Average Month Inventory Program (Average Month Inventory Program). This is the projected inventory program within each month of the program time base.

3.5.4.4. Adjusted Month Inventory Program (Adjusted Month Inventory Program). This is the adjusted monthly inventory (flying hour) program within each month of the program time base.

3.5.4.5. Average Month Engine Overhaul/Programmed Depot Maintenance Program (Average Month EOH/PDM Program). This is the projected aircraft or engine overhaul program within each month of the program time base.

3.5.5. Page 5 Remarks Screen. Page 5 is a free text area for the user to include any remarks or explanations. This may include reasons for changing elements through file maintenance, source documents, or any other information peculiar to the system.

**3.6. Other PCL Screens.** Each of the following screens allows users to view data included in the PCL and for authorized users to change or add data:

3.6.1. Develop Program Screen. Authorized SPM users may create or modify inventory or operating program data on the Develop Program Screen. Though the RDB transmits most program data during the quarterly processing cycle, the data occasionally may not be available. This screen allows the user to enter known PCL schedules, deliveries, command support schedules, projected end item attrition, utilization rates, and overhaul schedules. The system subtracts the command support and projected attrition from the delivery schedule to compute the inventory program, and multiplies the inventory program by the utilization rates to compute the operating program. The inventory program must be a positive value.

3.6.2. PCL History Screen. This screen is available to all users and displays a history of actions that resulted from changes to the PCL. The system automatically generates data on this screen when it identifies changes that affect the PCL computation. This includes three types of data: modifications, deletions, and changes to originator data.

3.6.3. Change PCL Originator Screen. This screen allows the SPM user to change the identification of the PCL originator.

3.6.4. ISSL Assignment Screen. This screen allows authorized users (SPM, EAIM, or ALC OPR) to enter Initial Spares Support List (ISSL) authorizations. The screen identifies each base with a number, up to 112, based on the number of bases that appears on Page 1 of the PCL. The user enters the authorized ISSL quantity for each base. IRD uses the ISSL quantities to determine the item adjusted stock levels. Only the SPM, End Article Item Manager, and ALC OPR can file maintain this screen. All users can view this screen.

3.6.5. PCL/PCCN Cross Reference Screen. This screen allows authorized users (SPM, EAIM, Provisioning Specialist, ALC OPR) to change relationships between an application program designator (APD) and a PCCN. All users can view this screen and see the PCCNs that apply to an APD.

3.6.6. PCL Modification Notice Screen. This screen displays all Program Checklists that have been modified and recomputed during the previous six months, and where the program manager recommended that associated items also be recomputed. All users can view this screen.

3.6.7. PCCN/PLISN to IMS Assignment Screen. This screen allows authorized users (ALC OPR, IMS Supervisor, IMS, EAIM) to assign an item manager code to all PLISNs that apply to a PCCN. All users can view this screen.

3.6.8. PCL/PCCN Summary Information Screen. This screen allows all users to view the buy value of all items within a PCL, given specific selection criteria. Users can select the data by choosing any of the following elements or combinations of elements:

3.6.8.1. PCCN, PCCN/ERRC Code, PCCN/Item Management Code, or PCCN/ERRC Code/Item Management Code.

3.6.8.2. IIN.

3.6.8.3. PCL/APD.

3.6.9. PCL Deletion Notice Screen. This screen allows authorized users (SPM, EAIM, ALC OPR) to delete or save from deletion any PCL that is eligible for deletion from the data base. All users can view this screen. A PCL is eligible for deletion under the following conditions:

3.6.9.1. More than two years have passed since the last revision.

3.6.9.2. The PCL no longer has any associated items in the data base.

**Table 3.1. Application for Input Format.**

Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Aircraft MDS			B	0	5	2	E								
Aircraft MDS		K	C	1	3	5	A								
Aircraft MDS	H	K	C	1	3	5	A								
Aircraft MDS			C	H	0	0	3	E							
Engine TMS			J	0	0	5	7	0	5	5	A				
Engine TMS		G	R	0	0	8	5	1	8	0					
Engine TMS	F	X	J	0	0	7	9	0	1	1	A				
Engine TMS	G	S	O	0	4	8	0	B	1	0	A	6			
Missile MDS	A	I	M	0	2	5	B								
Drone MDS		Q	F	1	0	2	A								
Trainer	3	E	F	0	0	0									
Trainer	1	A	D	0	0	0	A								
National Stock No.	4	9	2	0	0	0	1	7	6	9	2	0	0	D	Q
PEC	5	6	0	1	2										
PEC	1	0	0	3	C										
CEM	A	N	A	T	Q	1									
CEM	A	N	A	L	1	1	T	4							
FMS			F	1	0	4	C							A	T
FMS		T	F	0	0		1	4	0	0				G	R
GUN	M	6	1				0								
GUN	G	A	U	8			1	5							
C-E NETWORK	4	0	7	L											
C-E NETWORK	8	0	2	L											
SYSTEM	A	P	N	8	2										
SYSTEM	A	R	C	9	0										
SUPPORT EQPT			B	0	5	2							O		
SUPPORT EQPT			F	0	0	5							O		

Figure 3.1. AFMC FORM 27

PROGRAMMING CHECKLIST					
1. ITEM DATA					
A. DATE OF INITIATION 31 Oct 96	B. REVISION NUMBER Basic	C. DATE OF REVISION	D. NATIONAL STOCK NUMBER		
E. NAME AND LOCATION OF CONTRACTOR  Berkley-Bedell Equipment Co., Lake Okoboji IA					
F. SIGNATURE OF INITIATOR  George Metesky			OFFICE SYMBOL SAALC/LABDB	PHONE 945-0002	
2. ACQUISITION DOCUMENT					
IN ORDER FOR THE CONTRACTOR TO COMPLY WITH THE APPLICABLE ACQUISITION DOCUMENTS AND THE RELATED DATA ITEM DESCRIPTIONS IN THE DOD AUTHORIZED DATA LIST, AND TO FORECAST SPARE/REPAIR PARTS AND SUPPORT EQUIPMENT (SE), THE INFORMATION ON THIS FORM AND ATTACHMENTS THERETO ARE FURNISHED FOR USE WITH THE PROCUREMENT INSTRUMENT(S), E.G., LETTER CONTRACT, DEFINITIVE CONTRACT, ETC. THE CONTRACTUAL ACQUISITION DOCUMENT(S) SPECIFIED BELOW WILL GOVERN THE TERMS, CONDITIONS, PROCEDURES, AND DATA ITEMS FOR THE SELECTION OF INITIAL SUPPORT REQUIREMENTS.					
<input checked="" type="checkbox"/> MIL STD 1388-2	<input checked="" type="checkbox"/> MIL STD 1561				
DATE 11 Nov 86	DATE 29 Mar 84	DATE	DATE	DATE	DATE
AMEND B	AMEND A	AMEND	AMEND	AMEND	AMEND
DATE 12 Mar 88	DATE 25 May 90	DATE	DATE	DATE	DATE
3. ASSIGNMENT OF END ARTICLE					
A. NUMBER OF CONUS BASES 2	B. NUMBER OF OS BASES 4	C. RECEIVING COMMANDS FOR OPERATIONAL PROGRAM AMC, PACAF			
D. END ARTICLE PROCURED Wright "B" Flyer	E. QTY 269	F. FY PROGRAM 97-98	G. R/MIPR OR CONTRACT AND ITEM NUMBER F088635-95-1783	H. DATE 15 Aug 96	
I. OPERATIONAL NEED DATE 19 Oct 96			J. OTHER		
4.					
A. AVERAGE Monthly Utilization Rate: 2.4		B. END ARTICLE LIFE EXPECTANCY 44 years	C. ISSL REQUIRED X YES NO		
5. END ITEM					
A. DEPOT	B. IF YES, COMPLETE THE FOLLOWING		C. CONTRACTOR	D. TOTAL NUMBER OF FACILITIES	
<input checked="" type="checkbox"/> YES NO	NO CONUS DEPOTS 1	NO OS DEPOTS 0	YES X NO	1	
6.					
A. BASE REPAIR <input checked="" type="checkbox"/> YES NO	B. ORGANIZATION MAINT <input checked="" type="checkbox"/> YES NO	C. INTERMEDIATE MAINT <input checked="" type="checkbox"/> YES NO	D. CONTRACTOR FIELD MAINT <input checked="" type="checkbox"/> YES X NO		

AFMC FORM 27, JUL 92 (EF)

REPLACES AFLC FORM 27, JAN 91 WHICH IS OBSOLETE

Figure 3.2. Reverse of AFMC Form 27

7. SOURCE DATA DOCUMENTS	
Generic Schedule from Maj de Coverly, ASC/YM Sep 96	
PAS 87-TAF 069 (11) Dec 95	
USAF/LG, AFMC/LG, PACAF/LF Apr 96	
8. ADDITIONAL REMARKS	
<p>Budgeting, funding, requirements determination and acquisition responsibilities between the AFMC/SPO and AFMC/SPM for support equipment development and standardization will be exercised according to applicable command guidance.</p> <p>The AFMC Requirements Data Bank Application, Program, and Indentures (API) reflects the Wright "B" Flyer flying hour projections in quarterly increments from FY97 through FY99 and includes the operational readiness assessment hours.</p> <p>The SPM will provide the contractor with instructions for forecasting recommended initial support requirements.</p>	

## Chapter 4

### INITIAL REQUIREMENTS COMPUTATION FOR CONSUMABLE ITEMS (ERRC XF3 OR XB3)

**4.1. Purpose.** This chapter provides policy and instructions for computing Air Force initial requirements for consumable (ERRC XF3 and XB3) items. These items are also known as “EOQ” or “expense” items. It applies to all ALC IMSs who determine initial requirements.

**4.2. Consumable Items.** Consumable items are components that are not repaired or condemned higher than the base level after removal from an end item.

#### 4.3. Policy.

4.3.1. The ES provides the necessary rates and factors for initial computation of all consumable items within a weapon system that have been identified as logical spares to support that system.

4.3.2. Net requirements for new items not previously acquired include levels to support the wholesale stock objective (procurement cycle plus acquisition lead time) and the retail stock objective (base order and ship time plus base repair cycle).

4.3.2.1. Chapter 1, paragraph 1.6.1.7 defines acquisition lead time.

4.3.2.2. Base Order and Ship time is the time required for a retail (base level) customer to place an order for an asset and to receive that asset from the wholesale source (depot supply).

4.3.2.3. Base Repair Cycle time is the time required to induct an unserviceable asset into a base repair facility and restore it to a serviceable condition. Only ERRC XF3 items are repaired at the base.

4.3.3. The IMS and ES validate ISSL requirements for stock listed items and process them according to the current policy for replenishment consumable items.

4.3.4. The IMS submits requirements for Defense Logistics Agency (DLA) and other service-managed items on a supply support request (SSR) through the D169 system.

4.3.5. System program managers (SPM) and IMSs use the D200H system to compute requirements for each item unless the D200H is not available or, in the SPM’s judgment, use of the IRD not feasible when only a small number of items are involved. If the SPM chooses not to use the D200H, an approved alternative automated computation or the manual methodology (AFMC Form 997) may be used. The HQ AFMC OPR approves any automated computation, which must provide a record of the computation. The manual worksheet or alternate computation record must be kept in the item folder for 3 years.

4.3.6. The wholesale stock requirement supports the program forecast period (lead time plus 3 months), which will be at least 12 months.

**4.4. Computation Methodology.** The following paragraphs explain each element that appears on the RDB on-line screens and how the D200H derives or computes each data element.

4.4.1. Header Information. The following elements appear at the top of each of the 11 screens that make up the on-line requirements computation worksheet.

4.4.1.1. Date. The IRD screens include three dates. Date are not file maintainable.

4.4.1.1.1. The date and time the user calls up the screen or requests the product appears in the upper right of the screen or product.

4.4.1.1.2. The creation date is the date the programming checklist was established.

4.4.1.1.3. The revision date is the date the programming check list was last revised.

4.4.2. Provisioning Contract Control Number (PCCN). The D220 system passes this element, which identifies the specific system or sub-system.

4.4.3. Provisioning List Item Sequence Number (PLISN). The item's unique identifier within a PCCN.

4.4.4. Item Data. The following elements include the information necessary to establish an item record in D200H. They appear in Section 1 on the D200H screens and products.

4.4.4.1. Non-Catalogued National Stock Number (NC/NSN). Provided by the D220 system. This is a temporary NSN, identifiable with "NC" in the first two positions of the NIIN, that identifies the item until the Federal Logistics Information System assigns a permanent NSN.

4.4.4.2. Part Number. The manufacturer's part number from the D220 system.

4.4.4.3. Noun. The item name from the D220 system.

4.4.4.4. Unit Price. The unit price recommended by the contractor or developed under current pricing policy. Provided by the D220 system.

4.4.4.5. Unit of Issue. The unit of issue ("EA (each)" in the majority of cases) from the D220 system.

4.4.4.6. QUP. The quantity unit pack (QUP) (1 in the majority of cases) from the D220 system.

4.4.4.7. Base Data. The input data for the retail stock requirements computation. There is no entry in this segment for items coded for depot use only ("D" in the third position of the SMR code). This element includes the order and ship time and base repair cycle.

4.4.4.7.1. Base Order and Ship Time (O & ST). See 4.3.2.2 above

4.4.4.7.2. Base Repair. See 4.3.2.3 above.

4.4.4.8. Type Provisioning Technical Documentation (TYPE PTD). The D220 system passes this single position code that identifies the type of PTD submitted by the contractor during the provisioning process. Valid values are I, R, C, F, T, P, G, B, D, X, L, E, and H. This element is not file maintainable.

4.4.4.9. Type of Change Code (TYPE CHG CD). The D220 system passes this single position code that is present when the Type PTD code is D (design change notice or notice of change action). Valid values are D, L, A, Q, M and T. This element is not file maintainable.

4.4.4.10. Program Calculation Type (PRGM CALC TYP). The D220 system passes this single position code that indicates the type of activity that form the basis for requirements computation. Valid values are I (inventory) or O (operating).

4.4.4.11. ERRC. This is N for XB3 items (not repaired, removed or replaced at any level of maintenance), or P for XF3 items (repaired and condemned at the base maintenance facility).

- 4.4.4.12. High Hold. This is an item with a high holding cost. The item manager enters “X” if the item is subject to obsolescence or requires special storage.
  - 4.4.4.13. ISSL. The item manager enters “X” if the item is on an approved Initial Spares Support List.
  - 4.4.4.14. Non-AF Item. The item manager enters “X” if another DoD component is the item’s primary inventory control agency (PICA).
  - 4.4.4.15. Item Contingency. The D220 system passes this element. The only valid value is “I,” which indicates an insurance item. This element is not file maintainable.
  - 4.4.4.16. IMC. The item management code that passes from the D220 system. This code indicates that the item is approved for interservice management.
  - 4.4.4.17. Budget. This is “1” (System Support Division) for most consumable items.
  - 4.4.4.18. Source, Maintenance, Recoverability (SMR) Code. This is the 6-position code that indicates approved levels of acquisition, removal, maintenance, and condemnation. See AFMCI 23-101, Attachment 6.
  - 4.4.4.19. Basing. A constant “B.”
  - 4.4.4.20. MIEC. The three-position Mission Item Essentiality code. The equipment specialist assigns this code according to Air Force support priorities and the subsystem and item essentiality.
  - 4.4.4.21. Acquisition Method Code (AMC). This is a three-position code that indicates the contracting methods that apply when procuring the item, e .g., sole source, competitive bids, direct purchase, advertisement, etc.
  - 4.4.4.22. Useable On (USE ON) Code. The D220 system passes this nine-position code.
- 4.4.5. Section 2, Programming Checklist (PCL) Data. This section identifies contract and end item program data derived from the PCL.
- 4.4.5.1. APD. Identifies the Application Program Designator. The K004 system passes this element.
  - 4.4.5.2. End Item Name. This identifies the highest level assembly (aircraft, vehicle, equipment, missile, engine, etc.) that the item supports.
  - 4.4.5.3. End Item Type Code (EI TYP CD). This identifies an end item as an aircraft (A) or an engine (E).
  - 4.4.5.4. PIIN. The Procurement Instrument Identification Number. This is usually the system acquisition or modification contract number.
  - 4.4.5.5. Contractor Name. Self explanatory.
  - 4.4.5.6. Location. The contractor’s address (city and state).
  - 4.4.5.7. Revision Date. The date of the last revision, if applicable.
  - 4.4.5.8. Revision Number. Indicates the number of times the programming checklist has been revised.

- 4.4.5.9. Number of Users. The number of bases at which the system is to be activated during the program forecast period.
- 4.4.5.10. Date. The date of the basic programming checklist and any revision.
- 4.4.5.11. Average Month Operating Program. The average month operating or equipment programs that passes from the programming checklist. The average month operating program is used to compute wholesale stock requirements. The worksheet displays the data in sixteen increments, one for each quarterly program time base (PTB).
- 4.4.5.12. Adjusted Month Operating Program. Adjusted month operating program that passes from the programming checklist. The adjusted month program is used to compute the item's retail stock requirements. The worksheet displays the data in sixteen increments, one for each quarterly program time base (PTB).
- 4.4.5.13. Average Month EOH/PDM Program. The average month programmed depot maintenance (PDM) or engine overhaul (EOH) program from the programming checklist. The worksheet displays the data in sixteen increments, one for each quarterly program time base (PTB).
- 4.4.5.14. Twelve Month Program Time Base (PTB). The average monthly OIM program for the 12 month program time base. This value is derived from the programming checklist.
- 4.4.5.15. Review Cycle Program Time Base. The average monthly OIM program at the review cycle (RC) PTB from the programming checklist.
- 4.4.5.16. OIM Program. The adjusted month OIM program over the item's program forecast period. This value can be derived from the PCL.
- 4.4.5.17. PDM/Engine Overhaul. The item's average monthly programmed depot maintenance or engine. This value can be derived from the programming checklist.
- 4.4.5.18. NHRA/DLM Repair Program. This is the number of the item's next higher recoverable assembly units expected to undergo depot level maintenance or repair. This block applies if a NHRA computes a repair requirement and the item is assigned a depot replacement percent. This information must be obtained from the NHRA computation.
- 4.4.5.19. NHRA/Maintenance Item. The identity of the NHRA or maintenance item (NSN or Noun/Part Number) from 4.4.5.18 above.
- 4.4.5.20. NHRA OIM Rate. The OIM demand rate of the NHRA (see 4.4.7.5 below).
- 4.4.5.21. NRTS. The not reparable this station (NRTS) percent of the NHRA (see 4.4.7.4 below). Normally, this element does not apply to consumable items.
- 4.4.5.22. Overhaul Recovery Percent. The overhaul recovery percent (ORP) of the NHRA (1 minus the depot overhaul condemnation percent).
- 4.4.5.23. QPEI. The NHRA's quantity per end item.
- 4.4.5.24. Average Month Depot Maintenance Program. This is the result of the NHRA QPEI (3.3.3.8 above), times the review cycle program time base (3.3.3.7 above).
- 4.4.5.25. Adjusted Month Depot Maintenance Program. This is the result of the NHRA OIM Rate (4.4.5.20 above) times the NHRA NRTS (4.4.5.21 above), times the NHRA overhaul recovery percent (4.4.5.22 above), times the OIM program (4.4.5.16 above).

4.4.6. Part 2. Programming Checklist (PCL) Data. The following data elements are derived directly from the programming checklist:

4.4.6.1. Application Program Designator (APD). This is the designator of the system being supported.

4.4.6.2. Procurement Instrument Identification Number (PIIN). The PIIN assigned to the programming checklist.

4.4.6.3. Contractor. The contractor's name from the D220 system.

4.4.6.4. Contract Number. The procurement instrument identification number (PIIN) from the provisioning document.

4.4.6.5. PLISN. The provisioning list item sequence number (PLISN) from the D220 system.

4.4.6.6. Stockage Table. The applicable stockage table after the dollar value of annual demand has been computed. This element has no application in the D200H system.

4.4.6.7. Item Category. Displays "INS" if the item is an insurance item. Derived from the D220 system.

4.4.6.8. Review Cycle. Computed according to the dollar value of annual demand (see Table 1-1).

4.4.6.9. Administrative Lead Time. This is the standard or estimated ALT in months.

4.4.6.10. Production Lead Time. This is the standard or estimated PLT in months.

4.4.6.11. Acquisition Method Code. The IMS enters the AMC, if available. See 4.4.4.21.

4.4.6.12. Next Higher Repairable Assembly. The NSN, part number or PLISN of the next higher recoverable assembly (NHRA) from the D220 input file.

4.4.6.13. QPNHRA. The quantity per next higher recoverable assembly from the D220 input file.

4.4.6.14. End Item. The noun and aircraft mission, design, and series (MDS), or engine type model and series (TMS) of the end item. Derived from the D220 input file.

4.4.6.15. QPEI. The quantity per end item from the D220 input file.

4.4.7. Section 3. Rates and Percentages.

4.4.7.1. Base Condemnation Percent. This is the percentage of units inducted into base level repair that will be beyond technical or economic repair.

4.4.7.2. Depot Condemnation Percentage. This is the number of units inducted into depot level repair that will be beyond technical or economic repair.

4.4.7.3. Base Processing Percent. This is the percentage of failures that are expected to be inducted into base level repair facilities. For most consumable items this is 100 percent, expressed as 1.00.

4.4.7.4. Base Not Repairable This Station (NRTS) Percent. This is the percentage of units failing in the field that will need to be evacuated to a depot repair facility. For most consumable items this is 0 percent, expressed as .00.

4.4.7.5. Total Organizational Intermediate Demand Rate (TOIMDR). The projected number of failures per one hundred flying hours, or per unit installed in the end item population.

- 4.4.7.6. Organizational Intermediate Maintenance Depot Demand Rate (OIMDDR). This is the projected number of failures per program unit (hundreds of flying hours or installations) that will be returned to a depot repair facility. For most consumable items, this element is 0 percent, expressed as .00.
- 4.4.7.7. Base Repair Rate. This is the projected number of failures per program unit (hundreds of flying hours or installations) that will be repaired at the base level. For most consumable items this element is 100%, expressed as 1.00.
- 4.4.7.8. Wearout Rate. This is the percentage of units inducted into base or depot level repair that will be condemned. The consumable item computation normally does not use this element.
- 4.4.7.9. Wearout Percent. This is the percentage of assets expected to fail in the field that will be condemned. It is the Total OIM Demand Rate times the Wearout Rate.
- 4.4.7.10. Overhaul Recovery Percent. This is one minus the depot overhaul condemnation percent.
- 4.4.7.11. Overhaul Replacement Percent. This is equal to the Job Routed Condemnation rate plus the Non-job Routed Replacement percent below. This should be 100%, expressed as 1.00, for consumable items
- 4.4.7.12. Non-Job Routed (NJR) Program Percent. This is the portion of the components installed in a next higher assembly that will be subject to removal and replacement with assets requisitioned from depot supply. The value of this element can apply to Engine Overhaul (EOH), Program Depot Maintenance (PDM), or Management of Items Subject to Repair (MISTR) programs.
- 4.4.7.13. NJR Replacement Percent. This is the percentage of items installed in end items that will be removed and sent to a depot repair line for repair, and therefore will levy the wholesale supply system for replacement units. The value of this element can apply to Engine Overhaul (EOH), Program Depot Maintenance (PDM), or Management of Items Subject to Repair (MISTR) programs. This should be 0%, expressed as .00, for consumable items.
- 4.4.7.14. Job Routed Condemnation Percent. This is the percentage of components installed on the end item population scheduled for overhaul that will be removed and condemned during overhaul.
- 4.4.7.15. Application Percent. This is the percentage of the end item population that has the item installed.
- 4.4.7.16. Next Higher Repairable Assembly (NHRA) Average Month MISTR Program. This is the average month program derived from the repair schedule of a NHRA.
- 4.4.8. Section 4. Additive Requirements and Assets.
- 4.4.8.1. Additives. The following elements describe requirements that cannot be expressed through normal maintenance and demand rates. The values are independently calculated.
- 4.4.8.1.1. ATC ISSL. This supports an Initial Spares Support List developed for use by the Aerospace Education and Training Command. See AFM 67-1, Volume I, Part One, Chapter 12, paragraph 4c.
- 4.4.8.1.2. Floating Stock Level. This is a retail requirement that supports the Depot Level Maintenance process. This requirement does not apply to consumable items.

4.4.8.1.3. War Reserve Materiel (WRM). This supports wartime missions, as defined in current USAF mobilization documents. The item manager, system program manager, and major command representatives select the depth and range of WRM spares during the provisioning process.

4.4.8.1.4. Special Purpose Recoverables Authorized to Maintenance (SPRAM). This is a retail requirement that supports base maintenance activities. The system program manager and the major commands select the depth and range of items for this requirement. This requirement does not apply to consumable items.

4.4.8.1.5. Weapon System Training Detachment Operating Spares (WTDOS). This supports operational training exercises that a unit cannot perform at the home location. The system program manager selects the depth and range of items for this requirement. This requirement does not apply to consumable items.

4.4.8.1.6. Other. This is any special project or requirement not identified above. The item manager, equipment specialist, system program manager, or major command can provide input to develop this requirement.

4.4.8.2. Assets. The following elements identify assets that are available to support initial requirements.

4.4.8.2.1. Serviceable. The number of assets ready for issue.

4.4.8.2.2. Net Unserviceable. The number of assets that require repair before they can be issued, after deducting expected condemnations.

4.4.8.2.3. War Reserve Materiel (WRM). The number of assets set aside to support wartime contingencies. For consumable items, this represents assets stored in the depot wholesale account.

4.4.8.2.4. On Order (POS). This is the number of assets on contract, but not yet delivered, that will support peacetime operations.

4.4.8.2.5. On Order (WRM). This is the number of assets on contract, but no yet delivered, that will support wartime contingencies.

4.4.8.2.6. In Process. This is the number of assets placed on a purchase request or a provisioning item order (PIO), but not yet on contract.

4.4.8.2.7. Due in from Overhaul. This is the number of assets undergoing depot repair. This element does not apply to consumable items.

4.4.8.2.8. Total. The sum of all asset categories described above.

4.4.8.2.9. D220 Assets. The following two elements pass from the D220 system if the system has undergone modification or design change. They identify assets that the item manager and equipment specialist should review to determine if modification, disposal, or termination action should be initiated.

4.4.8.2.9.1. Quantity Procured. This is the number of assets that have been placed on a Provisioning Item Order.

4.4.8.2.9.2. Quantity Shipped. This is the quantity of procured assets that the vendor has shipped to the Air Force.

4.4.9. Section 5. Dollar Value of Annual Demands (DVAD) Computation. This is a display of the requirements and the associated dollar value. It includes the following elements:

4.4.9.1. OIM. The wholesale and retail requirements needed to meet operational needs.

4.4.9.2. DLM. The requirement needed to support depot level maintenance programs.

4.4.9.3. Total. The sum of the OIM and DLM requirements.

4.4.9.4. Dollar Value. The value of the total requirement above multiplied by the unit price.

4.4.9.5. DLM Annual Demand Computation. This appears in Section 5 on hard copy products and Section 6 on the screens in the RDB on-line system. It includes the following requirements segments:

4.4.9.5.1. Engine Overhaul/Program Depot Maintenance Non-job Routed (EOH/PDM NJR) Requirement. This is the requirement for EOH or PDM Non-job routed replacements and condemnations. See paragraphs 4.4.7.12 and 4.4.7.13 above.

4.4.9.5.2. Engine Overhaul/Program Depot Maintenance Job Routed (EOH/PDM JR) Requirement. This is the requirement for job routed condemnations. See paragraph 4.4.7.14 above.

4.4.9.5.3. Management of Items Subject to Repair Non-Job Routed (MISTR NJR) Requirement. This is the requirement for MISTR non-job routed replacements and condemnations. See paragraphs 4.4.7.12 and 4.4.7.13 above.

4.4.9.5.4. Management of Items Subject to Repair Job Routed (MISTR JR) Requirement. This is the requirement for MISTR job routed condemnations. See paragraph 4.4.7.14 above.

4.4.10. Section 6. Operating (OIM) Requirements Computation. This is a projection through sixteen program time base (PTB) periods (four years) of each of the following requirements segments:

4.4.10.1. Procurement Cycle. This is three months' of OIM base and depot condemnations. Lead time. This the OIM base and depot condemnations expected to accrue through administrative and production lead times, plus one month.

4.4.10.2. Depot Repair. This is the level that supports the pipeline time required to evacuate an unserviceable asset to a depot repair facility, restore it to a serviceable condition, and return it to wholesale stock. This requirement does not normally apply to consumable items.

4.4.10.3. Base Order and Ship Time (O & ST). See paragraph 4.4.4.7.1 above.

4.4.10.4. Base Repair Cycle. See paragraph 4.4.4.7.2. above.

4.4.10.5. Base Stock Level. This is the sum of the Base O & ST and Base Repair Cycle requirements.

4.4.11. Section 7. Depot Level Maintenance (DLM) Requirements Computation. This is a projection of sixteen program time base (PTB) periods (four years) of requirements that support depot maintenance programs. A three position alpha code identifies each program and requirement segment on the hard copy worksheets. The on-line screens spell out the requirements segments and do not display the codes. These codes are:

4.4.11.1. MPN. MISTR non-job routed procurement cycle.

- 4.4.11.2. MPJ. MISTR job routed procurement cycle.
  - 4.4.11.3. EPN. Engine overhaul or PDM non-job routed procurement cycle.
  - 4.4.11.4. EPJ. Engine overhaul or PDM job routed procurement cycle.
  - 4.4.11.5. MLN. MISTR non-job routed lead time.
  - 4.4.11.6. MLJ. MISTR job routed lead time.
  - 4.4.11.7. ELN. Engine overhaul or PDM non-job routed lead time.
  - 4.4.11.8. ELJ. Engine overhaul or PDM job routed lead time.
  - 4.4.11.9. MSN. MISTR non-job routed stock level.
  - 4.4.11.10. MSJ. MISTR job routed stock level.
  - 4.4.11.11. ESN. Engine overhaul or PDM non-job routed stock level.
  - 4.4.11.12. ESJ. Engine overhaul or PDM job routed stock level.
  - 4.4.11.13. DRC. The wholesale depot repair cycle pipeline requirement.
- 4.4.12. Section 8. Requirements Summary. This is a projection through sixteen program time base (PTB) period (four years) of each of the following:
- 4.4.12.1. Gross (GRS) Requirement. This is the sum of all requirements in sections 6 and 7.
  - 4.4.12.2. Net Requirement (NET). This is the gross requirement minus the total assets in section 4.
  - 4.4.12.3. Dollar Value Net Requirement. This is the net requirement multiplied by the unit cost.
  - 4.4.12.4. Recommended Buy Quantity. This is the net requirement computed in the PTB quarter that corresponds to the lead time, plus procurement cycle (three months), plus one month, from the start date.
  - 4.4.12.5. Dollar Value. This is the recommended buy quantity times the unit price.
  - 4.4.12.6. Review Cycle. This is the interval, in months, of the item's review cycle, as determined in Table 1.1. This appears in Section 5 on hard copy products and Section 6 on the screens in the RDB on-line system.
  - 4.4.12.7. Program Forecast Period. The number of months in the PFP. See Chapter 1, paragraph 1.6.2.3. This appears in Section 5 on hard copy products and Section 6 on the screens in the RDB on-line system.

## Chapter 5

### INITIAL REQUIREMENTS DETERMINATION FOR RECOVERABLE ITEMS (ERRC XD2 OR XD3)

**5.1. Purpose.** This chapter provides policy and instructions for computing Air Force initial requirements for recoverable (ERRC XD1 and XD2) items. These items are also known as “reparable” or “investment” items. It applies to all ALC IMSs who determine initial requirements.

**5.2. Recoverable Items.** Recoverable items are components that are removed from and end item, repaired, and returned to the supply system for re-issue. Base and depot maintenance facilities may perform repair, but condemnation authority is normally at the depot level.

#### 5.3. Policy.

5.3.1. Logical Spares. The ES provides the necessary rates and factors for initial computation of all consumable items within a weapon system that have been identified as logical spares to support that system.

5.3.2. Net Requirements. Net requirements for new items not previously acquired include levels to support the wholesale stock objective (procurement cycle plus acquisition lead time) and the retail stock objective (base order and ship time plus base repair cycle).

5.3.2.1. Lead Time. Chapter 1, paragraph 1.6.1.7 defines acquisition lead time.

5.3.2.2. Base Order and Ship Time. Is the time required for a retail (base level) customer to place an order for an asset and to receive that asset from the wholesale source (depot supply). Base O&ST days enter the system via the standard data tables or through user file maintenance.

5.3.2.3. Base Repair Cycle Time. Is the time required to induct an unserviceable asset into a base repair facility and restore it to a serviceable condition. Base repair cycle days enter the system via the standard data tables or through user file maintenance.

5.3.3. Validation. The IMS and ES validate ISSL requirements for stock listed items and process them according to the current policy for replenishment consumable items.

5.3.4. Submitting Requirements. The IMS submits requirements for Defense Logistics Agency (DLA) and other service-managed items on a supply support request (SSR) through the D169 system.

5.3.5. SPM and IMSs. System program managers (SPM) and IMSs use the D200H system to compute requirements for each item unless the D200H is not available or, in the SPM's judgment, use of the IRD is not feasible when only a small number of items are involved. If the SPM chooses not to use the D200H, an approved alternative automated computation or the manual methodology (AFMC Form 614) may be used. The HQ AFMC OPR approves any automated computation, which must provide a record of the computation. The manual worksheet or alternate computation record must be kept in the item folder for 3 years.

5.3.6. Stock Requirement. The wholesale stock requirement supports the program forecast period (lead time plus 3 months), which will be at least 12 months.

**5.4. Computation Methodology.** The following paragraphs explain how the D200H derives or computes each data element:

5.4.1. Header Information. The following elements appear at the top of each of the 11 screens that make up the on-line requirements computation worksheet:

5.4.1.1. Date. The IRD screens include three dates. Dates are not file maintainable:

5.4.1.1.1. The date and time the user calls up the screen or requests the product appears in the upper right of the screen or product.

5.4.1.1.2. The creation date is the date the programming checklist was established.

5.4.1.1.3. The revision date is the date the programming check list was last revised.

5.4.2. Provisioning Contract Control Number (PCCN). The D220 system passes this element, which identifies the specific system or sub-system.

5.4.3. Provisioning List Item Sequence Number (PLISN). The item's unique identifier within a PCCN.

5.4.4. Item Data. The following elements include the information necessary to establish an item record in D200H. They appear in Section 1 on the D200H screens and products:

5.4.4.1. Non-Catalogued National Stock Number (NC/NSN). Provided by the D220 system. This is a temporary NSN, identifiable with "NC" in the first two positions of the NIIN, that identifies the item until the Federal Logistics Information System assigns a permanent NSN.

5.4.4.2. Part Number. The manufacturer's part number from the D220 system.

5.4.4.3. Noun. The item name from the D220 system.

5.4.4.4. Unit Price. The unit price recommended by the contractor or developed under current pricing policy. Provided by the D220 system.

5.4.4.5. Unit of Issue. The unit of issue ("EA (each)" in the majority of cases) from the D220 system.

5.4.4.6. QUP. The quantity unit pack (QUP) (1 in the majority of cases) from the D220 system.

5.4.4.7. Base Data. The base data to compute the retail stock requirement. There is no entry in this segment for items coded for depot use only ("D" in the third position of the SMR code). This element includes the order and ship time and base repair cycle

5.4.4.7.1. Base Order and Ship Time (O & ST). See paragraph 5.3.2.2 above.

5.4.4.7.2. Base Repair. See paragraph 5.3.2.3 above.

5.4.4.7.3. Depot Repair. The number of days for an unserviceable assets to be evacuated from a base, inducted into a depot repair facility, restored to a serviceable condition, and returned to the Air Force inventory. Depot repair cycle days enter the system via the standard data tables or through user file maintenance.

5.4.4.7.4. Job Routed (JR) Stock Level. The number of days' of stock that must be maintained to support condemnations expected to occur during overhaul of the end item or next higher assembly.

- 5.4.4.7.5. Non-Job Routed (NJR) Stock Level. The number of stock the must be maintained to support removals during the overhaul of the end item or next higher assembly.
- 5.4.4.8. Type Provisioning Technical Documentation (TYPE PTD). The D220 system passes this single position code that identifies the type of PTD submitted by the contractor during the provisioning process. Valid values are I, R, C, F, T, P, G, B, D, X, L, E, and H. This element is not file maintainable.
- 5.4.4.9. Type of Change Code (TYPE CHG CD). The D220 system passes this single position code that is present when the Type PTD code is D (design change notice or notice of change action). Valid values are D, L, A, Q, M and T. This element is not file maintainable.
- 5.4.4.10. Program Calculation Type (PRGM CALC TYP). The D220 system passes this single position code that indicates the type of activity that form the basis for requirements computation. Valid values are I (inventory) or O (operating).
- 5.4.4.11. ERRC. This is T for XD2 items (repaired and condemned at a depot maintenance facility), or C for XD1 items (managed in the Serialized Control and Reporting System).
- 5.4.4.12. High Hold. This is an item with a high holding cost. The item manager enters “X” if the item is subject to obsolescence or requires special storage.
- 5.4.4.13. ISSL. The item manager enters “X” if the item is on an approved Initial Spares Support List.
- 5.4.4.14. Non-AF Item. The item manager enters “X” if another DoD component is the item’s primary inventory control agency (PICA).
- 5.4.4.15. Item Contingency. The D220 system passes this element. The only valid value is “I,” which indicates an insurance item. This element is not file maintainable.
- 5.4.4.16. IMC. The item management code that passes from the D220 system. This code indicates that the item is approved for interservice management.
- 5.4.4.17. Budget. This is “8” (Reparable Support Division) for most recoverable items.
- 5.4.4.18. Source, Maintenance, Recoverability (SMR) Code. This is the 6-position code that indicates approved levels of acquisition, removal, maintenance, and condemnation. See AFMCI 23-101, Attachment 6.
- 5.4.4.19. Basing. A constant “B.”
- 5.4.4.20. MIEC. The three-position Mission Item Essentiality code. The equipment specialist assigns this code according to Air Force support priorities and the subsystem and item essentiality.
- 5.4.4.21. Acquisition Method Code (AMC). This is a three-position code that indicates the contracting methods that apply when procuring the item, e .g., sole source, competitive bids, direct purchase, advertisement, etc. DOD 4100.39M, Volume 12 lists valid AMCs.
- 5.4.4.22. Useable On (USE ON) Code. The D220 system passes this nine-position code.
- 5.4.5. Section 2, Programming Checklist (PCL) Data. This section identifies contract and end item program data derived from the PCL.
- 5.4.5.1. APD. Identifies the Application Program Designator. The K004 system passes this element.

- 5.4.5.2. End Item Name. This identifies the highest level assembly (aircraft, vehicle, equipment, missile, engine, etc.) that the item directly supports.
- 5.4.5.3. End Item Type Code (EI TYP CD). This identifies an end as an aircraft (A) or an engine (E).
- 5.4.5.4. PIIN. The Procurement Instrument Identification Number. This is usually the system acquisition or modification contract number.
- 5.4.5.5. Contractor Name. Self explanatory.
- 5.4.5.6. Location. The contractor's address (city and state).
- 5.4.5.7. Revision Date. The date of the last revision, if applicable.
- 5.4.5.8. Revision Number. Indicates the number of times the programming checklist has been.
- 5.4.5.9. Number of Users. The number of bases to be activated during the program forecast period.
- 5.4.5.10. Date. The date of the basic programming checklist and any revision.
- 5.4.5.11. Average Month Operating Program. The average month operating or equipment programs that passes from the programming checklist. The average month operating program is used to compute wholesale stock requirements. The worksheet displays the data in sixteen increments, one for each quarterly program time base (PTB).
- 5.4.5.12. Adjusted Month Operating Program. Adjusted month operating program that passes from the programming checklist. The adjusted month program is used to compute the item's retail stock requirements. The worksheet displays the data in sixteen increments, one for each quarterly program time base (PTB).
- 5.4.5.13. Average Month EOH/PDM Program. The average month programmed depot maintenance (PDM) or engine overhaul (EOH) program from the programming checklist. The worksheet displays the data in sixteen increments, one for each quarterly program time base (PTB).
- 5.4.5.14. Twelve Month Program Time Base (PTB). The average monthly OIM program for the 12 month program time base. This value is derived from the programming checklist.
- 5.4.5.15. Review Cycle Program Time Base. The average monthly OIM program at the review cycle (RC) PTB from the programming checklist.
- 5.4.5.16. OIM Program. The adjusted month OIM program over the item's program forecast period. This value can be derived from the PCL.
- 5.4.5.17. PDM/Engine Overhaul. The item's average monthly programmed depot maintenance or engine. This value can be derived from the programming checklist.
- 5.4.5.18. NHRA/DLM Repair Program. This is the number of the item's next higher recoverable assembly units expected to undergo depot level maintenance or repair. This block applies if a NHRA computes a repair requirement and the item is assigned a depot replacement percent. This information must be obtained from the NHRA computation.
- 5.4.5.19. NHRA/Maintenance Item. The identity of the NHRA or maintenance item (NSN or Noun/Part Number) from paragraph 5.4.5.18 above.
- 5.4.5.20. NHRA OIM Rate. The OIM demand rate of the NHRA (see 5.4.7.4 below).

5.4.5.21. NRTS. The not reparable this station (NRTS) percent of the NHRA (see paragraph 5.4.7.5.below).

5.4.5.22. Overhaul Recovery Percent. The overhaul recovery percent (ORP) of the NHRA (1 minus the depot overhaul condemnation percent).

5.4.5.23. QPEI. The NHRA's quantity per end item.

5.4.5.24. Average Month Depot Maintenance Program. This is the result of the NHRA QPEI (paragraph 5.4.5.23 above), times the review cycle program time base (paragraph 5.4.5.15 above).

5.4.5.25. Adjusted Month Depot Maintenance Program. This is the result of the NHRA OIM Rate (paragraph 5.4.5.20 above) times the NHRA NRTS (paragraph 5.4.5.21 above), times the NHRA overhaul recovery percent (paragraph 5.4.5.22 above), times the OIM program (paragraph 5.4.5.16 above).

5.4.6. Part 2. Programming Checklist (PCL) Data. The following data elements are derived directly from the programming checklist:

5.4.6.1. Application Program Designator (APD). This is the designator of the system being supported.

5.4.6.2. Procurement Item Identification Number (PIIN). The PIIN assigned to the programming checklist.

5.4.6.3. Contractor. The contractor's name from the D220 system.

5.4.6.4. Contract Number. The procurement instrument identification number (PIIN) from the provisioning document.

5.4.6.5. PLISN. The provisioning list item sequence number (PLISN) from the D220 system.

5.4.6.6. Stockage Table. The applicable stockage table after the dollar value of annual demand has been computed. This element has no application in the D200H system.

5.4.6.7. Item Category. Displays "INS" if the item is an insurance item. Derived from the D220 system.

5.4.6.8. Review Cycle. Computed according to the dollar value of annual demand (see Table 1.1).

5.4.6.9. Administrative Lead Time. This is the standard or estimated ALT in months.

5.4.6.10. Production Lead Time. This is the standard or estimated PLT in months.

5.4.6.11. Acquisition Method Code. The IMS enters the AMC, if available. See paragraph 4.4.4.21.

5.4.6.12. Next Higher Reparable Assembly. The NSN, part number or PLISN of the next higher recoverable assembly (NHRA) from the D220 input file.

5.4.6.13. QPNHRA. The quantity per next higher recoverable assembly from the D220 input file.

5.4.6.14. End Item. The noun and aircraft mission, design, and series (MDS), or engine type model and series (TMS) of the end item. Derived from the D220 input file.

5.4.6.15. QPEI. The quantity per end item from the D220 input file.

5.4.7. Section 3. Rates and Percentages.

- 5.4.7.1. Base Condemnation Percent. This is the percentage of units inducted into base level repair that will be beyond any technical or economic repair.
- 5.4.7.2. Depot Condemnation Percentage. This is the number of units inducted into depot level repair that will be beyond technical or economic repair.
- 5.4.7.3. Base Processing Percent. This is the percentage of failures that are expected to be inducted into base level repair facilities. For most consumable items this is 100 percent, expressed as 1.00.
- 5.4.7.4. Base Not Repairable This Station (NRTS) Percent. This is the percentage of units failing in the field that will need to be evacuated to a depot repair facility. For most consumable items this is 0 percent, expressed as .00.
- 5.4.7.5. Total Organizational Intermediate Demand Rate (TOIMDR). The projected number of failures per one hundred flying hours, or per unit installed in the end item population.
- 5.4.7.6. Organizational Intermediate Maintenance Depot Demand Rate (OIMDDR). This is the projected number of failures per program unit (hundreds of flying hours or installations) that will be returned to a depot repair facility.
- 5.4.7.7. Base Repair Rate. This is the projected number of failures per program unit (hundreds of flying hours or installations) that will be repaired at the base level.
- 5.4.7.8. Wearout Rate. This is the percentage of units inducted into base or depot level repair that will be condemned. The consumable item computation normally does not use this element.
- 5.4.7.9. Wearout Percent. This is the percentage of assets expected to fail in the field that will be condemned. It is the Total OIM Demand Rate times the Wearout Rate.
- 5.4.7.10. Overhaul Recovery Percent. This is one minus the depot overhaul condemnation percent.
- 5.4.7.11. Overhaul Replacement Percent. This is equal to the Job Routed Condemnation rate plus the Non-job Routed Replacement percent below.
- 5.4.7.12. Non-Job Routed (NJR) Program Percent. This is the percentage of the components installed in next higher assembly that will be subject to removal and replacement with assets requisitioned from depot supply. The value of this element can apply to Engine Overhaul (EOH), Program Depot Maintenance (PDM), or Management of Items Subject to Repair (MISTR) programs.
- 5.4.7.13. NJR Replacement Percent. This is the percentage of items installed in end items that will be removed and sent to a depot repair line for repair, and therefore will levy the wholesale supply system for replacement units. The value of this element can apply to Engine Overhaul (EOH), Program Depot Maintenance (PDM), or Management of Items Subject to Repair (MISTR) programs.
- 5.4.7.14. Job Routed Condemnation Percent. This is the percentage of components installed on the end item population scheduled for overhaul that will be removed and condemned during overhaul.
- 5.4.7.15. Application Percent. This is the percentage of the end item population that has the item installed.

5.4.7.16. Next Higher Repairable Assembly (NHRA) Average Month MISTR Program. This is the average month program derived from the repair schedule of a NHRA.

#### 5.4.8. Section 4. Additive Requirements and Assets.

5.4.8.1. Additives. The following elements describe requirements that cannot be expressed through normal maintenance and demand rates. The values are independently calculated.

5.4.8.1.1. ATC ISSL. This supports an Initial Spares Support List developed for use by the Aerospace Education and Training Command. See AFM 67-1, Volume I, Part One, Chapter 12, paragraph 4c.

5.4.8.1.2. Floating Stock Level. This is a retail requirement that supports the Depot Level Maintenance process. This requirement does not apply to consumable items.

5.4.8.1.3. War Reserve Materiel (WRM). This supports wartime missions, as defined in current USAF mobilization documents. The item manager, system program manager, and major command representatives select the depth and range of WRM spares during the provisioning process.

5.4.8.1.4. Special Purpose Recoverables Authorized to Maintenance (SPRAM). This is a retail requirement that supports base maintenance activities. The system program manager and the major commands select the depth and range of items for this requirement. This requirement does not apply to consumable items.

5.4.8.1.5. Weapon System Training Detachment Operating Spares (WTDOS). This supports operational training exercises that a unit cannot perform at the home location. The system program manager selects the depth and range of items for this requirement. This requirement does not apply to consumable items.

5.4.8.1.6. Other. This is any special project or requirement not identified above. The item manager, equipment specialist, system program manager, or major command can provide input to develop this requirement.

5.4.8.2. Assets. The following elements identify assets that are available to support initial requirements.

5.4.8.2.1. Serviceable. The number of assets ready for issue.

5.4.8.2.2. Net Unserviceable. The number of assets that require repair before they can be issued, after deducting expected condemnations.

5.4.8.2.3. War Reserve Materiel (WRM). The number of assets set aside to support wartime contingencies. For consumable items, this represents assets stored in the depot wholesale account.

5.4.8.2.4. On Order (POS). This is the number of assets on contract, but not yet delivered, that will support peacetime operations.

5.4.8.2.5. On Order (WRM). This is the number of assets on contract, but not yet delivered, that will support wartime contingencies.

5.4.8.2.6. In Process. This is the number of assets placed on a purchase request or a provisioning item order (PIO), but not yet on contract.

5.4.8.2.7. Due in from Overhaul. This is the number of assets undergoing depot repair. This element does not apply to consumable items.

5.4.8.2.8. Total. The sum of all asset categories described above.

5.4.8.2.9. D220 Assets. The following two elements pass from the D220 system if the system has undergone modification or design change. They identify assets that the item manager and equipment specialist should review to determine if modification, disposal, or termination action should be initiated.

5.4.8.2.9.1. Quantity Procured. This is the number of assets that have been placed on a Provisioning Item Order.

5.4.8.2.9.2. Quantity Shipped. This is the quantity of procured assets that the vendor has shipped to the Air Force.

5.4.9. Section 5. Dollar Value of Annual Demands (DVAD) Computation. This is a display of the requirements and the associated dollar value. It includes the following elements:

5.4.9.1. OIM. The wholesale and retail requirements needed to meet operational needs.

5.4.9.2. The requirement needed to support depot level maintenance programs.

5.4.9.3. Total. The sum of the OIM and DLM requirements.

5.4.9.4. Dollar Value. The value of the total requirement above multiplied by the unit price.

5.4.9.5. DLM Annual Demand Computation. This appears in Section 5 on hard copy products and Section 6 on the screens in the RDB on-line system. It includes the following requirements segments:

5.4.9.5.1. Engine Overhaul/Program Depot Maintenance Non-Job Routed (EOH/PDM NJR) Requirement. This is the requirement for EOH or PDM Non-job routed replacements and condemnations. See paragraph 5.4.7 above.

5.4.9.5.2. Engine Overhaul/Program Depot Maintenance Job Routed (EOH/PDM JR) Requirement. This is the requirement for job routed condemnations. See paragraph 5.4.7.14 above.

5.4.9.5.3. Management of Items Subject to Repair Non-Job Routed (MISTR NJR) Requirement. This is the requirement for MISTR non-job routed replacements and condemnations. See paragraphs 5.4.7.12 and 13 above.

5.4.9.5.4. Management of Items Subject to Repair Job Routed (MISTR JR) Requirement. This is the requirement for MISTR job routed condemnations. See paragraph 5.4.7.14 above.

5.4.10. Section 6. Operating (OIM) Requirements Computation. This is a projection through sixteen program time base (PTB) periods (four years) of each of the following requirements segments:

5.4.10.1. Procurement. This is three months of OIM base and depot condemnations. Lead time. This the OIM base and depot condemnations expected to accrue through administrative and production lead times, plus one month.

5.4.10.2. Depot Repair Cycle. This is the level that supports the pipeline time required to evacuate an unserviceable asset to a depot repair facility, restore it to a serviceable condition, and return it to wholesale stock.

5.4.10.3. Base Order and Ship Time (O & ST). See paragraph 5.3.2.2 above.

5.4.10.4. Base Repair Cycle. See paragraph 5.3.2.3 above.

5.4.10.5. Base Stock Level. This is the sum of the Base O & ST and Base Repair Cycle requirements.

5.4.11. Section 7. Depot Repair (DLM) Requirements Computation. This is a projection of sixteen program time base (PTB) periods (four years) of requirements that support depot maintenance programs. A three position alpha code identifies each program and requirement segment on the hard copy worksheets. The on-line screens spell out the requirements segments and do not display the codes. These codes are:

5.4.11.1. MPN. MISTR non-job routed procurement cycle.

5.4.11.2. MPJ. MISTR job routed procurement cycle.

5.4.11.3. EPN. Engine overhaul or PDM non-job routed procurement cycle.

5.4.11.4. EPJ. Engine overhaul or PDM job routed procurement cycle.

5.4.11.5. MLN. MISTR non-job routed lead time.

5.4.11.6. MLJ. MISTR job routed lead time.

5.4.11.7. ELN. Engine overhaul or PDM non-job routed lead time.

5.4.11.8. ELJ. Engine overhaul or PDM job routed lead time.

5.4.11.9. MSN. MISTR non-job routed stock level.

5.4.11.10. MSJ. MISTR job routed stock level.

5.4.11.11. ESN. Engine overhaul or PDM non-job routed stock level.

5.4.11.12. ESJ. Engine overhaul or PDM job routed stock level.

5.4.11.13. DRC. The wholesale depot repair cycle pipeline requirement.

5.4.12. Section 8. Requirements Summary. This is a projection through sixteen program time base (PTB) period (four years) of each of the following:

5.4.12.1. Gross (GRS) Requirement. This is the sum of all requirements in sections 6 and 7.

5.4.12.2. Net Requirement (NET). This is the gross requirement minus the total assets in section 4.

5.4.12.3. Dollar Value Net Requirement. This is the net requirement multiplied by the unit cost.

5.4.12.4. Recommended Buy Quantity. This is the net requirement computed in the PTB quarter that corresponds to the lead time, plus procurement cycle (three months), plus one month, from the start date.

5.4.12.5. Dollar Value. This is the recommended buy quantity times the unit price.

5.4.12.6. Review Cycle. This is the interval, in months, of the item's review cycle, as determined in Table 1.1. This appears in Section 5 on hard copy products and Section 6 on the screens in the RDB on-line system.

5.4.12.7. Program Forecast Period. The number of months in the PFP. See Chapter 1, paragraph 1.6.2.3. This appears in Section 5 on hard copy products and Section 6 on the screens in the RDB on-line system.

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**Attachment 1****GLOSSARY OF ABBREVIATIONS, ACRONYMS, AND TERMS*****Abbreviations and Acronyms***

**ACO**—Administrative Contracting Officer

**AD**—Annual Demand

**ADMP**—Adjusted Month Program

**AFPRO**—Air Force plant representative office

**AGCPD**—ALC Ground CE Program Directive

**ALC**—Air Logistics Center

**AMC**—Acquisitions Method Code

**AMP**—Average Month Program

**AOA**—Average Operating Active

**ASC**—Authorization Source Code

**ASC**—Aeronautical Systems Center

**AETC**—Aerospace Education and Training Command

**BPAC**—Budget Program Activity Code

**BRC**—Base Repair Cycle

**C-E**—Communications-Electronics

**CAGE**—Commercial And Government Entity Code

**CCN**—Command Control Number

**CFE**—Contractor Furnished Equipment

**CONUS**—Continental United States

**CSEL**—Consolidated Support Equipment List

**DCN**—Design Change Notice

**DDP**—Demand Development Period

**DID**—Data Item Description

**DIFM**—Due-In From Maintenance

**DIOH**—Due-In From Overhaul

**DLA**—Defense Logistics Agency

**DLM**—depot level maintenance

**DoD**—Department of Defense

**DVAD**—Dollar Value Of Annual Demand

**EAIM**—End Article Item Manager

**ECP**—Engineering Change Proposal

**EI**—Engineering Installation

**EMD**—Engineering And Manufacturing Development

**EOH**—Engine Overhaul

**EOQ**—Economic Order Quantity

**ERRC**—Expendability, Recoverability, Reparability, Category

**ES**—Equipment Specialist

**ESC**—Electronics Systems Center

**FMS**—Foreign Military Sales

**GA**—Grant Aid

**GFAE**—Government-Furnished Aeronautical Equipment

**GFE**—Government-Furnished Equipment

**ICS**—Interim Contractor Support

**IEC**—Item Essentiality Code

**IM**—Inventory Manager

**IMS**—Item Management Specialist

**IOC**—Initial Operational Capability

**IOL**—Initial Operating Level

**IRD**—Initial Requirements Determination

**ISSL**—Initial Spares Support List

**JR**—Job-Routed

**LOT**—Life-Of-Type

**LRU**—Line Replaceable Unit

**MAJCOM**—Major Command

**MDM**—Mobile Depot Maintenance

**MDS**—Mission, Design, Series

**MEI**—Month End Inventory

**MIEC**—Mission Item Essentiality Code

**MIP**—Material Improvement Program

**MISTR**—Management of Items Subject to Repair

**MTBD**—Mean Time Between Demand

**MTS**—Mobile Training Set  
**MUCO**—Material Utilization Control Office  
**NC**—Non-Cataloged  
**NHA**—Next Higher Assembly  
**NHRA**—Next Higher Recoverable Assembly  
**NJR**—Non-Job-Routed  
**NMCS**—Not Mission Capable Supply  
**NMSR**—Non-Consumable Materiel Support Request  
**NOA**—Non-Operating Active  
**NRTS**—Not Repairable This Station  
**NSN**—National Stock Number  
**NSO**—Numerical Stockage Objective  
**O&ST**—Order And Ship Time  
**OA**—Operating Active  
**OIM**—Organizational Or Intermediate Maintenance  
**ORP**—Overhaul Recovery Percent  
**OS**—Overseas  
**PC**—Procurement Cycle  
**PCL**—Programming Checklist  
**PCSP**—Programmed Communication Support Program  
**PDM**—Programmed Depot Maintenance  
**PF**—Program Forecast Period  
**PG**—Program Guidance  
**PIIN**—Procurement Instrument Identification Number  
**PLISN**—Procurement List Item Sequence Number  
**PM**—Program Manager  
**PO**—Program Officer  
**POC**—Preliminary Operational Capability  
**POS**—Peacetime Operating Stock  
**PTB**—Program Time Base  
**PTD**—Provisioning Technical Documentation  
**QPA**—Quantity Per Application

**QPEI**—Quantity Per End Item

**QPNHRA**—Quantity Per Next Higher Recoverable Assembly

**QR**—Quantitative Requirement

**QUP**—Quantity Unit Pack

**RC**—Review Cycle

**RIB**—Recoverable Item Breakout

**RPT**—Resident Provisioning Team

**RSO**—Retail Stock Objective

**RSP**—Readiness Spares Kit

**RTE**—Resident Training Equipment

**SA**—Security Assistance

**SAIP**—Spares Acquisition Integrated With Production

**SCARS**—Serialized Control And Accounting Reporting System

**SE**—Support Equipment

**SEC**—System Essentiality Code

**SERD**—Support Equipment Recommendation Data

**SIASCN**—Standard Interservice Agency Serialized Control Number

**SL**—Safety Level

**SMR**—Source, Maintenance, And Recoverability

**SPM**—System Program Manager

**SPRAM**—Special Purpose Recoverables Authorized To Maintenance

**SRU**—Shop Replaceable Unit

**SSR**—Supply Support Request

**SUBSEC**—Subsystem Essentiality Code

**TA**—Table Of Allowance

**TMS**—Type, Model, Series

**TOC**—Technical Order Compliance

**TRC**—Technical Repair Center

**UC**—Unit Cost

**UE**—Unit Equipment

**UI**—Unit Of Issue

**UR**—Utilization Rate

**WIMM**—Weapons Integrated Materiel Manager

**WRM**—War Reserve Materiel

**WTDOS**—Weapons Training Detachments Operating Spares

### *Terms*

**Acquisition Advice Codes**—These codes indicate how (as distinguished from "where") and under what restriction an item is acquired. For currently authorized codes see the Federal Manual for Supply, Cataloging MI-7.

**Common Item**—An item that supports several systems, subsystems, or primary items.

**Consumption Items**—Items which are consumed in use or which lose their identity through incorporation in, or attachment to, another assembly. These are also known as "secondary" items and are further classified as consumable items or recoverable items.

**Demand or Demands**—Supply actions, including issues, repairable generations, retail requisitions, or any other action that levies a requirement on the wholesale supply system to issue a serviceable asset to a customer.

**Demand Development Period (DDP)**—The period of time extending from the preliminary operational capability date to a point in time when requirements forecasts are entirely based on actual demands or other empirical data that indicate the need for spare and repair parts.

**End Article/Item**—The end article or item to be delivered under the contract, including (but not limited to) aircraft, missiles, or support equipment.

**Expendability, Recoverability, Reparability, Category (ERRC) Code**—Either a single digit or three digit supply code used to classify Air Force items of supply into various categories for management purposes. Initially assigned ERRC codes are derived directly from the maintenance repair level codes authorized for use by source codes in TO-00-195.

**Consumable Items**—Expendable, non-recoverable repair parts with ERRC designator XB and expendable repair parts that have minor reparability with ERRC designator XF. Also known as Expense Items.

**Floating Stock Level**—The stock level required by the Directorate of Maintenance (D/MA) to support the job routed overhaul repair or contractor to keep a production line moving. When the repair time of a component exceeds the repair time of an end item, the D/MA is authorized to maintain a floating stock level. This level must be of sufficient serviceable components to allow minimum repair flow time of the primary end item as negotiated with the item manager. For contractor repair of another recoverable assembly, the government must furnish a minimum quantity of serviceable assets to provide immediate replacements while the removed item is being repaired.

**Initial Operational Capability (IOC)**—The first attainment of the capability to employ effectively a weapon, item of equipment, or system of approved specific characteristics and that is manned or operated by an adequately trained, equipped, and supported military unit or force.

**Initial Provisioning**—The process of determining the range of quantity of items required to support and maintain an end item or article of materiel for an initial period of operation. The phases include identifying item of supply, establishing data needed to prepare catalogs, technical manuals and tables of

allowances; and preparing instructions that ensure delivery of necessary support items with related end articles.

**Initial Spares Support List (ISSL)**—A list of spares and repair parts and quantities required for organizational and field maintenance initial support of an end item for a given period of time. Quantities established for ISSLs must be equal to the initial base stockage objective.

**Initial Support Period**—The initial period of operation during which spare and repair parts are procured for an end item.

**Inventory Control Point (ICP)**—An organizational unit or activity within a Department of Defense supply system that is assigned the primary responsibility for the materiel management of a group of items either for a particular Military Service or for the Department of Defense as a whole. Materiel inventory management includes cataloging direction, requirements computation, procurement direction, distribution management, disposal direction, and generally, rebuild direction.

**Insurance Items**—Items that are not subject to periodic replacement or wear-out. Replacements resulting from accidents or other unpredictable occurrences, are required so infrequently that only limited quantities are acquired and held at a central point.

**Item Support Period**—See program forecast period.

**Mission Design & Series (MDS)-(Aircraft, Missile, or End Item)**—Standard nomenclature designations for aircraft, missiles, and end items to indicate the prime intended function, the sequence number of each design and the series letter indicating significant changes to the logistic support.

**Numeric Stockage Objective Item (NSO)**—A non-demand based, stocked, essential item that has a predicted failure rate, but the probability of demand is so low that it does not meet the stockage criteria, and as a demand based item would not be stocked. Since the lack of a replacement item would seriously hamper the operational capability of a weapon or weapon system, the item is stocked, but as a non-demand based item.

**Overhaul Stock Level**—This stock level represents the amount of stock required to replace condemnations of job-routed items projected to accrue during the planned overhaul program. The number of support days required is based upon the time required to receive a serviceable replacement in the technological repair center from the time requested. This will not exceed 14 days for XD2 items, or 5 days for XD1 items.

**Peculiar Item**—Items of supply that apply to only weapon system or end item.

**Preliminary Operational Capability (POC)**—The attainment of the capability for equipment or systems to be used by operational units and to function in a manner that is preliminary to, but in support of, the achievement of an initial operational capability (IOC).

**Procurement Cycle (PC)**—The length of time between procurement actions. In terms of quantities, the requirement that represents the forecast demands between procurement actions.

**Procurement Lead Time (PCLT)**—The sum of administrative lead time (ALT) and production lead time (PLT) as defined in DoD Instruction 4140.24.

**Program Forecast Period (PFP)**—Represents the number of months to be used in the development of initial budget, apportionment, and item requirements for spare and repair parts. The PFP is equal to the PCLT plus 3 months following the date of the preliminary operational capability.

**Program Time Base (PTB)**—A selected portion of the operational program beginning with the date of the preliminary operational capability and extending to the next procurement cycle or program forecast period, as appropriate, developed for the purpose of computing all requirements program data.

**Programming Checklist (PCL)**—A document that contains all programming data necessary to compute initial spares requirements. The programming checklist can be in hard copy form (AFMC Form 27) or on-line in the D200H Initial Requirements Determination (IRD) subsystem of the Requirements Data Bank.

**Provisioning**—The management process of determining and acquiring the range and quantity of support items necessary to operate and maintain an end item of materiel for an initial period of service.

**Provisioning Lists**—Lists of data developed and used for provisioning purposes.

**Additive Requirement**—A requirement not normally expressed through historical demand rates or program projections. Additive requirements support activity outside of normal peacetime operations. Examples are support for special projects, modification programs, initial installations, and forward supply levels. Also known as quantitative requirements.

**Recoverable Items**—Items of a durable nature that are normally subject to periodic replacement through fair wear and tear, and when unserviceable, can be economically repaired by either a field or depot maintenance activity. Also known as repairable items.

**Repair Cycle**—All the stages through which an unserviceable repairable type item passes from the time of its removal from the end item until its restoration to a serviceable condition and return to the supply system.

**Repair Parts**—Consumable “bits and pieces”; i.e., individual parts or consumable assemblies required to repair components of major end items.

**Replacement Items**—Primary items that are not consumed in use and retain their original identity during use. These items have an ERRC designation of ND2 or NF2. They are issued on the basis of approved allowance documents, with the receiving using unit or activity maintaining accountability. Also known as Equipment Items.

**Retail Level**—In the Air Force supply system, the level of supply that issues an item directly to the customer.

**Review Cycle (RC)**—The time between the mandatory review of item requirements.

**Safety Level**—The quantity of materiel required to be on hand to permit continued operation in the event of interruptions of normal replenishment or unpredictable fluctuation in issue demands.

**Security Assistance (SA) Program**—The Air Force program that administers the Grant Aid and Foreign Military Sales (FMS) functions.

**Serialized Control & Reporting System (SCARS)**—A technique applied to high unit cost recoverable items that provides the item manager (IM) with responsive access to the precise location, condition and installed item status of all assets.

**Spare Parts**—Repairable components or assemblies used for maintenance replacement purposes in major end items or equipment.

**SPM or EAIM ALC**—An ALC that has system program management or item management responsibility for the weapon system or end article procured on contract.

**Support Equipment**—Equipment required to make a weapon system, command and control system, subsystem, or end item of equipment operational in its intended environment.

**Technical Data**—The drawings, sketches, catalogs, specifications and other data required to completely identify the item.

**Time-Weighted Average Month's Program (TWAMP)**—The cumulative monthly operational units of program during the program time base divided by the number of months in the program time base.

**War Reserve Materiel (WRM)**—Materiel required to augment peacetime assets to completely support forces, missions, and activities reflected in the United States Air Force War Plans.

**Wholesale Level**—The echelon of the supply system under the direct control of the ICP that maintains quantities of stocks to satisfy requisitions from the retail level.

## Attachment 2

### REQUIREMENTS FORMULAS

**A2.1.** The D200H Initial Requirements Determination (IRD) system uses the following formulas to compute each requirements segment for initial spares. These formulas are part of the approved methodology for computing Air Force initial spares requirements and should be used when computing requirements outside of the IRD. The ALC OPR may approve deviations from these formulas after reviewing justifying documentation.

**A2.2.** Programming Checklist Elements.

A2.2.1. Adjusted Month Schedule.

A2.2.2. The adjusted month schedule is used to develop the average and adjusted month inventory, operating (flying hour), and overhaul program for the programming checklist (PCL) computations. Overhaul programs are depot level maintenance (DLM) programs, and include program depot maintenance (PDM), engine overhaul (EOH), and Management of Items Subject to Repair (MISTR) programs.

A2.2.2.1. For any quarter the adjusted month schedule is the quarterly program divided by three:

$$\text{ADJ MO SCHED} = \text{QTLY PROG}/3.$$

A2.2.2.2. Any remainder is evenly distributed between the first and second months of the quarter. If the remainder is 2, one additional unit of program is added to the first and second months; if the remainder is 1, one additional unit of program is added to the first month only.

A2.2.3. Average Month Schedule.

A2.2.3.1. The average month schedule is the current adjusted monthly schedule plus the previous adjusted monthly schedule, divided by two.

A2.2.3.1.1. For the first month:

$$\text{AVG MO SCHED} = \text{ADJ MO SCHED}/2.$$

A2.2.3.1.2. For subsequent months:

$$\text{AVG MO SCHED} = (\text{ADJ MO SCHED (current month)} + \text{ADJ MO SCHED (previous month)})/2.$$

**A2.3. Item Requirements .**

A2.3.1. OIM Annual Demands.

A2.3.1.1. This is the number of annual demands expected to be placed on organizational and intermediate maintenance (i.e., base level) maintenance activities. The first step is to determine the program time base (PTB) that contains the Adjusted Month Program (1a above) that will apply to the OIM demand projection. Each PTB is numbered in threes from 3 to 48 (3, 6, 9, . . . 48). To select the appropriate PFP, add the number of months in the administrative and production lead times, plus the number of months in the procurement cycle (3), plus 1 one month.

$$\text{PFP} = \text{ALT MO} + \text{PLT MO} + \text{PROC CYC MO (3)} + 1.$$

A2.3.1.2. If there is a remainder, the result is rounded up to a multiple of three. For example, if the result is 16, the selected PFP is 18. If the result is less than 12, or if the item is managed by another service, the PFP is 12.

A2.3.1.3. The projected annual demands equals the total OIM demand rate, times the application percent, times the quantity per end item, times the accumulated operating program (flying hours or inventory) at the selected PFP.

$$\text{OIM ANN DEM} = \text{TOIMDR} \times \text{APPL PCT} \times (\text{OIM PROG at PFP}).$$

#### A2.3.2. OIM Pipeline Requirements.

A2.3.2.1. OIM Procurement Cycle. The 3- month procurement cycle requirement within each program time base (PTB) is the number of months in the procurement cycle (3) times the average month program in the PTB , times the quantity per end item, times the item application percent, times the TOIMDR, times product of the base NRTS percent times the depot overhaul condemnation percent, plus the remainder of the 1 minus the base NRTS percent multiplied by the base condemnation percent.

$$\text{OIM PROC CYC} = 3 \times \text{AVG MO PROG (PTB n)} \times \text{QPEI} \times \text{ITM APPL PCT} \times \text{TOIMDR} \times ((\text{BASE NRTS PCT} \times \text{DEP OVHL CONDMN PCT}) + ((1 - \text{BASE NRTS PCT}) \times \text{BASE CONDMN PCT})).$$

A2.3.2.2. OIM Lead Time. This requirement covers demands expected to occur during the item's acquisition lead time and is computed within each program time base. It is the number of months in the administrative lead time and the production lead time, plus one additional month, times the average month program in the PTB , times the quantity per end item, times the item application percent, times the TOIMDR, times the product of the base NRTS percent times the depot overhaul condemnation percent, plus the remainder of the 1 minus the base NRTS percent multiplied by the base condemnation percent.

$$\text{OIM LT} = (\text{ALT MO} + \text{PLT MO} + 1) \times \text{AVG MO PROG (PTB n)} \times \text{QPEI} \times \text{ITM APPL PCT} \times \text{TOIMDR} \times ((\text{BASE NRTS PCT} \times \text{DEP OVHL CONDMN PCT}) + ((1 - \text{BASE NRTS PCT}) \times \text{BASE CONDMN PCT})).$$

A2.3.2.3. Base Order and Ship Time. This determines the number of assets required to support demands expected to occur during the base order and ship time (O & ST). It is the number of days in the O & ST divided by 30, times the adjusted month program at the item's PFP, times the quantity per end item, times the item application percent, the total OIM demand rate, times the base NRTS percent plus the remainder of the 1 minus the base NRTS percent multiplied by the base condemnation percent.

$$\text{BASE O\&ST} = (\text{BASE O\&ST DA}/30) \times \text{AVG MO PROG (PTB n)} \times \text{QPEI} \times \text{ITM APPL PCT} \times \text{TOIMDR} \times (\text{BASE NRTS PCT} + (1 - \text{BASE NRTS PCT}) \times \text{BASE CONDMN PCT}).$$

A2.3.2.4. Base Repair Cycle. This determines the number of assets required to support demands expected to occur during the base repair cycle (BRC) time. It is the number of days in the BRC divided by 30, times the adjusted month program at the item's PFP, times the quantity per end item, times the item application percent, times the total OIM demand rate, times the base NRTS percent plus the remainder of the 1 minus the base NRTS percent multiplied by the base condemnation percent.

$$\text{BRC} = (\text{BRC DA}/30) \times \text{AVG MO PROG (PTB } n) \times \text{QPEI} \times \text{ITM APPL PCT} \times \text{TOIMDR} \times (\text{BASE NRTS PCT} + (1 - \text{BASE NRTS PCT}) \times \text{BASE CONDMN PCT}).$$

A2.3.2.5. Depot Repair Cycle. This determines the number of assets required to support demands expected to occur during the depot repair cycle (DRC) time. It is the number of days in the DRC divided by 30, times the adjusted month program at the item's PFP, times the quantity per end item, times the item application percent, times the total OIM demand rate, times the base NRTS percent.

$$\text{DRC} = (\text{DRC DA}/30) \times \text{AVG MO PROG (PTB } n) \times \text{QPEI} \times \text{ITM APPL PCT} \times \text{TOIMDR} \times \text{BASE NRTS PCT}.$$

A2.3.2.6. Base Stock Level. The base stock level is the sum of the base order and ship time requirement and the base repair cycle requirement.

$$\text{BASE SL} = \text{BASE O\&ST} + \text{BRC}.$$

### A2.3.3. DLM Annual Demands.

A2.3.3.1. The DLM annual demands are a projection of expected requirements to support depot level maintenance (DLM) programs that are associated with the overhaul of aircraft, engines, equipment, or recoverable secondary items. The programming checklist includes separate programmed depot maintenance (PDM) programs for aircraft, engine overhaul (EOH) programs, and Management of Items Subject to Repair (MISTR) programs for equipment and recoverable secondary items. The demand projection includes separate forecasts for job routed and non-job routed requirements.

A2.3.3.2. The DLM demand projection for items with job routed programs equals the total DLM program minus the item non-job routed program, times the job routed condemnation percent:

$$\text{JR ANN DMD} = (\text{TOT DLM PROG} - \text{NJR ITEM PROG}) \times \text{JR CONDM PCT}.$$

A2.3.3.3. The DLM demand projection for items with non-job routed programs equals the total DLM program times the item non-job routed program percent, times the non-job routed replacement percent:

$$\text{NJR ANN DMD} = (\text{TOT DLM PROG} \times \text{NJR PROG PCT}) \times \text{NJR REPL PCT}.$$

A2.3.3.4. Each of the above formulas should be applied separately for each type of DLM program (PDM, EOH, or MISTR). The results are added to derive the total DLM annual demand projection.

### A2.3.4. DLM Item Requirements.

#### A2.3.4.1. MISTR Program.

A2.3.4.1.1. The first step in computing depot level maintenance (DLM) item requirements is a determination of the average month Management Item of Items Subject to Repair (MISTR) program. This is the sum of projected DLM reparable generations and OIM reparable generations within any PTB.

A2.3.4.1.2. Within any PTB, the projected DLM reparable generations are the average month MISTR program for the next higher reparable assembly (NHRA) in the PTB, identified on the programming checklist provisioning list item sequence number (PLISN) for the NHRA, times the quantity per NHRA, times the MISTR non-job routed program percent, times the MISTR

non-job routed replacement percent, times the item application percent in the PTB, plus the product of the average month PDM and EOH programs times the quantity per end item, times the EOH or PDM non-job routed program percent, time the EOH or PDM non-job routed replacement percent, times the item application percent in the PTB.

$$\text{DLM REP GEN} = \text{AVG MO MISTR PROG (from NHRA PLISN (PTB N) X QPNHRA X MISTR NJR PROG PCT X MISTR NJR REPL PCT X ITM APPL PCT (PTB n) + (AVG EOH + PDM PROG (PTB n) X QPEI X EOH/PDM NJR PROG PCT X EOH/PDM NJR REPL PCT X ITM APPL PCT (PTB n))}.$$

A2.3.4.1.3. The OIM reparable generations are the average month OIM (flying hours or inventory) program in the PTB, times the quantity per end item, times the total OIM demand rate, times the base not repairable at this station percent, times the item application percent in the PTB.

$$\text{OIM REP GEN} = \text{AVG MO OIM PROG (PTB n) X QPEI X TOIMDR X BASE NRTS PCT X ITM APPL PCT (PTB n)}.$$

A2.3.4.1.4. The average month MISTR program within any PTB is the OIM reparable generations plus the DLM reparable generations, times the remainder of 1 minus the depot overhaul condemnation percent.

$$\text{AVG MO MISTR PROG (PTB n)} = (\text{OIM REP GEN (PTB n) + DLM REP GEN (PTB n)}) \text{ X (1 - DEP OVHL CONDMN PCT)}.$$

#### A2.3.4.2. DLM Procurement Cycle (ERRC "C" and "T" items only).

A2.3.4.2.1. This process computes the depot level maintenance (DLM) procurement cycle requirements for all job routed and non-job routed DLM programs. This process involves two steps. Step 1 is computation of the MISTR job routed and non-job routed procurement cycles in each PTB.

A2.3.4.2.2. The MISTR job routed procurement cycle equals the job routed condemnations times the remainder of 1 minus the MISTR non-job routed program percent, times the average month MISTR program in the PTB, times the quantity per next higher reparable assembly, times the item application percent at the PTB, times 3.

$$\text{MISTR JR PROC CYC} = (\text{JR PROG X MISTR JR CONDMN PCT}) \text{ X } ((1 - \text{MISTR NJR PR OG PCT}) \text{ X AVG MO MISTR PROG (PTB n) X QPNHRA X ITM APPL PCT (PTB n) X 3)}.$$

A2.3.4.2.3. The MISTR non-job routed procurement cycle equals the non-job routed replacements and depot overhaul condemnations times the remainder of 1 minus the MISTR non-job routed program percent, times the average month MISTR program in the PTB, times the quantity per next higher reparable assembly, times the item application percent at the PTB, times 3.

$$\text{MISTR NJR PROC CYC} = (\text{NJR JR PROG X MISTR NJR REPL PCT X DEP OH CONDMN PCT}) \text{ X } ((1 - \text{MISTR NJR PROG PCT}) \text{ X AVG MO MISTR PROG (PTB n) X QPNHRA X ITM APPL PCT (PTB n) X 3)}.$$

A2.3.4.2.4. Step 2 is computation of the job routed and non-job routed engine overhaul and program depot maintenance (EOH/PDM) procurement cycles.

A2.3.4.2.4.1. The EOH/PDM job routed procurement cycle equals the job routed condemnations times the remainder of 1 minus the EOH/PDM non-job routed program percent, times the average month EOH/PDM program in the PTB , times the quantity per next higher reparable assembly, times the item application percent at the PTB, times 3.

$$\text{EOH/PDM JR PROC CYC} = (\text{JR PROG X EOH/PDM JR CONDMN PCT}) \times ((1 - \text{EOH/PDM NJR PROG PCT}) \times \text{AVG MO EOH/PDM PROG (PTB n)} \times \text{QPNHRA X ITM APPL PCT (PTB n)} \times 3).$$

A2.3.4.2.4.2. The EOH/PDM non-job routed procurement cycle equals the non-job routed replacements and depot overhaul condemnations times the remainder of 1 minus the EOH/PDM non-job routed program percent, times the average month EOH/PDM program in the PTB, times the quantity per next higher reparable assembly, times the item application percent at the PTB, times 3.

$$\text{EOH/PDM NJR PROC CYC} = (\text{NJR JR PROG X EOH/PDM NJR REPL PCT X DEP OH CONDMN PCT}) \times ((1 - \text{EOH/PDM NJR PROG PCT}) \times \text{AVG MO EOH/PDM PROG (PTB n)} \times \text{QPNHRA X ITM APPL PCT (PTB n)} \times 3).$$

A2.3.4.3. DLM Lead Time Requirement (ERRC “C” and “T” items only).

A2.3.4.3.1. This process computes the depot level maintenance (DLM) lead time requirements for all job routed and non-job routed DLM programs. This process involves two steps. Step 1 is computation of the MISTR job routed and non-job routed lead time requirements in each PTB.

A2.3.4.3.2. The MISTR job routed lead time requirement equals the job routed condemnations times the remainder of 1 minus the MISTR non-job routed program percent, times the average month MISTR program in the PTB , times the quantity per next higher reparable assembly, times the item application percent at the PTB, times the number of months in the acquisition lead time plus 1.

$$\text{MISTR JR LT} = (\text{JR PROG X MISTR JR CONDMN PCT}) \times ((1 - \text{MISTR NJR PROG PCT}) \times \text{AVG MO MISTR PROG (PTB n)} \times \text{QPNHRA X ITM APPL PCT (PTB n)} \times (\text{ALT MO} + \text{PLT MO} + 1)).$$

A2.3.4.3.3. The MISTR non-job routed lead time requirement equals the non-job routed replacements and depot overhaul condemnations times the remainder of 1 minus the MISTR non-job routed program percent, times the average month MISTR program in the PTB, times the quantity per next higher reparable assembly, times the item application percent at the PTB, times the number of months in the acquisition lead time plus 1.

$$\text{MISTR JR LT} = (\text{NJR JR PROG X MISTR NJR REPL PCT X DEP OH CONDMN PCT}) \times ((1 - \text{MISTR NJR PROG PCT}) \times \text{AVG MO MISTR PROG (PTB n)} \times \text{QPNHRA X ITM APPL PCT (PTB n)} \times (\text{ALT MO} + \text{PLT MO} + 1)).$$

A2.3.4.3.4. Step 2 is computation of the job routed and non-job routed engine overhaul and program depot maintenance (EOH/PDM) lead time requirements.

A2.3.4.3.4.1. The EOH/PDM job routed lead time requirement equals the job routed condemnations times the remainder of 1 minus the EOH/PDM non-job routed program percent, times the average month EOH/PDM program in the PTB , times the quantity per next higher reparable assembly, times the item application percent at the PTB, times the number of months in the acquisition lead time plus 1.

$EOH/PDM\ JR\ LT = (JR\ PROG\ X\ EOH/PDM\ JR\ CONDMN\ PCT) \times ((1 - EOH/PDM\ NJR\ PROG\ PCT) \times AVG\ MO\ EOH/PDM\ PROG\ (PTB\ n) \times QPNHRA \times ITM\ APPL\ PCT\ (PTB\ n) \times (ALT\ MO + PLT\ MO + 1)).$

A2.3.4.3.4.2. The EOH/PDM non-job routed lead time requirement equals the non-job routed replacements and depot overhaul condemnations times the remainder of 1 minus the EOH/PDM non-job routed program percent, times the average month EOH/PDM program in the PTB, times the quantity per next higher reparable assembly, times the item application percent at the PTB, times the number of months in the acquisition lead time plus 1.

$EOH/PDM\ NJR\ LT = (NJR\ JR\ PROG\ X\ EOH/PDM\ NJR\ REPL\ PCT \times DEP\ OH\ CONDMN\ PCT) \times ((1 - EOH/PDM\ NJR\ PROG\ PCT) \times AVG\ MO\ EOH/PDM\ PROG\ (PTB\ n) \times QPNHRA \times ITM\ APPL\ PCT\ (PTB\ n) \times (ALT\ MO + PLT\ MO + 1)).$

A2.3.4.4. DLM Depot Repair Cycle (ERRC "C" and "T" items only).

A2.3.4.4.1. This process computes the depot level maintenance (DLM) depot repair cycle requirements for all job routed and non-job routed DLM programs. This process involves two steps. Step 1 is computation of the MISTR depot repair cycle requirement.

A2.3.4.4.2. The MISTR depot repair cycle requirement equals the depot repair cycle days divided by 30, times the average month MISTR program in the PTB, times the MISTR non-job routed program percent, times the quantity per next higher reparable assembly, times the item application percent at the PTB, times the MISTR non-job routed replacement percent.

$MISTR\ DEP\ REP\ CYC = (DRC\ DAY/30 \times AVG\ MO\ MISTR\ PROG\ (PTB\ n)) \times MISTR\ NJR\ PROG\ PCT \times QPNHRA \times ITM\ APPL\ PCT\ (PTB\ n) \times MISTR\ NJR\ REPL\ PCT.$

A2.3.4.4.3. Step 2 is computation of the job routed and non-job routed engine overhaul and program depot maintenance (EOH/PDM) depot repair cycle requirements.

A2.3.4.4.3.1. The EOH/PDM depot repair cycle requirement equals the depot repair cycle days divided by 30, times the average month EOH/PDM program in the PTB, times the EOH/PDM non-job routed program percent, times the quantity per next higher reparable assembly, times the item application percent at the PTB, times the EOH/PDM non-job routed replacement percent.

$EOH/PDM\ DEP\ REP\ CYC = (DRC\ DAY/30 \times AVG\ MO\ EOH/PDM\ PROG\ (PTB\ n)) \times EOH/PDM\ NJR\ PROG\ PCT \times QPNHRA \times ITM\ APPL\ PCT\ (PTB\ n) \times EOH/PDM\ NJR\ REPL\ PCT.$

A2.3.4.5. DLM Stock Level (ERRC "C" and "T" items only).

A2.3.4.5.1. This process computes the depot level maintenance (DLM) stock levels for all job routed and non-job routed DLM programs. This process involves two steps. Step 1 is computation of the MISTR job routed and non-job routed stock levels in each PTB.

A2.3.4.5.2. The MISTR job routed stock level equals the job routed condemnations times the remainder of 1 minus the MISTR non-job routed program percent, times the average month MISTR program in the PTB, times the quantity per next higher reparable assembly, times the item application percent at the PTB, times the number of JR stock level days.

$MISTR\ JR\ LT = (JR\ PROG\ X\ MISTR\ JR\ CONDMN\ PCT) \times ((1 - MISTR\ NJR\ PROG\ PCT) \times AVG\ MO\ MISTR\ PROG\ (PTB\ n) \times QPNHRA \times ITM\ APPL\ PCT\ (PTB\ n) \times JR\ SL\ DA).$

A2.3.4.5.3. The MISTR non-job routed stock level equals the non-job routed replacements and depot overhaul condemnations times the remainder of 1 minus the MISTR non-job routed program percent, times the average month MISTR program in the PTB, times the quantity per next higher reparable assembly, times the item application percent at the PTB, times the NJR stock level days.

$MISTR\ JR\ LT = (NJR\ JR\ PROG\ X\ MISTR\ NJR\ REPL\ PCT\ X\ DEP\ OH\ CONDMN\ PCT) \times ((1 - MISTR\ NJR\ PROG\ PCT) \times AVG\ MO\ MISTR\ PROG\ (PTB\ n) \times QPNHRA \times ITM\ APPL\ PCT\ (PTB\ n) \times NJR\ SL\ DA).$

A2.3.4.5.4. Step 2 is computation of the job routed and non-job routed engine overhaul and program depot maintenance (EOH/PDM) stock levels.

A2.3.4.5.4.1. The EOH/PDM job routed stock level equals the job routed condemnations times the remainder of 1 minus the EOH/PDM non-job routed program percent, times the average month EOH/PDM program in the PTB, times the quantity per next higher reparable assembly, times the item application percent at the PTB, times the JR stock level days.

$EOH/PDM\ JR\ LT = (JR\ PROG\ X\ EOH/PDM\ JR\ CONDMN\ PCT) \times ((1 - EOH/PDM\ NJR\ PROG\ PCT) \times AVG\ MO\ EOH/PDM\ PROG\ (PTB\ n) \times QPNHRA \times ITM\ APPL\ PCT\ (PTB\ n) \times JR\ SL\ DA).$

A2.3.4.5.4.2. The EOH/PDM non-job routed stock level equals the non-job routed replacements and depot overhaul condemnations times the remainder of 1 minus the EOH/PDM non-job routed program percent, times the average month EOH/PDM program in the PTB, times the quantity per next higher reparable assembly, times the item application percent at the PTB, times the NJR stock level days.

$EOH/PDM\ NJR\ LT = (NJR\ JR\ PROG\ X\ EOH/PDM\ NJR\ REPL\ PCT\ X\ DEP\ OH\ CONDMN\ PCT) \times ((1 - EOH/PDM\ NJR\ PROG\ PCT) \times AVG\ MO\ EOH/PDM\ PROG\ (PTB\ n) \times QPNHRA \times ITM\ APPL\ PCT\ (PTB\ n) \times NJR\ SL\ DA).$