TO 00-25-4

TECHNICAL MANUAL

DEPOT MAINTENANCE OF AEROSPACE VEHICLES AND TRAINING EQUIPMENT

(ATOS)

FOR QUESTIONS CONCERNING TECHNICAL CONTENT OF THIS TECHNICAL MANUAL, CONTACT HQ AFMC/A4FC.

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iii	0				
iv Blank	0				
1-1 - 1-13	0				
1-14 Blank	0				

*Zero in this column indicates an original page

TABLE OF CONTENTS

Chapter Page

INTRODUCTION iii

1 GENERAL 1-1

1.1 General Policy 1-1
1.2 Definition of Terms 1-2
1.3 Tables 1-3
1.4 Development of Aircraft and Missile Requirements 1-5
1.5 Input and Output Schedules 1-6
1.6 Controlled Interval Extension (CIE) Program 1-6
1.7 Analytical Condition Inspection (ACI) 1-7

LIST OF ILLUSTRATIONS

Number Title Page

1-1 AFTO FORM 103 Aircraft/Missile Condition Data 1-13

LIST OF TABLES

Number Title Page

1-1 Modification 1-7
1-2 Programmed Depot Maintenance 1-8
1-3 Excepted Aircraft 1-8
1-4 Commercial Derivative Aircraft 1-9
1-5 Sectionalized Work Specification Requirements 1-9
1-6 CIE Sample Size 1-12
1-7 ACI Sample Size 1-12
1-8 Weapon Systems Required to Develop an AMR Work Specification and Brochure 1-12

INTRODUCTION

1. PURPOSE.

This technical order outlines the types and scope of depot maintenance support, and establishes procedures for programming aerospace vehicles and training equipment for depot maintenance. The provisions of this technical order (TO) are applicable to all Department of Air Force (DAF), Air National Guard (ANG) and Air Force Reserve Command (AFRC) activities. The AFMC Single Manager (SM) includes Program Managers (PMs) and Program Group Managers (PGMs).

2. SCOPE.

The tables and intervals listed are those which the assigned Program Manager (PM) has determined are valid. All recommended additions/deletions/changes from other activities must be submitted by memorandum directly to the PM.

CHAPTER 1
GENERAL

1.1 GENERAL POLICY.

AFI 21-101, AFI 21-102, AFI 63-101 and Logistics Requirements Determination Process (LRDP) Guide and Handbook establish objectives, policies, and responsibilities for the Air Force equipment maintenance program. The policies pertinent to maintenance support are as follows:

1.1.1 The maintenance engineering objective is to assure that the best, most timely and most economical means, consistent with mission requirement, are used to satisfy all approved requirements. The criteria used for meeting this objective will include comparative analysis of costs and benefits to the owning activity.

1.1.2 AFMC is responsible for management of the USAF depot maintenance program for aerospace vehicles and training equipment. The AFMC Single Manager is responsible for planning the depot maintenance program.

1.1.3 Depot maintenance for aerospace vehicles and training equipment will be provided to MAJCOMs (ACC, AFSOC, AMC, ANG, AFRC, AFSPC, PACAF, AETC, AFMC, USAFE, AFGSC) and other Agencies (AFWA and AFFSA). Depot funds can involve a variety of appropriations, budget programs and program elements. The commands will provide ALC/SM with the appropriate funds citation and certification of funds availability, excluding CAM which provides the funding directly.

1.1.4 The depot maintenance program will be based on data from Reliability Centered Maintenance (RCM) programs (Maintenance Program Development Document), the Maintenance Data Documentation (MDD) system, requirements submitted by owning activities and other reliability and maintenance data sources. Except for unprogrammed emergency requirements, depot maintenance will be accomplished on a planned basis to facilitate the programming of funds, material, manpower, facilities and other resources. On mature aircraft with extensive operational and maintenance history, the Program Manager (PM) engineering functions may direct inspection requirements based on force experience without formal RCM analysis.

1.1.5 Field team accomplishment of depot maintenance is warranted when it will reduce the aerospace vehicle out of service time, impact the mission accomplishment of tactical units less than if the maintenance is accomplished in a fixed facility, or be advantageous to the government.

1.1.6 When a requirement exists to input a missile into a Technology Repair Center (TRC) or when on-site programmed maintenance and modification is required, the maintaining commands and the PM, will develop the work package and schedule. When appropriate, the AFTO FORM 103, AIRCRAFT/MISSILE CONDITION DATA, will be used as outlined in paragraph 1.4.3.

1.1.7 Depot maintenance of training equipment is restricted to essential repair required to keep “T” coded aircraft, missiles, and Federal Supply Group (FSG) 69 training equipment in serviceable condition for training purposes. If required, field teams will be dispatched to accomplish major modifications. If materiel resources are provided and technical skills exist, modification of trainers may be accomplished by operational units if jointly agreed to by AFMC and MAJCOM involved. Owning activities will advise Ogden ALC and the appropriate ALC/PM for maintenance training equipment of the date depot maintenance support is required. The required work will be accomplished by field teams of the TRC in accordance with TO 43-1-1.

1.1.8 Depot possessed aircraft may be considered a source for parts based on the cannibalization criteria contained in TO 00-20-2. Prior to the arrival of a depot team at the repair site, request for cannibalization approval will be initiated by the Group Commander (A4 Logistic, Operations, Test, etc.) and sent to the weapon system PM with an information copy to the MAJCOM/Maintenance/Supply Activities. The PM will act on each request after considering what impact cannibalization action will have on depot field team maintenance requirements. When the PM has delegated cannibalization approval authority to the on-site depot field team chief, the A4 will seek approval directly from the team chief. The depot field team is not responsible for replacing the cannibalized items prior to transferring aircraft possession back to operational unit.

1.1.9 The Logistics Requirements Determination Process (LRDP) Guide and Handbook documents a simplified, standard, repeatable and consistent method for identifying and prioritizing Weapon System Sustainment (WSS) requirements at the logistics enterprise level to optimally sustain Air Force weapon systems within given resource constraints. The LRDP Guide outlines roles and responsibilities involved in the LRDP. The LRDP Handbook documents the WSS requirement process at

the commodity level to include the specific guidance on the Aircraft and Missile Requirements (AMR) process. This process documents the development of the organic work package for aircraft/missile depot maintenance.

1.2 DEFINITION OF TERMS.

1.2.1 Aircraft Structural Integrity Program (ASIP) (MIL-STD 1530C). A time-phased set of required actions performed at the optimum time during the life cycle (design through phase-out) of an aircraft system to ensure the structural integrity (strength, rigidity, damage tolerance, durability and service life capability) of the aircraft. The results of the ASIP, i.e., fatigue analysis, damage tolerance assessment, fatigue test results, individual aircraft tracking program, etc., are used in the RCM analysis of structurally significant items. These analyses and tests identify critical areas, inspection tasks, and frequencies.

1.2.2 Analytical Condition Inspection (ACI) AFMCI 21-102. The systematic disassembly and inspection of a representative sample of aircraft to find hidden defects, deteriorating conditions, corrosion, fatigue, overstress, and other deficiencies in the aircraft structure or systems. ACIs are normally over and above those inspections specified in the technical order or PDM work specifications.

1.2.3 Airframe Condition Evaluation (ACE). ACE generates deficiency data for engineering and technical evaluation of the relative aircraft condition resulting from corrosion, overstress, wear, and other effects of age, operational usage, and environmental exposure. ACE is normally performed by a Depot Field Team (DFT) or Contract Field Team (CFT). Under this program, aircraft receive a special structural maintenance evaluation that cannot be accomplished at organizational and intermediate level. This evaluation looks for symptoms of distress to develop a physical condition profile which is then used to establish the depot level threshold for on condition maintenance (OCM). The ACE selects those aircraft eligible for depot level maintenance and identifies the OCM tasks.

1.2.4 Controlled Interval Extension (CIE) AFMCI 21-104. The controlled extension of a programmed depot maintenance interval based on condition analyses of a representative sample of aircraft.

1.2.5 Depot Facility or Source of Repair Activity. An industrial type facility established to perform accessory overhaul functions, modifications or maintenance. This includes AFMC installations and commercial contractors who perform depot work on weapon systems or equipment under a contract issued and managed by AFMC.

1.2.6 Depot Field Team. A team of maintenance personnel (AF, another service, contractor, or a combination thereof) possessing the necessary skills, special tools and equipment to accomplish depot level modification and maintenance.

1.2.7 Depot-Level Maintenance. The level of maintenance consisting of those on and off-equipment tasks performed using highly specialized skills, sophisticated shop equipment, or special facilities of an ALC, contractor facility, or, by field teams at an operating location. Maintenance performed at a depot also includes those organizational- and intermediate-level tasks required to prepare for depot maintenance, and, if negotiated between the depot and the operating command, scheduled field-level inspections, preventative maintenance or TCTOs which come due while equipment is at the ALC for PDM.

1.2.8 Excepted Aircraft. Those aircraft not requiring force wide scheduling for depot level modification or maintenance.

1.2.9 Failure Modes, Effects and Criticality Analysis (FMECA). An analysis performed to identify the predicted failure modes of an item and the effect each failure mode has upon the item, system, and end item operation.

1.2.10 Item Manager (IM). An individual who is assigned management responsibility for one or more specific items of hardware.

1.2.11 Aircraft and Missile Requirements (AMR) Review. The AMR Review process is a Centralized Asset Management (CAM) initiative to review tasks and hours associated with weapon system's depot maintenance requirements for an appropriate fiscal year accomplishment. The AMR voting members (Weapon System Program Manager, Lead Command, Funds Holders and AFM CAM, and Center Maintenance Wings) will concur or non-concur on the individual tasks. The non-concurred tasks must be resolved before validation of the AMR brochure can be accomplished.

1.2.12 Maintenance Program Development Document (MPDD). This document was prepared by the Maintenance Steering Group-3 task force of the Air Transport Association of America. This document describes an analytical process for establishing scheduled maintenance requirements for commercial aircraft. This document can also be found online as appendix 5 of the FAA's Airworthiness Inspector's Handbook 8300.

1.2.13 Programmed Requirements. Involve those requirements that are scheduled on a calendar/time basis and have associated hours and dollars. Programmed requirements are performed at a contract or depot facility or on-site; to include planned inspections and maintenance accomplished by field teams. Includes Repair Group Categories (RGCs) A and C.

1.2.14 On Condition Maintenance (OCM). OCM is a program to schedule selected aircraft into a depot level facility to correct known specific defects. Selection is based on combinations of critical and multiple major defects. Critical defects are significant faults on primary structure. Major defects are significant faults to secondary structure. OCM is selected so that contracted corrective action can be tailored to known, specific aircraft needs as a result of the ACE program.

1.2.15 Product Group Manager (PGM). The single manager for a Product Group, who has the same responsibilities as a Program Manager or Materiel Group Manager for the assigned products.

1.2.16 Reliability-Centered Maintenance AFMCI 21-103. A maintenance concept that has the objective of achieving the inherent, or designed-in, reliability of a system. The concept is a derivative of the airline/manufacture maintenance planning document MSG published under the auspices of the Air Transport Association.

1.2.17 Reliability-Centered Maintenance Analysis AFMCI 21-103. A structured approach to the development of an RCM concept for a system or end item. It uses FMECA and integrity program outputs and MPPD logic to identify maintenance tasks which must be performed on a scheduled basis to ensure the attainment of inherent reliability.

1.2.18 Modification. A physical alteration of equipment that changes its capabilities or characteristics, i.e., form, fit or function.

1.2.19 Programmed Depot Maintenance (PDM). Inspection and correction of defects that require skills, equipment or facilities not normally possessed by operating locations.

1.2.20 Sectionalized Work Requirements Package. The depot work package developed to identify the maintenance and/or modification, sectionalized by categories of tasks, to be done on aircraft, missile or equipment being input to a source of repair.

1.2.21 Single Manager (SM). The PM or PGM in charge of a weapon/military system or program group.

1.2.22 Source of Repair (SOR). An industrial complex (organic, commercial contract, or inter-service facility) with required technical capabilities to accomplish depot repair, overhaul modification, or restoration of specific types of military hardware or software.

1.2.23 Speedline. The programming of a specific group of aircraft for the accomplishment of specific maintenance tasks or modifications that do not constitute a complete PDM package.

1.2.24 Program Manager (PM). The individual in an AFMC System Program Office (SPO) who is ultimately responsible and accountable for decisions and resources in overall program execution. The single face to the user who oversees the seamless process. PM is the designated title for the single manager of a program who reports to a Program Executive Officer (PEO) or Designated Acquisition Commander (DAC).

1.2.25 Technology Repair Center (TRC). A functional entity with an AFMC source of repair activity which accomplishes depot level maintenance on a specific group of items.

1.2.26 Training Equipment. Aircraft, missile and other training equipment in FSG 69; trainers that are part of a Mobile Training Set (MTS) or Resident Training Equipment (RTE). Training equipment includes all trainers reportable in accordance with AFI 21-103 (Equipment Inventory, Status, and Utilization Reporting).

1.2.27 Safety of Flight (SOF). A SOF write-up indicates that the weapon system or equipment unit is considered unsafe or unfit for flight or use and that the weapon system will not be flown or the equipment used until the unsatisfactory condition is corrected.

1.2.28 Unprogrammed Requirements. Involve those requirements which are generated unpredictably and have associated dollars based on historical usage. Unprogrammed requirements include unplanned (i.e. unforeseen maintenance actions) performed at either the organic or contract depot by depot personnel or on-site by organic or contract field teams. Includes Repair Group Categories (RGCs) B and D.

1.3 TABLES.

Table 1-1, Table 1-2, Table 1-3, and Table 1-4 indicate the basis upon which the various mission design series (MDS) aerospace vehicles will be scheduled for depot modification and maintenance. If technical or operational considerations warrant development of a program that deviates from the published tables or intervals specified in the following sub paragraphs, approval can be granted by the assigned PM. The PM has the technical expertise and authority to determine if a

PDM can be safely extended. If aircraft are scheduled for active inventory phase out, the proper PM does an analysis to find options for minimizing aircraft force PDM needs. A mandatory option the analysis addresses is a proposal of aircraft transfer within or between major commands, when cost-effective, without degrading mission performance. For PDM cycle changes, the PM needs to provide the analysis to the Lead Command for concurrence. Concurrences will be forwarded to HQ USAF/A4LM for review and approval. All aircraft transfers need to include the PDM funding transfers to be accomplished by HQ USAF A4/7PY.

1.3.1 Table 1-1 lists aircraft scheduled on the basis of modification accomplishment rather than on a time cycle basis. Table 1-1 applies when modification priorities and availability of kits or facilities are incompatible with calendar cycle PDM scheduling.

1.3.2 Table 1-2 lists aircraft scheduled for PDM on a cyclic interval with the cycle time stated in months. The PDM interval is measured from the output date of the last PDM to the input date of the next due PDM. Supportable depot modifications will be completed concurrently with PDM when feasible. To assist in scheduling PDM input, up to a 90 days plus or minus variance from the PDM due date is allowed (including initial PDM due date). An aircraft is considered due PDM when the cycle time shown in Table 1-2 has been reached. A red dash will be entered in the aircraft forms on the PDM due date. When the PDM due date plus 90 days passes the red dash will be replaced with a red X. The PM may authorize a one-time-only approval for Red X aircraft to be flown directly to either the PDM facility for induction or the storage facility for retirement.

1.3.2.1 Request for PDM Interval Extension. The operating unit may request, by tail number, an extension to the approved PDM interval through MAJCOM headquarters to the PM. Routine extensions as defined in paragraphs 1.3.2.3 through 1.3.2.6 can be approved by the PM with an information copy of the extension being sent to HQ AFMC/A4F for distribution to the AMR voting members. All PDM extension requests that HQ AFMC/A4F receives will be coordinated by HQ AFMC/A4UE for approval. The PM is required to ensure the airworthiness and safety are maintained for all aircraft.

1.3.2.2 Aircraft Approved for PDM Interval Extension. For all approved extensions, the red X will be changed to a red dash and the PM shall direct special inspections (usually contained in the -6 Scheduled Inspection and Maintenance Requirements T.O.), define when the inspections must be completed and the period allowed after the inspections are completed before the aircraft is again placed into red X status.

1.3.2.3 To help meet operational requirements or to smooth out depot workload, the PM has authority to grant an additional 90 day extension beyond the allowed 90 day variance for a total of up to 180 days past the PDM due date. The PM may also authorize, at the owning MAJCOM's request, induction of an aircraft up to 360 days before the PDM due date.

1.3.2.4 For CIE aircraft, the PM has authority to extend the PDM due date in accordance with the CIE program (reference paragraph 1.6 of this TO).

1.3.2.5 For aircraft which go beyond the PDM due date while inducted in a modification program (at a location other than the PDM facility), the PM has authority to approve an extension that will allow the aircraft to fly directly from the modification facility to the PDM facility.

1.3.2.6 For aircraft scheduled to be removed from AF active inventory within two years of the PDM due date (reference paragraph 1.5.2 of this TO), the PM has authority to approve a PDM extension up to 720 days past the PDM due date.

1.3.3 Table 1-3 lists aircraft not contained in Table 1-1 and Table 1-2. These aircraft are exempt from force wide scheduling for these reasons:

1.3.3.1 The aircraft can normally be fully maintained by the owning activity.

1.3.3.2 Depot maintenance requirements are determined by the condition of individual aircraft rather than the force as a whole.

1.3.3.3 Aircraft condition warrants establishing special procedures for providing required depot maintenance and modification. When depot level maintenance or modification requirements exist for aircraft in Table 1-3, the PM in conjunction with the owning activity will program and schedule the work to be accomplished.

1.3.4 Fiscal year programs for depot maintenance of aircraft are developed in accordance with Table 1-1, Table 1-2 and Table 1-3. The tables will be revised when warranted, based on PM analysis of:

1.3.4.1 Data from RCM programs (MSG-3).

1.3.4.2 ACI data.

1.3.4.3 CIE program data.

1.3.4.4 Findings of previous depot work.

1.3.4.5 ASIP data.

1.3.4.6 Modification requirements.

1.3.4.7 Maintenance data documentation.

1.3.4.8 Materiel deficiency reports.

1.3.4.9 Inquiry. The PM may ask commands to provide data to statistically assess the prevalence of a suspected condition in the force. This pertains to items that will not adversely impact upon the owning activity operational mission and that can easily be verified during regularly scheduled inspection at the operating location.

1.3.5 Table 1-4 lists those AF aircraft designated to comply with civil airworthiness standards in accordance with AFPD 62-6 (Developmental Engineering USAF Airworthiness), AFPD 62-5 (Standards of Airworthiness for Commercial Derivative Hybrid Aircraft), and AFI 21-101 (Aircraft and Equipment Maintenance Management). These Commercial/Derivative aircraft were delivered to the AF in compliance with civil airworthiness standards set by the FAA. AF policy is to maintain these aircraft as closely as possible to the same airworthiness standards. The PM will use only FAA-certified contractors for contract depot maintenance of commercial derivative aircraft. The PM will use the original equipment manufacturers maintenance procedures to meet FAA maintenance requirements. Therefore, these aircraft are exempt from the requirements of the CIE and ACI programs.

1.4 DEVELOPMENT OF AIRCRAFT AND MISSILE REQUIREMENTS.

1.4.1 The PM, in coordination with lead commands, funds holders, AFMC CAM, and the center maintenance wings, will determine depot maintenance requirements for the next fiscal year and forecast depot maintenance requirements for two subsequent fiscal years. Prior to the AMR review, the PM will develop an AMR work specification and AMR Brochure of maintenance and modification requirements by mission design or mission design series in accordance with Table 1-5 and Table 1-8. The AMR work specification and AMR Brochure will be file maintained in the AMR module in Centralized Access for Data Exchange (CAFDEx) by the PM. The AMR work specification and AMR Brochure will contain the criteria for depot accomplishment and will include operational checks and functional check flights (FCF) in accordance with TO 1-1-300 and MDS specific TO. The AMR work specification and AMR Brochure should not be changed during the execution year program except for changes affecting safety of flight (SOF), or mission essential requirements. The PM is responsible for a critical review of all work such as the following prior to inclusion in the AMR Brochure.

1.4.1.1 Items of maintenance not directly associated with depot requirements can be included in the work package, but are subject to the guidelines in Table 1-5. These tasks include safety of flight, economy maintenance/modifications and negotiated maintenance/modifications.

1.4.1.2 Engines found damaged while in possession of AFMC will be replaced by direction of AFMC. Engines requiring return to overhaul for any reason other than stated above will have a replacement engine in Quick Engine Change (QEC) configuration furnished by the maintaining command.

1.4.1.3 Engine maintenance requirements are limited to those classed as economic repair (replacement of clamps, external lines, bolts on accessories, feathering of vanes, etc.) and the correction of SOF defects.

1.4.2 Prior to approval of a depot program by the AMR voting members, the owning activity can negotiate with the PM for certain maintenance to be accomplished concurrent with PDM. These maintenance requirements include such items as supportable TCTOs and next due Periodic, Phase or Isochronal inspection. Those benefits to be realized by the owning activity will be identified to each task such as increases in mission readiness time or other tangible benefits. Documents of negotiation are exempt from Report Control Symbol (RCS) licensing in accordance with AFI 33-324 (Information Collections and Reports Management Program; Controlling, Internal, Public, and Interagency AF Information Collections). After the PDM program is approved by the voting members, the CAFDEx AMR module is updated by the PM, if required. The PM will publish in CAFDEx, by 15 November of each year the respective work specification for the fiscal year beginning 1 October of that year. Owning activities will provide copies of the work specifications to their respective operating units.

1.4.3 Use of AFTO Form 103 (Figure 1-1). The following changes would meet requirement:

1.4.3.1 The using activity can list, after reviewing the depot work specification, in PART B those defects which are known to be or thought to be beyond their capability but are not included in the depot work package. (Some examples are: hidden corrosion, fuel leaks, structural damage or temporary repairs.) Outstanding TCTOs or depot maintenance requirements which are identified in the work specification will not be listed. Organizational maintenance and inspections may be identified for negotiations. The status of negotiated TCTO kits (Table 1-5, section B.2) (kit not available, kit to be shipped with aircraft, kit to be mailed, etc.) can be listed.

1.4.3.2 The form will be initiated 60 days in advance of the scheduled depot input date to allow for command review, certification and delivery of the form to the PM 45 days prior to the scheduled date. The PM or System Sustainment Officer for Performance Based Logistics (PBL) contacts will review the requirements listed on Part B of the form. The PM will then forward the form to the Depot activity for pricing. For Performance Based Logistics (PBL) contracts, the SSO will forward the form to the contractor, who in-turn forwards it to the Depot. The Depot activity will develop a cost estimate for each item in Part C of the form, and will return the form and the cost estimate to the PM. The PM will provide copies of the completed form and the cost estimate to the Owning Command OPR or contractor for PBL contracts, and the initiating activity 20 days prior to the scheduled input date of the aircraft for which the form was submitted. The Funds Holder OPR will certify that additional funds are available for completion of the items listed on Part C of the Form.

1.4.3.3 A supplemental AFTO Form 103 can be submitted at the time of delivery of the aircraft to the depot facility; however, they should be limited to an essential need. The supplemental form will address depot requirements which have been found since submission of the original form or to reflect changes in the status of negotiated TCTO kits. The supplemental form will be initiated and forwarded to the depot activity with the aircraft records. The initiator will notify the owning activity/OPR and the PM electronically before the aircraft departs for the depot facility. The notification will contain as a minimum the information in Part A, blocks 1, 2, 3, and 5, and the new information for Part B of the form. When supplemental forms are received by the depot facility, either the PM will be notified or a copy will be given to the PM representative for planning purposes.

1.4.3.4 However, no work listed will begin until approved by the PM. The PM, after coordination with the Owning Activity/OPR, will notify either the depot facility or the PM representative, who will notify the depot facility of work that is approved. Either the depot facility or the PM representative will forward a copy of the supplemental form to the PM who will annotate the form as to what work was approved and forward copies of the completed forms to the owning activity/OPR and the using activity. When an originally scheduled aircraft is unable to be delivered, a substitute serial numbered aircraft can be input, providing the serial number is approved by both the owning activity and the PM.

1.4.3.5 The initial approval may be obtained by telephone, and confirmed electronically. If an AFTO Form 103 has not been submitted for the substitute serial number, the procedures for supplemental forms will be followed. The AFTO Form 103, including attachments, is exempt from RCS under the provisions of AFI 33-324.

1.5 INPUT AND OUTPUT SCHEDULES.

The PM, in coordination with the owning activity, will develop input/output schedules for PDM. The using commands will ensure that sufficient aircraft are retained in order to accomplish their overall mission assignments while satisfying the planned PDM schedules.

1.5.1 The priority with which individual aircraft will be scheduled for PDM will be based on the PDM due date and the estimated condition. This will assure that aircraft which urgently need PDM are scheduled first. The PM will notify the owning activity of the location of the SOR to which the aircraft is to be delivered at least 90 days before the delivery date. Deviation to programmed delivery dates (input and output) will be by mutual agreement of the owning activity and the PM. Transfer of possession of aircraft will be established and reported in accordance with AFI 21-103. Phased retirement of a mission design series (MDS) from the active inventory extending over a period of several years affects the fiscal year quantities to be programmed and the individual aircraft to be scheduled for PDM.

1.5.2 Aircraft programmed to be dropped from the active inventory, as identified by the owning MAJCOM and confirmed by AF/A3, within two years will not be scheduled for PDM. Advance identification of these aircraft, by serial number and fiscal quarter, will be coordinated between the owning activity and the PM, to assure proper programming and scheduling. If the aircraft are to be stored at the Aerospace Maintenance and Regeneration Center (AMARC), the PM will arrange storage IAW T.O. 1-1-686 and AFMCI 21-123.

1.6 CONTROLLED INTERVAL EXTENSION (CIE) PROGRAM.

The objective of this program is to establish controlled conditions to determine the feasibility for extending or reducing maintenance and inspections intervals without sacrificing safety of flight or reliability.

1.6.1 A CIE program is applicable to aircraft listed in Table 1-2, when a particular system has been identified and recommended for a controlled interval adjustment by the AMR Review process. If the PM review of data obtained from a given CIE program, correlated to ACI and/or ASIP program data, indicate that further interval extension is not feasible, this data will be presented to the AMR voting members for approval to terminate the CIE program. The PMs shall periodically review and evaluate current PDM programs to determine whether or not the current interval is optimal. Any recommended changes resulting from this review and evaluation must be approved by the AMR voting members.

1.6.2 The number of aircraft within each MDS to be included in the CIE program will be identified by the PM and affected owning activity using the CIE sample size in Table 1-6, as the basis for selecting quantity of aircraft. In determining the total force size for a specific aircraft by MDS, deduct from the total inventory all aircraft of that MDS in storage at the Aerospace Maintenance and Regeneration Group (AMARG), those aircraft on bailment or loan to other services or government agencies, and foreign country aircraft supported under international logistics programs. The aircraft selected for the CIE program will be programmed to exceed the normal PDM calendar time cycle authorized in Table 1-2. At the end of the CIE period, each aircraft will be scheduled for PDM and a sample of CIE aircraft will be scheduled for an ACI. The data obtained will be analyzed and used in establishing inspection requirements and PDM intervals.

1.7 ANALYTICAL CONDITION INSPECTION (ACI).

ACIs are in-depth condition inspections accomplished on a representative sample of MDS aircraft to uncover hidden defects that are not detectable through normal inspection programs. ACIs generate data for engineering and technical evaluation of the relative MDS aircraft condition resulting from corrosion, overstress, wear and other effects caused by aircraft age, operational usage and environmental exposure. Adequate nondestructive inspection techniques will be used to ensure that the types and sizes of flaws suspected to be found can be reliably detected. The owning activity will be informed of their specific aircraft's ACI findings and actions taken or contemplated to correct deficiencies revealed through the ACIs.

1.7.1 All aircraft listed in Table 1-1, Table 1-2, and Table 1-3 will be programmed for ACI by the PM. The number of ACI aircraft will be determined using the ACI sample size table, Table 1-7. If the PM does not program the sample size quantity of MDS aircraft for ACI as specified in Table 1-7, the rationale for this decision will be presented to the AMR voting members for review and approval. The primary sample size column indicates the quantity of aircraft to be inspected to isolate defects that exist in 20 percent or more of the force at a 90 percent confidence level. It should be noted that for small force sizes, up to 36 aircraft, the sample size was considered excessive to achieve the 90 percent confidence level. This reduces the confidence level for small forces to as low as 53 percent. It is recommended that highly suspect/critical areas be sampled at the 90 percent confidence level. It is possible to isolate the only defect that exists in the entire force. Once a major or critical defect is found, the secondary sample column (Table 1-7) indicates the additional number of aircraft that must be inspected without finding another defect existence is below a 20 percent prevalence level. If these additional samples reveal another defect, then it can be assumed the defect exists in 20 percent or more of the force.

1.7.2 Table 1-1 and Table 1-2 and aircraft will have an ACI accomplished concurrent with the PDM/modification programs.

1.7.3 Table 1-3 aircraft ACIs may be accomplished at operational sites by depot or contract field teams or at contract or depot facilities. If accomplished at the operational sites, the ACI tasks related to suspect or critical areas should be accomplished concurrently with a scheduled maintenance inspection. PDM requirements or related intervals will be determined from analysis of maintenance data generated by ACI accomplishment on Table 1-3 aircraft.

1.7.4 Analysis of data generated by the ACI program will be used by the PM in determining PDM task requirements and intervals for aircraft still in initial acquisition.

1.7.5 ACI programs will be discontinued on aerospace vehicles scheduled for active inventory phase out.

Table 1-1. Modification

Aircraft scheduled on the basis of modification accomplishment rather than on a time cycle basis.

Designation
A-10
F-16

Table 1-2. Programmed Depot Maintenance

Aircraft scheduled on a calendar time cycle (in months) for depot maintenance. The listing of a basic mission design, includes all series and prefixes, unless otherwise indicated.

Designation		Interval
OC-ALC Aircraft:	B-1B	60
	B-2	84
	B-52	48
	RC-135	48
	KC-135 assigned to Hickam AFB or NASA	48
	KC-135 excluding a/c identified above	60*
	C-135, C-135E, NKC-135, OC-135, TC-135, WC-135	60*
	E-3	60
	JE-3C	72
OO-ALC Aircraft:		
WR-ALC Aircraft:		
	C-130E/H (PACAF)	54
	MC-130E, AC-130H	54
	NC-130A, MC-130H, WC-130H, MC-130P, AC-130U	60
	LC-130H, HC-130N/P	69**/***
	NC-130H, EC-130H, C-130E, C-130H	69***
	C-130J, CC-130J, EC-130J, HC-130J, MC-130-J, WC-130J	72***
	C-5A	96
	C-5B	96
	C-5C	96
	C-5M	96
	F-15****	72
	UH-1N	96
	TH-1H	96
	HH-60G	78

* Extension inspection at 44-51 months.

** Thirty (30) month Mid-interval inspection on ACC and AFRC HC-130N/P aircraft (Command Option).

*** Initial PDM not to exceed 144 months (12 Yrs) from aircraft acceptance date - (Aircraft Data Plate).

**** F-15E models cum E210 and up should begin PDM not later than 8 years from delivery, and thereafter maintain a 6 year cycle.

Table 1-3. Excepted Aircraft

Designation	Designation
C-17	MQ-1*
F-22	MQ-9*
MC-12*	T-38

* Indicates aircraft exempted from ACI

Table 1-4. Commercial Derivative Aircraft

Aircraft listed are maintained in compliance with FAA regulations. The Program Manager will use only FAA-certified contractors for contract depot maintenance of commercial derivative aircraft. The PM can utilize the PDM concept or any other method to meet FAA approved maintenance requirements.				
Designation				
C-9	C-26*	C-137	T-6*	TG-10**
C-12*	C-32	E-4	T-41**	TG-11**
C-18	C-37	E-8	TG-3**	VC-25
C-20	C-38A	E-9	TG-4**	
C-21*	C-40B	KC-10	TG-7**	
C-22	C-41	T-1*	TG-9**	
* Aircraft maintained according to FAA approved manufacturer's maintenance manual. This manual provides for continuous inspection of critical components, thus eliminating the need for PDM. ** Air Force Academy				

Table 1-5. Sectionalized Work Specification Requirements

AIRCRAFT AND MISSILE SECTION SPECIFICATIONS

Aircraft and Missile Requirements (AMR) Brochure Specifications contains the sectionalized work specification requirements identified to specific tasks with the associated man-hour requirements and occurrence factors. All operations that are task specific are identified to the appropriate task section. Any exceptions or changes to the tasks detailed in section A.1 through section C.3 must be approved by the AMR voting members. Disposition of AMR brochures and related data will be in accordance with Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS).

SECTION A. Programmed Depot Maintenance (DM) Interval Rationale.

a. Section A.1. Current Maintenance Programs.

b. Section A.2. Age Since Last PDM. Combine total aircraft quantities for both organic and contract PDMs.

c. Section A.3. Aircraft Structural Integrity Program (ASIP), AFI 63-1001, AFI 63-1001, MIL STD 1530C. A time-phased set of required actions performed at the optimum time during the life cycle (design through phase-out) of an aircraft system to ensure the structural integrity (strength, rigidity, damage tolerance, durability and service life capability) of the aircraft.

d. Section A.4. Reliability Centered Maintenance Program (RCM), AFMCI 21–103. A systematic logical approach which is taken to identify the most applicable and effective preventative maintenance task. The overall goal is to enable the equipment to perform to its inherent level of safety and operating reliability.

e. Section A.5. Controlled Interval Extension Program (CIE), AFMCI 21–104. The controlled extension of a PDM interval based on condition analysis of a representative sample of aircraft. A CIE sample size table is shown in Table 1-6.

Table 1-5. Sectionalized Work Specification Requirements - Continued

f. Section A.6. Analytical Condition Inspection Program (ACI), AFMCI 21-102. The systematic disassembly and inspection of a representative sample of aircraft to find hidden defects, deteriorating conditions, corrosion, fatigue, overstress and other deficiencies in the aircraft structure or systems. ACIs are normally accomplished in addition to inspections specified in the T.O. or PDM work specifications. Primary and Secondary ACI Sample Sizes shown in Table 1-7.

When an ACI task is being recommended for inactivation, it will remain in the brochure with a zero occurrence factor for the FY in review; the engineering recommendation narrative will state the reason for wanting to delete the task. The task will be made inactive by changing the occurrence factor to 0. The task should not be deleted until after AMR voting members approval. The index note column will continue to show the title of the task and the brochure year in which the task was deleted.

SECTION B. Depot Work Requirements.

a. Section B.1. Depot Level Maintenance.

1. Section B.1.A. Incoming Tasks. Tasks required to prepare the aircraft/missile for entry into depot work include but are not limited to the following, post flight checks, disarming, securing munitions and explosives, defueling, system purging, washing, inventory of aircraft/missile associated equipment, storage of equipment, preservation and towing of the aircraft/missile to the point where initial PDM work begins. Incoming processing tasks will not extend beyond where the initial depot level work, as detailed in the work specification, begins. Entry of associated text in the task description is optional.

2. Section B.1.B Depot Tasks. Tasks requiring depot skills, equipment, tools, or facilities as supported by engineering/technical rationale. This category of work also includes open up, close up, Examination and Inventory (E&I), inspection and repair to maintain airworthiness, authorized routing of components, necessary system checks and required movement of aircraft/missile. This category of work is considered complete upon entry of aircraft into flight test or equivalent flight certification for missiles. Entry of associated text in the task description is mandatory to the extent necessary to justify the task.

When a depot task is being recommended for deletion, it will remain in the brochure with a zero occurrence factor for the FY in review; the engineering recommendation narrative will state the reason for wanting to delete the task. The task should not be deleted until after AMR voting members approval. The index will continue to show the title of the task and the brochure year in which the task was deleted.

3. Section B.1.C. Economy Tasks. Field level maintenance and Time Compliance Technical Orders (TCTOs) tasks that do not require depot facilities, skills, or equipment, but are approved to be accomplished concurrently with PDM. Work listed in this section is strictly limited to those areas already worked or opened up as a part of a task in Section B.1.B., and must be beyond the scope of the PDM task. Economy tasks must be clearly identified and supported by data showing that the customer agrees and will benefit by accomplishing the task at depot.

4. Section B.1.D. Flight Safety Tasks. These tasks include correction of Flight Safety TCTOs that become known while the aircraft/missile is in the depot facility and those time change/calendar inspections that come due. This type of task, if not covered by the work specification, will be classified as over and above. Entry of associated text in the task description is optional.

5. Section B.1.E. Over and Above Tasks. These are low frequency items or work that is not called out in the work specification or project directive or covered under economy or flight safety tasks. These items of work will only be done to correct a critical or major deficiency and must be approved by the Project Administration Officer (PAO) *or the PM representative. Do not enter any associated text in the task description.*

Table 1-5. Sectionalized Work Specification Requirements - Continued

6. Section B.1.F. Flight Preparation Tasks. This category of work includes flight test requirements and associated movement of aircraft/missile as a result of PDM and is considered complete following final functional check flight for aircraft or equivalent flight certification for missiles.. *Do not enter any associated text in the task description.*

7. Section B.1.G. Delivery Tasks. Tasks performed to ready the aircraft/missile for final delivery to the using organization. Required movement of aircraft/missile, outgoing inventory of equipment, refueling, servicing, and preflight are examples of tasks included in this category. *Do not enter any associated text in the task description.*

b. Section B.2. Negotiated Time Compliance Technical Orders. This section normally includes all TCTOs and modifications done concurrent with PDM. The data in this section is optional for modifications and TCTOs that are not funded through the AMR process. TCTO/modifications may be tracked in this section of the brochure for informational purposes only. Total DPSH per aircraft/missile may be entered with a zero occurrence factor to prevent the DPSH from being reflected in the summary totals (Section C.1.).

c. Section B.3. Negotiated Maintenance. These tasks consist of organizational maintenance or inspections which have been determined by negotiations between the using command and the SM. They consist of those tasks which can best be performed during PDM. These tasks are ranked by priority of need by the initiator.

d. Section B.4. Special Depot Requirements. Other depot needs such as Speedline and special paint requirements will be shown in this section. Direct Product Standard Hours (DPSH) breakout will be identified to those aircraft/missile for which the tasks are required. Reflect total DPSH per each special depot requirement in this section and a grand total of all requirements per MDS in the summary section (C.1.). This section will not add cumulatively.

SECTION C. Summary Information.

a. Section C.1. Factored Hours Summary By MDS. This section shows the totals for the individual task sections by Mission/Design/Series (MDS). For ACI, hours are listed for annual tasks, annual fix, phased tasks, and phased fix. In the PDM area a total for section B.1. is provided with a breakout of each individual sub-section. Totals for the section B.2., section B.3., and section B.4. are also provided. The number of ACI aircraft/missile entering depot shown here is taken from section A.6.B, schedule of ACI aircraft/missile. The number of PDM aircraft/missile is taken from the introductory title information area. Also shown are the total hours applied against all aircraft/missile entering the depot. Each entry in the ACI section is multiplied by the number of ACI aircraft/missile and each entry in section B.1., section B.2., and section B.3. are multiplied by the number of PDM aircraft/missile. Section B.4. is a separate number of hours shown as a total.

c. Section C.2. Contract Summary by MDS and Command. This section reflects the number of existing planned contract programs, by MDS and Customer, in terms of estimated dollars. The dollars should be listed under PDM or ACI costs. If the costs are not broken out, simply enter the total for the contract under the PDM cost.

d. Section C.3. Recommendations/Comments. This area is used for anything else the SM would like to highlight for the board's attention. *Any future initiatives should be mentioned here as information only.*

Table 1-6. CIE Sample Size

Force Size	CIE Sample Size
37-56	11
57-109	12
110-399	13

A CIE program is not accomplished for MDS force of 36 aircraft or less.

Table 1-7. ACI Sample Size

Force Size	Primary ACI Sample	Secondary ACI Sample
1-36	25% of force	an additional 25% of force
37-199	10	13
200 and over	11	13

Once a major or critical defect is found in the primary sample, the secondary must be inspected (making 24 aircraft for a 200 aircraft force) without finding another defect to be 90 percent confident that the defect existence is below a 20 percent prevalence level.

Table 1-8. Weapon Systems Required to Develop an AMR Work Specification and Brochure

Designation	Designation
A-10	E-3
AGM-86	F-15
B-1	F-16
B-52	C-5
C-135	T-38
C-130	KC-10*

* KC-10 Associated Paint Tasks Only

PAGE 1 OF 1 PAGES

AIRCRAFT/MISSILE CONDITION DATA				DATE
PART A	1. USING ACTIVITY ADDRESS	MAINTENANCE OFFICER		
		TYPE/PRINT NAME	GRADE	PHONE
		SIGNATURE CLICK HERE TO SIGN		
2. MDS	3. SERIAL NUMBER	4. SUB SERIAL NO.		
5. SCHEDULED	7. HRS/MONTHS SINCE LAST PDM	8. HRS/MONTHS SINCE NEW		
PART B	1. USING ACTIVITY ADDRESS			
LIST THOSE DEFECTS WHICH ARE KNOWN OR THOUGHT TO BE BEYOND USING ACTIVITY CAPABILITY BUT NOT IN THE DEPOT WORK PACKAGE				
MAJCOM OPR				
TYPE/PRINT NAME	GRADE	PHONE	DATE	
SIGNATURE CLICK HERE TO SIGN				
PART C	SPM ADDRESS			
LIST THE TASKS FROM PART B WHICH ARE APPROVED BY THE SPM				
SYSTEM PROGRAM MANAGER				
TYPE/PRINT NAME	GRADE	PHONE	DATE	
SIGNATURE CLICK HERE TO SIGN				
DATE PDM ACTIVITY ACCCEPTED ADDITIONAL WORK	DATE COPY OF COMPLETED FORM TO MAJCOM	DATE COPY OF COMPLETED FROM TO USING ACTIVITY		
INSTRUCTIONS: SEE T.O. 00-25-4				

AFTO FORM 103, 20070917 PREVIOUS EDITION IS OBSOLETE

H0204857

Figure 1-1. AFTO FORM 103 Aircraft/Missile Condition Data