

TECHNICAL MANUAL

MAINTENANCE PROCESSING OF REPARABLE PROPERTY AND THE REPAIR CYCLE ASSET CONTROL SYSTEM

This manual supersedes TO 00-20-3 dated 10 July 2017.

DISTRIBUTION STATEMENT A - Approved for public release; distribution is unlimited. HQ AFMC/PA Case Number 8117. For questions concerning technical content of this Technical Manual, contact the applicable Technical Content Manager (TCM) listed in the Enhanced Technical Information Management System (ETIMS). HQ AFMC/A4FI, WPAFB, OH is the approval and waiver authority for this Technical Manual.

Published Under Authority of the Secretary of the Air Force

17 DECEMBER 2021

LIST OF EFFECTIVE PAGES

INSERT LATEST CHANGED PAGES. DESTROY SUPERSEDED PAGES.

NOTE The portion of the text affected by the changes is indicated by a vertical line in the outer margins of the page. Changes to illustrations are indicated by shaded or screened areas, or by miniature pointing hands.

Dates of issue for original and changed pages are:

Original 0 . . . 17 December 2021

TOTAL NUMBER OF PAGES IN THIS PUBLICATION IS 48, CONSISTING OF THE FOLLOWING:

Page No.	*Change No.	Page No.	*Change No.	Page No.	*Change No.
Title	0				
A	0				
i - vii.	0				
viii Blank.	0				
1-1 - 1-7.	0				
1-8 Blank.	0				
2-1 - 2-5.	0				
2-6 Blank.	0				
3-1 - 3-9.	0				
3-10 Blank.	0				
4-1 - 4-3.	0				
4-4 Blank.	0				
5-1 - 5-3.	0				
5-4 Blank.	0				
6-1 - 6-5.	0				
6-6 Blank.	0				

* Zero in this column indicates an original page.

TABLE OF CONTENTS

Chapter		Page
LIST OF ILLUSTRATIONS		iv
LIST OF TABLES		iv
INTRODUCTION		v
1 REPAIR CYCLE ASSET MANAGEMENT SYSTEM		1-1
1.1 PURPOSE		1-1
1.2 SCOPE		1-1
1.3 DEFINITION OF TERMS		1-1
1.3.1 Aircraft Parts Store (APS)		1-1
1.3.2 Awaiting Parts (AWP) Validation Listing (D19)		1-1
1.3.3 Daily Document Register D04		1-1
1.3.4 Demand Code		1-1
1.3.5 Due-Out		1-1
1.3.5.1 Firm Due-Out		1-1
1.3.5.2 Memo Due-Out		1-2
1.3.6 Due-Out Cancellation		1-2
1.3.7 Expendability, Recoverability, Reparability, Cost Designator (ERRCD)		1-2
1.3.7.1 XB3		1-2
1.3.7.2 XF3		1-2
1.3.7.3 XD2		1-2
1.3.7.4 NF3/4		1-2
1.3.8 Issue Request		1-2
1.3.9 LRS		1-2
1.3.10 Maintenance Control (MC)		1-2
1.3.11 Maintenance Priority Code (MPC)		1-2
1.3.12 Maintenance Turnaround (TRN)		1-2
1.3.13 Production Scheduler (PS)		1-2
1.3.14 Supply Chain Operations Group (SCOG)		1-2
1.3.15 Repair Cycle Assets		1-2
1.3.16 Repair Cycle Asset Management List (D23)		1-2
1.3.17 Flight Service Center (FSC)		1-2
1.3.18 Requisition		1-3
1.3.19 Retested OK (RTOK)		1-3
1.3.20 Spare		1-3
1.3.21 Enterprise Solution-Supply Asset Management (ES-S AM)		1-3
1.3.22 Materiel Management Transaction Identification Code (TRIC)		1-3
1.4 GENERAL CONCEPT OF REPAIR		1-3
1.5 REPAIR CYCLE PROCESSING OF XB CODED ITEMS		1-3
1.5.1 Maintenance Repair Level (MRL) Code B		1-3
1.5.2 Special Circumstances		1-3
1.5.3 Process and Control		1-3
1.6 SOURCE, MAINTENANCE AND RECOVERABILITY (SMR) CODE CONFLICTS		1-4
1.7 DEPOT OVERHAUL AND ON CONDITION REPAIR OF REPARABLE ASSETS		1-4
1.7.1 Overhaul Criteria		1-4
1.7.2 On-Condition Maintenance		1-4
1.7.3 Property Returned For Repair		1-4
1.8 UNIFORM CRITERIA FOR ESTIMATING REPAIR COSTS FOR USE IN MAKING REPAIR DECISIONS		1-5
1.8.1 XD Coded Items		1-5
1.8.2 XF Coded Items		1-5

TABLE OF CONTENTS - CONTINUED

Chapter		Page
1.8.3	NF Coded Items	1-5
1.8.4	Replacement Cost Data	1-5
1.9	REUSABLE CONTAINERS	1-6
2	THE REPAIR CYCLE ASSET MANAGEMENT	2-1
2.1	PURPOSE	2-1
2.2	PHYSICAL LAYOUT	2-1
2.3	SCHEDULING	2-1
2.4	SCHEDULING EXCESS POSITION ITEMS	2-1
2.5	SCHEDULING COMPONENTS REQUIRING MULTIPLE SHOP PROCESSING	2-1
2.6	REPAIR CYCLE ASSET CONTROL	2-1
2.6.1	DIFM Record Establishment	2-1
2.6.2	Repair Cycle Asset Control	2-2
2.7	VERIFICATION PROCEDURES	2-4
2.8	REPARABLE ITEM RETURNS	2-5
3	MAINTENANCE PROCESSING OF REPAIR CYCLE ASSETS	3-1
3.1	PURPOSE	3-1
3.2	PROCESSING CLASSIFIED ASSETS	3-1
3.3	PROCESSING ITEMS AWAITING PARTS	3-1
3.3.1	Fill or Kill Option	3-1
3.3.2	Bits and Pieces	3-1
3.3.3	In-Shop Serviceable Assets	3-1
3.3.4	AWP Assets	3-1
3.4	PROCESSING MAINTENANCE TURNAROUND (TRN) TRANSACTIONS	3-1
3.4.1	Processing TRNs	3-2
3.5	DOCUMENTING MAINTENANCE TURNAROUND (TRN) TRANSACTIONS	3-2
3.5.1	Documents TRNs	3-2
3.6	PROCESSING REPARABLE FOR UNITS SUPPORTED BY A MAIN OPERATING BASE	3-2
3.6.1	Forward Operating Location (FOL) Procedures	3-2
3.7	USE OF MEMO DUE-OUTS	3-3
3.8	SUPPLY POINTS	3-3
3.8.1	Supply Point Establishment	3-3
3.9	PROCESSING ASSETS REQUIRING FUNCTIONAL CHECK	3-3
3.10	DUE-OUT CANCELLATIONS	3-3
3.11	PROCESSING ASSETS FOR BENCH CHECK	3-3
3.11.1	Processing For Bench Check Procedures	3-3
3.12	MAINTENANCE PREPARATION FOR TURN-IN OF ASSETS TO LOGISTIC READINESS SQUADRON (LRS)	3-4
3.12.1	Turn-In of Assets Procedures Prior to LRS	3-4
3.13	ASSET TURN-IN TO LRS	3-5
4	INSPECTION OF REPAIR CYCLE ASSETS	4-1
4.1	AUTHORIZED INSPECTORS AND THEIR RESPONSIBILITIES	4-1
4.1.1	Maintenance Inspector Responsibilities	4-1
4.1.2	Materiel Management Inspector Responsibilities	4-1
4.2	BASE INSPECTION STAMPS	4-1
4.2.1	MXG/CC Responsibilities	4-1
4.2.2	LRC/CC Responsibilities	4-2

TABLE OF CONTENTS - CONTINUED

Chapter		Page
5	MAINTENANCE PROCESSING OF WARRANTY ITEMS	5-1
5.1	SPECIAL HANDLING OF WARRANTY ITEMS	5-1
5.1.1	Special Handling and Processing Instructions	5-1
5.2	ENGINE WARRANTIES	5-1
5.2.1	Warranty Program Exclusions	5-1
5.2.2	Engine Damage Additional Exclusions	5-1
6	BASE REPAIR CAPABILITY, SELF SUFFICIENCY AND AUTHORIZED REPAIR CAPABILITY	6-1
6.1	PURPOSE	6-1
6.2	GENERAL	6-1
6.2.1	NRTS Code 1	6-1
6.2.2	NRTS Code 4, 5, and 8	6-1
6.2.3	Other Repair Restrictions	6-1
6.3	MEASURING BASE REPAIR CAPABILITY AND BASE SELF SUFFICIENCY	6-1
6.3.1	Repair Capability	6-1
6.3.2	Self Sufficiency	6-1
6.4	BASE REPAIR GUIDELINES	6-1
6.4.1	NRTS Code 0	6-1
6.4.2	NRTS Code 1	6-2
6.4.3	NRTS Code 2	6-2
6.4.4	NRTS Code 3	6-2
6.4.5	NRTS Code 4	6-2
6.4.6	NRTS Code 5	6-2
6.4.7	NRTS Code 6	6-2
6.4.8	NRTS Code 7	6-3
6.4.9	NRTS Code 8	6-3
6.4.10	NRTS Code 9	6-3
6.5	REQUEST FOR INCREASING BASE REPAIR AUTHORIZATION	6-3
6.5.1	Items For Repair Not Authorized by SMR Code	6-3
6.5.2	Items For Repair in Equipment TO	6-3
6.5.3	Local Capability For Restricted Repairs	6-3
6.5.4	Repair Restrictions Waiver Letters	6-3

LIST OF ILLUSTRATIONS

Number	Title	Page
4-1	Sample Enlarged Illustration of Base Level Inspection Stamp	4-3
5-1	Flowchart of Warranty Decision Process	5-3

LIST OF TABLES

Number	Title	Page
1-1	Sample Computation	1-6
2-1	DIFM Status Codes	2-2
3-1	How to Use Condition Tags/Labels	3-6
3-2	Required Entries for Condition Tags/Labels	3-8
6-1	How to Process Requests to Increase Base Level Repair Authority	6-4
6-2	When to Use Not Repairable This Station (NRTS) Codes	6-4

INTRODUCTION

1 PURPOSE.

This technical manual establishes policy and provides procedures for managing repair cycle assets.

2 USE OF THIS MANUAL.

The table of contents indicates chapter, paragraph, title, and page numbers to facilitate location of information. Illustrations, tables, and diagrams, when applicable, are located throughout the publication to supplement the text material. A list of illustrations and a list of tables indicate the number, title, and location. Abbreviations, phrases, and words which are on a decal, a placard or an engraving are set forth in the text exactly as they appear on the decal, the placard or the engraving.

3 DEFINITIONS.

The word SHALL is used to express a provision that is binding. The words SHOULD and MAY are used when it is necessary to express nonmandatory provisions. WILL may be used to express a mandatory declaration of purpose or when it is necessary to express a future event.

4 ABBREVIATIONS AND ACRONYMS.

All abbreviations used in this manual are in accordance with JCS Pub 1-02, ASME Y14.38M, and the GPO Style Manual for use on drawings, specifications, standards, and in technical documents, except as follows:

AFMC	Air Force Materiel Command
AFREP	Air Force Repair Enhancement Program
AFTO	Air Force Technical Order
AGE	Aerospace Ground Equipment
APS	Aircraft Parts Store
AWF	Awaiting Testing
AWM	Awaiting Maintenance
AWP	Awaiting Parts
AXC	Aircraft Cross Country
BFN	Base Funded
CBM	Condition Based Maintenance
CEH	Civil Engineer Holding
CMD	CEM Mobile Detachment
CNSSI	Committee on National Security System
COMSEC	Computer Security
CTE	Contract Equipment
CTR	Contract Maintenance
DIFM	Due-in From Maintenance
DOC	Due-out Cancellation
DPAS	Defense Property Accountability System
DR	Deficiency Report
DWP	Repair cycle item which is a component of another repair cycle item that is in AWP status.
ERRCD	Expendability, Recoverability, Repairability Cost Designator
ES	Equipment Specialist
FAD	Force Activity Designator
FEM	Forecasted Engine Maintenance
FOD	Foreign Object Damage

FOL	Forward Operation Location
FSC	Flight Service Center
FSL	Forward Supply Location
FSS	Forward Supply System
FWP	Previous AWP Item ready for Scheduling and Repair
IAW	In Accordance With
ICBM	Inter Continental Ballistic Missile
ILS-S	Integrated Logistics System-Supply
IM	Item Manager
INO	Intransit Issue (off base only)
INR	Intransit Return (off base only)
INW	In Shop
ISU	Issue
IT	Information Technology
JCN	Job Control Number
LRS	Logistics Readiness Squadron
LRU	Line Replacement Unit
MAJCOM	Major Command
MC	Maintenance Control
MDD	Maintenance Data Documentation
MICAP	Mission Capability
MIS	Maintenance Information System
MPC	Maintenance Priority Code
MRL	Maintenance Repair Level
MTM	Maintenance to Maintenance
MWI	ICBM Maintenance awaiting Installation
MXG/CC	Maintenance Group Commander
NMCS	Not Mission Capable Supply
NMC	Not Mission Capable
NRTS	Not Repairable this Station
NSN	National Stock Number
PM	Program Manager
PMC	Partial Mission Capable
PMEL	Precision Measurement Equipment Laboratory
PO	Program Office
PS	Production Scheduler
RFS	Warehouse Refusal
RIW	Reliability Improvement Warranty
RPC	Reparable Processing Center
RPR	Repair and Return
RSS	Regionalized Supply Squadron
RTOK	Retested O.K.
SBSS	Standard Base Supply System
SCOG	Supply Chain Operations Group
SMR	Source, Maintenance, and Recoverability Code
SRAN	Stock Record Account Number
SRD	Standard Reporting Designators
SRU	Shop Replaceable Unit
TCG	Time Change
TCI	Time Change Items

TCTO	Time Compliance Technical Order
TEX	Transaction Exception Code
TIN	Turn-In
TMDE	Test, Measurement, and Diagnostic Equipment
TNB	Tail Number Bin
TO	Technical Order
TOC	TCTO Required for End Item
TRIC	Transaction Identification Code
TRN	Maintenance Turnaround
TWP	Bits and Pieces required for Repair Action in transit
UJC	UJC Urgency Justification Code

5 LIST OF RELATED PUBLICATIONS.

These publications contain information in support of this technical manual and are required to accomplish the prescribed maintenance.

List of Related Publications

Number	Title
AFI 16-1404	Air Force Information Security Program
AFI 24-301	Ground Transportation
AFI 24-602V2	Cargo Movement
AFI 63-101/20-101	Integrated Life Cycle Management
AFI 65-503	US Air Force Cost and Planning Factors
AFI 90-821	Hazard Communication (HAZCOM) Program
AFMAN 91-203	Air Force Occupational Safety, Fire and Health Standards
ASME Y14.38	Abbreviations and Acronyms for Use in Product Definition and Related Documents
CNSSI 4005	Safeguarding COMSEC Facilities and Materials
DAFI 21-101	Aircraft and Equipment Maintenance Management
DAFI 23-101	Air Force Materiel Management
DFAR 246.7	Warranties
DoDM 5200.01, Volume 1	DoD Information Security Program; Overview, Classification, and Declassification
DoDM 5220.22, Volume 2	National Industrial Security Program: Industrial Security Procedures for Government Activities
FAR 46.7	Warranties
00-20-14	Air Force Metrology and Calibration Program
00-20-2	Maintenance Data Documentation
00-25-107	Depot-Level Assistance
00-25-195	Source, Maintenance, and Recoverability Coding of Air Force Weapons, Systems, and Equipment
00-25-234	General Shop Practice Requirements for the Repair, Maintenance, and Test of Electronic Equipment
00-35D-54	USAF Deficiency Reporting and Investigating System
00-5-1	AF Technical Order System

6 IMPROVEMENT REPORTS.

Recommended changes to this manual shall be submitted in accordance with TO 00-5-1.

CHAPTER 1

REPAIR CYCLE ASSET MANAGEMENT SYSTEM

1.1 PURPOSE.

This Technical Order (TO) establishes policy and provides procedures for managing repair cycle assets. Inherent in the management of repair cycle assets is the responsibility to seek ways to maximize equipment repair capability at all levels of maintenance. This TO implements the policy established in Department of the Air Force (DAFI) 23-101, *Materiel Management Policy*, and DAFI 21-101, *Aircraft and Equipment Maintenance Management*. Procedures are also included to integrate maintenance and supply data. Each demand upon supply for a serviceable item receives a document number which maintenance records on the Air Force Technical Order (AFTO) Form 350, *Reparable Item Processing Tag*. This merging of data provides the means to:

- Identify the repair cycle assets.
- Determine, establish, and adjust stock levels.
- Compute world-wide spares requirements for repairable items.

1.2 SCOPE.

The provisions of this TO apply to all maintenance activities within the Air Force. TO 00-20-2, *Maintenance Data Documentation* and TO 00-20-14, *Air Force Metrology and Calibration Program* contain procedures for Precision Measurement Equipment Laboratory (PMEL) managed Test, Measurement, and Diagnostic Equipment (TMDE). Major Commands (MAJCOMS) will ensure off-base units or dispersed operating locations provide repair cycle data to the supporting Logistics Readiness Squadron (LRS) unit.

NOTE

When considered a better method, and computer capability exists, MAJCOMS may direct the use of automated data systems in lieu of the requirements outlined in this TO. This does not negate the required entries on forms forwarded with equipment/components.

1.3 DEFINITION OF TERMS.

1.3.1 Aircraft Parts Store (APS). An LRS function located near flight line maintenance and functions as a demand processing unit, customer service, and aircraft parts warehouse for maintenance activities.

1.3.2 Awaiting Parts (AWP) Validation Listing (D19). Daily listing of AWP repair part due-outs, corresponding due-ins, and status. In addition, it provides financial data to allow maintenance managers to consider the impact of repairing parts versus repairing the end item.

1.3.3 Daily Document Register D04. To provide customers with a product which reflects the LRS/Materiel Management Activity action resulting from their inputs. The daily listing is designed for distribution down to shop level. It provides a ready reference for reconciling questions regarding LRS/Materiel Management Activity responses to customer requirements. Also, a funds summary provides information to determine possible material management Information Technology (IT) system abuses within the organization.

1.3.4 Demand Code. A one digit code used on issue requests to indicate how to accumulate demand information for stock leveling and Due-in From Maintenance (DIFM) control (e.g., recurring-R; initial issue-I; nonrecurring-N; etc.).

1.3.5 Due-Out. An obligation assumed and recorded by any supply echelon to issue at a subsequent date; commonly referred to as a backorder.

1.3.5.1 Firm Due-Out. A due-out for which supply requisitioning action has taken place to satisfy the requirement.

1.3.5.2 Memo Due-Out. A due-out for which no supply requisitioning action has taken place to satisfy the requirement.

1.3.6 Due-Out Cancellation. Deletion of a previously established due-out (either memo or firm).

1.3.7 Expendability, Recoverability, Reparability, Cost Designator (ERRCD). Cataloging element that indicates whether an item can be economically repaired and what level (base or depot) has the authority to condemn an item.

1.3.7.1 XB3. Base-level non-recoverable items normally managed with the stock fund program.

1.3.7.2 XF3. Expendable field recoverable items normally managed within the stock fund program.

1.3.7.3 XD2. Expendable depot recoverable items managed under the recoverable assembly management process system.

1.3.7.4 NF3/4. Field recoverable equipment managed within the Defense Property Accountability System (DPAS) and Integrated Logistics System-Supply (ILS-S).

1.3.8 Issue Request. A requirement placed on the supply system by maintenance for a spare, repair part, or bit and piece, etc.

1.3.9 LRS. Integrates the disciplines of logistics, fuels, materiel management, and vehicle management.

NOTE

LRS referenced in the entirety of this document refers to any LRS, logistics lead, or equivalent.

1.3.10 Maintenance Control (MC). The main functions are to support the units operational mission and to serve as the management function which monitors, coordinates, and controls the use of manpower and material in support of the maintenance production. It is the focal point for the assembly collation and assessment of significant logistics information and requirements.

1.3.11 Maintenance Priority Code (MPC). Assigned programmatically for each item record for repair cycle items (XD, XF) to indicate the priority of sequence of repair based on stockage position of the asset. MPC codes include: 3, Air Force Materiel Command (AFMC) critical item; 4, item required for forecasted base requirements; 7, item excess to base requirements; L, computed supply critical items with less than 10 days on-hand stock and due-out balance; and T, computed supply critical items with less than 10 days on-hand stock and no due-out balance.

1.3.12 Maintenance Turnaround (TRN). The means to record demand data in the supply system for either repairs in place or removal, repair, reinstallation of a recoverable item without ordering a replacement item.

1.3.13 Production Scheduler (PS). For the purpose of this TO, the term production scheduler applies to any individual or function that schedules repair cycle assets into the performing work center for repair.

1.3.14 Supply Chain Operations Group (SCOG). The SCOG is a centralized operations support activity, subordinate to the MAJCOM, and responsible for core supply and traffic management processes in a regionalized context. Core supply functions include Mission Capable (MICAP) and AWP management, Stock Control, Equipment Management, and Funds Management.

1.3.15 Repair Cycle Assets. Any recoverable item with an ERRCD code of XD or XF.

1.3.16 Repair Cycle Asset Management List (D23). Provides a tool for LRS/Materiel Management Activity personnel to monitor status and maintain visibility of issued assets controlled by maintenance activities within the repair cycle using the DIFM process. It aids maintenance activities in controlling repairable processing and DIFM control.

1.3.17 Flight Service Center (FSC). Serves as the primary point of contact with units regarding repair cycle management. Key duties include processing DIFM returns and serving as the single return processing point for material in FB/FE accounts.

1.3.18 **Requisition.** An order for materiel initiated by an established, authorized organization that is transmitted either electronically, by mail, or telephoned to a material management source within or external (i.e. sister services, DLA, etc.) to the AF.

1.3.19 **Retested OK (RTOK).** Items returned from the base to the repair facility as Not Repairable This Station (NRTS) which are retested and found to be operable and not defective.

1.3.20 **Spare.** A spare is an assembly, subassembly, or Shop Replaceable Unit (SRU) in the repair cycle for which LRS is issued or backordered a like item.

1.3.21 **Enterprise Solution-Supply Asset Management (ES-S AM).** ES-S AM was developed to improve the process of tracking assets through base level supply channels and to reduce the amount of paper produced and stored in LRS. ES-S AM puts the control and responsibility of the property in the hands of the person who has the property. Barcode labels, identification numbers, and passwords are used throughout the system to track and move assets through the supply process.

1.3.22 **Materiel Management Transaction Identification Code (TRIC).** A three-digit code identifying an internal transaction within ILS-S (e.g., issue-ISU; turn in-TIN; etc.).

1.4 GENERAL CONCEPT OF REPAIR.

The basic concept is to perform repairs at the lowest level of maintenance, to the fullest extent possible, consistent with good management and quality assurance. Troubleshooting and repair shall be extended to the lowest possible component or part. Repair of items should be accomplished IAW procedures prescribed in technical directives. Unless specifically prohibited, procedures in general maintenance TOs and other maintenance actions may also be used to aggressively pursue maximum local repair when approved by the applicable program office. Defective components will be either replaced with a like item; repaired in place; or removed, repaired and installed. Care must be taken to ensure XB items are not disposed of simply because they are classified as nonrecoverable. These XB items must be considered for repair when it is cost effective or warranted by mission requirements IAW DAFI 21-101. Prior to repairing consumables and Depot Level Reparable (DLR) items, ensure all items being repaired have been approved by the appropriate repair authority (e.g. Program Manager (PM), Program Office (PO)).

1.5 REPAIR CYCLE PROCESSING OF XB CODED ITEMS.

1.5.1 **Maintenance Repair Level (MRL) Code B.** ERRCD codes do not dictate maintenance policy. They are primarily for use by LRS to decide how to manage parts in the materiel management IT system. TO 00-25-195, *Source, Maintenance, and Recoverability Coding of Air Force Weapons, Systems, and Equipments* governs maintenance policy which authorizes repair of XB items when the Source, Maintenance, and Recoverability (SMR) code includes MRL code B. Unusual situations may also make it necessary to repair parts even though the SMR code indicates the part is not repairable.

1.5.2 **Special Circumstances.** Specific equipment TOs do not prescribe repair actions for individual XB items; however, general purpose TOs and common sense maintenance actions can be used to repair these items. If the repair of an XB item is prudent, but it does require parts, tools, test equipment, technical data, or skills having sole application to the item or its repair, the item's SMR and ERRC designators may qualify for change.

NOTE

The design of some XB items requires routine periodic maintenance, such as adjustment and lubrication. A TO should designate when and how to accomplish this kind of "designed for" maintenance. This type of work, which is effectively custodial care, is not repair.

1.5.3 **Process and Control.** Process and control XB items through the normal maintenance functions using the same procedures as for controlling XD and XF items; however, accumulation of repair cycle data and DIFM procedures do not apply. Order parts required to repair XB items with TEX code E using the Standard Reporting Designators (SRD) and serial number of the aircraft/end item. Units may develop local procedures for monitoring and controlling parts ordered against XB items. Control numbers, such as AFTO Form 350 tag numbers, may be used in the MARK FOR field for this purpose in lieu of an aircraft serial number. Turn in XB items in accordance with DAFI 23-101.

1.6 SOURCE, MAINTENANCE AND RECOVERABILITY (SMR) CODE CONFLICTS.

The SMR code reflects both maintenance and materiel management techniques and dictates the ERRCD. Repair guidance, including specific restrictions, is provided in the applicable system or equipment -6 TO. For equipment that does not have a - 6 TO, repair restrictions may be provided in other equipment TOs, such as the -2, -3, or -6 WC. The SMR code, ERRCD, and repair restrictions in the equipment TO should be compatible. If an incompatibility exists, action must be taken to correct the codes or to add, delete, or correct the repair restrictions. SMR codes are corrected in accordance with TO 00-25-195. ERRCD are corrected in accordance with DAFI 23-101. Repair restrictions are added, deleted, or corrected in the equipment TO by submitting a Recommended Change (RC) through Enhanced Technical Managements Information System (ETIMS) IAW TO 00-5-1. In cases where the SMR code or repair restrictions are not consistent with existing repair capability, take action in accordance with Chapter 6 of this TO.

1.7 DEPOT OVERHAUL AND ON CONDITION REPAIR OF REPARABLE ASSETS.

Reparable assets received in depot facilities (including contractors) will be inspected and functionally tested as necessary. Condition and applicability of overhaul or on-condition repair methods are determined based on guidelines stated below in the applicable equipment repair manual.

1.7.1 Overhaul Criteria. Selected equipment items, by reason of their design characteristics, function, or application are predetermined to require a complete overhaul whenever returned to the depot in a reparable status. Other items may be committed to a complete overhaul on a judgment basis during receiving inspection and functional test or by direction of the Item Manager (IM) as stated in work specifications. Items generally requiring complete overhaul include:

1.7.1.1 Time Change Items (TCI) whose allowable operating time has expired. TCIs returned due to premature failure which the IM determines a complete overhaul is the more cost effective method based on remaining time of the item shall be evaluated on a case-by-case basis.

- Items involved in a weapon system accident.
- Items which have evidence of contamination.
- Items of which the condition cannot be determined.

NOTE

Avionic items, for which complete overhaul is not practical, are handled as on-condition repair as outlined below.

1.7.2 On-Condition Maintenance. On-condition maintenance will be accomplished for those items whose circumstances are not outlined above. The extent of overhaul when not specified, is that amount of work required to return the equipment to TO specification and meet all operational and design requirements. Use that part of the repair manual which contains the detailed requirements and procedures for on-condition repair to include total unit inspection, test and verification processes within existing capability to ensure complete serviceability of the required item.

NOTE

Whenever it is found that the overhaul/repair manual for an item does not contain adequate instructions, a deficiency report (Recommended Change (RC)) will be submitted to the responsible IM .

1.7.3 Property Returned For Repair. AFMC validates the condition of reparable property being returned for repair.

1.7.3.1 When the RTOK rate on an item reaches 10 percent, the IM will advise the base and using command, and work with them to resolve the problems.

1.7.3.2 Reparable items being returned for repair must have a properly completed AFTO Form 350 attached so that the repair facility can determine the base from which the item came.

1.7.3.3 When the IM advises a base that the RTOK rate on their item is 10 percent or more, the base must attempt to discover why the high RTOK rate exists. The IM must work closely with the base on this investigation since many factors outside of the base's management responsibility can affect the rate, e.g., technical data, support equipment, software.

1.7.3.4 Items with a reported RTOK rate of 10 percent or less are still candidates for improvement and should be sampled on a biannual basis to ensure that the RTOK rate has not increased. Although priority management action should be addressed to 10 percent or above, any item with a RTOK rate of 10 percent or below should be studied and its management improved as resources permit.

1.8 UNIFORM CRITERIA FOR ESTIMATING REPAIR COSTS FOR USE IN MAKING REPAIR DECISIONS.

This section establishes standard criteria and principles for use by all AF activities in estimating the cost of repair to equipment as a factor in making repair decisions. Other factors which bear on the repair decision include the availability of a replacement item or suitable substitute, future anticipated needs for the item, the mission impact of not repairing the item, anticipated permanence of the repair (i.e., shall it be back in the shop again next week), and availability of resources to accomplish the repair (qualified personnel, tools, equipment, etc.). Maintenance managers must consider these factors in making repair decisions with the goal of providing optimum mission support at the lowest cost.

1.8.1 XD Coded Items. Base level personnel will not condemn ERRCD XD items. Return XD coded items to a depot repair facility for the repair determination when they are beyond base repair capability. (XD items may be condemned with prior IM and/or Equipment Specialist (ES) approval. This waiver can be made for the specific National Stock Number (NSN) on a one time basis; or may be granted for continuing approval for the NSN restricted to one or more designated bases; or continuing approval Air Force wide).

1.8.2 XF Coded Items. Operating locations may condemn XF coded items if supported by an economic repair determination.

1.8.3 NF Coded Items. Repair/condemnation criteria for equipment items, ERRC NF is contained in DAFI 23-101 and other applicable directives.

1.8.4 Replacement Cost Data. Economical repair of Air Force property is 75 percent of the current stock list price unless otherwise specified in TOs or other published directives. If you know or suspect that the stock list price is 3 years old or older take cost escalations into account before applying the 75 percent unit cost criteria. Current replacement cost data may be requested from the IM. Base cost estimates on accomplishment of the required maintenance at the nearest government or commercial facility which has the repair capability and performs similar maintenance. Use the cost elements discussed in Paragraph 1.8.4.1 through Paragraph 1.8.4.9 in estimating repair costs.

1.8.4.1 Direct labor is the military or civilian labor which you can identify specifically to the repair job. Use the job-standard or job-average man-hours required for the repair action. If a job-standard or job-average is not available, estimate the repair hours based on experience, then apply the military or civilian labor rate to the man-hours required for repair. Labor rates for military personnel will be weighted-average military wage rate for the involved work center. Base the labor rate for civilian personnel on the rate for the applicable job skill and level in the local geographic area of the repairing activity. Therefore, contact the comptroller of the unit concerned for the average hourly rate scale. When determining costs of civilian labor on the basis of annual salaries, compute these costs by adding a factor of 9.0 percent to the gross pay as shown in current pay tables. When determining costs of civilian labor on the basis of direct hours applied, increase the gross pay reflected in current civilian pay scales by a factor of 29.0 percent for annual/sick leave and fringe benefits. Extract the pay rate scales for military personnel from AFI 65-503, *US Air Force Cost and Planning Factors*.

1.8.4.2 Direct material costs are the cost of all materials identified with and applied directly to the item or equipment that requires repair. This includes government furnished materials consumed by a contractor in performing all or part of the maintenance job; consumable items obtained from materiel management stocks costed at the stock list price; items locally procured costed at the latest invoice or quoted price and including any transportation charges; fabricated items priced at expected cost including labor cost as described in Paragraph 1.8.4.1.; and indirect expenses described in Paragraph 1.8.4.3. When the repair involves use of components and assemblies on an exchange basis, cost such components and assemblies at the exchange price; i.e., stock list price less credit for the return of the repairable components. The exchange price may be established as a percent of the stock list price provided it reflects the estimated cost to repair the components or assemblies. If the repair cost is not known, cost estimate exchange items (issue of a serviceable for a repairable) at 35 percent of the stock list price.

1.8.4.3 Indirect expenses may be included in the estimated cost of repair for an item or piece of equipment. Since it is impossible to identify specific indirect expenses for each item, determine this cost element by applying an indirect expense rate to the estimated direct cost expenditures. The indirect costs included in the indirect expense rate represent a portion of the production expenses incurred within or identifiable to the work center or organization performing the repair work; a portion of the general and administrative expenses incurred in management or supervision; and the costs of maintaining the repair fa-

cility. A factor of 33 percent of direct expenses may be used to cover indirect expenses if they are not known. The estimated total cost of repair will then be the direct expense estimate multiplied by 1.33.

1.8.4.4 Other direct charges include the cost of contractual services required incident to or identifiable with the performance of all or a portion of the specific maintenance job. If a contractor is to perform a significant portion of the maintenance job, include the total contract price or the estimated total contract price for the repair. When the item or equipment cannot be repaired on site and preparing the item for shipment will incur costs, include these costs in the estimated repair costs. For reparable material located overseas where there is no theater repair capability, include the cost of freight to the continental United States repair facility as an element of cost. Exclude the cost of freight in all other cases. Include any other charges required to accomplish the required maintenance and directly identifiable to the material although not specifically mentioned herein.

1.8.4.5 When there is a modification or Time Compliance Technical Order (TCTO) concurrent with the repair, exclude the cost of the modification or TCTO compliance from the estimated repair cost.

1.8.4.6 Do not include items such as tires, antifreeze, and fuel which are incident to normal operation of equipment in the cost of repair. However, include these items if they are replaced as a result of an accident.

1.8.4.7 Do not include the cost to overhaul or replace accessory items such as sirens, tool kits, or two-way radios, used to adapt the equipment for special usage, in the estimated repair cost.

1.8.4.8 Refer to Table 1-1 for a sample computation.

Table 1-1. Sample Computation

DATA REQUIRED:	
Item:	Circuit board
ERRCD:	XF3
Stock List Price:	\$842.00
75 Percent of Stock List Price:	\$631.50
Job Standard:	33 hours
Civilian Pay for Work Center:	\$12.00/hour
Benefits:	29.0 percent of \$3.48/hour
Total Wage Rate:	\$15.48/hour
Direct Labor Cost:	\$15.48/hour x 33 hours = \$510.84
Direct Material Total:	\$38.60
Indirect Expense:	33 Percent
COMPUTATION:	
\$510.84 + 38.60 \$549.44 x 1.33 \$730.76	Direct labor Material Total material and labor Indirect expense rate Total repair Cost

1.8.4.9 DECISION: Item is XF3, condemnable at base level. The estimated total repair cost exceeds 75 percent of the current stock list price; therefore, the item may be condemned at base level if other repair decision factors support the condemnation decision.

1.9 REUSABLE CONTAINERS.

Do not destroy or discard reusable containers. The maintenance activity will make maximum use of reusable containers. Reusable containers shall normally be kept with the asset during in-shop repair. However, if the containers cannot be stored with

the item due to size and shape, store the containers in an area identified by the Unit Container Manager. Use the AF Form 451, *Request for Packaging Service* to request local fabrication of new containers in the event the original containers are lost, damaged, or destroyed.

CHAPTER 2

THE REPAIR CYCLE ASSET MANAGEMENT

2.1 PURPOSE.

This chapter prescribes the physical layout of the repair cycle asset management, assigns scheduling responsibility and methodology, and establishes control procedures. It also addresses DIFM procedures, verification procedures and the shop interface with production scheduling.

2.2 PHYSICAL LAYOUT.

Route all repairable item documentation through the maintenance function responsible for processing repairable assets. The items will be scheduled through the shops for repair and turned into maintenance for reinstallation. The maintenance function responsible for this may be the applicable maintenance repair activity or other activity determined by the unit. Production Scheduling (PS) is considered as a repair shop responsibility. The Maintenance Information System (MIS), if available, shall be used to process all parts through the repair shop.

2.3 SCHEDULING.

Repair shops must establish/manage production flow times, in-shop production, and track parts scheduled through the shop. In-shop priorities shall be assigned based on the applicable maintenance need. Components shall be assigned the same repair priority as the end item.

2.4 SCHEDULING EXCESS POSITION ITEMS.

Items which are in an excess position (MPC 7) shall be scheduled for repair after all other priority work is accomplished.

2.5 SCHEDULING COMPONENTS REQUIRING MULTIPLE SHOP PROCESSING.

Process items needing multiple shop actions in the same manner as other scheduled work. However, the repair shop or the originating shop shall mark involved shops in block 15 of the AFTO Form 350, Part I. Each shop will use the same repair priority first assigned. Upon completion of work, shops will:

- Notify the repair shop.
- Annotate block 15 of the AFTO Form 350 to reflect that shop's action.
- Route to the next shop.

The repair shop must coordinate closely with all subsequent shops to ensure the item is repaired in a timely manner. Each subsequent shop shall process the item in the same manner.

2.6 REPAIR CYCLE ASSET CONTROL.

A repair cycle asset is a part for which LRS normally requires a one-for-one trade. Repair cycle assets are considered part of the total base asset position, whether serviceable or repairable. If a parts request is back ordered and the removal of the unserviceable DIFM item does not further limit, or restrict the operational capability of the end item, it will be removed and sent to the applicable support sector for either repair, NRTS approval, or condemnation with a subsequent turn-in to LRS/Materiel Management Activity (as a credit DIFM).

2.6.1 DIFM Record Establishment. A demand on materiel management for an XD or XF coded asset establishes a DIFM record and tracks the unserviceable asset until it is repaired, evacuated, or condemned.

2.6.1.1 An AFTO Form 350 is required when a repair cycle asset is removed from an end item and for items requiring bench check and/or repair. A repair cycle asset issued by LRS will be accompanied by an issue document (document label or

DD Form 1348-1, *DoD Single Line Item Release/Receipt Document*). The issue documentation, accompanied with the AFTO Form 350 provides a means for controlling repairable items, and must be returned to LRS to clear the DIFM detail.

2.6.1.2 Process DIFM assets through the repair cycle and return to LRS. The repair shops shall review the D23 for accuracy daily. If an item is beyond repair, prepare the appropriate NRTS documentation and return the asset expeditiously through the appropriate supply channels.

2.6.1.3 The repair shops' appointed DIFM monitor and LRS shall perform a quarterly DIFM inventory on a coordinated date as prescribed in DAFI 23-101.

2.6.1.4 DIFM files shall be established using one of the following methods:

2.6.1.4.1 If an issue document label is received, the repair shop shall establish a suspense file. Ensure the document number and NSN, on the AFTO Form 350 attached to the item agree with the document number and NSN on the issue document label. (If a substitute item is received, ensure the substitute NSN is used.)

2.6.1.4.2 If the DD Form 1348-1A, *Issue Release/Receipt Document*, is used in lieu of an issue document label, the repair shop shall retain copy 3.

2.6.1.5 Each AFTO Form 350 shall contain the date the item was scheduled or received into the shop in the base repair cycle data block of Part II. The repair shop shall detach Part II of the form and verify the part number entry in block II against:

- The data plate.
- The number stamped, stenciled, or embossed on the item.
- The parts catalog.

2.6.1.5.1 Correct any error in Part II and annotate the correct part number in block 18. If the data plate is in error, advise the work center to update the data plate.

2.6.2 Repair Cycle Asset Control. Repair cycle asset control is a repair shop responsibility. The repair shop shall report/update current repair cycle asset location and condition status through the MIS, if available, to maintain surveillance of items. CTR may only be used by Air Force Repair Enhancement Program (AFREP). All other assets under contract repair will use Z date status codes. If MIS is unavailable, contact FSC for status and location update. Table 2-1 presents the DIFM status codes used for this purpose.

Table 2-1. DIFM Status Codes

Code	Definition	Determined By/Notes
Blank	No Location Established	Maintenance/Notes 3, 12
AWF	Awaiting Testing	Maintenance/Note 3
AWM	Awaiting Maintenance	Maintenance/Note 3
AWP	Awaiting Parts with One AWP Due-Out Detail	Program Control/Notes 4, 6 and 15
AWR	Tires Awaiting Recap	Maintenance/Note 1
AXC	Aircraft Cross Country	Maintenance/Note 1
BFN	Base Funded, Nonstandard Major Supply/Command Peculiar Repair Cycle Items	Note 1
CEH	Scheduled Work Order Item in BCE Holding Area	Civil Engineer/Note 1, 17
CMD	CEM Mobile Detachment	Maintenance/Note 1
CTE	Contract Maintenance (Equipment)	Maintenance/Note 3
CTR	Contract Maintenance/Technical Repair Center	Maintenance/Note 15, 16
DWO	UJC AR/BR Retained on System	Maintenance/Notes 1, 7
DWP	Repair Cycle Item Which is a Component of Another Repair Cycle Item that is in AWP Status	Maintenance/Notes 4, 15

Table 2-1. DIFM Status Codes - Continued

Code	Definition	Determined By/Notes
FEM	Forecasted Engine Maintenance	Program Control/Notes 1, 8
FWP	Previous AWP Item Ready for Scheduling and Repair	Program Control/Notes 3, 9
IID	Intransit Issue to Deployed Location	LRS/Materiel Management Activity/ Note 3
INO	Intransit Issue (Off-Base Only)	LRS/Materiel Management Activity/ Note 3
INR	Intransit Return (Off-Base Only)	LRS/Materiel Management Activity/ Note 3
INV	Inventory Action	LRS/Materiel Management Activity/ Note 2
INW	In Shop	Maintenance/Note 3
IRD	Intransit Return from Deployed Location	LRS/Materiel Management Activity/ Note 3
MDR	Deficiency Report Exhibits	Maintenance/Note 2
MTM	Maintenance-to-Maintenance	Maintenance/Note 3
MWI	Inter Continental Ballistic Missile (ICBM) Maintenance Awaiting Installation	Maintenance/Notes 1, 13, 15
MWP	Awaiting Parts with Bit and Pieces Due-Out MICAP against the end item	Maintenance, Notes 4, 14, 15
OAM	Retained on System	Maintenance/Notes 1, 12
PDM	Programmed Depot Maintenance	Maintenance/Notes 13, 15
RFS	Warehouse Refusal/Organization Refusal	LRS/Materiel Management
RPR	Repair and Return	Maintenance/Note 3
TCG	Time Change	Maintenance/Notes 13, 15
TIN	Turn-In to LRS/Materiel Management Activity	Maintenance/Notes 2, 10
TOC	TCTO Required for End Item	Maintenance/Notes 13, 15
TWP	Bits and Pieces Required for Repair Action in Transit	LRS/Materiel Management Activity/ Note 4
VHM	Vehicle Maintenance Work Order Holding	Maintenance/Notes 1, 11
Z(NN)	Reserved for Assignment by Major Command	Command/Note 5
Z(XX)	Reserved for Assignment by Major Command	Command/Note 1
(NN)P	AWP with Two or More AWP Due-Out Details	Program Control/Notes 4, 6
Notes:		
1	DIFM status codes that count as pre-repair (before) delayed maintenance days.	
2	DIFM status codes that count as post-repair (after) delayed maintenance days.	
3	DIFM status codes that count as repair cycle days.	
4	DIFM status codes that count as awaiting part(s) days. See DAFI 23-101, Sec. 2C, Financial Management for examples of AWP time computations.	
5	DIFM status code that counts as repair cycle days for ACC and PACAF only. For all others, these codes count as delayed maintenance days.	
6	When the first AWP due-out is established, the code on the end item DIFM detail record will be changed to AWP under program control. When the second AWP due-out is established, the code will change from AWP to 02P. Subsequent processing will increment or decrement the status code counter as appropriate, i.e., sequential processing will result in a code assignment: AWP, 02P, 03P, 04P, etc. 03P, 02P, AWP, FWP. DFM inputs attempting to change the DIFM status code from AWP or (nn)P will reject 325.	

Table 2-1. DIFM Status Codes - Continued

Code	Definition	Determined By/Notes
7	DWO should be assigned to UJC AR/BR requirements when Maintenance determines the asset must be retained on the system. This status code applies when an asset request for an AWP requirement results in a due-out. There will be no status automatically assigned to the DIFM detail that is created and Maintenance has 3 days to determine if the repairable asset should be removed from the AWP end item for a bench check, or if it is more practical to leave the AWP end item on the system and wait for a sub-component replacement item. If Maintenance decides to keep the asset on the system, they will assign DIFM status code DWO (UJC AR/BR, retained on system). If Maintenance decides to remove the asset for bench check, normal procedures for local repair or delivery to a central repair facility apply.	
8	Status code FEM will be assigned when the request has UJC AU, BU, or CU, and the delivery destination field contains FEM.	
9	When the last AWP due-out is released or canceled, the code on the end item DIFM detail record will be changed to FWP under program control. DIFM codes attempting to change the DIFM status code to FWP will also output a 318 REJ notice (Status Field Blank or in Error). When the status of an item changes from FWP, the DFM input must contain a force code (F) in position 62 in addition to the new status code. Without the force code, a 318 REJ notice will occur.	
10	LRS/Materiel Management Activity may assign TIN status code when the item is in their possession and the turn-in cannot be processed because the item record is frozen, an identity problem exists, or similar conditions exist. Ensure that processing standards for NRTS code 1 items are adhered to and assign a DIFM location code indicating the supply location. All credit DIFM details will have status code TIN (Turn-in to LRS/Materiel Management Activity) assigned under program control at time of turn-in.	
11	Status code VHM can only be applied against type organization V or T.	
12	These codes count as repair cycle days when changed to a repair-type DIFM status code.	
13	MWI, PDM, TCG, and TOC are considered a separate category of delayed maintenance time and stored in the Delayed Other Days field on the DIFM detail record.	
14	Status code MWP counts as awaiting parts days and must be manually updated using DFM input processing.	
15	Days are not counted as issued DIFM days when items are in DIFM status codes AWP, CTR, DWP, MWI, MWP, PDM, TCG, and TOC.	
16	When the DIFM status field is changed to CTR, an I125 MGT notice (Contract Repair Only the Quantity Indicated Time XXXX) will be printed. This notice will reflect the number of items that should be repaired based on the computed requirements. When items are no longer required for base support, the number shown in the condemn field of the management notice will be for the entire DIFM detail quantity. In this instance, status code CTR will not be loaded to the DIFM detail and the items no longer needed should be turned in as excess to the base requirements. The TIN (transaction identification number) input should have the action taken code 7 in pos. 62 and TRM in pos. 48-50. When a known requirement exists, but it is not apparent from the computed requirement, a force code (F) in position 62 of the DFM input will allow status code CTR to be assigned and the repair field of the management notice will show the entire DIFM quantity.	
17	When DIFM status CEH is used the last three digits of the CE work order number must be entered in positions 52-54 of the DFM input or reject 429 will occur.	
18	MWI is authorized for use by ICBM and Remote Alaskan Radar Sites maintenance only.	

2.7 VERIFICATION PROCEDURES.

A prompt responsive verification process is the key to success in preventing unwarranted NMC/PMC conditions, cannibalization, priority system abuses, and unnecessary fund expenditures. Verification information usually centers around the following types of data:

- Is the item on bench stock and available?
- Status and location of any DIFM?

- Is the item repairable?
- Are any assets in the Tail Number Bins (TNB)?
- Can the item be locally manufactured?
- Is the next higher system assembly available?
- Is the assembly a spare?
- Possibility of feasible cannibalization?
- Are there suitable substitutes?
- Accuracy of requisition date in accordance with DAFI 23-101?

2.8 REPARABLE ITEM RETURNS.

Maintenance activities are responsible for removed DIFM items. The Maintenance Commanders or equivalent will ensure removed items are physically returned to the LRS/Materiel Management Activity. The Maintenance Squadron Commander (MXS/CC), or designated representative shall establish pickup points for repair cycle assets, in coordination with the LRS Commander. In addition, they shall establish times to check the pickup points to ensure pickup of assets on a timely basis. Do not allow shop production and repairable turn-ins (completed work) to accumulate at these pickup points. Ensure fragile components are transported using vehicles with appropriate protective devices. Documented Cargo Operations responsibilities are listed in AFI 24-301, *Ground Transportation*.

CHAPTER 3

MAINTENANCE PROCESSING OF REPAIR CYCLE ASSETS

3.1 PURPOSE.

This chapter prescribes specific procedures for processing and documenting repair actions. It also covers use of memo due-outs, due-out cancellation procedures, the establishment of supply points, and asset turn-in procedures.

3.2 PROCESSING CLASSIFIED ASSETS.

Process classified reparable components in the same manner as other components. However, the initiator of the AFTO Form 350 shall indicate on the face of the AFTO Form 350 that the item is classified. Use a stamp which states, "This item is Classified and shall be handled in accordance with AFI 16-1404, *Air Force Information Security Program*." For Classified components under Computer Security (COMSEC) control (i.e., those using the Top Secret nomenclature system), use a stamp that states, "This Item is Classified and shall be handled in accordance with AFKAG-series, *Air Force Cryptographic Operational General Publication*" or use hold block lettering, if no stamp is available. The shop responsible for bench check/repair will ensure the security classification of the component is conspicuously visible. The preferred method of marking the classification on components, IAW Committee on National Security System (CNSSI) No. 4005, *Safeguarding COMSEC Facilities and Materials* is to use grease pencils or non-permanent markers.

3.3 PROCESSING ITEMS AWAITING PARTS.

When a shop requires bit and piece parts, a demand shall be placed on supply through the MIS, if available.

3.3.1 Fill or Kill Option. After processing issue requests using the "fill or kill" option, LRS shall notify the repair shop of the issue status. Under the "fill or kill" option, the requester must verify for re-input and change the delivery destination code, if required.

3.3.2 Bits and Pieces. Sometimes bits and pieces required to return an end item to serviceable status have an extended estimated delivery date. It may be prudent to place another demand on supply for the next higher assembly. For example, when the next higher assembly is a subassembly, the second requisition should be for this subassembly. Maintenance and LRS must monitor AWP closely to ensure positive action to return AWP assets to a serviceable condition. These actions may include: cannibalization, local purchase, supply difficulty letters, follow-ups, and substitutions.

3.3.3 In-Shop Serviceable Assets. In-shop serviceable assets may be cannibalized to preclude or satisfy MICAP conditions. However, the AWP monitor must update the appropriate due-outs. These actions do not require documentation unless the items are removed from complete engine modules or engines.

3.3.4 AWP Assets. LRS and Maintenance must expend special efforts to obtain parts and perform authorized maintenance to preclude returning AWP assets to the depot. Base level managers have the authority to evacuate unserviceable end articles AWP, NRTS 4 after aggressive actions have been taken to secure the SRUs, components, or parts for repair. Prior to evacuation, disposition instructions need to be obtained from the end article item manager. The request for AWP end article evacuation shall include the current condition of the end article. When furnished the disposition instructions, route the repairable item to the shop for preparation for turn-in. The repair shop shall complete maintenance data collection processing in the MIS, and turn into LRS. The AWP monitor will cancel due-outs for bit and pieces not received.

3.4 PROCESSING MAINTENANCE TURNAROUND (TRN) TRANSACTIONS.

The basic maintenance concept and parts ordering policy for repair cycle assets is to remove and replace the defective component with a serviceable asset issued from LRS. The unserviceable asset is then processed for bench check and repair through the repair shop. However, under certain conditions it may be prudent to remove, bench check, repair and reinstall an item without a demand on supply. In these cases process a TRN .

3.4.1 Processing TRNs. Some of the reasons for processing a TRN are:

- The component may be "married" or integrated to another component where replacement (in the case of an issue from LRS) would necessitate replacement of the other component.
- The defective component may require a minor repair while a new issue may need elaborate bench checking. Time constraints may dictate the repair.
- The component may be trimmed and fitted to the end item in which case repair will usually be easier than replacement.
- It may be easier to repair the defect on the equipment, in which case a demand on supply would be impossible.

3.4.1.1 Repair and return processing procedures are the same as normal reparable processing. If repaired, the repair shop shall process the TRN through the MIS or forward to LRS for processing. If repair cannot be accomplished, the repair shop shall process and control the removed items using normal DIFM procedures.

3.4.1.2 Processing a TRN provides the same demand data as an issue and turn in of a serviceable asset. Only maintenance action taken codes A, F, G, K, L, or Z qualify for TRN transactions. Failure to process TRNs affects stock levels and results in incomplete reports on which AFMC bases buy, repair, and distribution decisions.

3.5 DOCUMENTING MAINTENANCE TURNAROUND (TRN) TRANSACTIONS.

3.5.1 Documents TRNs. If the MIS is unavailable, forward all AFTO Forms 350, Part II, which require TRN processing to the LRS TRN monitor by the most expedient method available. Ensure the AFTO Forms 350 contain valid part number, NSN, maintenance action taken code, the SRD of the weapon system or equipment from which the item was removed and number of repair days.

3.5.1.1 The Daily Document Register (D04) or equivalent IT system report will be used to monitor TRN processing. AFTO Form 350 will be compared to the D04 to ensure the TRN input has been processed.

3.5.1.2 Verify the TRN processed using the D04. The repair shop and LRS shall determine the corrective action if the TRN processed incorrectly.

3.6 PROCESSING REPARABLE FOR UNITS SUPPORTED BY A MAIN OPERATING BASE.

Use the following procedures in conjunction with the procedures authorized in DAFI 23-101 for units operating at locations where little or no repair capability exist, when deployed to a Forward Operating Location (FOL) supported by a Forward Supply Location (FSL), or enroute support activity. The repair shop at the FSL schedules the accomplishment of off- equipment maintenance.

3.6.1 Forward Operating Location (FOL) Procedures. When the FOL cannot perform the repair action, they shall forward the component with an attached AFTO Form 350 to the forward support location. The AFTO Form 350 shall be annotated with action taken code D, bench check/repair, when transferred to another base. This identifies items the forward maintenance activity cannot code NRTS, or repair.

3.6.1.1 Upon receipt of a transferred item from the FOL, the FSL shall schedule the item into the shop for repair.

3.6.1.2 Air Mobility Command's (AMC) Forward Supply System (FSS) uses the same procedures. In addition, the FSL shall overstamp the front of the AFTO Form 350 with "FSS" in red ink prior to transferring the item to the primary supply point for repair.

3.6.1.2.1 LRS shall be responsible for delivery of unserviceable FSS items to the appropriate production scheduler/shop.

3.6.1.2.2 Upon receipt of completed reparable FSS engines at the primary supply point for maintenance or inspection, the engine manager shall immediately notify the documentation section of the requirement to load an ID number for the engine.

3.7 USE OF MEMO DUE-OUTS.

The supply system provides a technique to maintain visibility of an asset processed through maintenance when the request for an assembly or subassembly results in a "kill." This visibility is accomplished by creating a memo due-out. To create the memo due-out, maintenance must verify the requirement and request re-input with a transaction exception (TEX) code 7.

3.8 SUPPLY POINTS.

3.8.1 Supply Point Establishment. The MXS/CC, or designated representative, in coordination with the LRS Commander, may establish supply points within the maintenance complex. Supply point stocks may include any item of supply, except equipment items. Expendable items (ERRCD XB3) must be approved by Materiel Management Flight Officer. The Maintenance Group Commander (MXG/CC), or designated representative, must provide adequate facilities to accommodate the supply points within a secure facility.

3.8.1.1 The supply point concept allows pre-positioning selected assets in designated maintenance shops. Generally this procedure is reserved for items requiring buildup or bench check prior to issue. LRS is responsible for transferring the assets to the shop and processing the necessary documentation. The supply point monitor shall advise LRS each time the item is removed from the supply point and notify LRS. LRS shall process a paper work turn-in to clear the DIFM and update the repair cycle data. NRTS and condemnation actions require normal DIFM turn-in procedures.

3.8.1.2 The supply point monitor shall assist LRS in accomplishing the semi-annual supply point reconciliation and the annual inventory.

3.9 PROCESSING ASSETS REQUIRING FUNCTIONAL CHECK.

Repair shops must identify those items requiring functional check or calibration, prior to issue. The repair shop shall prepare a consolidated list of repair parts and forward it to LRS. As a minimum, this list shall identify the parts by NSN, repair shop delivery destination code, and frequency of functional check. Criteria to be used in selecting items for inclusion in the functional check program include: the length of time required for a prior to use bench check, the failure history of the item, the need to "marry" components, and other considerations as determined by the unit. LRS may request functional checks of items due to evidence of improper handling. These parts shall be under DIFM control procedures until returned to LRS. Should these items require repair, the repair shop shall order the required bits and pieces. Additionally, if LRS received the item from depot-level repair and it bench checked bad, accomplish appropriate material deficiency reporting in accordance with TO 00-35D-54, *USAF Deficiency Reporting and Investigating System*.

3.10 DUE-OUT CANCELLATIONS.

There will be times when a repair cycle asset is removed for bench check and repair and a replacement is back ordered with LRS. If the shop repairs the item before receipt of the back ordered item, they will cancel the due-out using the appropriate action taken code and procedures outlined in DAIFI 23-101. Use only action taken codes A, F, G, K, L, or Z to update demand data. When notified of this transaction, the repair shop shall retain the AFTO Form 350, Part II, until confirmed by review of the D04.

3.11 PROCESSING ASSETS FOR BENCH CHECK.

3.11.1 Processing For Bench Check Procedures. When an asset is processed for bench check it will generally either be found serviceable and reinstalled, repaired and reinstalled without placing a demand on supply, scheduled for repair and a replacement ordered from supply, or be found NRTS and processed accordingly. The following procedures shall be used for assets being processed for bench check:

3.11.1.1 If the asset is found serviceable, record the status in block 15 of the AFTO Form 350, Part I, and the inspector's name or stamp in block 28. The AFTO Form 350 remains with the asset until it is reinstalled.

3.11.1.2 If the asset is repaired and reinstalled without placing a demand on supply, follow TRN procedures outlined in this TO.

3.11.1.3 If a replacement is ordered from LRS and the asset is scheduled for repair, process the asset for repair using normal DIFM procedures. When maintenance returns a serviceable asset to LRS, the shop prepares and attaches a DD Form 1574, *Serviceable Tag - Materiel*, and an AFTO Form 350 to the asset to indicate serviceable status. If the asset is being re-

turned in a container, and is unclassified, a DD Form 1574 is also prepared and attached to the outside of the container. Label classified assets in accordance with Table 3-2 and AFI 16-1404 .

3.11.1.4 If the asset is NRTS, accomplish the following:

- a. If NRTS code 1, the AFTO Form 350, block 15 shall include reference to the authority for NRTS declaration.
- b. If NRTS code 2, 3, 6 or 7, the work center technician will annotate the AFTO Form 350, block 15, to identify the resource that is lacking.
- c. If NRTS code 8, the work center technician will annotate the AFTO Form 350, block 15, to identify the Air Logistics Complex (ALC) and the name of the person (IM/ PM, authorizing the return (including phone number).
- d. If an item is condemned, (NRTS code 9) the shop will prepare and attach a DD Form 1577, *Materiel Condition Tags*, unserviceable (condemned) materiel tag to the item to show condemned status. Reference the publication or directive which authorized the action on the DD Form 1577. Also attach a DD Form 1577, unserviceable (condemned) tag/label to the outside of the container.
- e. For all NRTS codes, except NRTS code 9:
 - (1) Complete the AFTO Form 350 and record the applicable NRTS code in block 15.
 - (2) Attach the AFTO Form 350, Part I, and the DD Form 1577-2 to the asset.
 - (3) Prepare a DD Form 1577-3, *Unserviceable (Reparable) Label Materiel* or DD Form 1577-2, *Unserviceable (Reparable) Tag Material*, as ID for the outside of the container.
 - (4) Package the asset in accordance with the control requirements specified in the applicable TO.

3.11.1.5 When declaring a complete assembly NRTS after making a separate demand on the supply system for a DIFM-controlled subassembly which was not available, check the authorized base stock level of the subassembly. If the stock level is inadequate, it may be necessary to initiate an AF Form 1996, *Adjusted Stock Level*, to provide data to LRS for establishing the required stock level for the subassembly. See DAFI 23-101, for preparation instructions. Maintenance managers should determine and correct the cause for inadequate levels.

3.12 MAINTENANCE PREPARATION FOR TURN-IN OF ASSETS TO LOGISTIC READINESS SQUADRON (LRS).

3.12.1 Turn-In of Assets Procedures Prior to LRS. Maintenance accomplishes the following actions prior to turning in assets to LRS.

- a. Place the asset in its container but do not seal the container. Reuse specially engineered containers and packing within unit capability. If the appropriate container is not available, the item will be accompanied by an AF Form 451.
- b. If TOs specify environmental control requirements, such as pressurization of a container or component drain/purge requirements, the shop shall accomplish all actions to meet these requirements.
- c. Forward all properly prepared required documentation, e.g., AFTO Form 350, DD Form 1577-2/-3, and the AFTO Form 95, *Significant Historical Data* showing life consumed for a time change/life limited serialized item (if for an assembly, this printout must include data for all embedded time change/life limited items) with the item as follows:
 - The AFTO Form 350 and the AFTO Form 95 of current life for time change/life limited items are attached to the DD Form 1577-2, and physically attached to each item.
 - The use of multiple quantities on AFTO Form 350 and DD Form 1577-2 for time change/life limited items is not authorized because of the requirement to track the consumed life for each time change/life limited serialized item on the DD Form 1577-2.

- You may use multiple quantities on DD Forms 1577-2/-3 on the *outside* of shipping containers for shipments of multiple items. However, each item inside the container must be individually tagged.
 - For time change/life limited items not tracked in MIS, the DD Form 1577-2 for the item must be annotated with current status of life consumed. If tagged for an assembly, the DD Form 1577-2 must include data on all embedded time change/life limited items, and is physically attached to the item. See the applicable aircraft -6, -06, or 00-20-series TO.
 - Ensure AFTO Form 350 for parts enrolled in the Condition Based Maintenance (CBM+) program are stamped CBM+
- d. Take appropriate reclamation and demilitarization actions on condemned repair cycle assets. When destroying top secret or secret materiel for which Department of Defense Manual (DoDM) 5200.01, Volume 1, *DoD Information Security Program; Overview, Classification, and Declassification*, requires a receipt, prepare a destruction certificate.
- Serviceable bits and pieces removed from XB/XF/XD items should be maintained in the maintenance shops and when no longer required they should be turned in to LRS.
 - Repair cycle type items, i.e., XF and XD, removed from an unserviceable end item, shall be replaced on the carcass prior to being turned in to LRS.
 - Maintenance personnel involved with the removal of bits and pieces should be aware that some assets may contain precious metals which must be handled in accordance with DAFI 23-101.
 - Parts removed from XD items should be identified and an annotation made on the back of the condition code (DD Form 1577 series) tag.
 - XD/XF items removed from unserviceable assets must be properly accounted for and base level usage data properly reported.
 - Maintenance Section Chiefs must certify that the repair cost is over 75 percent of the cost of a new item in accordance with Paragraph 1.8.

NOTE

USAF-designated critical items are excluded from this process.

- e. Clean and preserve repair cycle assets as required by TOs.
- f. Forward all repair cycle assets to a designated LRS pick-up point.
- g. For Reliability Improvement Warranty (RIW) items, record and verify the serial number of the assembly and action taken code 1 on the AFTO Form 350, Part I. LRS requires both entries for proper processing.
- h. The AFTO Form 95 must accompany the asset when it is turned in to LRS. Check with plans, scheduling and documentation for the documents. Examples of assets which have historical documents are aircraft engines, time change/life limited items, and landing gears.
- i. F100 engine users with Automated Ground Engine Test Set shall attach the component removal report to the DD Form 1577-2 when turning in reparable components to LRS.

3.13 ASSET TURN-IN TO LRS.

The repair shop shall perform the following actions for asset turn-in to LRS:

- a. Reconcile the AFTO Form 350 with an issue document label or DD Form 1348-1A, copy 3.
 - Part I of the AFTO Form 350 shall indicate the NSN in block 23, and the Stock Record Account Number (SRAN) in block 24.

- Part II of the AFTO Form 350 shall indicate the date removed and the AWP days, if applicable, in block 29.

NOTE

For NRTS items, ensure the AFTO Form 350, Part 1 Discrepancy, block 14 and/or block 15 contains complete descriptive information about the discrepancy and reason for NRTS action. Do not use phrases such as "failed to operate," or "internal failure".

- b. Verify the accuracy of the condition tag affixed to the repair cycle asset (see Table 3-1 and Table 3-2).
- c. Obtain the LRS representative's signature on a Local product (logbook, customer copy of DD 1348-1A, etc.).

Table 3-1. How to Use Condition Tags/Labels

	A	B	C	D
RULE	If the Item is	and the item is	then prepare	and assign condition code
1	Serviceable	New, used, repaired or reconditioned materiel which is serviceable and issuable to all customers without limitation or restrictions. Includes materiel with more than 6 months shelf life remaining.	DD FORM 1574/ 1574-1	A Issuable without Qualification
2	Serviceable	New, used, repaired or reconditioned materiel which is serviceable and issuable for its intended purpose but which is restricted from issue to specific units, activities or geographical areas by reason of its limited usefulness or short service-life expectancy. Includes materiel with 3 through 6 months shelf life remaining.	DD FORM 1574 / 1574-1	B Issuable with Qualification
3	Serviceable	New, used, repaired or reconditioned materiel which is serviceable and issuable to selected customers, but which must be issued before Condition A and B materiel to avoid loss as usable assets. Includes materiel with less than 3 months shelf life remaining.	DD FORM 1574 / 1574-1	C Priority Use
4	Serviceable	Serviceable materiel which requires test, alteration, modification, conversion or disassembly. This does not include items which must be inspected or tested immediately prior to issue, or Type II shelf life material with expired time.	DD FORM 1576 / 1576-1	D Test/Modification
5	Unserviceable	Materiel which involves only limited expense or effort to restore to serviceable condition and which is accomplished in the storage activity where the stock is located.	DD FORM 1577-2 / 1577-3	E Limited Restoration
6	Unserviceable	Economically reparable material which requires repair, overhaul or reconditioning. Includes reparable items which are radioactively contaminated.	DD FORM 1577-2 / 1577-3	F Reparable
7	Unserviceable	Materiel requiring additional parts or components to complete the end item prior to use.	DD FORM 1577-2 / 1577-3	G Incomplete
8	Unserviceable	Materiel which has been determined to be unserviceable and is uneconomical to repair, or condemnation has been directed by a TCTO. Includes Type I shelf life material with expired time.	DD FORM 1577 / 1577-1	H Condemned
9	Suspended in Supply Stock	Materiel in stock which has been suspended from issue pending condition classification analysis, where the true condition is not known. Includes Type II shelf life material with expired time.	DD FORM 1575 / 1575-1	J In stock

Table 3-1. How to Use Condition Tags/Labels - Continued

A	B	C	D
RULE	If the Item is	and the item is	then prepare and assign condition code
10	Suspended	Materiel returned from customers or users and awaiting condition classification. AFMC activities may use this code for disassembled Deficiency Report (DR) exhibits IAW TO 00-35D-54.	DD FORM 1575 / 1575-1 K Returned
11	Suspended	Materiel held pending litigation or negotiation with contractors, vendors or carriers.	DD FORM 1575 / 1575-1 L Litigation
12	Suspended	Materiel identified in inventory control record but which has been turned over to a maintenance facility or contractor for repair.	DD FORM 1575 / 1575-1 M In Work
13	Suspended	Ammunition stock suspended for issue except for emergency combat use.	DD FORM 1575 / 1575-1 N Ammunition Suitable for Emergency Combat Use Only
14	Unserviceable	Material determined to be unserviceable, economically reparable as a result of physical inspection, tear down or engineering decision, but the item contains serviceable components or assemblies to be reclaimed.	DD FORM 1577 / 1577-1 P Reclamation
15	Suspended	DR exhibits returned by customers/users as directed by the item manager/system manager due to technical deficiencies reported by a DR. The exhibit requires technical or engineering analysis to determine cause of failure. This code is for intra-Air Force use only.	DD FORM 1575 / 1575-1 Q Returned
16	Suspended	Materiel reclaimed by inventory control points/item managers from activities that do not have the capability to determine material condition e.g., skills, manpower or test equipment. Actual condition, serviceable or unserviceable, is determined at the repair facility and reported to the inventory control point/item manager before issue or repair. This code is for intra-Air Force use only.	DD FORM 1575 / 1575-1 R Reclaimed

Table 3-2. Required Entries for Condition Tags/Labels

	DD FORM 1574/1574-1	DD FORM 1575/1575-1	DD FORM 1576/1576-1	DD FORM 1577/1577-1	DD FPR, 1577-2/1577-3
NSN, Part No., Item Description	X	X	X	X	X
Serial No./Lot No. (Note 1)	X	X	X	X	X
Quantity	X	X	X	X	X
Unit of Issue	X	X	X	X	X
Condition Code (See Table 3-1, How to Use Condition Tags/ Labels	A, B or C	J, K, L, M, N, Q or R	X	X	X
Inspection Activity	X	X	X	X	X
Inspector's Name or Stamp and Date	X	X	X	X	X
Contractor Purchase Order No. (Note 2)	X	X	X	X	X
Reason for Reparable Condition	X	X	X		X
Authority/Date			X		
Next Inspection Due/Overage Date	X (Notes 9 and 13)	X			
Removed from					X
Reason or Authority		X		X	X
Remarks	(Notes 3, 4, 5, 6, 7, 8, 10)	(Note 8)	(Note 8)	(Note 8& 11)	(Note 8 & 11)

Note 1. Required only for those items controlled and reported by serial number or lot number. Enter the serial number of the item, including any alpha, numeric, or special character as it appears on the data plate.

Note 2. Required only when item is still under warranty and contract number is available.

Note 3. DD Form 1574/1574-1 will be annotated in the remarks block with the phrase, "TCTO (number) complied with", "All TCTOs as of (date) complied with", "TCTO (number) not complied with" or left blank as applicable, when items are returned from organizational/intermediate or depot level maintenance to LRS. These annotations are not required whenever the item being returned has undergone TOC action involving modification and resulted in a change in NSN or part number. For COMSEC assets use the statements "Modification (MOD) (number) complied with" or "MOD (number) not complied with".

Note 4. NEW PRODUCTION ASSETS (Never overhauled or repaired): When a time change item is a "NEW" serviceable asset (never used, overhauled, or repaired), the "REMARKS" block of DD Form 1574/1574-1 will be annotated as follows:

* "TSN = 0.0" (time since new).

** "TSO = 0.0" (time since overhauled).

Equipment description that the item goes on.

Note 5. REPAIRED ASSETS (Check and test or minor repair, not overhauled) Accessories or engine components applicable to engines which have mechanical tracking system (computer) such as F100-PW-100, TF34 and TF39 shall have the total operating time (time since new) and the time since overhaul reflected in remarks block of the DD Form 1574.

* "TSN = ____" (time since new). TS0 and TSN values shall be equal

** "TSO = ____" (time since overhauled). until first O/H has been accomplished

Equipment description that the item goes on.

Note 6. OVERHAULED ASSETS (Major overhaul) When a time change item is made serviceable by "OVERHAUL" the "REMARKS" block of DD FORM 1574/1574-1 will be annotated as follows:

* "TSN = ____" (time since new).

** "TSO = ____" (time since overhauled).

Equipment description that the item goes on.

Note 7. Contractors that do not have access to values will obtain the data by contacting the appropriate engine tracking section that has management responsibility for the asset.

Legends: *TSN represents the time accumulated since the asset entered the inventory as new item. Total Operating Time (TOT), Engine Operating Time (EOT), Time Since New (TSN), accrued operating time, and Total Equivalent Cycles (TEC) are synonymous. The preferred term is "TSN" respective to the tracking method used for the item (either hours or cycles).

Table 3-2. Required Entries for Condition Tags/Labels - Continued

	DD FORM 1574/1574-1	DD FORM 1575/1575-1	DD FORM 1576/1576-1	DD FORM 1577/1577-1	DD FPR, 1577-2/1577-3
**TSO represents the time accrued since last overhaul.					
Note 8. For classified components a stamp will be used that states "This item is classified ___ and shall be handled IAW AFI 16-1404 ". For classified components under COMSEC Control (i.e., those using the TSEC nomenclature system) a stamp will be used that states "This item is classified ___ and shall be handled in accordance with AFKAG-1-series". Bold black lettering will be used if no stamp is available. Only the DD Form 15XX attached to the item shall be completed and stamped. The DD Form 15XX attached to the outside of the item's container shall be completed except for the classified stamp. See DoDM 5220.22, Volume 2, <i>National Industrial Security Program: Industrial Security Procedures for Government Activities</i> , or AFI 24-602V2, <i>Cargo Movement</i> , for additional guidance on packaging classified components for shipment.					
Note 9. Enter the inspection due date/overage date. If no inspection is required, enter N/A.					
Note 10. If the DD Form 1574 is for an assembly, the form must be annotated with the applicable TSN and/or TSO data for every embedded time change/life limited item. The data is placed in the "REMARKS" block or if not enough space on the back of the Form. If a computerized product is available that indicates TSN/TSO data for the embedded items in the assembly, then the DD Form 1574 shall be annotated with "see attached data" in the "REMARKS" block of the form and the computer product then attached to the DD Form 1574 that is attached to the assembly.					
Note 11. For time change/life limited components see applicable 00-20 series TO.					
Note 12. When an organization condemns an item whose extended value exceeds \$1,000.00 the organization turning in the item to a DRMO must identify on the DOD Form 1577/1577-1 the reason or authority for condemning the material (e.g., repairs exceeds 75% of unit replacement cost; shelf life expired; condemned by TCTO). Reason/authority for condition coding is a mandatory entry for all condemned items, and shall not be omitted for any reason.					
Note 13. Assets managed in the Class V munitions systems of record do not require a "Next Inspection Due/Overage Date."					

CHAPTER 4

INSPECTION OF REPAIR CYCLE ASSETS

4.1 AUTHORIZED INSPECTORS AND THEIR RESPONSIBILITIES.

Maintenance and materiel management functions shall designate certain representatives to perform duties as inspectors as part of the Air Force quality assurance program. General responsibilities of maintenance and materiel management inspectors are as follows:

4.1.1 Maintenance Inspector Responsibilities. A maintenance inspector is a designated representative of an Air Force organization or activity to perform the following inspection functions (the term maintenance inspector may include quality assurance inspectors/augmentees or designated Maintenance Supervisors):

4.1.1.1 Ensure quality of production with respect to repair, overhaul, modification, local manufacture, or restoration to a serviceable condition of all materiel and equipment at USAF activities according to standards prescribed by higher authority.

4.1.1.2 Determine the final condition of property. The inspector directs condemnation of property when necessary or when directed by higher authority and, when requested, determines the final condition of property received or stored by a materiel management activity. Table 3-1 lists authorized condition tags and describes their use. Table 3-2 describes which blocks on condition tags/labels require entries.

4.1.1.3 Ensure accurate entry of re-inspection dates prescribed by TOs on applicable tags or labels.

4.1.1.4 Maintain or reestablish the identification of materiel restored to a serviceable condition, and establish the identification of articles locally manufactured, as well as those reclaimed or removed from major assemblies/complete assemblies.

4.1.2 Materiel Management Inspector Responsibilities. A materiel management inspector shall perform the following functions:

4.1.2.1 Establish and maintain the final identification and classification of all property received, stored, issued, or shipped.

4.1.2.2 Identify known or suspected damage, deterioration or corrosion during use, storage, or shipment.

4.1.2.3 Ensure accurate entry of re-inspection dates prescribed by TOs on the applicable tags or labels to identify property received, stored, issued, and/or shipped by a supply activity.

4.1.2.4 Accept or reject property received on local purchase orders or contracts requiring inspection and/or acceptance at destination.

4.1.2.5 Determine status of property received, stored, issued, and shipped by a materiel management activity, and direct condemnation of property when prescribed by directives of higher authority.

4.1.2.6 Establish and maintain inspection controls on materiel within the TO compliance category to ensure inspection dates permit the availability of serviceable stock.

4.1.2.7 Verify and/or re-identify property using decal, stickers, or labels to ensure proper identification of assets received or in stock.

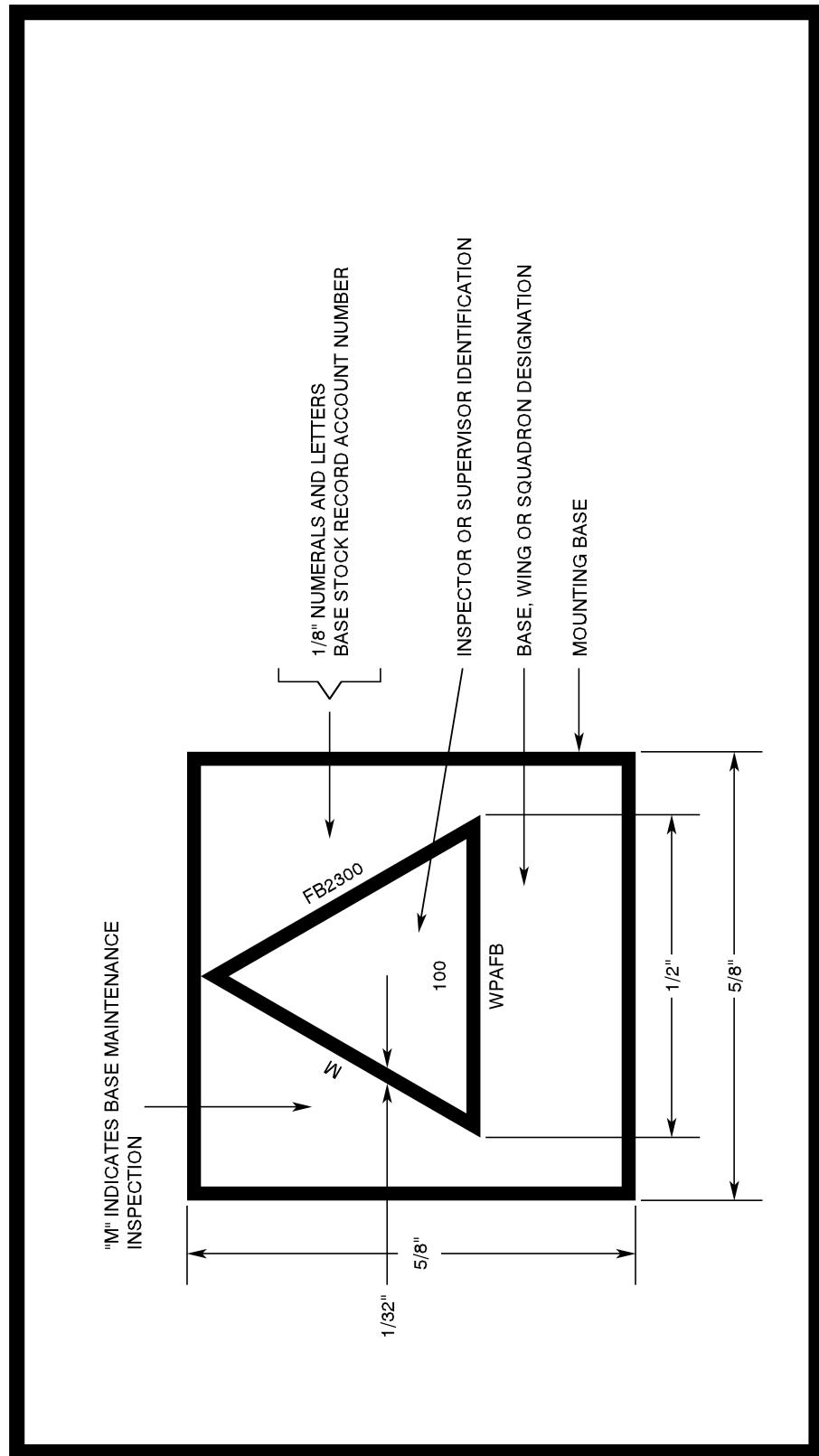
4.2 BASE INSPECTION STAMPS.

Inspection stamps may be used to identify the responsible inspector determining the condition of materiel or equipment. If stamps are not used the inspector will sign the appropriate form. A stamp or signature indicates an authorized inspector reviewed and inspected the item to verify the indicated condition/identity.

4.2.1 MXG/CC Responsibilities. The MXG/CC, or designated representative, is responsible for the issuance and control of maintenance inspection stamps. Inspection stamps used at operating locations will have a standard configuration of an

equilateral triangle as illustrated in Figure 4-1. The recommended size of the triangle is one having 1/2 inch sides. The stamp serial number shall be inside the triangle. Emboss the outside of the triangle with the letter "M" to indicate maintenance activities, the supply account number, and the base, wing, or squadron identification. The recommended size of letters and numerals is 1/8 inch in height. Use of larger or smaller stamps is optional provided the configuration of an equilateral triangle is maintained.

4.2.2 LRC/CC Responsibilities. The LRC/CC may issue materiel management inspectors an inspection stamp in accordance with DAFI 23-101.



G1705894

Figure 4-1. Sample Enlarged Illustration of Base Level Inspection Stamp

CHAPTER 5

MAINTENANCE PROCESSING OF WARRANTY ITEMS

5.1 SPECIAL HANDLING OF WARRANTY ITEMS.

5.1.1 Special Handling and Processing Instructions. Warranties cover certain repair cycle items procured by the Air Force. A sticker, decal, stencil or tag, which specifies conditions of the warranty, identify these items. The warranty shall normally be specified in terms of operating time or calendar period. Items under warranty require special handling and processing in accordance with the following instructions:

5.1.1.1 For unserviceable items identified by a warranty sticker, decal, stencil, or tag, the maintenance technician shall enter "WARRANTY ITEM" in boldfaced on the AFM Form 350, block 15.

5.1.1.2 Process warranty items that fail within the warranty period IAW procedures prescribed in TO 00-35D-54. To preclude voiding of the warranty, do not attempt repair unless specifically authorized in the applicable equipment TO.

5.1.1.3 Process items that fail after expiration of the warranty period under standard reparable processing procedures. If the warranty expired, the operating location or depot activity that accomplishes the repair on such items shall remove the warranty sticker, decal, stencil, or tag to preclude assumptions by the next using activity that the warranty is still in effect.

5.2 ENGINE WARRANTIES.

Basic aircraft engines (AFI 63-101/20-101, *Integrated Life Cycle Management*) overhauled by AFMC depot facilities have a warranty against defects in AFMC workmanship. This warranty covers repairs required after a major overhaul. This program shall cover the first 100 hours of post overhaul operation or one year from the date of receipt by the using activity, whichever occurs first. See Figure 5-1 for a flow chart of the warranty decision process. Units desiring to exercise this warranty shall contact the Propulsion Directorate, AFLCMC/LP, for corrective action. Submit formal reports in accordance with TO 00-35D-54.

5.2.1 Warranty Program Exclusions. The warranty program provisions do not cover the following:

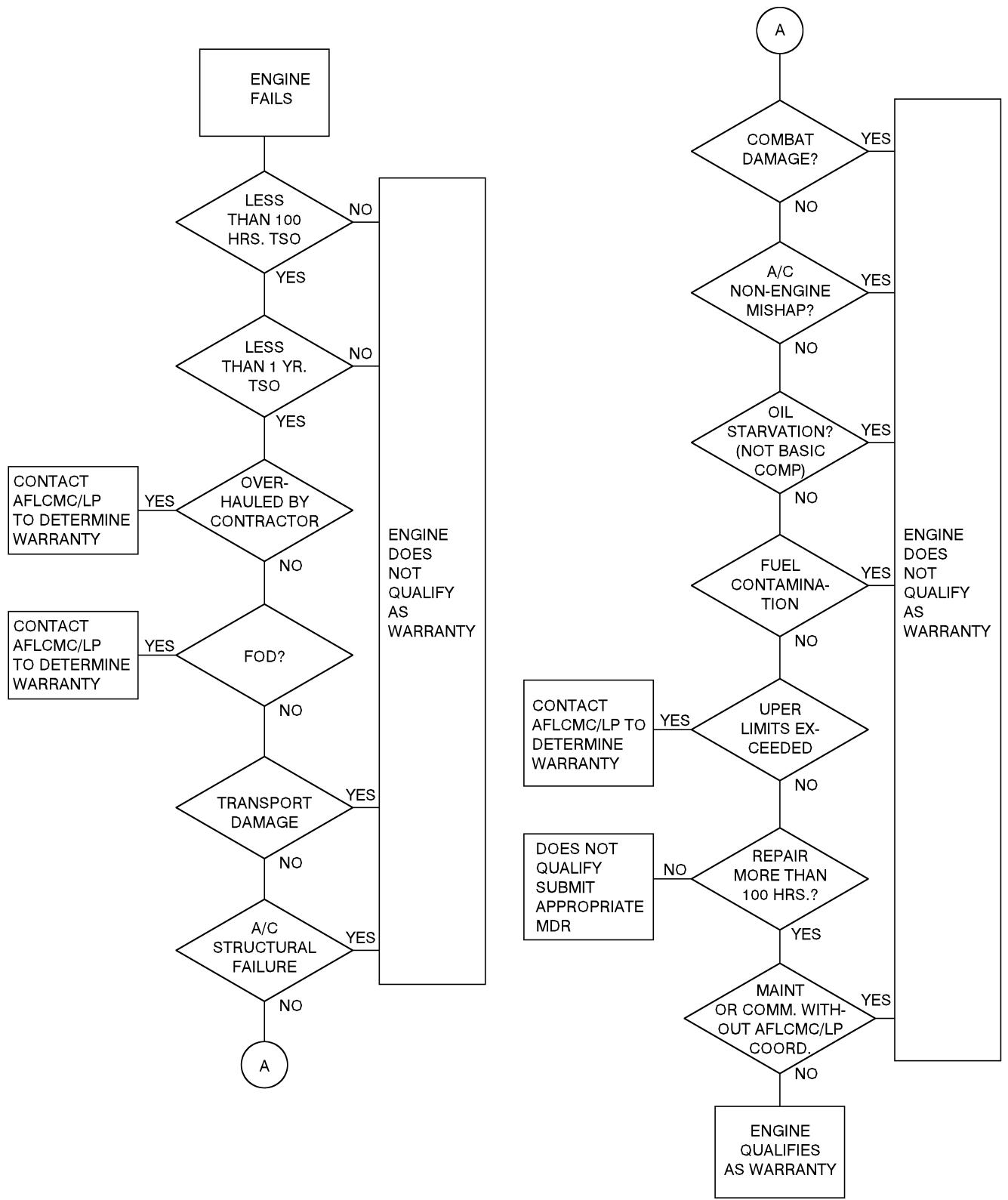
- Auxiliary power units and small gas turbine engines.
- Engine items overhauled for security assistance customers.
- Engines identified in inter-service agreements.
- Engines overhauled under commercial contracts, except as warranted under standard commercial warranty, or as provided by the requirements of FAR 46.7, *Warranties*, and DFARS 246.7, *Warranties*, where such requirements can be met cost effectively.
- Engines requiring less than 100 man-hours to return to a serviceable status.
- Maintenance performed without coordinating with AFLCMC/LP, including removal or substitution of components or accessories. Swapping or exchanging components or accessories hinders problem diagnosis and inflates repair costs.

5.2.2 Engine Damage Additional Exclusions. Also excluded are engines damaged due to the following:

- Foreign Object Damage (FOD).
- Transportation.
- Aircraft structural failure.

TO 00-20-3

- Combat damage.
- Aircraft accidents for which the engine is not the basic cause, but receives secondary damage.
- Oil starvation or engine damage caused by other than basic component malfunctions.
- Fuel contamination or engine damage caused by use of contaminated fuel.
- Operational damage - engine damage caused by any operation beyond perimeters prescribed in operational manuals.



G1705895

Figure 5-1. Flowchart of Warranty Decision Process

CHAPTER 6

BASE REPAIR CAPABILITY, SELF SUFFICIENCY AND AUTHORIZED REPAIR CAPABILITY

6.1 PURPOSE.

This chapter outlines Air Force policies for the repair of items, provides base repair guidelines, and prescribes procedures for computing base repair capability and base self sufficiency. This chapter also provides general guidelines for requesting increases to base level repair capability.

6.2 GENERAL.

The extent of base repair is a joint decision of the using commands and AFMC. MAJCOMs, in conjunction with AFMC, shall actively pursue increases to base repair capability if technical skills are available and increases in equipment authorizations are economically feasible. To preclude possible accidents, materiel damage, or waste, workcenter supervisors must continue to ensure their personnel do not attempt repairs beyond available skill, equipment, and facility capabilities. However, to prevent invalid returns to the depot, take every precaution to ensure the item is NRTS and the discrepancy is accurately identified on the AFTO Form 350.

6.2.1 NRTS Code 1. Use NRTS code 1 when repair is not authorized at base level. NRTS code 1 shall not be used if base level repair capability exists. Also, never use NRTS code 1 for those items assigned a SMR code D or DM (limited field repair/depot overhaul), unless the limit of authorized repair has been reached and the item requires further maintenance prohibited by a TO.

6.2.2 NRTS Code 4, 5, and 8. NRTS codes 4, 5, and 8 require approval from an off-base activity (i.e., the IM for code 4, IM or MAJCOM for code 5, and PM/IM for code 8).

6.2.3 Other Repair Restrictions. For all other repair restrictions, use NRTS action taken codes (2, 3, 6, or 7) best describing why you could not accomplish the repair.

6.3 MEASURING BASE REPAIR CAPABILITY AND BASE SELF SUFFICIENCY.

The Maintenance Data Documentation (MDD) system collects information used to compute base repair capability and base self-sufficiency. They are computed as follows:

6.3.1 Repair Capability. Divide the total number of units repaired (the sum of action taken codes A, F, G, K, L, and Z) by the total number of units repaired plus the total number of units NRTS codes 1 - 9, times 100. Also include items repaired through base level maintenance contracts. While repair capability includes factors which the operating location may not be able to influence, local maintenance managers should use the results to track the effectiveness of total repair capability. In addition, MAJCOM managers should use the information in evaluating programs to increase repair capability across an entire weapon system.

6.3.2 Self Sufficiency. Divide the total number of units repaired (the sum of action taken codes A, F, G, K, L, and Z) by the total number of units repaired plus the number of units reported under NRTS codes 2, 3, 5, and 6 times 100. Items repaired through base level maintenance contracts should also be included. This provides a measure to determine how well units are repairing those items they have the authority to repair and some influence over.

6.4 BASE REPAIR GUIDELINES.

Managers should use the following NRTS guidelines to help improve maintenance efficiency and effectiveness, and increase base repair capability and self sufficiency.

6.4.1 NRTS Code 0. Repair not authorized, item under warranty.

6.4.2 NRTS Code 1. Repair not authorized:

- Use NRTS code 1 only for items having repair restrictions in the equipment TO.
- Ensure the possibility of requesting base level repair authorization is pursued where feasible.
- Explore the possibility of other local units having repair authorization.

6.4.3 NRTS Code 2. Lack of equipment, tools or facilities:

- Do not repetitively NRTS the same items without exploring tools or equipment acquisition.
- Give the equipment causing NRTS conditions the highest priority for test, inspection, calibration or repair.
- Explore the use of alternate organizational equipment or facilities, or lateral equipment resources prior to taking NRTS action.

6.4.4 NRTS Code 3. Lack of technical skills:

- Investigate the availability of skills in other work centers.
- Explore local training capabilities.
- Notify higher headquarters of skill problems and schedule and/or request Field Training Detachment (FTD) training.
- Request TO 00-25-107, *Depot-Level Assistance*, if appropriate.

6.4.5 NRTS Code 4. Lack of parts:

- Document unacceptable delivery dates and follow up. Use NRTS code 4 only with approval of the IM.
- Pursue effective use of local purchase options.
- Explore lateral support.
- Submit AF Form 1996 to obtain adjusted stock levels if appropriate.

6.4.6 NRTS Code 5. Shop backlog:

- Distribute manpower among shifts according to workload.
- Obtain assistance from within the maintenance complex or command prior to NRTS actions.
- Attempt to transfer repair to another lateral organization.
- Only use NRTS code 5 after MAJCOM or IM disapproval of a formal request to defer maintenance.
- Identify high man-hour consumer components through maintenance documentation to item managers to initiate reliability improvement modifications.

6.4.7 NRTS Code 6. Lack of technical data:

- Ensure valid TO requisitions and aggressive follow up actions are taken.
- Contact higher headquarters and/or the appropriate equipment technician in AFMC as an alternate source prior to NRTS action.

- If approved by the IM, develop local checklists for use as outlined in 00-5-series TOs in the event Air Force TOs do not exist.

6.4.8 NRTS Code 7. Lack of resources. (The repair is authorized by the -6 maintenance TO but not accomplished due to the lack of authority to possess or obtain resources.)

6.4.9 NRTS Code 8. Directed by System Manager or IM:

- Ensure that the System Manager or IM actually directed return of assets.
- Do not use NRTS code 8 to mask conditions more accurately depicted by NRTS codes 2 thru 7.

6.4.10 NRTS Code 9. Condemned:

- If XD, ensure unit cost is less than \$1000 and condemnation is supported by an economic repair determination (prior to NRTS code change the IM/PM may waive on a case by case basis).
- If XF, ensure condemnation is supported by an economic repair determination.
- Do not use NRTS code 9 if NRTS codes 2 thru 7 more accurately depict the item condition.
- Ensure every effort has been made to repair the item.

6.5 REQUEST FOR INCREASING BASE REPAIR AUTHORIZATION.

When maintenance managers determine there should be authorized base level repair for an item, they may take one of the following actions:

6.5.1 Items For Repair Not Authorized by SMR Code. Submit repair change request using an RC through ETIMS IAW TO 00-25-195 for authority to repair items not currently authorized by SMR code for repair at base level. MAJCOMS review these requests in light of command-wide base repair capabilities. MAJCOMS shall submit approved requests to the appropriate Center for further action. The Center shall make the final determination to approve or disapprove base repair of an item. The Center evaluation, although not limited to the following, should address tools, test equipment, TO requirements, and spare parts provisioning requirements to provide the capability to perform the new repair suggested.

6.5.2 Items For Repair in Equipment TO. Submit an RC through ETIMS IAW TO 00-5-1 to request review of the repair restrictions in equipment TOs. The RC would only be used in instances where there is no SMR code assigned or the SMR code already authorizes repair. Table 6-1 provides additional guidance on the proper form to submit to request increases to base repair authorization.

6.5.3 Local Capability For Restricted Repairs. Units will not take action to obtain additional manpower, facilities, test equipment, support equipment or special tools in order to develop local capability to perform restricted repairs without MAJCOM approval.

6.5.4 Repair Restrictions Waiver Letters. In unique situations, individual units may request waivers to repair restrictions in equipment TOs if a local repair capability exists. The waiver request letter will be validated by unit quality assurance and signed by the applicable Group Commanders or authority identified by MAJCOM guidance. As a minimum, the letter shall include information explaining the units repair capability, i.e., availability of tools, parts, test equipment and skill level to include justification. The unit will then coordinate the waiver request letter to the appropriate PM for final determination. The PM will ensure that in cases where a waiver is granted, required parts can be ordered by, and are releasable to, the unit making the repair. The approved unit will submit a local supplement for the equipment TO IAW TO 00-5-1, which will list the new SMR code and any other technical data, required to perform the authorized repair. The waiver shall only be good for 1 year from the PM's approval date and will have to be revalidated annually. If waiver renewal is not approved, then the local TO supplement shall be subsequently rescinded. Refer to Table 6-2.

Table 6-1. How to Process Requests to Increase Base Level Repair Authority

If the Unit Wants to	When the SMR Code	And the Equipment TO	Then Submit
Increase repair authority	Restricts repair	Restricts repair	An RC
		Does not restrict repair	
	Does not restrict repair	Restricts repair	An RC
Is not published			
If an individual unit wants to request a waiver to increase repair authority	Restricts repair	Restricts repair	An RC

Table 6-2. When to Use Not Repairable This Station (NRTS) Codes

RULE	A	B
	If an asset is a DIFM item and repair cannot be completed due to	then assign action taken code
	NOTE Every effort must be made to repair XF items prior to making a NRTS decision.	
1	Bench checked/NRTS. Repair not authorized. Shop is not authorized to accomplish the repair. This code shall be used only when the repair required to return an item to serviceable status is specifically prohibited by current technical directives. This code shall not be used to lack of authority for equipment, tools, facilities, skills, parts or technical data. The AFTO Form 350, block 15, shall include reference to the authority for NRTS declaration.	1
2	Bench checked/NRTS-lack of equipment, tools or facilities. Repair not prohibited but cannot be accomplished because authorized equipment, tools, or facilities are not available. The AFTO Form 350, block 15, shall identify the resource that is lacking.	2
3	Bench checked/NRTS-lack of technical skills. Repair cannot be accomplished due to lack of technically qualified people. The AFTO Form 350, block 15, shall identify the resource that is lacking.	3
4	See Chapter 3, Paragraph 3.3.4	4
5	Bench checked/NRTS-shop backlog. Repair cannot be accomplished due to excessive shop backlog.	5
	NOTE Only use NRTS code 5 after MAJCOM or IM disapproval of a Formal request to defer maintenance.	
6	Bench checked/NRTS-lack of technical data. Repair cannot be accomplished due to lack of maintenance manuals, drawings, etc., which describe detailed repair procedures and requirements. The AFTO Form 350, block 15, shall identify the resource that is lacking.	6
7	Bench checked/NRTS-lack of equipment, tools, facilities, skills, parts or technical data. Repair authorized but cannot be accomplished due to lack of authorization to obtain or possess required equipment, tools, facilities, skills, parts or technical data.	7

Table 6-2. When to Use Not Repairable This Station (NRTS) Codes - Continued

RULE	A	B
	If an asset is a DIFM item and repair cannot be completed due to	then assign action taken code
8	Bench checked-return to depots. Return to depots by direction of PM or IM. Use only when items that are authorized for repair at the operating location are directed to be returned to depot facilities by specific written or verbal communication from the IM or PM, or when items are to be returned to depot facilities for modification in accordance with a TCTO, or as Deficiency Report (DR) exhibits. The AFTO Form 350, block 15, shall be annotated to identify the name of the individual IM/PM who verbally authorized the return or other media of authorization (including phone number, if applicable).	
9	Bench checked-condemned. Item cannot be repaired and is to be processed for condemnation, reclamation or salvage. This code shall also be used when a "condemned" condition is discovered during field maintenance disassembly or repair.	9
10	Bench checked-NRTS-warranty item: repair not authorized, item under warranty.	0

