

AECMA

ASSOCIATION EUROPEENNE DES CONSTRUCTEURS DE MATERIEL AEROSPATIAL

Technopolis : 175, rue Jean-Jacques Rousseau - 92138 ISSY-les-MOULINEAUX Cedex
Téléphone : (1) 47.36.98.76 - Télécopie : (1) 47.36.83.04 - Télex : 634287F AECMA

AECMA - EEPSC EQUIPMENT WARRANTIES CURRENT PRACTICES AND TRENDS

EEPSC/91 - 23108

Issue : October '91

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Page : 1 of 17

TABLE OF CONTENTS

1.	INTRODUCTION.....	4
2.	WARRANTIES IN THE MILITARY ARENA.....	4
2.1.	BACKGROUND.....	4
2.2.	APPROACH.....	5
2.3.	RELIABILITY.....	6
2.4.	REPAIR TURN ROUND TIME.....	7
2.5.	MAINTENANCE PER FLYING HOUR.....	8
2.6.	NORMAL OPERATING ENVELOPE AND MAINTENANCE STANDARDS....	9
2.7.	USER TRAINING.....	9
2.8.	GROUND EQUIPMENT - FIXED INSTALLATION.....	9
2.9.	SOFTWARE WARRANTY.....	9
2.10	CONCLUSIONS.....	9
3.	WARRANTIES IN THE CIVIL ARENA.....	10
3.1.	BACKGROUND.....	10
3.2.	APPROACH.....	11
3.3.	RELIABILITY.....	11
3.4	REPAIR TURN ROUND TIME.....	12
3.5.	MAINTENANCE PER FLYING HOUR.....	13
3.5.1.	FULL MAINTENANCE PER FLYING HOUR.....	13
3.5.2.	SPECIAL GUARANTEES.....	13
3.6.	THIRD PARTY WARRANTY WORK.....	14
3.7.	INTEGRATED FLEETS.....	15
3.8.	BLOCK WARRANTY.....	16
3.9.	CONCLUSIONS.....	17

GLOSSARY OF TERMS

AOG : Aircraft On Ground

BIT : Built-In Test

CUSTOMER/PURCHASER: Aircraft Manufacturer

IP: Initial Provisioning

LCC : Life Cycle Cost

LRU: Line Replaceable Unit

MTBF: Mean Time Between Failure

NFF : No Fault Found

OE: Original Equipment

OPERATOR: Civil Air Line

RTRT: Repair Turn Round Time

STTE: Special-to-Type Test Equipment

TBO : Time Between Overhaul

TE: Test equipment

TPA: Third Party Airline

USER: Air Force

1. INTRODUCTION

Scope of this paper is intended to deal with the current practices and trends of the equipment warranties considering both Military and Civil arenas.

The customer/operator is attempting to move the supplier into longer term commitment to the product, i.e. "Long Term Warranties".

In addition, this document has the purpose to give some indications and recommendations for different types of warranty applicable to a programme, highlighting the technical-commercial implications the required warranty could involve.

Finally the implications and problems of administering warranties in which the work is carried out by the civil customer on his own equipment and that of other operators (Third Parties) is discussed.

Since there are distinct differences between the two sectors on the basis of current practice, future trends affecting one sector have been conceivably confined to that sector.

Definitions of new terms are inside the paper where appropriate.

2. WARRANTIES IN THE MILITARY ARENA

2.1. BACKGROUND

While the purpose of warranties has not changed, the use and scope of warranties has had to change because of the urgent need for greater contractor involvement in logistic management.

In other words, if before the aircraft manufacturer was addressed to keep the direct responsibility for the Logistic Support as to his Customer (User), today he has the intention of greatly and directly involving the Supplier by applying or transferring to him the same severe and hazardous conditions the User dictates to him often without a suitable economic return.

As a result of this change, warranties have increased in duration and complexity, requiring a much greater commitment from Suppliers as well as more intense management by the Customers.

The US Army warranty regulation, AR 700-139, states that the warranty duration ".....should be between 10 and 25 percent of the expected life (of the system) and generally not less than 1 calendar year".

Normally, such conditions apply to equipment considered as "ON CONDITION". At present, the Customers/Users are inclined to eliminate as much as possible systems subject of TBO and scheduled maintenance.

Customers are using long term warranties because they can be an effective acquisition and logistic management tool to foster quality performance.

The equipment Supplier's responsibility for the performance of his product has been extended for a specific period of time after delivery.

2.2. APPROACH

New trend warranties are best characterized as programmatic.

A programmatic warranty is one whose performance requirements contain not only technical requirements for hardware, but program management and logistic requirements as well.

Logistic requirements include detailed Reliability, Availability and Maintainability (RAM), Repair Turn Round Time (RTRT), Supply Availability Rates, Configuration Management (warranty of data), Special-to-Type Test Equipment (STTE), Technical Publications, Training and Software.

With the Customer committed to Supplier support, logistic goals must be translated into requirements for a Supplier to meet.

New trend warranties simply help to state these requirements in enforceable terms and delineate the costs/benefits associated with achieving, exceeding, or failing to meet certain performance requirements.

These requirements must be realistic and measurable. Once the requirements have been determined, incentives can be created for exceptional performance and penalties can be created for substandard performance.

Some specific examples of logistic areas that can be warranted and incentivized will follow.