XMM Optical Monitor

MULLARD SPACE SCIENCE LABORATORY
UNIVERSITY COLLEGE LONDON **Author: A P Dibbens**

ASSEMBLY, INTEGRATION AND VERIFICATION PLAN FOR EOB-2

DOCUMENT: XMM-OM/MSSL/SP/0051.03 29 September 1995

CHANGE RECORD

ISSUE	DATE	PAGES CHANGED	COMMENTS
01	27 September 1994	All New	
02	29 March 1995	2, 3, 5, 8, 13,	CSL changed to MSSL/OG, CSL changes to OG some configuration document numbers added
03	29 September 1995	Many changes	Document changed to reflect the deletion of the Red Detector and the Telescope(for the EOB-2)

CONTENTS

1. INTRODUCTION

This document describes the integration and verification(AIV) processes for the EOB-2 Model of the Optical Monitor.

2. OBJECTIVE

It is the purpose of this procedure to identify and to document the integration and test procedures for the Optical Monitor. This document presents the overview for the EOB-2 Model. The details for each sub assembly will be issued as separate documents.

Wherever possible, common test equipment and philosophies will be used for alignment, calibration and acceptance testing.

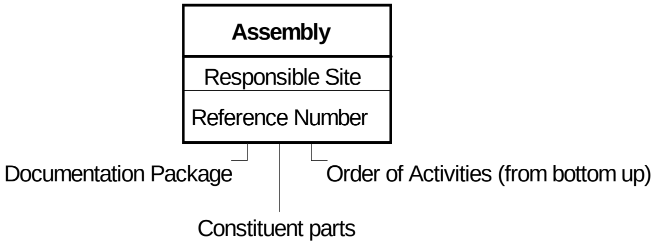
3. REFERENCE DOCUMENTS

XMM-OM/MSSL/AD/0016	XMM-OM Schedules
XMM-OM/MSSL/NT/0012	XMM-OM Model Philosophy and Build Standards
XMM-OM/MSSL/SP/0027	XMM-OM Cleanliness Control Plan
XMM-OM/MSSL/SP/0031	XMM-OM Product Assurance Plan

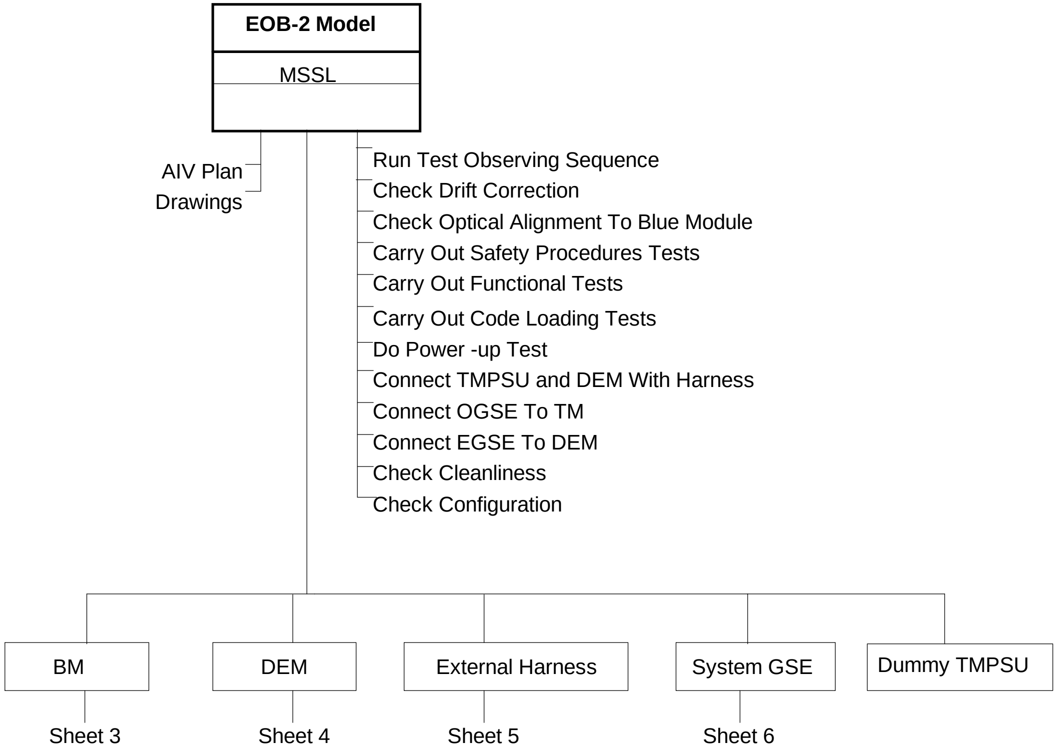
4. PROCEDURE OVERVIEW

The overall relationships, together with the assembly and test processes, are shown in the following 7 sheets:-

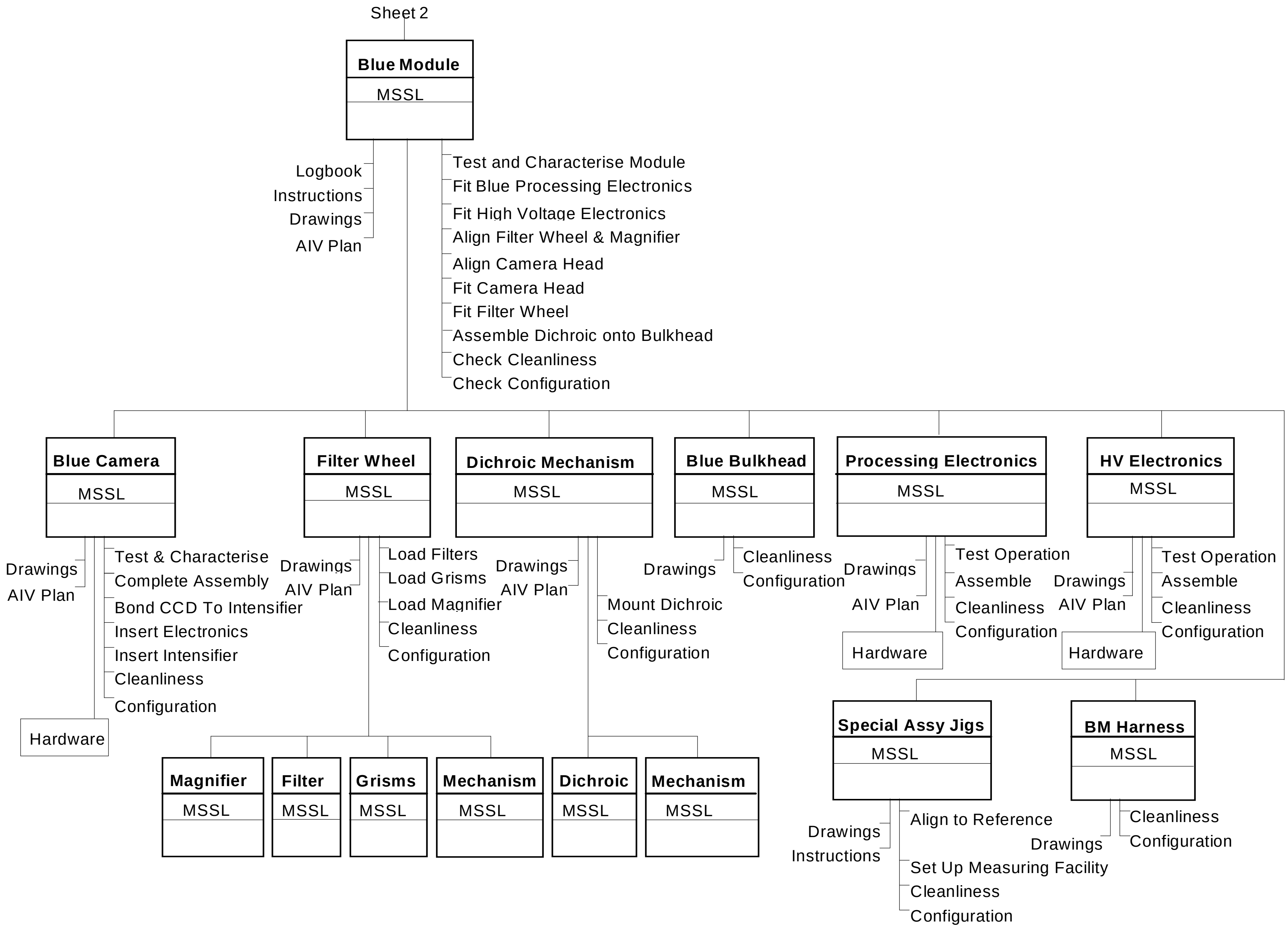
LEGEND



Sheet 1


EOB-2 Model
MSSL
AIV Plan
Drawings
Run Test Observing Sequence
Check Drift Correction
Check Optical Alignment To Blue Module
Carry Out Safety Procedures Tests
Carry Out Functional Tests
Carry Out Code Loading Tests
Do Power -up Test
Connect TMPSU and DEM With Harness
Connect OGSE To TM
Connect EGSE To DEM
Check Cleanliness
Check Configuration
BM
DEM
External Harness
System GSE
Dummy TMPSU
Sheet 3
Sheet 4
Sheet 5
Sheet 6

Sheet 2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Blue Module
MSSL
Logbook
Instructions
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Test and Characterise Module
Fit Blue Processing Electronics
Fit High Voltage Electronics
Align Filter Wheel & Magnifier
Align Camera Head
Fit Camera Head
Fit Filter Wheel
Assemble Dichroic onto Bulkhead
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Bond CCD To Intensifier
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Insert Intensifier
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Filter
MSSL
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MSSL
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Dichroic
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Mechanism
MSSL
Blue Bulkhead
MSSL
Drawings
Cleanliness
Configuration
Processing Electronics
MSSL
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AIV Plan
Test Operation
Assemble
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Cleanliness
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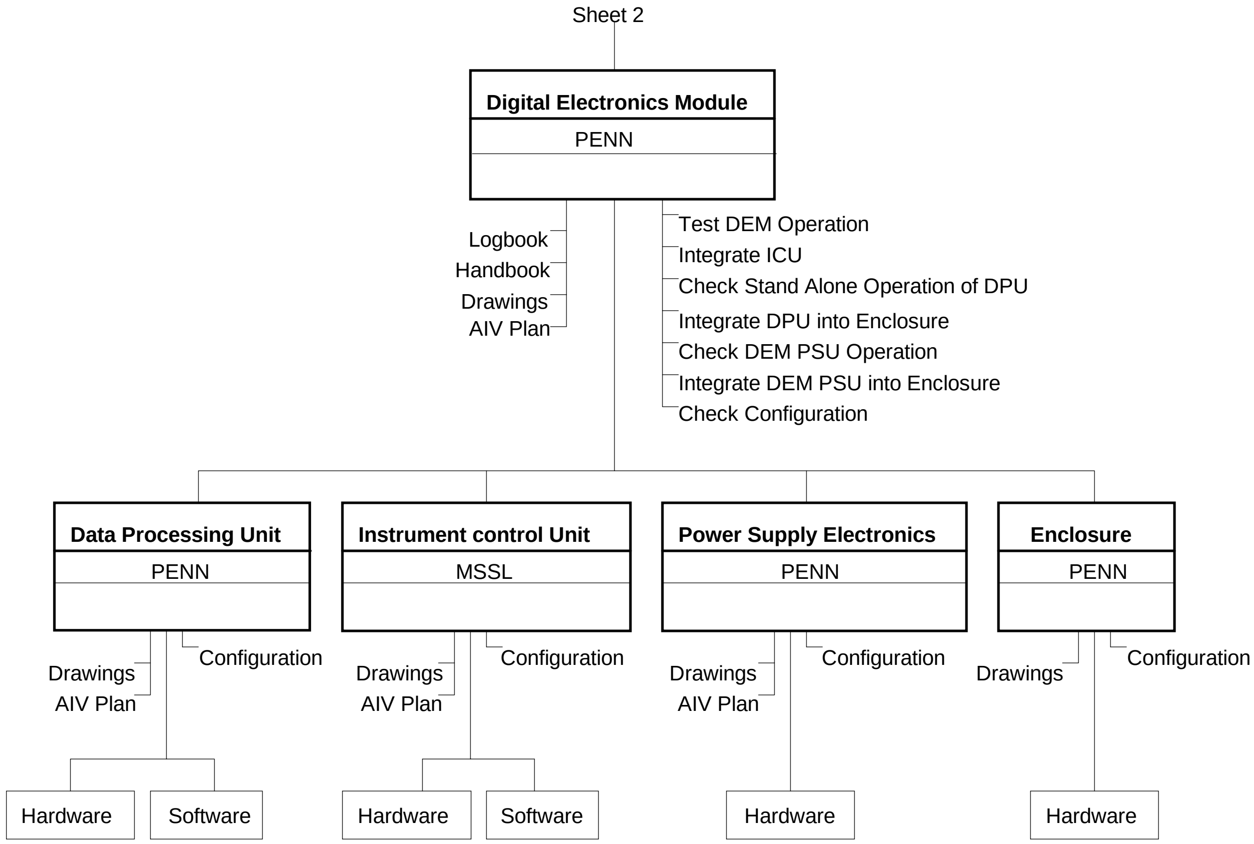
Hardware
Special Assy Jigs
MSSL
Drawings
Instructions
Align to Reference
Set Up Measuring Facility
Cleanliness
Configuration
BM Harness
MSSL
Drawings
Cleanliness
Configuration

Sheet 3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Digital Electronics Module
PENN
Logbook
Handbook
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Test DEM Operation
Integrate ICU
Check Stand Alone Operation of DPU
Integrate DPU into Enclosure
Check DEM PSU Operation
Integrate DEM PSU into Enclosure
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PENN
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MSSL
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Hardware
Software
Power Supply Electronics
PENN
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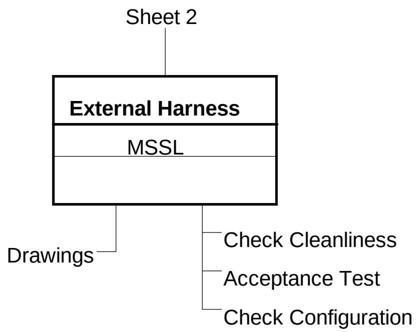
PENN
Drawings
Configuration
Hardware

Sheet 4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External Harness
MSSL
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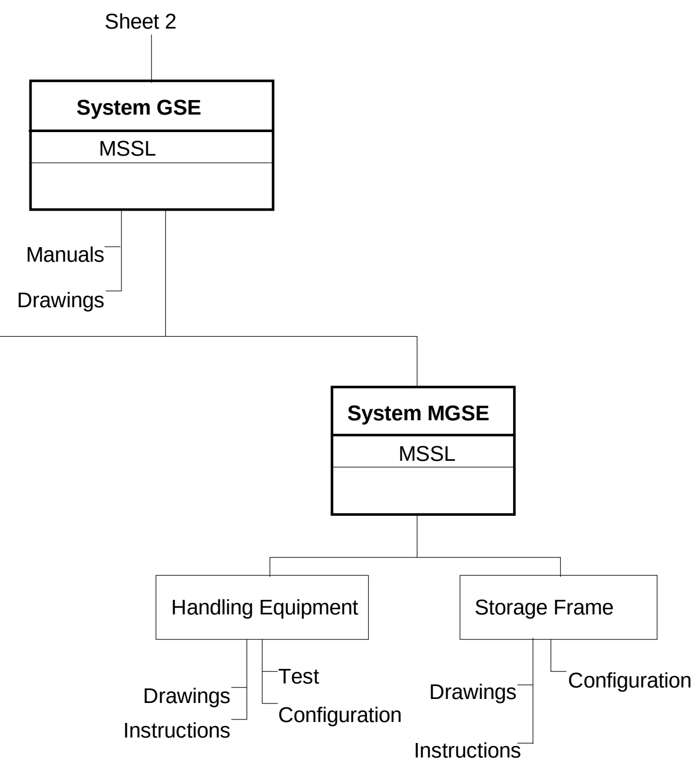
Check Cleanliness
Acceptance Test
Check Configuration

Sheet 5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System EGSE
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Sheet 7
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Handling Equipment
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Instructions
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Sheet 6

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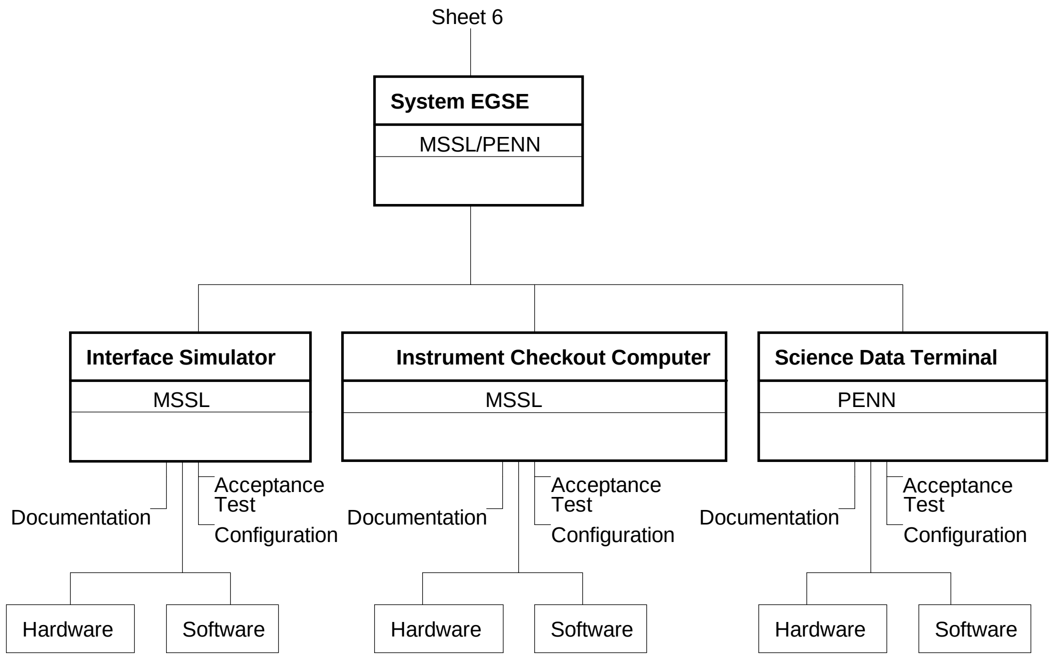
Sheet 6
System EGSE
MSSL/PENN
Interface Simulator
MSSL
Instrument Checkout Computer
MSSL
Science Data Terminal
PENN
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Acceptance Test
Configuration
Documentation
Acceptance Test
Configuration
Documentation
Acceptance Test
Configuration
Hardware
Software
Hardware
Software
Hardware
Software

Sheet 7

5. DETAILED PROCEDURES

These procedures are identified on an individual sub assembly basis The relationships of the sub assemblies can be reviewed through the family tree structure shown in par 4.

The individual procedures are published as separate documents.

6. SCHEDULES

The detailed schedules for AIV are shown in the Programme Master Schedule XMM-OM/MSSL/AD/0016.

7. Q.A. ACTIVITIES

Drawings used for the assembly and testing processes must be to the latest issue.

The cleanliness levels for the processes shall be included on the assembly drawings. These must be checked and adhered to.

Any piece of measuring equipment that requires calibration must be within its calibration date.

A test readiness review shall be held before any formal qualification or acceptance tests are conducted.

Equipment log books must be started for all operations and tests, starting with the final inspection of the hardware after the manufacturing/assembly phase.

NCR's will be raised as necessary during AIV and will be actioned as described in the XMM-OM Product Assurance Plan, XMM-OM/MSSL/SP/0031.