OM3 STRUCTURAL THERMAL MODEL HANDLING, CLEANING AND STORAGE

1. Introduction

The OM3 STM consists of one cable harness to interconnect OM1 and OM2. The wire is fully vacuum compatible as are the Positronic connectors that are employed.
These procedures relate only to the STM. A separate document will be issued for the EQM and FM. The harness does not need ESD protection.

2. Packing

The OM3 STM is double bagged in clean-room standard polythene packaging and positioned in its individual custom transport container.

3. Handling

The OM3 STM is clean and must be handled using approved clean room gloves.
The OM3 STM contains no active electronics and therefore does not require any special ESD precautions.
From the mechanical point of view, the STMs should be handled exactly as demanded by flight hardware, including the following precautions:

3.1 Connector covers should remain on the OM3 STM at all times when it is not in use.

3.2 Before cable installation for any operation or fit check, all connectors, both on the OM3 STM and on the mating connectors, should be visually inspected for damaged pins/sockets. It is recommended that all connectors be blown out with dry nitrogen before engagement. Before engagement, check the condition of screw-locks and jack-posts and after engagement, tighten the screw-locks to the specified torque of 0.4Nm, (NB only stainless steel screw-locks and jack-posts are approved for use on the XMM Project).

4. Cleaning

After testing and prior to delivery, the OM3 STM will be ultrasonically cleaned. The protective covers will be removed for this operation and cleaned separately using either iso propyl or ethyl alcohol (reagent grade or better).
After cleaning, the OM3 STM will be vacuum baked at 80 °C at $<10^{-5}$ mbar for a minimum of 48 hours. (NB Harnesses can outgas a lot and may require more than 48 hours. The level of outgassing can be monitored by the measured vacuum).
The cleaned covers will then be refitted. The OM3 STM will then be double bagged in clean-room bags, with the inner bag purged with dry nitrogen.
In the event that further cleaning becomes necessary, use only a vacuum cleaner.
Particulate matter may be removed using ionised filtered air or dry nitrogen.

5. Storage

When not in use, it is recommended that the OM3 STM be double bagged in clean-room bags, and fitted into its transport container.

6. Installation

To install the OM3 on the MSP:

1. First roughly place the two heat shrunk loops over the web element 3 and one heat shrunk loop over web element 2.
2. Connect P42,P43,P45 and P46.
3. Lace the three loops to the webs in the correct positions(all tie points must have a protective heat shrink area.)
4. Connect OM2 prime and redundant P01,P02 and P04 sub D connectors and tie harness to the three securing points on the OM2's.
5. Secure the rest of harness to the remaining tie points.

CHANGE RECORD

ISSUE	DATE	PAGES CHANGED	COMMENTS
01	15 April 1997	All New	
02	24 April 1997	All	Modifications requested by ESA
03	13 May 1997	All	Change to Cleaning Procedure (par 4)

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XMM Optical Monitor

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