OM1 ENGINEERING MODEL HANDLING, CLEANING AND STORAGE

1. Introduction

The OM1 EM is electrically and functionally representative of the flight model . It is suitable for EMC tests but is not designed for thermal vacuum or vibration tests. The EM does not contain any optical element, telescope or baffle.
These procedures relate only to the EM. A separate document will be issued for the FM.

2. Unpacking

The lid of the transport container is removed by releasing the four clamps and then carefully lifting it, by its handles, vertically up and over the OM1EM.
The OM1 EM is attached to the base of its transport container by six M12 bolts. These need to be removed before the OM1 can be lifted out of its container.
To lift the OM1 out of its container, the three cables (packed separately) must be attached to the three eye bolts located on the rear of the interface flange, using the shackles provided. Each cable must then be located in one of the three grooves in the cable guide plate(A1/5255/930) and held in place with tie wraps. The other ends of the three cables can then be joined together, using the fourth shackle, to form a single lifting point, which can then be attached to a crane.

Note:

1. It is essential that the three cables are located in the three grooves on the cable guide plate to prevent the OM1 EM toppling over.
2. The mass of the OM1 EM is approximately 30kg.
3. The OM1 EM must NOT be lifted by hand using the cable guide plate.

3. Packing

The OM1 EM must be lifted and placed onto the base of the transport container using the cable guide plate and cables as described in paragraph 2. The six M12 bolts must then be fitted to attach it to the container base. The lid is then fitted and secured with the four clamps.

4. Handling

The OM1 EM is not classified as “clean” and is operated in an environment nominally identified as Class 100,000. It is recommended that the unit is kept vertical.

The OM1 EM contains STATIC SENSITIVE electronic assemblies. The model requires the full use of ESD (Electro-Static Discharge) precautionary measures. The unit should only be handled/operated by personnel trained in ESD procedures.

From the mechanical point of view, the EM should be handled exactly as demanded by flight hardware, including the following precautions:

3.1 Connector covers should remain on the OM1 EM 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 OM1 EM and on the mating connectors, should be visually inspected for damaged pins/sockets. 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).

5. Cleaning

Particulate matter should be removed using an appropriate vacuum cleaner. Finger marks, or any other molecular contamination should be removed usingiso-propyl alcohol or ethyl alcohol and a clean room lint-free cloth.

6. Storage

When not in use, it is recommended that the OM1 EM be kept in its transport container.

CHANGE RECORD

ISSUE	DATE	PAGES CHANGED	COMMENTS
01	6 June 1997	All New	
02	18 July 1997	All	Inclusion of cleaning technique

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XMM Optical Monitor

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