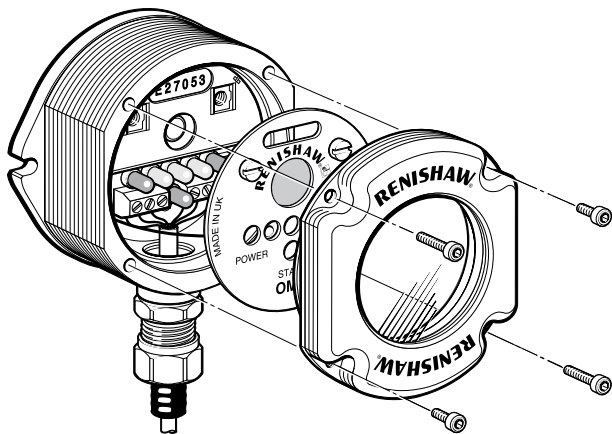


OMM and OMME



Fitting a new printed circuit board to a
Renishaw Optical Module Machine

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Renishaw part no: H-2000-4042-03-A

Issued: 02.2009

Introduction

The repair instructions contained within this publication provide detailed, step-by-step instructions for replacing a defective printed circuit board (PCB) contained within the following range of Renishaw Optical Module Machines:

Product description	Part number
OMM	A-2033-0576
OMME	A-2033-7268

Prior to carrying out the instructions contained within this publication, it is important to ensure that you have the correct PCB assembly kit for your product as listed below:

Product description	Part number of PCB assembly kit
OMM	A-2031-0043
OMME	A-2031-0201



WARNING: Prior to carrying out the procedures detailed in this publication, it is important to ensure that you switch off the power to the OMM.

Replacing the defective PCB

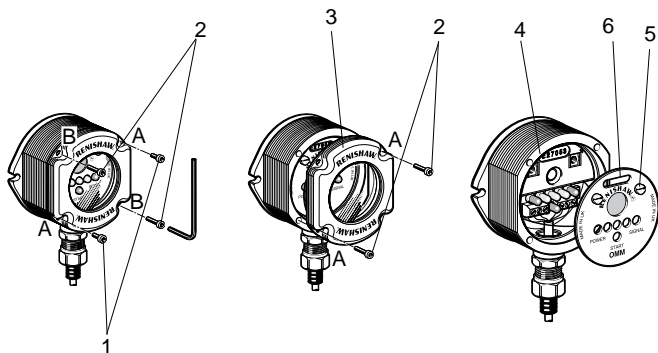
Removing the window and label from the OMM



CAUTION: The following procedures must be carried out in a clean environment. Do not allow liquids or solid particles to enter the OMM body. Never remove the window by twisting or rotating by hand. Always use the jacking screws provided.

To remove the window and label from the OMM, carry out the following (see Figure 1):

1. Using a 2.5 mm AF allen key, release and remove the two short screws [1] and the two long screws [2] securing the window [3] to the OMM body [4].
2. Re-insert the two long screws [2] into the two threaded holes A.
3. Tighten, in turn, the two long screws [2] to evenly and carefully jack the window [3] from the OMM body [4]. Gently remove the window from the OMM body.
4. Release the label [6] from the OMM body [4] by turning the two quick release screws [5] a quarter turn counterclockwise. Carefully lift the label from the OMM body to gain access to the defective PCB.



1. Screw (short) (2 off)
2. Screw (long) (2 off)
3. Window
4. OMM body
5. Quick release screw (2 off)
6. Label

Figure 1 – Removal of the OMM window and label

Replacing the defective PCB within the OMM body

To replace the defective PCB within the OMM body, carry out the following (see Figures 2 and 3):

1. Disconnect the wires from the terminal block.
2. Pull gently on the wire handle attached to the PCB and carefully remove the PCB from the OMM body.
3. Referring to Figure 3, note the switch settings of the OMM range selection switch on the PCB so that these can be duplicated when fitting the new, replacement PCB.
4. Referring to Figure 2, carefully inspect the PCB supports for signs of damage; if damage is evident then return the complete OMM to Renishaw for repair.
5. Obtain the relevant PCB assembly kit for the type of OMM on which you are carrying out the repair:

Product description	Part number of PCB assembly kit
OMM	A-2031-0043
OMME	A-2031-0201

6. If necessary, adjust the settings of the OMM range selection switch to those noted during step 3.
7. Carefully assemble the new PCB to the OMM body and, referring to Figure 2, connect the wires to the terminal block of the new PCB. Torque-tighten each terminal block screw to between 0.25 Nm and 0.4 Nm (0.18 lbf.in. and 0.29 lbf.in.).

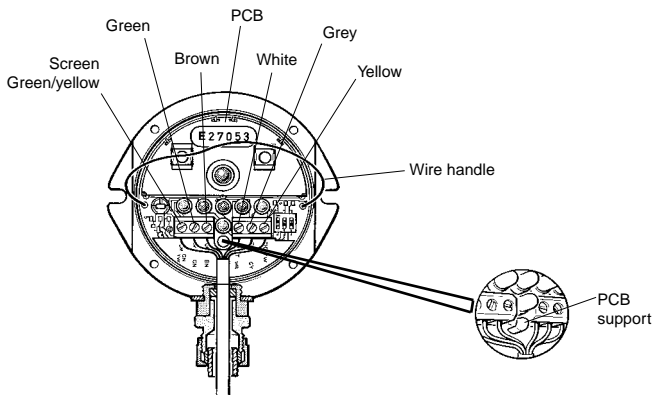


Figure 2 – Replacing the OMM printed circuit board

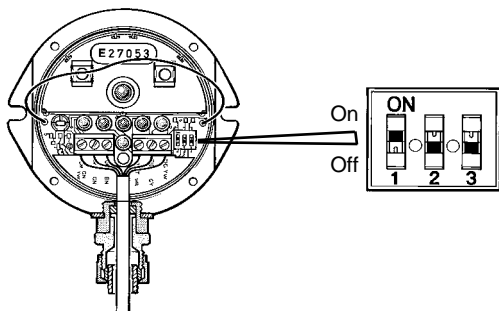


Figure 3 – OMM range selection switch

Replacing the OMM label and window

To replace the OMM label and window, carry out the following (see Figure 4):

1. Refer to View A and assemble the new label [1] supplied and secure with the two quick release screws [2]. Rotate the screws a quarter turn clockwise to hold the label in place.
2. Remove the existing 'O' ring [5] and visually examine the OMM body [3] for damage or scratching to the 'O' ring location groove as shown in View A. If no damage is found, then fit the new 'O' ring supplied.
3. Visually examine the window [4] and 'O' ring [5] for cleanliness as shown in View B. Also ensure that both the window and 'O' ring are undamaged.
4. Refer to View C and insert the two short screws [6] into the two threaded holes A in the window [4]. Tighten the two screws to 0.3 Nm to 0.5 Nm (0.22 lbf.ft to 0.37 lbf.ft).
5. Lightly smear the 'O' ring [5] with silicone grease and assemble the window [4] to the OMM body [3].
6. Insert the two long screws [7] into the two plain holes B. Tighten each screw a few turns at a time to gradually pull the window [4] evenly against the OMM body [3]. There may be some resistance due to the compression of air trapped inside the OMM body.
7. Tighten the screws [7] in turn, to pull the window [4] evenly into the body of the OMM. Finally tighten the screws to 0.9 Nm to 1.1 Nm (0.66 lbf.ft to 0.81 lbf.ft).

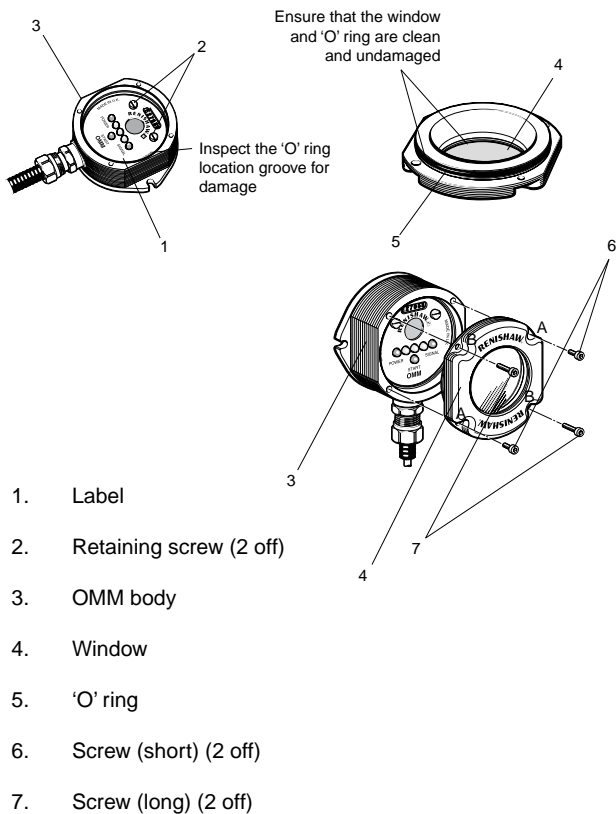


Figure 4 – Replacing the OMM label and window

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