



Cleaning the PCD beam blanker plates

No routine maintenance is necessary but after many hours continuous use especially at higher kV contamination may occur on the plates, which could result in charging and cause reduction in image quality. The plates can be removed and cleaned by a competent engineer.

Always switch off the blanker power and remove the connection cables when handling the blanker, the power to the plates is not short circuit protected, if you short out the plates to ground you will destroy the plate driver transistors so take extreme care.

Do not put the plastic (PEAK) insulators in solvent to clean them because they will melt.

After switching off power and removing the cables the head unit can be removed from the column.

Depending on the plates fitted you need to follow a different procedure:

Tungsten plates



Older systems have tungsten plates which are a silver colour, the beam path is shown with an arrow above.

Remove the plates taking note of the spacer locations, you need to re-assemble using the same spacers in the same location as these spacers have been chosen to align the plates square with each other.

Remove the red and black wires noting orientation.

Carefully polish the area at the end of the plates with a fine metal polish where the beam passes through as shown with the arrow above. Then clean with IPA in an ultra-sonic bath ensuring that no polish or solvent residues remain.

Now paint both of the plates with carbon paint, on all surfaces around the end of the plates. The reason you need to do this is to ensure there are no inclusions on the plates containing polish which will charge, by painting the plates you ensure that the whole area near the beam is conductive.

Re-assemble ensuring all spacers are replaced correctly in the original places. Red wire should be connected to the plate with the knife edge.

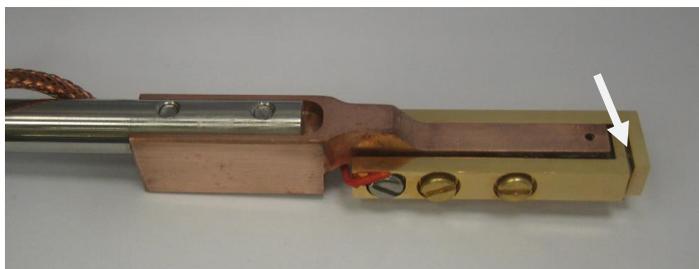
When assembled make sure the gap between the edge of the knife edge and the opposite plate is evenly spaced at between 0.5 and 1.0mm.

Be sure that there are no strands of wire or any other contamination on the plate which could short them out and damage the electronics.





Gold plates



New or upgraded systems have gold plated plates, the beam path is shown with an arrow above.

Remove the plates taking note of the spacer locations, you need to re-assemble using the same spacers in the same location as these spacers have been chosen to align the plates square with each other.

Remove the red and black wires noting orientation.

Carefully polish the area at the end of the plates with a fine metal polish where the beam passes through as shown with the arrow above. Take care not to polish so much that you remove the gold plating.

Then clean with IPA in an ultra-sonic bath ensuring that no polish or solvent residues remain.

Re-assemble ensuring all spacers are replaced correctly in the original places. Red wire should be connected to the plate with the knife edge.

When assembled make sure the gap between the edge of the knife edge and the opposite plate is evenly spaced at between 0.5 and 1.0mm.

Be sure that there are no strands of wire or any other contamination on the plate which could short them out and damage the electronics.

