



## TMCM stick out problem

A.Brez

The TMCM connector allowance is only 0.2mm in the trays closeouts. The allowed tolerances of the tray closeout pocket ( $\pm 0.125\text{mm}$ ), of the thickness of adhesive ( $-0, +0.2\text{mm}$ ) and of the planarity of the closeout itself (0.1mm) can lead the connector of the TMCM to stay outside the thermal boss surface.

The TMCM is positioned and glued on the tray closeout with the help of a TMCM assembly jig (LAT-PS-01801, see fig. 1 and fig 2)

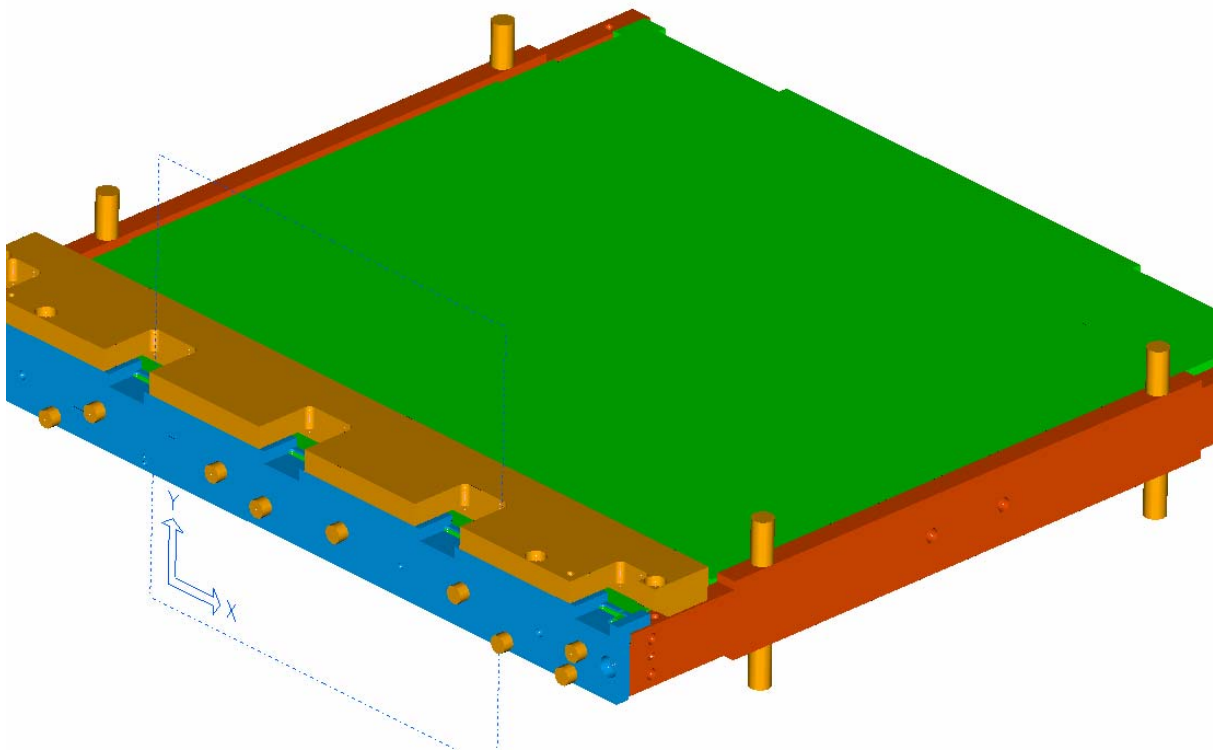
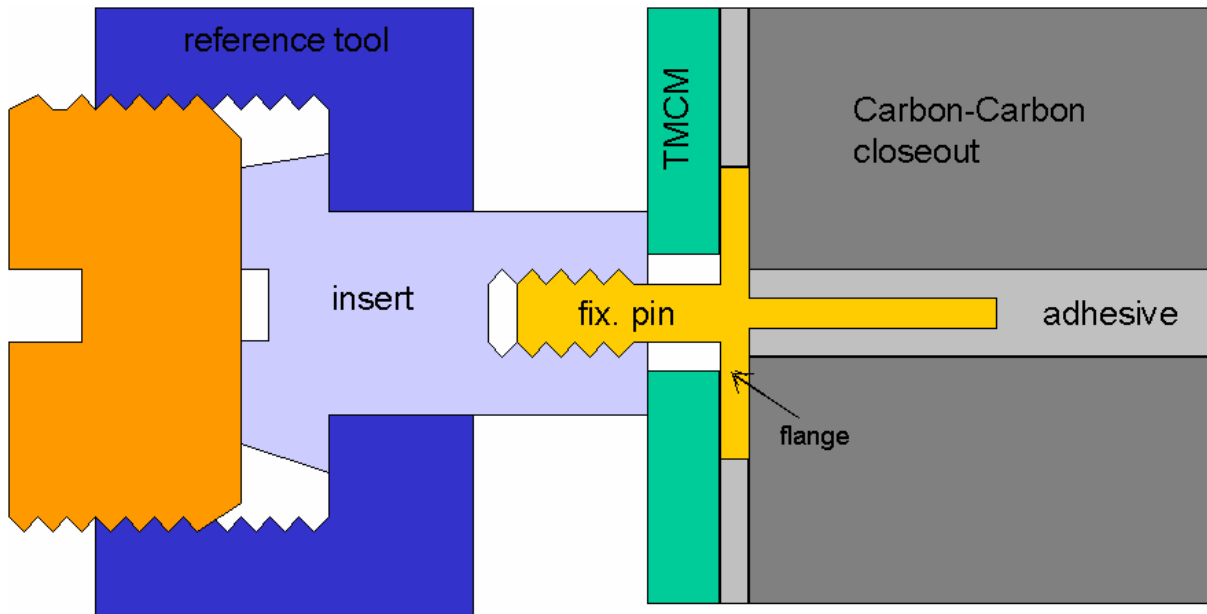


fig. 1. The tray with the TMCM assembly jig.



**fig.2 Fixation pin assembly scheme.**

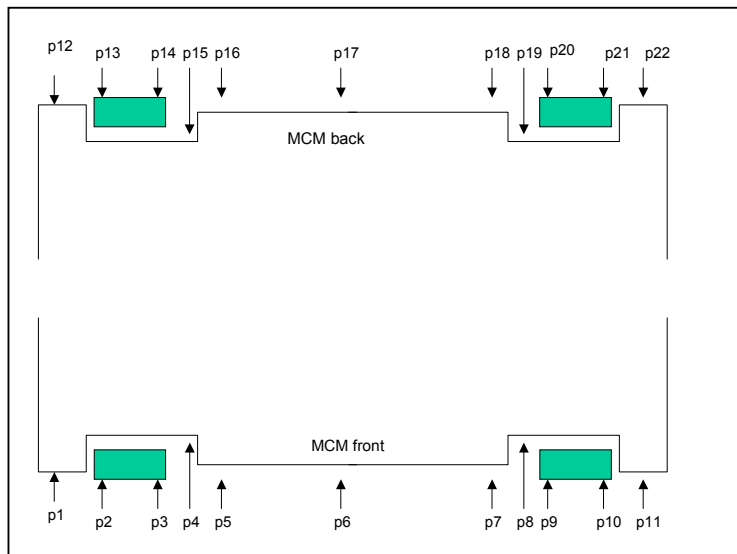
After a detailed revision of the G&A Engineering procedure 5 problems have been individuated:

1. the way the tool was used, caused a frequent block of the horizontal bar (gold bar in fig. 1) against the bias circuit surface
2. the adhesive used to glue the fixation pin could overflow between the flange and the tray surface.
3. the bond line was inspected only from the top side. The inspection could not identify the connectors sticking out.
4. the flange thickness was 0.3mm, reducing the stay clear to 0.1mm
5. the thermal boss thickness was  $4.2\text{mm} \pm 0.1\text{mm}$ . The stick out of the connectors does not depend on this tolerance

**Consequences**

The distance of the TMCM from the tray closeout was not under control.

A first group of trays have been measured with a CMM following the scheme in fig.3



**Fig.3 measured points**

The max stick out of the connectors on both sides of a first set of trays has been measured and plotted in fig.4

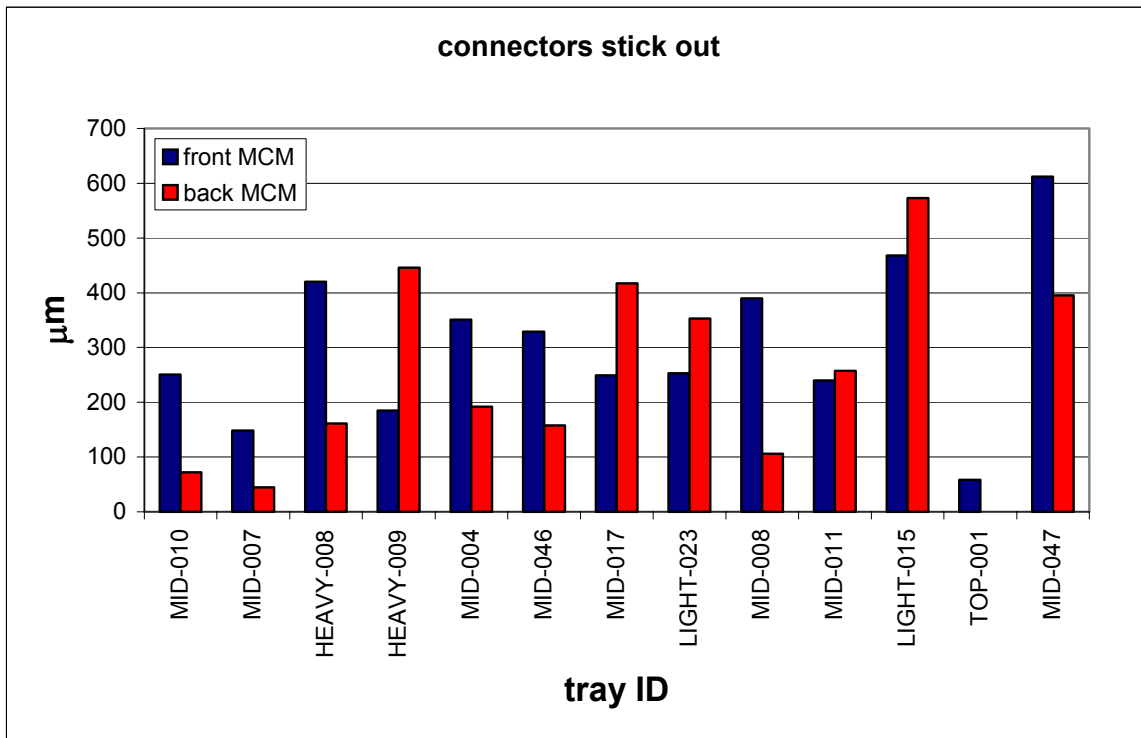


fig. 4 the max stick out of the connectors on front and back side of the trays

### Corrective actions

Changes in the G&A Engineering procedure have been discussed to avoid the tool blockage against the bias circuit and to guarantee no adhesive between the fixation pin flange and the closeout wall. The LAT-PS-01801 procedure and the G&A Engineering internal procedure will consider a CMM check of the position of the connectors to guarantee that the connectors do not stick out from external closeout surface.

A new set of fixation pins with 0.2mm flange will be produced.

All these corrective actions do not need any change in the assembled trays drawings.