MPP HOW TO MEASURE STATIC BONDHEAD FORCE

ADVANCED TECHNOLOGY FOR RESEARCH & INDUSTRY

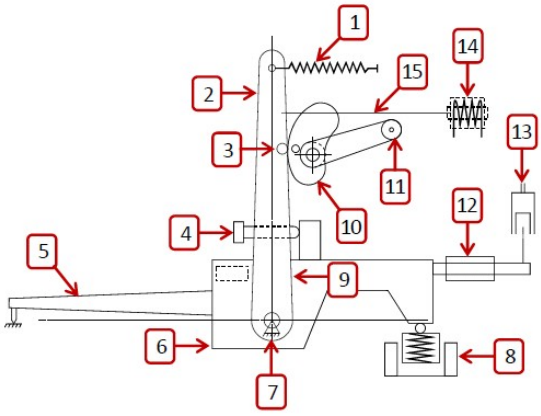
KNOWLEDGE BASE FACT SHEET

- SCOPE: How to measure the static bond force on Micro Point Pro & Kulicke and Soffa (K&S) manual wire bonders.

- The static bond force is the force that is applied to the bonding wedge or capillary when the force dial is set to zero and no external force is provided from the force coil during bonding.
- Typically when bonding 25 micron wire the static bond force should equate to:
  - **15 - 18 grams for Wedge bonding.**
  - **23 - 25 grams for Ball bonding.**
- Larger or smaller wire diameters will require additional or lower static bond force respectively.
- The static bond force is adjusted with two **counter balance weights** on the rear of the bond arm. One is located near the **dashpot** assembly (left) and the other is located near the **bond head pivot** (right).
- If higher bonding force is required, one or both of these counter balance weights can be removed.

<u>Adjust static bond force</u>

- Isolate bonder.
- Open right hand side cover and remove the **return spring** from one end; this will allow the bond head and transducer assembly to naturally fall to the end of its travel.
- Place a suitably scaled Gram Gauge under the wedge / capillary.
- Adjust the counter balance weights until you have a suitable static bond force.
- Reconnect **return spring** and close covers.



1 Return Spring
2 Height Control Link
3 Bearing
4 Leveling Screw
5 Transducer
6 Bonding Head
7 Bonding Pivot
8 Force Actuator
9 Contact Pin
10 Cam
11 Pulley
12 Counterweight
13 Dashpot
14 Main LVDT
15 Push Rod

For further information on Micro Point Pro equipment:
https://www.inseto.co.uk/microelectronic-equipment-mpp-manual-wire-bonders.php

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