fancort industries, inc.

SKEWING OF LEADS AFTER BENDING 01-MAY-2012

Skew is something that is internal to the parts and leads. This issue is mostly a problem on Quad packs because of very fine pitch and small narrow pads. We have been told and understand that is left over stress from when the parts were made. Generally this internal stress was from the brazing process of the lead frame to the package body. Heat causes unseen internal stress in the leads. Generally it appears after forming because the stress is released from the leads when the tie bars are cut , then the parts are formed and this allows the leads to skew SOMETIMES …..

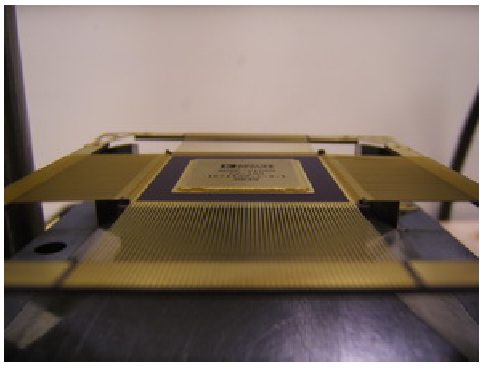
If lead skew was a tool problem all the leads would be skewed in oppose directions like a swat sticker, ALL THE TIME, or on one side of the tool ALL THE TIME. In reality what the customers see is generally one side of the part having skew, and it is random. Meaning skew could be on any side of the part at any time or not at all, NO SKEW, so this is a part problem… Now WE are only talking about processing parts on dedicated form and trim tools with castellation location, and also using dedicated tie bar cutters (not scissors). Other tools can also magnify the skewing problem because the parts are located off the body and not the lead frame as in a Fancort dedicated tool …. This is why most customer processing quads use Fancort dedicated tools.

In the photo below, if you look carefully you will see the following:

1. Look all the way in the back, on the left and right side (under the corners of the tie bars), on this special tool you will see the optional tie bar corner cutters. This tool we built for Analog and Boeing has this very expensive option to trim the 4 corners of the tie bars prior to form and trim. Now that you have seen the 2 in the back there are also 2 in the front that did not make it into the photo, this tool had optional tie bar cutting on board the tool to improve forming and reduce handling and skew.

2. Now look at the purple ceramic body. You will see where the GOLD leads are brazed to the body. On each of the 4 corners right near the body where the gold leads attach , you will see 4 protrusions sticking up , these are the castellations that locate the leads and part in the Fancort dedicated tool squarely. This makes skew caused by the tool impossible …..This is something Fancort tools and none of our competitors OFFER. These features give Fancort and the customer the most accurate bending possible to their forming specs.

We deal with these types of parts and skew every day, with every major aerospace company in the world, unfortunately it's a fact of life with this family of devices.



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