

ABSTRACT

PRECISE BOND HEAD ALIGNMENT **UTILIZING A UNIVERSAL REFERENCE PLATE**

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A semiconductor die is picked up with a collet, which is then located between first and second camera systems. The first camera system views the collet and a reference plate, and the second camera system views the semiconductor die and the reference plate, in order to determine a position and orientation of the semiconductor die relative to the collet and the reference plate. Thereafter, the collet is moved to a position above a bonding position on a substrate, and the first camera system views the bonding position so that the position and orientation of the semiconductor die may be adjusted before the semiconductor die is bonded onto the bonding position.

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(FIG. 1A)