

PLACEMENT OF EARPIECE SPEAKER CUSHION



TASK

The earpiece speaker cushion is one of the more complex adhesive components of mobile phones. Placement of this small yet sophisticated part is a challenging application that requires absolute accuracy within tight tolerances. In the following pages we present a variety of solutions.

Application Study

SEMI-AUTOMATED EARPIECE SPEAKER CUSHION PLACEMENT INTO RECESSED HOUSING



CHALLENGES

- The cushion consists of a foam pad that must be placed accurately into a recessed frame in the target part housing.

SOLUTION

- Model 3065
- Customized chuck
- Customized nest
- Benchtop configuration for semi-automatic operation
- Rewind reel
- X-axis correction

FEATURES & BENEFITS

- AccuPlace's peeling technology allows for consistent peeling of the foam pads.
- The x-axis correction option guarantees accurate placement of the foam pad into the recessed area by correcting any possible component drift on the liner.
- The bench top platform consisting of a base with feet, built-in power supply, and 2-hand control provides a simple cost-effective solution that captures the quality benefits of automation.



Application Study

FULLY AUTOMATED EARPIECE SPEAKER CUSHION PLACEMENT ONTO ELEVATED AREA



CHALLENGES

- The cushion consists of a foam pad that must be placed accurately onto an elevated area surrounding the earpiece.
- Dark and non-reflective housing makes accurate part detection and component placement more difficult.

SOLUTION

- APAC
- Robot Mode RM3065
- Integrated vision system
- Dual tray shuttle

FEATURES & BENEFITS

- The dual tray shuttle allows for semi-automated operation. The operator loads/unloads one tray shuttle while the APAC assembles on the other. The only other operator responsibility is changing rolls of adhesive.
- The vision system ensures accurate assembly of the foam cushion onto the elevated area by scanning both the adhesive and the target part before assembly.

Application Study

AUTOMATED PLACEMENT OF 3-DIMENSIONAL COMBINED EARPIECE SPEAKER MESH AND CUSHION



CHALLENGES

- The part - a combined earpiece speaker mesh and cushion - has a three-dimensional shape that does not correspond to zoned glued areas of the component.
- Placement in very tight tolerances is required with little guidance in the target part housing.

SOLUTION

- APAC
- Robot Mode RM3065
- Customized tooling
- Integrated vision system
- Peel edge stripper assembly
- Rewind reel

FEATURES & BENEFITS

- AccuPlace's peeling technology along with customized tooling allow for consistent peeling of the adhesive component. The custom-designed chuck first places the component horizontally then incorporates air pressure for accurate placement of the die cut component in its three-dimensional form.
- By controlling both peel and place position the integrated vision system ensures accurate placement even onto reflective housings which have no concrete assembly reference.
- The peel edge stripper assembly prevents parts that are not seen (and therefore not picked up) from interfering with the liner drive mechanism and facilitates continued production without interruption.

