Heating a motor prior to adding an injection molded part

Objective
Heat steel to help bond an injection molded piece and help the reflow.

Material
Steel motor body, 60 x 60 x 27 (2.4 x 2.4 x 1.1) mm (in)

Temperature
260ºC (500ºF)

Frequency
237 kHz

Equipment
- Ambrell 6 kW induction heating system, equipped with a remote workhead containing a total 1.5 µF.
- An induction heating coil designed and developed specifically for this application.

Process/Narrative
A two-turn binocular coil is used to simultaneously heat two steel motors prior to the injection molding process. This helps increase the bond strength between and reflow the plastic.

Results/Benefits
Induction heating provides:
- Quicker process times with increased production rates versus a gas-fired oven. Ovens require long heat-up and cool-down times.
- Significantly reduced footprint
- Reduced handling due to location of the induction coil in proximity to the injection molding machine.

Next page for photos
Steel motor to be bonded with white injection molded piece.

Bifocal coil heats two motor bodies simultaneously.