Heat aluminum for brazing an automotive assembly

**Objective**  Heat aluminum for an automotive brazing application

**Material**  Aluminum tubing 0.50 (12.7mm) dia, an aluminum boss 1” (25.4mm) long, flux filled braze rings

**Temperature**  1200 °F (649 °C)

**Frequency**  270 kHz

**Equipment**
- Ambrell 3.5 kW induction heating system, equipped with a remote workhead containing one 1.0µF capacitors for a total of 1.0 µF
- An induction heating coil designed and developed specifically for this application.

**Process**  A multi turn pancake coil is used to heat the joint between the aluminum tubing and boss. The joint heats to temperature in 1.5 minutes and the braze ring melts forming a clean brazed joint.

**Results/Benefits**  Induction heating provides:
- Hands-free heating that involves minimal operator skill for manufacturing
- Flameless application
- Reliable, repeatable aesthetically pleasing braze joint
- Even distribution of heating
Coil in position for brazing joint