# Brazing aluminum electrical lug assembly

## Objective
Brazing a aluminum bracket to an aluminum lug to create an electrical lug.

## Material
- Aluminum bracket 1.73" (43.9mm) long, .68" (17.2mm) wide & .21" (5.3mm) thick, aluminum lug 3.98" (101mm), .81" (20.6mm) wide & 0.1" (2.5mm) thick and aluminum braze stick.

## Temperature
650 °F (343 °C)

## Frequency
159 kHz

## Equipment
- Ambrell 6 kW induction heating system, equipped with a remote workhead containing two 1.5µF capacitors for a total of 0.75µF.
- An induction heating coil designed and developed specifically for this application.

## Process
A five turn helical coil is used to braze the assembly. The parts are assembled and placed in the coil. Power is applied and a braze stick is used to braze the two parts in 25-30 seconds.

## Results/Benefits
Induction heating provides:
- Ability to heat very small areas within tight production tolerances.
- Clean leak-proof joints.
- Quickly delivers localized heat to minimize warping and distortion of part.
- Consistent temperature vs. flame brazing.
Brazed joint

Lug assembly