



Shrink fitting auto turbo charger impeller blades onto an aluminum shaft

Objective Heat aluminum impeller blades to 200 °F (93 °C) and shrink fit onto a shaft.

Material Aluminum impeller blades with a .28" (7.109mm) bore, aluminum shaft

Temperature 200 °F (93 °C)

Frequency 255 kHz

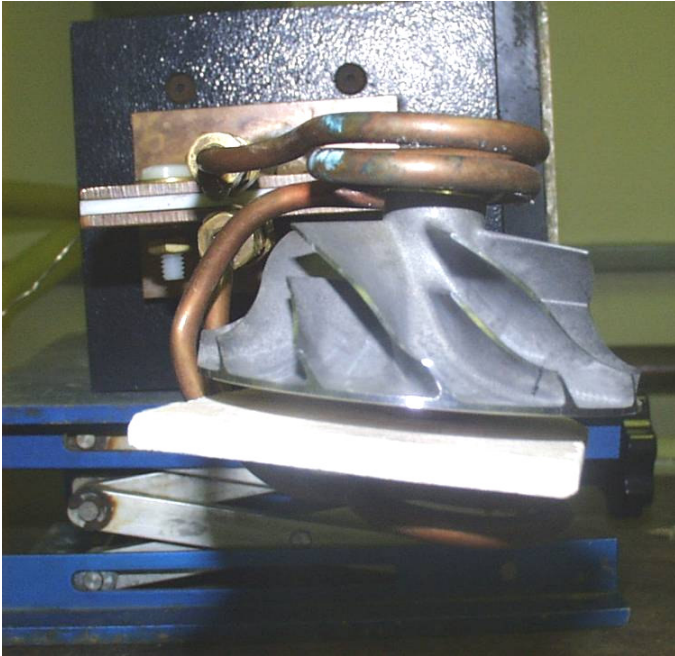
Equipment

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

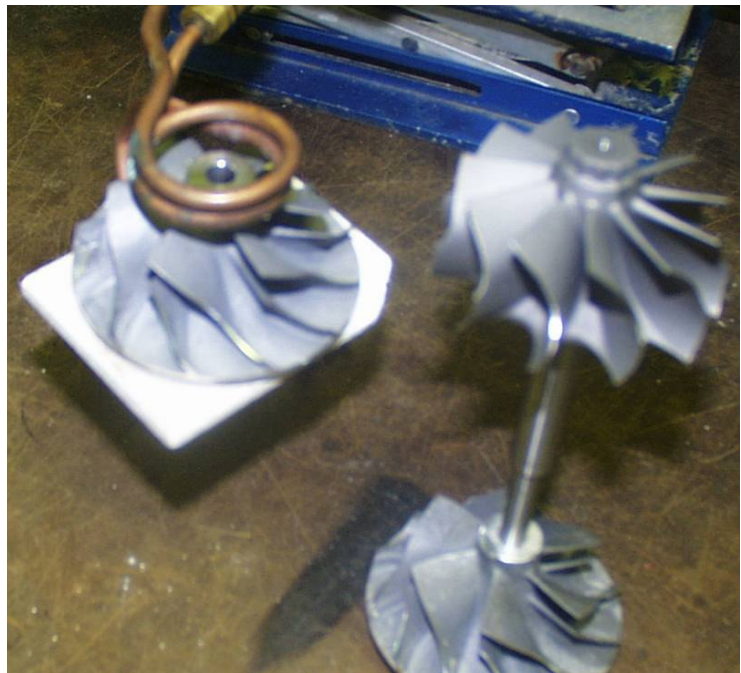
Process A split two turn helical coil is used to evenly heat the opening on the impeller blade. The impeller blade is heated for 20 seconds to reach the 200 °F (93 °C). The impeller blades are then removed from the coil & slipped over the shaft to complete the shrink fitting application.

Results/Benefits Induction heating provides:

- Repeatable results
- Reduced cycle time, lower consumables cost
- Even distribution of heating



Heating bore on Impeller blade



Impeller blade shrink fitted to shaft