SHRINK FITTING

APN: SF-1002

Fuel Pump Housing And Inserts

Objective:

To heat an aluminum fuel pump housing measuring 8" x 4 1/2" x 3 1/2" to 375^{0}F, allowing steel parts to be inserted. Presently the housings are heated for over one hour in a convection oven. The areas that are to have steel parts inserted measure 1.5" and 0.6875" in diameter. In addition, the insertion process lasts for a little over one minute, so 375^{0}F should be maintained for a period of time to complete the process.

Material:

Aluminum Pump Housing measuring 8" x 4 1/2" x 3 1/2"
Steel insertion parts.

Temperature:

375^{0}F

Application:

By using the Ameritherm SP 25, 25 kW output solid state induction power supply the following results were achieved.

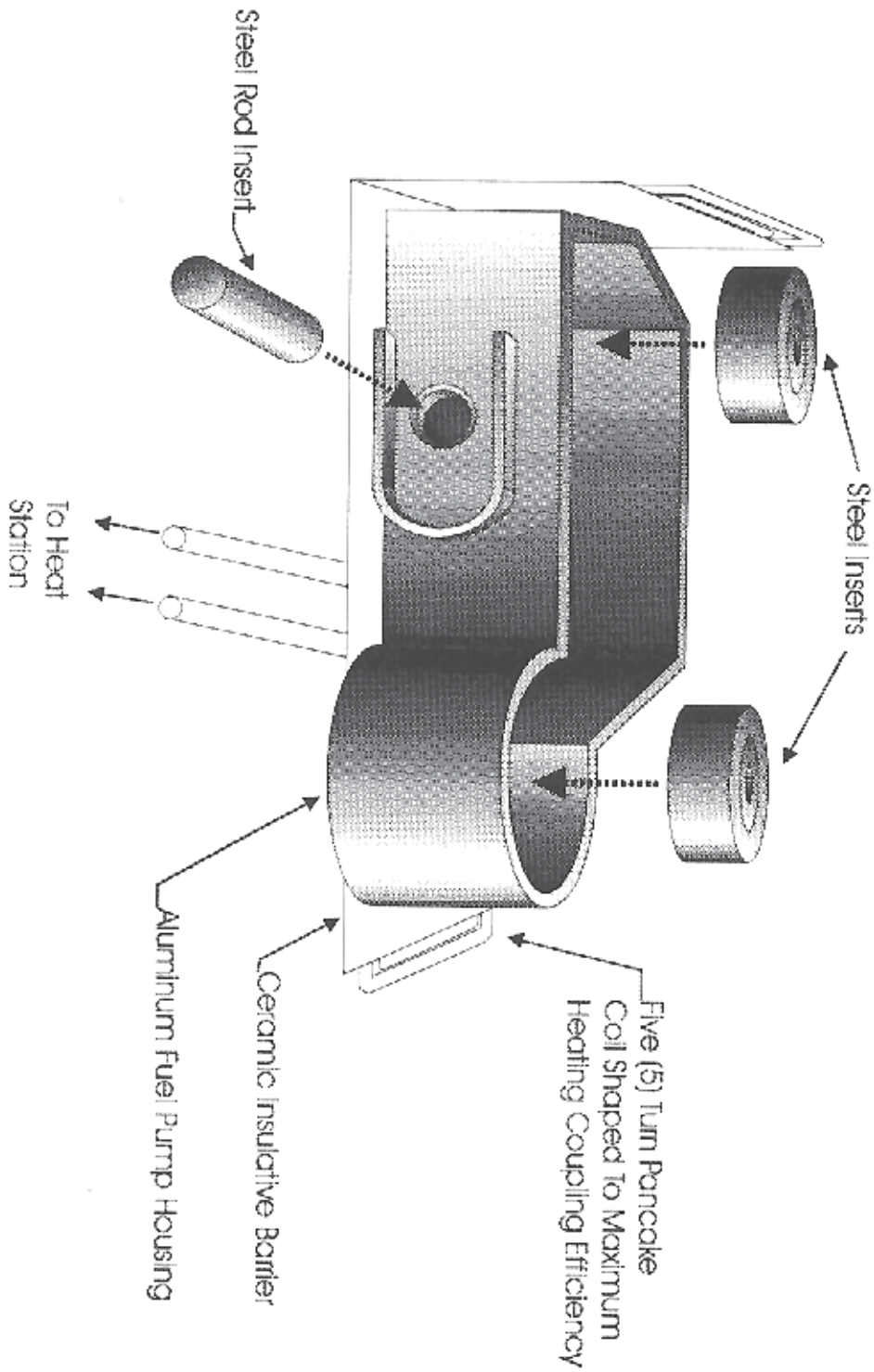
- 375^{0}F was reached in one (1) minute to allow for insertion.
- 20 housings were successfully heated using a five (5) turn right angle pancake coil.

Equipment:

Ameritherm SP 25, 25 kW output solid state induction power supply including one (1) remote heat station containing four (4) capacitors totalling 1.0 µF, and a five (5) turn right angle pancake coil made from 3/16" copper tube.

Frequency:

100 kHz


Steel Rod Insert
To Heat Station
Steel Inserts
Aluminum Fuel Pump Housing
Ceramic Insulative Barrier
Five (5) Turn Pancake Coil Shaped To Maximum Heating Coupling Efficiency