

# AirBorn Operating, L.P.

## PRODUCT TECHNICAL BULLETIN #43

### 1.0 PURPOSE:

The purpose of this technical bulletin is to provide recommendations for successful soldering to AirBorn's "M" series connectors with solder cup terminations.

### 2.0 GENERAL INFORMATION:

Pressing too hard with heat may dislocate the contact or may cause contact resistance issues when a crimped contact is being soldered.

Fully activated flux is not recommended. This flux is too aggressive and can wick into crevices that are difficult to clean. We suggest R or RMA thinned (80 parts thinner/20 parts flux). Note: Thinner flux is easier to clean. The same type of flux must be used for all steps.

### 3.0 RECOMMENDED PROCEDURE FOR SOLDERING TO CONNECTOR ASSEMBLIES WITH SOLDER CUP TERMINATIONS:

**Step 1: Prepare the wire:** Before soldering the wire to the connector, the wire must be stripped and tinned per IPC/EIA J-STD-001. The strip length should be such that the wire/wires can be inserted the full depth of the cup. We recommend a strip length of .100".

**Step 2: Prepare the solder cup:**

- A. Dip stranded wire into the flux (RMA or non-activated), insert into the solder cup, and remove.
- B. Heat the cup and fill with solder. Use a pencil type soldering iron and a regulated temperature of  $300^{\circ}\text{C}\pm 10^{\circ}\text{C}$  for a maximum of 5 seconds. Minimize any pressure being applied during soldering to prevent damaging the contact.
- C. Remove the solder using solder wick or stranded wire.
- D. Repeat steps B and C, then proceed to step 3.

**Step 3: Solder wire to solder cup:** Heat the solder cup and insert the wire. Use a pencil type soldering iron and a regulated temperature of  $300^{\circ}\text{C}\pm 10^{\circ}\text{C}$  for a maximum of 5 seconds. Hold the wire in place while the solder joint cools and solidifies. Minimize any pressure being applied during soldering to prevent damaging the contact. Reference figures 1 and 2 for soldering iron location and finished joint example.

**Step 4: Repeat steps 2 and 3 for each required position.**

**Step 5: Clean the assembly:** Clean the assembly with isopropyl alcohol using a soft bristle brush.

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**Figure 1.** Soldering Iron Location



**Figure 2.** Finished Joint