



# Fax/Email

Joint Council on Aging Aircraft  
Joint Group on Pollution Prevention



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**Date:** November 17, 2003  
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*Lead-Free Solder Working Group  
Teleconference  
November 17, 2003*

**Comments:**

Attached please find the November 17, 2003 Lead-Free Solder Working Group teleconference minutes. Please further distribute as necessary.

## MEMORANDUM FOR RECORD

**Subject: Teleconference Summary and Minutes – November 17, 2003**

**Next Teleconference:** December 1, 2003, 11:00 AM EST

Minutes:

Decisions arrived at by this meeting's participants → Recommendations for group-at-large. Meeting led by Brian Greene, Project Integrator.

1. Hybrids
  - a. Component Tinning. This topic was a follow up to the Nov. 7th discussion. Should the hybrid components leads be tinned with or without lead. After discussion it was decided that 213 hybrids would be tinned with SnPb, 201 hybrids with SnAgCu, and 201 hybrids with SnAgCuBi. The conclusion was to keep leaded components with leaded boards and leaded pastes while keeping non-leaded components with non-leaded boards and non-leaded pastes.
2. Surface Finishing
  - a. Control Boards. Some confusion existed as to whether the “Manufactured Baseline (Control) Boards” were to be surface finished with immersion silver or SnPb. After a lengthy discussion it was decided to keep the JTP as written (18 Sep 03). The “Manufactured Baseline (Control) Boards” will be surface finished with immersion silver.
3. Vibration Testing
  - a. Component adhesion to board. Confirm that the larger components (1”x 1”) will be glued to the boards. Between the choices of double-sided tape or an adhesive the preferred option is to use an adhesive. It is believed that Ms. Campuzano-Contreras has a standard adhesive she plans to use on the components. Action item: Confirm with Lety Campuzano-Contreras how she plans to adhere the components to the board.
  - b. Baseline. It was reiterated that the JTP is not designed for card qualification testing. The purpose of this JTP is to baseline the behaviors of the different solder under the same conditions. It is also recognized that further testing will be required for specific cards, components, and operational environments.
4. Rework of components.
  - a. Concern was voiced that the component rework as planned (5) would provide minimal data points. It would be desirable to double the reworked components per board to eight (from four). This would be dependent on whether or not Ms. Campuzano-Contreras can support the extra effort. Action item: Contact Ms. Campuzano-Contreras and discuss this issue.

**Open Action Items**

**LFS.03.11.04**

**Date Due:** 12/01/2003

**Responsibility:** ITB, Dennis Jarvi, Carl Loden

**Required Action:** Contact Lety Campuzano-Contreras to see if she can support the extra effort of doubling the component rework from five to ten.

**Comments:** 11/17/03 – An e-mail was sent to Lety Campuzano-Contreras. Awaiting a response.

**LFS.03.11.03**

**Date Due:** 12/01/2003

**Responsibility:** ITB, Dennis Jarvi, Carl Loden

**Required Action:** Confirm with Lety Campuzano-Contreras how she plans to adhere the components to the board.

**Comments:** 11/17/03 – An e-mail was sent to Lety Campuzano-Contreras. Awaiting a response.

**LFS.03.11.01**

**Date Due:** 12/01/2003

**Responsibility:** Dave Hillman (Rockwell Collins)

**Required Action:** Look into Obtaining CSPs with tin-lead balls vs. CSPs with only no-lead balls.

**Comments:** 11/07/03 – Dave on 11/12/03 the CSPs are available with tin-lead but incurs a \$379 cost increase to obtaining the parts.

**LFS.03.10.07**

**Date Due:** 12/01/2003

**Responsibility:** ITB

**Required Action:** Solicit stakeholder interest in attending a tour of Boeing-Irving's assembly of the test vehicles, 15-30 persons, February timeframe.

**Comments:**

**LFS.03.10.05**

**Date Due:** 12/01/2003

**Responsibility:** Lety Campuzano-Contreras

**Required Action:** Report of results of Kaizen no-clean flux cleaning study

**Comments:** 11/07/03 – Solder paste will be sent to Kaizen as soon as the paste becomes available

**LFS.03.07.12**

**Date Due:** 08/13/2003

**Responsibility:** Brian Greene (NASA AP2/ITB)

**Required Action:** (a) Contact Dave Locker, AMCOM, to ask if he could do some simple Coffin-Manson modeling, perhaps for just one component type (e.g., 44-pin or 20-pin LCCs) for inclusion in the project's Joint Test Report, and then (b) Contact Paul Vianco, Sandia Labs, to look for synergy with Sandia's prior LCC data

*Comments:* 08/05/03 - Dave Locker indicated that he could do some simple Coffin-Manson modeling for inclusion in the project's Joint Test Report

**LFS.03.07.03**

*Date Due:* **07/31/2003**

*Responsibility:* Dave Hillman (Rockwell Collins)

*Required Action:* Look into saving his engineering drawings of the test vehicle into an electronic format suitable for Boeing-Irving to read.

*Comments:* 08/21/03 – Dave reported as in progress.