



IPC-7711B/7721B Change 2 March 2014

Rework, Modification and Repair of Electronic Assemblies

Developed by the Repairability Subcommittee (7-34) of the Product Assurance Committee (7-30) of IPC

These procedures are new additions to the IPC-7711B/7721B. The pages herein are authorized for download, reproduction, and printing for insertion into the IPC-7711B/7721B.

These procedures are not intended for the IPC-7711A/7711A.

Users of this publication are encouraged to participate in the development of future revisions.

Contact:
IPC
3000 Lakeside Drive, Suite 309S
Bannockburn, Illinois
60015-1249
Tel 847 615.7100
Fax 847 615.7105



Documents
Document Sharing Hub



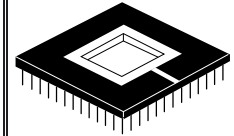
7711
Rework

Revision: C
Date: 03/14

Number: 3.2.1

PGA and Connector Removal

Solder Fountain Method



Board Type: R, F, W, C
See 1.4.2
Skill Level: Expert
See 1.4.3
Level of Conformance: High
See 1.5.1

GENERAL REQUIREMENTS

Clauses 1.7 (Basic Considerations), 1.8 (Workstations, Tools, Materials and Processes) and 1.9 (Lead Free) provide important information and guidance about the use of this procedure, including but not limited to tin-lead and lead-free alloys. This procedure is also applicable to lead free products.

EQUIPMENT REQUIRED

Solder fountain
Chimney or nozzle to match part
Removal tool
Pallet to hold board over fountain
Preheat oven

OPTIONAL EQUIPMENT

Vacuum pick-up tool

MATERIALS

Flux-cored solder
Cleaner
Heat resistant, antistatic gloves
Protective face gear
Heat resistant tape

CAUTION: Copper dissolution is a concern when using a solder fountain and can be impacted by dwell time, temperature and alloy in use.

PROCEDURE

This process is for experienced operators only. Caution must be exercised due to working with hot, molten solder.

1. Remove conformal coating (if any) and clean work area of any contamination, oxides or residues.
2. Set solder fountain pot control to the required temperature for removing that particular component from that particular board. Wait until solder pot reaches the set temperature.
3. Attach the correct nozzle or chimney to the solder pot. (See Figure 1.)
4. Set the timer for the amount of time the fountain is to be running for that particular part.
5. The area around the rework site may be masked with a high temperature resistant tape, or similar material, to protect the adjacent area during rework. (See Figure 2.)



Figure 1 Attach Nozzle

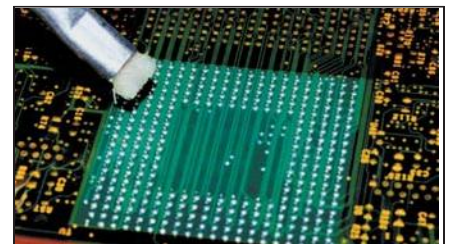


Figure 2 Flux

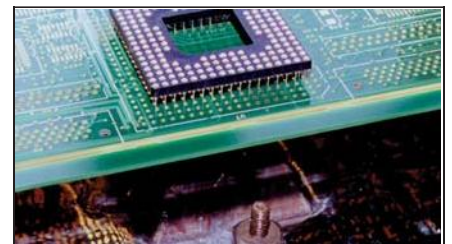


Figure 3 Place Over Solder Fountain

Material in this manual, IPC-7711/7721 Rework, Modification and Repair of Electronic Assemblies, was voluntarily established by Technical Committees of IPC. This material is advisory only and its use or adaptation is entirely voluntary. IPC disclaims all liability of any kind as to the use, application, or adaptation of this material. Users are also wholly responsible for protecting themselves against all claims or liabilities for patent infringement. Equipment referenced is for the convenience of the user and does not imply endorsement by IPC.

Number: **3.2.1**Subject: **PGA and Connector Removal**Revision: **C**

Date: 03/14

6. Preheat the board to the desired temperature, depending on the component restrictions and the board T_g material.
7. Flux the bottom side site where the part will be removed. (See Figure 2.)
8. Place the board on the pallet over the solder fountain and trip the timer. (See Figure 3.)
9. At the end of the timer cycle, use vacuum pickup tool, tweezers, or removal tool to remove the part from the board.
10. Clean the flux residue, if required, and inspect.
11. Clean as applicable and inspect to established workmanship requirements.

NOTES



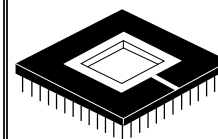
7711
Rework

Revision: C
Date: 03/14

Number: 5.2.1

PGA and Connector Installation

Solder Fountain Method with PTH Prefilled



Board Type: R, F, W, C
See 1.4.2
Skill Level: Expert
See 1.4.3
Level of Conformance: High
See 1.5.1

GENERAL REQUIREMENTS

Clauses 1.7 (Basic Considerations), 1.8 (Workstations, Tools, Materials and Processes) and 1.9 (Lead Free) provide important information and guidance about the use of this procedure, including but not limited to tin-lead and lead-free alloys. This procedure is also applicable to lead free products.

EQUIPMENT REQUIRED

Solder fountain
Chimney or nozzle to match part
Removal tool
Pallet to hold board over fountain
Preheat oven

MATERIALS

Flux
Cleaner
Heat resistant, antistatic gloves
Protective face gear
Heat resistant tape

CAUTION: Copper dissolution is a concern when using a solder fountain and can be impacted by dwell time, temperature and alloy in use.

PROCEDURE

This procedure variation is for components or connectors with sturdy leads that do not readily bend.

This process is for experienced operators only. Caution must be exercised due to working with hot, molten solder.

1. Attach the correct nozzle or chimney to the solder pot. This operation must be done with proper care per solder fountain supplier's instructions. (See Figure 1.)
2. Set solder fountain pot control to the required temperature for soldering that particular component into that particular board. Wait until solder pot reaches the set temperature.
3. Set the timer (if applicable) for the amount of time the fountain is to be running for that particular part.
4. The area around the rework site may be masked with a high temperature resistant tape, or similar material, to protect the adjacent area during rework. (See Figure 2.)
5. Preheat the new component and the board to the desired temperature, taking into consideration component thermal restrictions and glass transition temperature T_g of the board material.



Figure 1 Attach Nozzle



Figure 2 Flux

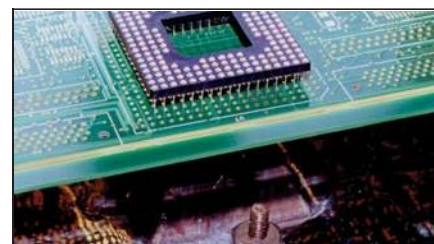


Figure 3 Place Over Solder Fountain

Material in this manual, IPC-7711/7721 Rework, Modification and Repair of Electronic Assemblies, was voluntarily established by Technical Committees of IPC. This material is advisory only and its use or adaptation is entirely voluntary. IPC disclaims all liability of any kind as to the use, application, or adaptation of this material. Users are also wholly responsible for protecting themselves against all claims or liabilities for patent infringement. Equipment referenced is for the convenience of the user and does not imply endorsement by IPC.

Copyright Association Connecting Electronics Industries
Provided by IHS under license with IPC
No reproduction or networking permitted without license from IHS

Full document details: IPC 7711B/7721B AMD2 2014

Licensee=Hong Kong Polytechnic University/9976803100
Not for Resale, 05/18/2015 11:54:04 MDT



Documents

Document Sharing Hub

Page 5 of 12

Number: **5.2.1**Subject: **PGA and Connector Installation**Revision: **C**

Date: 03/14

6. Flux the board on the top and bottom side at the site of the new component. The component leads may also be fluxed, depending on the board and component leads. Place the component on the board in its correct site. (See Figure 2.)
7. Place the board on the pallet, over the solder fountain with the component sitting in location and trip the solder fountain timer. (See Figure 3.)
8. As the solder in the holes reflows, the component may have to be reoriented to drop into the holes.
9. At the end of the timer cycle, wait at least 5 seconds for the solder to solidify, then remove the board.
10. Clean as applicable and inspect to established workmanship requirements.

NOTES