Contents

About This Book ............................................................... v
ISO 9000 ........................................................................... v
Online Publications .............................................................. v
Related Publications ............................................................ v
Trademarks .......................................................................... v

Chapter 1. 7043–140 and 7043–150 Fansink Removal and Replacement Procedures ................................................................. 1
Identifying the Fansink Number .............................................. 1
Determining the Fansink Assembly Number to be Replaced ............... 1
7043–140 and 7043–150 Fansink Removal and Replacement Procedures ......................................................... 2
Removing and Replacing the 7043–140 System Board Fansink .......... 2
Removing and Replacing the 7043–150 System Board Fansink ............. 4

Chapter 2. 7043–150 System Features ........................................ 7
System Features ...................................................................... 7
Bus Architecture ..................................................................... 7
Microprocessor ...................................................................... 7
Memory ............................................................................... 7
Diskette Drive ...................................................................... 7
Drives ............................................................................... 7
Power Supply ....................................................................... 7
Keyboard and Mouse .............................................................. 8
Front-Panel Display. ............................................................... 8
Input/Output Ports ................................................................ 8
Security Features ................................................................... 8
Setting the SCSI Security Jumpers ............................................ 9
System Board Locations for Model 150 ....................................... 10
System Board, Cables, and Accessories ..................................... 12

Appendix. Notices .................................................................. 15

Reader’s Comments — We’d Like to Hear From You ..................... 17
About This Book

This supplement provides updates to the following publications:

- **RS/6000 7043 43P Series Service Guide**, SA38-0512

ISO 9000

ISO 9000 registered quality systems were used in the development and manufacturing of this product.

Online Publications

RS/6000 and pSeries 680 publications are available online. To access the online books, visit our Web site at: [http://www.rs6000.ibm.com/resource/hardware_docs/](http://www.rs6000.ibm.com/resource/hardware_docs/)

Related Publications

The following publications are available:

- The system unit's users guide contains information about using the service processor to help understand processor controls.
- The system unit's service guide contains information for service representatives when they install the fansink feature hardware.

Trademarks

The following terms are trademarks of International Business Machines Corporation in the United States, and other countries, or both:

- AIX
- IBM

Other company, product, and service names may be trademarks or service marks of others.
Chapter 1. 7043–140 and 7043–150 Fansink Removal and Replacement Procedures

This chapter provides information on replacing defective 7043–140 and 7043–150 fansinks without having to replace the entire system board.

Identifying the Fansink Number

The following table contains information to help you determine the correct fansink to be replaced on both the 7043–140 and 7043–150 system boards. Obtain the correct fan(s) before going on-site to replace the fansink assembly. The fan that is not used should be returned to the parts depot. The defective fan should be disposed of locally.

Table 1. Fansink Assembly Numbers.

<table>
<thead>
<tr>
<th>System Board</th>
<th>Fansink Assembly Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>7043–140</td>
<td>09P1125 or 09P1126</td>
</tr>
<tr>
<td>7043–150</td>
<td>09P1126 or 09P1129</td>
</tr>
</tbody>
</table>

Determining the Fansink Assembly Number to be Replaced

The following table lists the correct fansink numbers for each system board assembly part number.

Table 2. Fansink numbers by System Board Assembly and FRU Numbers.

<table>
<thead>
<tr>
<th>Machine Type</th>
<th>FRU Part Numbers</th>
<th>System Board Assembly Part Numbers</th>
<th>Fansink Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>7043–140 166 MHZ</td>
<td>11K4571, 73H4571, 93H7142</td>
<td>00P1606, 03N2407, 03N3976 11K0385, 93H4496, 93H4605 93H5700, 93H5688, 93H7139 93H9952</td>
<td>09P1125</td>
</tr>
<tr>
<td>7043–140 200MHZ</td>
<td>11K0382, 93H2573, 93H7143</td>
<td>00P1607, 03N2408, 03N3977 11K0386, 93H4497, 93H4606 93H5689, 93H6025, 93H7140 93H9953, 93H9954</td>
<td>09P1125</td>
</tr>
<tr>
<td>7043–140 233MHZ</td>
<td>93H6023</td>
<td>08L0281, 93H6024, 93H9955</td>
<td>09P1125</td>
</tr>
<tr>
<td>7043–140 233MHZ</td>
<td>11K0383</td>
<td>00P1608, 03N3978, 11K0387 41L5248, 41L6095</td>
<td>09P1126</td>
</tr>
<tr>
<td>7043–140 332MHZ</td>
<td>11K0384, 93H9334</td>
<td>00P1609, 03N3979, 11K0388 41L6099, 93H9937, 93H9956</td>
<td>09P1126</td>
</tr>
</tbody>
</table>
7043–140 and 7043–150 Fansink Removal and Replacement Procedures

This section contains instructions for removing and replacing defective fansinks on both the 7043–140 and 7043–150 system boards.

Removing and Replacing the 7043–140 System Board Fansink

Removal
1. Inform the customer that the system must be powered off for approximately one hour for the fan to be replaced.
2. To power off the system, refer to the "Removal and Replacement Procedures" chapter in the RS/6000 7043–43P Series Service Guide. Power off the system as described in "Cover Removal" and continue to unlock and remove the cover.
3. Determine the system board assembly part number by noting the white barcode label attached to the card.
   Locate the assembly part number in the leftmost alphanumeric block of characters, following the first three characters, which are always 11S. In the following example, the assembly part number is 41L5812.
   The FRU part number is in the center alphanumeric block of characters, following the first three characters which are always FRU. In the following example, the FRU part number is 41L5912.

After you have identified both the system board assembly part number and the FRU part number, see the table in "Determining the Fansink Assembly Number to be Replaced" on page 7 to determine the appropriate fan to be replaced.

Table 2. Fansink numbers by System Board Assembly and FRU Numbers (continued).

<table>
<thead>
<tr>
<th>Machine Type</th>
<th>FRU Part Numbers</th>
<th>System Board Assembly Part Numbers</th>
<th>Fansink Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>7043–150 375MHZ New Version System Board</td>
<td>08L8446, 11K0157, 11K0459 41L5177, 41L5912, 41L5518 41L5590</td>
<td>03N2526, 08L1363, 11K0148 11K0464, 41L5172, 41L5517 41L5588, 41L5911</td>
<td>09P1126</td>
</tr>
<tr>
<td>7043–150 375MHZ New Version System Board</td>
<td>11K0459, 41L5912</td>
<td>11K0017, 11K0650</td>
<td>09P1129</td>
</tr>
</tbody>
</table>
4. To remove the disk drive bracket, refer to the “Removing Internal Drive” section of the RS/6000 7043–43P Series Service Guide. Carefully place the bracket assembly on top of the power supply (leave the hard files plugged in).

**Note:** Disconnect temporarily any PCI Adapter Card installed in slot 5 in order to remove the disk drive bracket.

5. Locate the CPU fansink on the planar under the disk drive and unplug it.

6. Unclip the heatsink by pushing down and away on the finger tab.

7. Tilt the fansink toward the front of the system and slide the narrow buckle off the front socket tab.

8. Remove the defective fansink assembly and discard.

**Note:** Do not wipe off the remaining thermal grease from the top of the existing CPU chip on the system board assembly.
Replacement
1. If you are replacing a fansink 09P1125, install the new component by hooking the side opposite the finger tab and then pushing the finger tab side down until it locks into position.

OR
If you are replacing a fansink 09P1126, first remove the paper pull tab to expose the thermal grease underneath. Install the new fansink by hooking the side opposite the finger tab and then pushing the finger tab side down until it locks into position.
2. Plug the new fansink into the system board connector of the old fansink.
3. Reinstall the disk drive bracket assembly (and any PCI Adapter Cards that were removed from slot 5).
4. Reinstall the top cover.
5. Power on the system and run diagnostics.

Removing and Replacing the 7043–150 System Board Fansink

Removal
1. Inform the customer that the system must be powered off for approximately one hour for the fan to be replaced.
2. To power off the system, refer to the "Removal and Replacement Procedures" chapter in the RS/6000 7043–43P Series Service Guide. Power off the system as described in "Cover Removal" and continue to unlock and remove the cover.
3. Determine the system board assembly part number by noting the white barcode label attached to the card.
   Locate the assembly part number in the leftmost alphanumeric block of characters, following the first three characters, which are always 11S. In the following example, the assembly part number is 41L5812.
   The FRU part number is in the center alphanumeric block of characters, following the first three characters which are always FRU. In the following example, the FRU part number is 41L5912.

After you have identified both the system board assembly part number and the FRU part number, see the table in "Determining the Fansink Assembly Number to be Replaced" on page 3 to determine the appropriate fan to be replaced.
4. To remove the disk drive bracket, refer to the “Removing Internal Drive” section of the RS/6000 7043–43P Series Service Guide.

Note: If a hard file is attached to the disk drive bracket, unplug the hard file before removing the bracket assembly.
5. Locate and unplug the fan and disconnect the fansink assembly power cable from the CPU fansink connector (J26).

**Note:** There are two possible fansink connections for this system board: right-angle finger tabs, and wire springs.

6. To remove a fansink with right-angle finger tabs, unclip the heatsink by pushing down and away on the fingertab. Remove the fansink assembly and discard.

**Note:** *Do not* wipe off the remaining thermal grease from the top of the existing CPU chip on the systemboard.

7. To remove a fansink with wire springs, push down and away on the wire loop to disengage the fansink assembly. Gently lift the fansink vertically up and off without rocking the fansink.

**Attention:** While removing the closed loop fansink, severe damage may occur which would require replacing the entire system board assembly. To minimize the risk for system damage, be sure to perform the above operation *no less than 30 seconds after powering off the system*, while the heatsink is still hot. Warm adhesive between the heatsink and CPU chip will be less likely to pull the aluminum cap off the chip.
Replacement

1. If you are replacing a fansink 09P1126, first remove the paper pull tab to expose the thermal grease underneath. Install the new fansink by hooking the side opposite the finger tab and then pushing the finger tab side down until it locks into position.

OR

If you are replacing a fansink 09P1129, remove the adhesive protective paper on the bottom of the heatsink and place the fansink assembly into the metal bracket on the system board assembly. Secure the ends of the wire loop under the edge of the metal bracket.

2. Plug the new fansink into the system board connector of the old fansink.
3. Reinstall the disk drive bracket assembly.
4. Reinstall the top cover.
5. Power on the system and run diagnostics.
Chapter 2. 7043–150 System Features

This chapter contains information specific to both the 250MHz and 375MHz options for the Model 150, and applies to the RS/6000 7043 43P Series User’s Guide and the RS/6000 7043 43P Series Service Guide. All other information is consistent with the system books.

System Features

Bus Architecture
Five 32-bit PCI adapter slots are available:
- Slots 2 and 3, primary
- Slots 1, 4, and 5, secondary

Microprocessor
- PowerPC 604e 250 MHz with 1MB parity synchronous L2 cache
- PowerPC 604e 375 MHz with 1MB parity synchronous L2 cache

Memory
- 64MB-1GB
- 4 memory module sockets for 64MB, 128MB, or 256MB dual inline memory-module kit with ECC SDRAM EDO (extended data out)

Diskette Drive
- Standard: 3.5-inch, 1.44MB

Drives
Hard Disk Drives
- 4.5GB, 9.1GB, and 18.2GB Ultra drives
- Maximum supported: 3 internal

CD-ROM Drive
- 32x speed 5.25-inch, with sliding tray (no caddy required)

Other Drives
- Drive bays can accommodate 5.25-inch or 3.5-inch drives, such as hard disk drives, CD-ROM drives, tape drives, or other removable media drives.

Power Supply
- Autoranging 250 watt, usable with 115 V ac or 230 V ac (Supports Wakeup-on-LAN)
Keyboard and Mouse
- Standard: 101–Key Enhanced keyboard
- Optional: 101/102 or 106–Key Enhanced Keyboard
- Standard: 3-button mouse

Front-Panel Display
- 4-digit LED diagnostics display

Input/Output Ports
- 25-pin Parallel
- 9-pin Serial (2)
- 8-pin Tablet
- Keyboard
- Mouse
- Ultra SCSI (16-bit)
- 100/10 Base 5 Ethernet
- 100/10 Base T Ethernet
- Audio Line-in and Audio Line-out
- Microphone
- Headphone

Security Features
- Cover lock
- Tie-down (optional)
- Power-on password
- Privileged-access password
- SCSI security jumpers on system board
Setting the SCSI Security Jumpers

Note: Carefully read and follow the safety guidelines detailed in the corresponding section of the RS/6000 7043 43P Series User’s Guide, SA38-0511.

To increase system unit security, the external SCSI connector can be disabled by changing jumpers inside the system unit.

1. Locate the SCSI security jumpers in the following figure.

2. To disable the external SCSI connector, move the jumper on J35 to the front two pins, and move the jumper on J36 to the rear two pins.
System Board Locations for Model 150

B1 Battery connector
J1 Wakeup-on-LAN jumper
J2 5x5 Auxiliary 5v connector
J3 Audio input connector
J4 Internal SCSI connector #2
J5 CD-ROM audio connector
J6 CD-ROM audio connector
J7 Power connector
J8 Power connector
J10 Media fan connector
J11 Memory Connector 1
J13 Audio output connector
J15 Remote Power-up Jumper
J16 Diskette drive connector
J17 Microphone jack
J18 Reset Connector
J19 Memory Connector 3
J20 Power-on Password jumper
J22 Headphone jack
J23 Serial port connector 2
J24 Serial port connector 1
J25 Tablet port connector
J26 CPU fansink connector
J27 System fan connector
J28 Memory Connector 2
J30 System fan connector
J32 Privileged-Access Password jumper
J33 Internal SCSI 16-bit connector
J35 SCSI security jumper
J36 SCSI security jumper
J38 External SCSI connector
J39 Riser card connector
J40 Power Switch connector
J41 Op Panel Connector
J42 Power Indicator LED connector
J43 Hard disk activity LED connector
J45 Ethernet twisted pair connector
J46 Internal Speaker connector
J49 Parallel port connector
J50 Ethernet AUI
J56 Mouse port connector
J59 Keyboard port connector
J139 Memory Connector 4
System Board, Cables, and Accessories
<table>
<thead>
<tr>
<th>Index Number</th>
<th>FRU Number</th>
<th>Units Per Assy</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>09P0168</td>
<td>1</td>
<td>System Board (250 MHz)</td>
</tr>
<tr>
<td>2</td>
<td>27F4212</td>
<td>6</td>
<td>Screw</td>
</tr>
<tr>
<td>3</td>
<td>39H8697</td>
<td>1</td>
<td>Hex Standoff</td>
</tr>
<tr>
<td>4</td>
<td>19L1808</td>
<td>1-4</td>
<td>64MB DIMM</td>
</tr>
<tr>
<td></td>
<td>19L1809</td>
<td>1-4</td>
<td>128MB DIMM</td>
</tr>
<tr>
<td></td>
<td>29L3302</td>
<td>1-4</td>
<td>256MB DIMM</td>
</tr>
<tr>
<td>5</td>
<td>93H1821</td>
<td>1</td>
<td>Diskette Cable Assembly</td>
</tr>
<tr>
<td>6</td>
<td>40H7572</td>
<td>1</td>
<td>SCSI Cable Assembly</td>
</tr>
<tr>
<td>7</td>
<td>93H6151</td>
<td>1</td>
<td>Ultra Cable Assembly (Optional)</td>
</tr>
<tr>
<td>8</td>
<td>08L1417</td>
<td>1</td>
<td>Riser Card</td>
</tr>
<tr>
<td>9</td>
<td>07L9115</td>
<td>1</td>
<td>Vertical Stand</td>
</tr>
<tr>
<td>10</td>
<td>40H6328</td>
<td>2</td>
<td>9-pin to 25-pin Serial Port Converters</td>
</tr>
<tr>
<td>11</td>
<td>11H2168</td>
<td>1</td>
<td>Display Cable Toroid Kit</td>
</tr>
<tr>
<td>12</td>
<td>15F8409</td>
<td>1</td>
<td>Battery</td>
</tr>
<tr>
<td>13</td>
<td>65G8850</td>
<td>1</td>
<td>CD-ROM drive audio cable</td>
</tr>
</tbody>
</table>
Appendix. Notices

This information was developed for products and services offered in the U.S.A.

The manufacturer may not offer the products, services, or features discussed in this document in other countries. Consult the manufacturer’s representative for information on the products and services currently available in your area. Any reference to the manufacturer’s product, program, or service is not intended to state or imply that only that product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any intellectual property right of the manufacturer may be used instead. However, it is the user’s responsibility to evaluate and verify the operation of any product, program, or service.

The manufacturer may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to the manufacturer.

The following paragraph does not apply to the United Kingdom or any country where such provisions are inconsistent with local law: THIS MANUAL IS PROVIDED “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions; therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. The manufacturer may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Information concerning products made by other than the manufacturer was obtained from the suppliers of those products, their published announcements, or other publicly available sources. The manufacturer has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to products made by other than the manufacturer. Questions on the capabilities of products made by other than the manufacturer should be addressed to the suppliers of those products.
# Reader’s Comments — We’d Like to Hear From You

## Supplement to the RS/6000 7043 43P Series Service Guide and User’s Guide

**Order Number:** SN32–9080–01

### Overall how satisfied are you with the information in this book?

<table>
<thead>
<tr>
<th>Very Satisfied</th>
<th>Satisfied</th>
<th>Neutral Dissatisfied</th>
<th>Very Dissatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Overall Satisfaction**

### How satisfied are you that the information in this book is:

<table>
<thead>
<tr>
<th>Very Satisfied</th>
<th>Satisfied</th>
<th>Neutral Dissatisfied</th>
<th>Very Dissatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Accurate**
- **Complete**
- **Easy to find**
- **Easy to understand**
- **Well organized**
- **Applicable to your tasks**

### Please tell us how we can improve this book:

---

**Thank you for your response. May we contact you?**

- **Yes**
- **No**

When you send comments to us, you grant us a nonexclusive right to use or distribute your comments in any way we believe appropriate without incurring any obligation to you.

**Name**

**Address**

**Company or Organization**

**Phone Number**
Information Development
Department H6DS-9561
11400 Burnet Road
Austin, TX 78758-3493