

Supplement to the RS/6000 7043 43P Series (SA38-0511  
and SA38-0512)



# Service Guide and User's Guide

**Second Edition (December 2000)**

Before using this information and the product it supports, read the information in "Appendix. Notices" on page 15.

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## About This Book

This supplement provides updates to the following publications:

- *RS/6000 7043 43P Series User's Guide*, SA38-0511
- *RS/6000 7043 43P Series Service Guide*, SA38-0512

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## ISO 9000

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

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## 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/)

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## 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.

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## 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.

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### 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.*

System Board	Fansink Assembly Numbers
7043–140	09P1125 or 09P1126
7043–150	09P1126 or 09P1129

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### 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.*

Machine Type	FRU Part Numbers	System Board Assembly Part Numbers	Fansink Number
7043–140 166 MHZ	11K4571, 73H4571, 93H7142	00P1606, 03N2407, 03N3976 11K0385, 93H4496, 93H4605 93H5700, 93H5688, 93H7139 93H9952	09P1125
7043–140 200MHZ	11K0382, 93H2573, 93H7143	00P1607, 03N2408, 03N3977 11K0386, 93H4497, 93H4606 93H5689, 93H6025, 93H7140 93H9953, 93H9954	09P1125
7043–140 233MHZ	93H6023	08L0281, 93H6024, 93H9955	09P1125
7043–140 233MHZ	11K0383	00P1608, 03N3978, 11K0387 41L5248, 41L6095	09P1126
7043–140 332MHZ	11K0384, 93H9334	00P1609, 03N3979, 11K0388 41L6099, 93H9337, 93H9956	09P1126

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

Machine Type	FRU Part Numbers	System Board Assembly Part Numbers	Fansink Number
7043–150 375MHZ New Version System Board	08L8446, 11K0157, 11K0459 41L5177, 41L5912, 41L5518 41L5590	03N2526, 08L1363, 11K0148 11K0464, 41L5172, 41L5517 41L5588, 41L5911	09P1126
7043–150 375MHZ New Version System Board	11K0459, 41L5912	11K0017, 11K0650	09P1129

## 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.



11S**41L5812**Y L1109140246 FRU**41L5912** 905

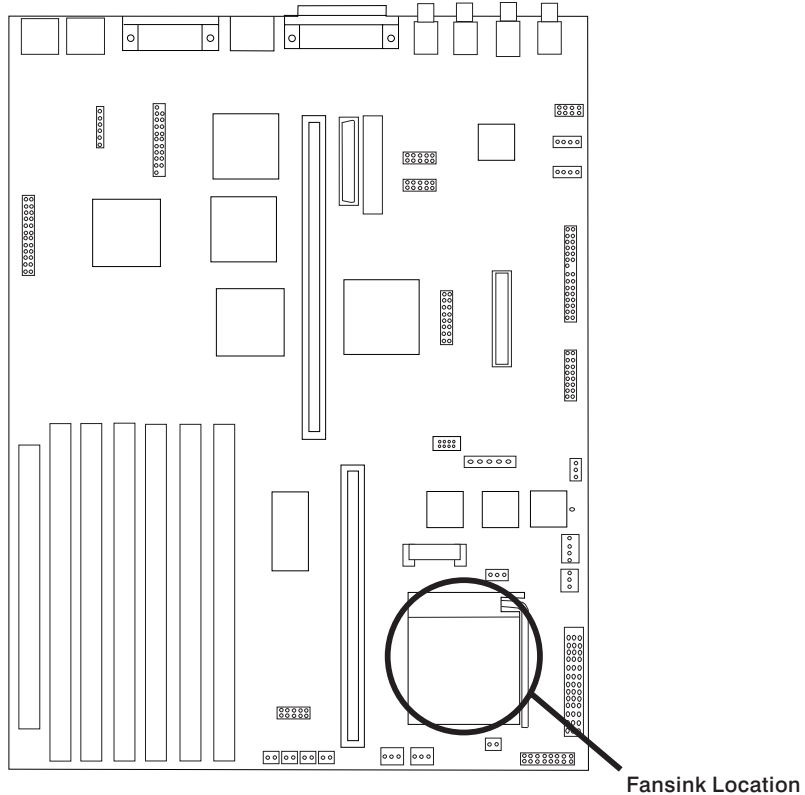
After you have identified both the system board assembly part number and the FRU part number, see the table in "Determining the Fansink Assembly Number to be Replaced" on page 1 to determine the appropriate fan to be replaced.



- 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.

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



- Unclip the heatsink by pushing down and away on the finger tab.
- Tilt the fansink toward the front of the system and slide the narrow buckle off the front socket tab.
- 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.



11S41L5812YL1109140246 FRU41L5912 905

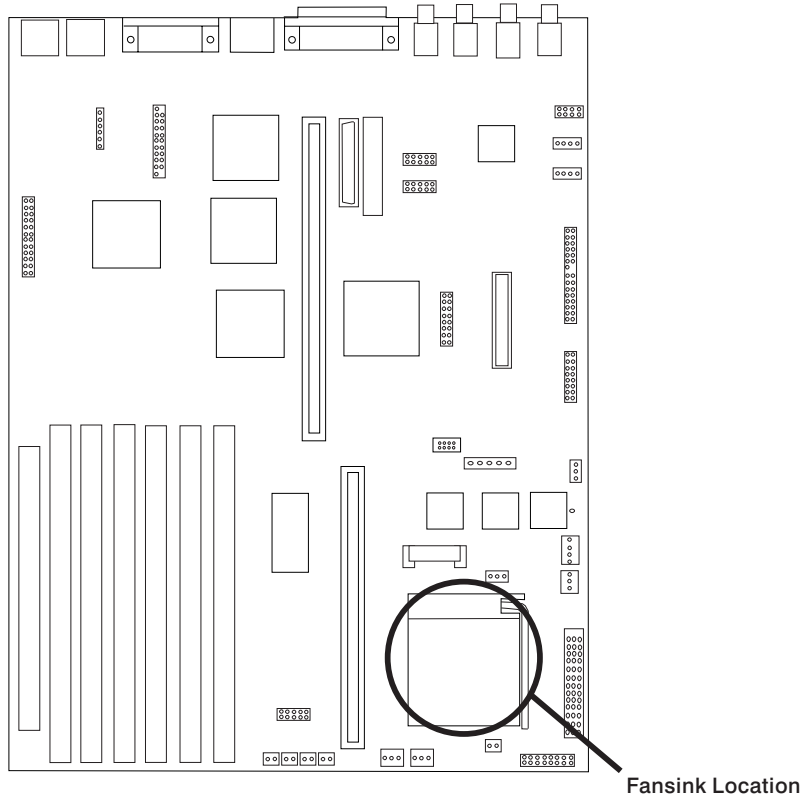
After you have identified both the system board assembly part number and the FRU part number, see the table in "Determining the Fansink Assembly Number to be Replaced" on page 1 to determine the appropriate fan to be replaced.

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.

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## 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.

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### 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

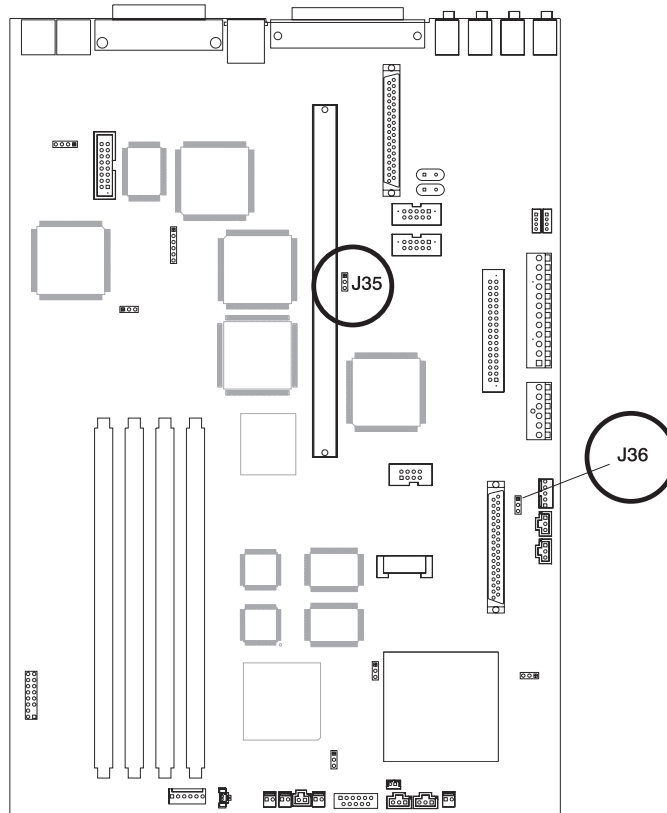
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## Setting the SCSI Security Jumpers

**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.

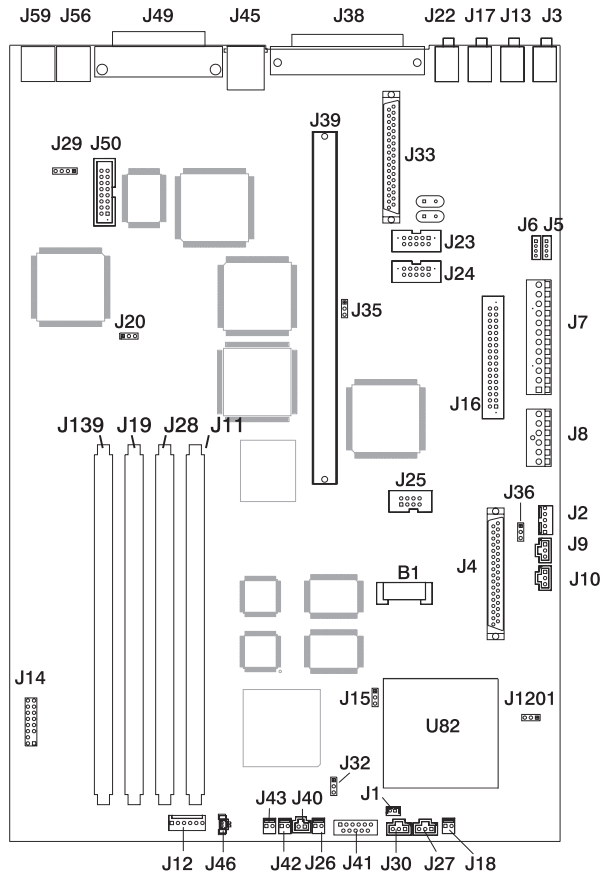
To increase system unit security, the external SCSI connector can be disabled by changing jumpers inside the system unit.

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

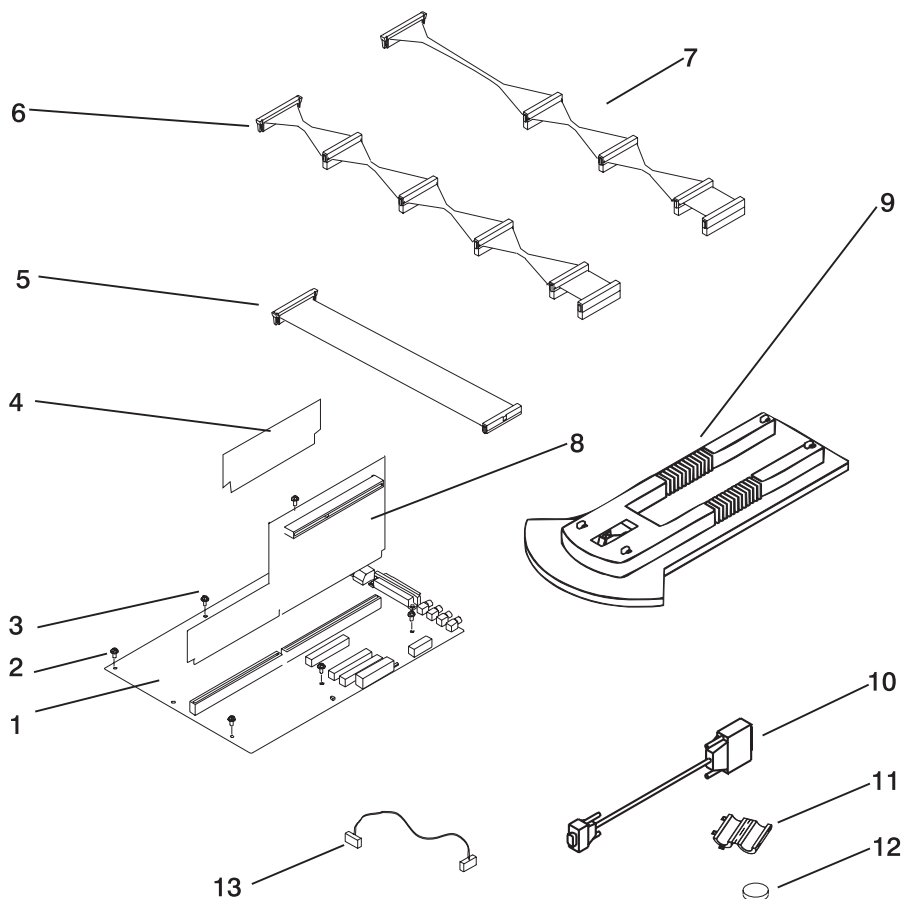


- B1** Battery connector
- J1** Wakeup-on-LAN jumper
- J2** 5x5 Auxiliary 5v connector
- J3** Audio input connector
- J4** Internal SCSI connector #2
- J5** CD-ROM audio connector
- J6** CD-ROM audio connector
- J7** Power connector
- J8** Power connector
- J10** Media fan connector
- J11** Memory Connector 1



<b>J13</b>	Audio output connector
<b>J15</b>	Remote Power-up Jumper
<b>J16</b>	Diskette drive connector
<b>J17</b>	Microphone jack
<b>J18</b>	Reset Connector
<b>J19</b>	Memory Connector 3
<b>J20</b>	Power-on Password jumper
<b>J22</b>	Headphone jack
<b>J23</b>	Serial port connector 2
<b>J24</b>	Serial port connector 1
<b>J25</b>	Tablet port connector
<b>J26</b>	CPU fansink connector
<b>J27</b>	System fan connector
<b>J28</b>	Memory Connector 2
<b>J30</b>	System fan connector
<b>J32</b>	Privileged-Access Password jumper
<b>J33</b>	Internal SCSI 16-bit connector
<b>J35</b>	SCSI security jumper
<b>J36</b>	SCSI security jumper
<b>J38</b>	External SCSI connector
<b>J39</b>	Riser card connector
<b>J40</b>	Power Switch connector
<b>J41</b>	Op Panel Connector
<b>J42</b>	Power Indicator LED connector
<b>J43</b>	Hard disk activity LED connector
<b>J45</b>	Ethernet twisted pair connector
<b>J46</b>	Internal Speaker connector
<b>J49</b>	Parallel port connector
<b>J50</b>	Ethernet AUI
<b>J56</b>	Mouse port connector
<b>J59</b>	Keyboard port connector
<b>J139</b>	Memory Connector 4

## System Board, Cables, and Accessories



<b>Index Number</b>	<b>FRU Number</b>	<b>Units Per Assy</b>	<b>Description</b>
1	09P0168	1	System Board (250 MHz)
2	27F4212	6	Screw
3	39H8697	1	Hex Standoff
4	19L1808	1-4	64MB DIMM
	19L1809	1-4	128MB DIMM
	29L3302	1-4	256MB DIMM
5	93H1821	1	Diskette Cable Assembly
6	40H7572	1	SCSI Cable Assembly
7	93H6151	1	Ultra Cable Assembly (Optional)
8	08L1417	1	Riser Card
9	07L9115	1	Vertical Stand
10	40H6328	2	9-pin to 25-pin Serial Port Converters
11	11H2168	1	Display Cable Toroid Kit
12	15F8409	1	Battery
13	65G8850	1	CD-ROM drive audio cable



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## Appendix. Notices

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