

AS/400e Server 270 and 820



30xx Memory Card Installation

Version 4

AS/400e Server 270 and 820



30xx Memory Card Installation

Version 4

Note

Before using this information and the product it supports, be sure to read the "Safety and Environmental Notices" on page iii and the "Notices" on page 17.

First Edition (July 2000)

This edition applies only to reduced instructions set computer (RISC) systems.

© Copyright International Business Machines Corporation 2000. All rights reserved.

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Safety and Environmental Notices

Danger Notices

A danger notice calls attention to a situation that is potentially lethal or extremely hazardous to people.

DANGER

To prevent a possible electrical shock during an electrical storm, do not connect or disconnect cables or station protectors for communications lines, display stations, printers, or telephones. (RSFTD003)

DANGER

To prevent a possible electrical shock from touching two surfaces with different electrical grounds, use one hand, when possible, to connect or disconnect signal cables. (RSFTD004)

DANGER

An electrical outlet that is not correctly wired could place hazardous voltage on metal parts of the system or the products that attach to the system. It is the customer's responsibility to ensure that the outlet is correctly wired and grounded to prevent an electrical shock. (RSFTD201)

DANGER

To prevent a possible electrical shock when adding or removing any devices to or from the system, ensure that the power cords for those devices are unplugged before the signal cables are connected or disconnected. If possible, disconnect all power cords from the existing system before you add or remove a device. (RSFTD203)

Caution Notices

A caution notice calls attention to a situation that is potentially hazardous to people because of some existing condition.

CAUTION:

Telecommunications Statement: This unit contains over-voltage circuits between the ac power outlet and the unit. These circuits meet the standard limits described in International Electrical Commission (IEC) 664, installation category II. It is the customer's responsibility to ensure that the power outlet meets the standards of IEC 664, installation category II. (RSFTC214)

Laser Safety Information

CAUTION:

This product may contain a CD-ROM which is a class 1 laser product. (RSFTC240)

Product Recycling and Disposal

Components of the system, such as structural parts and circuit cards, can be recycled where recycling facilities exist. IBM does not currently collect and recycle used IBM products from customers in the United States other than those products that are involved in trade-in programs. Companies are available to disassemble, reutilize, recycle, or dispose of electronic products. Contact an IBM account representative for more information.

The system unit contains batteries and circuit boards with lead solder. Before you dispose of this unit, these batteries and circuit boards must be removed and discarded according to local regulations or recycled where facilities exist. This book contains specific information on each battery type where applicable.

Battery Return Program

In the United States, IBM has established a collection process for reuse, recycling, or proper disposal of used IBM batteries and battery packs. For information on proper disposal of the batteries in this unit, please contact IBM at 1-800-426-4333. Please have the IBM part number that is listed on the battery available when you make your call. For information on battery disposal outside the United States, contact your local waste disposal facility.

Environmental Design

The environmental efforts that have gone into the design of the system signify IBM's commitment to improve the quality of its products and processes. Some of these accomplishments include the elimination of the use of Class I ozone-depleting chemicals in the manufacturing process, reductions in manufacturing wastes, and increased product energy efficiency. For more information, contact an IBM account representative.

Before you begin

- ___ 1. Take a minute to become familiar with these instructions. Note that you may not complete every step in this instruction.
- ___ 2. These instructions contain steps on how to install **memory (main storage cards)**, including adding another 2884 card assembly, into the system unit.
- ___ 3. This feature is customer installed. *The installation of this feature is intended for an experienced user who understands industry terminology and who has some system experience.* If you elect not to perform this feature installation yourself, contact IBM or an Authorized Dealer. They can perform the feature installation for a fee.
- ___ 4. When you use these instructions, you will do the following:
 - Remove the system unit covers.
 - Install your new hardware.
 - Install covers.
 - IPL your operating system.
 - Verify your new hardware configuration.

You need to allow additional time to complete your jobs, back up your system, IPL your system, and verify your hardware configuration.

- ___ 5. Some of the pictures in these instructions may not look exactly like the system unit that you have. However, the steps to perform the task are the same.
- ___ 6. Ensure that you have a current backup of your operating system and licensed programs. If you have backed up the operating system and licensed programs since the last time you applied PTFs, that backup is acceptable.
- ___ 7. If there are incorrect, missing or visibly damaged parts, contact one of the following:
 - Your authorized dealer
 - Point of purchase (for example, IBM Direct)
 - IBM Rochester Manufacturing Automated Information Line (R-MAIL)
 - 1-800-300-8751 (United States)
 - 1-507-253-5242 (worldwide)
- ___ 8. Determine if there are any existing prerequisites before you install your new feature. Go to this Web site and locate your feature number and OS/400 release and check the prerequisites:
http://as400service.ibm.com/s_dir/slkbases.NSF/

Then do the following to get to the Customer Install Features Prerequisites:

- a. Select **All Documents**
 - b. Select **Collapse**
 - c. Select **General Information**
 - d. Select **Offerings**
 - e. Select **Feature Prerequisites**
 - f. Select **Customer Install Features Prerequisites**
- ___ 9. If you encounter difficulties during the installation, contact your authorized dealer or service provider.

Powering off the system unit

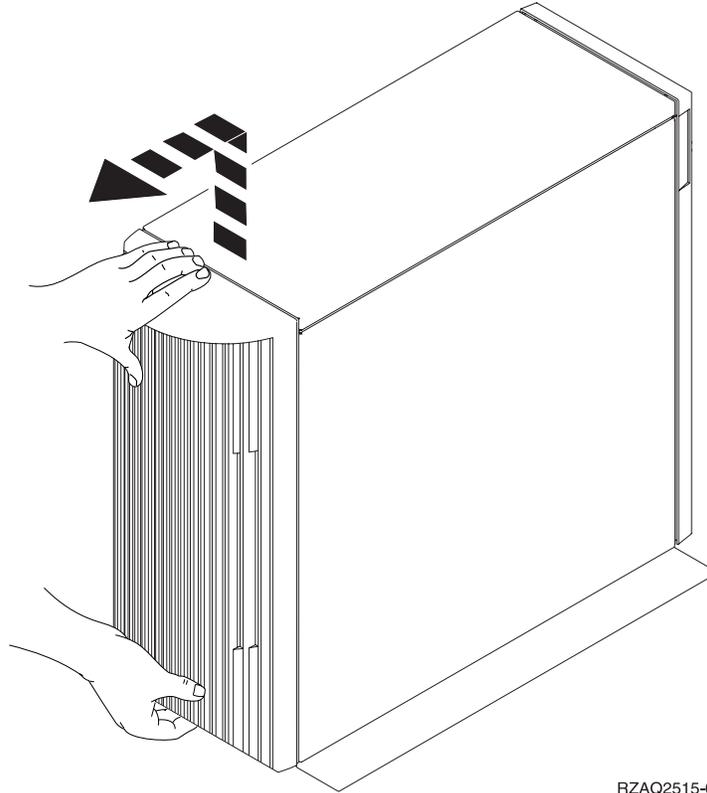
- ___ 1. Set the *System performance adjustment* to a value **other** than option 0.
 - ___ a. On an AS/400 command line, type **WRKSYSVAL (QPFRADJ)** and press Enter.
 - ___ b. Select the **Change** option on the *Work with System Values display* and press Enter.
 - ___ c. If the Performance adjustment value is 0 (No adjustment), it is necessary to change the value to 2. At the end of upgrade, return the value to 0.

If you have a Performance adjustment value of option 1, option 2, or option 3 you do not need to change the value. Press Enter.
 - ___ d. Press F3 once to return to an AS/400 Main Menu.
- ___ 2. Ensure that all jobs are complete.
- ___ 3. When all jobs are complete, type: **pwrdownsys *immed** on an AS/400 command line and press the Enter key.

Note: If you encounter difficulties during the installation, contact your dealer or your service provider.
- ___ 4. When the AS/400 is completely powered down, power off all PCs and devices, such as printers and displays, that are connected to the system unit.
- ___ 5. Unplug any power cords, such as printers and displays, from electrical outlets.
- ___ 6. Unplug the system unit power cord from the electrical outlet.

Removing the back cover

- ___ 1. **Figure 1 on page 3** shows removing the system unit back cover by placing your hand near the bottom of the cover and lifting up and out.

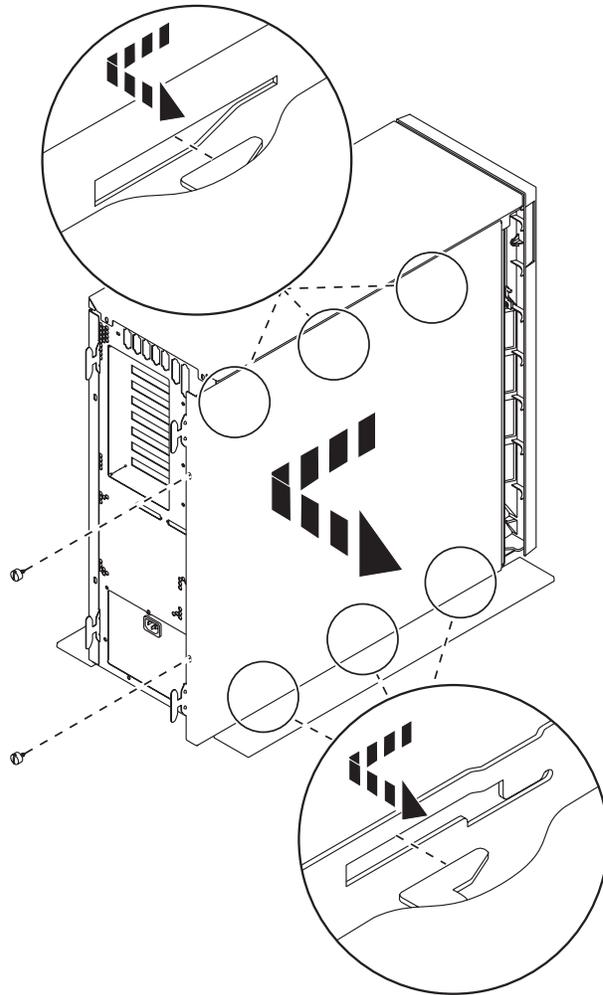


RZAQ2515-0

Figure 1. Remove system unit back cover

Removing the side cover

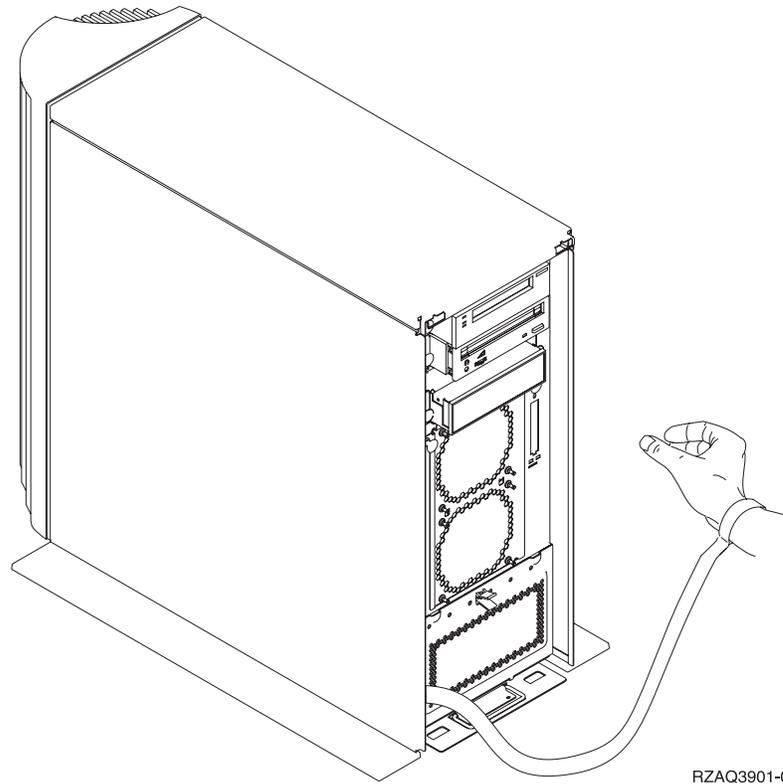
1. Figure 2 on page 4 shows removing the right side cover (view from back) by loosening the screws and sliding the cover from front to back until it stops. Pull the cover out.



RZAQ3902-0

Figure 2. Remove system unit side cover

- 2. Attach the disposable wrist strap to prevent electrostatic discharge from damaging a device. **Figure 3 on page 5** shows an example of where to attach the adhesive part of the foil on the wrist strap to an unpainted surface.



RZAQ3901-0

Figure 3. Attach wrist strap

Identifying the memory location

Depending on which system processor you have, memory can be located on the inside of your system unit or in a separate card assembly (feature 2884). If you have an access cover as shown in **Figure 4 on page 6 A**, your system unit has a separate card assembly that holds the memory.

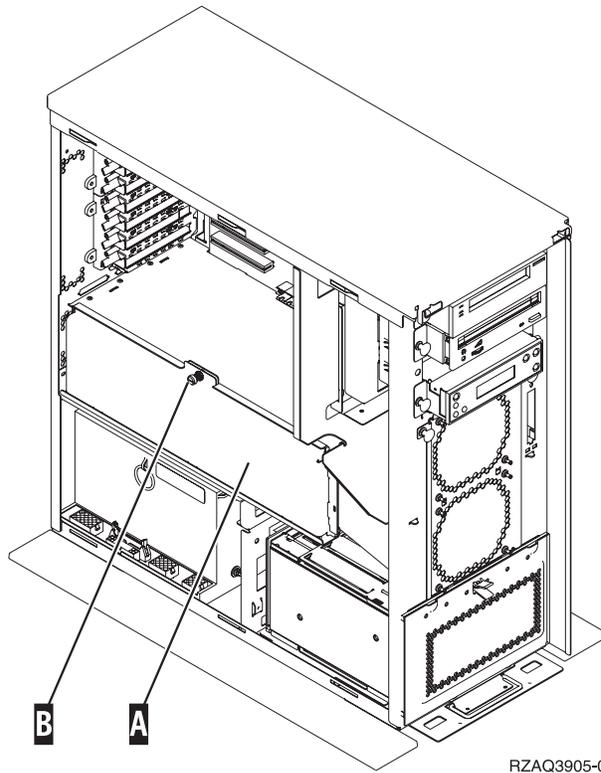


Figure 4. Location of Access Cover

___ 1. Does your system unit have an access cover as shown in Figure 4 **A** ?

Yes **No**

↓ The memory is located on the inside of your 270 system unit. Go to step "Installing memory cards inside your system unit" on page 10.

___ 2. Remove the access cover.

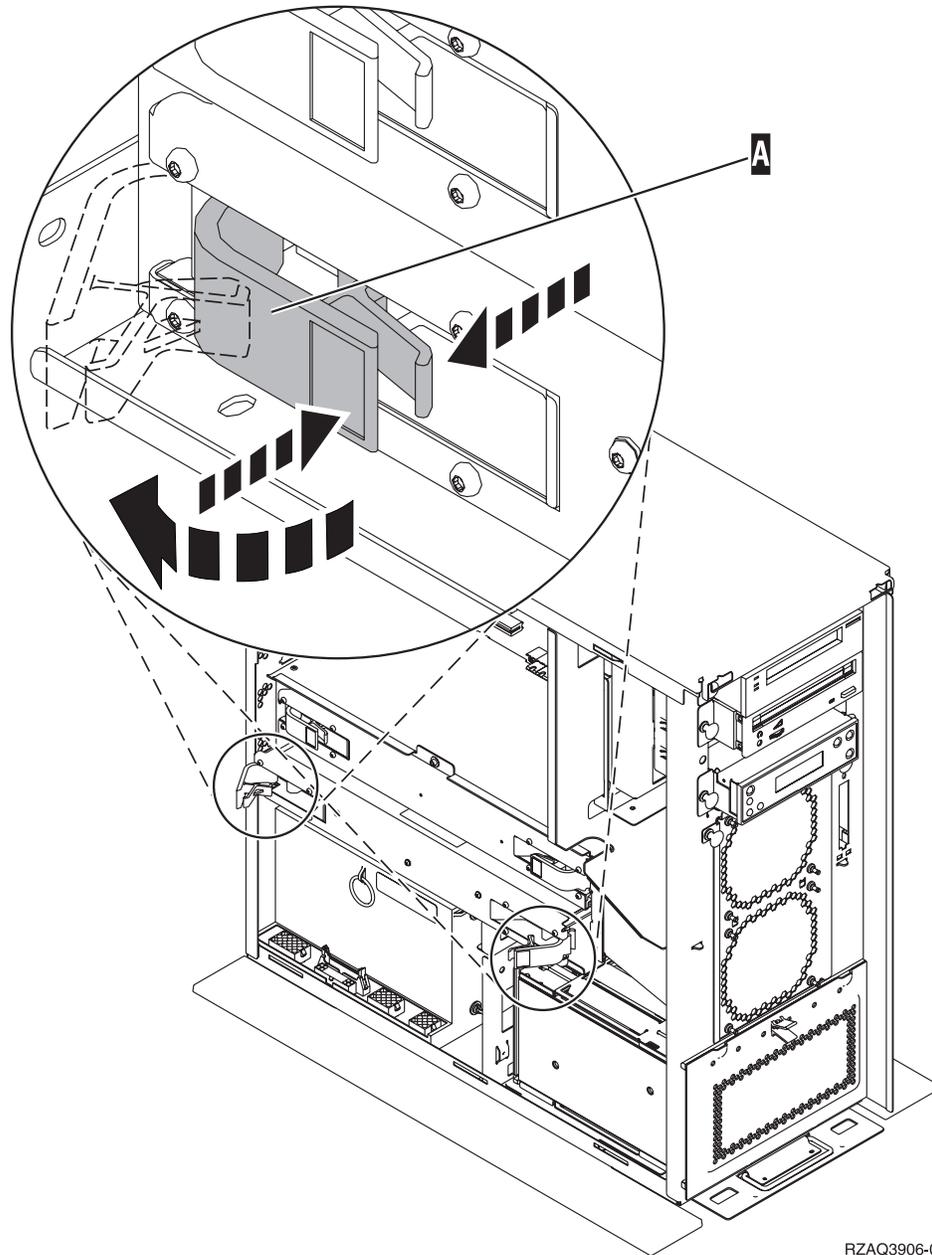
Note: A customer can safely use all latches that are colored blue.

___ 3. Do you have a 270 system unit?

Yes **No**

↓ You have an 820 system unit. Go to step 5 on page 7.

___ 4. **Figure 5 on page 7** shows the location of the 2884 card assembly in a 270 system unit.



RZAQ3906-0

Figure 5. Location of card assembly 2884 in a 270 system unit

___ 5. Do you have a new 2884 card assembly to install?

Yes No

↓ Go to step 7.

___ 6. Remove the empty card assembly (bottom card assembly — **Figure 6C**).

___ 7. **Figure 6 on page 8** shows three card assemblies inside the 820 system unit.

- **A** = Processor (**Do Not Remove**)
- **B** = Top card assembly (2884)
- **C** = Empty card assembly

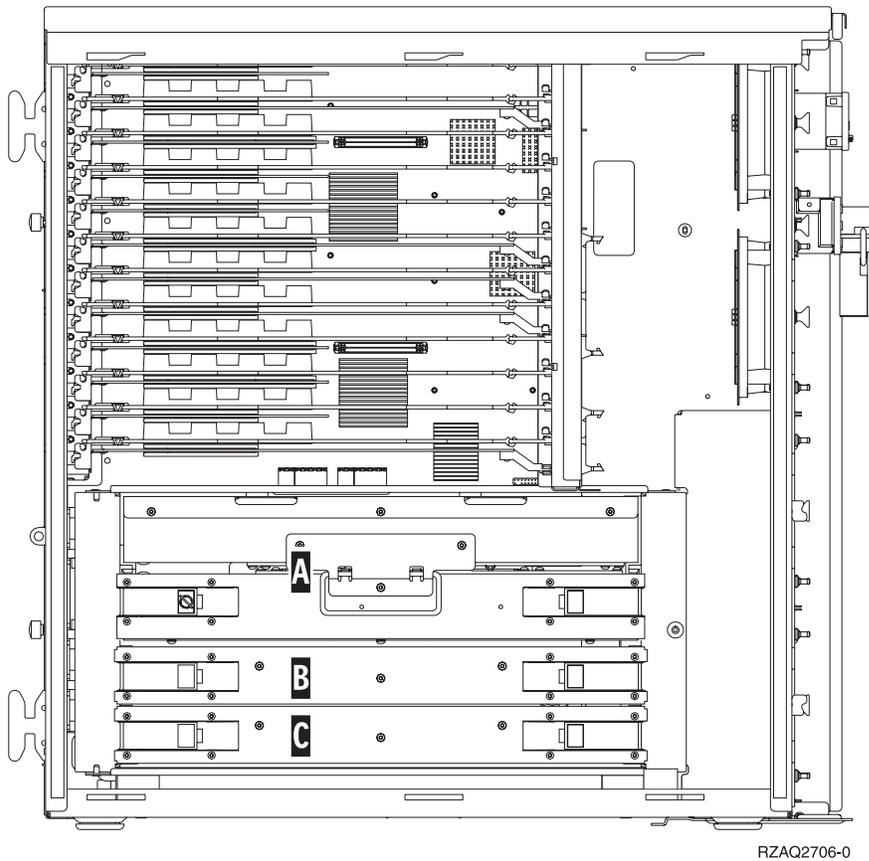


Figure 6. Location of Card Assembly 2884

- ___ 8. Go to step 9.
- ___ 9. Remove the 2884 card assembly from the system unit by doing the following:
 - ___ a. Unlatch the two blue latches **A** until the card assembly slightly “pops” out.
 - ___ b. Pull on both latches at the same time to remove the card assembly from the system unit.
 - ___ c. Turn the card assembly over and lay it on the static protective bag provided.

Adding memory to the card assembly

- ___ 1. Before you remove the blank filler cards and install the memory into the card assembly, read the following:
 - **Figure 7 on page 9** shows memory card locations on the main storage card assembly.
 - Fill positions **C** and **D** before installing memory cards in positions **E**, **F**, **G**, and **H**.
 - Install memory in sets of four. For example, you cannot fill only positions **E** and **G** and later fill positions **F** and **H**. You must install all four memory cards at one time.
 - Pairs of memory cards must be either 128MB, 256MB, or 512MB. Pairs installed in **E** and **G** must match pairs installed in **F** and **H**.
 - Go to step 2 on page 9.

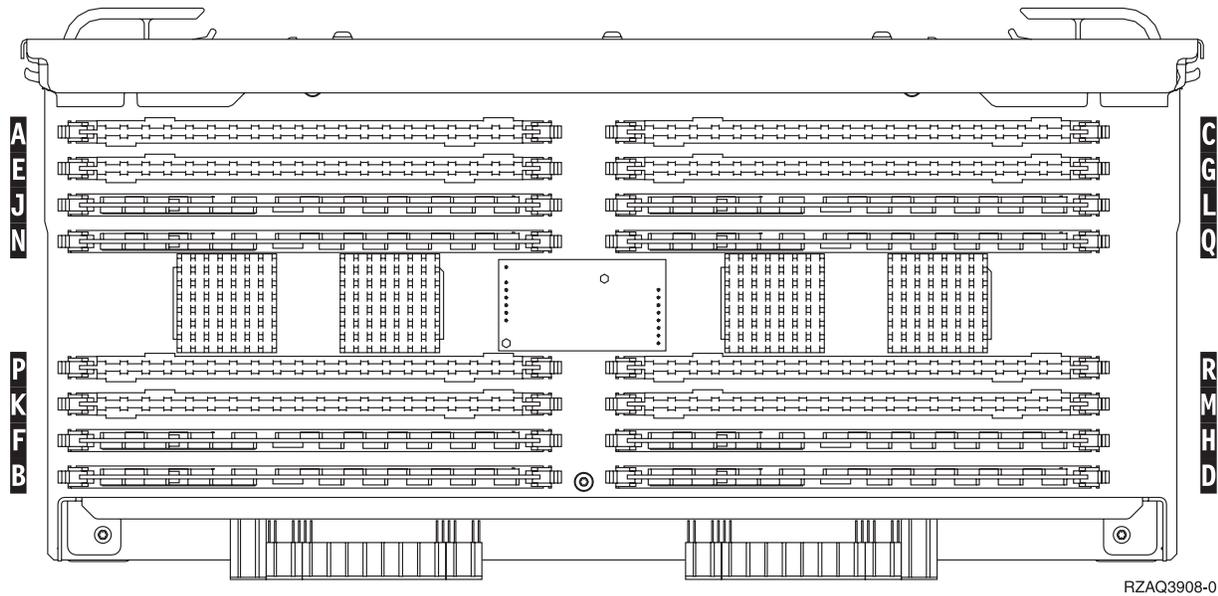
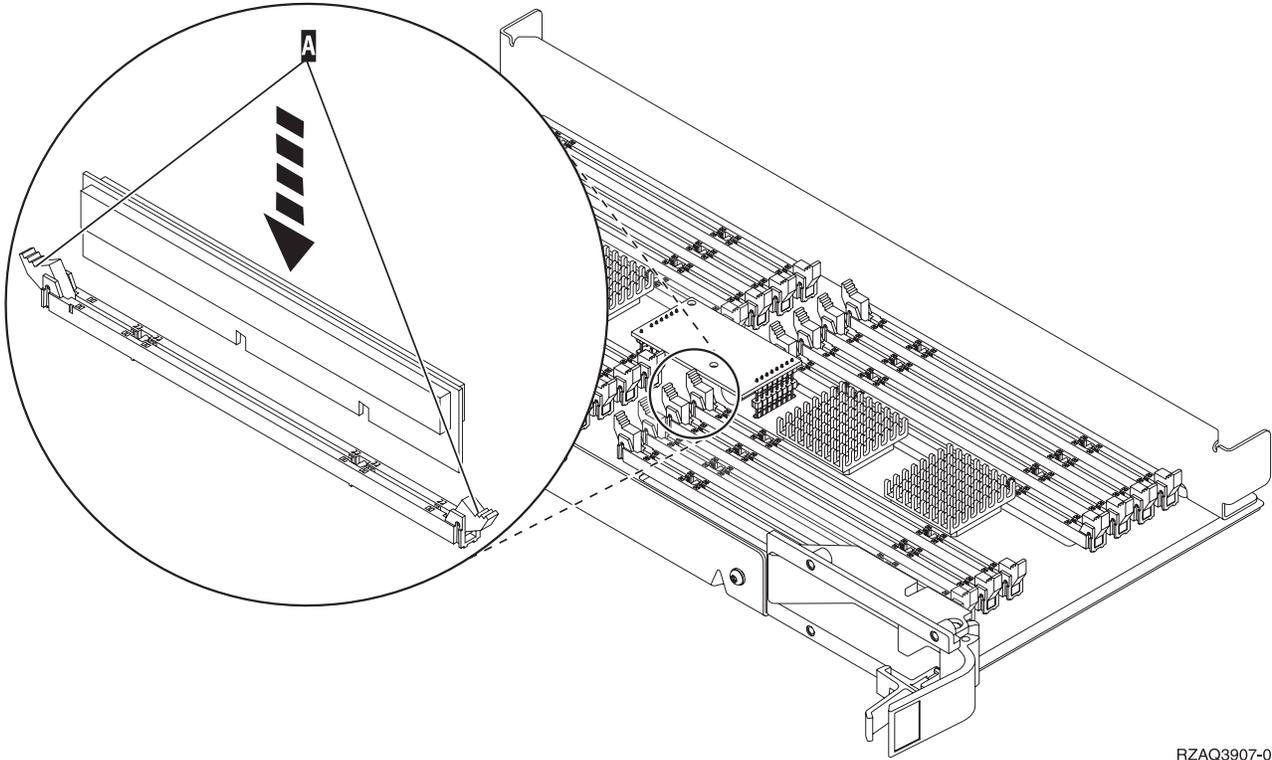


Figure 7. Memory Locations on Card Assembly

- ___ 2. Remove the blank filler cards from the next available positions by doing the following:
 - ___ a. Push outward on the latches **A** that are located at each end of the filler card, Figure 8 on page 10.
 - ___ b. Remove the filler card from the card socket and discard it.
- ___ 3. Find the package that contains the new memory cards.
- ___ 4. **Attention:** Memory cards are fragile. Handle with care. Remove a memory card, **one at a time**, from the static protective package.
- ___ 5. Install the memory card by doing the following:
 - ___ a. Look carefully at the notches on the memory card. The distance between the end notches is slightly different.
 - ___ b. Align the card as shown in Figure 8 on page 10.
 - ___ c. Match the keyed notches and push down on the card until the latches close.



RZAQ3907-0

Figure 8. Install Memory Cards

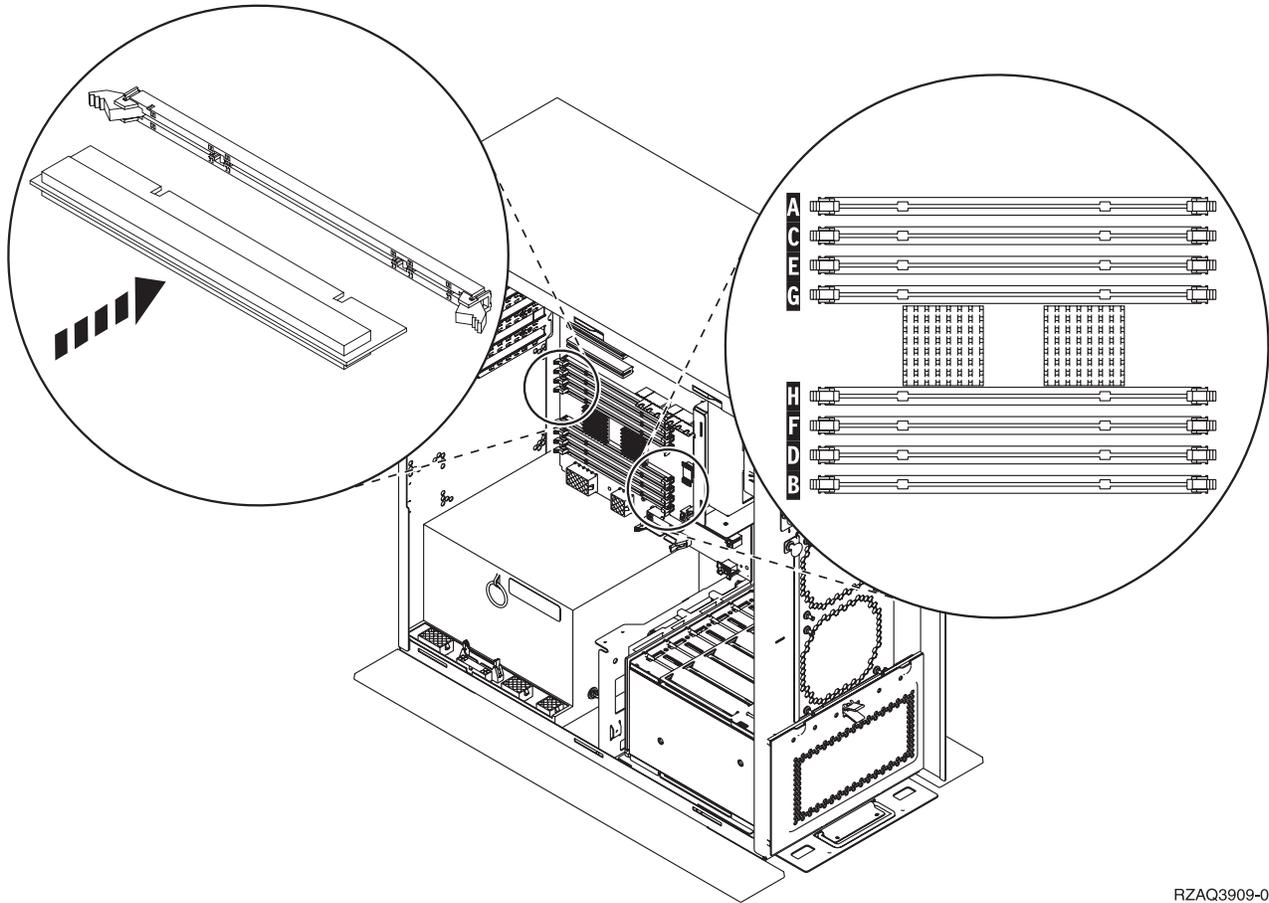
- ___ 6. Install the remaining memory cards.
- ___ 7. When you finish installing all the memory cards, turn the card assembly over, and slide it into the system unit. Push on both card latches at the same time. Close the latches when you cannot push the card assembly any further into the system unit.
- ___ 8. Reinstall the access cover.

Note: Pull blue latches out. When the cover is on the frame, push the blue latches in.

- ___ 9. You have completed the installation of the memory cards in your system.
Go to step "Installing system unit covers" on page 12.

Installing memory cards inside your system unit

- ___ 1. **Figure 9 on page 11** shows the memory card connectors on the processor **A** inside your system unit.



RZAQ3909-0

Figure 9. Memory Connectors Inside the System Unit

- ___ 2. Place memory cards as follows on the processor:
 - In pairs, beginning with **C and D**, then **E and F**, and so on.
 - Each pair of storage cards must be either 128MB, 256MB, or 512MB.
- ___ 3. Remove the blank filler cards from the next available positions by doing the following:
 - ___ a. Push outward on the latches that are located at each end of the filler card, Figure 9.
 - ___ b. Remove the filler card from the card socket and discard it.
- ___ 4. Find the package that contains the new memory cards.
- ___ 5. **Attention:** memory cards are fragile. Handle with care. Remove a memory card, one at a time, from the static protective package.
- ___ 6. Install the memory card in the next available position (Figure 9) beginning with **C and D** by doing the following:
 - ___ a. Look carefully at the notches on the memory card. The distance between the end notches is slightly different.
 - ___ b. Align the card as shown in Figure 9.
 - ___ c. Match the keyed notches and push forward on the card until the latches close.
- ___ 7. Install the second memory card.
- ___ 8. Do you have any other adapter cards or devices to install?

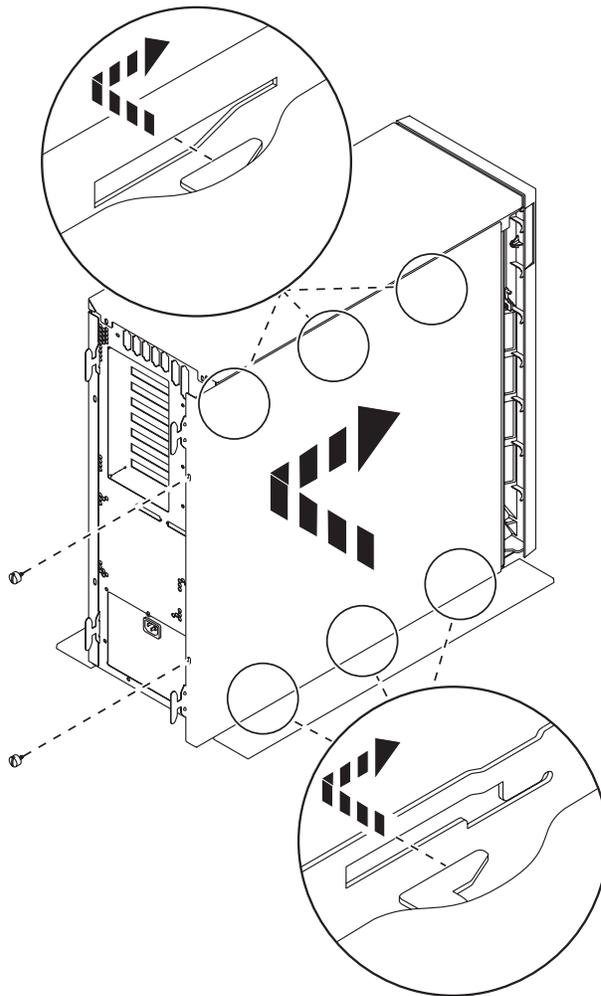
No Yes



If you have another device such as an adapter card, a tape unit, or disk units to install, go to the instructions that came with that device.

Installing system unit covers

- 1. Remove the wrist strap.
- 2. **Figure 10** shows how to install the system unit side cover by aligning the tabs on the top and bottom edge. Press forward to make sure that all tabs enter the slots. Slide the cover toward the front of the system unit until it stops and install the screws.



RZAQ3910-0

Figure 10. Install system unit side cover

- 3. Install the system unit back cover.

___ 4. DANGER

An electrical outlet that is not correctly wired could place hazardous voltage on metal parts of the system or the products that attach to the system. It is the customer's responsibility to ensure that the outlet is correctly wired and grounded to prevent an electrical shock. (RSFTD201)

Plug the following power cords into an electrical outlet.

- System unit

Note: Do **not** power on your AS/400 system unit at this time.

- System unit console

___ 5. Plug in and power on all attached devices, such as printers and displays.

Completing the installation

___ 1. Is your system unit an AS/400e 270 or 820?

270 820

↓ Go to step 4.

___ 2. Look at the Function/Data display on the control panel.

___ 3. Does **01 B N V=S** appear in the Function/Data display?

Yes No

↓ Do the following:

- ___ a. Press the Increment/Decrement push button until **02** appears in the Function/Data display.
 - ___ b. Press the Enter push button on the control panel.
 - ___ c. Press the Increment/Decrement push button until **B** appears in the Function/Data display.
 - ___ d. Press the Enter push button on the control panel.
 - ___ e. Press the Increment/Decrement push button until **N** appears in the Function/Data display.
 - ___ f. Press the Enter push button on the control panel.
 - ___ g. Press the Increment/Decrement push button until **S** appears in the Function/Data display.
 - ___ h. Press the Enter push button on the control panel.
 - ___ i. Press the Increment/Decrement push button until **01** appears in the Function/Data display.
 - ___ j. Press the Enter push button on the control panel.
01 B N S should appear in the Function/Data display. If it does not, repeat steps 3a through 3i.
 - ___ k. Go to step 6 on page 14.
- ___ 4. Look at the Function/Data display on the control panel.
- ___ 5. Does **01 B V=S** appear in the Function/Data display?
- Yes No
- ↓ Do the following:
- ___ a. Press the Mode Select button until the Manual mode indicator (a small hand) lights up.

- ___ b. Press the Increment/Decrement push button until **02** appears in the Function/Data display.
 - ___ c. Press the Enter push button on the control panel.
 - ___ d. Press the Increment/Decrement push button until **B** appears in the Function/Data display.
 - ___ e. Press the Enter push button on the control panel.
 - ___ f. Press the Increment/Decrement push button until **S** appears in the Function/Data display.
 - ___ g. Press the Enter push button on the control panel.
 - ___ h. Press the Mode Select button until the Normal indicator (**OK**) lights up.
 - ___ i. Press the Increment/Decrement push button until **01** appears in the Function/Data display.
 - ___ j. Press the Enter push button on the control panel.
01 B S should appear in the Function/Display panel. If it does not appear, repeat steps 5a on page 13 through 5i.
 - ___ k. Go to step 6.
- ___ 6. Power on the workstation or PC that is your console.
 - ___ 7. Press the system unit power-on button. The power-on light will appear.

Note: There will be an approximately 10 second delay before power on. The system takes approximately 5 to 20 minutes to power on and complete an IPL.

- ___ 8. Sign on the system unit. Ensure that you have service tools authority.
- ___ 9. To verify your memory (main storage) card configuration, do the following
 - ___ a. On an AS/400 command line, type:**STRSST**. Press Enter.
 - ___ b. Select **Start a service tool** on the *System Service Tools (SST)* display and press Enter.
 - ___ c. Select **Hardware service manager** on the *Start a Service Tool* display and press Enter.
 - ___ d. Select **Logical hardware resources (Buses, IOPs, Controllers...)** from the *Hardware Service Manager* display and press Enter.
 - ___ e. Select **Main Storage Resources** on the *Logical Hardware Resources* display and press Enter.

The following screen is an example of what you should see.

Display Main Storage Information					
Opt	Location	Type	Size	Resource Name	Status
-	1		32	MS0x	Operational
-	2		32	MS0x	Operational
-	3		32	MS0x	Operational

Verify that the status is *Operational* for all locations.

Note: If the status is not *Operational*, check the memory cards.

- ___ f. If you have a printer, print the configuration list.

Note: To print the hardware resources list, press **F12** one time. When the *Logical Hardware Resources* menu appears, press **F6**.

- ___ g. To return to the AS/400 Main menu, press **F3** three times and then press Enter.
- ___ 10. If you changed the *System performance adjustment* option value in step 1 on page 2, do the following to return to what you had prior to your upgrade:
 - ___ a. On an AS/400 command line, type **WRKSYSVAL (QPFRADJ)**.
 - ___ b. Select **Change** and press Enter.
 - ___ c. Change the Performance adjustment value to what it was before you did the upgrade.
- ___ 11. For information on how to make your main storage card operational, go to the *AS/400 Information Center*. You can access the Information Center from the *AS/400 Information Center, SK3T-2027-03* or from the following Web site:
<http://www.as400.ibm.com/infocenter>
- ___ 12. Your feature upgrade is complete.

Notices

This information was developed for products and services offered in the U.S.A. IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM 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:

IBM Director of Licensing
IBM Corporation
500 Columbus Avenue
Thornwood, NY 10594
U.S.A.

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS 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. IBM 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 non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

If you are viewing this information softcopy, the photographs and color illustrations may not appear.

The drawings and specifications contained herein shall not be reproduced in whole or in part without the written permission of IBM.

IBM has prepared this publication for use by customer personnel for operating and planning for the specific machines indicated. IBM makes no representations that it is suitable for any other purpose.

Trademarks

The following terms are trademarks of the IBM Corporation in the United States or other countries or both:

AS/400
AS/400e series
Client Access
Client Access/400
IBM
NetFinity
Operating System/400
OS/400
400
800-IBM-CALL

Microsoft, Windows, Windows NT, and the Windows 95 logo are trademarks or registered trademarks of Microsoft Corporation.

Other company, product, and service names, which may be denoted by a double asterisk (**), may be trademarks or service marks of others.

Readers' Comments — We'd Like to Hear from You

AS/400e Server 270 and 820
30xx Memory
Card Installation

Publication No. SENG-3002-00

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

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Overall satisfaction	<input type="checkbox"/>				

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

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Accurate	<input type="checkbox"/>				
Complete	<input type="checkbox"/>				
Easy to find	<input type="checkbox"/>				
Easy to understand	<input type="checkbox"/>				
Well organized	<input type="checkbox"/>				
Applicable to your tasks	<input type="checkbox"/>				

Please tell us how we can improve this book:

Thank you for your responses. May we contact you? Yes No

When you send comments to IBM, you grant IBM a nonexclusive right to use or distribute your comments in any way it believes appropriate without incurring any obligation to you.

Name

Address

Company or Organization

Phone No.



Fold and Tape

Please do not staple

Fold and Tape



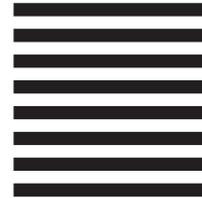
NO POSTAGE
NECESSARY
IF MAILED IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST-CLASS MAIL PERMIT NO. 40 ARMONK, NEW YORK

POSTAGE WILL BE PAID BY ADDRESSEE

IBM CORPORATION
ATTN DEPT 542
IDCLERK
3605 Highway 52 N
ROCHESTER MN 55901-7829



Fold and Tape

Please do not staple

Fold and Tape



Printed in the United States of America
on recycled paper containing 10%
recovered post-consumer fiber.

SENG-3002-00

