IBM

@server

iSeries 270 and 820

30xx Memory Card Installation

Version 5

SENG-3002-01

IBM

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30xx Memory
Card Installation

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SENG-3002-01

IBM

> **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 19.

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)

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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.

Installation Instructions

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 PTF 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/slkbase.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 iSeries 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 you have a Performance adjustment value of option **1**, option **2**, or option **3** you do not need to change the value. Press Enter.

    If the Performance adjustment value is **0** (No adjustment), it is necessary to change the value to **2**.

  ___ d. Press F3 once to return to the Main Menu.

___ 2. Ensure that all jobs are complete (WRKACTJOB).

___ 3. When all jobs are complete, type: **pwrdwnsys *immed** on an iSeries 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 iSeries is completely powered down disconnect all PCs from the system unit. Power off all 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.

___ 7. Remove the unit back and side cover. Refer to "Unit Covers" on page 15.

___ 8. **Attach the disposable wrist strap to prevent electrostatic discharge from damaging a device.** Attach the adhesive part of the foil to an unpainted surface.

    Notes:

  a. Follow the same precautions you would use without the wrist strap. The 2209 Disposable Wrist Strap is for static control. It will not increase nor decrease your risk of receiving electric shock when using or working on electrical equipment.

  b. Discard the wrist strap immediately and contact your dealer for a replacement, if the disposable wrist strap appears damaged or is cut off. Do not continue until a new wrist strap is available.

  c. Remove the liner from the copper foil at the end, when you unroll the strap.

  d. Attach the copper foil to an **exposed, unpainted** metal surface on the frame of the unit (electrical ground).

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).
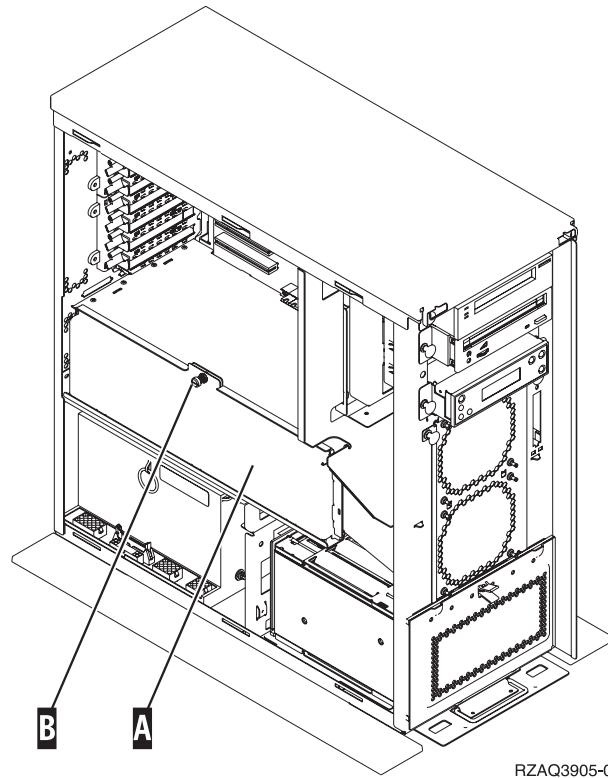
RZAQ3905-0

Figure 1. Location of Access Cover

__ 1. Do you have a 270 system unit?

Yes **No**

↓ You have a 820 system unit. Go to step 5 on page 4.

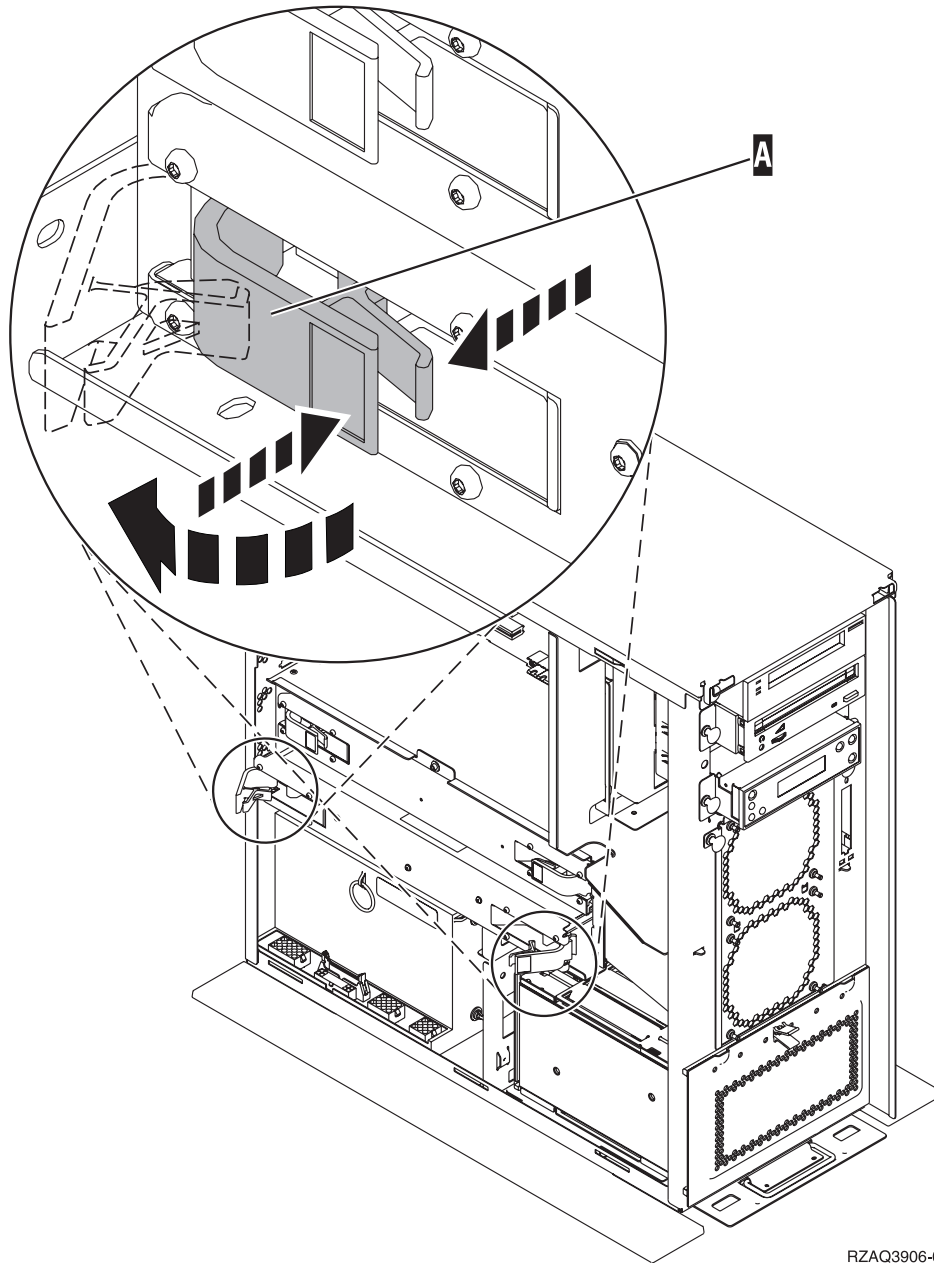__ 2. Does your system unit have an access cover as shown in Figure 1 **A** ?

Yes **No**

↓ The memory is located on the inside of your 270 system unit. Go to "Installing memory cards inside your system unit" on page 7.

__ 3. Remove the access cover.

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

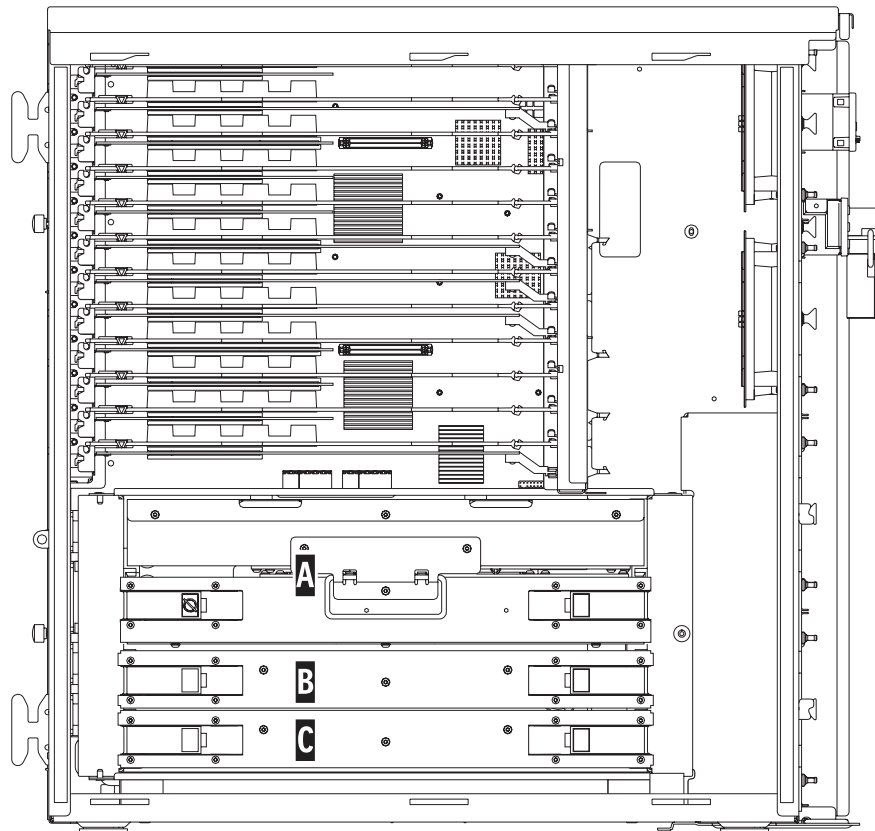__ 4. **Figure 2 on page 4** shows the location of the 2884 card assembly in a 270 system unit.

Figure 2. Location of card assembly 2884 in a 270 system unit

__ 5. Do you have a new 2884 card assembly to install in your 820 system unit?

Yes **No**

↓ Go to step 7 on page 5.

__ 6. Remove the empty card assembly **C** .

Figure 3. Location of Card Assembly 2884 in 820 Unit

__ 7. Remove the 2884 card assembly **B** or **C** from the system unit by doing the following:

    __ a. Unlatch the two blue latches on the 2884 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 4 on page 6** 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**.
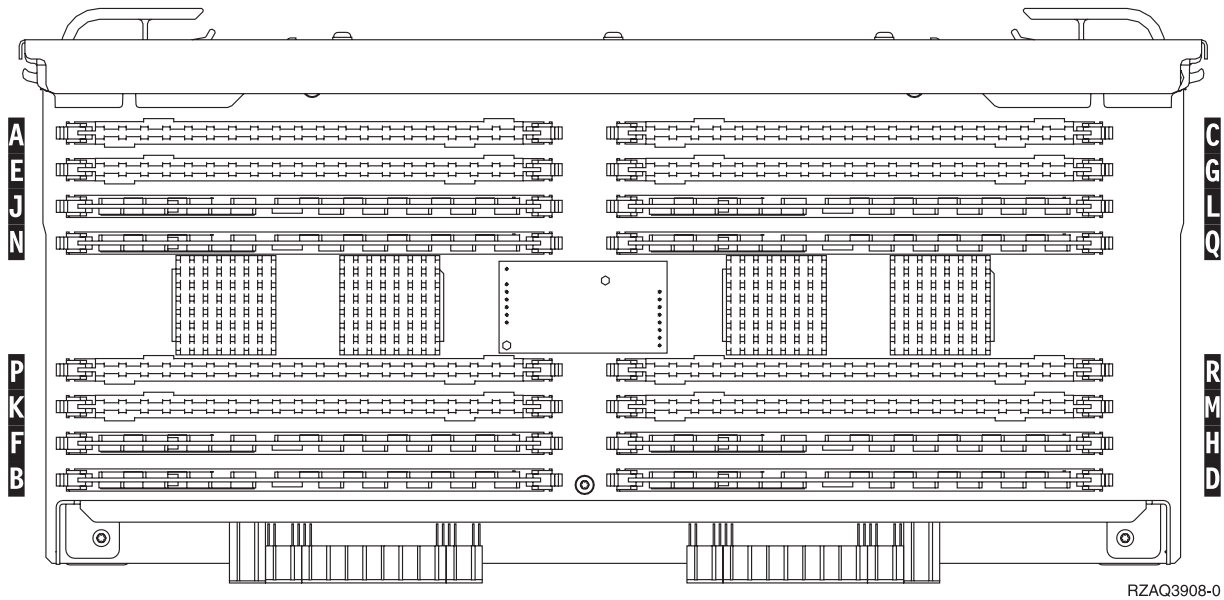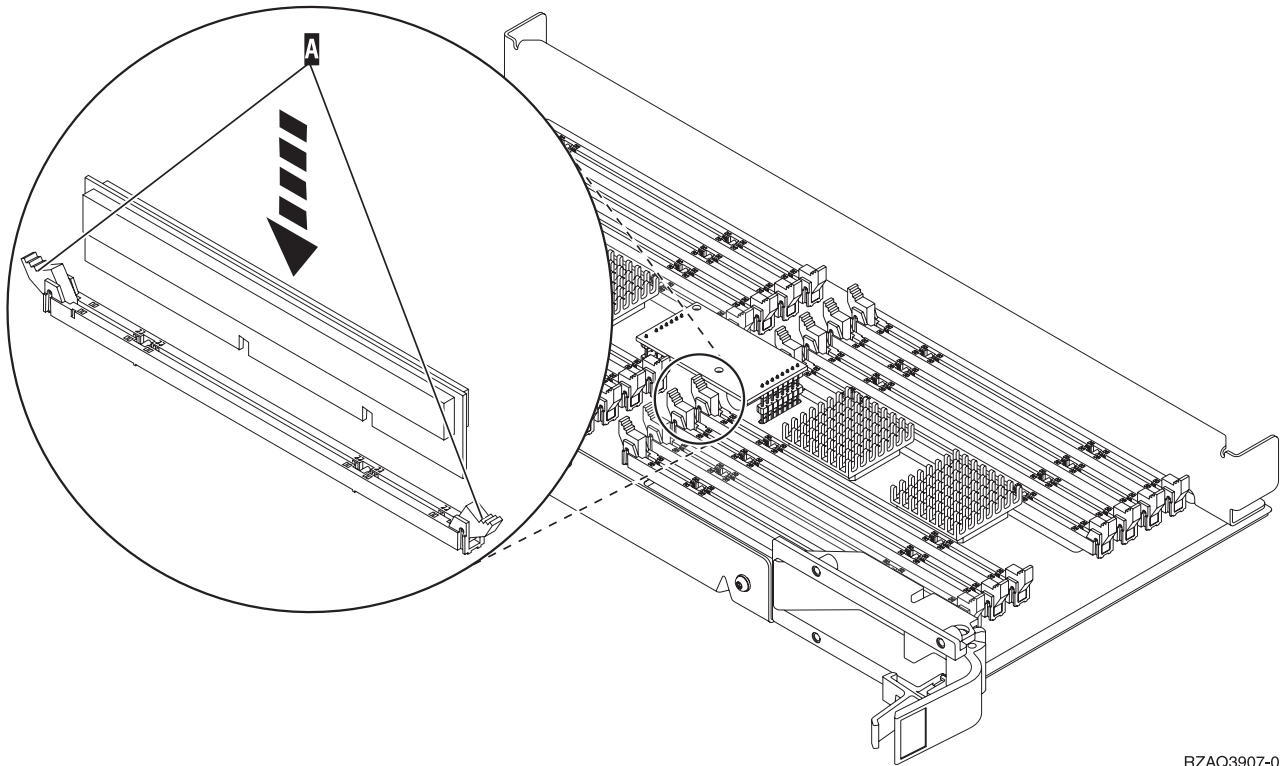
- Go to step 2 on page 6.

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Figure 4. 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 5 on page 7.

    __ 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. Refer to Figure 5 on page 7 to install the memory card by doing the following:

    __ a. Look carefully at the notches on the bottom of the memory card. The distance between the notches and the end of the memory card is slightly different.

    __ b. Align the card as shown in Figure 5 on page 7.

    __ c. Match the keyed notches and push down on the card until the latches close.
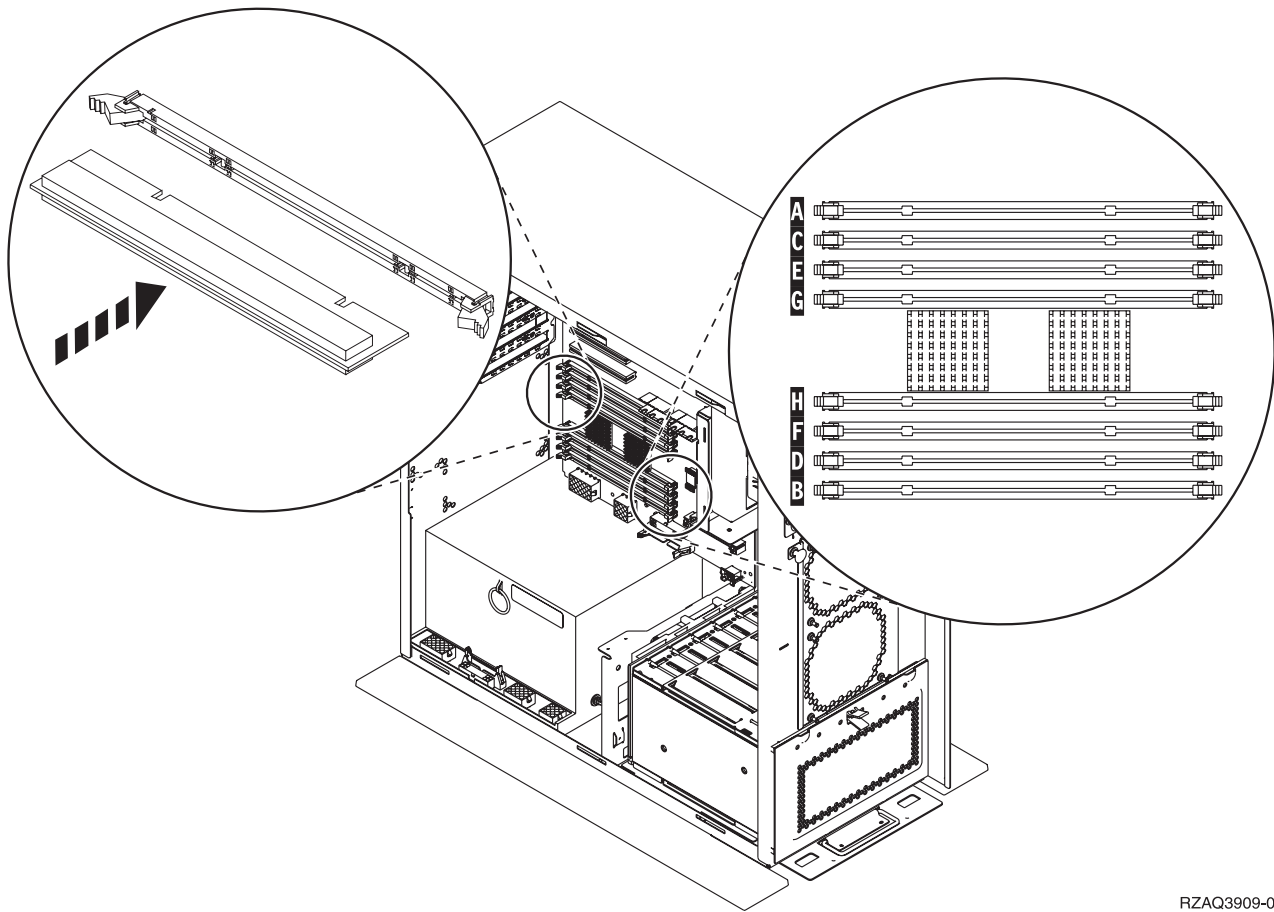
Figure 5. Install Memory Cards

    __ 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.

    __ 9. You have completed the installation of the memory cards in your system. **Go to "Installing system unit covers" on page 10.**
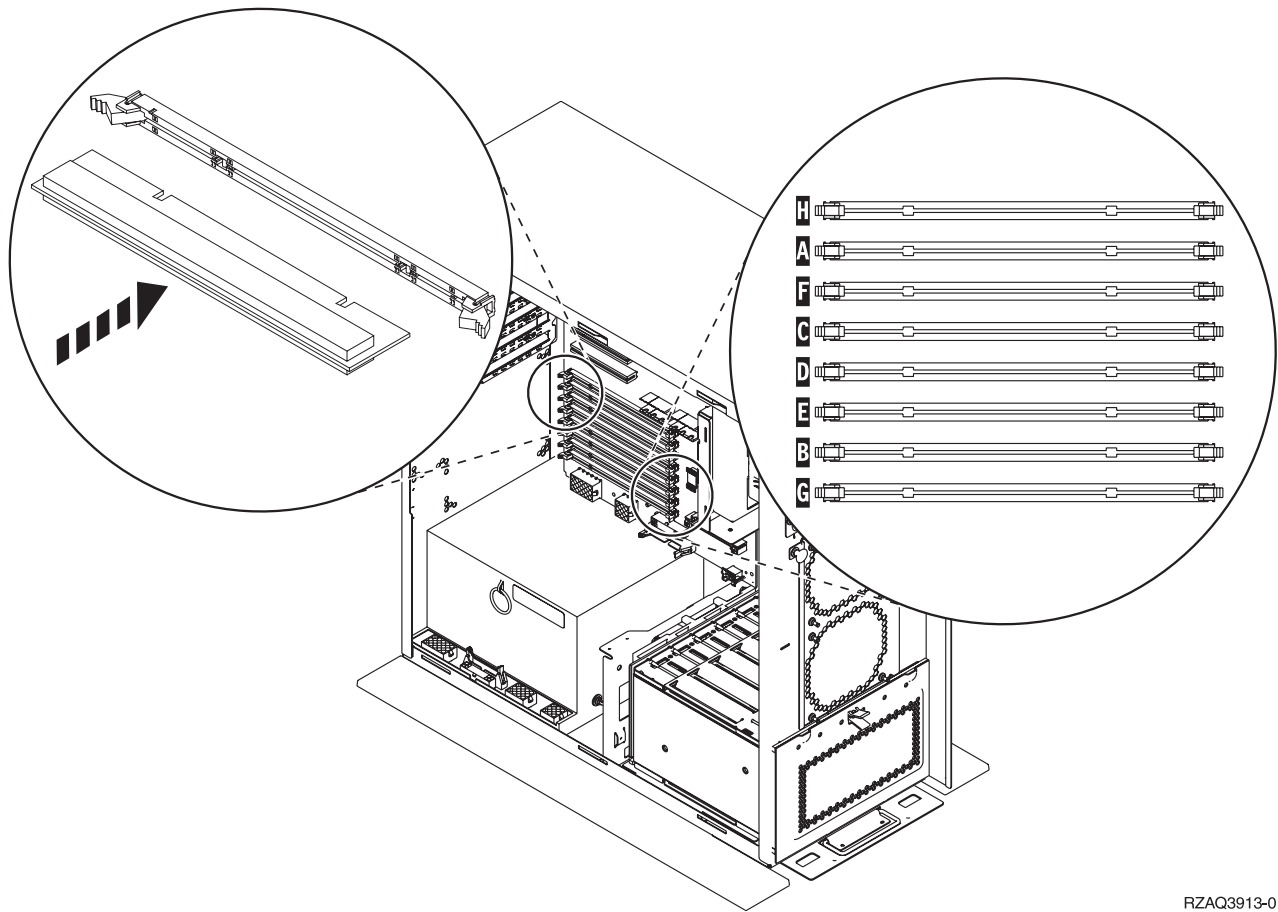
Installing memory cards inside your system unit

    __ 1. **Figure 6 on page 8** and **Figure 7 on page 9** show the memory card connectors on the processor **A** inside your system unit.

Figure 6. Memory Connectors View 1

Figure 7. Memory Connectors View 2

__ 2. Refer to the figure that matches your system unit to place the memory in the correct order.

__ 3. 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.

__ 4. 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 6 on page 8.

__ b. Remove the filler card from the card socket and discard it.

__ 5. Find the package that contains the new memory cards.

__ 6. **Attention:** memory cards are fragile. Handle with care.
Remove a memory card, **one at a time**, from the static protective package.

__ 7. Install the memory card in the next available position (Figure 6 on page 8) beginning with **C and D** by doing the following:

__ a. Look carefully at the notches on the bottom of the memory card. The distance between the notches and the end of the card is slightly different.

__ b. Align the card as shown in Figure 6 on page 8.

__ c. Match the keyed notches and push forward on the card until the latches close.

Installation Instructions **9**

__ 8. Install the second memory card.

__ 9. Do you have any other adapter cards or devices to install?
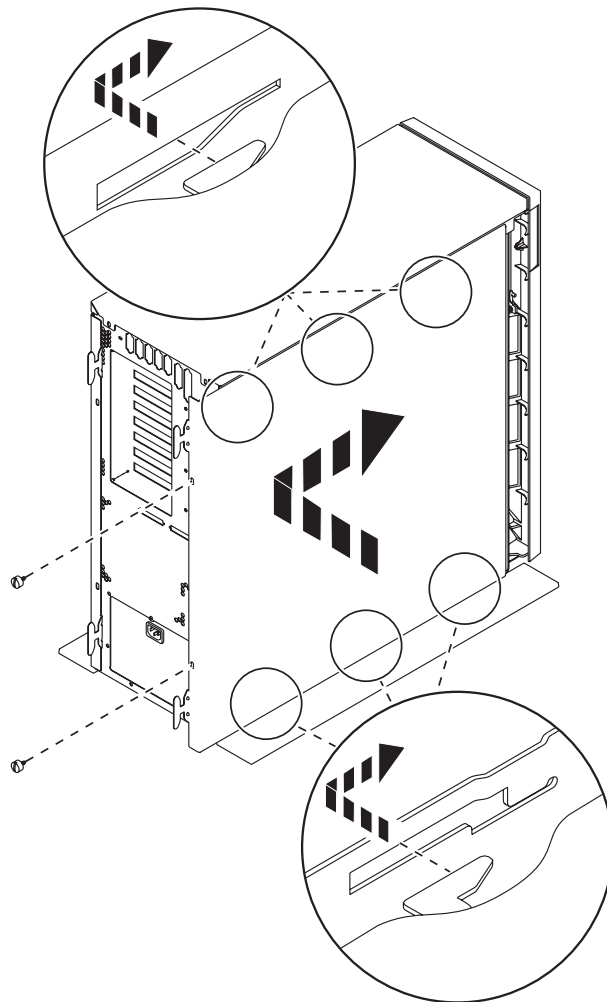
No   **Yes**

↓

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.

Go to "Installing system unit covers".

Installing system unit covers

__ 1. Remove the wrist strap.

__ 2. **Figure 8** 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 8. 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 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 iSeries 270 or 820?

270   **820**

↓   Go to step 4.

__ 2. Look at the Function/Data display on the control panel. Refer to "System unit control panel" on page 17.

__ 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 12.

__ 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 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. Type **strsst** on the command line and press Enter.

__ b. Type **your service tools userid and service tools password** on the *System Service Tools (SST) Sign On* display and press Enter.

__ c. Select **Start a service tool** on the *System Service Tools (SST)* display and press Enter.

__ d. Select **Hardware service manager** on the *Start a Service Tool* display and press Enter.

__ e. Select **Logical hardware resources (Buses, IOPs, Controllers...)** from the *Hardware Service Manager* display and press Enter.

__ f. 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.

   __ g. 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**.

   __ h. To return to the 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 iSeries 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 additional iSeries information, go to the *iSeries Information Center*, SK3T-4091-00 CD or from the following Web site:

`http://www.ibm.com/eserver/iseries/infocenter`

__ 12. Your feature upgrade is complete.

Installation Instructions **13**

Unit Covers

Locate the diagram of the unit you are working on. If you have a 270 system unit in a rack, go to "270 unit in a rack" on page 16.
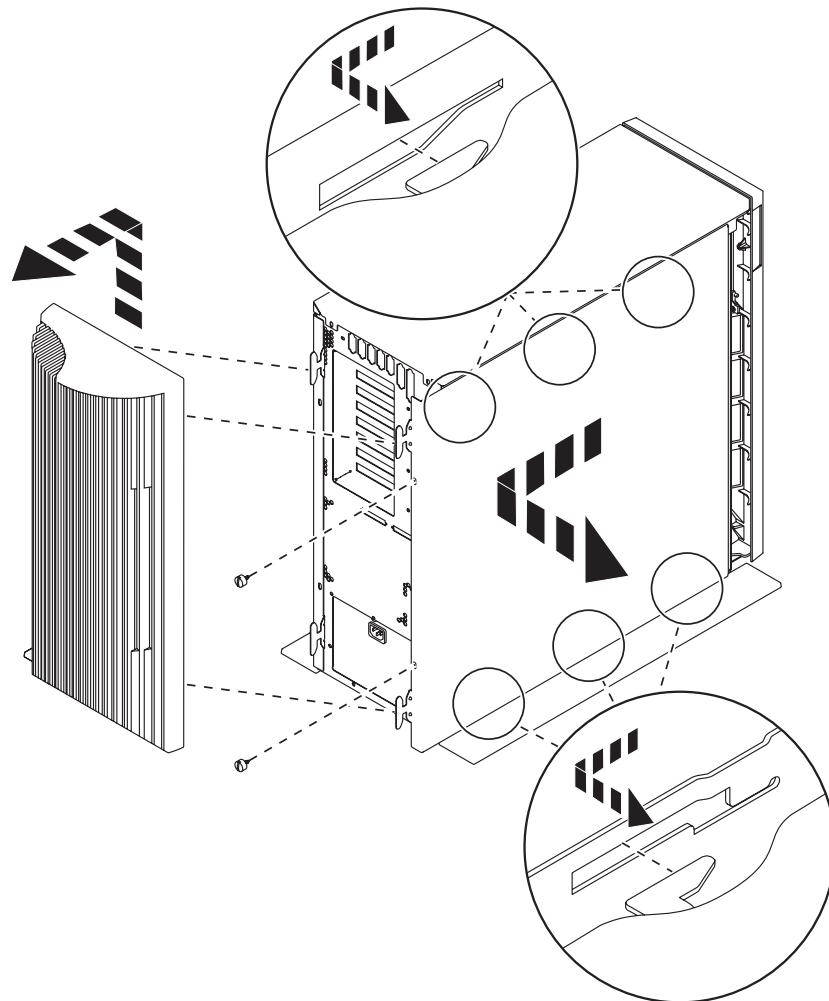
270 and 820 System Units

To access the PCI card location, you need to remove the back cover and the side cover:

__ 1. Place your hand near the bottom of the back cover and lift up and out.

__ 2. **Attention:** If removing side cover while powered on, errors may occur due to electromagnetic interference.

Remove the right side cover (view from back) by loosening the thumbscrews and sliding the cover from front to back until it stops.
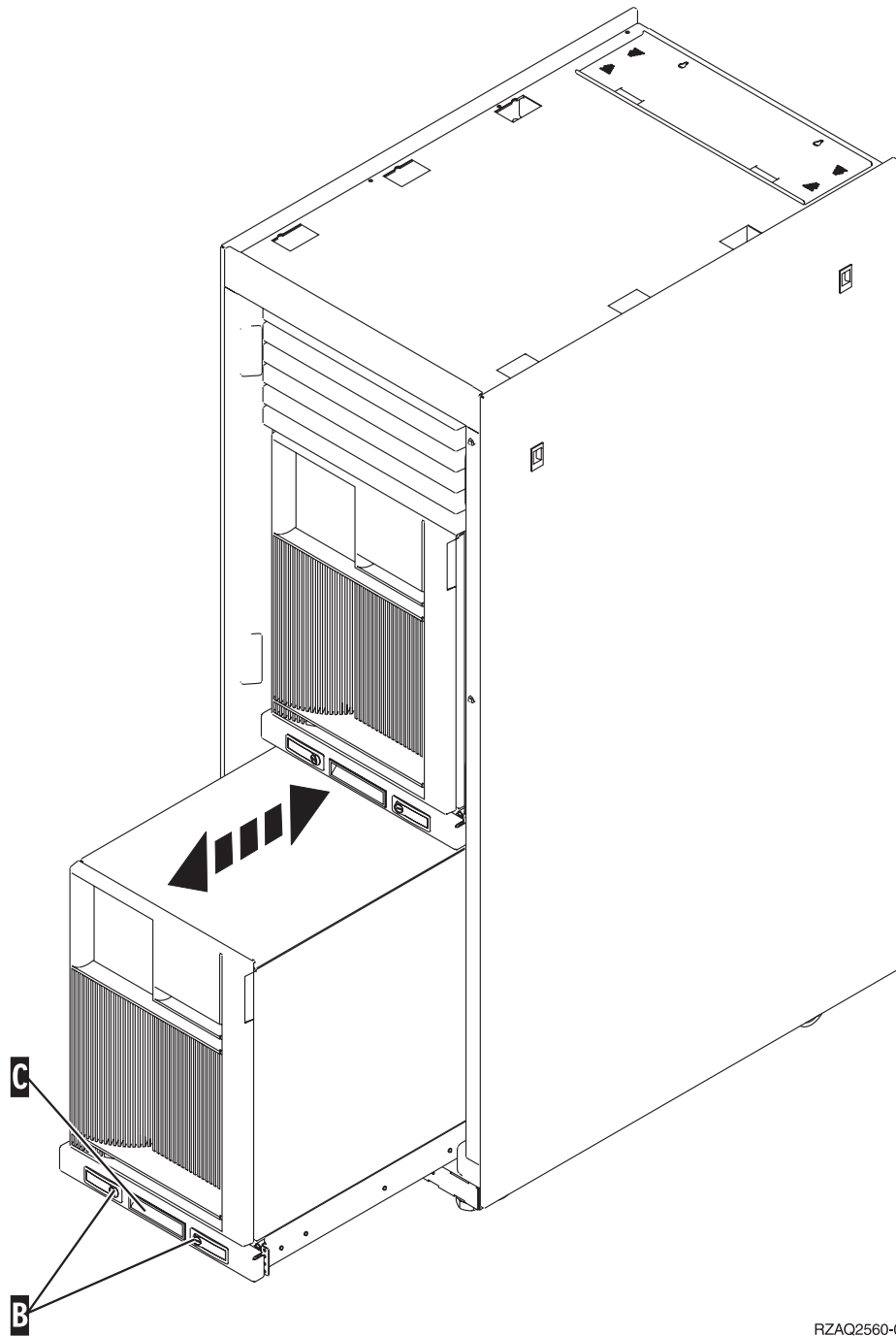
__ 3. Pull the cover out.

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270 unit in a rack

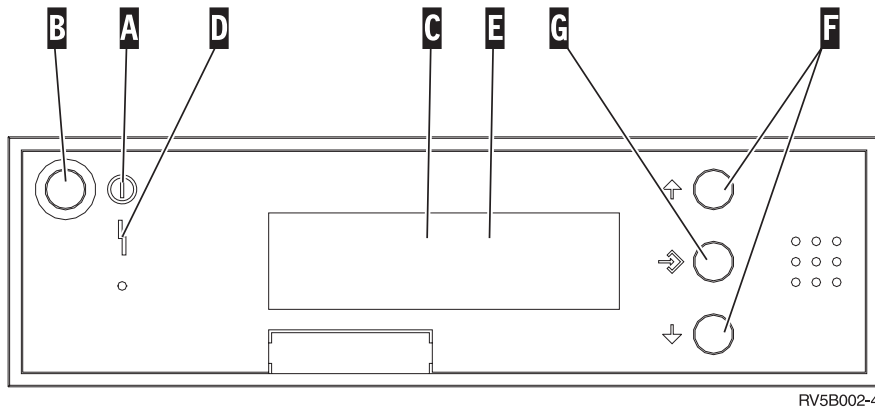1. Press latches **B** and pull the server out using the handle **C** .

RZAQ2560-0

2. Refer to previous unit diagram to remove the side cover.

System unit control panel

Go to the front of your system unit. Open the control panel door.

Your control panel looks like either Figure 9 or Figure 10 on page 18. Refer to the control panel for your unit.

Figure 9. Control panel without Electronic Keystick

A	Power On Light
	• A blinking light indicates power to the unit.
	• A constant light indicates that the unit is up and working.
B	Power Push button
C	Processor Activity
D	System Attention
E	Function/Data Display
F	Increment/Decrement buttons
G	Enter Push button
H	Auto
J	Normal
K	Manual

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If your control panel looks like this, before you can use F Increment/Decrement buttons and G Enter push button, you need to press H Mode Selects to select Manual mode N .

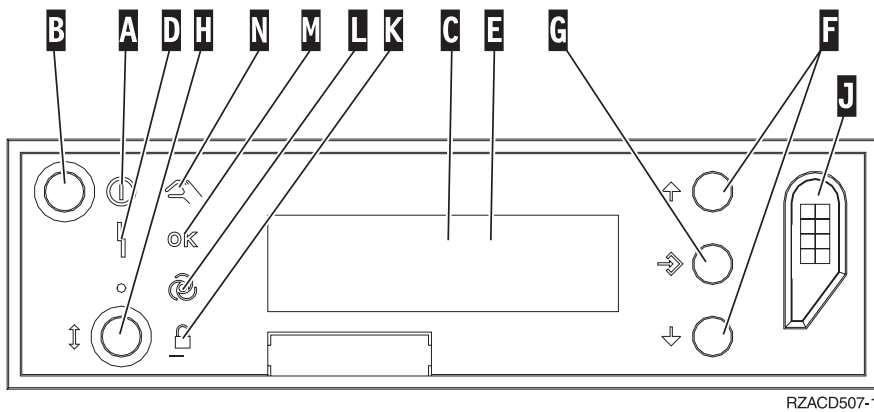*Figure 10. Control panel with Electronic Keystick*

A Power On Light
- A blinking light indicates power to the unit.
- A constant light indicates that the unit is up and working.

B Power Push button

C Processor Activity

D System Attention

E Function/Data Display

F Increment/Decrement buttons

G Enter Push button

H Mode Selects

J Electronic Keystick Slot

K Secure

L Auto

M Normal

N Manual

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Version 5

Publication No. SENG-3002-01

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

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Overall satisfaction	☐	☐	☐	☐	☐

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

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Complete	☐	☐	☐	☐	☐
Easy to find	☐	☐	☐	☐	☐
Easy to understand	☐	☐	☐	☐	☐
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