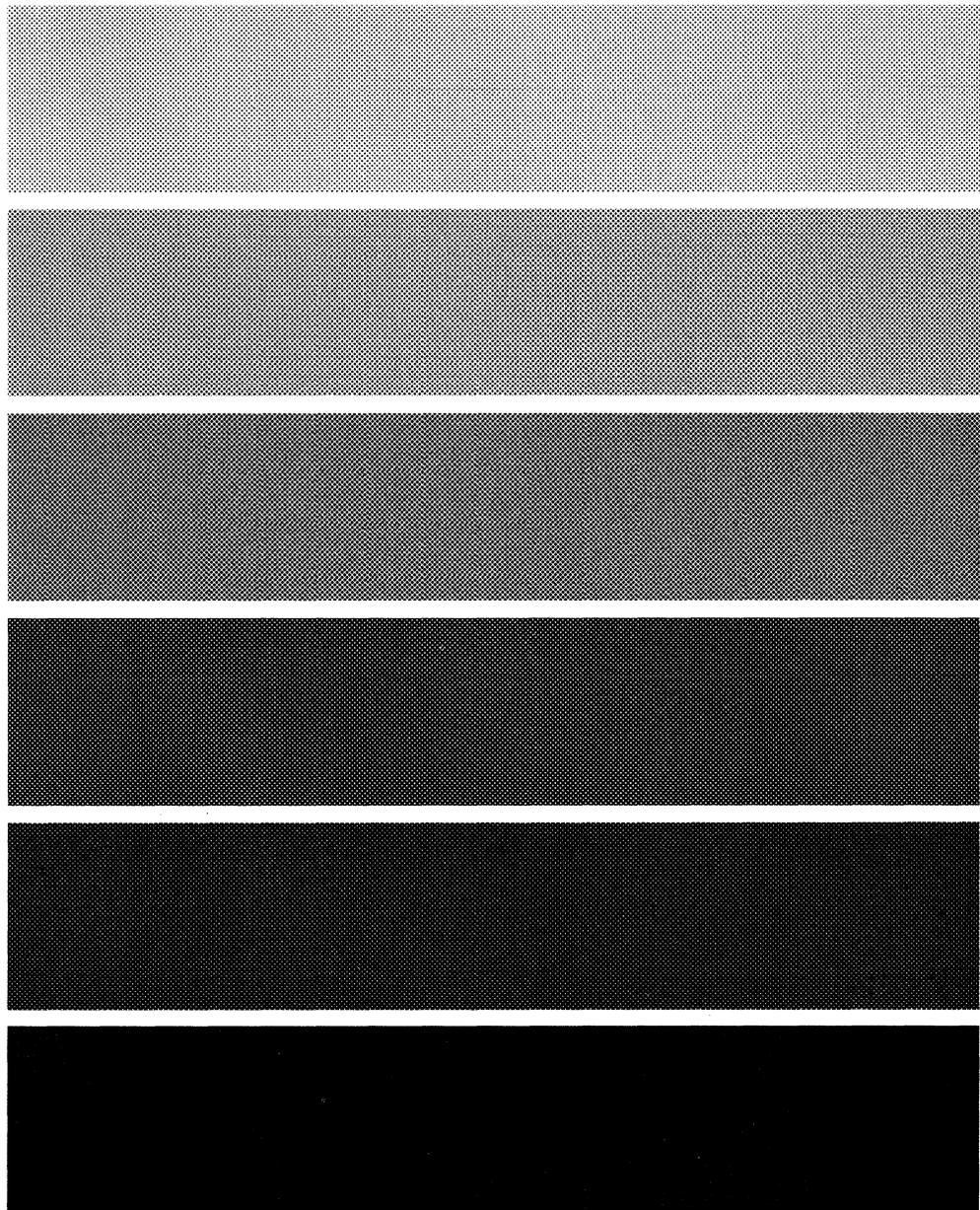




# Asynchronous Emulation Adapter

Installation and Removal Instructions



**Third Edition (May 1989)**

This edition obsoletes and replaces GA23-0341-1.

Changes are made periodically to the information herein; before using this publication in connection with the operation of IBM systems, consult the latest *IBM System/370, 30xx, and 4300 Processors Bibliography*, GC20-0001, for the editions that are applicable and current.

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The following warning statements (required by country regulatory agencies) are applicable in the countries indicated.

#### **United States**

**Warning: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.**

#### **Additional IBM Statement**

This warning is also applicable to all attaching units produced for use in the U.S.A. that have been manufactured after December 31, 1980. A notice of compliance has been affixed within the customer access area of all affected units.

#### **Instructions to User:**

Properly shielded and grounded cables and connectors must be used for connection to peripherals in order to meet FCC emission limits. Proper cables are available through IBM marketing channels, or from dealers of computer accessories. IBM is not responsible for any radio or television interference caused by using other than recommended cables or by unauthorized modifications to this equipment. It is the responsibility of the user to correct such interference.

#### **United Kingdom**

**Warning: This IBM product is made to high Safety standards. It complies inherently with Telecommunications safety standard BS6301. It is not designed to provide protection from excessive voltages appearing externally at its interfaces. Therefore, when this product is connected to a public telecommunications network via any other equipment, and you connect to this product items not supplied by IBM United Kingdom Ltd., you must comply with mandatory telecommunications safety requirements.**

**You may do this either by choosing products which also are approved as complying to BS6301 or British Telecom Technical Guide No. 26, or by the use of approved safety barriers. Consult the local office of your public telecommunications operator, for advice and permission to make the connections.**

#### **Canadian Department of Communications compliance statement**

This equipment does not exceed Class B limits per radio noise emissions for digital apparatus, set out in the Radio Interference Regulation of the Canadian Department of Communications. Operation in a residential area may cause unacceptable interference to radio and TV reception requiring the owner or operator to take whatever steps are necessary to correct the interference.

#### **Avis de conformité aux normes du ministère des Communications du Canada**

Cet équipement ne dépasse pas les limites de Classe B d'émission de bruits radioélectriques pour les appareils numériques, telles que prescrites par le Règlement sur le brouillage radioélectrique établi par le ministère des Communications du Canada. L'exploitation faite en milieu résidentiel peut entraîner le brouillage des réceptions radio et télé, ce qui obligerait le propriétaire ou l'opérateur à prendre les dispositions nécessaires pour en éliminer les causes.



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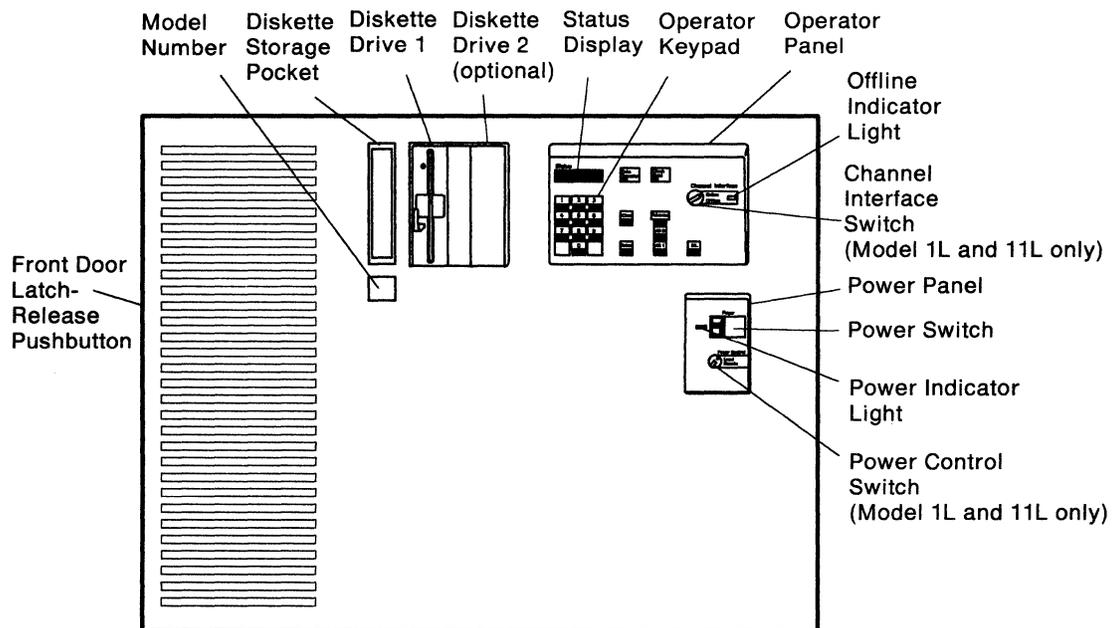


# Asynchronous Emulation Adapter Installation in a Model 1L, 1R, 2R, 3R, 11L, 11R, 12R, or 13R

**CAUTION:**

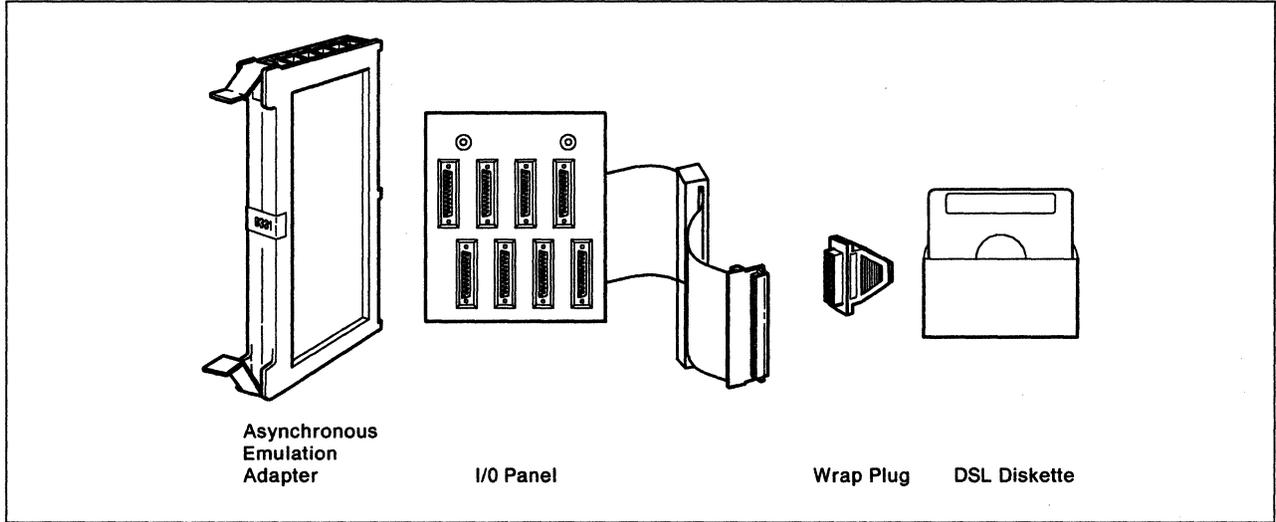
**Do not connect or disconnect cables during periods of lightning activity.** (For translations of this safety notice, see Safety Notice 5 in *IBM 3174 Safety Notices, GA27-3824.*)

Before beginning, note the location of the controller's basic components in the following figure.



# 1

Do you have the required items shown, in the kit?



**YES** Continue with the next step.

**NO** Discontinue this procedure until you have the required items.

**Note:** For testing, you will also need a Utility diskette that supports all of the features installed on this controller.

# 2

Do you have either a Diskette Drive or a Fixed Disk Drive to install on this controller?

**YES** Install the drive and then return to this book.

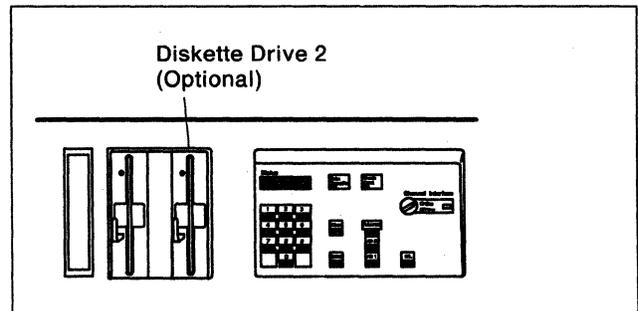
**NO** Continue with the next step.

# 3

Does this controller have an optional Diskette Drive 2?

**YES** Continue with step 5 on page 3.

**NO** Continue with the next step.



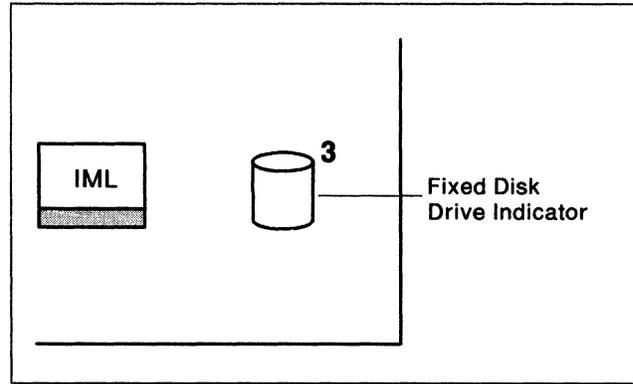
#### 4

Does this controller have a Fixed Disk Drive?

If so, there will be a label in the lower right corner of the operator panel.

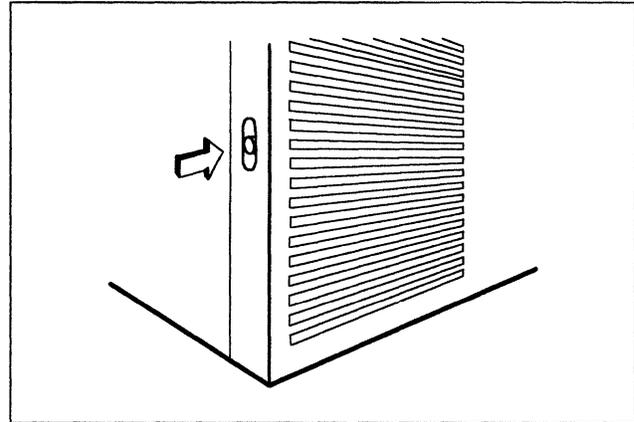
**YES** Continue with the next step.

**NO** Discontinue this procedure and see your system planner. This controller must have at least two drives for the AEA to operate correctly.



#### 5

Press the latch-release button on the left edge of the door and open it.



#### 6

If you are installing this AEA on a Model:

**1L, 1R, or 2R** Continue with the next step.

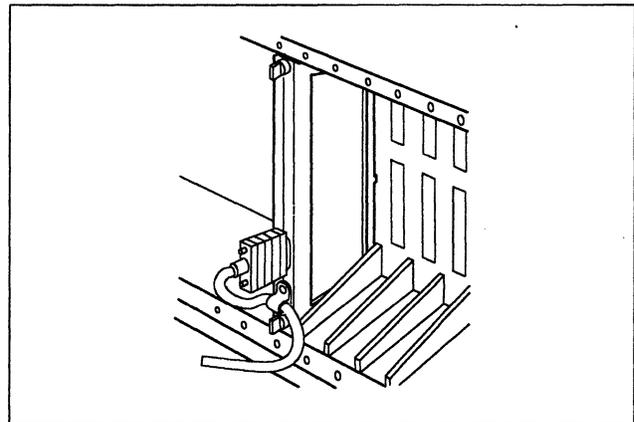
**3R, 11L, 11R, 12R, or 13R** Go to step 8 on page 4.

#### 7

Is there a type 935x adapter in locations 11 through 17?

**YES** Close the door, discontinue this procedure, and see your system planner. The type 935x adapter must be removed before the AEA is installed.

**NO** Continue with the next step.

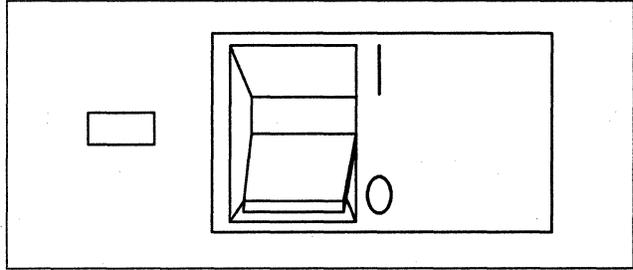


## 8

Is the controller power switch switched off?

**YES** Go to step 12 on this page.

**NO** Follow your company's procedures to notify users and to have this controller taken offline before continuing with the next step.

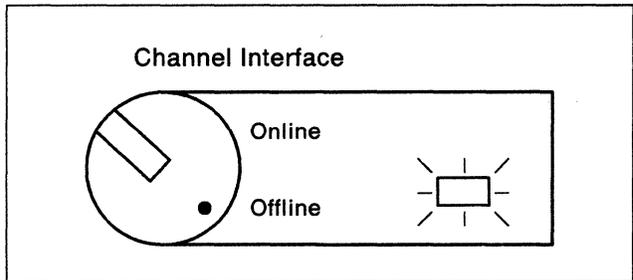


## 9

Does this controller have a Channel Interface switch on the operator panel?

**YES** Set the Channel Interface switch to **Offline**, wait for the Offline Indicator light to come on, and continue with the next step.

**NO** Go to step 11 on this page.

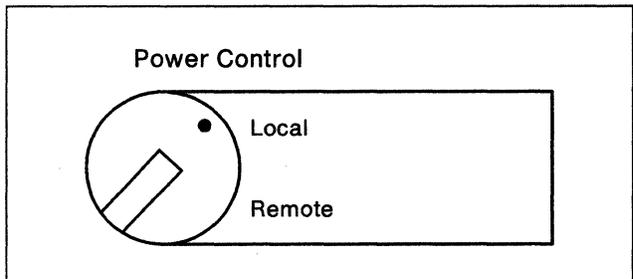


## 10

Is the Power Control switch set to **Local**?

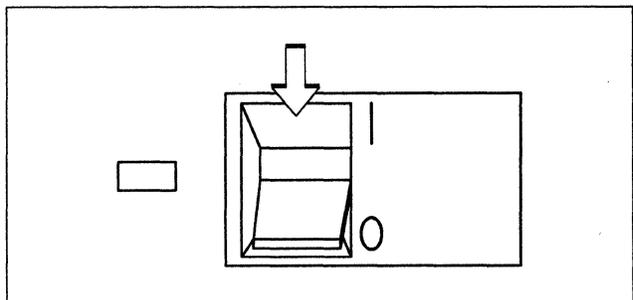
**YES** Continue with the next step.

**NO** Set the Power Control switch to **Local**.



## 11

Press the power switch to **O** (Off).



## 12

Does your controller have a metallic, waterproof-type power plug?

**YES CAUTION:**

**If your machine has a metallic, waterproof-type power plug, do not attempt to disconnect it. Instead, have a qualified electrician disconnect the plug.** (For translations of this safety notice, see Safety Notice 2 in *IBM 3174 Safety Notices*, GA27-3824.)

**NO** Unplug the controller power plug.

## 13

If location 14 contains:

- |                          |                                    |
|--------------------------|------------------------------------|
| <b>No adapter</b>        | Go to step <b>16</b> on this page. |
| <b>Type 9331 adapter</b> | Go to step <b>21</b> on page 7.    |
| <b>Type 935x adapter</b> | Go to step <b>32</b> on page 9.    |
| <b>Type 917x adapter</b> | Continue with the next step.       |

## 14

### CAUTION:

**Do not connect or disconnect cables during periods of lightning activity.** (For translations of this safety notice, see Safety Notice 5 in *IBM 3174 Safety Notices*, GA27-3824.)

Are cables connected to the adapter in location 14?

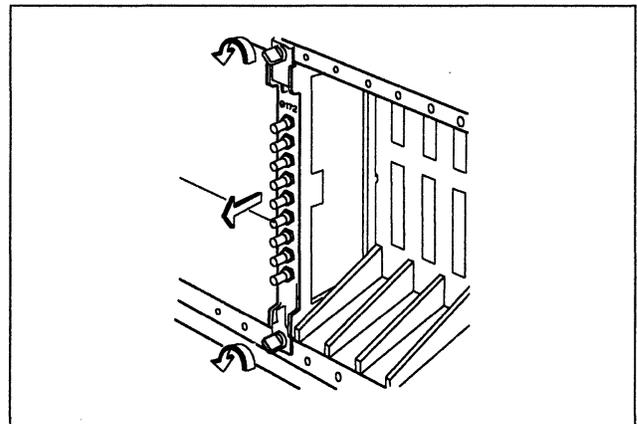
- YES** Carefully make a chart of the cable connection locations, label each cable with tape, and unplug the cables from the adapter.
- NO** Continue with the next step.

## 15

Loosen the thumbscrews in an alternating manner and remove the adapter by pulling it straight out.

Set the adapter aside temporarily.

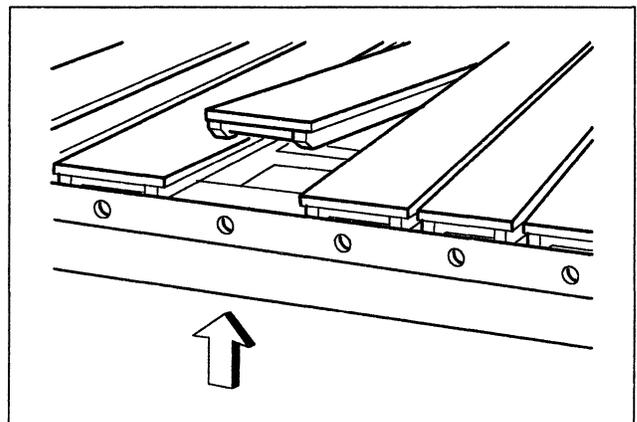
Then go to step 17 on page 6.



## 16

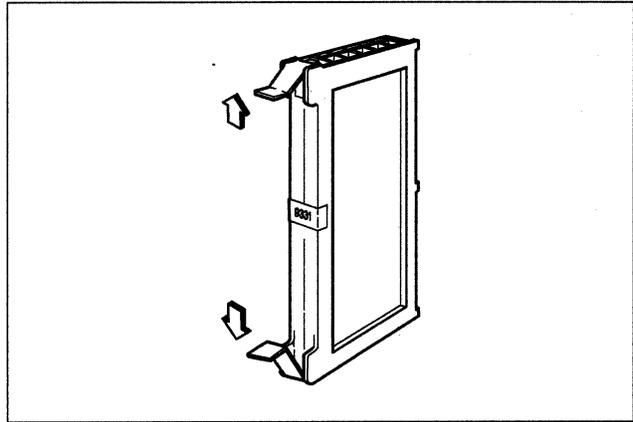
Is there an insert in location 14?

- YES** Grip the front of the insert, pull it up, and remove it.
- NO** Continue with the next step.



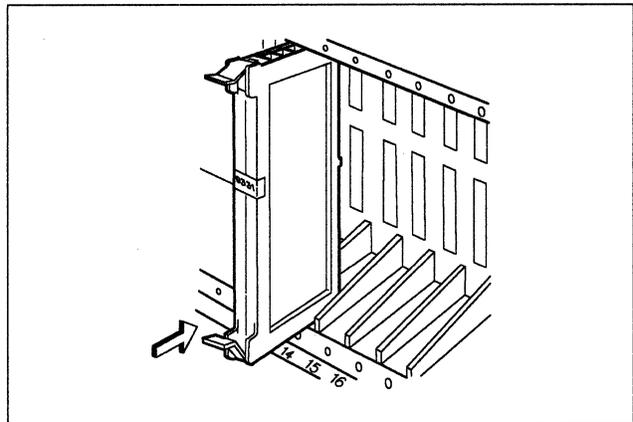
## 17

With both extractor levers in the open position, hold the adapter from the kit so that the recessed panel is at the right.



## 18

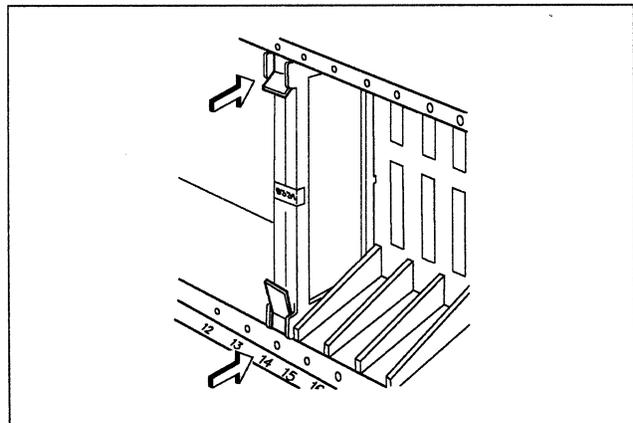
Insert the adapter into the guides of location 14 until it is firmly seated.



## 19

Press the extractor levers in to lock the adapter in place.

Then press the adapter in to be certain it is fully seated.



## 20

Do you have another AEA to install?

**YES** Continue with the next step.

**NO** Go to step 49 on page 13.

## 21

If location 13 contains:

<b>No adapter</b>	Go to step <b>25</b> on this page.
<b>Type 9331 adapter</b>	Go to step <b>30</b> on page 9.
<b>Type 917x adapter</b>	Go to step <b>23</b> on this page.
<b>Type 935x adapter</b>	Go to step <b>32</b> on page 9.
<b>Type 926x adapter</b>	Continue with the next step.

## 22

Close the door, discontinue this procedure, and see your system planner. The type 926x adapter must be removed before the AEA is installed.

## 23

### CAUTION:

**Do not connect or disconnect cables during periods of lightning activity.** (For translations of this safety notice, see Safety Notice 5 in *IBM 3174 Safety Notices*, GA27-3824.)

Are cables connected to the adapter in location 13?

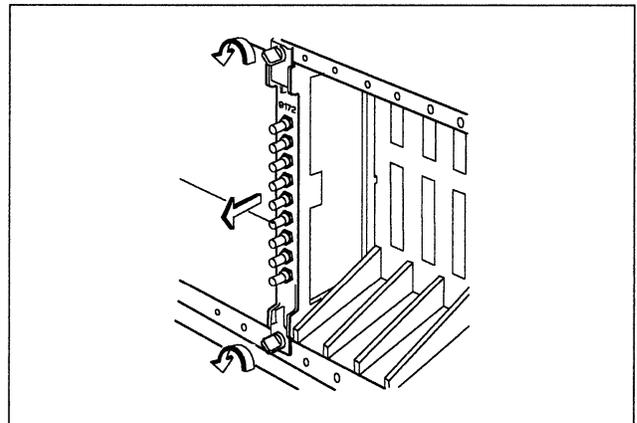
- YES** Carefully make a chart of the cable connection locations, label each cable with tape, and unplug the cables from the adapter.
- NO** Continue with the next step.

## 24

Loosen the thumbscrews in an alternating manner and remove the adapter by pulling it straight out.

Set the adapter aside for now.

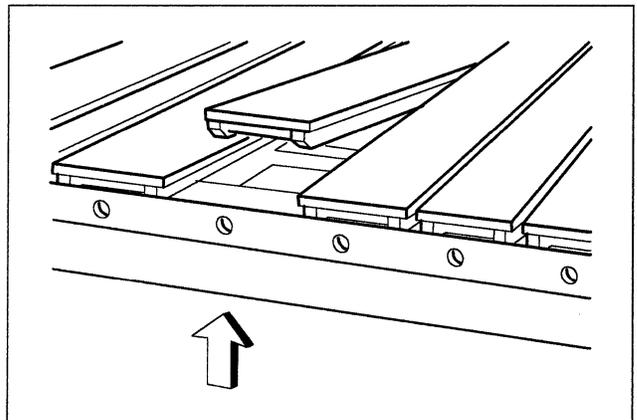
Then go to step **26** on page 8.



## 25

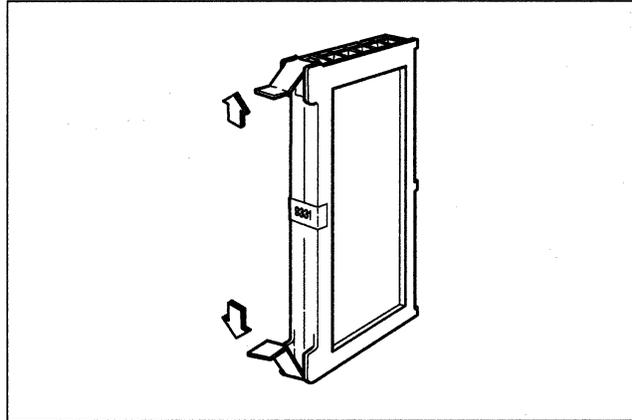
Is there an insert in location 13?

- YES** Grip the front of the insert, pull it up, and remove it.
- NO** Continue with the next step.



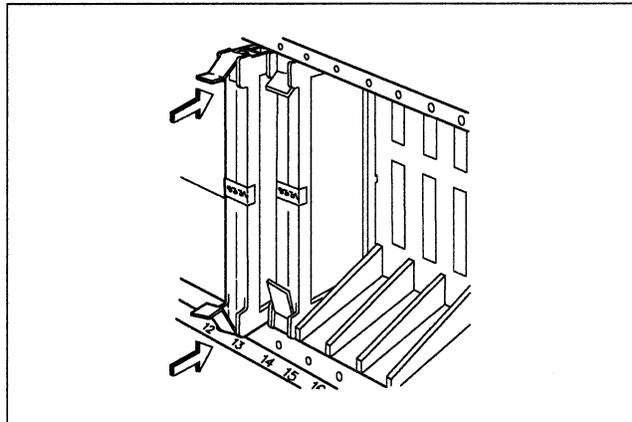
## 26

With both extractor levers in the open position, hold the adapter from the kit so that the recessed panel is at the right.



## 27

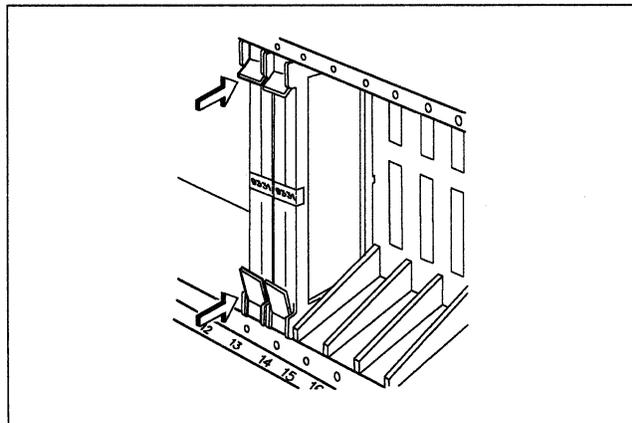
Insert the adapter into the guides of location 13 until it is firmly seated.



## 28

Press the extractor levers in to lock the adapter in place.

Then press the adapter in to be certain it is fully seated.



## 29

Do you have another AEA to install?

**YES** Continue with the next step.

**NO** Go to step 43 on page 12.

### 30

If location 12 contains:

- |                          |                                    |
|--------------------------|------------------------------------|
| <b>No adapter</b>        | Go to step <b>39</b> on page 11.   |
| <b>Type 917x adapter</b> | Go to step <b>35</b> on page 10.   |
| <b>Type 935x adapter</b> | Go to step <b>32</b> on this page. |
| <b>Type 926x adapter</b> | Continue with the next step.       |
| <b>Type 9331 adapter</b> | Continue with the next step.       |

### 31

Close the door, discontinue this procedure, and see your system planner.

If location 12 contained a type:

- |                     |  |
|---------------------|--|
| <b>926x adapter</b> | The third AEA cannot be installed unless the type 926x adapter is removed. |
| <b>9331 adapter</b> | This controller has the maximum number of AEAs already.                    |

### 32

In the following sequence, **15 16 17** , circle the number of the first available (unused) location.

If there are no available locations go to step **34** on this page.

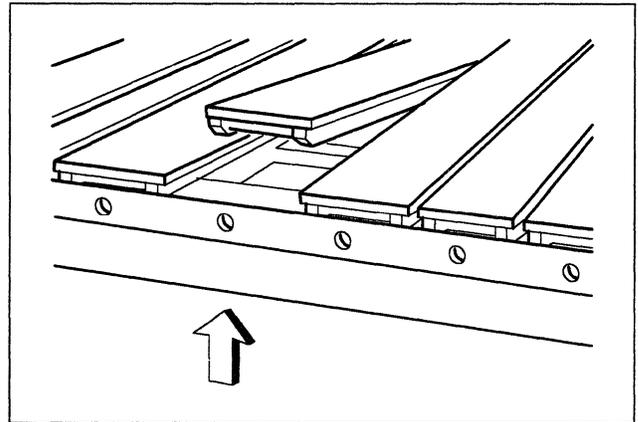
### 33

Is there an insert in the location that you circled in step **32**?

**YES** Grip the front of the insert, pull it up, and remove it.

Then go to step **37** on page 10.

**NO** Go to step **37** on page 10.



### 34

In the following sequence, **15 16 17** , circle the number of the first location that contains a type 917x adapter.

If none of these locations contains a type 917x adapter see your system planner. There is no location available for the AEA without removing an adapter from location 12, 13, 14, 15, 16 or 17.

## 35

### CAUTION:

**Do not connect or disconnect cables during periods of lightning activity.** (For translations of this safety notice, see Safety Notice 5 in *IBM 3174 Safety Notices, GA27-3824.*)

Are cables connected to the adapter?

**YES** Carefully make a chart of the cable connection locations, label each cable with tape, and unplug the cables from the adapter

**NO** Continue with the next step.

## 36

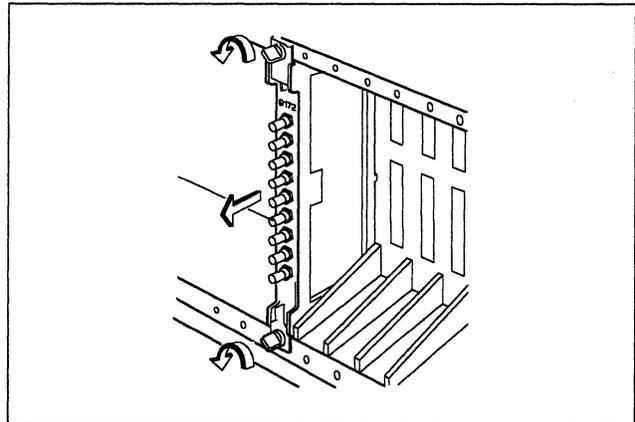
Loosen the thumbscrews in an alternating manner and remove the adapter by pulling it straight out.

Set the adapter aside for now.

If this adapter was removed from location:

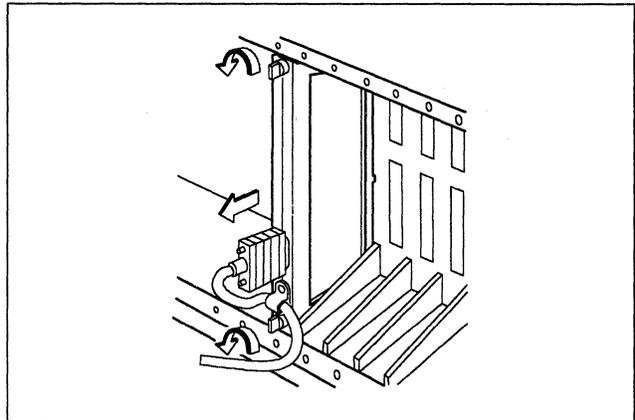
**12** Go to step **40** on page 11.

**15, 16, or 17** Continue with the next step.



## 37

Loosen the type 935x adapter thumbscrews in an alternating manner and remove it from location 12, 13, or 14 by pulling it straight out.



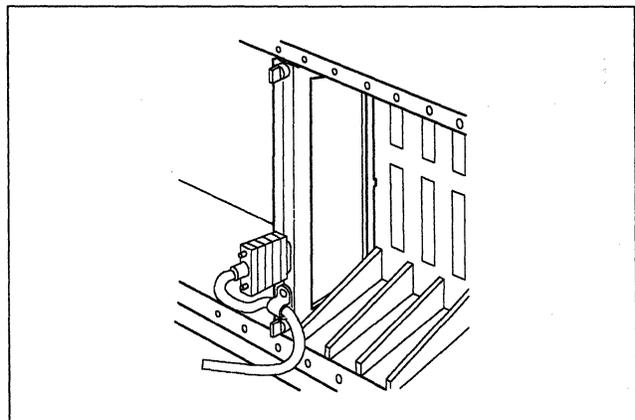
## 38

In the following sequence, **15 16 17**, insert the type 935x adapter into the first available location.

Tighten the thumbscrews in an alternating manner. For example, tighten one screw two turns and then the other two turns until both screws are tightened completely.

Push the adapter in to see if further thumbscrew tightening is needed.

Then return to step **13** on page 5.

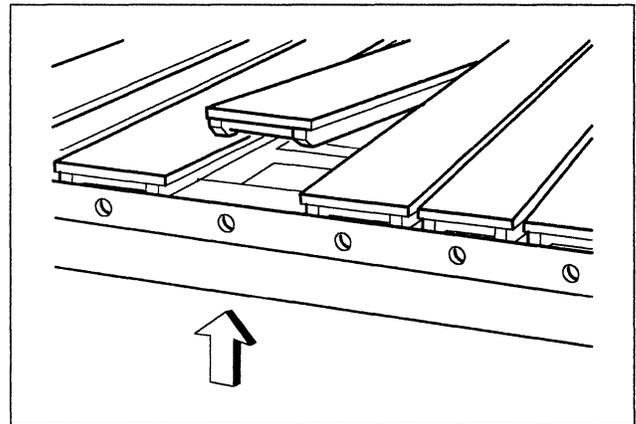


### 39

Is there an insert in location 12?

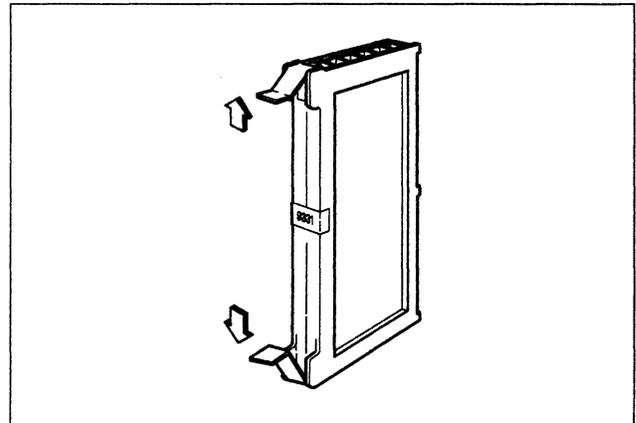
**YES** Grip the front of the insert, pull it up, and remove it.

**NO** Continue with the next step.



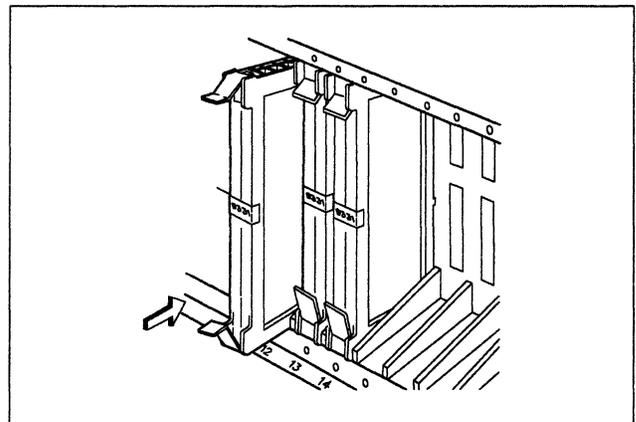
### 40

With both extractor levers in the open position, hold the adapter from the kit so that the recessed panel is at the right.



### 41

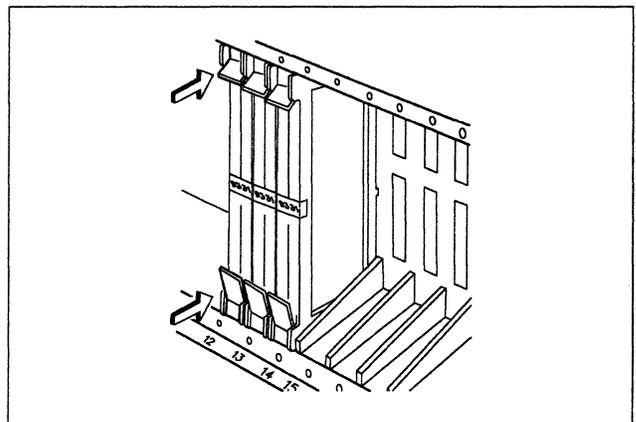
Insert the adapter into the guides of location 12 until it is firmly seated.



### 42

Press the extractor levers in to lock the adapter in place.

Then press the adapter in to be certain it is fully seated.



### 43

Did you remove any type 917x adapters from the controller?

**YES** In the following sequence, **11 13 15 17 22 23 12 16 24** , circle the number of the first available (unused) location.

If there is not a location available, close the door, discontinue this procedure, and see your system planner.

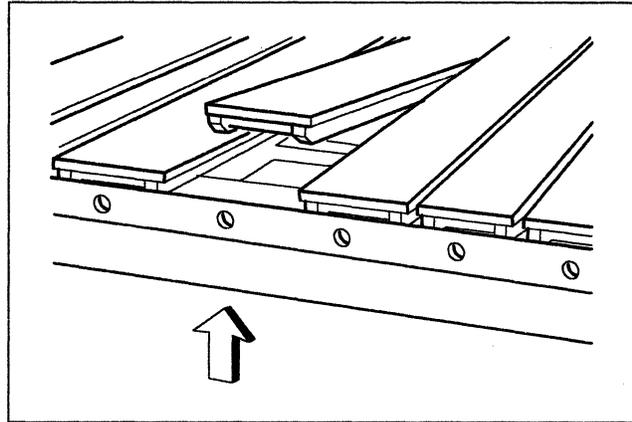
**NO** Go to step 49 on page 13.

### 44

Is there an insert in the location that you circled in step 43?

**YES** Grip the front of the insert, pull it up, and remove it.

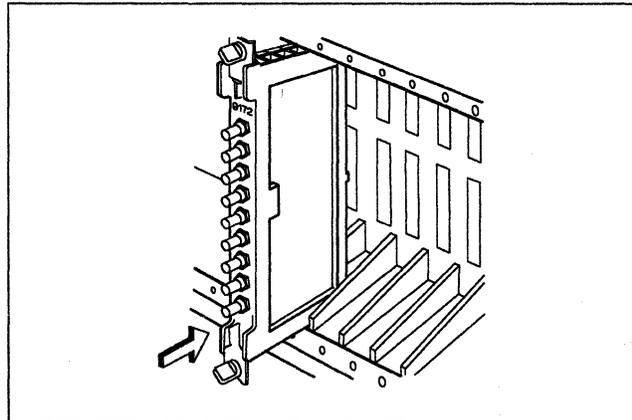
**NO** Continue with the next step.



### 45

Hold the type 917x adapter you removed from the controller so that the recessed panel is at the right.

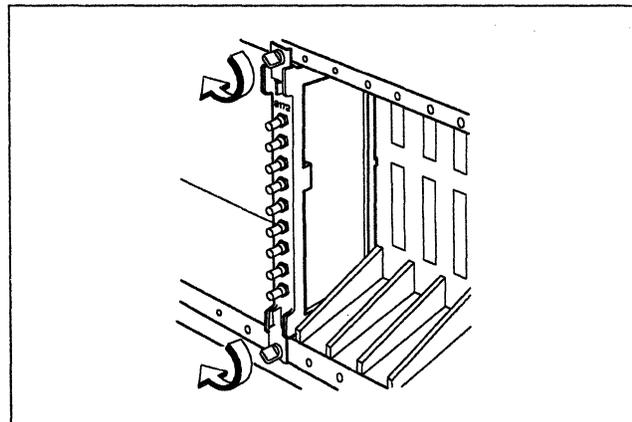
Insert the adapter into the guides of the location that you circled in step 43 until it is firmly seated.



### 46

Tighten the thumbscrews in an alternating manner. For example, tighten one screw two turns and then the other two turns until both screws are tightened completely.

Then push the adapter in to see if further thumbscrew tightening is needed.



## 47

### CAUTION:

**Do not connect or disconnect cables during periods of lightning activity.** (For translations of this safety notice, see Safety Notice 5 in *IBM 3174 Safety Notices*, GA27-3824.)

Did you unplug cables from this adapter?

**YES** Plug them into the adapter according to the cable connection chart and labels you made.

**NO** Continue with the next step.

## 48

Do you have another type 917x adapter to reinstall?

**YES** Return to step 43 on page 12.

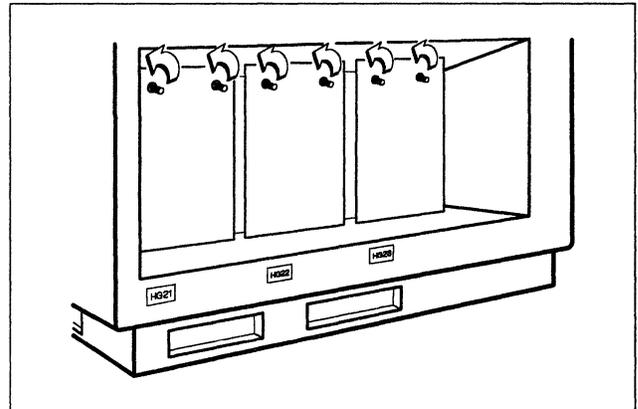
**NO** Continue with the next step.

## 49

Close the door of the controller.

## 50

Temporarily remove any blank panels in positions HG21, HG22, or HG23 in the rear of the controller by loosening the thumbscrews in an alternating manner.

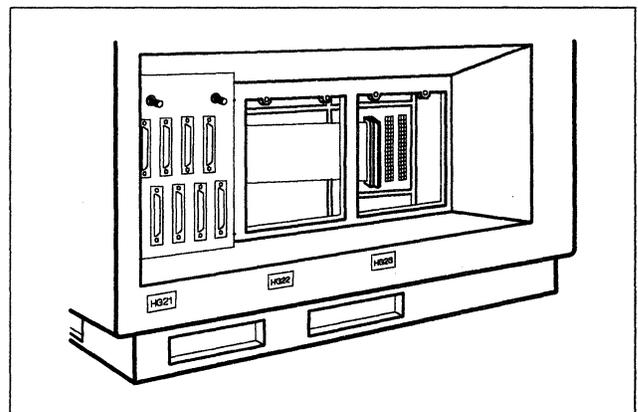


## 51

Is there an I/O panel in position HG21?

**YES** Continue with the next step.

**NO** Go to step 59 on page 15.



## 52

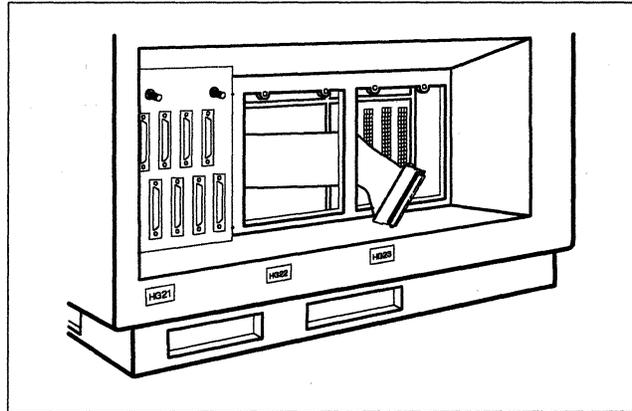
### CAUTION:

**Do not connect or disconnect cables during periods of lightning activity.** (For translations of this safety notice, see Safety Notice 5 in *IBM 3174 Safety Notices*, GA27-3824.)

Is there an I/O panel in position HG22?

**YES** Go to step 71 on page 18.

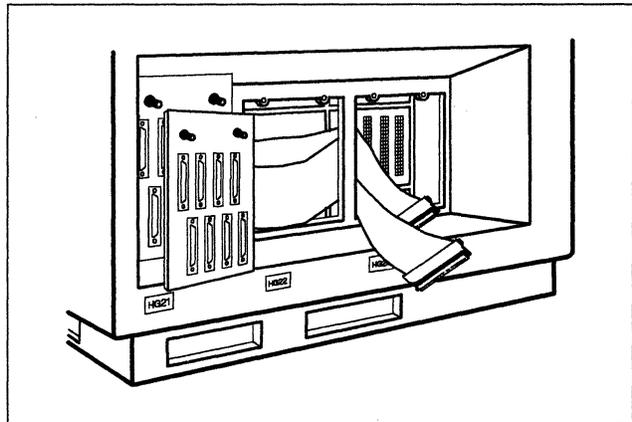
**NO** Unplug the ribbon cable connector of the I/O panel in position HG21, and let the connector end hang loose.



## 53

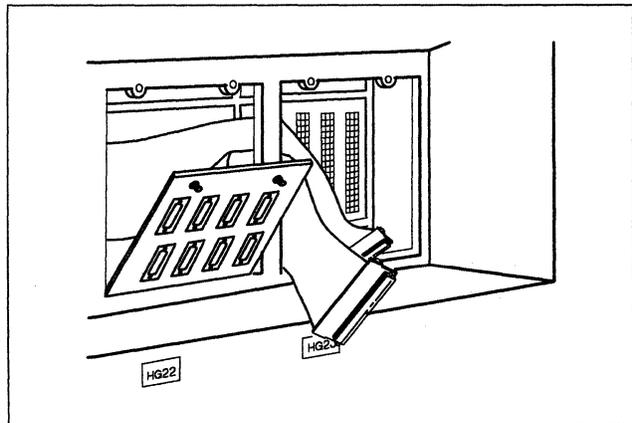
Beginning at position HG22, route the ribbon cable attached to the new I/O panel behind the post.

Let the cable connector end hang loose.



## 54

Place the lower edge lugs of the new I/O panel in the slots at position HG22.

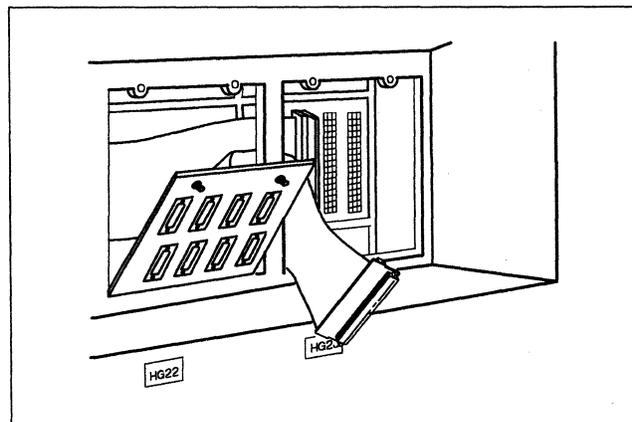


## 55

### CAUTION:

**Do not connect or disconnect cables during periods of lightning activity.** (For translations of this safety notice, see Safety Notice 5 in *IBM 3174 Safety Notices*, GA27-3824.)

Plug the ribbon cable connector of the I/O panel in position HG21 into the leftmost socket at position HG23.

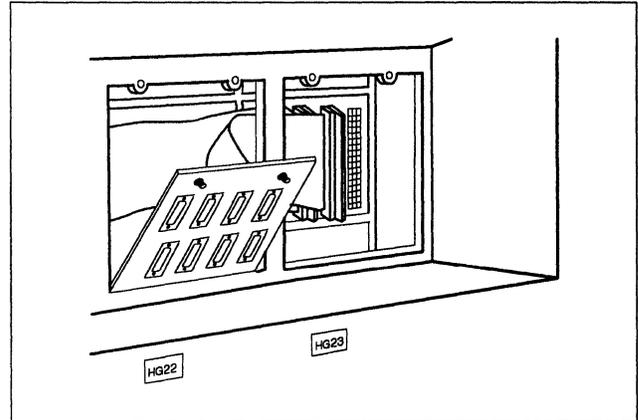


## 56

### CAUTION:

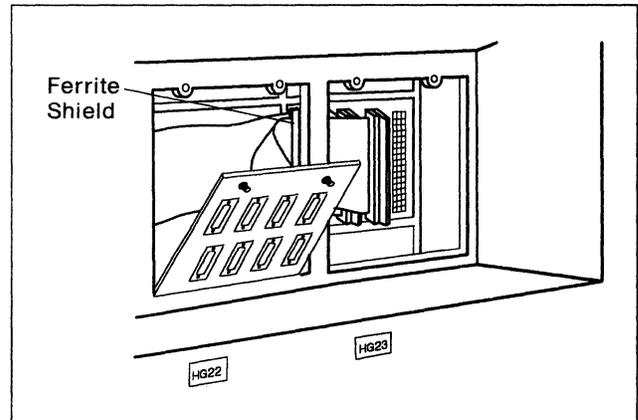
**Do not connect or disconnect cables during periods of lightning activity.** (For translations of this safety notice, see Safety Notice 5 in *IBM 3174 Safety Notices*, GA27-3824.)

Plug the ribbon cable connector of the I/O panel in position HG22 into the center socket at position HG23.



## 57

Position the ferrite shield of the I/O panel in position HG22 so that the shield is just to the left of the post.



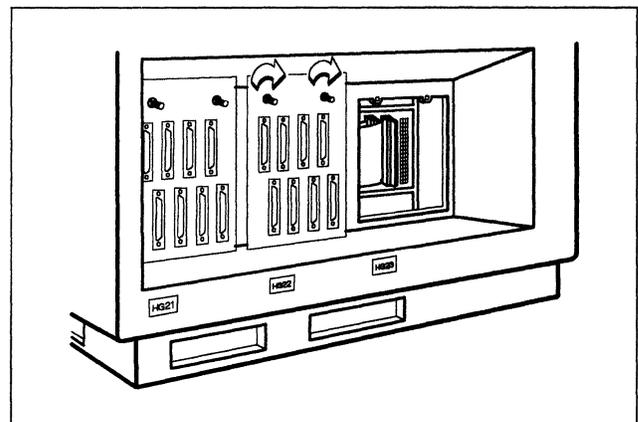
## 58

Hold the I/O panel in position HG22 against the controller.

Press the panel down firmly to seat the panel lugs in the slots and align the thumbscrews with the holes.

Tighten the thumbscrews in an alternating manner. For example, tighten one screw two turns and then the other two turns until both screws are tightened completely.

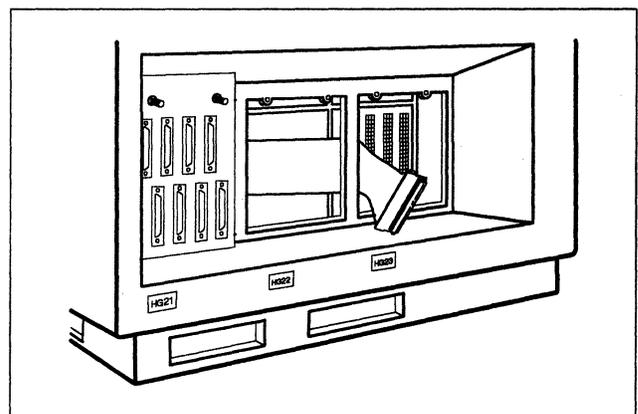
Then go to step 70 on page 18.



## 59

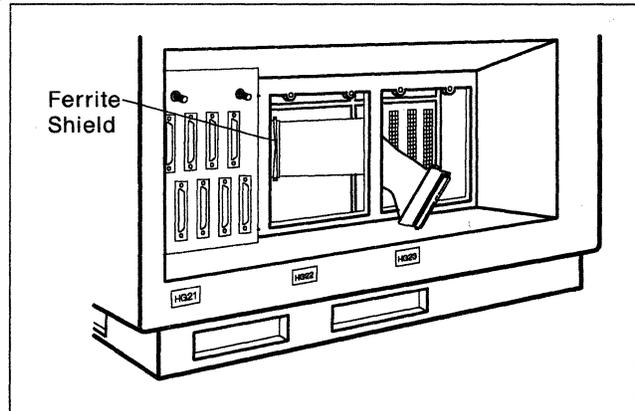
Beginning at position HG21, route the ribbon cable behind the posts.

Let the cable connector end hang loose.



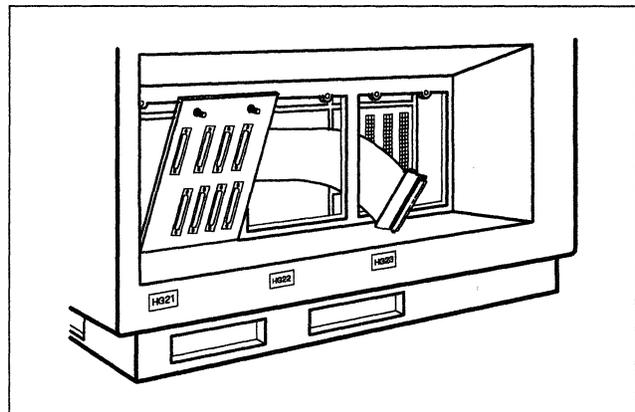
## 60

Position the ferrite shield of the I/O panel in position HG21 so that the shield is just to the right of the post.



## 61

Place the lower edge lugs of the new I/O panel in the slots at position HG21.

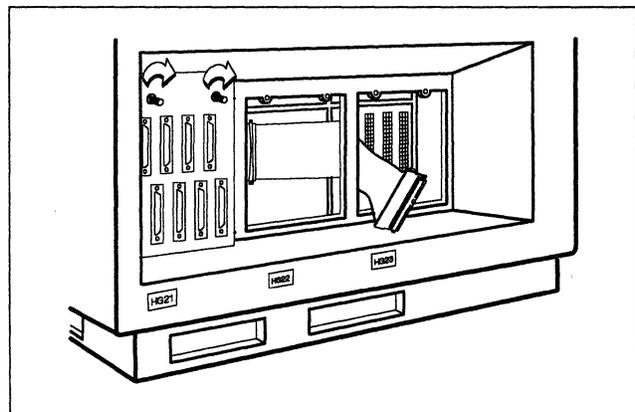


## 62

Hold the I/O panel in position HG21 against the controller.

Press the panel down firmly to seat the panel lugs in the slots and align the thumbscrews with the holes.

Tighten the thumbscrews in an alternating manner. For example, tighten one screw two turns and then the other two turns until both screws are tightened completely.



## 63

### CAUTION:

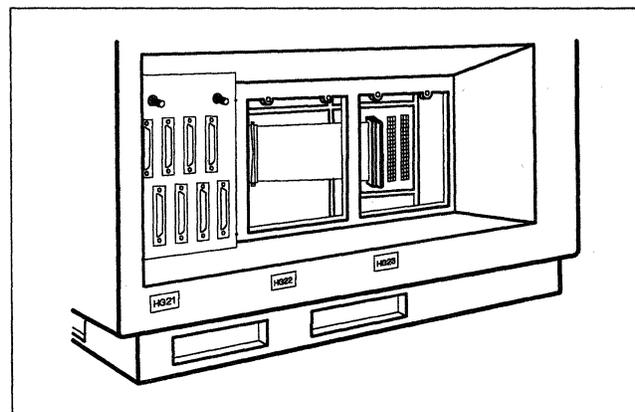
**Do not connect or disconnect cables during periods of lightning activity.** (For translations of this safety notice, see Safety Notice 5 in *IBM 3174 Safety Notices*, GA27-3824.)

Do you have another I/O panel to install?

**YES** Continue with the next step.

**NO** Plug the cable connector into the leftmost socket at position HG23.

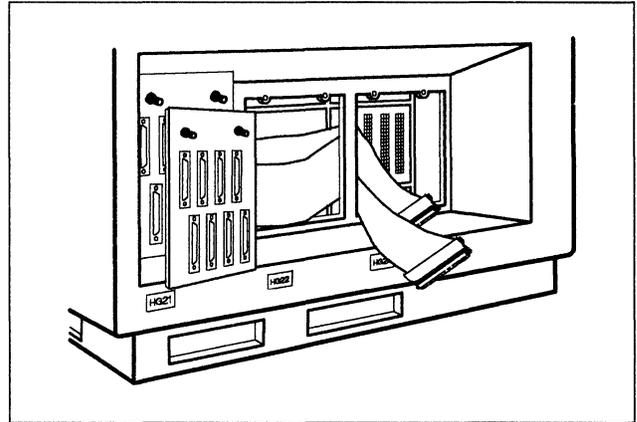
Then go to step 74 on page 19.



## 64

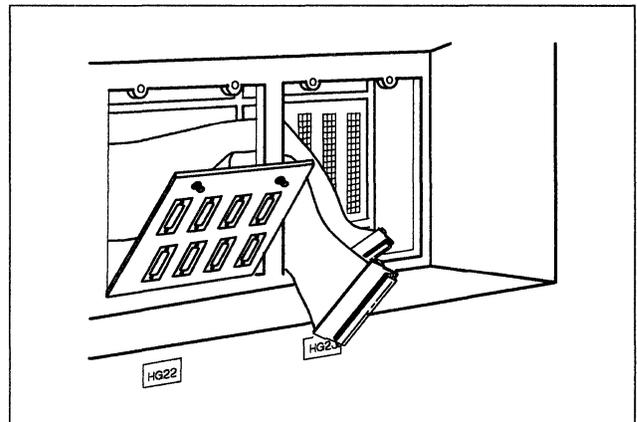
Beginning at position HG22, route the ribbon cable attached to the new I/O panel behind the post.

Let the cable connector end hang loose.



## 65

Place the lower edge lugs of the new I/O panel in the slots at position HG22.

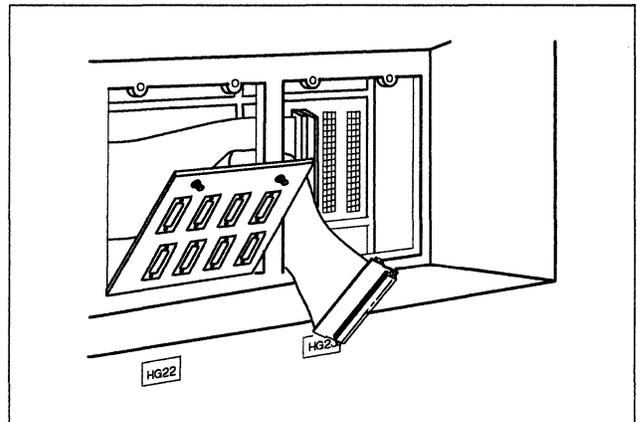


## 66

### CAUTION:

**Do not connect or disconnect cables during periods of lightning activity.** (For translations of this safety notice, see Safety Notice 5 in *IBM 3174 Safety Notices*, GA27-3824.)

Plug the ribbon cable connector of the I/O panel in position HG21 into the leftmost socket at position HG23.

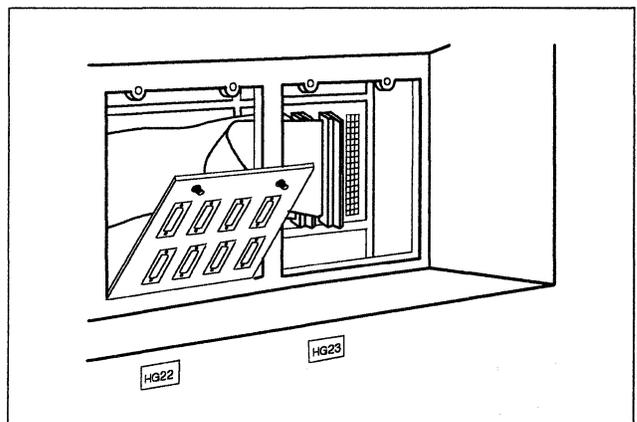


## 67

### CAUTION:

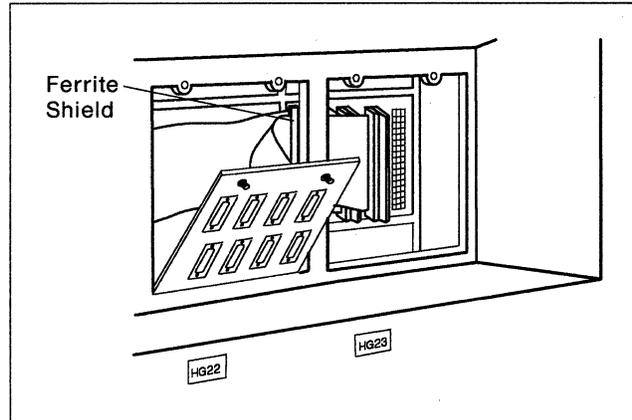
**Do not connect or disconnect cables during periods of lightning activity.** (For translations of this safety notice, see Safety Notice 5 in *IBM 3174 Safety Notices*, GA27-3824.)

Plug the ribbon cable connector of the I/O panel in position HG22 into the center socket at position HG23.



## 68

Position the ferrite shield of the I/O panel in position HG22 so that the shield is just to the left of the post.

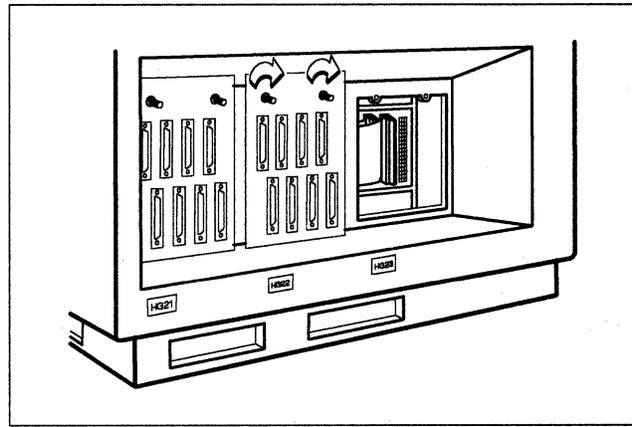


## 69

Hold the I/O panel in position HG22 against the controller.

Press the panel down firmly to seat the panel lugs in the slots and align the thumbscrews with the holes.

Tighten the thumbscrews in an alternating manner. For example, tighten one screw two turns and then the other two turns until both screws are tightened completely.



## 70

Do you have another I/O panel to install?

**YES** Continue with the next step.

**NO** Go to step 74 on page 19.

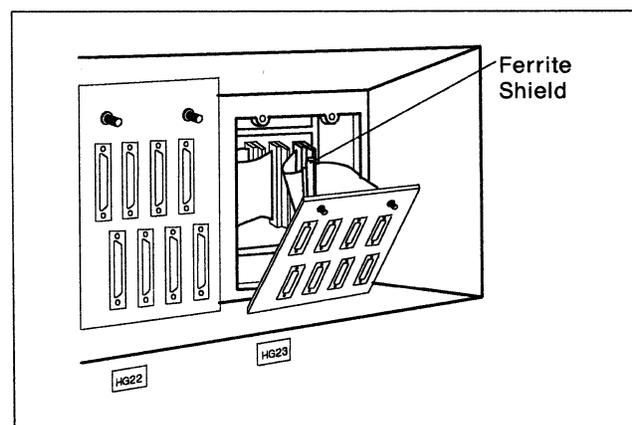
## 71

### CAUTION:

**Do not connect or disconnect cables during periods of lightning activity.** (For translations of this safety notice, see Safety Notice 5 in *IBM 3174 Safety Notices*, GA27-3824.)

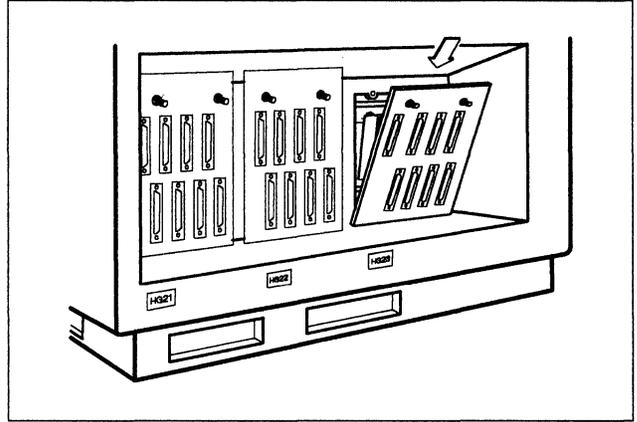
Plug the ribbon cable connector of the I/O panel in position HG23 into the right socket at position HG23.

Position the ferrite shield to the right of the opening so that it will not interfere when you secure the panel.



## 72

Place the lower edge lugs of the new I/O panel in the slots at position HG23.



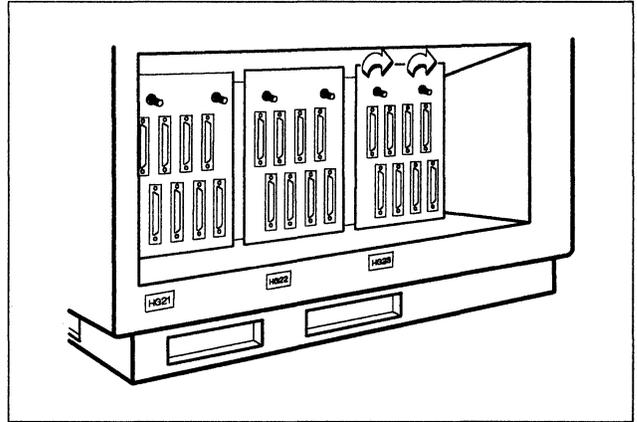
## 73

Hold the I/O panel in position HG23 against the controller.

Press the panel down firmly to seat the panel lugs in the slots and align the thumbscrews with the holes.

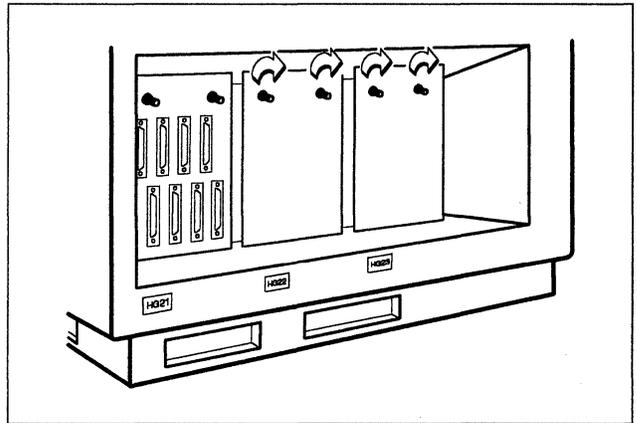
Tighten the thumbscrews in an alternating manner. For example, tighten one screw two turns and then the other two turns until both screws are tightened completely.

Then go to step 75 on page 19.



## 74

Reinstall a blank panel in any HG position that does not have an I/O panel.



## 75

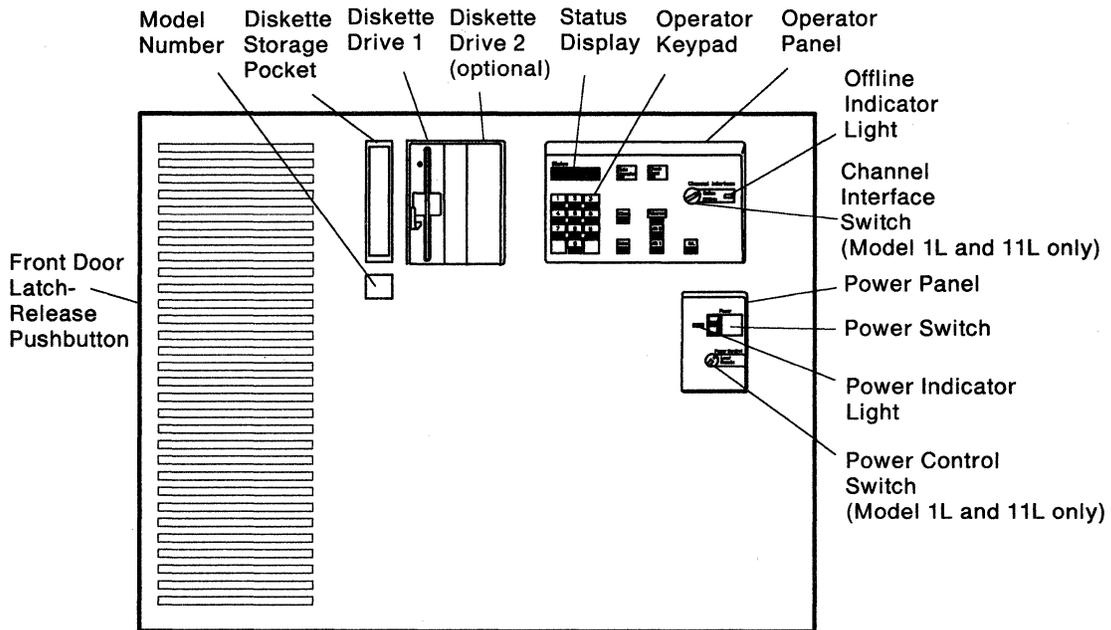
Go to “Verification Test for Models 1L, 1R, 2R, 3R, 11L, 11R, 12R, and 13R” on page 26 to verify that this controller is operating correctly.

# Asynchronous Emulation Adapter Removal from a Model 1L, 1R, 2R, 3R, 11L, 11R, 12R, or 13R

**CAUTION:**

**Do not connect or disconnect cables during periods of lightning activity.** (For translations of this safety notice, see Safety Notice 5 in *IBM 3174 Safety Notices, GA27-3824.*)

Before beginning, note the location of the controller's basic components in the following figure.



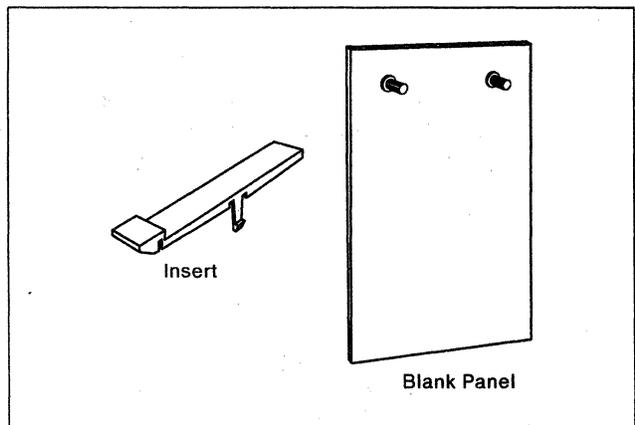
**1**

Do you have the required items shown, in the kit?

**YES** Continue with the next step.

**NO** Discontinue this procedure until you have the required items.

**Note:** For testing, you will also need a Utility diskette that supports all of the features installed on this controller.

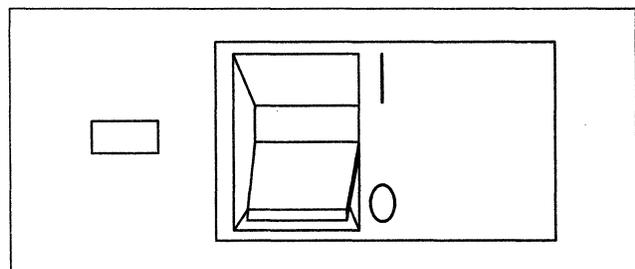


**2**

Is the controller power switch switched off?

**YES** Go to step 6 on page 21.

**NO** Follow your company's procedures to notify users and to have this controller taken offline before continuing with the next step.

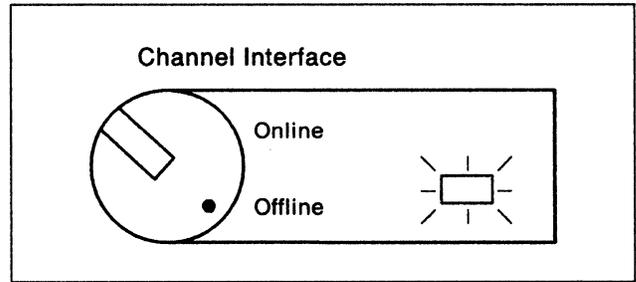


### 3

Does this controller have a Channel Interface switch on the operator panel?

**YES** Set the Channel Interface switch to **Offline**, wait for the Offline Indicator light to come on, and continue with the next step.

**NO** Go to step 5 on this page.

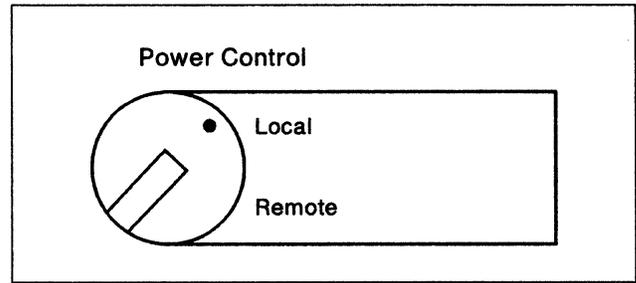


### 4

Is the Power Control switch set to **Local**?

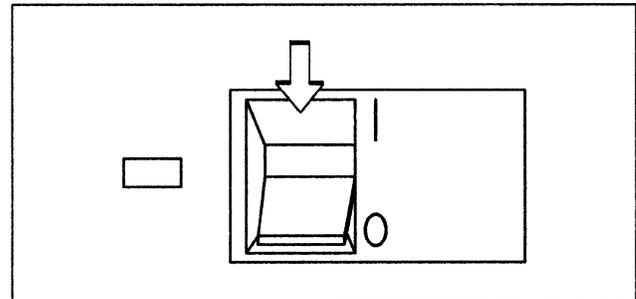
**YES** Continue with the next step.

**NO** Set the Power Control switch to **Local**.



### 5

Press the power switch to **O** (Off).



### 6

Does your controller have a metallic, waterproof-type power plug?

**YES CAUTION:**

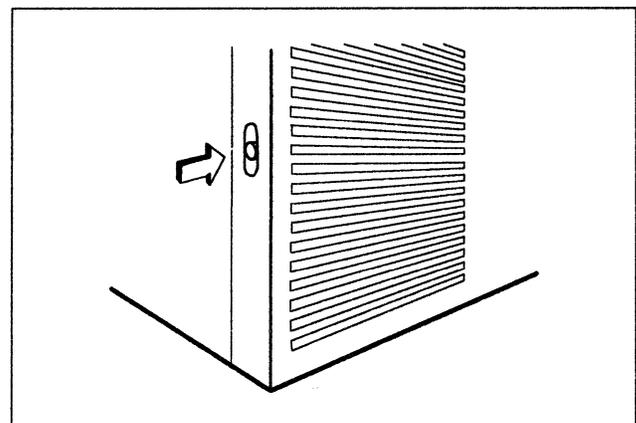
**If your machine has a metallic, waterproof-type power plug, do not attempt to disconnect it.**

**Instead, have a qualified electrician disconnect the plug.** (For translations of this safety notice, see Safety Notice 2 in *IBM 3174 Safety Notices, GA27-3824.*)

**NO** Unplug the controller power plug.

### 7

Press the latch-release button on the left edge of the front door, and open it.

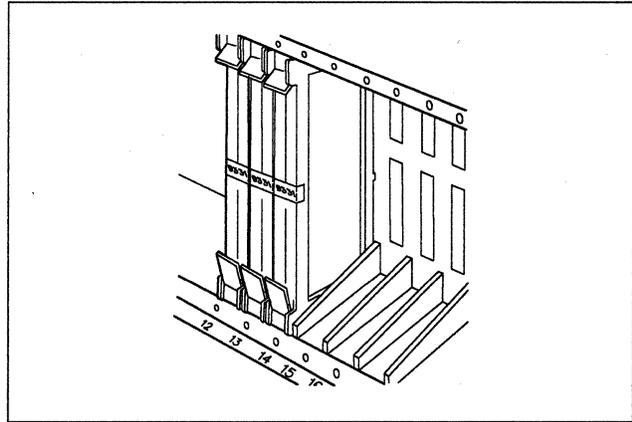


## 8

Is there a Type 9331 adapter in location 12?

**YES** Go to step 11 on this page.

**NO** Continue with the next step.

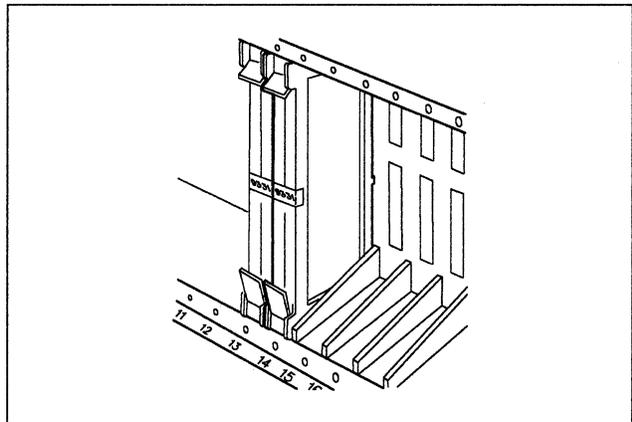


## 9

Is there a Type 9331 adapter in location 13?

**YES** Go to step 11 on this page.

**NO** Continue with the next step.

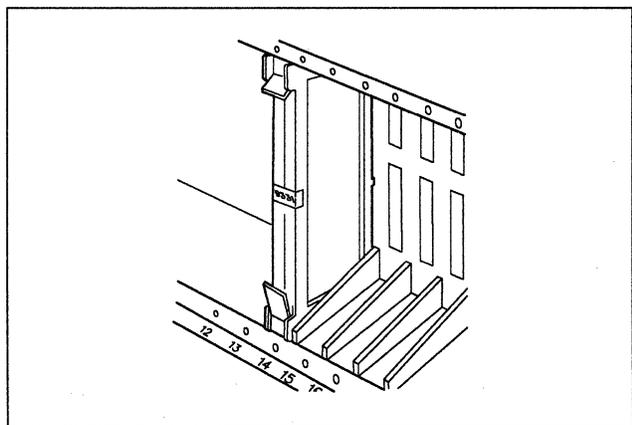


## 10

Is there a Type 9331 adapter in location 14?

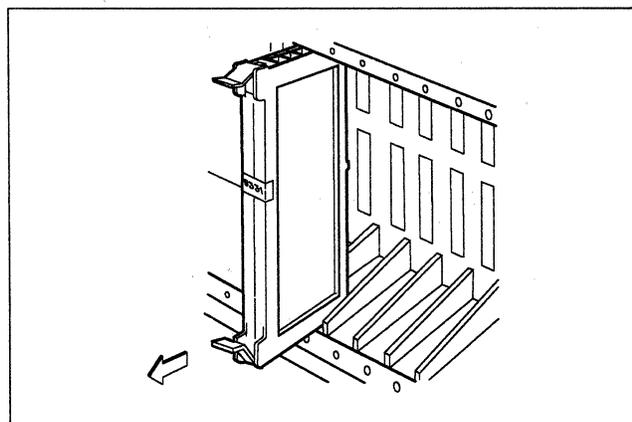
**YES** Continue with the next step.

**NO** Go to step 13 on page 23.



## 11

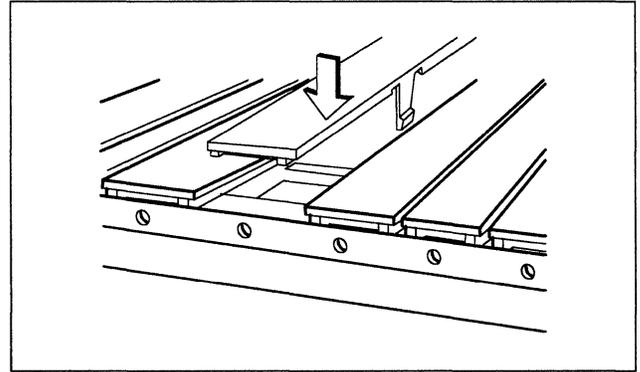
Open the extractor levers and remove the adapter by pulling it straight out.



## 12

Install the insert from the kit in the location where you removed the adapter.

Hold the insert level and press it down very firmly to snap it into place.



## 13

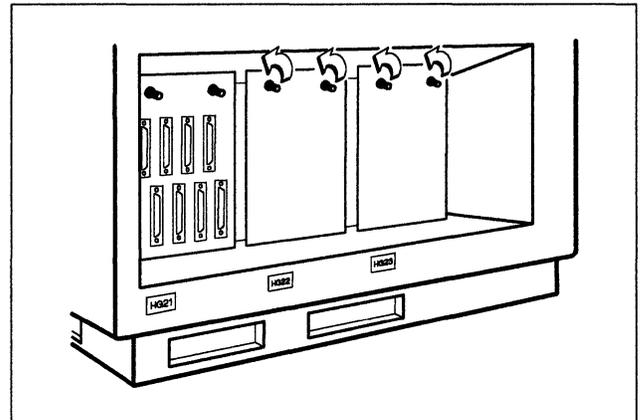
Are you removing another AEA from the controller at this time?

**YES** Repeat step 9 through step 12.

**NO** Close the door of the controller.

## 14

Temporarily remove any blank panels in positions HG22 and HG23 in the rear of the controller by loosening the thumbscrews in an alternating manner.



## 15

Is there an I/O panel in position HG23?

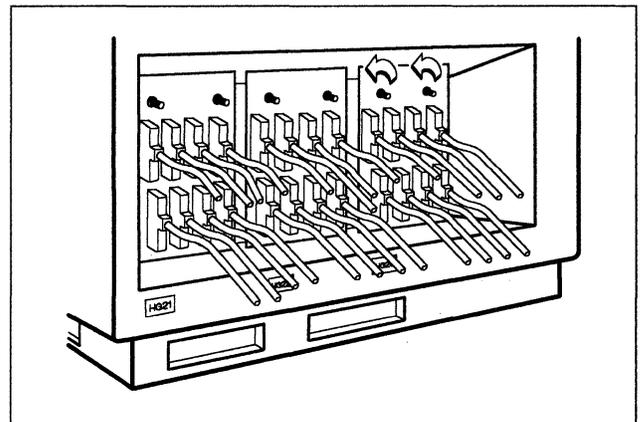
**YES CAUTION:**  
**Do not connect or disconnect cables during periods of lightning activity.** (For translations of this safety notice, see Safety Notice 5 in *IBM 3174 Safety Notices*, GA27-3824.)

Unplug any cables connected to the I/O panel.

Loosen the I/O panel thumbscrews in an alternating manner.

**Then go to step 18 on page 24 .**

**NO** Continue with the next step.



## 16

Is there an I/O panel in position HG22?

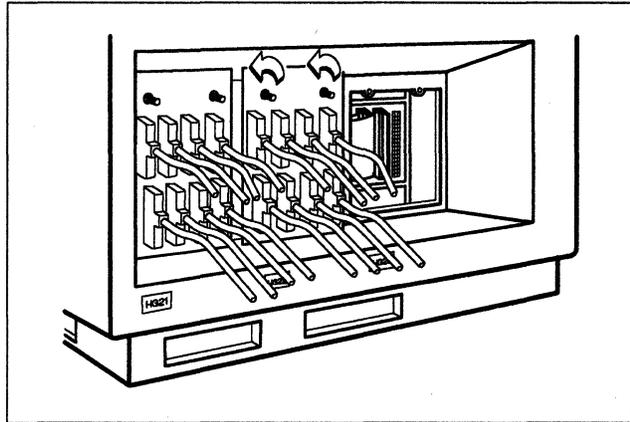
**YES CAUTION:**  
**Do not connect or disconnect cables during periods of lightning activity.** (For translations of this safety notice, see Safety Notice 5 in *IBM 3174 Safety Notices*, GA27-3824.)

Unplug any cables connected to the I/O panel.

Loosen the I/O panel thumbscrews in an alternating manner.

**Then go to step 18 on this page.**

**NO** Continue with the next step.



## 17

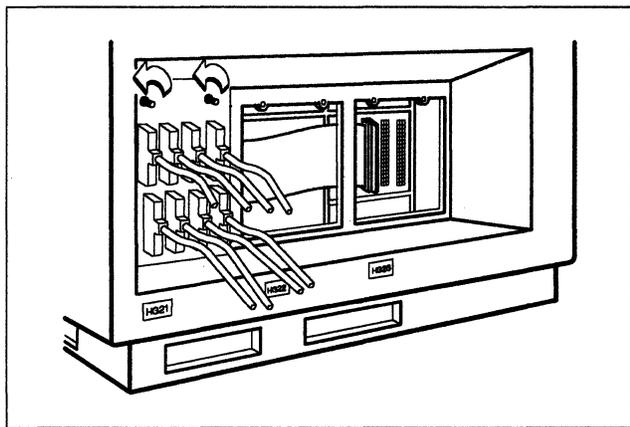
Is there an I/O panel in position HG21?

**YES CAUTION:**  
**Do not connect or disconnect cables during periods of lightning activity.** (For translations of this safety notice, see Safety Notice 5 in *IBM 3174 Safety Notices*, GA27-3824.)

Unplug any cables connected to the I/O panel.

Loosen the I/O panel thumbscrews in an alternating manner.

**NO** Go to step 22 on page 25.

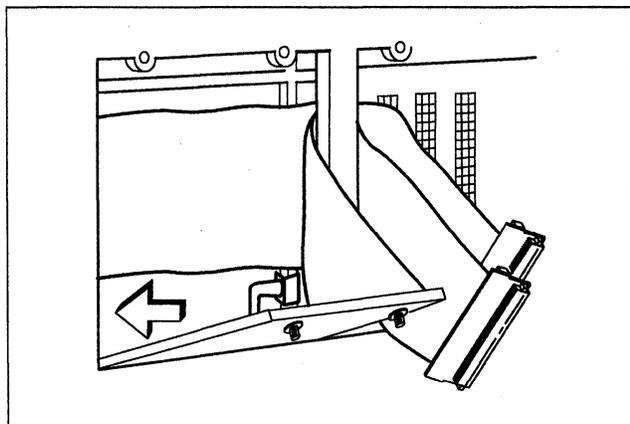


## 18

Does this I/O panel have a ground wire connected to the controller frame?

**YES** Disconnect the ground wire.

**NO** Continue with the next step.



## 19

Unplug the ribbon cable, of the I/O panel you just unfastened, from the socket at position HG23.

## 20

Remove the I/O panel.

If you are removing the I/O panel from position HG22, you must unplug the ribbon cable of the I/O panel in position HG21 for clearance. If you are not removing the I/O panel in position HG21 at this time, plug the connector back into the leftmost socket in position HG23 after I/O panel HG22 is removed.

## 21

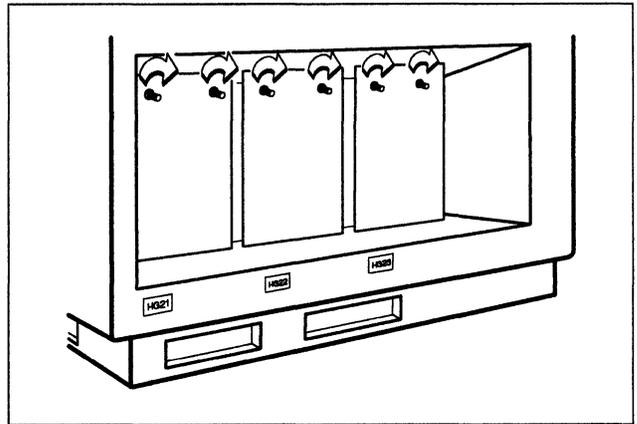
Repeat step 16 through step 20 for each I/O panel you are removing at this time.

You should remove one I/O panel for each type 9331 adapter you removed.

Store the items you removed according to your company's procedures.

## 22

Reinstall a blank panel in any HG position that does not have an I/O panel.



## 23

Go to "Verification Test for Models 1L, 1R, 2R, 3R, 11L, 11R, 12R, and 13R" on page 26 to verify that this controller is operating correctly.

# Verification Test for Models 1L, 1R, 2R, 3R, 11L, 11R, 12R, and 13R

## 1

Does your controller have a metallic, waterproof-type power plug?

**YES CAUTION:**

**If your machine has a metallic, waterproof-type power plug, do not attempt to connect it. Instead, have a qualified electrician connect the plug. (For translations of this safety notice, see Safety Notice 3 in IBM 3174 Safety Notices, GA27-3824.)**

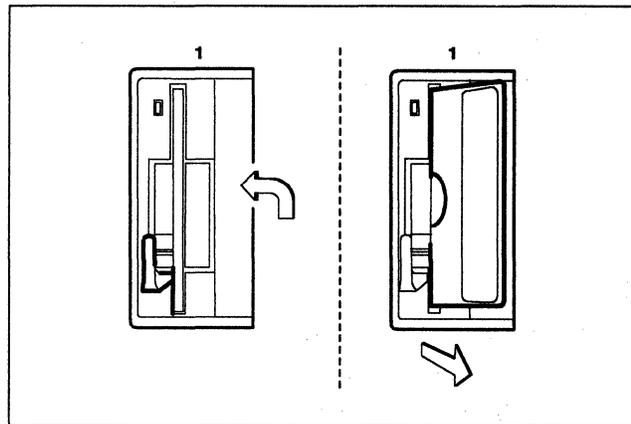
**NO** Plug the controller power plug into an electrical outlet.

## 2

Is there a diskette in drive 1?

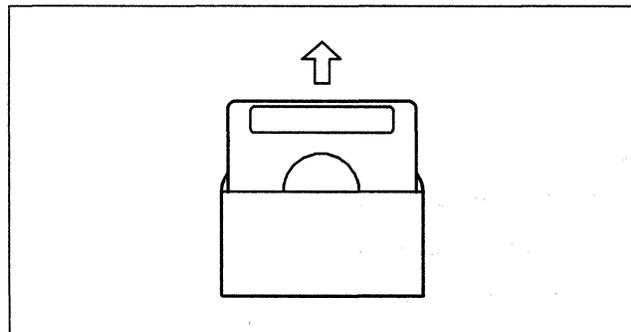
**YES** Open the lever of drive 1, and remove the diskette.

**NO** Continue with the next step.



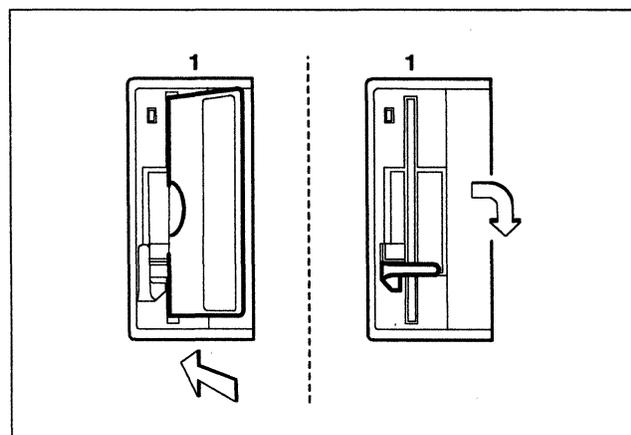
## 3

Remove the Utility diskette from the protective envelope.



## 4

With the label facing to the left, insert the Utility diskette into drive 1 and close the lever.

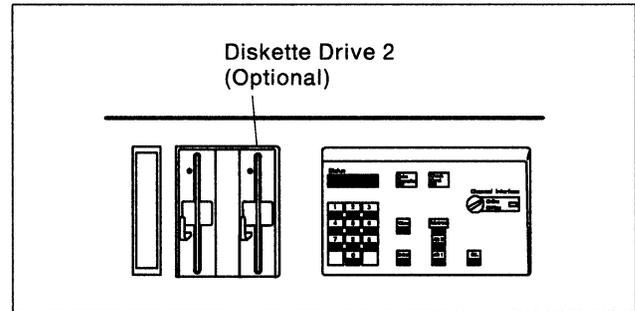


## 5

Does this controller have an optional Diskette Drive 2?

**YES** Continue with the next step.

**NO** Go to step 7 on this page.



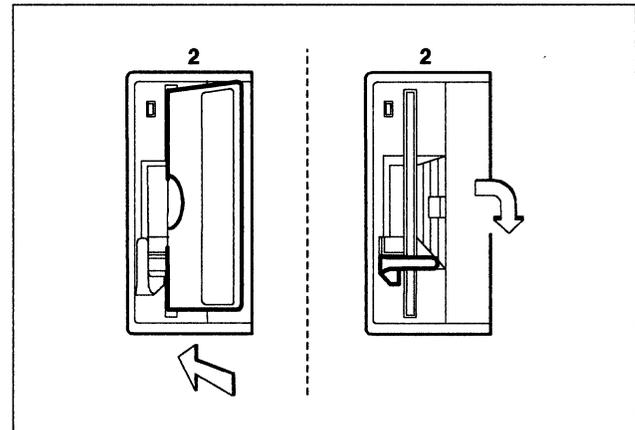
## 6

Is there a diskette in drive 2?

**YES** Continue with the next step.

**NO** Insert either a 3174 Control, DSL, or RPQ diskette into drive 2 and close the lever.

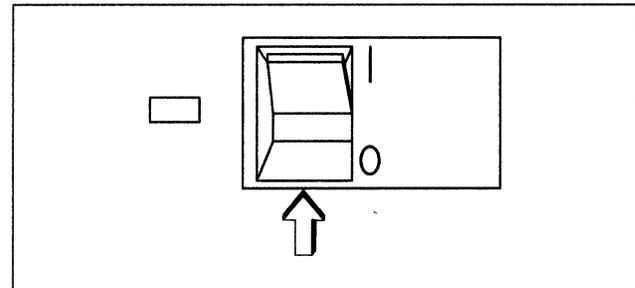
Do not use a diskette marked **2.4** unless drive 2 is labeled **2.4**.



## 7

Switch the machine on with the power switch.

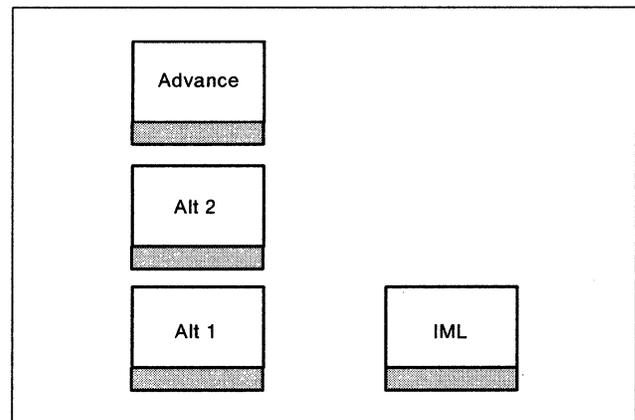
**Note:** For a Model **1L** or **11L**, lift the switch to the **Start** position and release.



## 8

In the following sequence:

1. Press and hold **Alt 2**.
2. Press and release **IML**.
3. Release **Alt 2**.



## 9

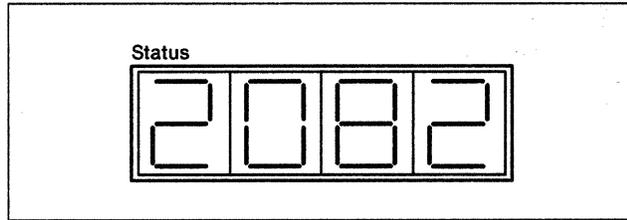
Does 2082 appear on the Status display within 5 minutes?

**YES** Continue with the next step.

**NO** Repeat step 8 on page 27.

If 2082 still does not appear, see the *3174 Status Codes* manual, GA27-3832, for a description of the status code displayed.

This status code description is also in the first and second editions of the *3174 Models 1L, 1R, 2R, and 3R User's Guide*, GA23-0337.

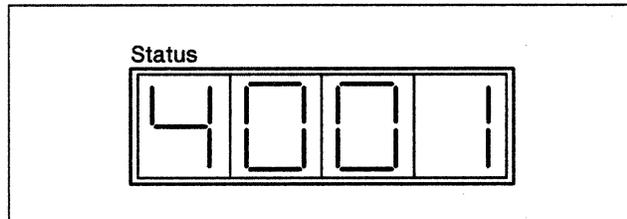


## 10

Did you remove an AEA from this controller?

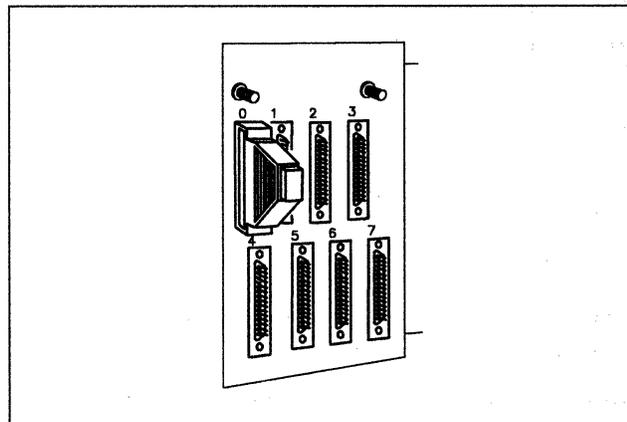
**YES** Go to step 16 on page 30.

**NO** Press **Enter** to display 4001.



## 11

Plug the wrap plug into the I/O panel port that you are testing.



## 12

Use the keypad on the operator panel to key in one of the following:

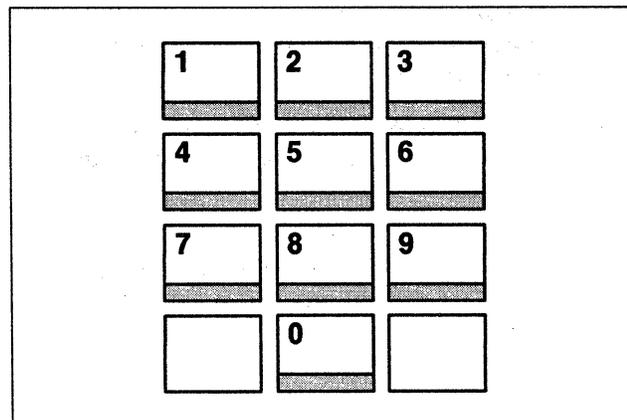
**2101** To test ports in I/O panel position HG21.

**2201** To test ports in I/O panel position HG22.

**2301** To test ports in I/O panel position HG23.

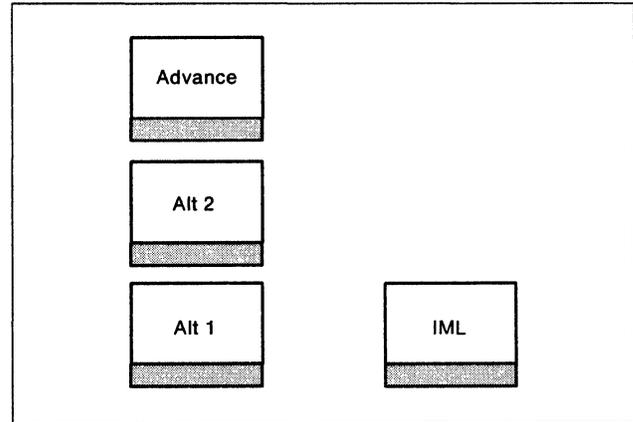
If you key in a wrong number, press **Clear** and try again.

Then continue with the next step.



### 13

Press **Advance**.

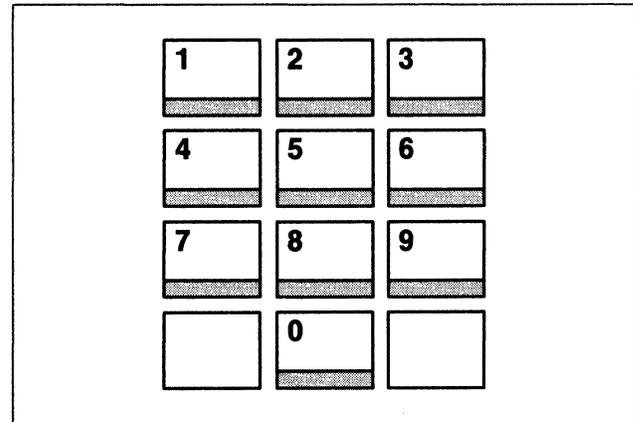


### 14

Key in one of the following:

- 00** To test port 0.
- 01** To test port 1.
- 02** To test port 2.
- 03** To test port 3.
- 04** To test port 4.
- 05** To test port 5.
- 06** To test port 6.
- 07** To test port 7.

Then continue with the next step.



### 15

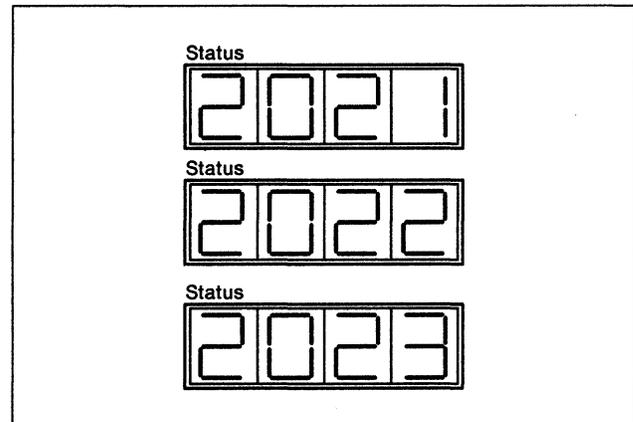
Press **Enter**.

Does 2021, 2022, or 2023 appear on the Status display after 10 to 15 seconds?

**YES** Repeat step 10 through step 15 until all new ports have been successfully tested. Store the wrap plug for future use in problem determination procedures, and continue with the next step.

**NO** See the *3174 Status Codes* manual, GA27-3832, for a description of the status code displayed.

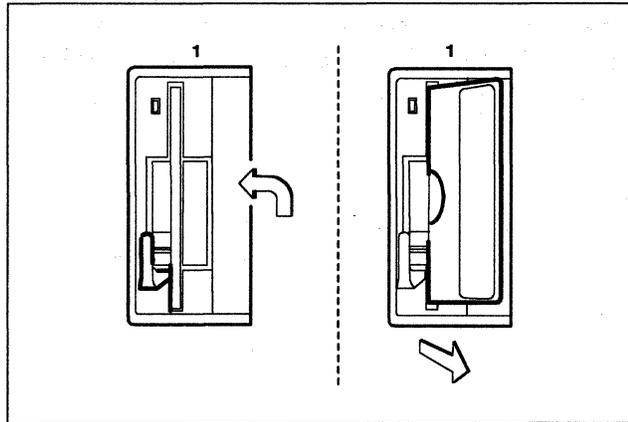
This status code description is also in the second edition of the *3174 Models 1L, 1R, 2R, and 3R User's Guide*, GA23-0337.



## 16

Open the lever of drive 1, and remove the diskette.

Insert the diskette into its protective envelope, and put it into the diskette storage pocket.



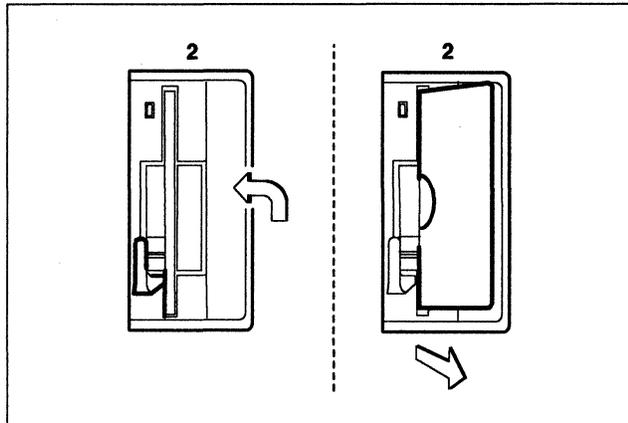
## 17

Is there an optional Diskette Drive 2?

**YES** Open the lever of drive 2, and remove the diskette.

Insert the diskette into its protective envelope, and put it into the diskette storage pocket.

**NO** Continue with the next step.



## 18

Asynchronous Emulation Adapter hardware modification is complete.

To make the controller operational, see the *3174 Model 1L, 1R, 2R, 3R, 11L, 11R, 12R, and 13R User's Guide*, GA23-0337.

The source of customizing information depends on the release level of the microcode the controller will be using.

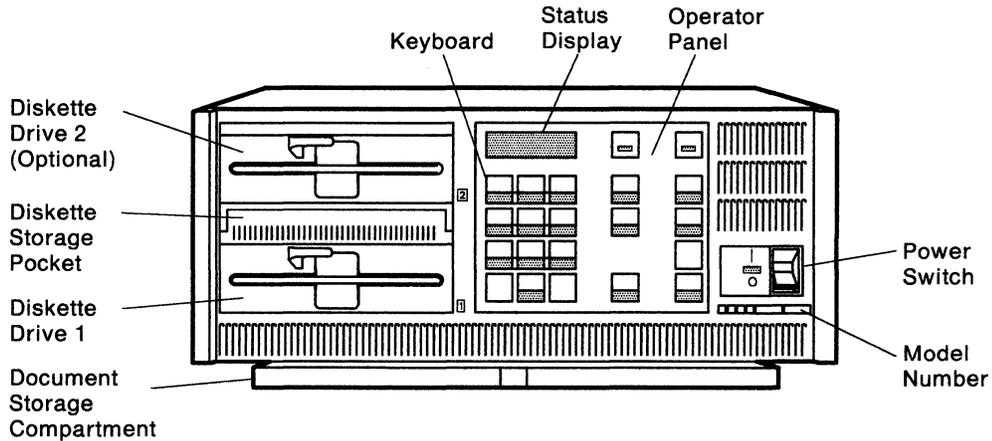
- Customizing information for microcode below release level A/S 5.0 is in the *3174 Customizing Guide*, GA23-0214.
- Customizing information for microcode release level A/S 5.0 is in the *3174 Planning Guide*, GA27-3844, and the *3174 Utilities Guide*, GA27-3853.
- Customizing information for microcode release level B 1.0 is in the *3174 Planning Guide*, GA27-3862, and the *3174 Utilities Guide*, GA27-3863.

# Asynchronous Emulation Adapter Installation in a Model 51R, 52R, 61R, 62R, or 63R

## CAUTION:

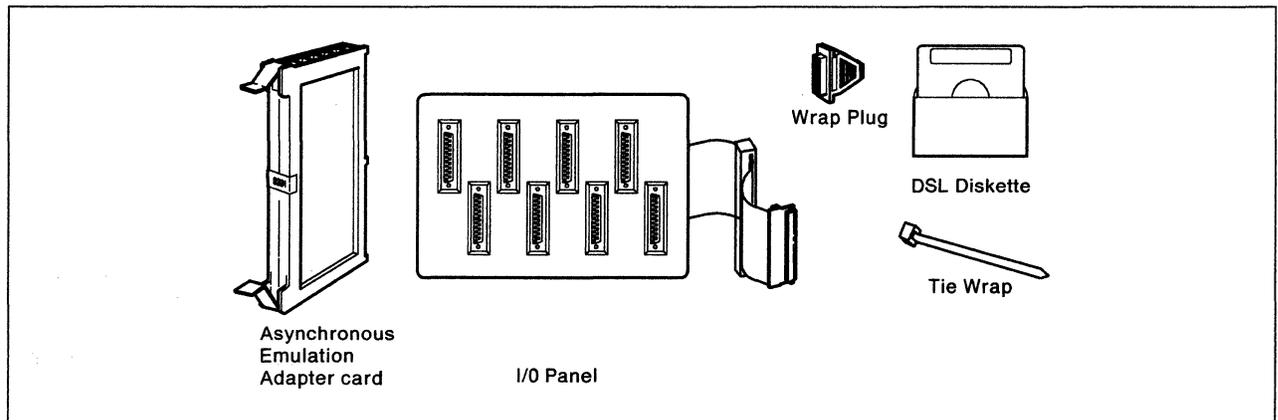
Do not connect or disconnect cables during periods of lightning activity. (For translations of this safety notice, see Safety Notice 5 in *IBM 3174 Safety Notices*, GA27-3824.)

Before beginning, note the location of the controller's basic components in the following figure.



## 1

Do you have the required items shown, in the kit?



**YES** Continue with the next step.

**NO** Discontinue this procedure until you have the required items.

**Note:** For testing, you will also need a Utility diskette that supports all of the features installed on this controller.

## 2

Do you have either a Diskette Drive or a Fixed Disk Drive to install on this controller?

**YES** Install the drive and then return to this book.

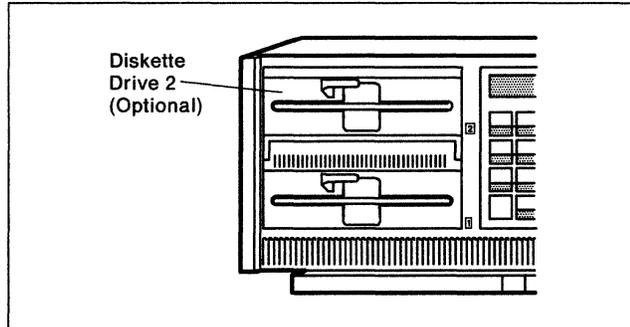
**NO** Continue with the next step.

## 3

Does this controller have an optional Diskette Drive 2?

**YES** Continue with step 5 on this page.

**NO** Continue with the next step.



## 4

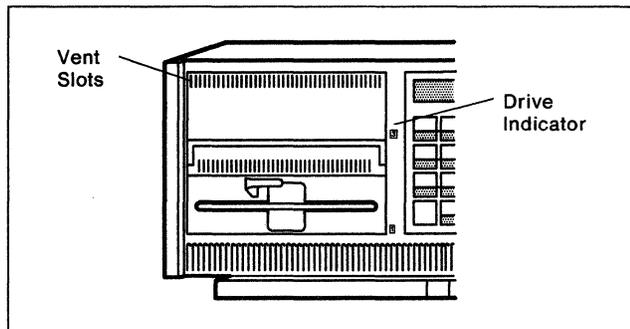
To determine if this controller has a Fixed Disk Drive, carefully check to see if there is a row of vent slots at the top of the optional drive position.

A 3 drive indicator will also mean this controller has a Fixed Disk Drive.

Does this controller have a Fixed Disk Drive?

**YES** Continue with the next step.

**NO** Discontinue this procedure and see your system planner. This controller does not have two disk drives, which are required for the AEA to operate correctly.

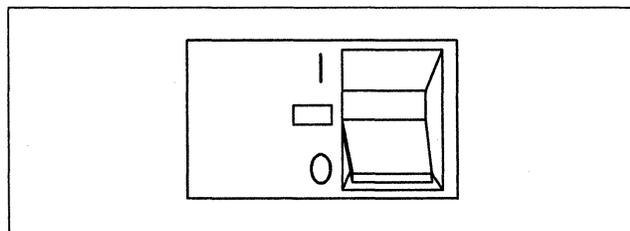


## 5

Is the controller power switch switched off?

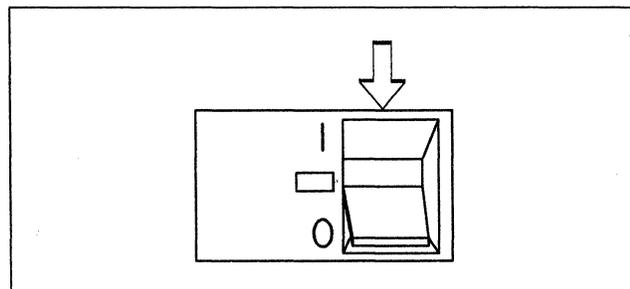
**YES** Go to step 7 on page 33.

**NO** Follow your company's procedures to notify users and to have this controller taken offline before continuing with the next step.



## 6

Press the power switch to **O** (Off).



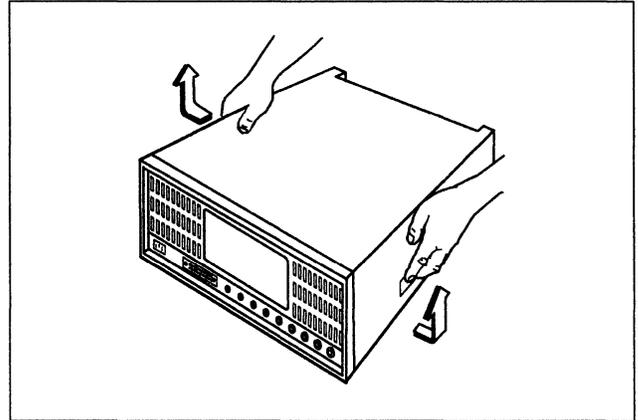
## 7

Unplug the controller power plug.

## 8

Lift the latches on the sides of the top cover.

Pull the sides slightly outward, and lift the cover off.



## 9

If you are installing the AEA in a Model:

**51R or 52R** Continue with the next step.

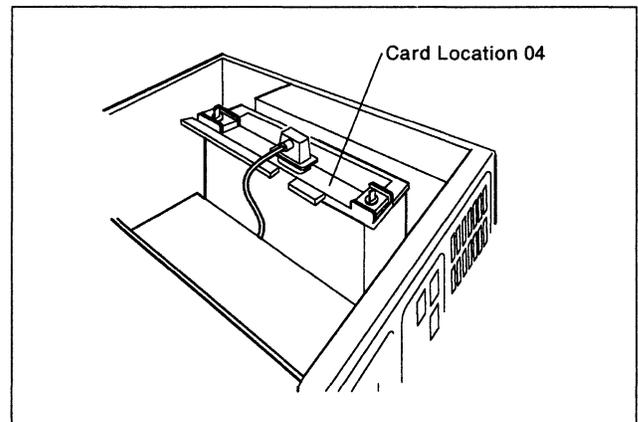
**61R, 62R, or 63R** Go to step 11 on this page.

## 10

Is there a type 935x adapter or a type 926x adapter in location 04?

**YES** Replace the cover, discontinue this procedure, and see your system planner. There is not a location available for the AEA unless the adapter in location 04 is removed.

**NO** Go to step 19 on page 35.

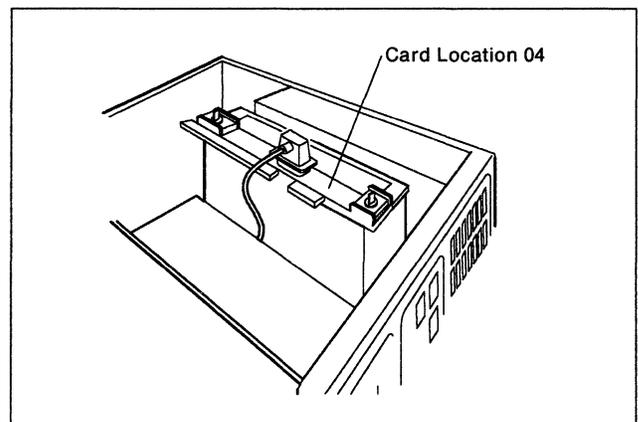


## 11

Is there a type 926x adapter or a type 935x adapter in location 04?

**YES** Continue with the next step.

**NO** Go to step 19 on page 35.

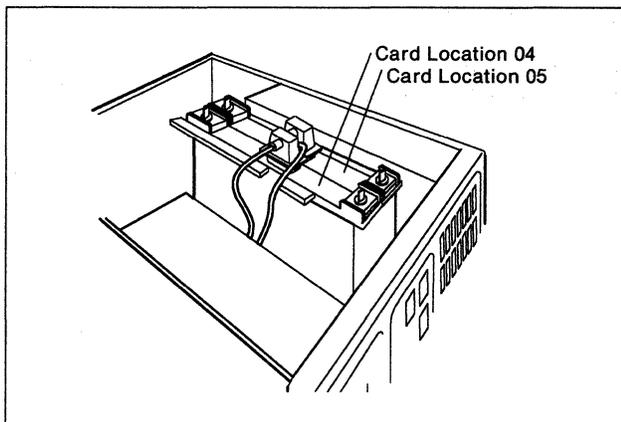


## 12

Is there a type 935x adapter or a type 926x adapter in location 05?

**YES** Replace the cover, discontinue this procedure, and see your system planner. There is not a location available for the AEA unless the adapter in location 04 or the adapter in location 05 is removed.

**NO** Continue with the next step.

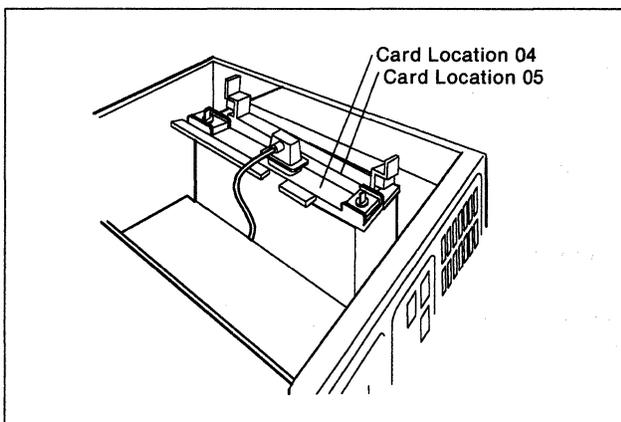


## 13

Is there an empty cassette (no adapter type) in location 05?

**YES** Grip the tabs on each end of the cassette, pull it up, and remove it.

**NO** Continue with the next step.

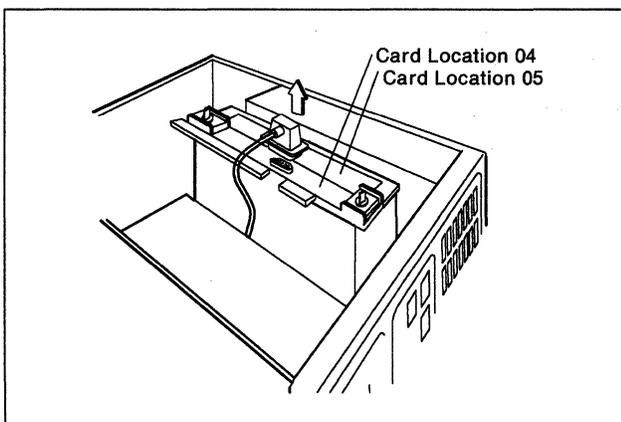


## 14

### CAUTION:

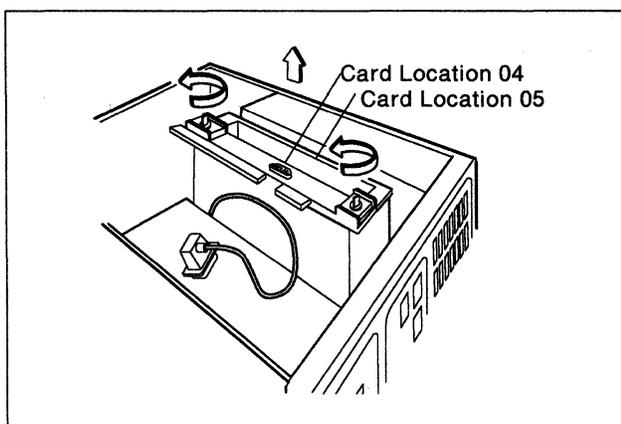
**Do not connect or disconnect cables during periods of lightning activity.** (For translations of this safety notice, see Safety Notice 5 in *IBM 3174 Safety Notices*, GA27-3824.)

Unplug the cable connected to the adapter in location 04.



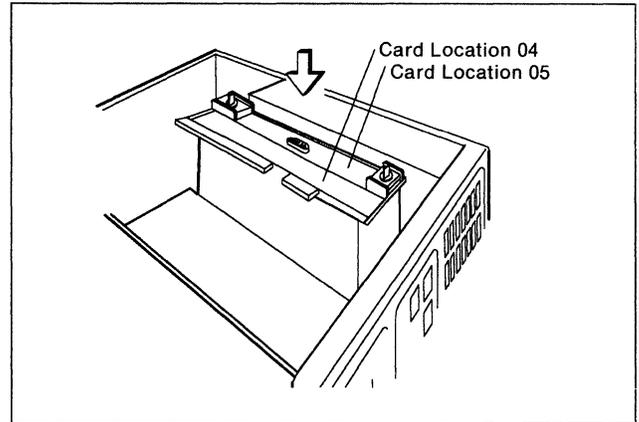
## 15

Loosen the thumbscrews in an alternating manner and remove the adapter in location 04 by pulling it straight out.



## 16

Insert the adapter you removed from location 04 into location 05 until it is firmly seated.

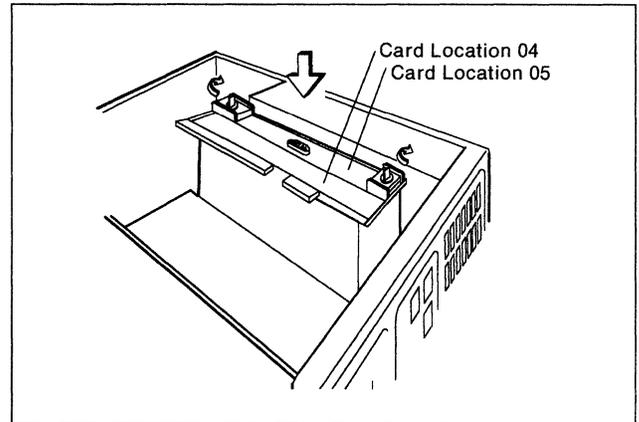


## 17

Tighten the thumbscrews in an alternating manner. For example, tighten one screw two turns and then the other two turns until both screws are tightened completely.

Then push the adapter in to see if further thumbscrew tightening is needed.

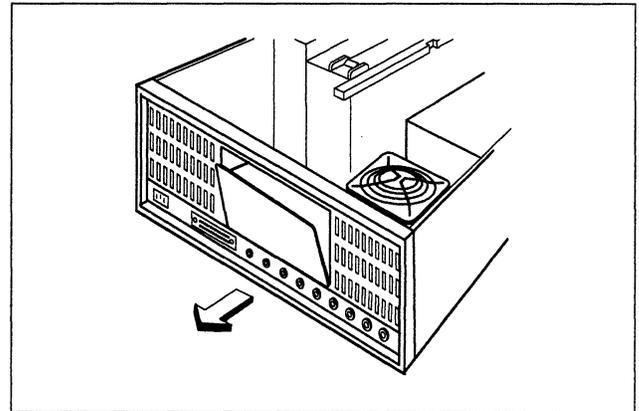
Do not plug the cable you removed back in at this time.



## 18

From the rear of the controller:

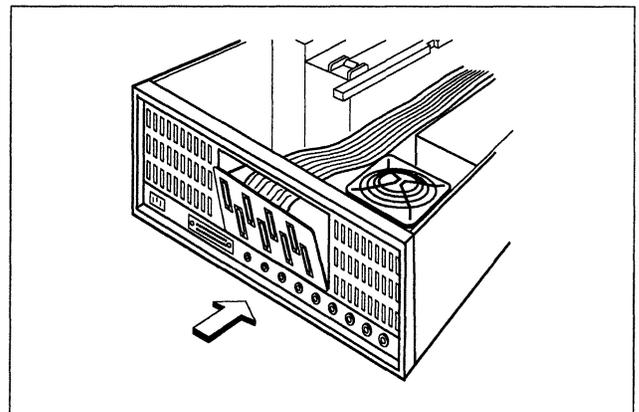
1. Press down on the inside top panel tabs.
2. Push the panel out and remove it.



## 19

From the rear of the controller:

1. Place the lower tabs of the I/O panel from the kit on the lower edge of the opening in the controller.
2. Press the I/O panel in firmly until the upper tabs latch.



## 20

### CAUTION:

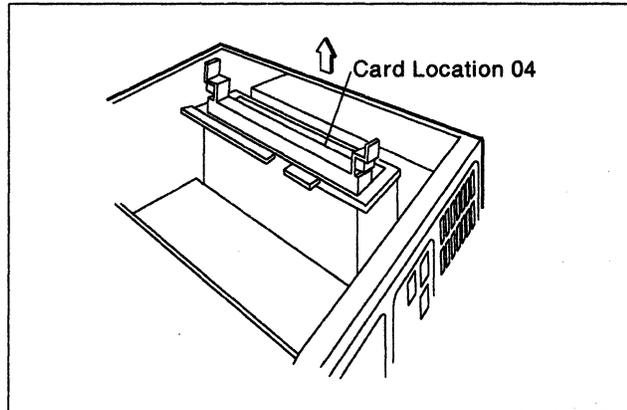
**Do not connect or disconnect cables during periods of lightning activity.** (For translations of this safety notice, see Safety Notice 5 in *IBM 3174 Safety Notices, GA27-3824.*)

If there is a cable plugged into an adapter in location 05, temporarily unplug the cable.

## 21

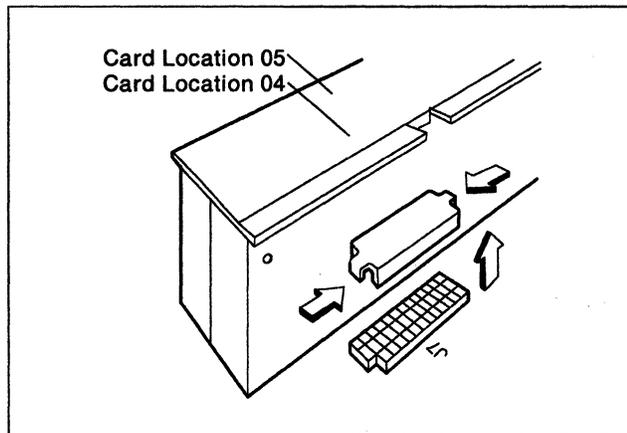
Is there an empty cassette (no adapter type) in location 04?

- YES** Grip the tabs on each end of the cassette, pull it up, and remove it.
- NO** Continue with the next step.



## 22

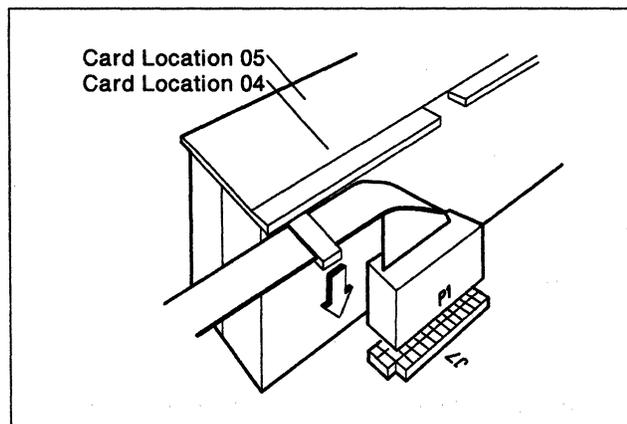
Remove the cover of socket J7 by pressing in on the cover ends and pulling the cover up.



## 23

From the rear of the controller, hold the P1 connector of the I/O panel while extending the cable toward the front.

Align the P1 connector with the slots in socket J7 and plug it in.

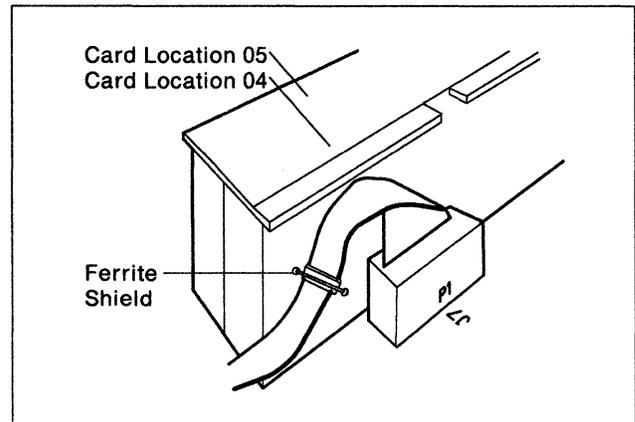


## 24

Insert the end of the tie-wrap from the kit through the hole in the adapter frame and back out the other hole.

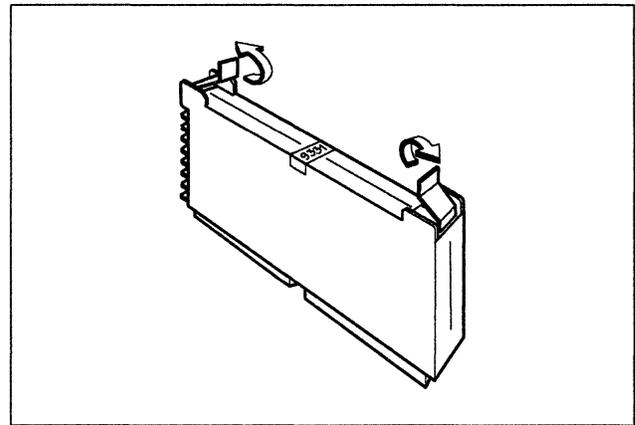
Secure the ferrite shield against the adapter frame with the tie-wrap.

The tie-wrap must be tight enough so that it will not interfere when you insert the AEA into the adapter frame.



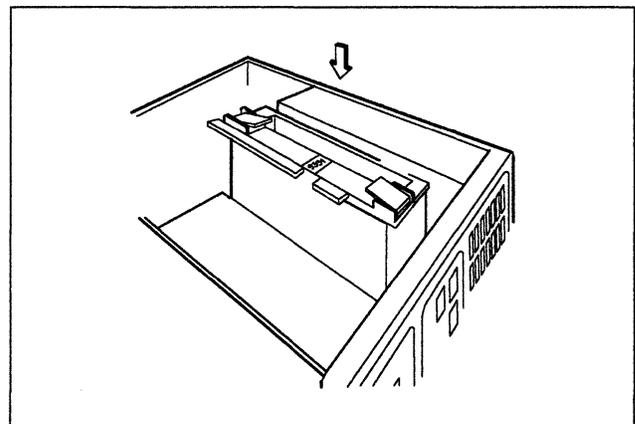
## 25

With both extractor levers in the open position, hold the adapter from the kit so that the flat panel is facing left.



## 26

From the front of the controller, insert the adapter into location 04, and press the extractor levers down to lock the adapter in place.



## 27

### CAUTION:

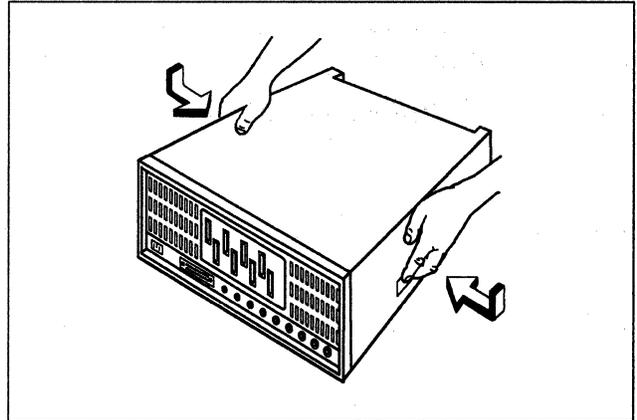
**Do not connect or disconnect cables during periods of lightning activity.** (For translations of this safety notice, see Safety Notice 5 in *IBM 3174 Safety Notices, GA27-3824*.)

If there is an adapter in location 05, plug the cable back in that you disconnected earlier.

## 28

Lift the latches on the sides of the top cover.

Put the top cover back in place, and push the sides slightly inward while pushing the latches down into the locked position.



## 29

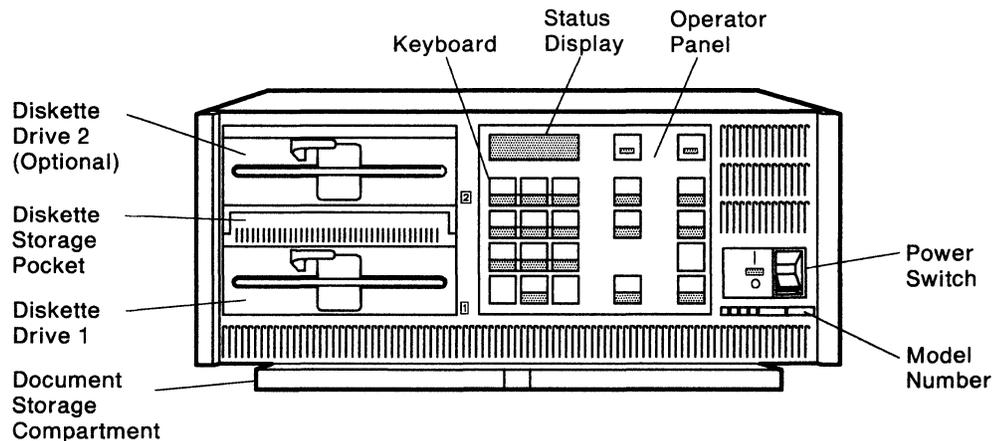
Go to "Verification Test for Models 51R, 52R, 61R, 62R, or 63R" on page 43 to verify that this controller is operating correctly.

# Asynchronous Emulation Adapter Removal from a Model 51R, 52R, 61R, 62R, or 63R

## CAUTION:

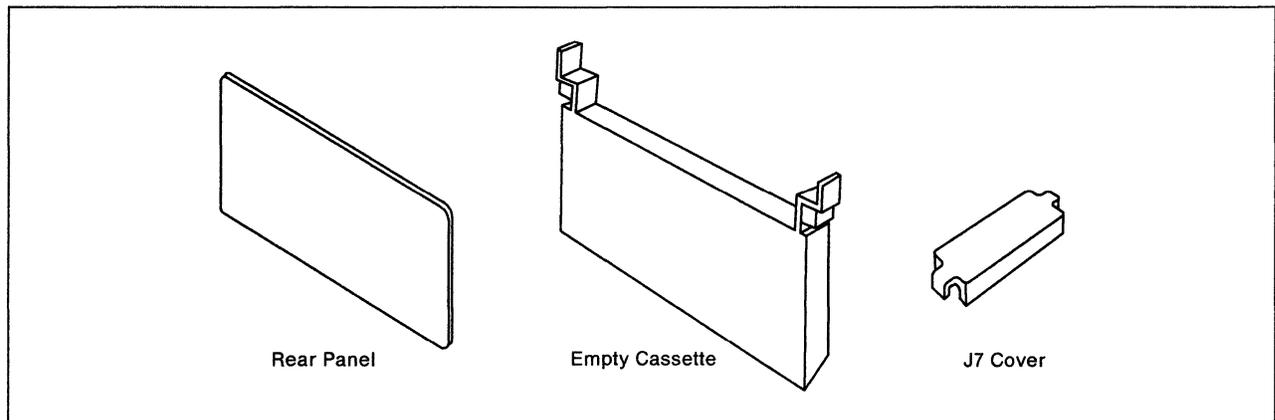
Do not connect or disconnect cables during periods of lightning activity. (For translations of this safety notice, see Safety Notice 5 in *IBM 3174 Safety Notices*, GA27-3824.)

Before beginning, note the location of the controller's basic components in the following figure.



## 1

Do you have the required items shown, in the kit?



**YES** Continue with the next step.

**NO** Discontinue this procedure until you have the required items.

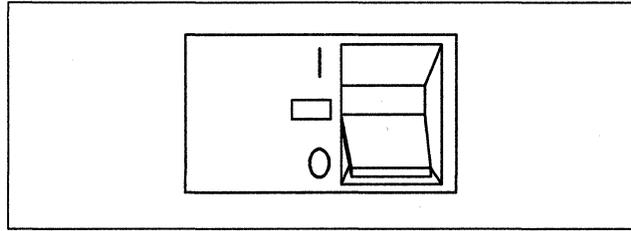
**Note:** For testing, you will also need a Utility diskette that supports all of the features installed on this controller.

## 2

Is the controller power switch switched off?

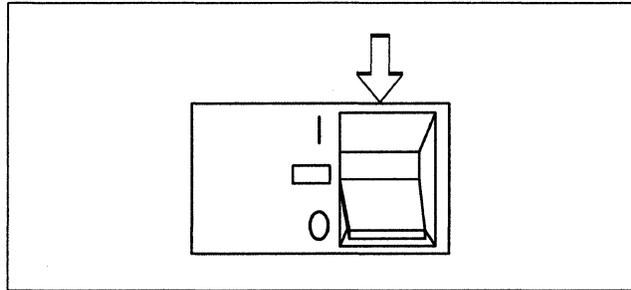
**YES** Go to step 4 on this page.

**NO** Follow your company's procedures to notify users and to have this controller taken offline before continuing with the next step.



## 3

Press the power switch to **O** (Off).



## 4

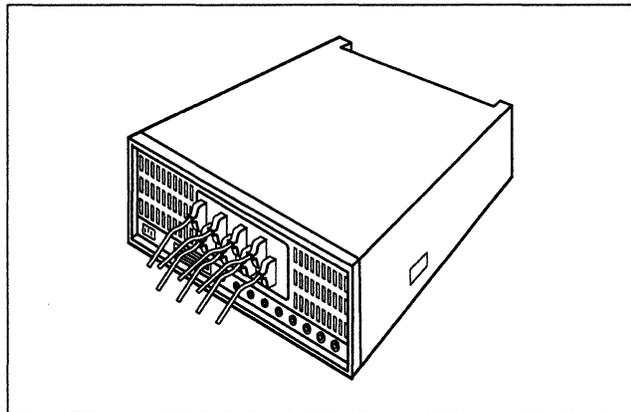
Unplug the controller power plug.

## 5

### CAUTION:

**Do not connect or disconnect cables during periods of lightning activity.** (For translations of this safety notice, see Safety Notice 5 in *IBM 3174 Safety Notices*, GA27-3824.)

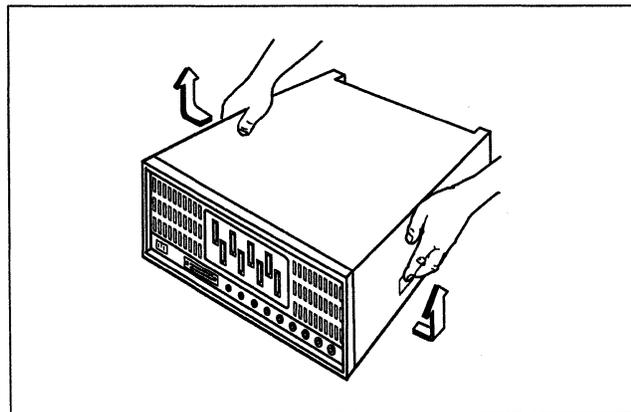
Unplug any cables connected to the I/O panel in the rear of the controller.



## 6

Lift the latches on the sides of the top cover.

Pull the sides slightly outward, and lift the cover off.



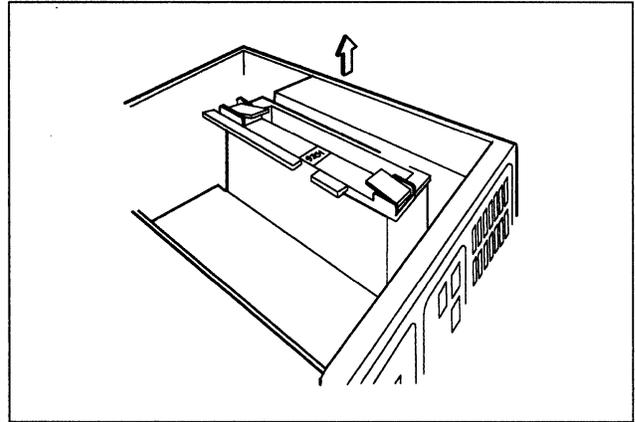
## 7

### CAUTION:

**Do not connect or disconnect cables during periods of lightning activity.** (For translations of this safety notice, see Safety Notice 5 in *IBM 3174 Safety Notices*, GA27-3824.)

Open the extractor levers and remove the type 9331 adapter from location 04.

**Note:** If there is a cable plugged into an adapter in location 05, temporarily unplug the cable until the type 9331 adapter is removed from location 04.

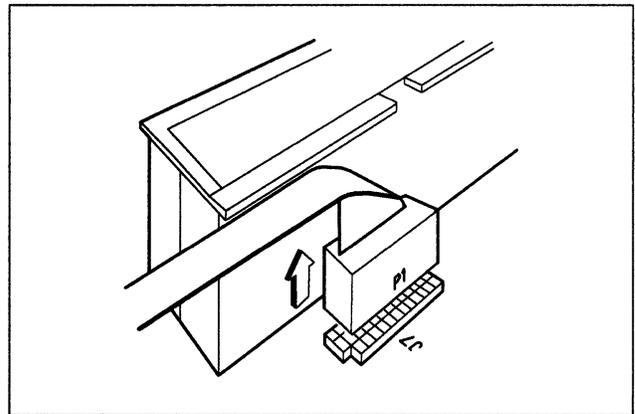


## 8

Is the AEA cable secured to the adapter frame with a tie-wrap?

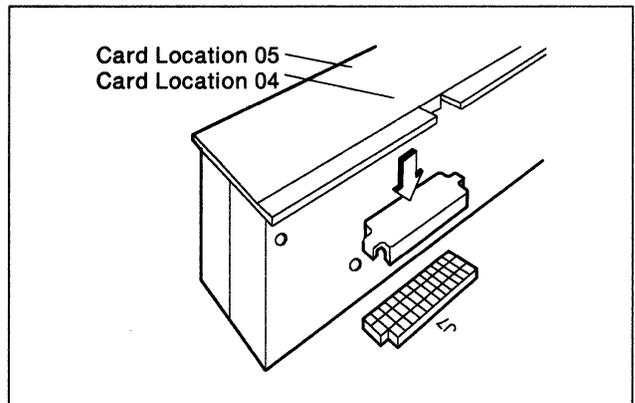
**YES** Remove the tie-wrap and unplug connector P1 from socket J7.

**NO** Unplug connector P1 from socket J7.



## 9

Snap the cover from the kit into place over socket J7.

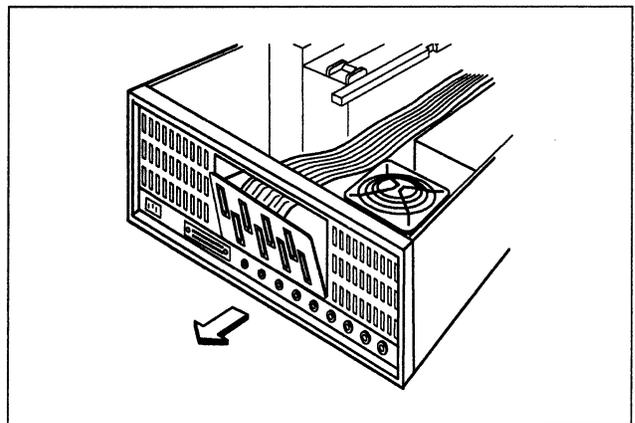


## 10

From the rear of the controller:

1. Press down on the inside top panel tabs.
2. Push the panel out and remove it.

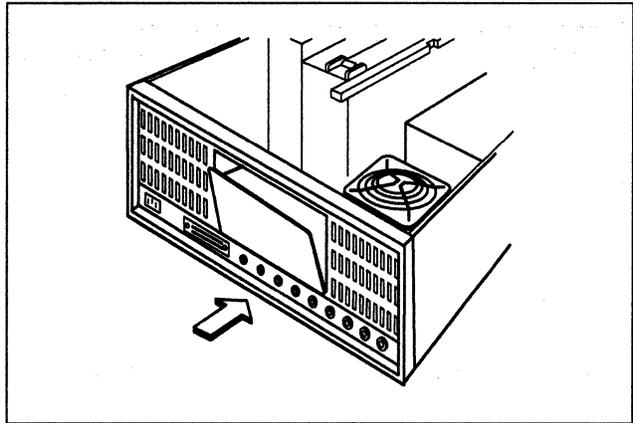
Store the items you removed according to your company's procedures.



## 11

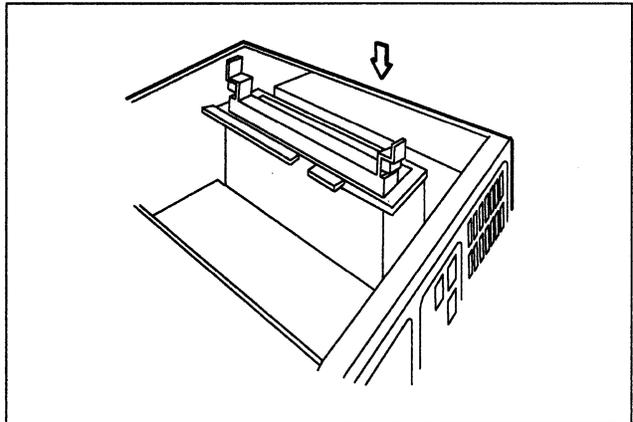
From the rear of the controller:

1. Place the lower tabs of the I/O panel from the kit on the lower edge of the opening in the controller.
2. Press the I/O panel in firmly until the upper tabs latch.



## 12

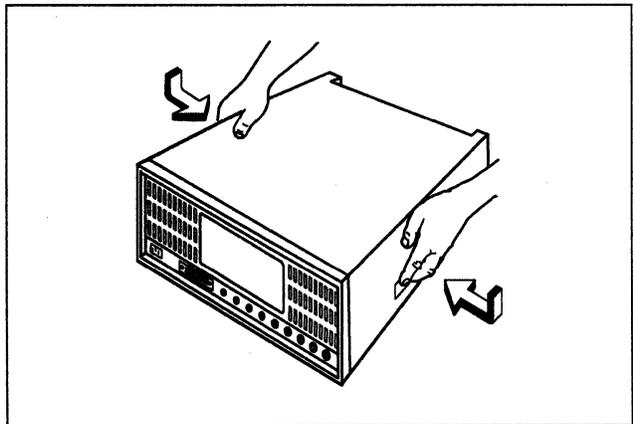
Insert the empty cassette from the kit firmly into location 04.



## 13

Lift the latches on the sides of the top cover.

Put the top cover back in place, and push the sides slightly inward while pushing the latches down into the locked position.



## 14

Go to "Verification Test for Models 51R, 52R, 61R, 62R, or 63R" on page 43 to verify that this controller is operating correctly.

# Verification Test for Models 51R, 52R, 61R, 62R, or 63R

**1**

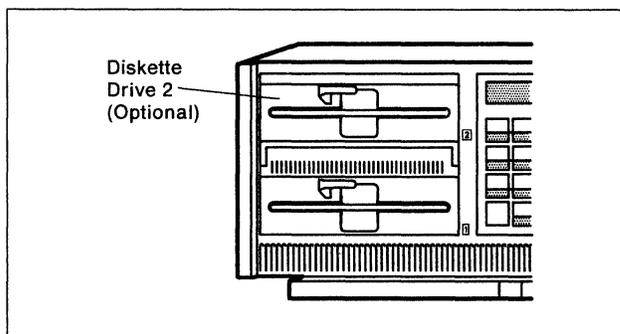
Plug the controller power plug into an electrical outlet.

**2**

Does this controller have an optional Diskette Drive 2?

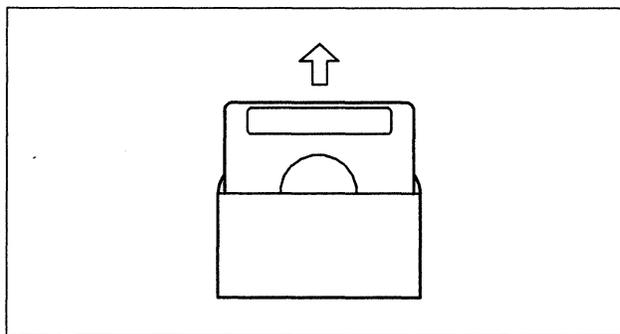
**YES** Continue with the next step.

**NO** Go to step 10 on page 45.



**3**

Remove the Utility diskette from the protective envelope.

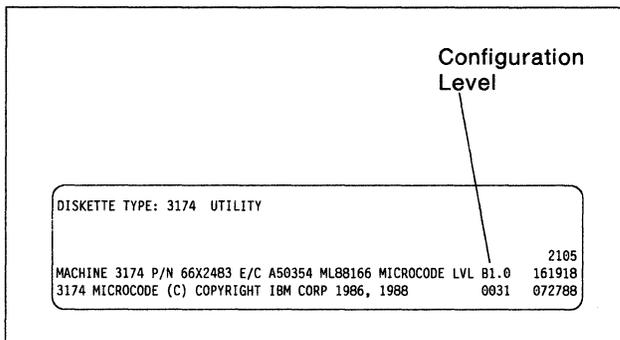


**4**

Is the Utility diskette label marked Configuration B?

**YES** Continue with the next step.

**NO** Go to step 6 on page 44.

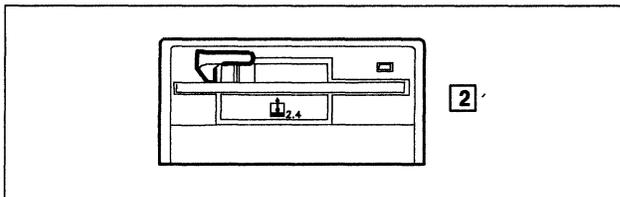


**5**

Is drive 2 labeled 2.4?

**YES** Continue with the next step.

**NO** Go to step 9 on page 44.

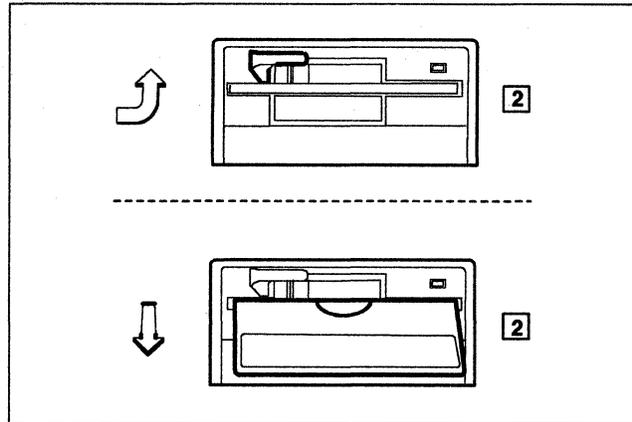


## 6

Is there a diskette in drive 2?

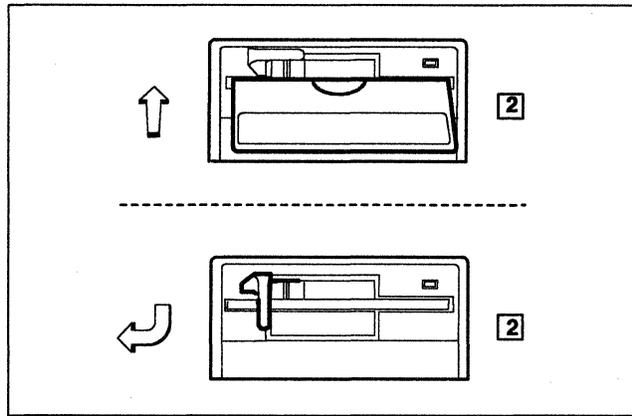
**YES** Open the lever of drive 2, and remove the diskette.

**NO** Continue with the next step.



## 7

With the label facing up, insert the Utility diskette into drive 2 and close the lever.



## 8

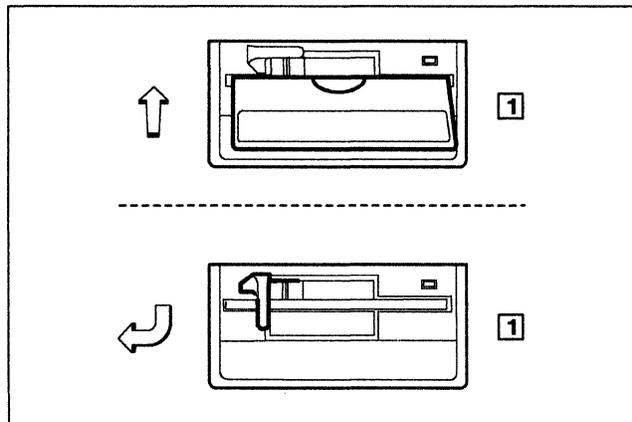
Is there a diskette in drive 1?

**YES** Go to step 13 on page 45.

**NO** Insert either a 3174 Control, DSL, or RPQ diskette into drive 1 and close the lever.

Do not use a diskette marked **2.4** unless drive 1 is labeled **2.4**.

Then go to step 13 on page 45.



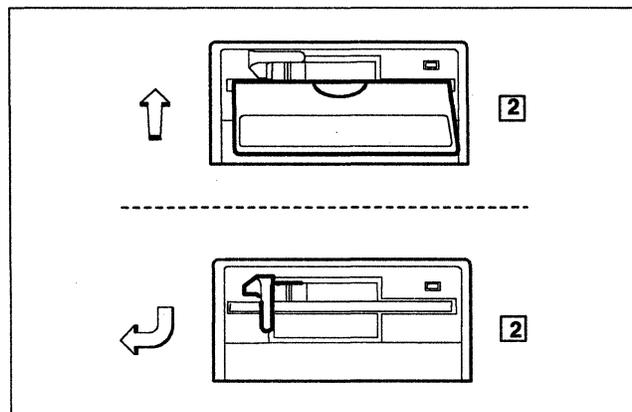
## 9

Is there a diskette in drive 2?

**YES** Continue with the next step.

**NO** Insert either a 3174 Control, DSL, or RPQ diskette into drive 2 and close the lever.

**Note:** Do not insert a diskette marked **2.4**.

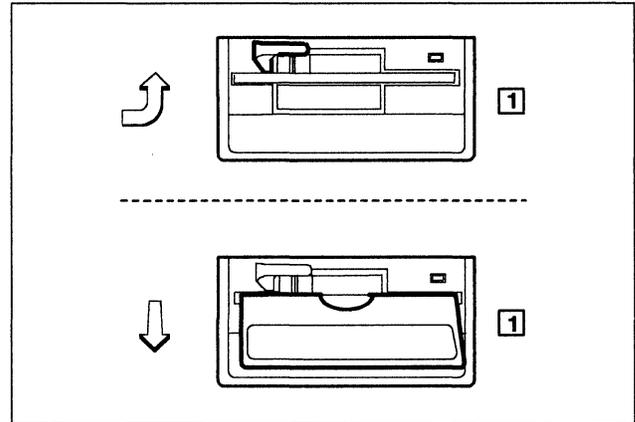


### 10

Is there a diskette in drive 1?

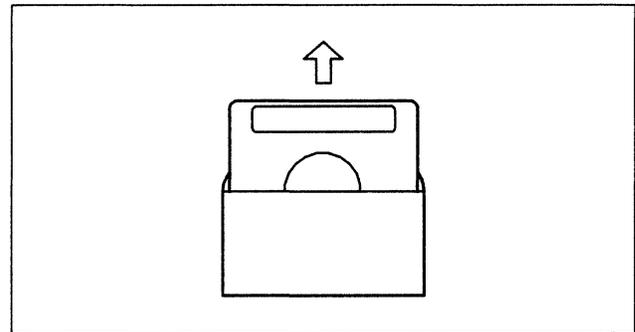
**YES** Open the lever of drive 1, and remove the diskette.

**NO** Continue with the next step.



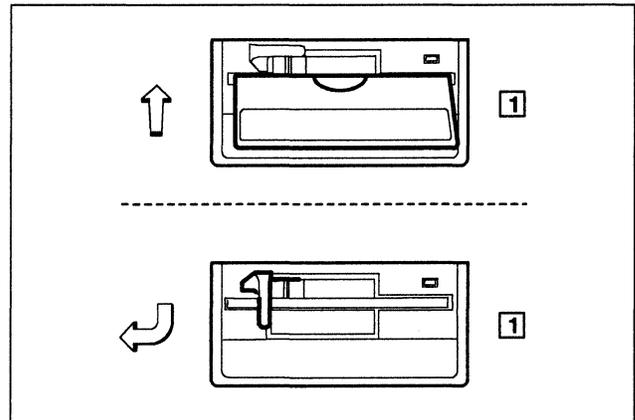
### 11

If necessary, remove the Utility diskette from the protective envelope.



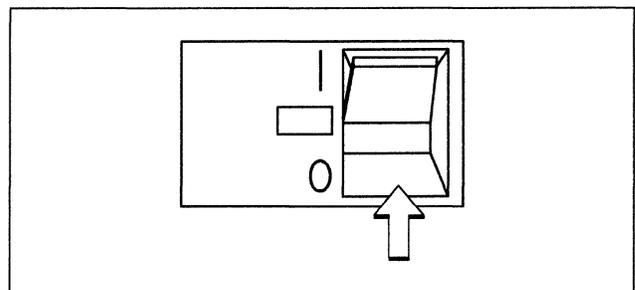
### 12

Put the Utility diskette into drive 1 and close the lever.



### 13

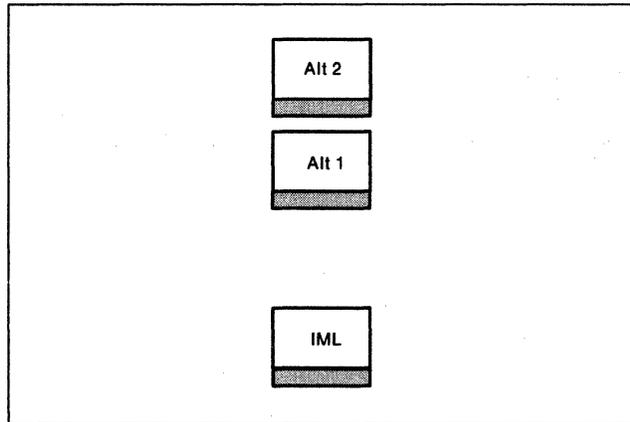
Switch the machine on with the power switch.



## 14

In the following sequence:

1. Press and hold **Alt 1**.
2. Press and release **IML**.
3. Release **Alt 1**.



## 15

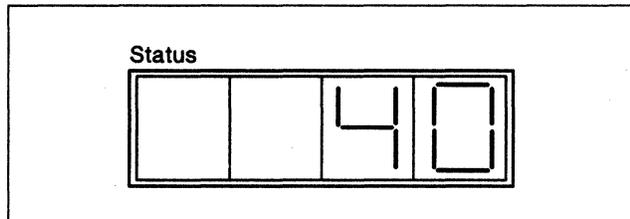
Does 40 appear on the Status display within 20 seconds?

**YES** Continue with the next step.

**NO** Repeat step 14 on page 46.

If 2082 still does not appear, see the 3174 *Status Codes* manual, GA27-3832, for a description of the status code displayed.

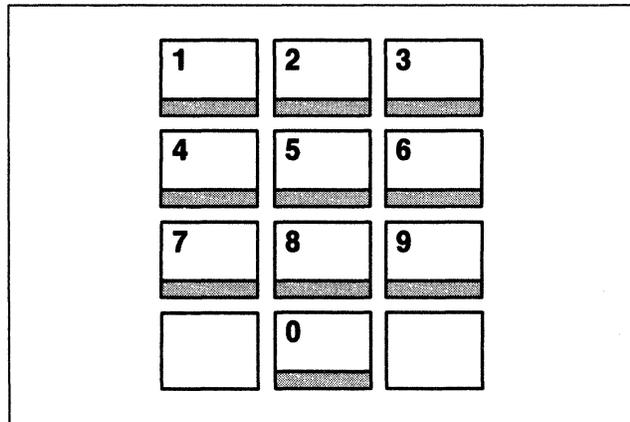
This status code description is also in the first and second editions of the 3174 *Models 51R, 52R, and 53R User's Guide*, GA23-0333.



## 16

Use the keypad on the operator panel to key in:

- 82** If the Utility diskette is in drive 1.  
If you key in a wrong number, press **Clear** and try again.
- 0282** If the Utility diskette is in drive 2.  
If you key in a wrong number, press **Clear** and try again.



## 17

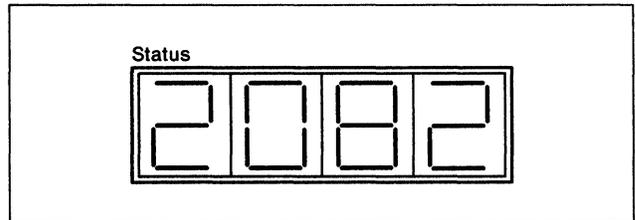
Press **Enter**.

Does 2082 appear on the Status display within 5 minutes?

**YES** Continue with the next step.

**NO** See the *3174 Status Codes* manual, GA27-3832, for a description of the status code displayed.

This status code description is also in the first and second editions of the *3174 Models 51L, 52R, and 53R User's Guide*, GA23-0333.

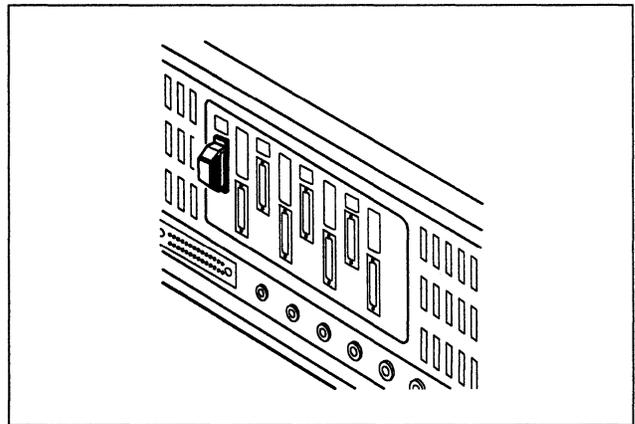


## 18

Did you remove the AEA from this controller?

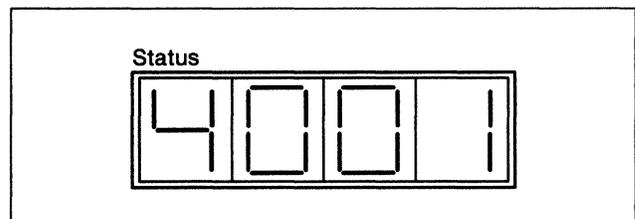
**YES** Go to step 23 on page 48.

**NO** Plug the wrap plug into the I/O panel port that you are testing.



## 19

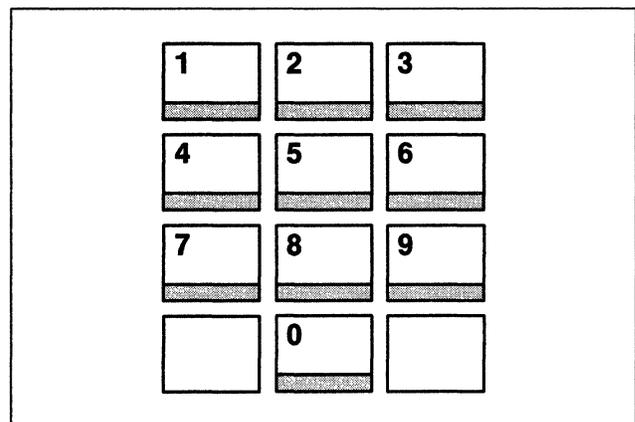
Press **Enter** to display 4001.



## 20

Key in **2101**.

Then press **Advance**.

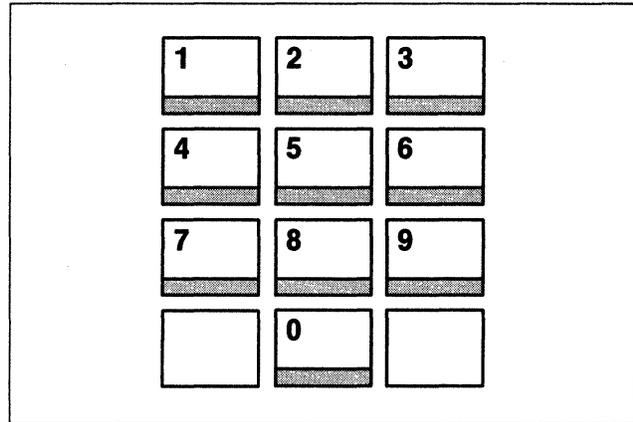


## 21

Key in one of the following:

- 00 To test port 0.
- 01 To test port 1.
- 02 To test port 2.
- 03 To test port 3.
- 04 To test port 4.
- 05 To test port 5.
- 06 To test port 6.
- 07 To test port 7.

Then continue with the next step.



## 22

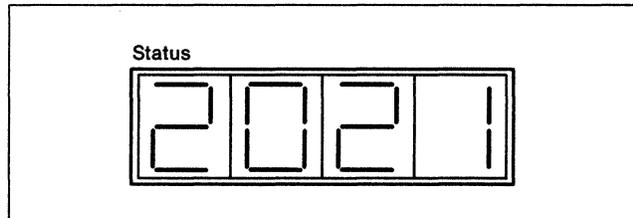
Press **Enter**.

Does 2021 appear on the Status display within 1 minute?

**YES** Repeat step 18 through step 22 until all new ports have been successfully tested. Store the wrap plug for future use in problem determination procedures, and continue with the next step.

**NO** See the *3174 Status Codes* manual, GA27-3832, for a description of the status code displayed.

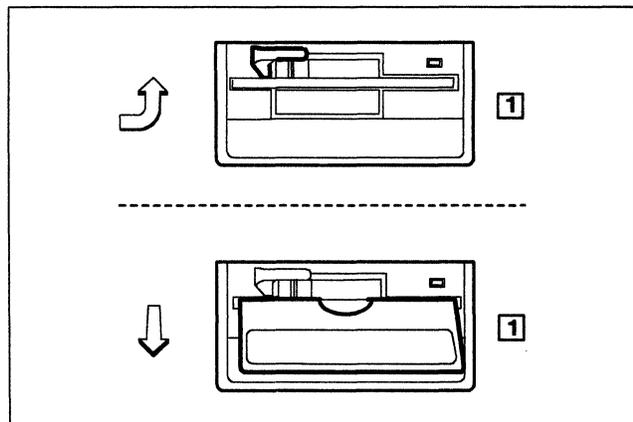
This status code description is also in the second edition of the *3174 Models 51R, 52R, and 53R User's Guide*, GA23-0333.



## 23

Open the lever of drive 1, and remove the diskette.

Insert the diskette into its protective envelope, and put it into the diskette storage pocket.



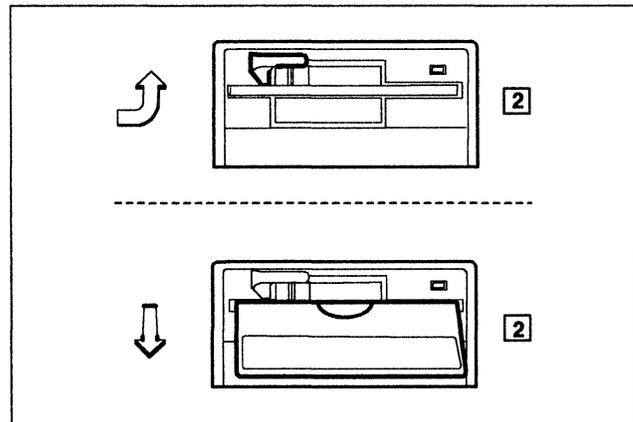
## 24

Is there an optional Diskette Drive 2?

**YES** Open the lever of drive 2, and remove the diskette.

Insert the diskette into its protective envelope, and put it into the diskette storage pocket.

**NO** Continue with next step.



## 25

Asynchronous Emulation Adapter hardware modification is complete.

To make the controller operational, see the *3174 Model 51R, 52R, 53R, 61R, 62R, and 63R User's Guide*, GA23-0333.

The source of customizing information depends on the release level of the microcode the controller will be using.

- Customizing information for microcode below release level A/S 5.0 is in the *3174 Customizing Guide*, GA23-0214.
- Customizing information for microcode release level A/S 5.0 is in the *3174 Planning Guide*, GA27-3844, and the *3174 Utilities Guide*, GA27-3853.
- Customizing information for microcode release level B 1.0 is in the *3174 Planning Guide*, GA27-3862, and the *3174 Utilities Guide*, GA27-3863.



**IBM 3174 Establishment Controller  
Asynchronous Emulation Adapter  
Installation and Removal Instructions**

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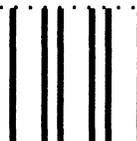
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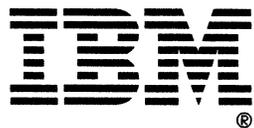
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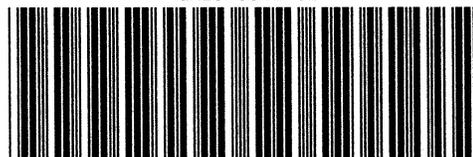




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