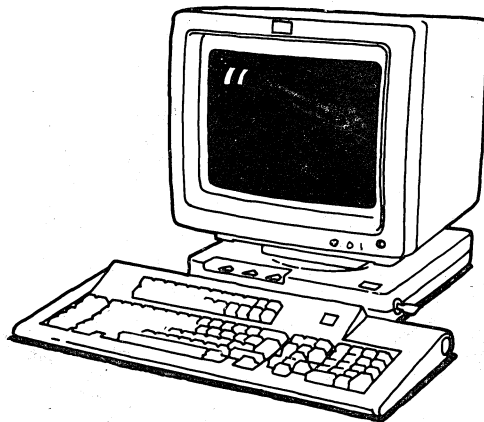


**IBM 3179 Color Display Station**  
**Operator Reference and**  
**Problem Solving Guide**

GA18-2180-1  
File No. 3270/4300-09



## **Second Edition (September, 1984)**

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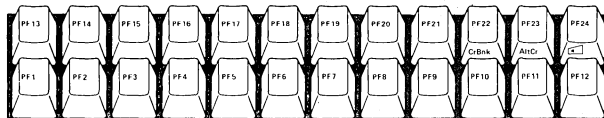
## HOW TO USE THIS GUIDE


Keys	Messages	Problem Solving -Symptoms	Problem Solving -Checkout	Exchange & Packing
<p>This section gives you a summary of the keys and their functions.</p>	<p>This section gives you a summary of the messages that appear below the blue line.</p>	<p>This section helps you to identify a failing element from your symptom.</p>	<p>This section should be used when you cannot identify a failing element from your symptom.</p>	<p>This section tells you how to replace a failing element with a good one and how to pack it for return to IBM for repair or replacement.</p>
Page 1.	Page 7.	Page 15.	Page 49.	Page 61 and 73.



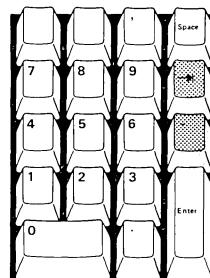
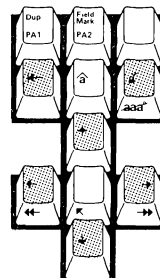
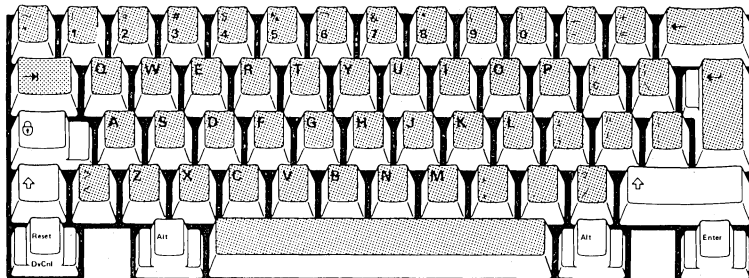
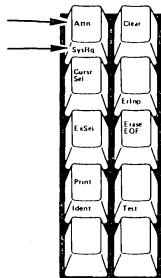
# Keys

The following section shows the standard keyboard layout and the function of each key.










 Repeat-action keys  
(repeat characters or  
functions when held  
down)

Top  
Front














Standard 122-Key Typewriter Keyboard (U.S. English)

Marking on Key	Name of Key	Function
<b>Alt</b>	Alternate Shift	Activates function on front face of keys. Not all keys have an alternate function.
<b>AltCr</b>	Alternate Cursor	Selects between two forms of the cursor.
<b>Attn</b>	Attention	Requests attention of the system (only if <u>B</u> is displayed in position 2 below the blue line).
<b>Clear</b>	Clear	Erases screen and signals system that clear action occurred.
<b>CrBnk</b>	Cursor Blink	Causes a nonblinking cursor to blink, and a blinking cursor to stop blinking.
<b>Curs Sel</b>	Cursor Select	Selects fields for processing. Cursor must be in a field that your application has designated for cursor selection.
<b>Dup</b>	Duplicate	Causes prior entry for this field to be duplicated. Displays $\overline{*}$ or * and moves cursor forward to first position of next input field.
<b>DvCnl</b>	Device Cancel	Cancels a pending request by the Print key to a printer that is busy and restores the keyboard. If the printer is not working, it restores the keyboard and resets  , if displayed.

Marking on Key	Name of Key	Function
PA1–2	Program Access Keys 1–2	Function determined by application.
PF1–24	Program Function Keys 1–24	Function determined by application.
Print	Print	Sends data from this display station to the assigned printer.
	Clicker (Beeper)	Turns keyboard clicker on or off. Note: This sound is actually a beep.
	Shift Lock	Locks keyboard in upshift.
	Shift	Upshift. Also unlocks the Shift Lock.
	Tab	Moves cursor forward to first position of next input field.
	Backspace	Moves cursor backward.
ExSel	Extended Select	Lets you use the extended select functions.
	Word Delete	Deletes a word at cursor position.

<b>Enter</b>	Enter	Requests that data from your IBM 3179 be sent to the system.
<b>Erase EOF</b>	Erase to End-of-Field	Erases input field from cursor to end of field. Cursor does not move.
<b>ErInp</b>	Erase Input	Erases all input fields and moves cursor to first input character position on your screen.
<b>Field Mark</b>	Field Mark	Marks end of input field on unformatted screen by displaying either $\overline{;}$ or $;$ .
<b>Ident</b>	Printer ID	Signals that the next two numbers entered will become the IDENT number of the printer assigned to your IBM 3179. But if ?? is displayed, it only replaces ?? with the current assignment.
<b>Reset</b>	Reset	Resets x conditions as noted in the next section on "Messages." Resets a condition and a printer IDENT operation. Cancels dead key operation, leaving stand-alone accent at cursor.
<b>SysRq</b>	System Request	With <u>A</u> in position 2 below the blue line, signals the system that you have a test request message on your IBM 3179. Ask your supervisor for details. With <u>B</u> in position 2 below the blue line, switches your IBM 3179 between application and control programs. Ask your supervisor for details.
<b>Test</b>	Test	Clears your screen. Ask your supervisor for details. Used to start and end special problem determination functions.



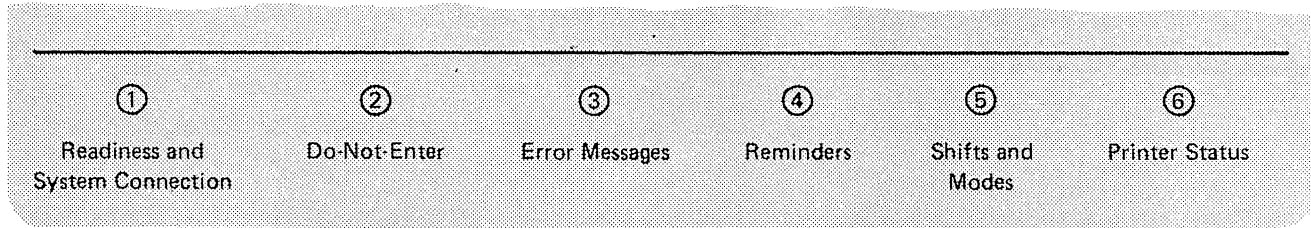
Marking on Key	Name of Key	Function
	Back Tab	Moves cursor backward to first position of input field. If cursor is in first position of field, moves cursor to first position of preceding input field.
	Cursor Home	Moves cursor to first position in first input field of screen.
	New Line	Moves cursor to first position of first input field in the next line.
	Insert	Lets you insert characters between others you have already typed. To stop inserting, press the Reset key.
	Delete Character	Deletes character at cursor position in input field.
	Cursor Up	Moves cursor up.
	Cursor Down	Moves cursor down.
	Cursor Left	Moves cursor to the left.
	Cursor Right	Moves cursor to the right.
	Double-Speed Cursor Left	Moves cursor to the left at double speed.
	Double-Speed Cursor Right	Moves cursor to the right at double speed.

Intentionally left blank.

## Operator Messages

Operating and status messages appear in the operator information area, which is the bottom line on the screen and is separated from the rest of the display by a blue line.












The messages are grouped into six categories and are displayed in different areas, as follows:



There are some differences between the operator messages for the IBM 3179 attached to the IBM 3274 and IBM 3276, and those for the IBM 3179 attached to the IBM 4321, IBM 4331, and IBM 4361. The following messages are typical operator messages in both cases.

**Messages from the IBM 3274 and IBM 3276. (See page 12 for IBM 4300 messages.)**

● Readiness and System Connection Symbols (Group ①)

- |              |  |   |
|--------------|--|---|
| Position 1   |  or  | — Means the IBM 3274 (  ) or IBM 3276 (  ) control unit is working (ready).                           |
| Position 2   |  or  | — Means the control unit is connected (online) to the host system under rule A (  ) or rule B (  ). |
| Position 3   |   | — Your display station is working with your job (application program).  |
| Position 3   |   | — Your display station is connected to the system operator (control program).   |
| Position 3   |   | — Your display station is connected to the host system but is not connected to your application program or to the control program.  |
| Position 3-6 | TEST   | — Your display station is in test mode.   |

● Do-Not-Enter (Input-Inhibited) Messages (Group ②)



— Time is required for the host system to perform a function. Wait.

X ?+

X SYSTEM

X ← →

X →

X -S

X NUM

X #?

X

X -f

X NN

or

X NNN

X NN

or

X NNN

X 2%%


X 73



- What? Input not understood. Check screen. Press the Reset key and try the operation again.
- The host system has locked your keyboard. Look for a message. Wait or press the Reset key.
- Go elsewhere on the screen to take that action. Press the Reset key. Move the cursor or take another action.
- You have tried to insert more data than this field can hold. Press the Reset key. Correct the entry.
- The symbol keyed is not available. The Reset key should be pressed to restore the keyboard.
- Numeric Data Only. You should enter only numerals in this field. Press the Reset key and enter a numeral.
- Only certain numerals can be entered here. Press the Reset key.
- Security key is turned to Off. Keyboard can be unlocked only by the key. Go to page 18.
- The function you requested is not available. Press the Reset key.
- Your display station is not operating properly. Press the Reset key and re-try. If the problem persists, notify your supervisor of this message, including the numbers, for further action. (N is a digit, 0 through 9.)
- There is a problem with the communication line between the control unit and the host system. Press the Reset key and re-try. If the problem persists, notify your supervisor of this message, including the numbers, for further action. (N is a digit, 0 through 9.)
- Either a setup error or a keyboard failure. Go to page 19.
- Either a setup error or a keyboard failure. Go to page 19.

**X**PROG NN

or

**X**PROG NNN



**X**□□

**X**□□ 

**X**□

**X** **X**

**X**□

- The control unit detected a programming error in the data it received from the host system. Press the Reset key and re-try. If the problem persists, notify your supervisor of this message, including the numbers, for further action. (N is a digit, 0 through 9.)
- The printer connected to your display station is busy. If □ is displayed on the right, the printer is busy printing your job. Wait for the operation to finish, or press the DvCnl key to cancel a pending print operation. (If the print operation has started, the operation cannot be canceled by the DvCnl key.)
- Same as preceding, except more time is anticipated before your operation is accepted.
- The printer assigned to your display station is not working. If □ is displayed on the right, the printer stopped while printing your job. Wait or press the DvCnl key to cancel the print operation.
- You are not authorized to do that function. Press the Reset key.
- A message from the control operator was received and rejected. Press the Reset key.

● Error Messages (Group ③)


**X**1

**X**2


**X**3

- There is a problem in your logic element. Go to page 69.
- There is a problem in either your keyboard or logic element. Go to page 17.
- Your keyboard cable is not properly attached or there is a problem in your keyboard. Go to page 18.

- Reminders (Group ④)

 NN

or

 NNN



- The communication link connecting your control unit to the host system is producing errors. Notify your supervisor of this message, including the numbers, for further action. (N is a digit, 0 through 9.)
- Reserved for future use. Ignore.

- Shifts and Modes Messages (Group ⑤)









NUM

- The keyboard is in upshift.
- The IBM 3179 is in insert mode.
- The keyboard is in numeric shift.

- Printer Status Messages (Group ⑥)

  \_ \_

  NN

  NN

  NN

  ??







- When you are changing the Printer ID/Class, the two numerals you enter are displayed in the underlined portions of the message.
- Your IBM 3179 is authorized to use Printer ID/Class NN. (N is a digit, 0 through 9.)
- The selected printer is printing your job. (N is a digit, 0 through 9.)
- The printer stopped while printing your job. (N is a digit, 0 through 9.)
- Your printer assignment has changed.

Messages from the IBM 4321, IBM 4331, and IBM 4361. (See page 8 for IBM 3274/3276 messages)

● Readiness and System Connection Symbols (Group ①)

- Position 1    I        — Means the IBM 4321, IBM 4331, or IBM 4361 Processor (I) is working (ready).  
 Position 2    A        — Means the Display/Printer Adapter is connected to the system under rule A (A).  
 Position 3-6 TEST    — Your display station is in test mode.

● Do-Not-Enter (Input-Inhibited) Messages (Group ②)

- X         — Time is required for the system to perform a function. Wait.  
 X ?+        — What? Input not understood. Check screen. Press the Reset key and try the operation again.  
 X         — Go elsewhere on the screen to take that action. Press the Reset key.  
                  Move the cursor or take another action.  
 X  >        — You have tried to insert more data than this field can hold. Press the Reset key. Correct the entry.  
 X C-f        — The function you requested is not available. Press the Reset key.  
 X         — Security key is turned to Off. Keyboard can be unlocked only by the key. Go to page 18.  
 X -S        — The symbol keyed is not available. The Reset key should be pressed to restore the keyboard.  
 X  NUM        — Numeric data only. You should enter only numerals in this field. Press the Reset key and enter a numeral.  
 X  229        — Enter machine type "3278" instead of "3179" into configuration picture at customization.



- Error Messages (Group ③)

- ~~1~~ 1 — There is a problem in your logic element. Go to page 69.
- ~~2~~ 2 — There is a problem in either your keyboard or logic element. Go to page 17.
- ~~3~~ 3 — Your keyboard cable is not properly attached or there is a problem in your keyboard. Go to page 18.

- Shifts and Modes Messages (Group ⑤)

- ↑ — The keyboard is in upshift.
- ^ — The IBM 3179 is in insert mode.
- NUM — The keyboard is in numeric shift.

● Printer Status Messages (Group ⑥)

□□\_\_

- When you are changing the Printer ID/Class, the two numerals you enter are displayed in the underlined portions of the message.

□□NN

- Your IBM 3179 is authorized to use Printer ID/Class nn. (N is a digit, 0 through 9.)

□■

- The printer is printing your job.

✕□□⌚

- The printer connected to your display station is busy. Wait for the operation to finish, or press the DvCnl key to cancel a pending print operation. (Once the print operation has started, the operation cannot be canceled by the DvCnl key.)

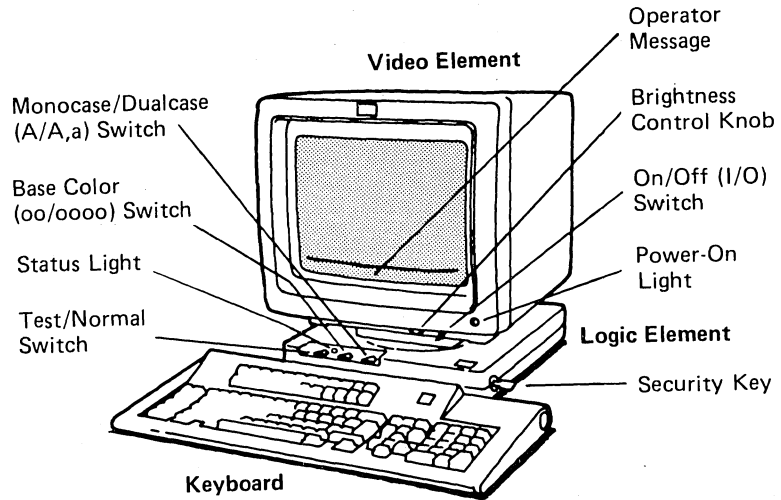
✕□□✕

- The printer assigned to your display station is not working. Wait or press the DvCnl key to cancel the print operation.

## Problem Solving-Symptoms

This section helps you find a problem or locate a bad element. Go to the symptom index on page 16, find a probable error, then go to the page specified. Find a symptom that matches yours and perform the action specified.

If you still cannot find your problem, go to 'Problem Solving-Checkout' on page 49.



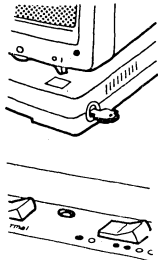
## Symptom Index

**Operator  
Messages**



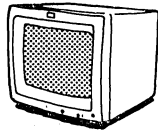
Page 17

**Power-On  
Light or  
Status Light  
Problems**



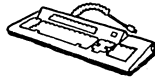
Page 21

**Display  
Problems**



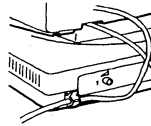
Page 25

**Keyboard  
Problems**



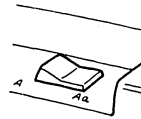
Page 39

**Audible  
Alarm  
Problems**



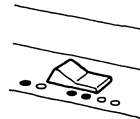
Page 43

**Monocase/  
Dualcase  
(A/A,a)  
Switch  
Problems**



Page 45

**Base Color  
(oo/oooo)  
Switch  
Problems**



Page 46

**Stand or  
Power Cord  
Problems**





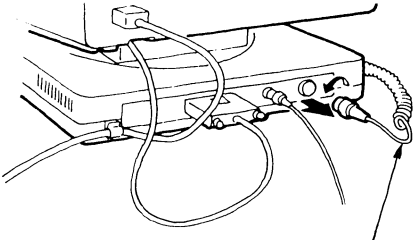


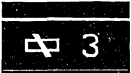
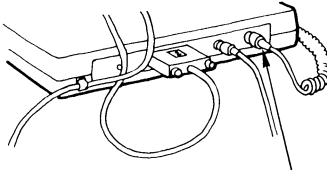


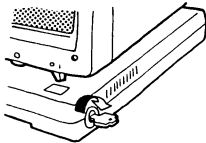
Page 47




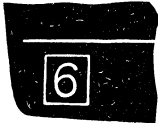

Page 48

## Operator Messages

Symptom	Action
 (Logic element error)	Replace the logic element. Go to page 69.
 (Keyboard or logic element error)	<ol style="list-style-type: none"> <li>1. Set the I/O switch to O (Off).</li> <li>2. Remove the keyboard cable.</li> <li>3. Set the I/O switch to I (On).</li> <li>4. Did the  2 change to  3 ?</li> </ol> <p><b>YES:</b> Replace the keyboard . Go to page 65.</p> <p><b>NO:</b> Replace the logic element. Go to page 69.</p>  <p>Keyboard Cable</p>

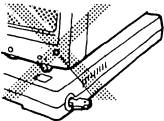
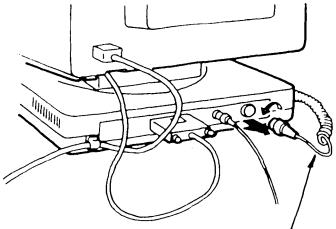
Symptom	Action
 <p data-bbox="250 360 497 394">(Keyboard error)</p>	<ol data-bbox="653 187 1303 381" style="list-style-type: none"> <li>1. Set the I/O switch to O (Off).</li> <li>2. Make sure the keyboard cable is firmly connected to the logic element.</li> <li>3. Set the I/O switch to I (On).</li> <li>4. Is <del>3</del> still displayed?</li> </ol> <p data-bbox="722 391 1396 422"><b>YES:</b> Replace the keyboard. Go to page 65.</p> <p data-bbox="722 433 1234 464"><b>NO:</b> Return to normal operation.</p> <div data-bbox="1536 163 2000 405">  <p data-bbox="1854 422 2086 453">Keyboard Cable</p> </div>
 <p data-bbox="269 733 478 764">(Security key)</p>	<ol data-bbox="653 515 1419 709" style="list-style-type: none"> <li>1. Turn the security key off (counter-clockwise).</li> <li>2. Turn the security key on (clockwise).</li> <li>3. Is X  still displayed?</li> </ol> <p data-bbox="722 754 1459 785"><b>YES:</b> Replace the logic element. Go to page 69.</p> <p data-bbox="722 795 1234 826"><b>NO:</b> Return to normal operation.</p> <div data-bbox="1663 581 1954 785">  </div>

Symptom	Action
<div data-bbox="283 277 471 381" data-label="Image"> </div> <p data-bbox="246 451 501 484">(Incorrect setup)</p> <p data-bbox="357 576 390 598">or</p> <div data-bbox="283 660 471 764" data-label="Image"> </div> <p data-bbox="246 828 501 861">(Incorrect setup)</p>	<ol style="list-style-type: none"> <li data-bbox="655 236 1175 269">1. Set the I/O switch to O (Off).</li> <li data-bbox="655 314 1375 389">2. Make sure the setup switches underneath the keyboard are set as shown on the label.</li> <li data-bbox="655 435 1292 468">3. Do the switches and the label match?   <b>YES:</b> Go to step 4.  <b>NO:</b> Correct the setup switch setting.</li> <li data-bbox="655 634 1162 667">4. Set the I/O switch to I (On).</li> <li data-bbox="655 712 1454 907">5. If the symptom remains or recurs, the problem is a setup error or a keyboard failure., Request assistance from your supervisor. If it is a setup error, he should help you solve your problem. If it is a keyboard failure, go to page 65.</li> </ol> <div data-bbox="1426 248 2091 754" data-label="Image"> </div> <p data-bbox="1547 774 1882 808">Sample Switch Setting</p>

Symptom	Action
No ready symbol	<p>1. Check that the communication cable is connected to the logic element.</p> <p>2. Does the ready symbol appear?  or  or </p> <p><b>YES:</b> Return to normal operation.  <b>NO:</b> Go to "Problem Solving-Checkout" on page 49.</p>
Some other operator message	See "Operator Messages" on page 7.
If you have none of the above symptoms, go back to "Problem Solving-Symptoms" on page 15.	



## Power-On Light or Status Light Problems

Symptom	Action
<p>Power-on light is not on</p> 	<ol style="list-style-type: none"><li>1. Set the I/O switch to O (Off).</li><li>2. Make sure the power cord is firmly connected and power is available at the power outlet.</li><li>3. Set the I/O switch to I (On).</li><li>4. Does the Power-On light come on? <b>YES:</b> Return to normal operation. <b>NO:</b> Go to step 5.</li><li>5. Set the I/O switch to O (Off).</li><li>6. Unplug the keyboard cable.</li><li>7. Set the I/O switch back to I (On).</li><li>8. Does the Power-On light come on? <b>YES:</b> Replace the keyboard. Go to page 65. <b>NO:</b> Go to step 9.</li></ol> <p>Continued on the next page.</p>  <p>Keyboard Cable</p>

9. Set the I/O switch to O (Off).

10. Unplug the video cable.

11. Set the I/O switch to I (On).

12. Does the Power-On light come on?

**YES:** Replace the logic element. Go to page 69.

**NO:** The problem is in either the video element or the power cord. Go to step 13.

13. Do you have another IBM 3179?

**YES:** Replace the power cord with that of another IBM 3179.

Does the Power-On light come on?

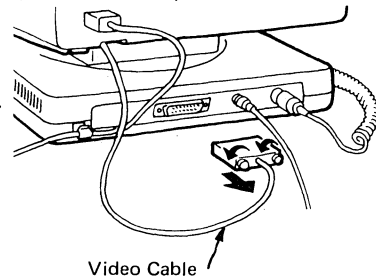
**YES:** Replace the power cord. Go to page 48.

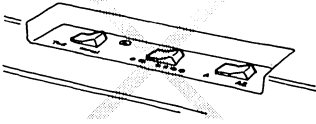




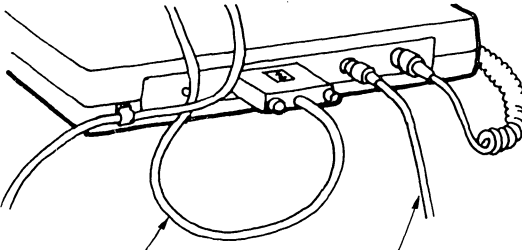
**NO:** Replace the video element. Go to page 61.

**NO:** Is the power cord physically damaged?

**YES:** Replace the power cord. Go to page 48.

**NO:** Replace the video element. Go to page 61.



Symptom	Action
<p>Power-On light is on, but the Status light is off</p> 	<ol style="list-style-type: none"> <li>Is either the  1 ,  2 , or  3 displayed?  <b>YES:</b> Go to "Operator Messages" on page 17.  <b>NO:</b> Go to step 2.</li> <li>Set the I/O switch to O (Off).</li> <li>Make sure the video cable is firmly connected to the logic element.</li> <li>Set the I/O switch to I (On).</li> <li>Set the Test/Normal switch to Test.</li> </ol> <p>  Continued on the next page. </p> 

6. Is the Status light continuously blinking?

**YES:** Go to step 7.

**NO:** Replace the logic element. Go to page 69.

7. Is the communication cable from the control unit or the host computer firmly connected to the logic element?

**YES:** The problem is not in your IBM 3179.

Request assistance from your supervisor.

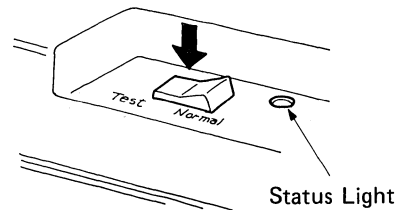
**NO:** Set the I/O switch to O (Off).

Connect the communication cable firmly to the logic element.

Set the I/O switch to I (On). Return to normal operation.

**CAUTION**

**Do not connect the communication cable during an electrical storm.**



If you have none of the above symptoms, go back to "Problem Solving-Symptoms" on page 15.

## Display Problems

Symptom	Action
A bright horizontal or vertical line appears in the center  or Characters at the top are either larger or smaller than those at the bottom	Replace the video element. Go to page 61.



Symptom	Action
<p data-bbox="111 233 587 305">Screen is the normal width but its height is expanded</p> <div data-bbox="134 407 564 733"> <p>ABCDEFGHIJKLMNOPQRSTUVWXYZ123</p> <p>ABCDEFGHIJKLMNOPQRSTUVWXYZ123</p> <p>ABCDEFGHIJKLMNOPQRSTUVWXYZ123</p> <p>ABCDEFGHIJKLMNOPQRSTUVWXYZ123</p> <p>ABCDEFGHIJKLMNOPQRSTUVWXYZ123</p> <p>ABCDEFGHIJKLMNOPQRSTUVWXYZ123</p> <p>ABCDEFGHIJKLMNOPQRSTUVWXYZ123</p> <p>ABCDEFGHIJKLMNOPQRSTUVWXYZ123</p> <p>ABCDEFGHIJKLMNOPQRSTUVWXYZ123</p> <p>ABCDEFGHIJKLMNOPQRSTUVWXYZ123</p> <p>ABCDEFGHIJKLMNOPQRSTUVWXYZ123</p> <p>ABCDEFGHIJKLMNOPQRSTUVWXYZ123</p> <p>ABCDEFGHIJKLMNOPQRSTUVWXYZ123</p> <p>ABCDEFGHIJKLMNOPQRSTUVWXYZ123</p> <p>ABCDEFGHIJKLMNOPQRSTUVWXYZ123</p> </div>	<p data-bbox="634 233 1289 264">Replace the video element. Go to page 61.</p>


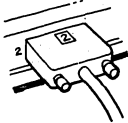
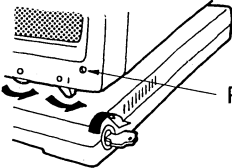
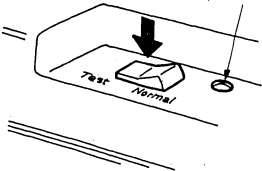


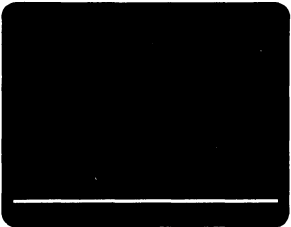



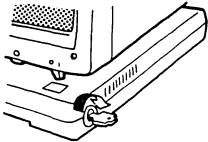
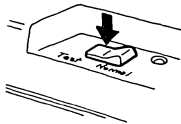


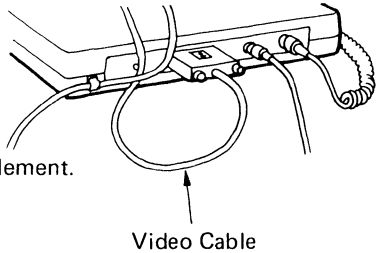
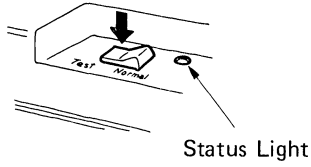
Symptom	Action
<p data-bbox="111 249 543 319">Characters on the screen are magnified</p> <div data-bbox="134 422 560 746"> BCDEFGHIJKLMNOPQRSTUVWXYZ12  BCDEFGHIJKLMNOPQRSTUVWXYZ12  BCDEFGHIJKLMNOPQRSTUVWXYZ12  BCDEFGHIJKLMNOPQRSTUVWXYZ12  BCDEFGHIJKLMNOPQRSTUVWXYZ12  BCDEFGHIJKLMNOPQRSTUVWXYZ12  BCDEFGHIJKLMNOPQRSTUVWXYZ12  BCDEFGHIJKLMNOPQRSTUVWXYZ12  BCDEFGHIJKLMNOPQRSTUVWXYZ12  BCDEFGHIJKLMNOPQRSTUVWXYZ12  BCDEFGHIJKLMNOPQRSTUVWXYZ12  BCDEFGHIJKLMNOPQRSTUVWXYZ12  BCDEFGHIJKLMNOPQRSTUVWXYZ12  BCDEFGHIJKLMNOPQRSTUVWXYZ12  BCDEFGHIJKLMNOPQRSTUVWXYZ12 </div>	<p data-bbox="634 249 1287 280">Replace the video element. Go to page 61.</p>

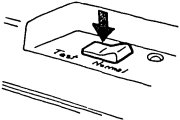




Symptom	Action
<p>Screen appears to be rolling up or down, to the left or right or Screen has no pictures and adjusting the brightness has no effect</p> 	<ol style="list-style-type: none"> <li>1. Set the I/O switch to O (Off).</li> <li>2. Make sure the video cable is firmly connected to the logic element.</li> <li>3. Set the I/O switch to I (On).</li> <li>4. Turn the security key and the Brightness Control knob fully clockwise.</li> <li>5. Make sure the power-on light is on.</li> <li>6. Set the Test/Normal switch to Test.</li> <li>7. Does the symptom disappear? <b>YES:</b> Return to normal operation. <b>NO:</b> Go to step 8.</li> <li>8. Is the Status light continuously blinking? <b>YES:</b> Replace the video element. Go to page 61. <b>NO:</b> Replace the logic element. Go to page 69.</li> </ol>  <p>Video Cable</p>  <p>Power-On Light</p>  <p>Status Light</p>

Symptom	Action
<p>Screen has no characters displayed above the divider line</p> 	<ol style="list-style-type: none"> <li>Is either the  1 ,  2 , or  3 displayed?  <b>YES:</b> Go to "Operator Messages" on page 17.  <b>NO:</b> Go to step 2.</li> <li>Turn the security key off and then on (clockwise).</li> <li>Set the Test/Normal switch to Test.</li> <li>Are characters displayed above the divider line?  <b>YES:</b> Go to step 5.  <b>NO:</b> Replace the logic element. Go to page 69.</li> <li>Set the Test/Normal switch to Normal.</li> <li>If the symptom remains or recurs, the problem is not in the IBM 3179.  Request assistance from your supervisor.</li> </ol>  

Symptom	Action
<p>Red, green, or blue does not show up on your screen</p> <p>or</p> <p>A color is substituted by another color</p>	<ol style="list-style-type: none"> <li>1. Change the setting of the Base Color (oo/oooo) switch.</li> <li>2. Does the missing color appear? <b>YES:</b> Return to normal operation. <b>NO:</b> Go to step 3.</li> <li>3. Set the I/O switch to O (Off).</li> <li>4. Make sure the video cable is firmly connected to the logic element.</li> <li>5. Set the I/O switch to I (On).</li> <li>6. Turn the security key on (clockwise).</li> <li>7. Set the Test/Normal switch to Test.</li> <li>8. Is the Status light continuously blinking? <b>YES:</b> Go to step 9. <b>NO:</b> Replace the logic element. Go to page 69.</li> <li>9. Does the red, green, and blue appear on your test pattern. <b>YES:</b> The problem is not in your IBM 3179. Set the Test/Normal switch to Normal. Request assistance from your supervisor. <b>NO:</b> Replace the video element. Go to page 61.</li> </ol> <div data-bbox="1622 153 2156 515">  <p>Video Cable</p> </div> <div data-bbox="1622 598 2063 837">  <p>Status Light</p> </div>

Symptom	Action
<p>Problems with highlighted characters (reversed, blinking, or underscore)</p>	<ol style="list-style-type: none"> <li data-bbox="629 256 1234 288">1. Set the Test/Normal switch to Test.</li> <li data-bbox="629 456 1471 487">2. Are there highlighted characters in the test pattern?</li> </ol> <div data-bbox="1659 294 1914 464">  </div> <p data-bbox="697 736 1454 888"> <b>YES:</b> The problem is not in your IBM 3179.  Request assistance from your supervisor.  Set the Test/Normal switch back to Normal.  <b>NO:</b> Replace the logic element. Go to page 69. </p>


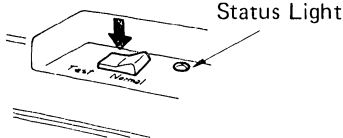



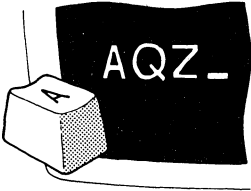


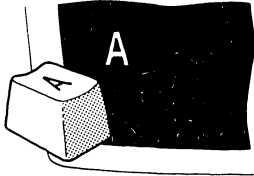
Symptom	Action
Part of your screen becomes reddish, greenish, or bluish	<ol style="list-style-type: none"> <li>1. Set the I/O switch to 0 (Off).</li> <li>2. Wait 15 minutes.</li> <li>3. Set the I/O switch to 1 (On).</li> <li>4. Do you still have the same problem?   <b>YES:</b> Repeat steps 1, 2, and 3. Then go to step 5.   <b>NO:</b> Return to normal operation.</li> <li>5. Do you still have a problem?   <b>YES:</b> Replace the video element. Go to page 61.   <b>NO:</b> Return to normal operation.</li> </ol>

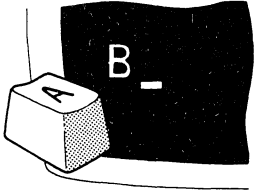
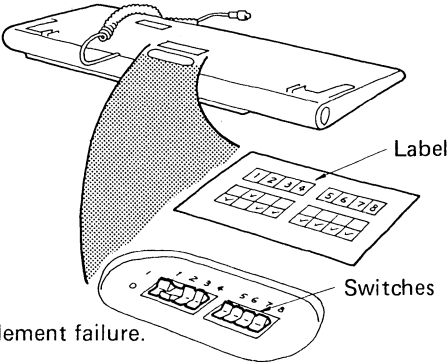
Symptom	Action
Some other display problem	<ol style="list-style-type: none"><li data-bbox="653 168 1373 205">1. Replace the video element. Go to page 61.</li><li data-bbox="653 370 1268 407">2. Do you still have the same problem?  <b>YES:</b> Replace the logic element. Go to page 69.  <b>NO:</b> Return to normal operation.</li></ol>
If you have none of the above symptoms, go back to "Problem Solving-Symptoms" on page 15.	

## Keyboard Problems

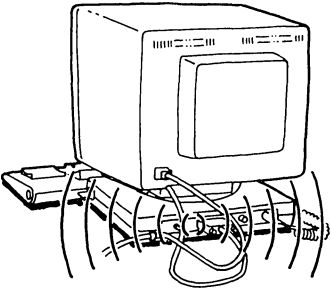
Symptom	Action
<p>You cannot type in any character</p> 	<ol style="list-style-type: none"> <li>1. Make sure the Security key is turned fully clockwise to on.</li> <li>2. Set the Test/Normal switch to Test.</li> <li>3. Is the Status light continuously blinking?  <b>YES:</b> Go to step 4.  <b>NO:</b> Replace the logic element. Go to page 69.</li> <li>4. Is either a <del>1</del>, <del>2</del>, or <del>3</del> displayed?  <b>YES:</b> Go to "Operator Messages" on page 17.  <b>NO:</b> Go to step 5.</li> <li>5. Type in any character.</li> <li>6. Does any character appear? (The character on your screen does not have to match the key cap label.)  <b>YES:</b> The problem is not in your IBM 3179. Request assistance from your supervisor.  <b>NO:</b> Replace the keyboard. Go to page 65.</li> </ol> 

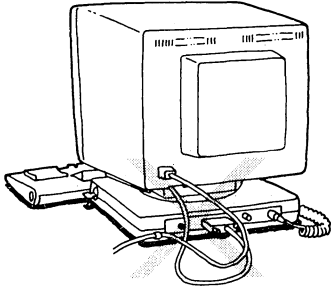
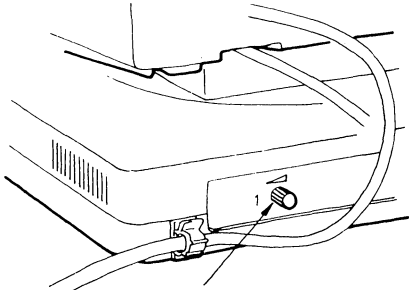
Symptom	Action
<p data-bbox="127 177 511 246">You cannot type in some characters</p>  <p data-bbox="350 464 385 484">or</p> <p data-bbox="127 498 567 567">Characters appear more than once when you type in a key</p> 	<p data-bbox="653 177 1234 208">Replace the keyboard. Go to page 65.</p>

Symptom	Action
<p>Characters appear automatically without your typing them</p>	<p>Replace the keyboard. Go to page 65.</p>
<p>Characters appear on your screen but not the cursor</p> 	<p>Replace the logic element. Go to page 69.</p>
<p>Your keyboard does not click.</p>	<p>Your IBM 3179 keyboard is not made to click, it beeps instead. You can make the keyboard beep by pressing the Clicker key. The volume of the beep can be controlled by the Audible Alarm Volume Control knob at the rear. If you cannot make your keyboard 'beeper' work, go to page 44.</p>

Symptom	Action
<p>Character on your screen differs from the key cap</p> 	<ol style="list-style-type: none"> <li>1. Set the I/O switch to O (Off).</li> <li>2. Make sure the setup switches underneath the keyboard are set as shown on your label.</li> <li>3. Do the switches match the label?  <b>YES:</b> Go to step 4.  <b>NO:</b> Correct the setup switch setting.</li> <li>4. Set the I/O switch to I (On).</li> <li>5. Does the problem still exist?  <b>YES:</b> Request assistance from your supervisor.  The problem is either a setup error or a logic element failure.  <b>NO:</b> Return to normal operation.</li> </ol> 
<p>If you have none of the above symptoms, go back to "Problem Solving-Symptoms" on page 15.</p>	

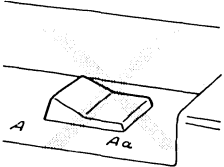
## Audible Alarm Problems

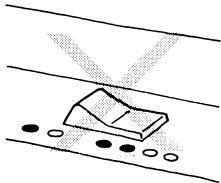
Symptom	Action
<p data-bbox="130 391 460 464">Audible alarm sounds continuously</p> 	<ol style="list-style-type: none"><li data-bbox="653 391 1171 422">1. Set the I/O switch to O (Off).</li><li data-bbox="653 469 1234 500">2. Set the I/O switch back to I (On).</li><li data-bbox="653 547 1264 578">3. Do you still have the same problem?</li></ol> <p data-bbox="715 629 1454 660"><b>YES:</b> Replace the logic element. Go to page 69.</p> <p data-bbox="715 712 1227 743"><b>NO:</b> Return to normal operation.</p>

Symptom	Action
<p data-bbox="134 177 590 208">Audible alarm does not sound</p> 	<ol style="list-style-type: none"><li data-bbox="657 177 1175 208">1. Set the I/O switch to O (Off).</li><li data-bbox="657 254 1733 285">2. Make sure the video cable is firmly connected to the logic element.</li><li data-bbox="657 332 1162 363">3. Set the I/O switch to I (On).</li><li data-bbox="657 410 1443 482">4. Turn the Audible Alarm Volume Control knob at the back of the logic element fully clockwise.</li><li data-bbox="657 529 1261 560">5. Set the Test/Normal switch to Test.</li><li data-bbox="657 607 1273 638">6. Do you still have the same problem?</li></ol> <p data-bbox="722 689 1466 721"><b>YES:</b> Replace the logic element. Go to page 69.</p> <p data-bbox="722 731 1234 762"><b>NO:</b> Return to normal operation.</p>  <p data-bbox="1547 741 2093 772">Audible Alarm Volume Control Knob</p>
<p data-bbox="134 835 1598 866">If you have none of the above symptoms, go back to "Problem Solving-Symptoms" on page 15.</p>	




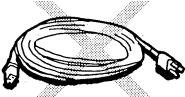
## Monospace/Dualcase (A/A,a) Switch Problems

Symptom	Action
<p>A/A,a switch does not work</p> 	<ol style="list-style-type: none"><li>1. Set the Test/Normal switch to Test.</li><li>2. While looking at the test pattern, set the A/A,a switch back and forth several times.</li><li>3. Do some of the characters change from uppercase to lowercase or vice versa?</li></ol> <p><b>YES:</b> The problem is not in your IBM 3179. Request assistance from your supervisor.</p> <p><b>NO:</b> Replace the logic element. Go to page 69.</p>
<p>If you don't have the above symptom, go back to "Problem Solving-Symptoms" on page 15.</p>	

Symptom	Action
<p>oo/oooo switch does not work.</p> 	<ol style="list-style-type: none"> <li>1. Set the Test/Normal switch to Test.</li> <li>2. While looking at the test pattern, set the oo/oooo switch back and forth several times.</li> <li>3. Do some of the characters change color?</li> </ol> <p><b>YES:</b> The problem is not in your IBM 3179. Request assistance from your supervisor.</p> <p><b>NO:</b> Replace the logic element. Go to page 69.</p>
<p>If you don't have the above symptom, go back to "Problem Solving-Symptoms" on page 15.</p>	

## Stand Problems

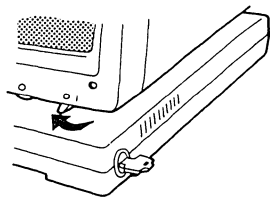
Symptom	Action
<p>Broken or non-working stand</p> 	<ol style="list-style-type: none"><li>1. Remove the stand from the video and logic elements, refer to page 69.</li><li>2. Call the number below for service.<ul style="list-style-type: none"><li>● In the continental U.S. and Puerto Rico ..... (800) 428-2569 (toll free)</li><li>● In Hawaii and Alaska ..... (312) 986-7451 (collect)</li></ul></li></ol>
<p>If you don't have the above symptom, go back to "Problem Solving-Symptoms" on page 15.</p>	

Symptom	Action
<p data-bbox="134 319 376 354">Bad power cord</p> 	<ol style="list-style-type: none"> <li data-bbox="655 319 1171 354">1. Set the I/O switch to O (Off).</li> <li data-bbox="655 401 1826 437">2. Disconnect the power cord from the power outlet and the video element.</li> <li data-bbox="655 484 1082 520">3. Unlock the cable clamp.</li> <li data-bbox="655 567 1241 602">4. Call the number below for service. <ul style="list-style-type: none"> <li data-bbox="729 650 1887 685">● In the continental U.S. and Puerto Rico ..... (800) 428-2569 (toll free)</li> <li data-bbox="729 692 1873 727">● In Hawaii and Alaska ..... (312) 986-7451 (collect)</li> </ul> </li> </ol>
<p data-bbox="134 832 1543 868">If you don't have the above symptom, go back to "Problem Solving-Symptoms" on page 15.</p>	

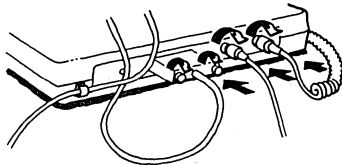
# Problem Solving-Checkout

START

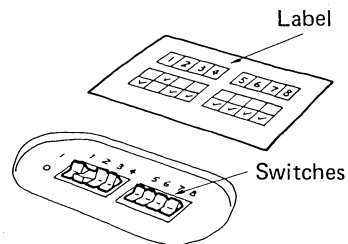
**1** Set the I/O switch to O (Off).



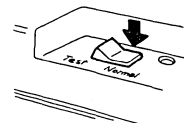
**2** Make sure the video, keyboard, and communication cables are firmly connected to the logic element.



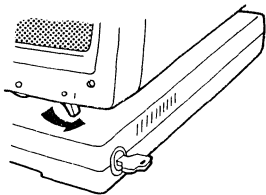
**3** Set the setup switches underneath the keyboard to match the label.



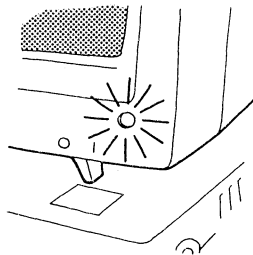
**4** Set the Test/Normal switch to Normal.



**5** Set the I/O switch to I (On).



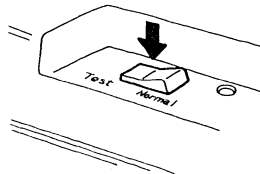
**6** Does the Power-On light come on?



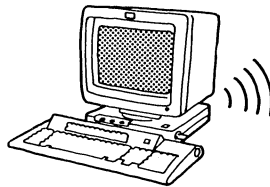
**YES:** Go to step 7.

**NO:** Go to "Power-On Light or Status Light Problems" on page 21.

**7** Set the Test/Normal switch to Test.



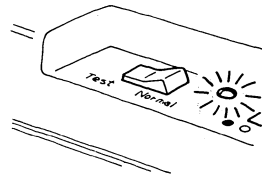
**8** Does the audible alarm sound?



**YES:** Go to step 9.

**NO:** Go to "Audible Alarm Problems" page 44.

**9** Is the Status light continuously blinking?



**YES:** Go to step 10.

**NO:** Replace the logic element. Go to page 69.

10 Do you see the test pattern on your screen?

**YES:** Set the A/A,a switch to A,a (Dualcase)

Go to step 11.

**NO:** If ~~1~~, ~~2~~, or ~~3~~ is displayed go to "Operator Messages" on page 17.

If the screen is completely dark go to "Display Problems" page 32.

If nothing is displayed above the divider line, go to "Display Problems" page 33.

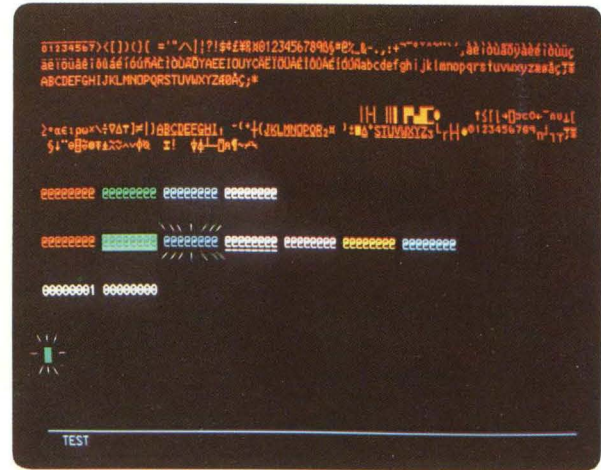
Character Set Pattern

Two/Four Color Pattern

Seven Color Pattern

Keyboard Setup Switch Pattern

Key-to-display Area

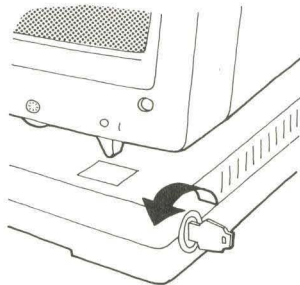


**11** Is there something wrong with your screen?

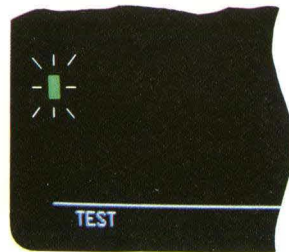
**YES:** Go to "Display Problems" on page 25.

**NO:** Go to step 12.

**12** Turn the security key counter-clockwise to Off.



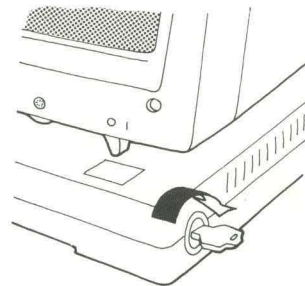
**13** Do all the characters except the cursor, divider line, and TEST disappear?



**YES:** Go to step 14.

**NO:** Replace the logic element. Go to page 69.

**14** Turn the security key clockwise to On.





**15** Do the seven colors appear on your screen?

**YES:** Go to step 16.

**NO:** Replace the video element. Go to page 61.

Red  
↓  
Green  
↓  
Blue  
↓  
White  
↓  
Pink  
↓  
Yellow  
↓  
Turquoise  
↓

**16** Do the highlighted characters appear on your screen?

**YES:** Go to step 17.

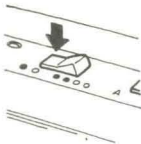
**NO:** Replace the logic element. Go to page 69.



↑  
Reversed  
↑  
Blinking  
↑  
Underline  
Highlighted



**21** Set the Base Color (oo/oooo) switch to oo.



**22** Do you get these colors on your screen?

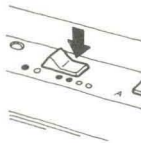
oooooooo oooooooooo oooooooooo oooooooooo

White Green Green White

**YES:** Go to step 23.

**NO:** Replace the logic element. Go to page 69.

**23** Set the Base Color (oo/oooo) switch to oooo.



**24** Do you get these colors on your screen?

oooooooo oooooooooo oooooooooo oooooooooo

Red Green Blue White

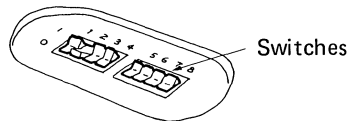
**YES:** Go to step 25.

**NO:** Replace the logic element. Go to page 69.

**25** Do the 8 left-hand digit characters match your keyboard setup switch setting?

**YES:** Go to step 26.

**NO:** Replace the keyboard. Go to page 65.



Sample Switch Setting

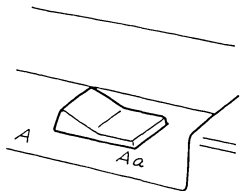
**26** Are the 8 right-hand digit characters all zero (0)?

**YES:** Go to step 27.

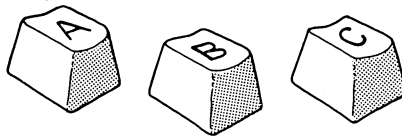
**NO:** Replace the keyboard. Go to page 65.

01000000 00000000

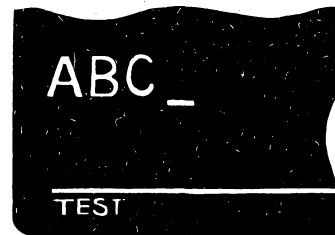
**27** Make sure the A/A,a switch is set to A,a (Dualcase).



**28** Key in each character.



**29** Do the correct characters appear on your screen when you type in a key?





**YES:** Refer to step 30 and then go on to step 31.

**NO:** Replace the keyboard. Go to page 65.

30 Your screen should show the corresponding characters as shown below when you type in a key.

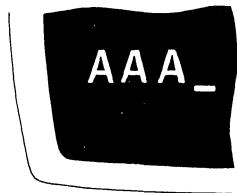


*Note:*

1.  keys are double-character entry keys which display a character with an underscore when being released.
2.  keys are double-character entry keys only in native mode.

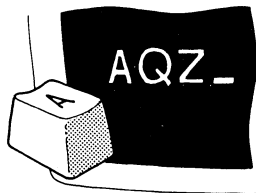


**31** Do characters appear on your screen without your typing them?



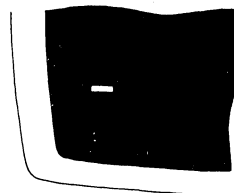
**YES:** Replace the keyboard. Go to page 65.  
**NO:** Go to step 32.

**32** Do multiple characters appear when you type a key?



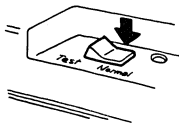
**YES:** Replace the keyboard. Go to page 65.  
**NO:** Go to step 33.

**33** Is the cursor displayed?



**YES:** Go to step 34.  
**NO:** Replace the logic element. Go to page 69.

**34** Set the Test/Normal switch to Normal.

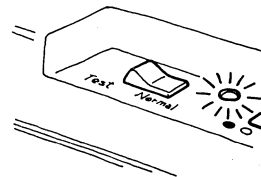


**35** Does the test pattern disappear?

**YES:** Go to step 36.

**NO:** Replace the logic element. Go to page 69.

**36** Is the Status light constantly on?



**YES:** Go to step 37.

**NO:** The problem is not in your IBM 3179. Request assistance from your supervisor.

**37** Does the ready symbol appear on the bottom left corner of your screen?



**YES:** Go to FINISH.

**NO:** The problem is not in your IBM 3179. Request assistance from your supervisor.

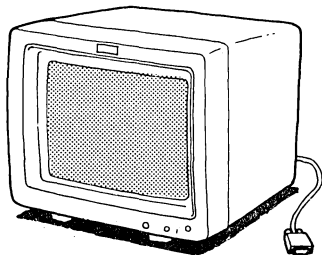
**FINISH**



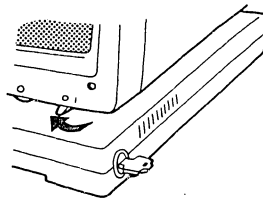
## Video Element Removal

If you need IBM service, swap the failing element with a spare (if available) to verify the failure, and then call the number below.

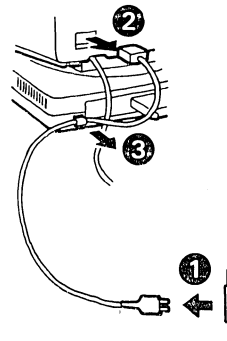
- In the continental U.S. and Puerto Rico ..... (800) 428-2569 (toll free)
- In Hawaii and Alaska ..... (312) 986-7451 (collect)



**1** Set the I/O switch to O (Off).



**2** Unplug the power cord from the power outlet and the video element, and unlock the cable clamp.

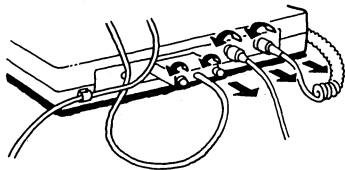


### Video Element Removal(Continued)

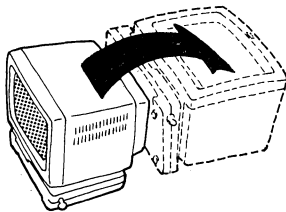
**3** Unscrew and pull out all cables from the logic element.

**CAUTION**

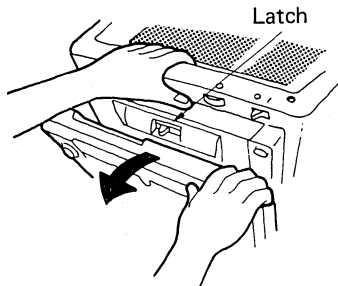
**Do not disconnect the communication cable during an electrical storm.**



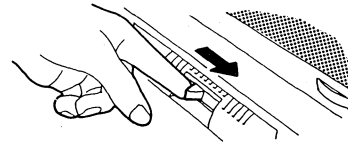
**4** Turn the video element so that the screen faces up.



**5** Pull the logic element slightly towards you and locate the gray latch.

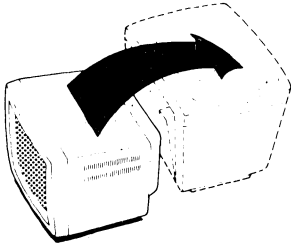


**6** Hold the logic element and push the latch to the right to unlock the stand from the video element.

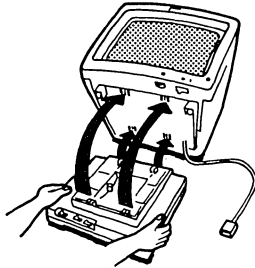


## Video Element Replacement

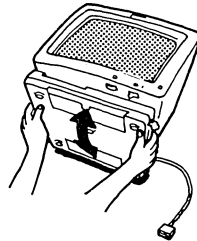
**1** Turn the new video element so that the screen faces up.



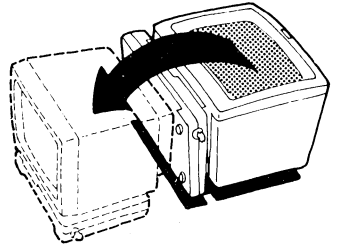
**2** Attach the video stand to the new video element by inserting the hooks into the slots and lift the logic element slightly.



**3** Make sure the logic element is locked onto the video element by shaking the logic element.

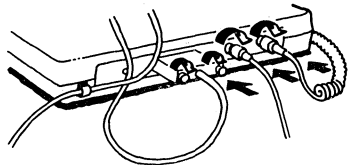


**4** Turn the unit right side up.

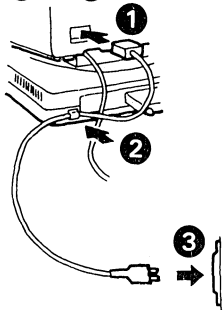


## Video Element Replacement (Continued)

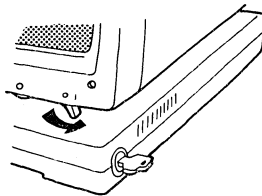
**5** Connect all cables to the logic element. **CAUTION** Do not connect the communication cable during an electrical storm.



**6** Make sure the I/O switch is set to Off (O). Connect the power cord to the video element and the power outlet, and lock the cable clamp. Leave about 60 cm (24 in) between ① and ②.



**7** Set the I/O switch to I (On).

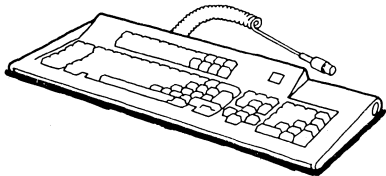


**8** For instructions on packing the element go to page 73.

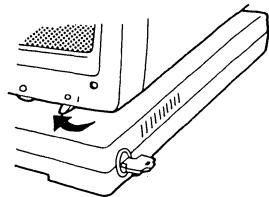
## Keyboard Element Removal

If you need IBM service, swap the failing element with a spare (if available) to verify the failure, and then call the number below.

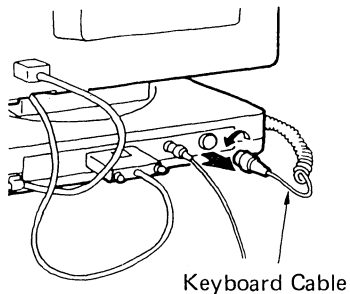
- In the continental U.S. and Puerto Rico ..... (800) 428-2569 (toll free)
- In Hawaii and Alaska ..... (312) 986-7451 (collect)



**1** Set the I/O switch to O (Off).

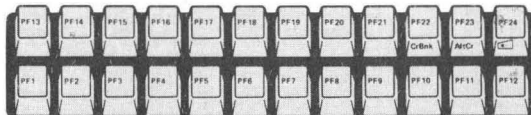


**2** Unscrew and pull out the keyboard cable from the logic element.



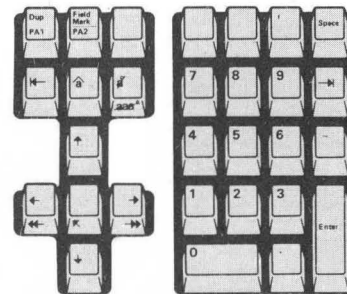
## Keyboard Element Removal (Continued)

3 Record onto this page the setup switch settings underneath the keyboard and the layout of your keyboard.



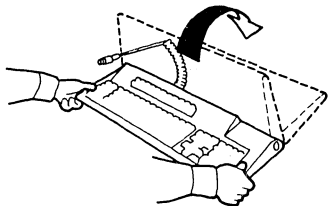
	1	2	3	4	5	6	7	8
ON								
OFF								

Setup Switches

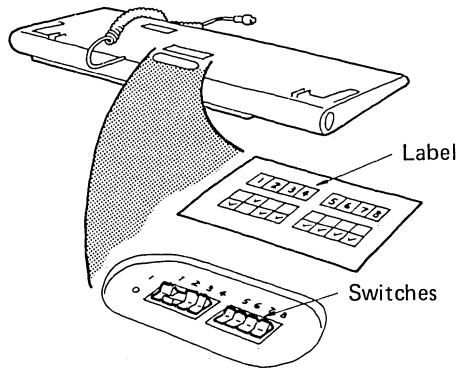


## Keyboard Element Replacement

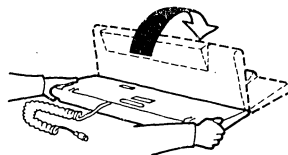
**1** Turn the new keyboard over.



**2** Copy the setup switch setting from the "Keyboard Layout Sheet" to the label, then set the setup switches according to the label. Shown below is only a sample switch setting.

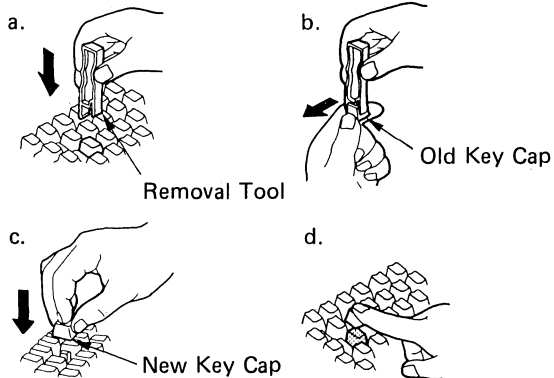


**3** Turn the keyboard right side up.

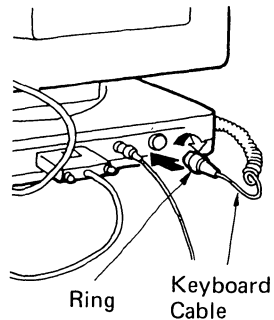


## Keyboard Element Replacement (Continued)

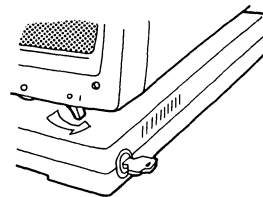
**4** If required, change the keycaps to match the old keyboard layout.



**5** Connect the keyboard cable to the logic element. Tighten the connector by turning the ring clockwise.



**6** Set the I/O switch to I (On).



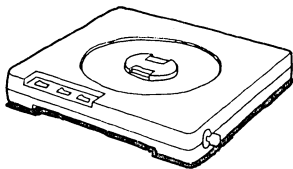
**7** For instructions on packing the old element go to page 73.



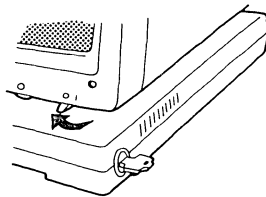
## Logic Element Removal

If you need IBM service, swap the failing element with a spare (if available) to verify the failure, and then call the number below.

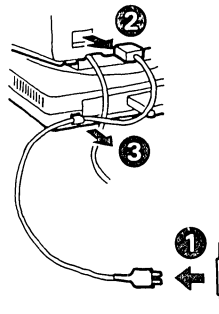
- In the continental U.S. and Puerto Rico .....  
(800) 428-2569 (toll free)
- In Hawaii and Alaska .....  
(312) 986-7451 (collect)



**1** Set the I/O switch to O (Off).

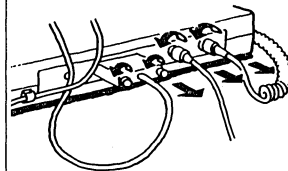


**2** Unplug the power cord from the power outlet and the video element, and unlock the cable clamp.



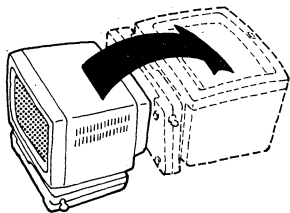
**3** Unscrew and pull out all the cables from the logic element.

**CAUTION**  
Do not disconnect the communication cable during an electrical storm.

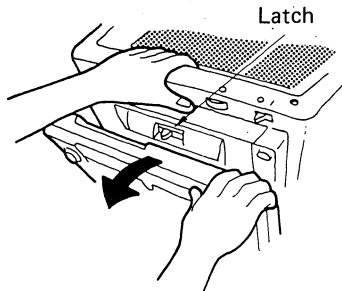


## Logic Element Removal (Continued)

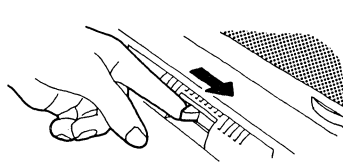
**4** Turn the video element so that the screen faces up.



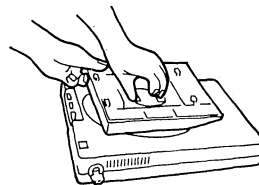
**5** Pull the logic element slightly towards you and locate the gray latch.



**6** Hold the logic element and push the latch to the right to unlock the stand from the video element.

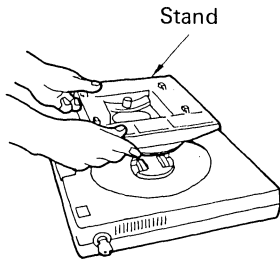


**7** Pinch the two gray latches on the logic element to unlock the stand.

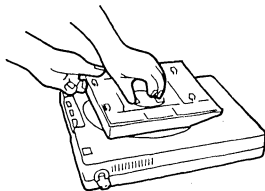


## Logic Element Replacement

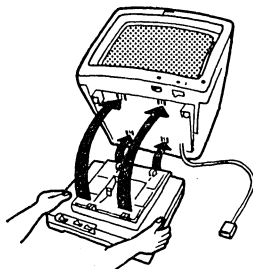
**1** Set the stand on the new logic element and align the notch.



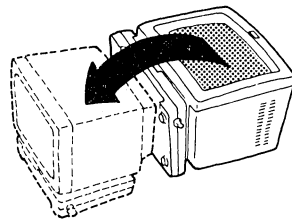
**2** Lock the stand to the logic element by pinching the two gray latches on the logic element.



**3** Lock the stand to the video element by inserting the hooks into the slots and lifting the logic element slightly.

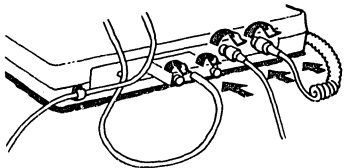


**4** Turn the unit right side up.

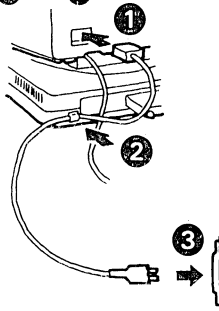


## Logic Element Replacement (Continued)

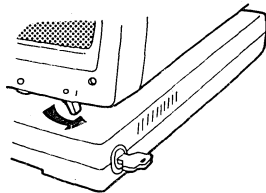
**5** Connect all cables to the logic element. **CAUTION** Do not connect the communication cable during an electrical storm.



**6** Make sure the I/O switch is set to Off (O). Connect the power cord to the video element and the power outlet, and lock the cable clamp. Leave about 60 cm (24 in) between ① and ②.



**7** Set the I/O switch to I (On).



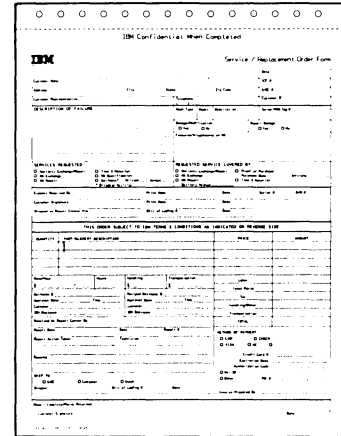
**8** For instructions on packing the old element go to page 73.

# Packing

For the user who needs the IBM Repair Center Maintenance Service:

1. Complete the IBM Service/Replacement Order Form (example) shown on the right.
2. The completed form should be packed in the designated IBM shipping container with the failing element and sent to the IBM Repair Center for repair.
3. To pack the failing element, follow the appropriate instructions for your failing element on the following pages.

*Note:* It is the user's responsibility to maintain the shipping containers. You may purchase them from the FE Branch Office or Parts Distribution Center (for U.S. only). IBM part numbers of these containers are: for the video element, 6316869; for the logic element, 6316868; for the keyboard element, 6316883; and for the master carton, 6317232. Any unserviceable shipping container received by the IBM Repair Center will be replaced before return shipment, and the user will be billed accordingly.



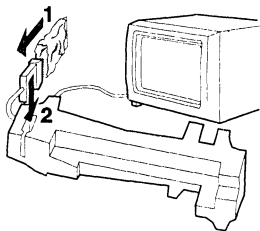
The image shows a detailed IBM Service/Replacement Order Form. At the top, it has a header with punch holes and the text "IBM Confidential When Completed". The form is divided into several sections. The top section is for "Customer Information" including fields for Name, Address, City, State, Zip Code, and Telephone. Below this is a section for "Description of Failure" with fields for Part No., Date, and Serial No. The middle section is for "Services Requested" and "Requested Service Covered by", with checkboxes for various services like On-site, Next Business Day, etc. The bottom section is for "Shipping Information" including fields for Ship To, Ship From, and a table for "Quantity" and "Weight". The form is filled out with example data.

## Video Element

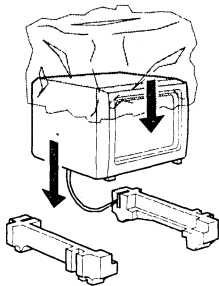
The video element should be packed using the original or equivalent packaging material and returned to IBM for repair or replacement.

*Note:* Keep the power cord.

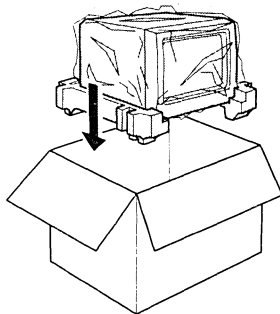
1



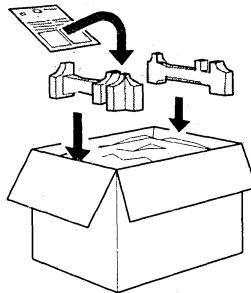
2



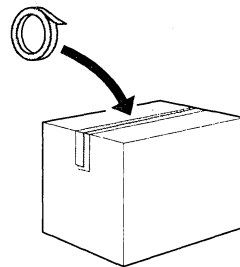
3



4



5

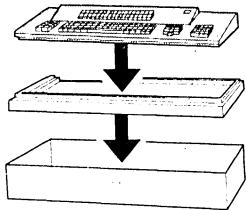


## Keyboard

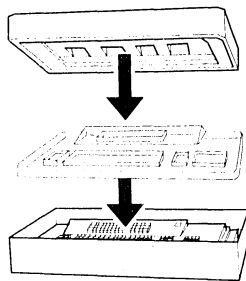
The keyboard should be packed using the original or equivalent packaging material and returned to IBM for repair or replacement.

*Note:* Remove and keep all accessory key caps.

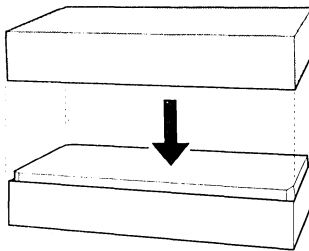
1



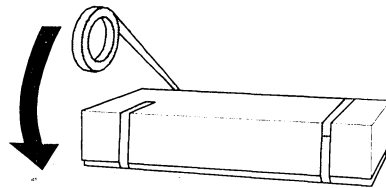
2



3



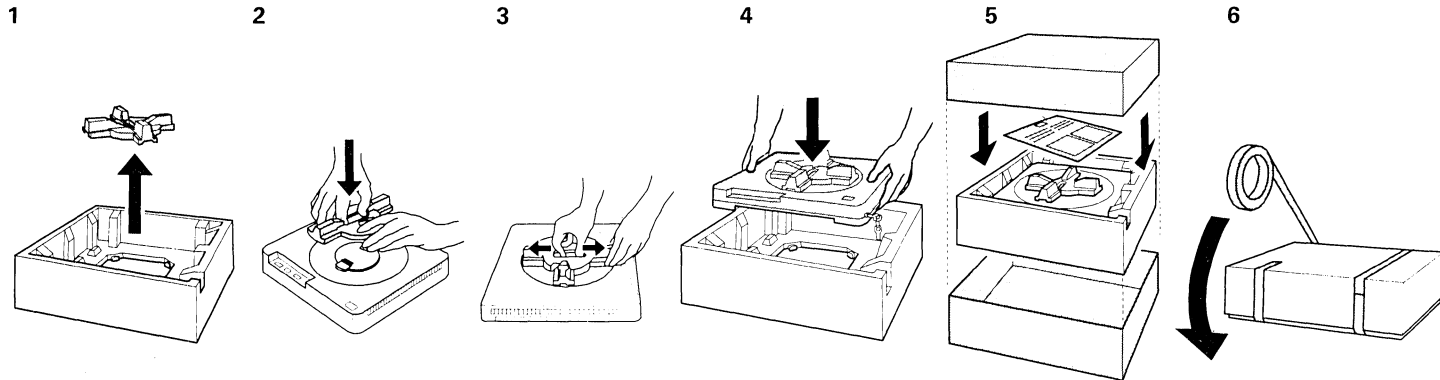
4



## Logic Element

The logic element and both security keys (one inserted in the keylock of the logic element) should be packed using the original or equivalent packaging material and returned to IBM for repair or replacement.

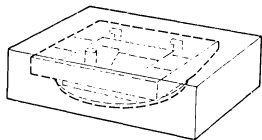
*Note:* Keep the stand and this Operator Guide.





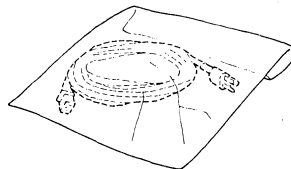
## Stand

The broken stand should be packed using the original or equivalent packing material and returned to IBM for repair or replacement.



## Power Cord

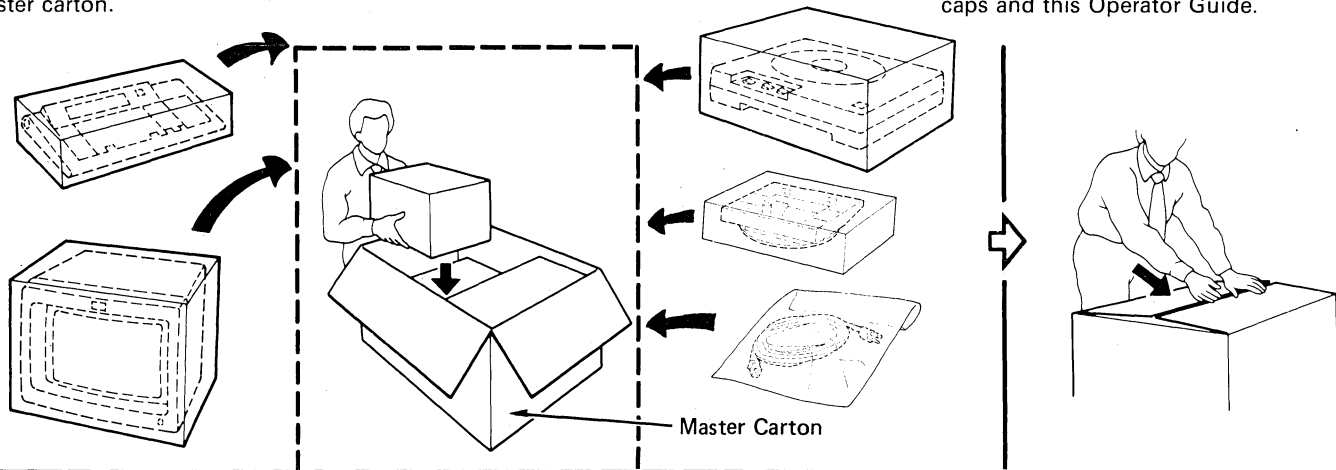
The bad power cord should be packed using a convenient packing material and returned to IBM for repair or replacement.



### Three Elements in a Master Carton

If all three elements must be returned to IBM for repair or replacement, pack them in one master carton.

*Note:* Remove and keep all accessory key caps and this Operator Guide.



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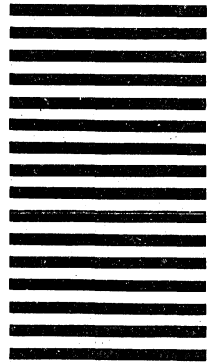
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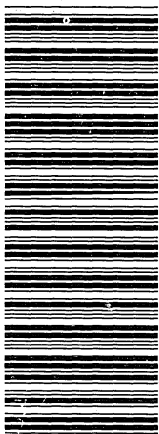
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