IBM / Technical Newsletter

IBM 3767 Communication
Terminal Operator's Guide

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This Technical Newsletter provides replacement pages for the subject manual. Pages to be inserted and/or removed are:

iii, iv
1-3, 1-4
3-1 through 3-14 (3-2.1 added)
4-1, 4-2
4-5 through 4-17
A-1 through A-4
E-1 (foldout)

A change to the text or to an illustration is indicated by a vertical line to the left of the change.

Summary of Amendments

This Technical Newsletter contains changes to the "Forms Control" chapter. It also updates the communicate mode example charts and contains other miscellaneous changes and additions.

Note: File this cover letter at the back of the manual to provide a record of changes.

TO THE READER:

How to Use This Manual

The step-by-step operating instructions given in this manual include all the different arrangements and features that an IBM 3767 Communication Terminal may have. You need to identify the instructions that pertain to your individual machine. (Most of the others can be removed from the manual and stored at the back of the IBM 3767 Operating Information binder to simplify your use of the manual.)

Follow the steps listed here, to familiarize yourself with your machine and with the manual:

1. Turn to Appendix E and unfold the terminal panel diagram that you will find there. This diagram, Terminal Panel Diagram, shows all the switches, indicator lights, and control keys that may be on the 3767.

2. Look at the diagram and at your 3767; in the list below, check the features and accessories that are present on your machine:

____Calculation. This feature is present if switch **23** (Calc-Off) is on your 3767. If the feature is not present, you can remove Appendix B and Appendix C from the manual; you will not need them because they describe the operation of the Calculation feature.

____Start/Stop. Your 3767 may have one of the four Start/Stop (S/S) features; if it does, it has switch **21** (SDLC-S/S) installed. Your supervisor can tell you which of these S/S features you have (this information can also be found on the equipment list shipped with the 3767): 2741, 2740-1 Point-to-Point, 2740-1 Station Control, or 2740-2. You can remove the operating instructions for the S/S features that you do *not* have from Chapter 4. If you do not have any S/S features, you may remove all four sets of S/S operating instructions.

____Buffer With Edit. This feature allows you to make corrections on the information that you have stored in the 3767, before you transmit or print it. The feature is present if your 3767 has switch **16** (Edit-Off) installed. (This feature also includes control keys **43**, **44**, **45**, and **49**.) If your machine does not have switch 16, you can disregard the information on "Buffered SDLC and 2740-2" in Chapter 4.

Vertical Forms Control. This feature is present if your 3767 has control keys **27** (Form Feed) and

28 (Vert Tab). (With this feature, "Vert Form Set" is engraved above the "6" key.) If this feature is not present, you can disregard the information on "Vertical Forms Control (VFC)" in Chapter 3.

____Alternate Character Set. This feature is present if your 3767 has switch **22** installed. If the feature is present, you also have a decal card with the nomenclature for the secondary character set. You can use this card as-is for reference, or you can stick the individual decals to the front surface of the individual keys. Your application procedures direct when to use the secondary character set (press the lower part of switch **22**).

> *Note:* If your 3767 also has the Calculation feature, select one set of decals to use as a reference card. The other set can be attached to the keys.
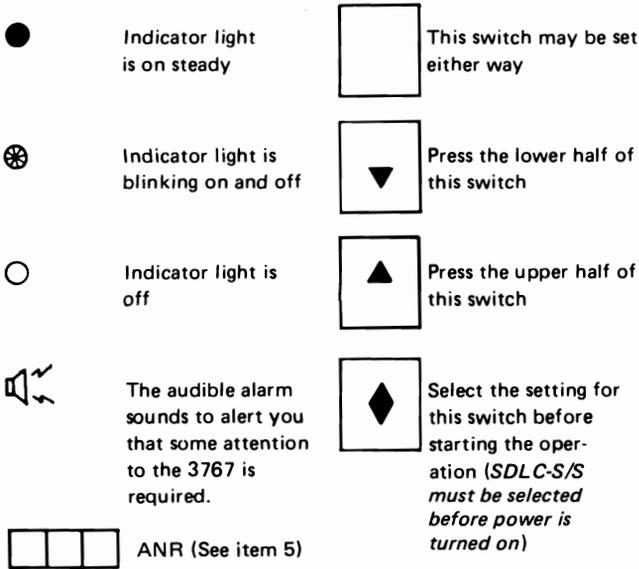
____Forms Tractor. This device attaches to the top of the 3767 and allows the machine to feed paper with holes punched along the left and right edges. If your machine has this device, refer to "Attaching the Variable Width Forms Tractor" in Chapter 3 for instructions on putting paper into the machine, putting the Forms Tractor on the machine, or taking it off.

____Paper Roll Holder and Forms Guide. This device hangs on the back of the 3767 and allows the machine to feed paper from a roll. If it is present, refer to "Attaching the Paper Roll Holder and Forms Guide" in Chapter 3 for instructions on putting paper into the machine.

____Security Keylock. If this feature is installed, you will find a small circular key-receptacle **26** on the right side of the 3767. You must insert and turn the key before you turn the On-Off switch **25** to "On".

3. Your supervisor will instruct you in the operation of the 3767 for your company's application. In addition, Chapter 4 contains instructions for operating the 3767 "on-line" (in Communicate Mode). To prepare yourself for this, review "Establishing a Connection", "Initiating Communicate Operations", and "Terminating Communicate Operations" in Chapter 4. Select the appropriate operations for your terminal, as instructed there.

4. There are diagrams of the 3767 switches and indicator lights at various places in this manual. (On these diagrams, ignore switches that are not on your machine.) The legends below show how to read these diagrams:

|			
●	Indicator light is on steady	☐	This switch may be set either way
✳	Indicator light is blinking on and off	▼	Press the lower half of this switch
○	Indicator light is off	▲	Press the upper half of this switch
◁	The audible alarm sounds to alert you that some attention to the 3767 is required.	◆	Select the setting for this switch before starting the operation (*SDLC-S/S must be selected before power is turned on*)
☐☐☐	ANR (See item 5)		

5. The ANR (Alphanumeric Readout) indicators (13 in the diagram) normally show a number from 1 to 133. This is the number of the next printing position where a character will be printed. When the System Check indicator (4 in the diagram) is on and the ANR has a number higher than 133 the 3767 has detected an error. If this happens, or if the Oprn Check light (3 in the diagram) is on, or any other problems occur, see *IBM 3767 Models 1, 2, and 3 Communication Terminal Problem Determination Guide.*

keys and neither is typamatic. On Katakana keyboards, Tab and Return are typamatic keys; hyphen and underscore are not.

Some of the keys (called "inactive" keys in Start/Stop line control) are active only when the terminal is operating under SDLC line control. If these keys are pressed in Start/Stop line control (2740 Model 1, 2740 Model 2, or 2741 line control operation), the function of the key is ignored and the Oprn Check light is turned on. These keys vary according to the keyboard used in various countries, as follows:

Keyboard for	*Inactive Keys (Start/Stop)*					
Austria/Germany	β	`	Ö	ä	ö	ü
Belgium	¨	`	ù	é	è	ç
Brazil	\	~	"	$	É	é
Denmark	\	`	ü	"	#	¤
Finland	É	ü	"	§	¤	é
France	¨	`	ç	è	é	ù
Italy	é	è	ì	ò	à	ù
Norway	\	`	ü	#	"	¤
Portugal	`	´	ç	ã	õ	[blank*]
Spain	{	}	¨	`	"	\
Spanish Speaking	{	}	¨	`	"	\
Sweden	É	ü	"	§	¤	é
United Kingdom	{	}	`	\	¯	¦
International	~	\	¦	{	}	`
Japan—Non-Kana	¯	$	¦	`	{	}

* lower case of >

Some of the keys (called "dual graphic" keys) print different graphics depending on the line control (SDLC or Start/Stop) being used when the key is pressed. The nomenclature on the keytop shows only the graphic for SDLC. These keys vary according to the keyboard used in various countries, as follows:

Keyboard for	*Line Control*	*Dual Graphic Keys*					
Brazil	SDLC	!	∧				
	S/S	¦	¬				
France	SDLC	à	£	°	§	!	∧
	S/S	@	#	Ç	!	¦	¬
International	SDLC	[	]	∧			
	S/S	Ç	¦	¬			
Italy	SDLC	°	£	ç	§	∧	
	S/S	@	#	Ç	¦	¬	
Portugal	SDLC	[	]	∧			
	S/S	Ç	¦	¬			
Spain	SDLC	[	]				
	S/S	Ç	!				
Spanish Speaking	SDLC	[	]				
	S/S	Ç	!				

Some of the graphics used by the 2741 Communication Terminal are replaced with different graphics on the 3767, as follows:

Keyboard for	*2741 Graphics*	*3767 Graphics*
Austria/Germany	¢	Ö
	¦	§
	@	ö
Belgium	!	]
	¢	[
	¦	!
	¬	∧
	@	à

Intro

AUDIBLE ALARM

An audible alarm is a standard feature of the terminal. This alarm sounds for various intervals when certain conditions (for example, the right margin of a printing line) may require operator attention.

An operator can change the volume of the sound. You will find the control knob if you open the left platen cover.

Left Platen Cover
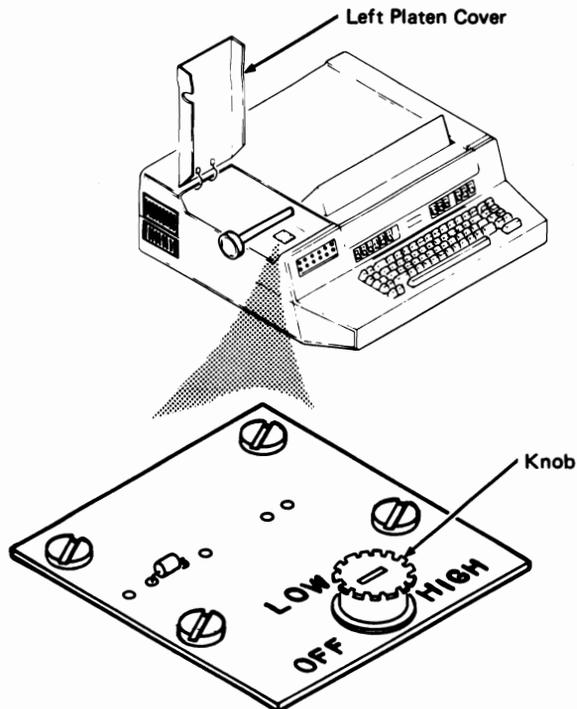
Knob

Turn the knob clockwise to increase the volume of the sound; turn the knob counterclockwise to reduce it.

Caution: Do not force the knob beyond stops.

SECURITY KEYLOCK

The Security Keylock is a key-operated switch that prevents unauthorized use of the terminal.
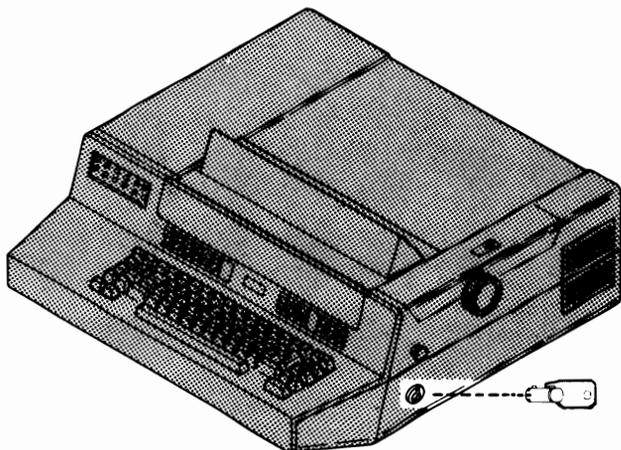
The keylock must be unlocked before you turn the On/Off switch to On. Turn the On/Off switch to Off before locking the keylock.

There will be no damage to the machine if the On/Off sequences are reversed; but a 5- to 10-second wait, with both switches off, will be required before you can successfully turn the machine on.

BUFFER

The buffer is an area for temporarily storing keyed-in data until it is transmitted, or received data until it is printed. Correction or editing of data before transmission is done in the buffer.

MODEM

A modem is required for a 3767 terminal to communicate with a host.

There are two types of modems. An integrated modem operates as part of the terminal. An external modem is a separate unit and requires operator attention such as turning power on and off.

ACOUSTIC COUPLER

The acoustic coupler connects the terminal to an ordinary telephone set for communicating with the host. The acoustic coupler is connected to the terminal by a cable.
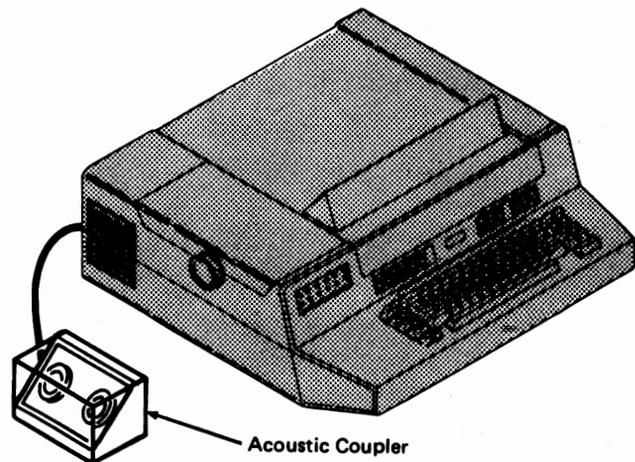
Acoustic Coupler

If you have a 3767 with an acoustic coupler, the Normal Signal light replaces the Data Set Ready light on the panel shown in Appendix E.

In acoustic coupler operation, Normal Signal light on while in receive mode (the Proceed light is off) indicates that the receive signal level is high enough to operate, and communication should be entirely satisfactory.

Chapter 3. Forms Control

FORM RELEASE LEVER

When the Form Release lever is positioned to the rear, the paper is gripped against the platen by the rollers under the platen and feeds by friction as the platen turns. The end-of-forms detector is retracted and not active.

When the forms tractor is used, the form release lever should be in the front position, which releases the friction feed by the rollers under the platen and activates the end-of-forms detector. The movement of the form is controlled by the forms tractor pin feed.

When the paper bail rollers are used, the form release lever should also be in the front position. The movement of the form is friction fed by the paper bail rollers, not by the rollers under the platen. The End Form light turns on ten lines before the end of the last form. When the End Form light is on, the print head is at the extreme left position and no further printing can take place.

Form Release Lever
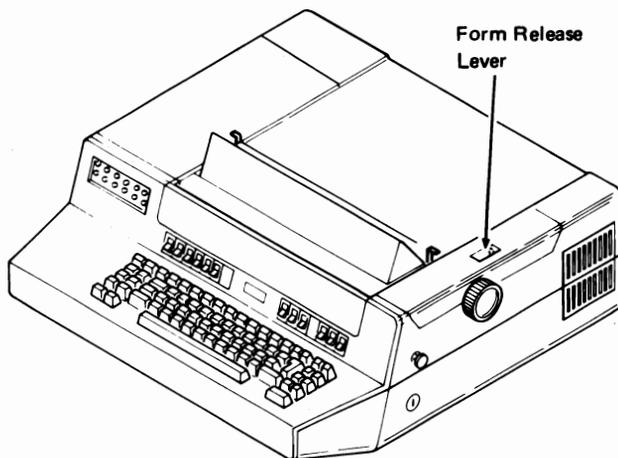
REPLACING THE RIBBON

A brief description of the ribbon changing procedure is shown inside the ribbon box cover for quick reference. If you need more detailed instructions, follow this procedure:

Procedure:

1. Turn the On-Off switch to Off.
2. Remove the forms tractor, if your machine has one.
3. Move the canopy forward. Holding the canopy firmly in this position, swing the center cover and canopy up and toward the rear of the 3767.

Caution: The canopy must be held up against the center cover before swinging the cover and canopy toward the front. Otherwise the canopy or print head may be damaged.

Canopy   Center Cover
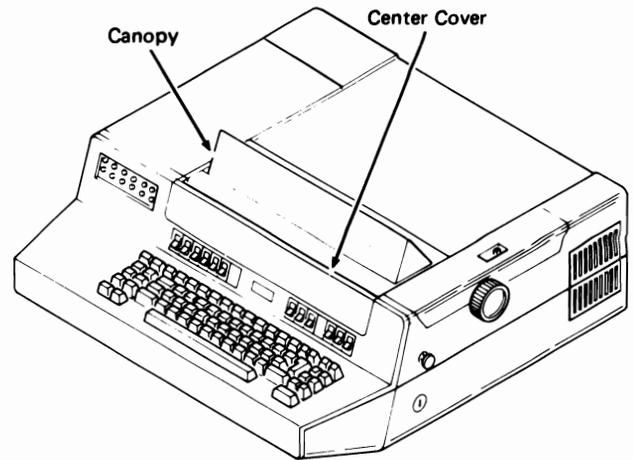
Printer

4. Manually move the print head toward the center of the platen.
5. Rotate the feed roll release knob counterclockwise one-quarter turn to open the feed roll and release the ribbon.

Ribon Shield — Feed Rolls
Ribbon
Feed Roll Release Knob
Print Head   Ribbon Box
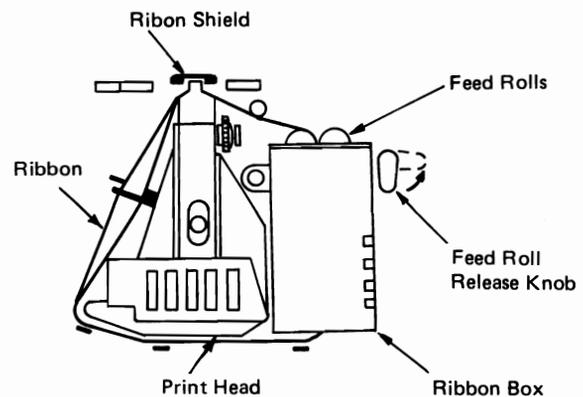
6. Put on the gloves supplied with the new ribbon.

*Caution:* Never try to open the cover beyond its stop.

7. Open the ribbon box cover.
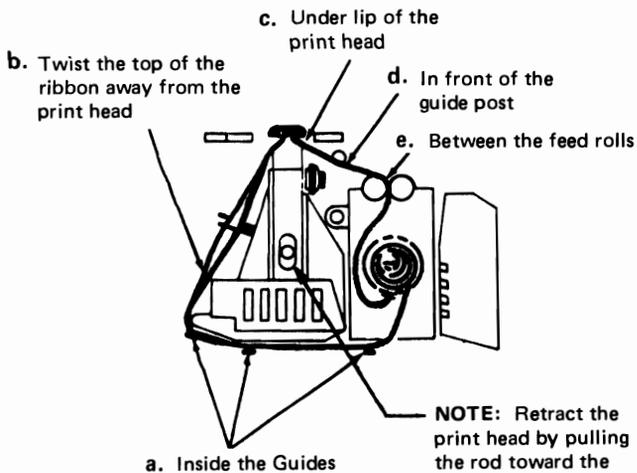

Ribbon Box Cover
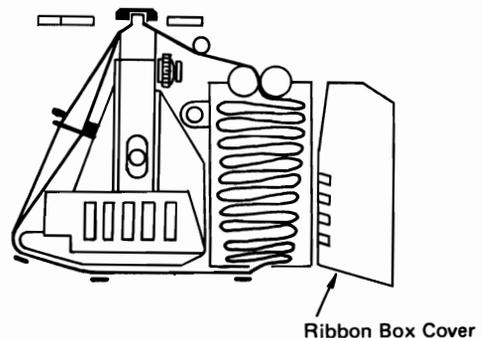
8. Remove the old ribbon and discard it.

9. Place the new ribbon in the ribbon box. Then grasp the looped end of the ribbon and pull out about 20 to 25 centimeters (8 to 10 inches) of ribbon.

Ribbon Box

Pull out 20 to 25 centimeters (8 to 10 inches).

Raised Tab up.
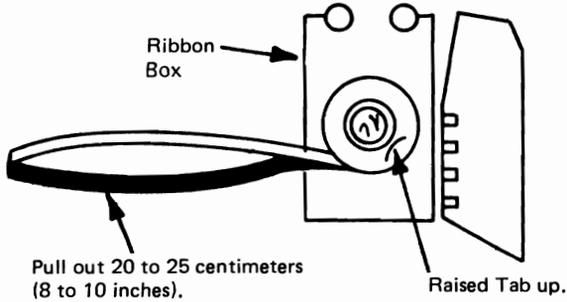
10. Lay the loop of ribbon that you pulled out in step 9, across the print head, as shown:

Lay ribbon across print head.
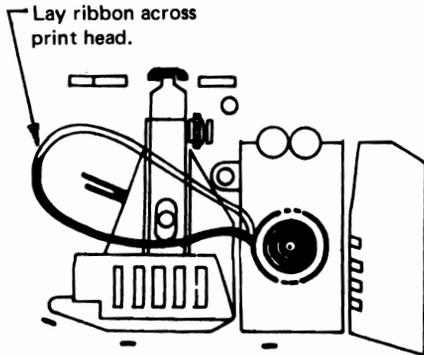
11. Grasp the loop of ribbon and thread it on the print head, as shown in the following illustration (steps **a** to **e**):

c. Under lip of the print head

b. Twist the top of the ribbon away from the print head

d. In front of the guide post

e. Between the feed rolls

a. Inside the Guides

NOTE: Retract the print head by pulling the rod toward the front of the machine for easier threading of the ribbon between the print head and the platen.

12. Remove the plastic holder enclosing the new ribbon that is now in the ribbon box. Put your finger through the hole in the plastic holder and hold the ribbon. While holding down the ribbon, lift up on the plastic holder (discard the plastic holder after you remove it).

Ribbon Box

Plastic Glove

Lift up on the plastic holder while holding the ribbon with your finger.
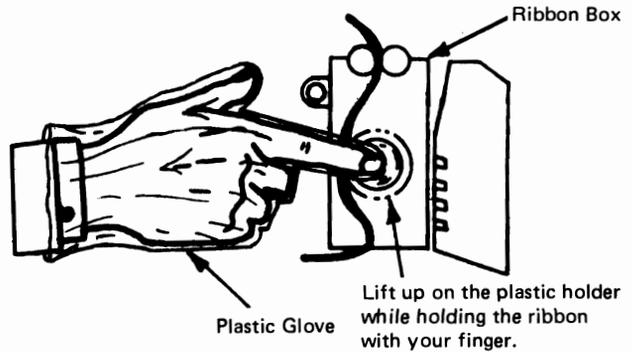
13. Close the ribbon box cover and rotate the ribbon feed roll release knob (clockwise) back to the original position.

Feed Roll Release Knob

Ribbon Box
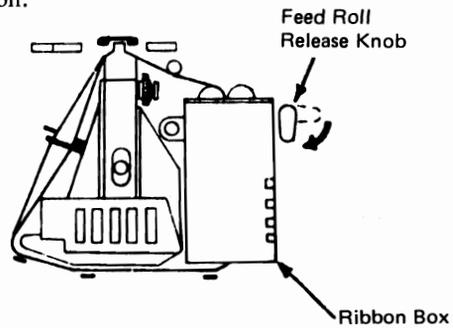
14. Rotate the knurled knob (clockwise) to remove any slack from the ribbon. While you are turning the knob, see that the ribbon is feeding smoothly and that it is threaded, as shown:

Under lip of the print head
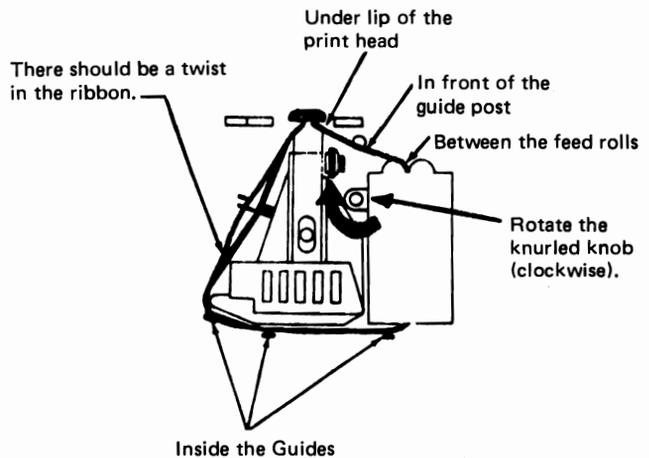
There should be a twist in the ribbon.

In front of the guide post

Between the feed rolls

Rotate the knurled knob (clockwise).

Inside the Guides

15. Grasp the print head and move it left to right and right to left, 15 to 20 times. (This moving motion of the print head drives the ribbon drive rolls and unwinds the new ribbon that is still partially wound in the ribbon box.) Raise the ribbon box cover and observe the new ribbon wound back and forth in the box. Close the ribbon box cover.

New Ribbon wound back and forth.

Ribbon Box Cover
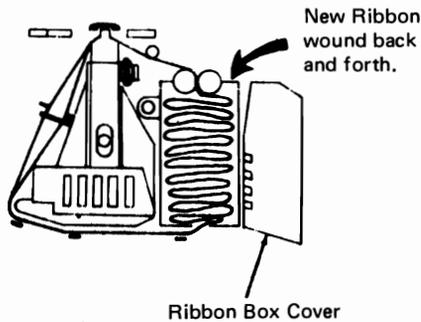
16. While holding the plastic canopy, close the top cover of the printer.

PLATEN
Removal

1. Turn the On/Off switch to Off.
2. Remove paper from the printer, if inserted.
3. Remove the forms tractor or paper bail assembly, if attached.
4. Open the left and right platen covers.

Center Cover

Canopy

Left Platen Cover

Platen Knob

Right Platen Cover
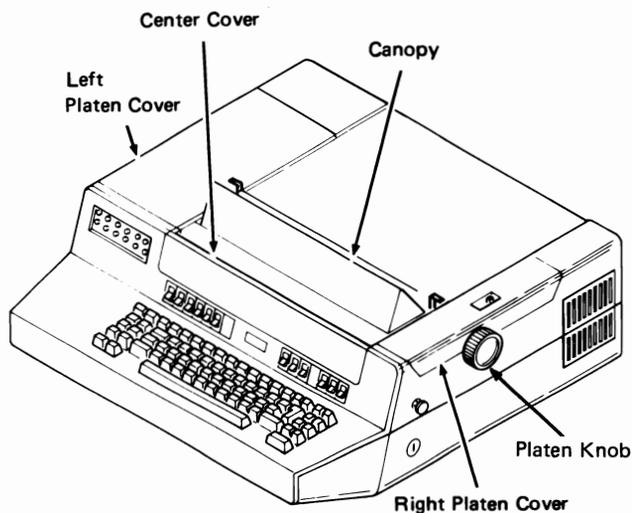
5. Move the canopy forward. Holding the canopy firmly in this position, swing the center cover and canopy up and toward the rear of the 3767.

   Caution: The canopy must be held up against the center cover before swinging the cover and canopy toward the rear. Otherwise the canopy or print head may be damaged.

6. Manually move the print head toward the center of the platen.

7. Pull the form release lever forward.

8. Press and hold the left and right platen release levers with your thumbs and lift the platen up out of the machine.

Form Release Lever

Right Platen Release Lever

Platen

Left Platen Release Lever
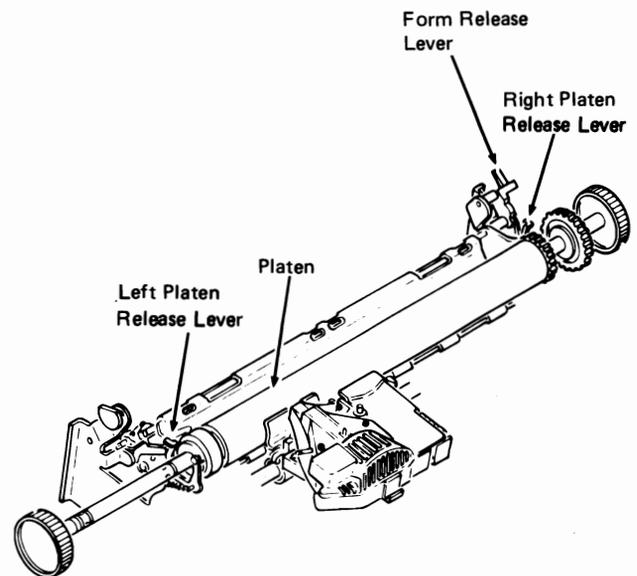
9. Close the left and right platen covers, and swing the canopy back to its original position.

Installation

1. Make sure that:

    a. The On/Off switch is Off.

    b. The left and right platen covers are open.

    c. The form release lever is in the forward position.

    d. The print head is positioned near the center of the platen. Refer to Steps 1 to 6 of the platen removal procedure to do this.

2. Check to see that the deflector is correctly positioned (engaged and seated on both ends).
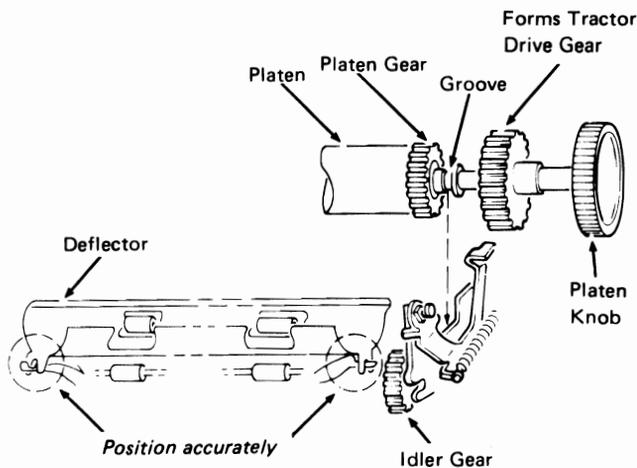
3. Hold the platen with the gear to the right.
4. Place the groove of the platen bearing in the right platen latch and align the gears horizontally.
5. Press down on both ends of the rubber platen. The platen will snap into place if you have aligned it correctly. Rotate the platen by one of the platen knobs to be sure the gears mesh properly and turn when the platen turns.
6. Swing the canopy back to its original position.
7. Close the platen covers and move the form release lever to the rear.

ATTACHING THE PAPER BAIL ASSEMBLY
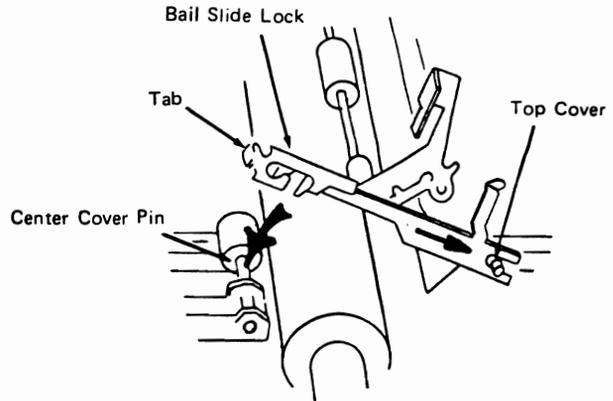
1. Open the platen covers and move the canopy forward.

Platen Cover

Platen Cover

Canopy
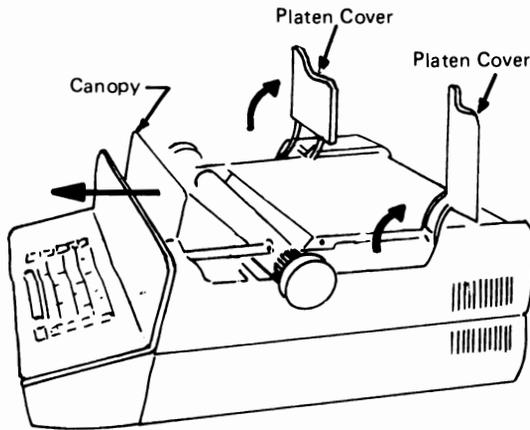
2. Hold the bail assembly as shown below so that the slide-locks are toward you.

Bail Latch

Groove

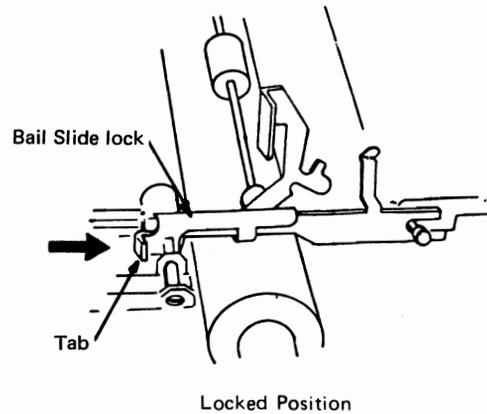Paper Bail Rollers

Platen Protector Roll
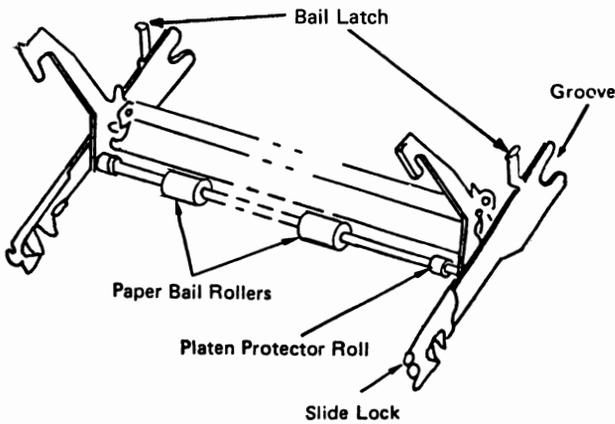
Slide Lock

Note: The Platen Protector Roll should be positioned at the extreme right. It should not lie on the paper.

3. Place the grooves of the bail over the top-cover pins. Lower the slide-lock ends until they rest on the center cover pins (requires a slight downward pressure).

Bail Slide Lock

Tab

Top Cover

Center Cover Pin

4. Extend the bail slide locks toward you, then push the tabbed ends of the slide locks toward the back of the terminal as far as they will go to lock the bail assembly.
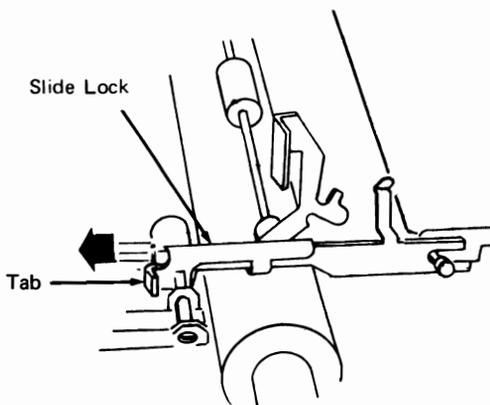
Bail Slide lock

Tab

Locked Position

5. Lower the platen covers.

6. Move the canopy back to its original position.

When the paper bail rollers are used to feed the form, the form release lever should be in the front position.
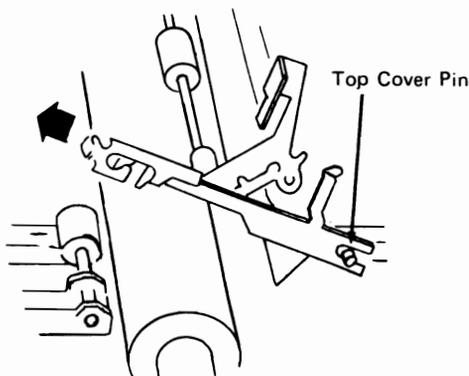
REMOVING THE PAPER BAIL ASSEMBLY

1. Move the paper bail lever forward to lower the paper bail rollers.
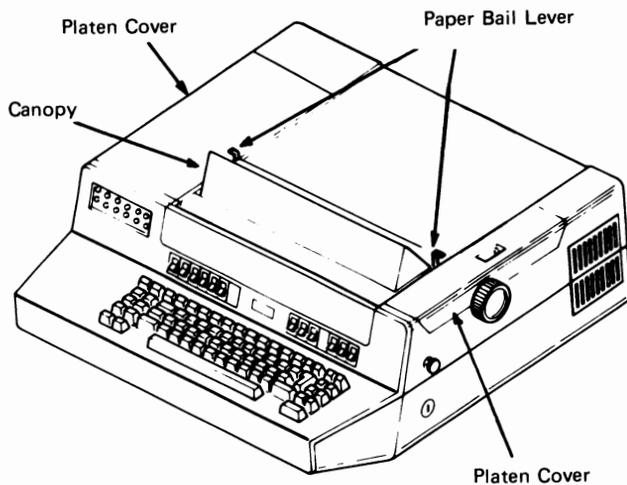
2. Open the platen covers.

3. Move the canopy forward.

4. Applying a slight downward pressure on the left and right slide locks, pull the slide-lock tabs toward the front of the terminal as far as they will go.

5. Raise the slide-lock ends of the paper bail upward, and pull off the paper bail from the top cover pins.

6. Close the platen covers.

7. Move the canopy to its original position.

Store the paper bail assembly in a safe place. Be sure the paper bail rollers are in the lowered (unlatched) position.

### ATTACHING THE VARIABLE WIDTH FORMS TRACTOR

The variable width forms tractor is used for efficient continuous forms feeding and registration. To attach the forms tractor:

1. Remove the paper bail assembly, if installed. Store it in a safe place.

2. Hold the forms tractor so that the gear of the unit is to the right.

   Note: The tractor assembly must be fully seated at all four mounting points, as described in the next two steps. An improperly seated tractor may cause forms skew.

3. Place the supporting arms of the forms tractor over the slots in the platen covers.

   Caution: Keep your fingers out from under the forms tractor. There is a danger of pinching them in the next step.
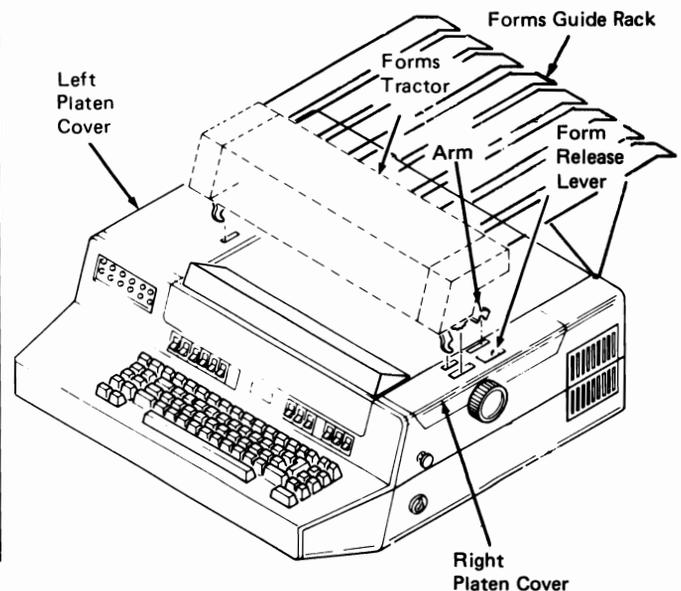
4. Press down firmly until the back legs snap into place. Then pivot the forms tractor toward the front of the printer until the front legs snap into place.

Rock forward
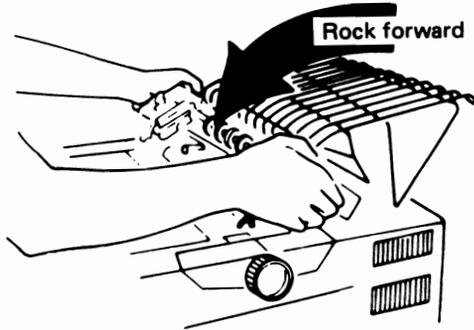
5. Check the final placement by making sure the platen knobs turn freely and the tractor pins move.

Tractor pins should turn
Turn
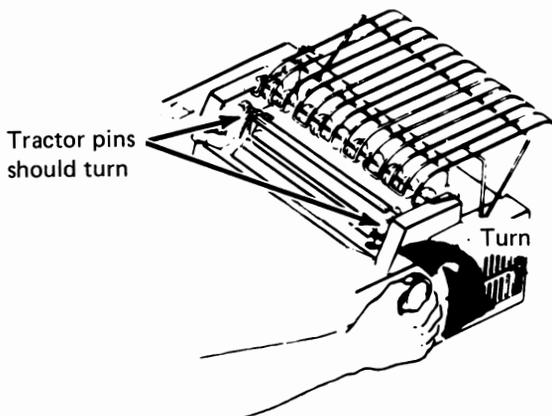
To remove the forms tractor from the printer:

1. Remove paper from the printer.
2. Pull the tractor up and forward until the rear arms snap loose.
3. Lift the forms tractor off the machine.

ATTACHING THE PAPER ROLL HOLDER AND FORMS GUIDE

The paper roll holder and forms guide assembly holds a supply of roll paper at the back of the terminal or guides the paper when feeding single part continuous forms.
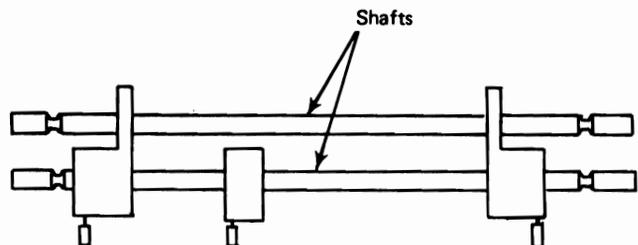
Note: The words "left" and "right" used in this section refer to the directions (left and right) as seen from the back of the machine.

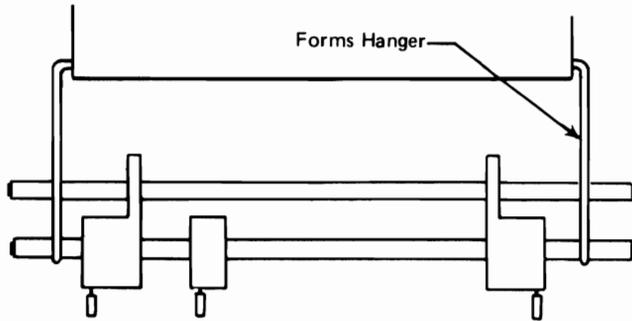### For Use With Continuous Forms

1. Attach the forms hanger by snapping it into the curved rear edge of the forms guide plate.

Guide Plate
Forms Hanger
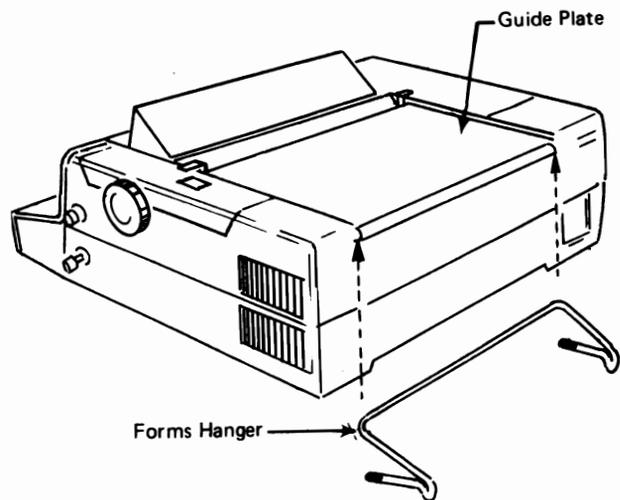
2. Assemble the shafts of the paper roll holder and forms guide assembly as shown following.
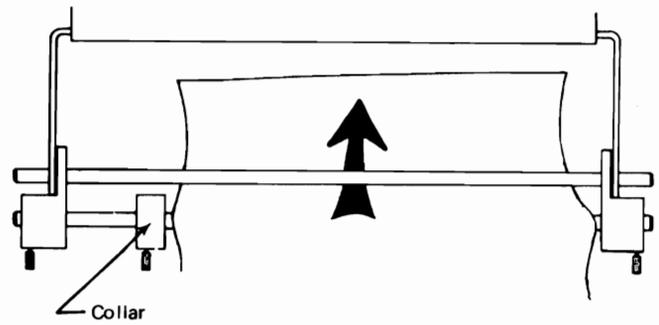

Shafts

3. Attach the assembly to the hanger. The grooves in the shafts must be aligned with the looped ends of the forms hanger.

Forms Hanger

4. Loosen the coupler thumbscrews and move the couplers against the looped ends of the forms hanger, as shown. Then tighten the thumbscrews.


Forms Hanger

Coupler

Thumbscrew

Coupler
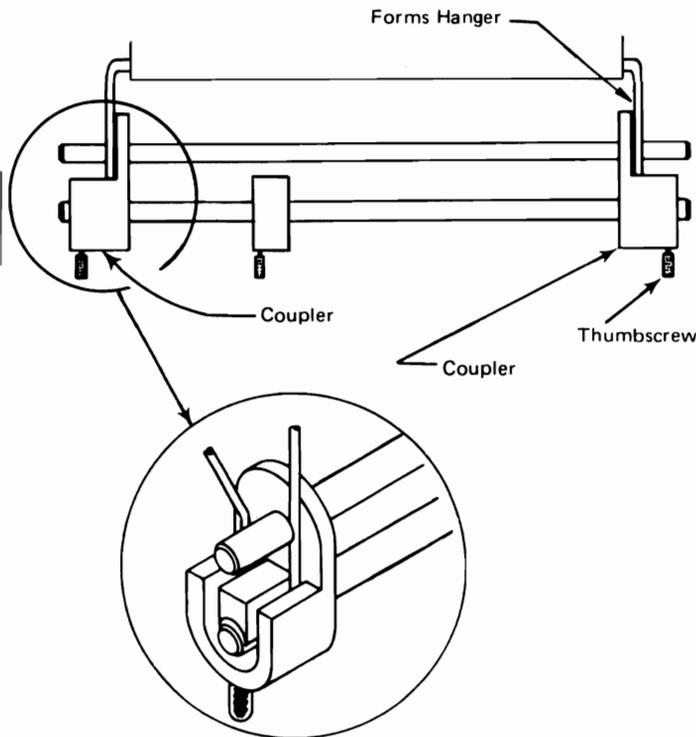
5. Insert the form between the shafts as shown in the next illustration (if the forms tractor is not used).

Collar

If you assembled the shafts with the collar, and if the form you are using binds as it passes between the shafts, even if the collar is positioned at the extreme left, remove the form, go back to step 2, and reassemble the shafts omitting the collar.

6. If you assembled the shafts with the collar, adjust the position of the collar to provide just enough clearance for free movement of the paper. Then tighten the thumbscrew.

Collar

Thumbscrew

Provide just enough clearance for free movement of the form.
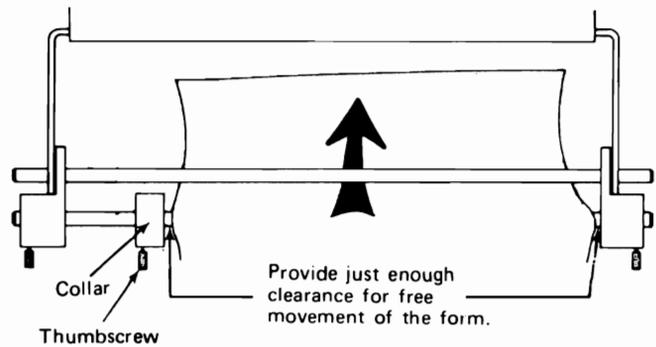
If you assembled the shafts without the collar, adjust the position of the left coupler to provide just enough clearance for free movement of the form. Then tighten the thumbscrew.

Provide just enough clearance for free movement of the form.

Coupler

Thumbscrew
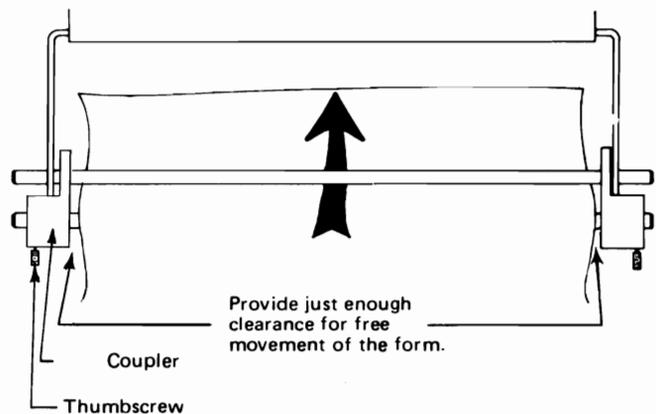
For Use With Roll Paper

When you are using roll paper, only one shaft is used.

1. Attach the forms hanger by snapping it in the curved rear edge of the guide plate.
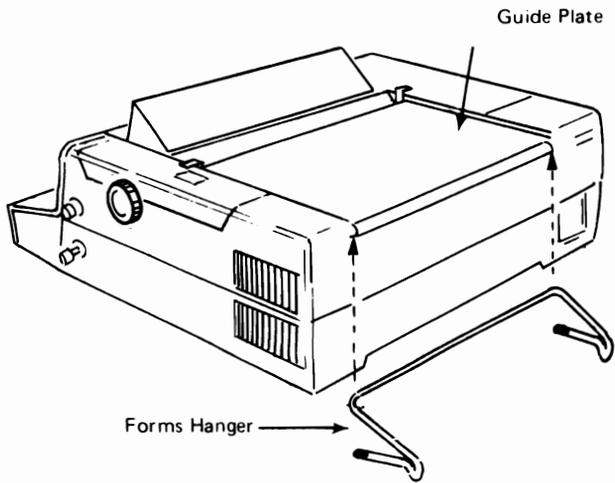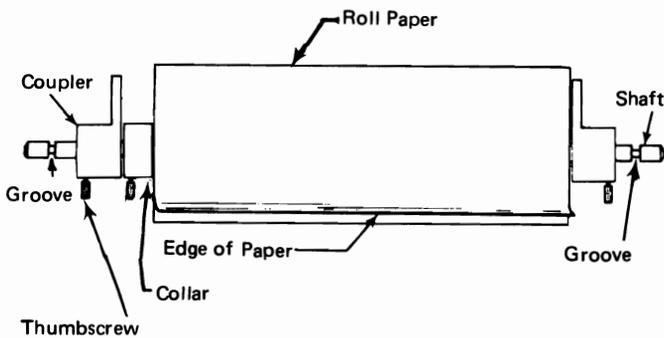
Guide Plate

Forms Hanger

Lift the wire holder up.

Groove

Groove

Note: The leading edge of the paper should hang down from the back side of the roll, as shown.

2. Assemble the shaft and paper roll as shown. Slide the paper roll onto the shaft so that paper feeds to the printer from the bottom of the roll.

Roll Paper

Coupler

Shaft

Groove

Groove

Edge of Paper

Collar

Thumbscrew

If the paper roll you are using binds when the paper is fed, even if the collar is positioned at the extreme left, assemble the shaft and paper roll without the coupler and collar.

3. Attach the assembly to the hanger.
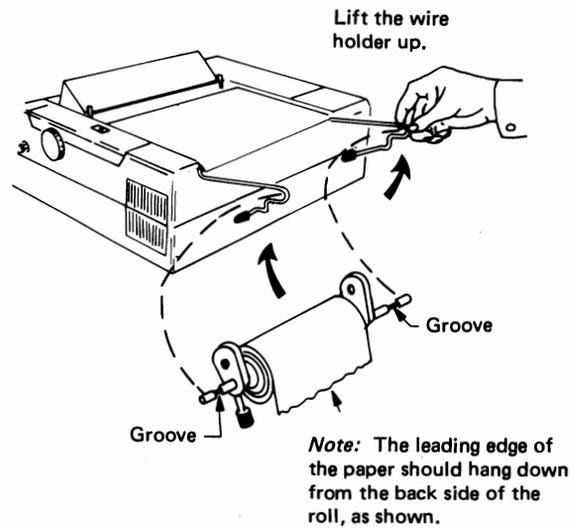
4. Loosen the coupler thumbscrews and move the couplers against the forms hanger as shown. Then tighten the thumbscrews.

Forms Hanger

Coupler

Coupler

Thumbscrew
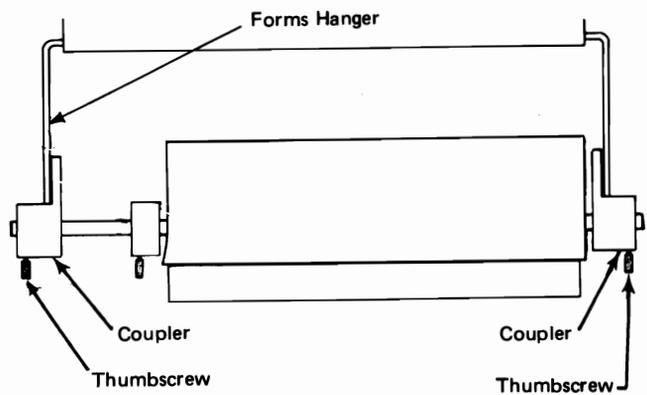
Thumbscrew

5. If you assembled the shaft and paper roll with the couplers and collar, loosen the collar thumbscrew and move the collar against the paper roll, providing just enough space to allow the roll to turn freely without binding. Then tighten the thumbscrew.

Collar

Provide just enough space to allow the roll to turn freely without binding.

Thumbscrew
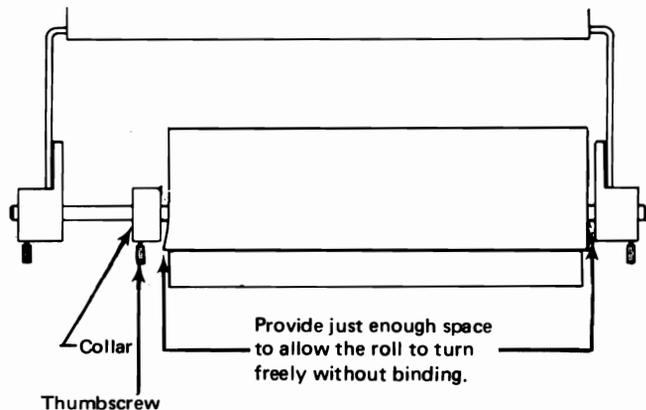
If you assembled the shaft and paper roll without the collar and left coupler, attach the coupler from inside or outside of the forms hanger so that it can provide just enough space between the end of the coupler and the paper roll to allow the roll to turn freely without binding. Then tighten the thumbscrew.
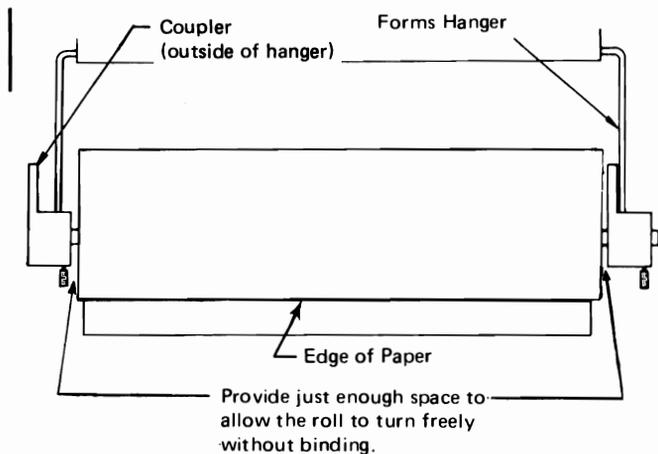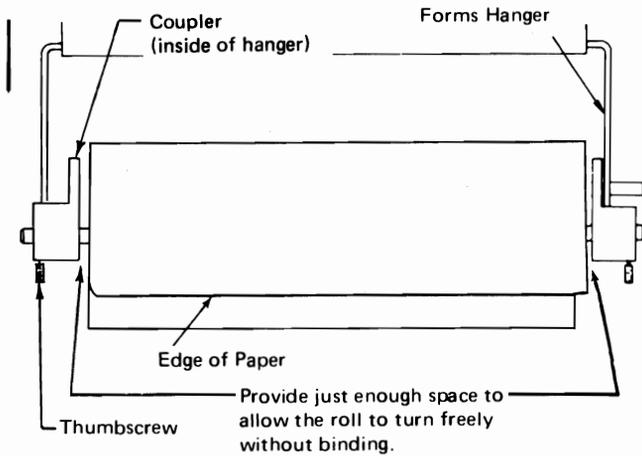
INSERTING CUT FORMS

To insert a cut form for the first time, do the following. For repeated insertion of cut forms, do only the steps with encircled numbers; and use the cut form guides for horizontal alignment.

1. Remove the forms tractor if installed on your terminal.

②. Press and hold the CODE key, then press and release the Form Load key and release the CODE key. The print head moves to the extreme left position. The ANR displays ▯ | 0 | 0 .

3. If the paper bail assembly is installed, move the paper bail lever to the back of the terminal to move the paper bail rollers away from the platen. If only cut forms are to be used, the paper bail assembly should be removed.

4. Move the form release lever to the back position.

5. Slide the cut form guides to their respective extreme left and right positions.

⑥. Move the canopy forward.
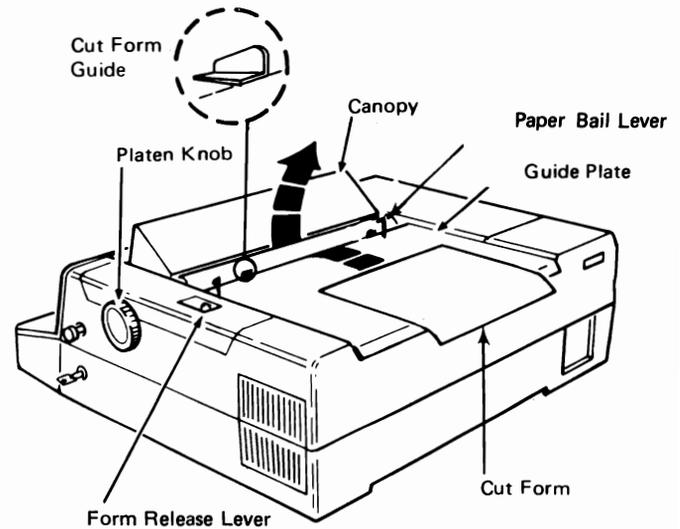
⑦. Insert the form into the slot between the guide plate and the platen.
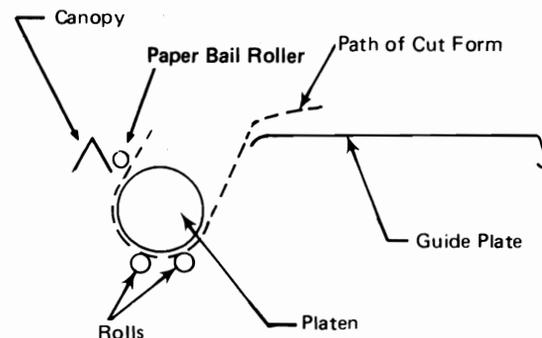
⑧. Rotate the platen knob to advance the form around the platen, until you can pick up the leading edge of the form. (There will be no clicking sound such as you hear when turning a typewriter platen.)

Note: If the form is inserted to the right of the rubber platen groove, it cannot be moved left beyond the groove.

9. Pull the form release lever forward and align the form for printing position and straight feeding. Then move the form release lever to the back position.

Note: The end-of-forms sensing is not active while the form release lever is in the back position.

10. Slide the cut form guides to the edge of the paper.

⑪. Move the canopy back to its original position.

⑫. Press and hold the CODE key, press and release the Form Ready key, and then release the CODE key. The print head moves to the print position, and the terminal is ready for operation.

INSERTING CONTINUOUS FORMS WITH VARIABLE WIDTH FORMS TRACTOR

You can use continuous forms with or without the variable width forms tractor on the 3767.

Caution: Align the stack of continuous forms to be printed horizontally so that the forms will feed evenly.

Avoid piling up the forms already printed on top of the forms being fed. The weight of the outcoming paper may affect form feeding and printing alignment.

Position the form release lever to the front position when the variable width forms tractor is used. This activates the end-of-forms detector, allows form feeding to be completely controlled by the variable width forms tractor, and prevents overlap printing.

1. Remove the paper bail assembly if installed.

2. Attach the variable width forms tractor.
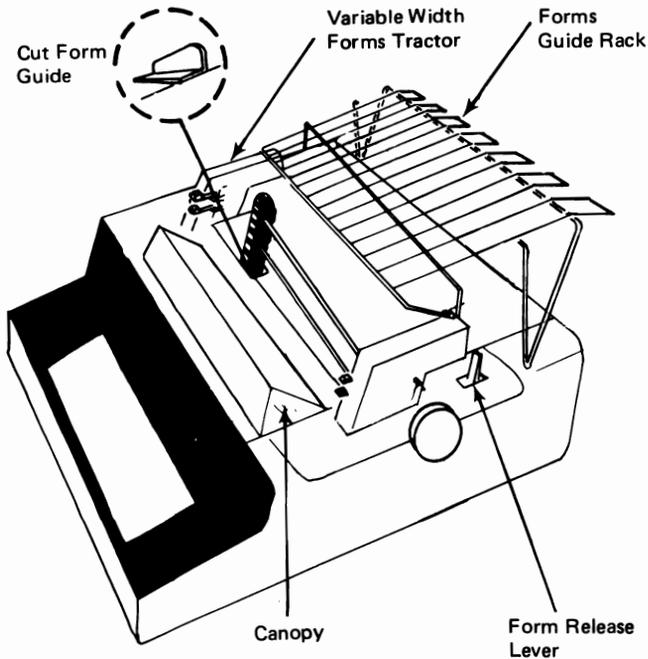

3. Press and hold the CODE key, then press and release the Form Load key, and release the CODE key. The print head moves to the extreme left position. The ANR displays [|0|0]

4. Slide the cut form guides to their respective extreme left and right positions.

5. On machines equipped with the static eliminator, there are two paper guides on the forms guide rack. Move the guides to their extreme left and right positions.

6. Move the canopy forward.

7. Move the form release lever to the back position.

8. Insert the leading edge of the form under the forms guide rack, over the rollers of the forms tractor unit, and down into the slot between the guide plate and the platen, keeping the form as far to the left as possible.
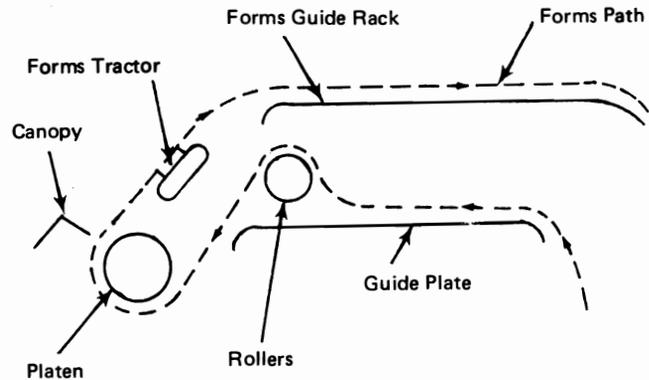
Note: If the paper roll holder and forms guide is installed, the form can be inserted either over or under the shafts of the holder and forms guide.

9. Rotate the platen knob to advance the form around the platen, until the holes of the form cover the tractor pins. (There will be no clicking sound such as you hear when turning a typewriter platen.)
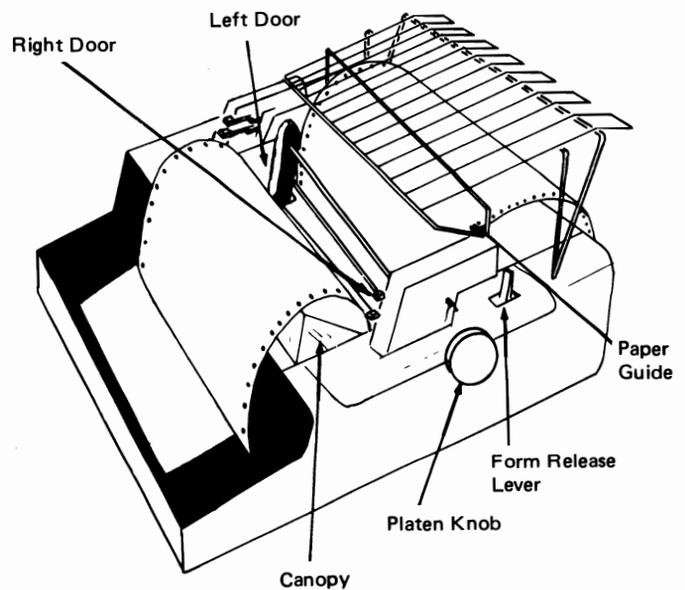
10. Open the doors covering the pins on each side of the forms tractor.

11. Holding the leading edge of the form with your hand, pull the form release lever forward.

12. Align the holes in the left margin of the form over the pins of the left tractor so that the holes in the form engage the pins properly, then close the door.

13. If necessary, squeeze the pressure levers on the right tractor and adjust its position so that the pins of the right tractor engage the holes in the right margin of the form properly, then close the door.
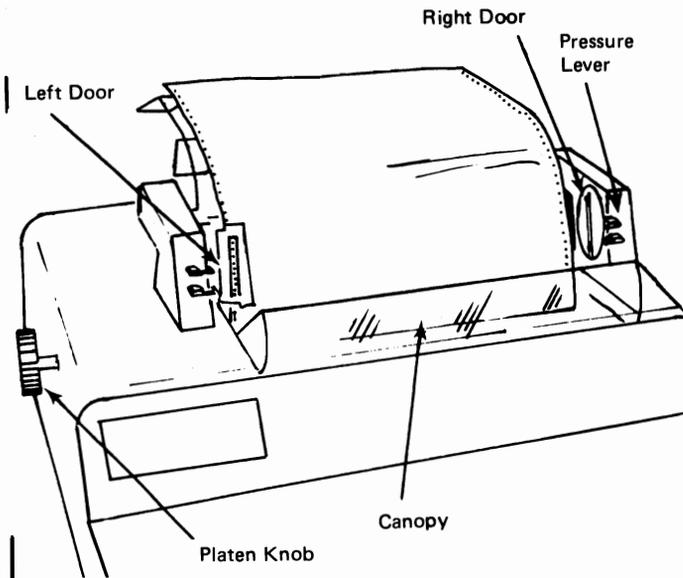
14. Move the canopy back to its original position.

15. If vertical alignment of the form with the print head is required, do it by rotating the platen knob

16. Slide the paper guides so that they lightly touch the edges of the form. Rotate the platen to ensure there is no binding of the forms on the paper guides.

17. Press and hold the CODE key, then press and release the Form Ready key, and then release the CODE key. The print head moves to the print position and the terminal is ready for operation.

INSERTING CONTINUOUS FORMS WITHOUT VARIABLE WIDTH FORMS TRACTOR

You can use continuous forms with or without the variable width forms tractor on the 3767.

Caution: Align the stack of continuous forms to be printed horizontally so that the forms will feed evenly.
Avoid piling up the forms already printed on top of the forms being fed. The weight of the outcoming paper may affect form feeding and printing alignment.

Position the form release lever to the front position when friction feed is used. This activates the end-of-forms detector and allows form feeding to be completely controlled by the platen and the paper bail rollers.

1. Press and hold the CODE key, then press and release the Form Load key and release the CODE key. The print head moves to the extreme left position. The ANR displays ☐ 0 0 .

2. If the paper bail assembly is removed, install it.

3. Move the paper bail lever to the back to move the paper bail rollers away from the platen.
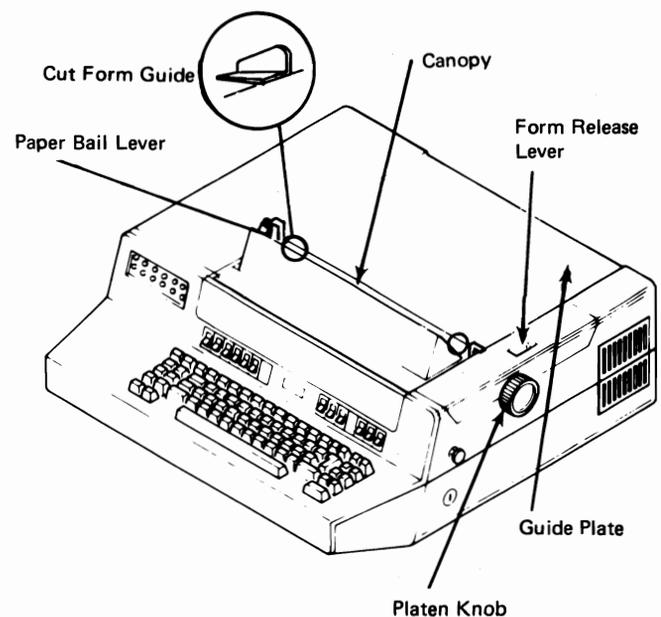
4. Slide the cut form guides to their respective extreme left and right positions.

5. If you have the paper roll holder and forms guide, attach it. (The method of assembly varies depending on the width of the form. Refer to "Attaching the Paper Roll Holder and Forms Guide".)

6. Move the canopy forward.

7. Move the form release lever to the back position.

8. Insert the leading edge of the form between the shafts of the paper roll holder and forms guide (if attached), into the slot between the guide plate and the platen, keeping the left edge of the form approximately even with the left end of the platen.
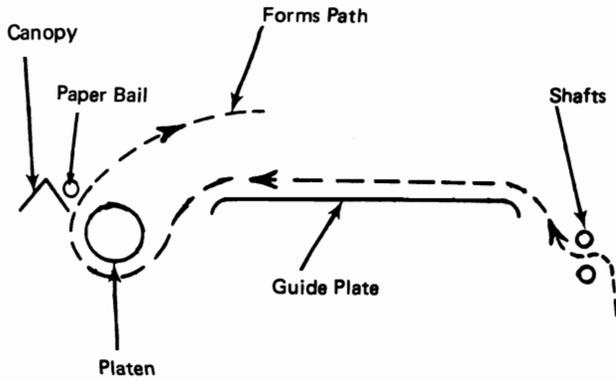
9. Rotate the platen knob to advance the form around the platen until you can pick up the leading edge of the form. (There will be no clicking sound such as you hear when turning a typewriter platen.)

10. Holding the leading edge of the form, pull the form release lever forward.

11. Insert the leading edge of the form between the platen and paper bail, and align the form for printing position and straight feeding, keeping the left edge of the form approximately even with the left end of the platen. Then move the paper bail lever forward to hold the form with the paper bail rollers.

12. Move the canopy back to its original position.

13. If the paper roll holder is being used, slide the collar or coupler (depending upon the width of the form) on the paper shaft to the edge of the form to help straight feeding of the form. Provide just enough space to allow the paper to move freely without binding. Then tighten the thumbscrew.
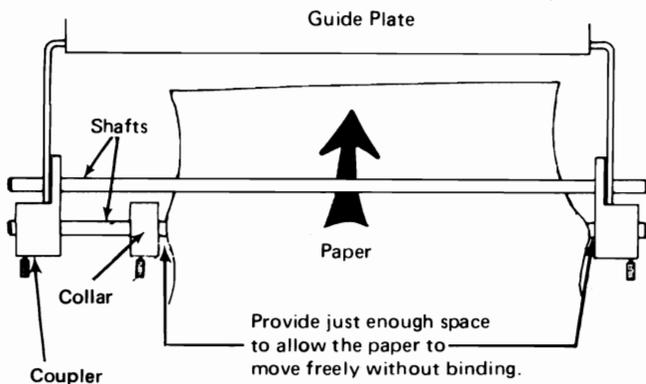
14. If vertical alignment of the form with the print head is required, do it by rotating the platen knob.

15. Press and hold the CODE key, then press and release the Form Ready key, and then release the CODE key.

The print head moves to the print position, and the terminal is ready for operation.

Note: Using continuous forms without using the forms tractor may require occasional repositioning of the form to ensure correct feeding or to keep the desired printing registration.

INSERTING ROLL PAPER

To use roll paper, you must have a paper roll holder and forms guide assembly attached to the rear of the terminal.

1. Remove the forms tractor if installed on your terminal.
2. Press and hold the CODE key, then press and release the Form Load key, and release the CODE key. The print head moves to the extreme left position. The ANR displays ☐ ☐0☐0☐.
3. If the paper bail assembly is installed, move the paper bail lever back to move the paper bail rollers away from the platen.
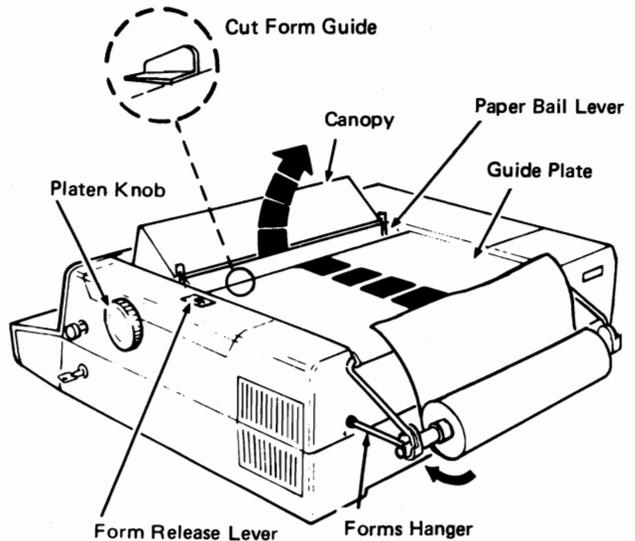

4. Slide cut form guides to their respective extreme left and right positions.

5. Move the form release lever to the back position.

6. Attach the forms hanger, slide the shaft through the center of the paper roll and place the shaft on the forms hanger. (The method of assembly varies depending upon the width of the form. Refer to "Attaching the Paper Roll Holder and Forms Guide".)

Note: Place the shaft on the hanger so that paper feeds to the printer from the bottom of the roll as shown in the above figure.

7. Move the canopy forward.

8. Insert the form into the slot between the guide plate and the platen, keeping the left edge of the paper approximately even with the left end of the platen.

9. Rotate the platen knob to feed the paper around the platen, between the platen and the paper bail roller, until you can pick up the leading edge of the paper.

10. Pull the form release lever forward and align the paper for printing position and straight feeding. Then move the paper bail lever to the front to hold the paper with paper bail rollers and platen.

11. Move the canopy back to its original position.

12. Press and hold the CODE key, then press and release the Form Ready key, and then release the CODE key. The print head moves to the print position and the terminal is ready for operation.

Note: Using roll paper may require occasional adjustment of the form to ensure correct feeding or to keep the desired printing registration.

SETTING THE PRINT IMPRESSION DIAL

The print head moves toward the platen as the print impression dial is turned toward "0". The scale should be adjusted according to the thickness of the forms. The guide for setting the dial is as follows:

a. The starting point for single-part forms is low on the scale; the starting point for multipart forms is high on the scale.

b. If the ribbon smudges the first sheet, rotate the print impression dial toward "8", one step at a time, until the smudging stops.

c. If the last copy is not legible, turn the print impression dial toward "0".
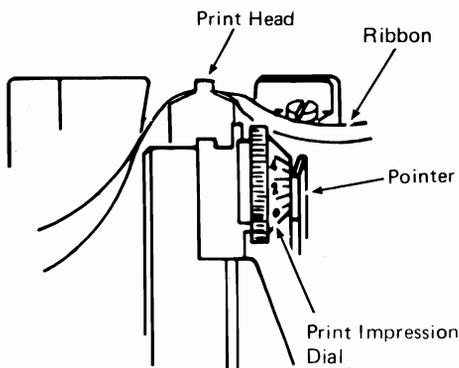
FINE ADJUSTMENT OF THE PRINT POSITION

After inserting preprinted forms, you may need to make horizontal and vertical fine adjustments to print at a pre-determined position.

Horizontal Fine Adjustment

Rotate the horizontal fine adjustment knob on the right side of the terminal so that the horizontal print position aligns with a predetermined print position on the form. The maximum adjustment range is about 1½ spaces.

Caution: Do not force the knob. If you cannot align the printing, rotate the knob in the opposite direction about midway between stops, re-align the form horizontally, and try the adjustment again.
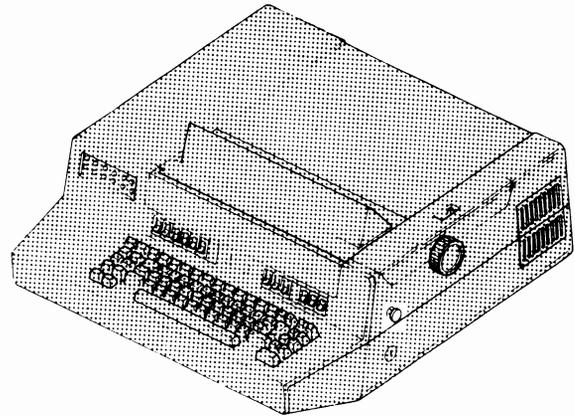
Vertical Fine Adjustment

Rotate the left or right platen knob until the print line (horizontal line on cut forms guide) is in the desired vertical position.

> *Note:* To move the form backward, pull the form from behind the printer and rotate the platen knob backward.

HORIZONTAL FORMAT CONTROL

Horizontal format control consists of establishing left and right margins and setting and/or clearing tab stops; it can be done in either local or communicate mode. Turning the Comm/Local switch to the opposite position after setting the tab stops does not change the settings.

Margin Setting

The left margin is the print position where you want printing to start. The right margin is set to establish the reference for a warning signal near the end of the printed line. An audible alarm sounds when the print head passes ten positions before the right margin.

The terminal can print outside established margins, but can never print beyond the extreme ends of the print line, 1 and 132. If this is attempted, the Oprn Check light comes on and you must press the RESET key to resume normal operation.

When power is turned on, the terminal automatically sets the left margin at 1 and the right margin at 132. When you set a new margin, the old one is cleared automatically.

The procedure for setting the margins is:

1. Be sure the terminal is idle and the Calc switch is off (if present).

2. Determine the printing position(s) where you want to set the margin(s).

3. Space or backspace the print head to the position where the ANR displays the position(s) in step 2.

4. Press and hold the CODE key.
5. If setting the left margin, press and release the Left Margin Set key (numeric 9).
   If setting the right margin, press the Right Margin Set key (numeric 0).
6. Release the CODE key.
7. Press the Return key.

Tab Setting and Clearing

When tab stops are set, pressing the Tab key moves the print head to a predetermined position, and the ANR indicates that position.

If the terminal is operating under SDLC line control, pressing the Tab key at or after the last tab stop position causes an audible alarm and an operation check. When no tab is set, pressing the Tab key causes a space operation.

If the terminal is operating under S/S line control, pressing the Tab key at or after the last tab stop position causes the audible alarm to sound, the print head to move toward the right-most print position, and the ANR to display 132. The same condition occurs if the Tab key is pressed when no tab is set.

The procedure for setting and/or clearing tab stops is as follows:

1. Be sure the terminal is idle.
2. Turn the Calc switch off.
3. Determine the printing position(s) where you want to set or clear tab stops.
4. Move the print head to the position(s) in step 3 by pressing any character key, the Space, Backspace, or Tab keys.

   Note: A normal printer operation takes place when you press these keys, and the ANR indicates the next print position.

5. Press and hold the CODE key.
6. To set a tab, press and release the Tab Set key (numeric 7). To clear a tab, press and release the Tab Clear key (numeric 8).
7. Release the CODE key.
8. Repeat steps 4 through 7 for all the tab stops.

Tab stops can be set at any print position between the left margin and print position 132. Once you set a tab stop, it remains set until it is cleared or power is turned off. (Under SDLC control, the host may set margins, tabs, and VFC format.) All tab stops are clear when you turn power on, and must be set again.

Verification of Margin and Tab Setting

1. Press the Return key. The ANR should display the print position of the left margin and the print head should be at that position.
2. Press the Tab key. The ANR should display the print position of the first tab stop and the print head should be at that position.

3. Repeat step 2 for all tab stops.
4. Press the Tab key at last tab stop position.
   For S/S: Audible alarm sounds, the print head moves to the last print position, and the ANR displays 132.
   For SDLC: Audible alarm sounds and the Oprn Check light comes on.
5. Verify that the audible alarm sounds when the print head is ten positions before the right margin, by spacing or printing to that position. (It may be necessary to first return the print head to the left.)

VERTICAL FORMS CONTROL (VFC)

Vertical Forms Control is a feature that enables the operator to arrange the vertical format of entered data for efficient operation.

When you want to print on a line several lines from the current line, VFC allows the form to advance quickly to that line under keyboard or host control.

Vertical tabs can be set at any line and on as many lines as you wish. Each time you press the VERT TAB key, you advance the form to the next tab stop line. You can advance the form to the starting line of the next page by pressing the FORM FEED key. If you press the Return, (INDEX, or VERT TAB key) at the bottom margin line, the Oprn Check light comes on to notify you that the form must be advanced. Press the RESET key and then the FORM FEED key to advance the form to the next page.

The VFC operation can be performed in either local or communicate mode, but operates only if the SDLC-S/S switch was set to SDLC before power-on.

Turning the Comm/Local switch to the opposite position after setting the VFC data does not change the settings.

The following guidelines must be followed when setting vertical format parameters:

1. The maximum form size that can be controlled by this feature is 102 lines.
2. The bottom margin line number must not be greater than the page size line count.
3. Vertical tab stops can be set at any line down to the bottom margin.
4. If you reach the end of a line when entering VFC tabs, the carrier automatically returns for further entries. Do not press the Return key until all numbers are entered. Pressing the Return key ends the VFC setting operation.

To clear VFC settings manually, press and release the Vert Form Set key while holding the CODE key; then press the Return key. (VFC settings clear automatically when power is turned off, or when the terminal enters SDLC communicate mode.)

Chapter 4. Operating the Terminal in Communicate Mode

The overall sequence of communicate mode operation is:

1. Establish a connection—select the procedure that is appropriate for your equipment configuration.
2. Initiate communication—select the appropriate procedur
3. Transmit and/or receive—select the appropriate line control procedure.
4. Terminate communication.

ESTABLISHING A CONNECTION

For operation in communicate mode, the 3767 must be connected to the remote unit by a communication line. The types of connection that may be used are:

- Switched Line – Integrated Modem (USA and Canada)

- Non-Switched Line – Integrated Modem

- Non-Switched Line –*IBM 3872 or other external Modem

- Acoustic Coupler – Integrated Modem

- Switched Line – Integrated Modem (World Trade only)

- Switched Line – IBM 3872 or other external Modem

The following topics illustrate the above and describe the operator actions required to activate the connection.

Note: Before performing the following steps, set the switches as described in step 1 of "Initiating Communicate Operations" located later in this chapter.

Switched Line–Integrated Modem (USA and Canada)
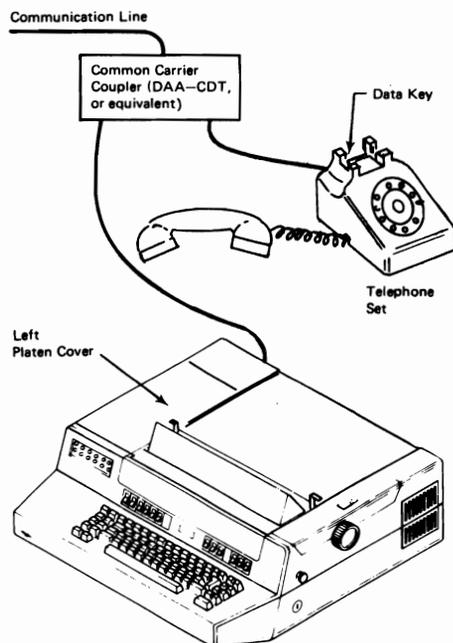
1. Set the decibel level of your terminal. Perform this step only if you are in the U.S. or Canada—and you are about to communicate with the host for the first time since the terminal was installed or relocated. Otherwise, go to step 2.

   a. Determine the decibel (dB) level of the telephone line: the level (-8, for example) should be indicated on the telephone company receptacle and coupler, which are usually located on the floor or wall nearby; if you cannot find the dB level number, contact your local telephone company customer service representative.

   b. Compare the dB level of the telephone line with the level that is set on your terminal: to determine the dB level of your terminal, look under the left platen cover. There you will see a panel with two wires attached, one red and one black. On the left side of the panel is a chart that indicates the receptacles into which the red and the black wires should be plugged for various dB level settings. New terminals are pre-plugged for -10dB (red wire plugged into "C" and black into "G").

   c. If the decibel level of your terminal is the same as that of the telephone line, go to step 2.

   If the decibel level of your terminal is not the same as that of the line, change the terminal setting to make it equal. To do so, replug the wires according to the chart. For example, if the dB level should be set for -8dB, plug the red wire into the "C" receptacle and the black wire into the "E" receptacle. Go to step 2.

Comm Mode
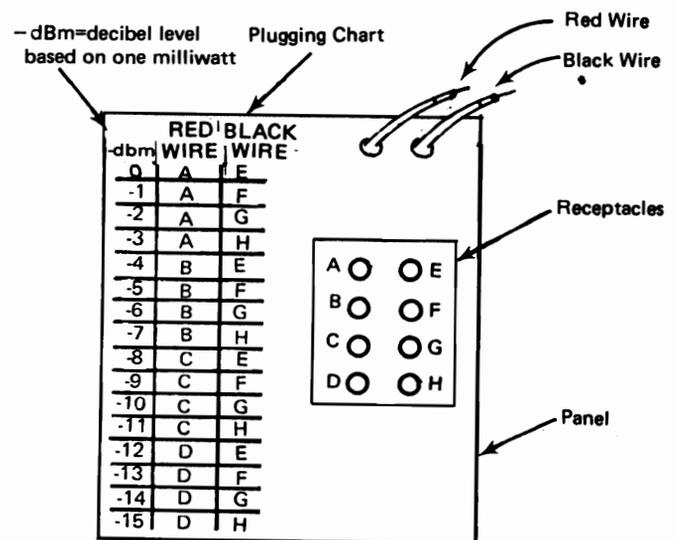
2. Pick up the telephone handset and dial the host.

3. When the host's answer tone is heard, immediately switch from Talk to Data by pulling up the Data key on the telephone set. Lay the handset aside. (The procedure may differ for some types of telephone sets. Refer to the instructions for your equipment.)

   In 2741 with interrupt operation, after hearing the low frequency tone, which follows the high frequency tone, switch from Talk to Data. Then turn the Comm/Local switch to Comm.

4. If the answer tone is not heard, or if noise or cross talk is heard along with the tone, the connection is probably not satisfactory for communication. Hang up and redial for a more satisfactory connection.

Non-Switched Line—Integrated Modem

Cable to
Communication Line
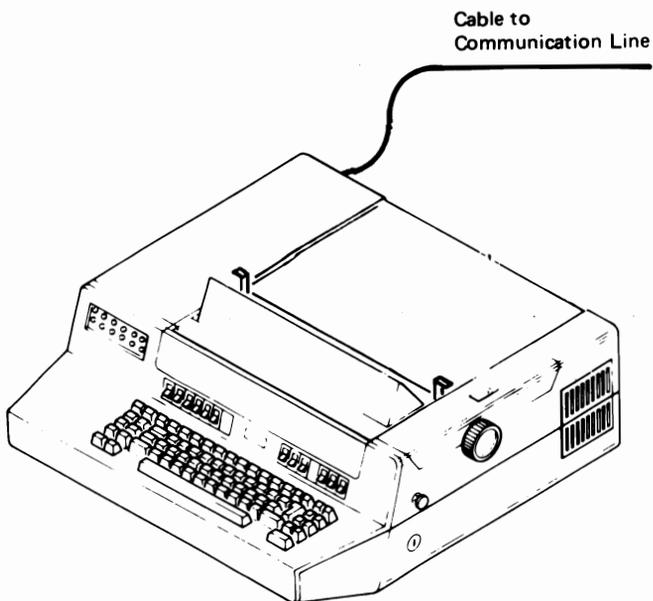
•
The communication line is connected during installation. No operator action is required.

Non-Switched Line—IBM 3872 Modem (External Modem)

Cable to Communication Line
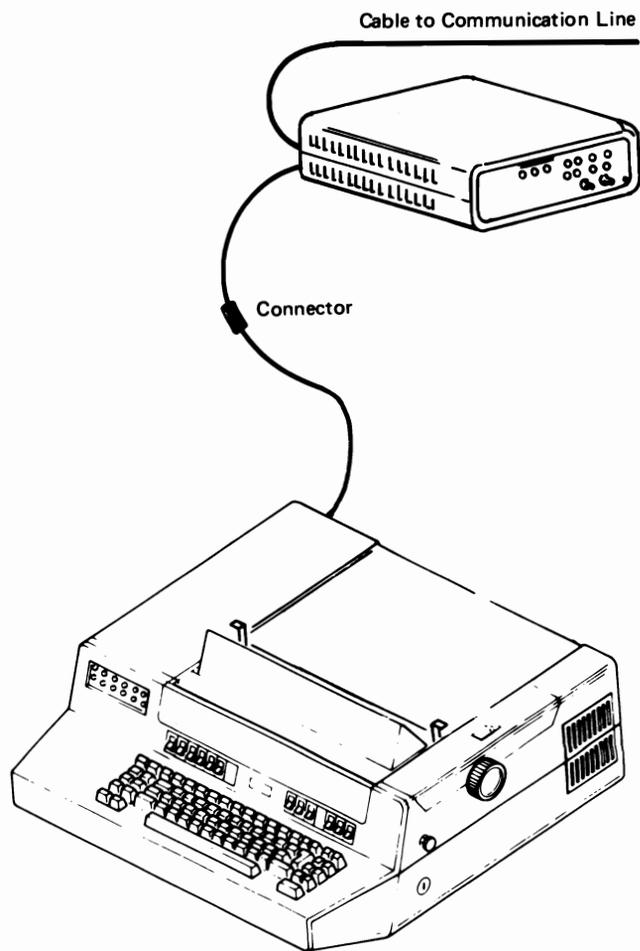
Connector

The modem power must be on, the modem must be in data mode, and the OPER/TEST switch on the modem cable connector must be in the OPER position. Follow any procedures necessary for modem operation. If you have an IBM 3872 Modem, refer to *IBM 3872 Modem User's Guide,* GA27-3058, for procedures.

INITIATING COMMUNICATE OPERATIONS

Caution: The SDLC-S/S switch must be set to the selected position *before* power on. The setting of this switch may be changed only when power is off.

To do any transmit or receive operations, you must set up and/or check the following after power is on.

1. Set the switches as follows.

    a. Without the acoustic coupler.

Comm	Auto	Edit	Auto View	Double Space	Data			1200	SDLC	(Primary) EBCDIC	CALC	Test	On
▲					▲				◆		▼		▲
Local	Off	Off	Off	Single Space	Talk			600	S/S	APL (Secondary)	Off	Off	Off

Talk / Dial Disc / Or
▼ Off
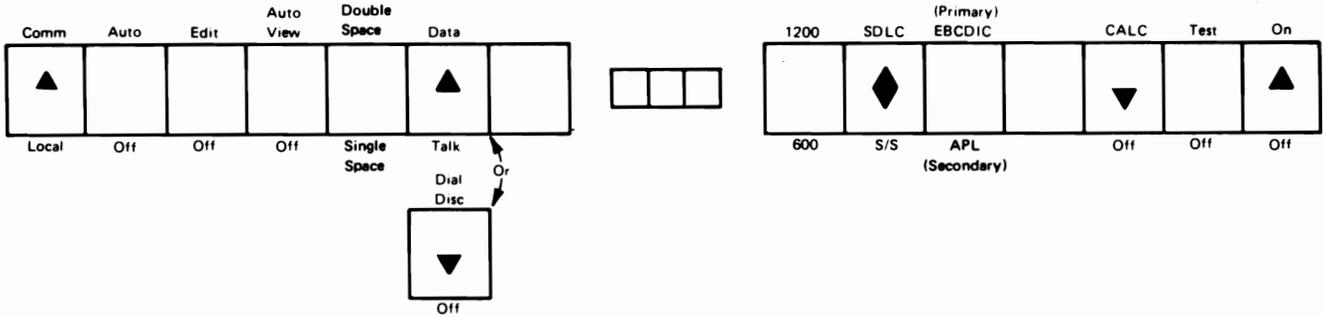
    b. With the acoustic coupler or integrated modem— switched line.

Comm	Auto	Edit	Auto View	Double Space	Data			1200	SDLC	(Primary) EBCDIC	CALC	Test	On
▼					▲				◆		▼		▲
Local	Off	Off	Off	Single Space	Talk			600	S/S	APL (Secondary)	Off	Off	Off

Talk / Dial Disc / Or
▼ Off
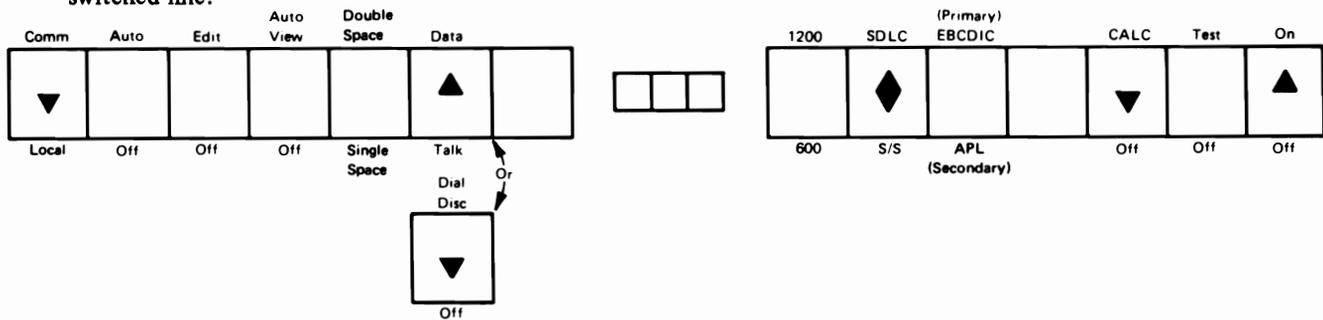
2. Establish a communication line connection as described at the beginning of Chapter 4.
3. Be sure the Data Set Ready light is on. (If the acoustic coupler is used, the normal signal light should be on when receiving data.)

After making these preparations, turn to the page describing your terminal line control:

SDLC   — see SDLC Line Control Operation
2740-1   — see 2740-1 Line Control, Point-to-Point
                  Operation
2740-1   — see 2740-1 Line Control, Station Control
2740-2   — see 2740-2 Line Control Operation
2741   — see 2741 Line Control Operation

Note: A communicate operation procedure depends on the host program, which may vary from system to system. Check with your supervisor for any additional or different steps that your company's application requires for 3767 terminal operation.

Comm Mode

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SDLC LINE CONTROL OPERATION

When operating the terminal under SDLC line control all data keyed in is stored in the buffer. If you do not need to edit data for transmission, turn the Edit/Off switch Off and ignore the description for data correction. The switch settings of the terminal should be as follows.
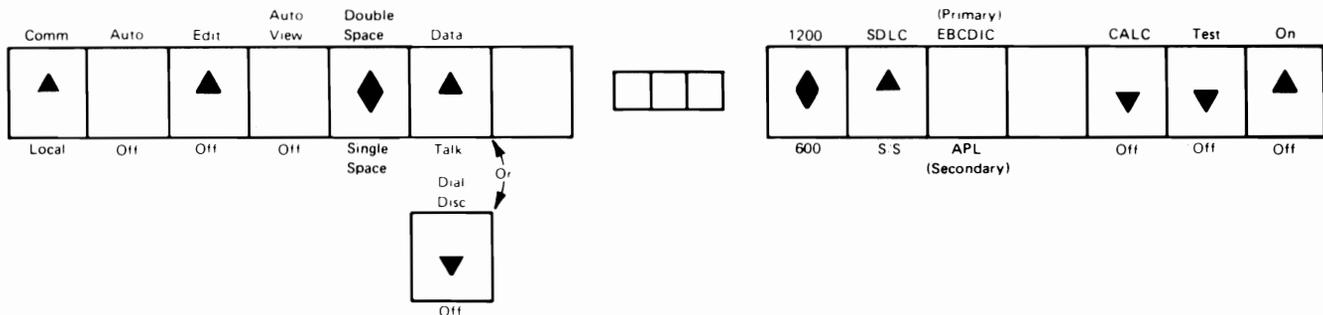
Log On and Log Off

To start an SDLC communicate operation you must log on, and to end a communicate operation you must log off.
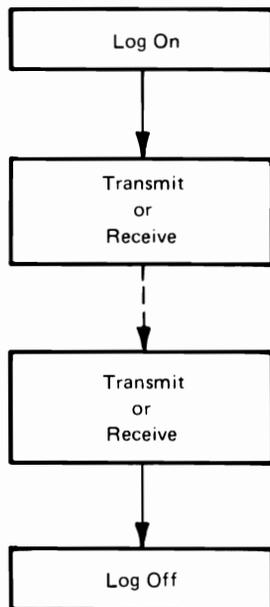
Log-on opens a communication session between your terminal and the host program. Log-off ends the session between your terminal and the host program.

1. Press the SYS REQ key. The Proceed light comes on. (If the Oprn Check light comes on, press the SYS REQ key again — without pressing the RESET key. The keyboard should unlock and the Proceed light should come on.)

2. Key in the data required to start (for log-on) or close (for log-off) the communicate operation.

3. Press the EOM key. The Proceed light goes off.

Note: Do not press the EOB, ATTN, or CNCL keys during these operations.

Keyed-in characters are not printed if printing is inhibited by the host program (Print Inhibit light is on); the printer spaces each character. Received data is always printed; keyed-in or received functions (such as carrier return and tabs) are always performed. (When the Comm/Local switch is turned to Local, the condition is restored.)

The audible alarm sounds with each character entered into the last ten positions of the buffer. If the buffer is full, the Proceed light goes off and you cannot store any more data. You must transmit the data in the buffer by pressing the EOB key to continue the key-in operation.

If the data you sent is not received correctly by the host, the System Check light comes on and the ANR displays an error code '170'. See *IBM 3767 Models 1, 2, and 3 Communication Terminal Problem Determination Guide*, for instructions if you receive no instructions from the host and have no application procedures.

The host can prevent or stop your terminal from operating by sending a special signal to the terminal. If this signal is received the CPU Select light comes on. The Proceed light goes off, and the keyboard will not work. Any data you have keyed, but not transmitted, is lost. (See "Conditions for Transmitting Stored Data" under "Correction of Data Stored in the 3767 Buffer", later in this chapter. You must wait for the CPU Select light to go off to resume your operation. (This light is turned off by host when it is ready to communicate with your terminal again.)

The host can request that you stop your transmit operation by turning on the CPU Select light. The Proceed light stays on and you can continue to key in and transmit data, but you must end the transmit operation (by pressing the EOM key) as soon as you can. After the transmit operation ends your terminal will receive data from the host.

In receive operation, the terminal starts printing after successfully receiving a data block.

You can ask the host to stop sending data by pressing the ATTN key. The program may:

A. Ignore the attention signal and continue to transmit to your terminal.
B. End its transmit operation and allow your terminal's Proceed light to turn on. You can then key in data for transmission.

If your terminal is receiving and does not receive anything for 20 seconds, the System Check light comes on, ANR displays 163, and the On Line light goes off. This condition is automatically cleared by the host. You may have to log on again before you can continue. Contact your system support representative.

When the EOB or EOM key is pressed with no data entry in the following conditions, a signal with no data is transmitted to the host.
a. After pressing the SYS REQ key
b. After pressing the EOB key in transmit operation
c. After ordering your terminal to be in the transmit state from the host.

Transmit Operation

When the host program is ready for a session with your terminal, the On Line light comes on.

1. Log-on (if you have not already done so).
2. Wait for the Proceed light to come on.
3. Key in the data to be transmitted, or read a magnetic stripe card. (This data is stored in the buffer.)
4. Edit the stored data, if required. See "Correction of Data Stored in the 3767 Buffer," later in this chapter.
5. To transmit the stored data you have keyed-in:
   a. Press the EOB key if you have more data to transmit.
   b. Press the EOM key if the last of the data is stored in the buffer.
   c. If the Auto/Off switch is in the Auto position, you can also transmit the data by pressing the Return key or the FORM FEED key, as appropriate.
   d. If the Edit switch is off, transmission is automatic every 256 characters.
6. If you pressed the EOB key, the Proceed light stays on. You can key in more data immediately. If the buffer becomes full, the Proceed light goes off and no more data is stored. When the Proceed light comes on again, you can continue.

   If you pressed the EOM key, terminal status varies depending upon the host program.
   a. If the Proceed light stays on, you can continue.
   b. If the Proceed light goes off and then comes on again, you can continue when it comes on again.
   c. If the Proceed light goes off, and does not come on again, your terminal may receive and print data from the host. If you have more data to transmit, wait for the Proceed light to come on after printing stops.
7. When all data has been transmitted and received and the terminal is idle, perform a log-off.

Receive Operation

After log-on, your terminal is ready to receive data when the host starts the session. Your terminal will receive and print data without your assistance.

Log-off when the communicate operation is complete.

Example of Initiation of SDLC Session (Log On)

ACTION:

INDICATOR STATUS:

1. After power on and terminal is ready for a session.

○ CPU Select	○ Print Inhibit	○ Oprn Check	○ System Check	○ End Form	● Data Set Ready
● On Line	○ Kana	○ Proceed	○ Test	○ Upper Case	○

2. Press SYS REQ key.

○ CPU Select	○ Print Inhibit	○ Oprn Check	○ System Check	○ End Form	● Data Set Ready
● On Line	○ Kana	● Proceed	○ Test	○ Upper Case	○

3. Key in data for log on.

○ CPU Select	○ Print Inhibit	○ Oprn Check	○ System Check	○ End Form	● Data Set Ready
● On Line	○ Kana	● Proceed	○ Test	○ Upper Case	○

Comm Mode

4. Press EOM key.

○ CPU Select	○ Print Inhibit	○ Oprn Check	○ System Check	○ End Form	● Data Set Ready
● On Line	○ Kana	○ Proceed	○ Test	○ Upper Case	○

5. Wait for the Proceed light to come on.

○ CPU Select	○ Print Inhibit	○ Oprn Check	○ System Check	○ End Form	● Data Set Ready
● On Line	○ Kana	● Proceed	○ Test	○ Upper Case	○

Example of SDLC Transmit Operation, Keyed Data Input

ACTION: **INDICATOR STATUS:**

1. Key in the data.

○ CPU Select	○ Print Inhibit	○ Oprn Check	○ System Check	○ End Form	● Data Set Ready
● On Line	○ Kana	● Proceed	○ Test	○ Upper Case	○

2. Press EOB key.

○ CPU Select	○ Print Inhibit	○ Oprn Check	○ System Check	○ End Form	● Data Set Ready
● On Line	○ Kana	● Proceed	○ Test	○ Upper Case	○
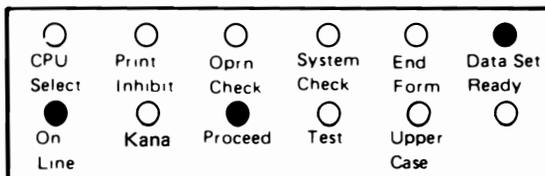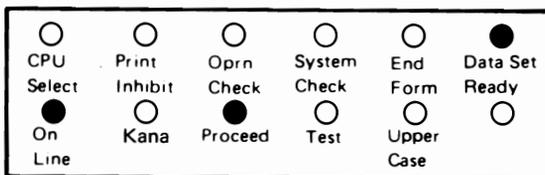
Note: The Proceed light may or may not stay on. If it goes off, it will come on again shortly, and you can continue.

3. Repeat Steps 1 and 2 to send more data to the host.

Example of SDLC Transmit Operation, Transmission Error Recovery

ACTION: **INDICATOR STATUS:**

1. Key in data.

○ CPU Select	○ Print Inhibit	○ Oprn Check	○ System Check	○ End Form	● Data Set Ready
● On Line	○ Kana	● Proceed	○ Test	○ Upper Case	○

2. Press EOB key.

○ CPU Select	○ Print Inhibit	○ Oprn Check	○ System Check	○ End Form	● Data Set Ready
● On Line	○ Kana	● Proceed	○ Test	○ Upper Case	○

3. Data transmission was not successful.

○ CPU Select	○ Print Inhibit	○ Oprn Check	● System Check	○ End Form	● Data Set Ready
● On Line	○ Kana	○ Proceed	○ Test	○ Upper Case	○
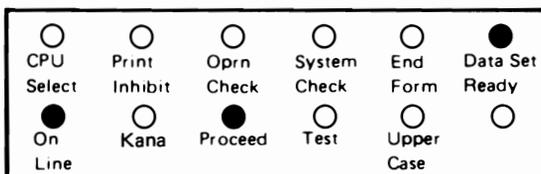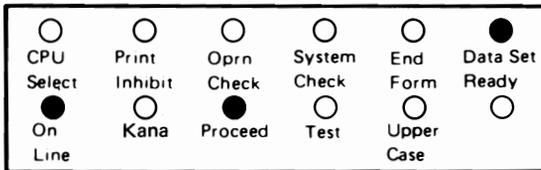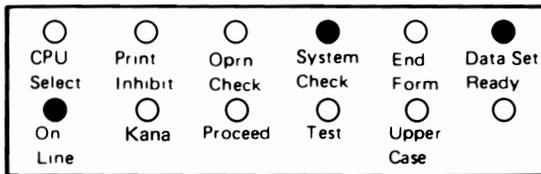
| 1 | 7 | 0 |

Example of SDLC Transmit Operation, Transmission Error Recovery (continued)

ACTION: INDICATOR STATUS:

a. The System Check light will be turned off
   automatically when the next data message
   is received from the host.

○	○	○	○	○	●
CPU	Print	Oprn	System	End	Data Set
Select	Inhibit	Check	Check	Form	Ready
●	○	○	○	○	○
On	Kana	Proceed	Test	Upper	
Line				Case	
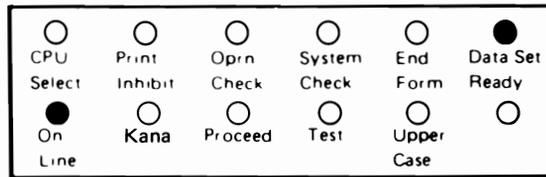
b. You may receive a message to recover the
   condition.

○	○	○	○	○	●
CPU	Print	Oprn	System	End	Data Set
Select	Inhibit	Check	Check	Form	Ready
●	○	○	○	○	○
On	Kana	Proceed	Test	Upper	
Line				Case	
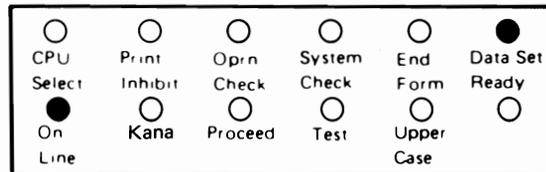
4. Wait for the Proceed light, then key in the data.
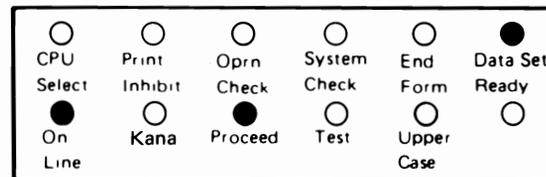
○	○	○	○	○	●
CPU	Print	Oprn	System	End	Data Set
Select	Inhibit	Check	Check	Form	Ready
●	○	●	○	○	○
On	Kana	Proceed	Test	Upper	
Line				Case	

Comm
Mode

5. Press EOM key.

○	○	○	○	○	●
CPU	Print	Oprn	System	End	Data Set
Select	Inhibit	Check	Check	Form	Ready
●	○	○	○	○	○
On	Kana	Proceed	Test	Upper	
Line				Case	
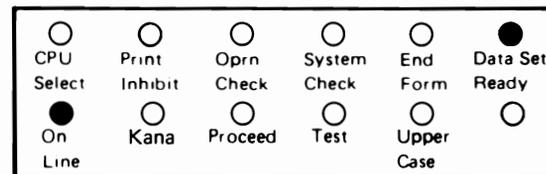
Example of SDLC Transmit Operation, using Magnetic Stripe Card Input

ACTION: INDICATOR STATUS:

1. Read a magnetic stripe card.

○	○	○	○	○	●
CPU	Print	Oprn	System	End	Data Set
Select	Inhibit	Check	Check	Form	Ready
●	○	●	○	○	○
On	Kana	Proceed	Test	Upper	
Line				Case	

2. Press EOB key.

○	○	○	○	○	●
CPU	Print	Oprn	System	End	Data Set
Select	Inhibit	Check	Check	Form	Ready
●	○	●	○	○	○
On	Kana	Proceed	Test	Upper	
Line				Case	
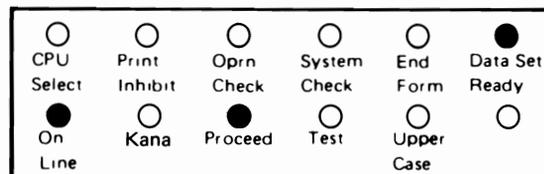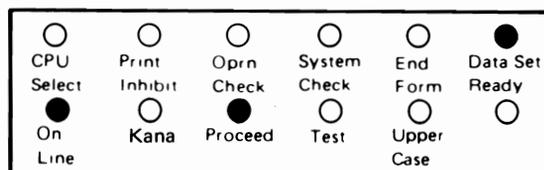
Example of SDLC Transmit Operation, Using Magnetic Stripe Card Input (continued)

ACTION: **INDICATOR STATUS:**

3. Read a magnetic stripe card.

| CPU Select | Print Inhibit | Oprn Check | System Check | End Form | Data Set Ready |
| On Line | Kana | Proceed | Test | Upper Case | |
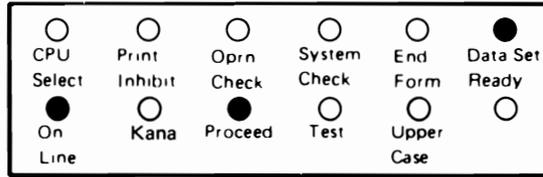
4. The reading of a magnetic stripe card was not successful.

| CPU Select | Print Inhibit | Oprn Check | System Check | End Form | Data Set Ready |
| On Line | Kana | Proceed | Test | Upper Case | |

5. Press RESET key.

| CPU Select | Print Inhibit | Oprn Check | System Check | End Form | Data Set Ready |
| On Line | Kana | Proceed | Test | Upper Case | |

6. Read a magnetic stripe card.

| CPU Select | Print Inhibit | Oprn Check | System Check | End Form | Data Set Ready |
| On Line | Kana | Proceed | Test | Upper Case | |

7. Press EOM key.

| CPU Select | Print Inhibit | Oprn Check | System Check | End Form | Data Set Ready |
| On Line | Kana | Proceed* | Test | Upper Case | |

*Proceed Light may stay on.

8. Resume the transmit or receive operation.

Example of Termination of SDLC Session (Log Off)

ACTION: INDICATOR STATUS:

1. Press SYS REQ key.

○ CPU Select	○ Print Inhibit	○ Oprn Check	○ System Check	○ End Form	● Data Set Ready
● On Line	○ Kana	● Proceed	○ Test	○ Upper Case	○

2. Key in data for log off.

○ CPU Select	○ Print Inhibit	○ Oprn Check	○ System Check	○ End Form	● Data Set Ready
● On Line	○ Kana	● Proceed	○ Test	○ Upper Case	○

3. Press EOM key.

○ CPU Select	○ Print Inhibit	○ Oprn Check	○ System Check	○ End Form	● Data Set Ready
● On Line	○ Kana	○ Proceed	○ Test	○ Upper Case	○
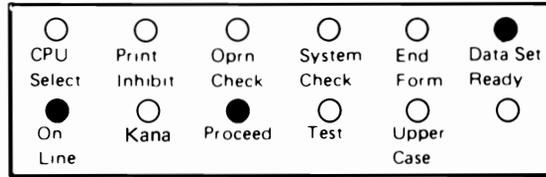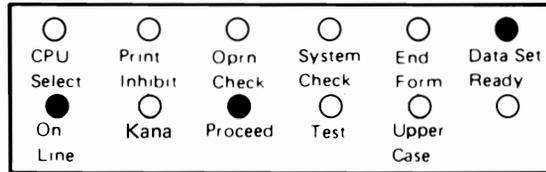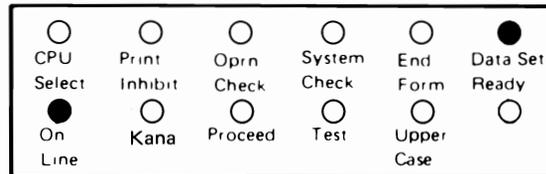
Comm Mode

Example of SDLC Receive Operation

ACTION: INDICATOR STATUS:

1. After log on.

○ CPU Select	○ Print Inhibit	○ Oprn Check	○ System Check	○ End Form	● Data Set Ready
● On Line	○ Kana	● Proceed	○ Test	○ Upper Case	○
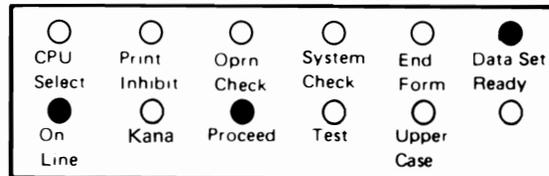
2. Any incoming data from the host is received and stored in the 3767 buffer.

○ CPU Select	○ Print Inhibit	○ Oprn Check	○ System Check	○ End Form	● Data Set Ready
● On Line	○ Kana	○ Proceed	○ Test	○ Upper Case	○
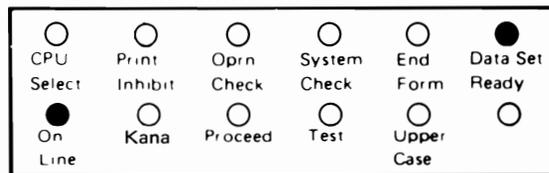
3. The data is printed after a data block is successfully received.

○ CPU Select	○ Print Inhibit	○ Oprn Check	○ System Check	○ End Form	● Data Set Ready
● On Line	○ Kana	○ Proceed	○ Test	○ Upper Case	○
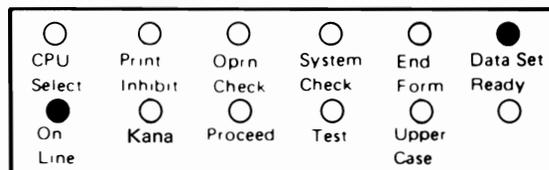
Example of SDLC Receive Operation (continued)

ACTION: INDICATOR STATUS:

4. More incoming data is received and printed.

| ○ CPU Select | ○ Print Inhibit | ○ Oprn Check | ○ System Check | ○ End Form | ● Data Set Ready |
| ● On Line | ○ Kana | ○ Proceed | ○ Test | ○ Upper Case | ○ |
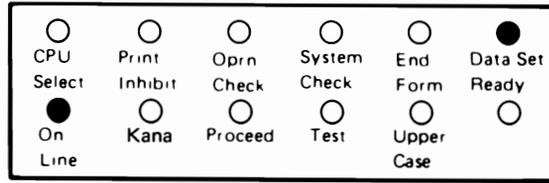
5. Press CNCL key, if you have to send urgent data.
   The ATTN key may also be used if your particular
   application program allows it.

| ○ CPU Select | ○ Print Inhibit | ○ Oprn Check | ○ System Check | ○ End Form | ● Data Set Ready |
| ● On Line | ○ Kana | ○ Proceed | ○ Test | ○ Upper Case | ○ |

6. Wait for the Proceed light to come on, then key in data.

| ○ CPU Select | ○ Print Inhibit | ○ Oprn Check | ○ System Check | ○ End Form | ● Data Set Ready |
| ● On Line | ○ Kana | ● Proceed | ○ Test | ○ Upper Case | ○ |

7. Press EOM key.

| ○ CPU Select | ○ Print Inhibit | ○ Oprn Check | ○ System Check | ○ End Form | ● Data Set Ready |
| ● On Line | ○ Kana | ● Proceed | ○ Test | ○ Upper Case | ○ |
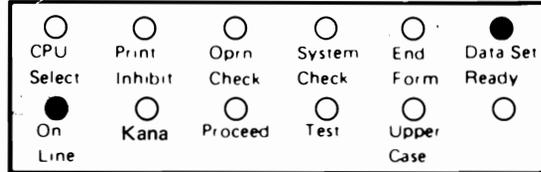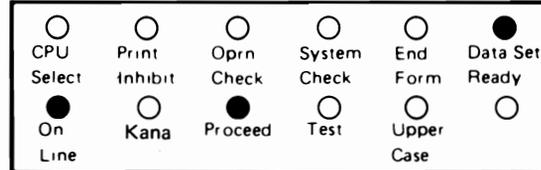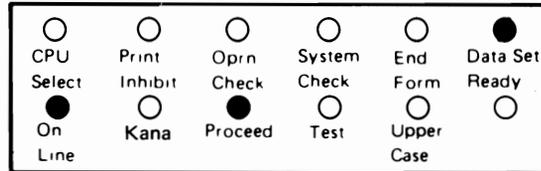
8. Reception and printing of incoming data is resumed.

| ○ CPU Select | ○ Print Inhibit | ○ Oprn Check | ○ System Check | ○ End Form | ● Data Set Ready |
| ● On Line | ○ Kana | ○ Proceed | ○ Test | ○ Upper Case | ○ |
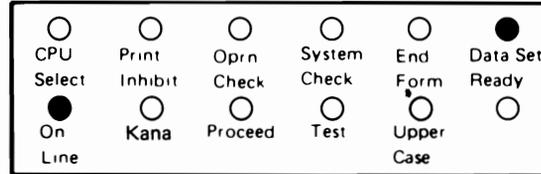
9. Data transmission from the host is finished.

| ○ CPU Select | ○ Print Inhibit | ○ Oprn Check | ○ System Check | ○ End Form | ● Data Set Ready |
| ● On Line | ○ Kana | ● Proceed | ○ Test | ○ Upper Case | ○ |
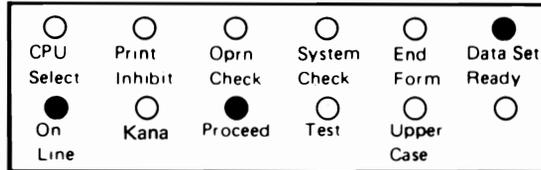
2740-1 LINE CONTROL, POINT-TO-POINT OPERATION

The switch settings for the 2740-1 line control operation are:
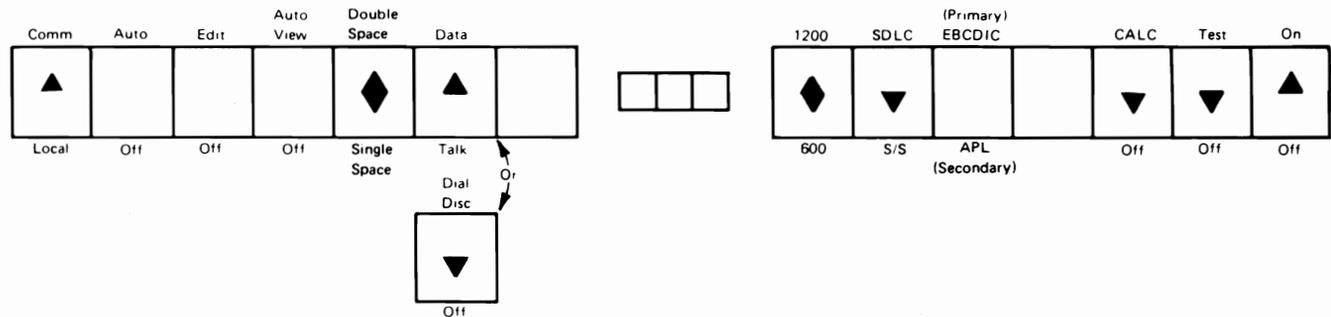
Unlike the IBM 2740, the 3767 does not stop printing at the right margin. If your terminal is in local or calculate mode when the host requests it to receive, the audible alarm sounds.

Keyed-in or received characters are not printed if the host has signalled print inhibit. If printing is inhibited the Print Inhibit light comes on and the printer spaces for each character. Functions such as return or tab occur normally. The print inhibit condition is terminated by the host. If the condition is not terminated during communicate operation, printing is inhibited even after the terminal is changed to local mode.

Note: Transmit and receive operations may be interspersed if an interactive application is being used.

Transmit Operation

After you have made basic preparations for a communicate operation, use the following procedure to transmit data.

1. Press the SYS REQ key (same as Bid key on 2740-1). The On Line light comes on. The Proceed light comes on.
2. Key in the data to be transmitted (the Proceed light must be on).
3. After keying in a data block, press the EOB key (or press the Return key if the Auto/Off switch is set to Auto.) The On Line light goes off. (The On Line light will come on again.) The Proceed light goes off, and then comes on again if the transmission of the data was successful. If the data transmission was not successful, you may receive a message from the host.
4. Repeat steps 2 and 3 until all your data is transmitted.
5. When you want to end the transmit operation, press the EOM key. The Proceed light goes off. The On Line light goes off.

Receive Operation

After you have made basic preparations for a communicate operation, wait to receive data from the host.

The On Line light comes on when receiving starts.
After a data block is received, the On Line light goes off, then comes on again if more data is received.
If the On Line light does not come on again within a reasonable time, the receive operation is probably over.

Comm Mode

Example of 2740-1 (Point-to-Point) Operation (Receive and Transmit)

ACTION: **INDICATOR STATUS:**

1. Standing by.

CPU Select	Print Inhibit	Oprn Check	System Check	End Form	Data Set Ready ●
On Line	Kana	Proceed	Test	Upper Case	

2. Receive data.

CPU Select	Print Inhibit	Oprn Check	System Check	End Form	Data Set Ready ●
On Line ●	Kana	Proceed	Test	Upper Case	

3. At the end of data block.

CPU Select	Print Inhibit	Oprn Check	System Check	End Form	Data Set Ready ●
On Line	Kana	Proceed	Test	Upper Case	
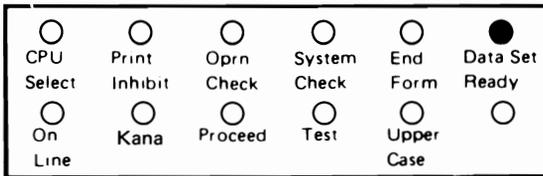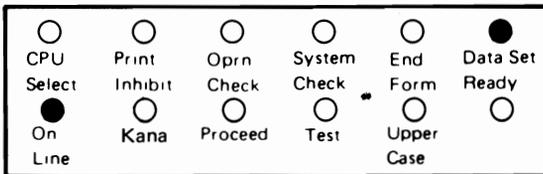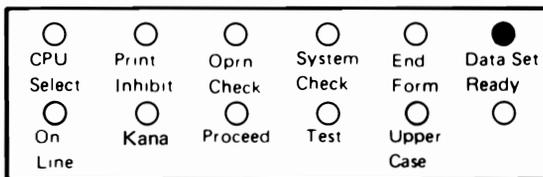
4. Press SYS REQ key. (Start of transmit operation)
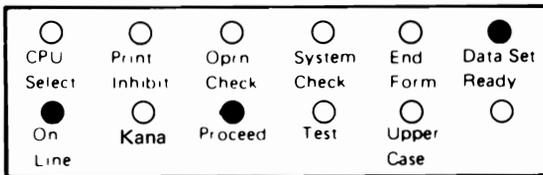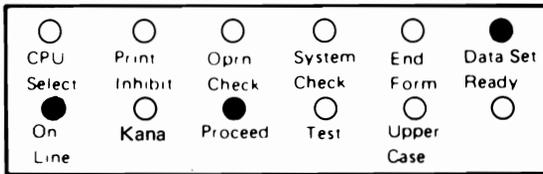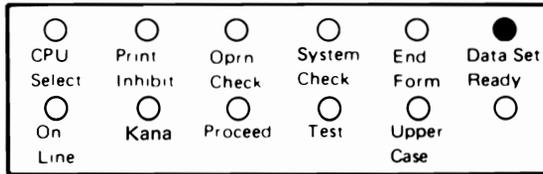
CPU Select	Print Inhibit	Oprn Check	System Check	End Form	Data Set Ready ●
On Line ●	Kana	Proceed ●	Test	Upper Case	

5. Key in data.

CPU Select	Print Inhibit	Oprn Check	System Check	End Form	Data Set Ready ●
On Line ●	Kana	Proceed ●	Test	Upper Case	

6. Press EOB key.

CPU Select	Print Inhibit	Oprn Check	System Check	End Form	Data Set Ready ●
On Line	Kana	Proceed	Test	Upper Case	

7. Wait for the Proceed light to come on, then key in data.

CPU Select	Print Inhibit	Oprn Check	System Check	End Form	Data Set Ready ●
On Line ●	Kana	Proceed ●	Test	Upper Case	
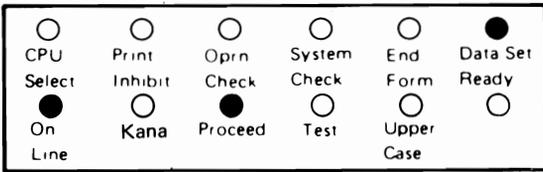
Example of 2740-1 (Point-to-Point) Operation (Receive and Transmit) (continued)

ACTION:

INDICATOR STATUS:

8. Press EOM key. (End of transmit operation)

○ CPU Select	○ Print Inhibit	○ Oprn Check	○ System Check	○ End Form	● Data Set Ready
○ On Line	○ Kana	○ Proceed	○ Test	○ Upper Case	○

9. Standing by.

○ CPU Select	○ Print Inhibit	○ Oprn Check	○ System Check	○ End Form	● Data Set Ready
○ On Line	○ Kana	○ Proceed	○ Test	○ Upper Case	○

Comm
Mode

(This page intentionally left blank.)

Refer to the foldout diagram in Appendix E.

LIGHTS

1 CPU Select

The host addressed the terminal when the terminal was not ready to receive.

2 Print Inhibit

This light indicates that data will not be printed but the print head will move one space for each character of the data. Functions such as Form Feed, Tab, Return, and Space are performed normally. The print inhibit function is provided for security of operator identification.

3 Oprn Check (Operation Check)

This light indicates that an operational error has occurred. Operator action, as explained in Chapter 6, is required to correct the situation.

4 System Check

This light indicates that a system error, transmission error or machine check has occurred and an ANR error indication is displayed. Refer to Chapter 6 for recovery procedures.

5 End Form (End of Form)

This light indicates that the printer has run out of tractor-fed forms. This light comes on ten lines before the end of the last form; the print head automatically moves to the leftmost position and printing cannot take place. The forms must be replenished and a Form Ready operation performed before printing on tractor-fed forms can resume.

6 Data Set Ready (or Normal Signal with acoustic coupler)

The Data Set Ready light indicates that the modem is operational. If you have a 3767 with an acoustic coupler, the Normal Signal light replaces the Data Set Ready light on the panel shown in this manual. In acoustic coupler operation, Normal Signal light on while in receive mode (Proceed light off) indicates that the receive signal level is high enough to operate.

7 On Line

This light indicates that the terminal is exchanging signals with the host.

8 Kana (Japan Only)

This light indicates that the keyboard is in either the Katakana or Kana symbol shift. This light is present with the Katakana keyboard.

9 Proceed

This light indicates that the operator can enter data from the keyboard or from the magnetic stripe reader.

10 Test

This light indicates that a built-in test is running.

11 Upper Case

This light indicates that the keyboard is in uppercase.

12 Weak Signal (Acoustic Coupler only)

When in receive mode (Proceed light off), this light indicates that the received signal level might be too low to operate. Re-seat the handset firmly if this light comes on. If necessary, remove the handset from the coupler and redial the connection.

13 ANR (Alphanumeric Readout)

This indicator normally shows the printer's next print position when the keyboard is unlocked. Under error conditions (when the System Check light is on), it shows an error code (ANR greater than 133). When no error exists and the keyboard is locked, the ANR is blank.

SWITCHES

14 Comm/Local (Communicate/Local)

This switch changes the terminal from communicate mode to local mode or vice versa.

15 Auto/Off

With this switch in the Off position, pressing the EOB or EOM key causes transmission of data stored in the buffer. With this switch in the Auto position, pressing the Return key or FORM FEED key also causes transmission of stored data.

16 Edit/Off

This switch enables editing of data in the entire buffer, before it is transmitted or before it is printed. The switch is effective only when the terminal is under SDLC control. (When the terminal is under 2740-2 S/S control, text editing can be performed regardless of the setting of this switch.) When this switch is on, the EOB and EOM keys control data transmission (also Return and FORM FEED if the Auto/Off switch is set to Auto). When this switch and the Auto/Off switch are off, data transmission occurs automatically every 256 characters.

17 Auto View/Off

When the Auto View/Off switch is in the Auto View position and during a keyboard data entry operation: The print head automatically moves eight print positions to the right so that the last character printed is visible. The vertical line on the plastic shield is aligned with the next print position. Pressing the PRINT VIEW key causes the print head to move eight print positions to the right of the last character of the longest line among the last three lines printed.

When this switch is in the Auto View position and during a receive operation: The print head moves eight print positions to the right of the last character of the longest line among the last three lines printed after a data block is received.

When this switch is in the Off position and during a keyboard data entry operation: The print head does not move to the right after printing. Pressing the PRINT VIEW key causes the print head to move eight print positions to the right from the last character printed. Pressing the PRINT VIEW key again causes the print head to move eight print positions to the right of the last character of the longest line among the last three lines printed. When this switch is in the Off position pressing the TAB, Return, Backspace, or Space (when pressed more than three times) key causes the print head to move eight print positions to the right from the last character printed.

When this switch is in the Off position and during a receive operation: The print head moves eight print positions to the right of the last character of the last line after a data block is received.

The print view functions only through print position 124.

18 Double Space/Single Space

When this switch is in the Double Space position, the printer feeds two lines (3 print lines per inch); when Single Space, it feeds one line (6 print lines per inch). (1 inch = 2.54 centimeters)

19 Data/Talk (WT Countries except Germany)

With this switch in the Data position, the terminal can perform communicate operations. With this switch in the Talk position, the terminal cannot perform communicate operations, but you can talk to host personnel through an attached telephone set.

19 Dial Disc/Off (Germany only)

When this switch is momentarily set to the Dial Disc position, it causes the terminal to disconnect a switched network connection.

20 Line Speed

This switch selects a communication line speed, and is labeled either 2400/1200 or 1200/600. When labeled

2400/1200, it selects either the 2400 or 1200 bps (bits per second); when labeled 1200/600, it selects either the 1200 or 600 bps line speed. 600/1200 bps operation is for countries other than USA.

Note: Operator intervention is also required at the host if this switch setting is changed.

21 SDLC/SS

This switch selects the line control desired, either SDLC or start-stop (2740-1, 2740-2, or 2741).

Caution: Power must be turned off before the setting of the SDLC/SS switch is changed.

22 Keyboard Character Set Selection

This switch enables the user of 3767 (that has the alternate character set feature installed) to change character set by setting the switch to the desired position as follows. (Refer to "Keyboard" in Chapter 1.)

Primary	Secondary
Corresp	APL
Corresp	EBCDIC
EBCDIC	APL
EBCDIC	Corresp
EBCDIC	Mono

23 Calc/Off (Calculation)

When this switch is set to the Calc position while the Comm/Local switch is in Local, the terminal can be used as a desk calculator.

24 Test/Off

When this switch is momentarily set to the Test position and released, the 3767 runs an automatic, built-in test. For details, refer to Chapter 6.

25 On/Off

This switch, when set On, supplies power to the 3767. If the security key is on, the basic assurance test runs just after power is supplied to the terminal.

26 Security Keylock

This switch, when locked, prevents the 3767 from working. It must be unlocked before power on.

KEYS

27 FORM FEED (VFC Feature)

This key works only under SDLC control. Pressing this key causes the paper to advance to the starting line of the next page. During a transmit operation (with the Auto/Off switch on Auto), this key also performs the function of the EOM key.

28 VERT TAB (Vertical Tab, VFC Feature)

Pressing this key causes the paper to advance to the line where the next vertical tab stop was set. If no vertical tab was set, a line feed occurs. If this key is pressed when the form is past the last tab stop position, the Operation Check light comes on and you must press the RESET key to continue.

29 CNCL (Cancel)

SDLC—Pressing this key while the terminal is in the receive state stops the printing of received data. If it is pressed while the terminal is in the transmit state, this key clears the buffer, transmission ends, and a cancel message is sent. When a cancel message is sent, data already sent to the host may be lost.

2740-2—Clears the buffer when operating in enter status. Resets the mode when there is no polling in progress. (The functions are the same as those of the IBM 2740-2 RESET key.)

30 CODE

This key is used to activate the following dual-purpose keys as function keys.

Form Load	Tab Set
Form Ready	Tab Clear
Vert Form Set	Left Marg Set
	Right Marg Set

To activate these function keys, press and hold the CODE key; then press and release the function key.

31 INDEX

Pressing this key causes the form to advance one line (single space) or two lines (double space). In calculation mode, it also returns the print head to the left.

32 SYS REQ (System Request)

Pressing this key does the following:

SDLC—Causes the terminal, through predefined procedures, to communicate with the CPU for various services, such as initiating communications and terminating communications.

2740-1 Point-to-Point—Causes the terminal, when it is in standby status, to send a signal indicating the desire to start transmission. (The function is the same as the IBM 2740-1 BID key.)

2740-1 Station Control—Causes the terminal to wait for a signal from the host allowing transmission of data. (The function is the same as the IBM 2740-1 BID key.)

2740-2—Causes the buffer contents to be transmitted. (The function is the same as the IBM 2740-2 BID key.)

33 ATTN (Attention)

Pressing this key does the following:

SDLC—Causes a special signal to be transmitted. The use of this information depends upon the customer's application.

2740-2—Enable the keyboard-initiated data to enter the buffer. (The function is the same as the IBM 2740-2 ENTER key.)

2741—Causes transmission of the ending signal (when the terminal is in transmit status) or an interrupt signal (when the terminal is in receive status).

34 PRINT VIEW

This key provides the print view function on a character-by-character basis. Also see the Auto View/Off switch.

2740-1 with Station Control, 2740-2—Pressing this key restarts the intercharacter timeout count.

35 Form Load

This key must be used in conjunction with the CODE key. When this key is pressed, the print head moves to the physical left-most position so that a new form can be inserted. Printing is inhibited until the Form Ready function has been done.

36 Form Ready

This key must be used in conjunction with the CODE key. When this key is pressed after a form is inserted, the print head moves to the position it occupied before the Form Load key was pressed.

37 Vert Form Set (Vertical Form Set, VFC Feature)

This key must be used in conjunction with the CODE key. When it is pressed, the terminal clears all previous VFC data and enters vertical format setting status. This status ends when the Return key is pressed.

38 Tab Set

This key must be used in conjunction with the CODE key. When this key is pressed, a tab stop is set at the print position indicated by the ANR.

39 Tab Clear

This key must be used in conjunction with the CODE key. When this key is pressed, the tab stop at the print position indicated by the ANR is cleared.

40 Left Marg Set (Left Margin Set)

This key must be used in conjunction with the CODE key. When this key is pressed, the left margin is set at the print position indicated by the ANR. This automatically clears previous setting of the left margin.

41 Right Marg Set (Right Margin Set)

This key must be used in conjunction with the CODE key. When this key is pressed, the right margin is set at the print position indicated by the ANR. This automatically clears previous setting of the right margin.

42 EOB (End of Block)

Pressing this key does the following:

SDLC—Transmits the data stored in the buffer. The operator can continue to key in data as long as the Proceed light is on.

2740-1—Transmits an LRC character and an end-of-data-block signal to the host. The operator can key in more data when the Proceed light is on. The function is the same as the IBM 2740-1 EOB key (2740-1).

43 PRINT BUFFR (Print Buffer, Buffer Feature)

Pressing this key causes the contents of the buffer, from the last position edited to the last position keyed-in, to be printed.

44 PRINT LINE (Buffer Feature)

Pressing this key causes the data in the buffer, from the last position edited to the New Line (NL) code character (stored when you press the Return key) or the last position keyed-in (last line), to be printed.

45 PRINT CHAR (Print Character, Buffer Feature)

Pressing this key causes the next buffer character to be printed. This is a typamatic key.

46 EOM (End of Message)

Pressing this key indicates to the host that transmission is complete. SDLC control causes the data stored in the buffer to be transmitted.

2740-1—The function is the same as the IBM 2740-1 EOT key.

47 RESET

Pressing this key resets an error or irregular condition.

2740-2—This key does not reset the buffer. It does not reset the mode when there is no polling on the line.

2740-1—Performs the same functions as the IBM 2740-1 RST key.

48 BUFFR RTN (Buffer Return)

Pressing this key moves the key entry position back to the first position of the buffer. It also causes the printer to start a new line.

49 BUFFR LINE RTN (Buffer Line Return, Buffer Feature)

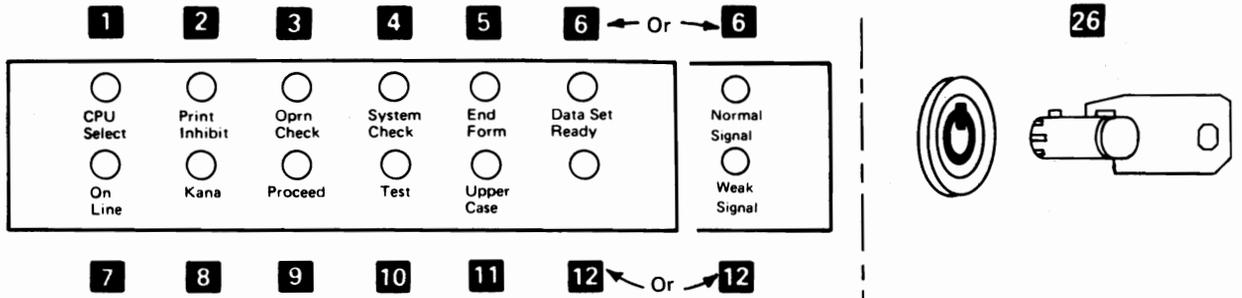Pressing this key moves the key entry position back to the first position of the current line. It also causes the printer to start a new line. Pressing this key more than once causes the key entry position to move back to the beginning of successively earlier lines.
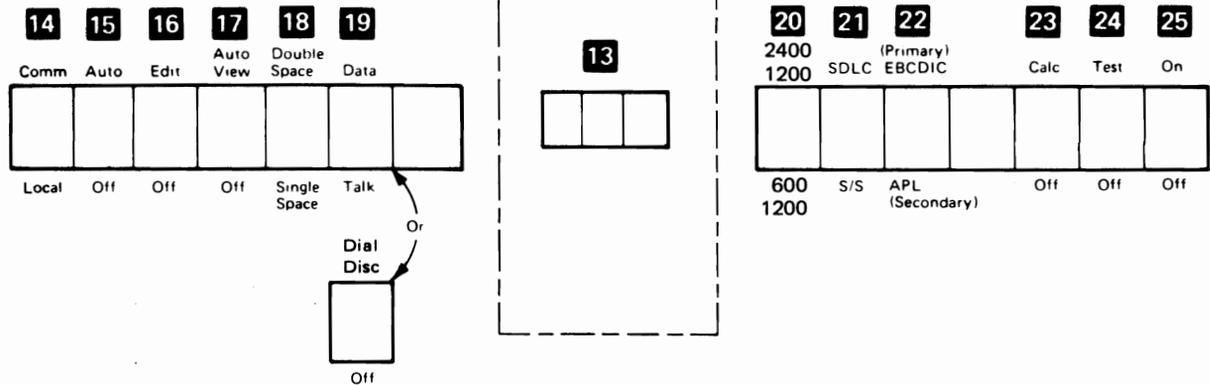
50 BUFFR BKSP (Buffer Backspace)

Pressing this key moves the key entry position and the print head backward one position at a time.

Appendix E. Terminal Panel Diagram

Lights

| 1 | 2 | 3 | 4 | 5 | 6 ← Or → 6 | | 26 |

| CPU Select | Print Inhibit | Oprn Check | System Check | End Form | Data Set Ready | Normal Signal |
| On Line | Kana | Proceed | Test | Upper Case | | Weak Signal |

| 7 | 8 | 9 | 10 | 11 | 12 ← Or → 12 |

Switches

| 14 | 15 | 16 | 17 | 18 | 19 |

| Comm | Auto | Edit | Auto View | Double Space | Data |

| Local | Off | Off | Off | Single Space | Talk |

Or

Dial Disc

Off

| 13 |

20	21	22	23	24	25
2400 1200	SDLC	(Primary) EBCDIC	Calc	Test	On
600 1200	S/S	APL (Secondary)	Off	Off	Off

Keys

| 35 | 36 | | 37 | 38 | 39 | 40 | 41 |
| Form Load | Form Ready | | Vert Form Set | Tab Set | Tab Clear | Left Marg. Set | Right Marg. Set |

27	FORM FEED	INDEX	31		1	2	3	4	5	6	7	8	9	0	–		←	42	EOB	RESET	47
28	VERT TAB	SYS REQ	32							Keyboard								43	PRINT BUFFR	BUFFR RTN	48
																		44	PRINT LINE	BUFFR LINE RTN	49
29	CNCL	ATTN	33															45	PRINT CHAR	BUFFR BKSP	50
30	CODE	PRINT VIEW	34															46	EOM		