

Manual 391, Part 9
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Manual 373
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the **43 teleprinter**

Installation

&

Routine Servicing



FOR BASIC RO TERMINALS

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THE 43 TELEPRINTER
BASIC RO
INSTALLATION AND ROUTINE SERVICING MANUAL

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THE 43 TELEPRINTER
BASIC RO
INSTALLATION AND ROUTINE SERVICING MANUAL

PART 1 -- INTRODUCTION

This manual provides information on the installation and routine servicing of the 43 Teleprinter Basic RO terminals. Instructions are provided for service personnel, with a minimum of training, tools and spare parts, to enable variable features, connect the proper interface, correct minor troubles and periodically inspect, lubricate and clean the terminal during extended service intervals.

These 43 Teleprinter Basic RO terminals (sets) are receive-only printers that accept serial asynchronous data using 12-inch wide sprocket feed paper or 8-1/2 inch wide friction feed paper. Serial data input signaling speeds are installer optioned at 10 or 30 characters per second on terminals equipped with an internal modem or with one of two types of digital communications interfaces.

Terminals with an internal modem for data transmission, interface electrically with the telephone switched-network and with a modular jack telephone (optional) for originating calls and talking. Terminals with digital interfaces* are furnished to operate on EIA voltage levels, or on TTL voltage levels, and exchange data and control signals with external modems or other devices for communication over switched or private lines.

Information on how to check proper operation, change the ribbon cartridge and install paper is included in the How To Operate Manual 372 furnished with each terminal.

Note: When ordering replaceable components, prefix each part number with the letters "TP" (ie, TP129534), unless specified otherwise.

Tools and spare parts that may be required are as follows:

<u>DESCRIPTION</u>	<u>TELETYPE CORP. PART NO.</u>
3/16" and 1/4" Open-End Wrench	129534
1/4", 6" Blade, Screwdriver	100982
1/16" Allen Wrench	124682
1.0 A SLO-BLO Fuse	143306
1.0 A Fuse	120139
Lubricants	See Page 3-4

In the event that troubles occur that cannot be corrected with the information in this manual, refer to the applicable 43 Teleprinter Manuals: Repair Manual 391, Service Manual 369 and Circuit Diagram Manual 385, (can be purchased from Teletype Corporation), replace the terminal, or contact the nearest Teletype Product Service Center.

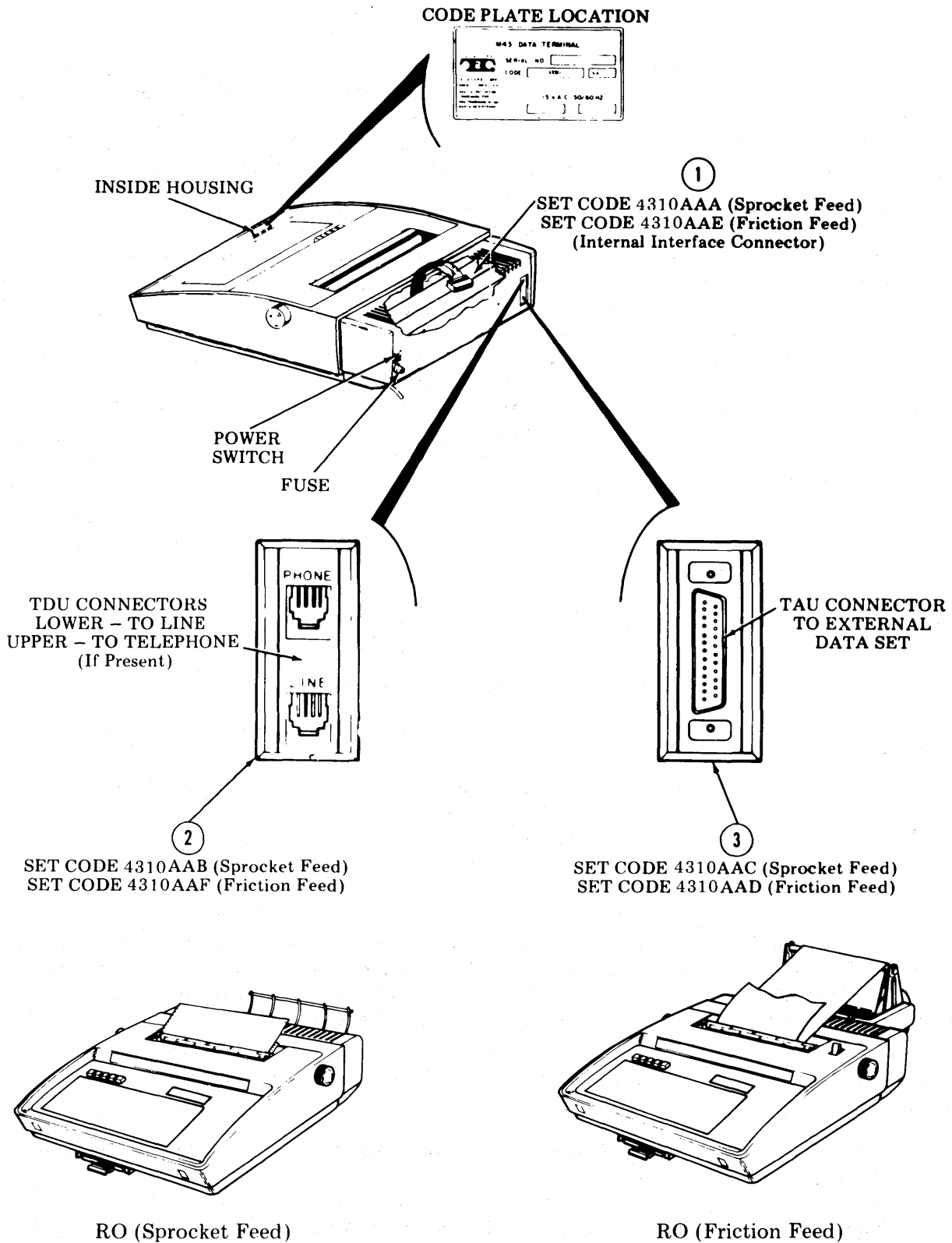
*Digital Interfaces: (Teletype Corporation Reference for 43 Teleprinter Basic RO Terminals)

EIA -- Electronics Industries Association (Spec RS-232C) +25 V dc to -25 V dc (On-Off Range)

TTL -- Transistor Logic 0 V dc to +5 V dc (On-Off Range)

PART 1 -- INTRODUCTION (Cont)

The three types of interfaces and six basic RO sets can be identified as shown below:



PART 2 -- INSTALLATIONA. VARIABLE FEATURES

The chart below provides information on how to set the feature shown under feature numbers 431 through 437. Record any nonstandard options enabled in the space provided on the directory card (bottom side).

Feature No.	Feature Suffix and Conditions	Feature Definition	Location of Switch on Circuit Card (See Page 3-7)							
			SPD4							
			1	2	3	4	5	6	7	8
XXX			1	2	3	4	5	6	7	8
a.			—	—	—	—	○	●	—	—
b.			—	—	—	—	○	●	—	—
431. Type Font Arrangement			SPD4							
			1	2	3	4	5	6	7	8
a.	Narrow numeric 0 and wide alpha O. Standard ^ and underline _		—	—	—	—	—	—	●	●
b.	Slash numeric Ø and wide alpha O. ^ prints as ↑ and _ prints as ←		—	—	—	—	—	—	●	○
c.	Slash alpha Ø and wide numeric O. ^ prints as ↑ and _ prints as ←		—	—	—	—	—	—	○	○
432. Line Length			SPD4							
			1	2	3	4	5	6	7	8
a.	132 Characters (Sprocket Feed Only)		—	—	—	—	●	●	—	—
b.	72 Characters — Printed line not centered.		—	—	—	—	○	●	—	—
c.	80 Characters		—	—	—	—	●	○	—	—
d.	72 Characters — Printed line centered (Friction Feed Only) §		—	—	—	—	○	●	—	—
433. EOT Response			SPD4							
			1	2	3	4	5	6	7	8
a.	Disconnect or turn off Term Ready on received EOT.		—	—	—	○	—	—	—	—
b.	Does not disconnect or turn off Term Ready on received EOT.		—	—	—	●	—	—	—	—
434. Character Parity Bit Sent †			SPD4							
			1	2	3	4	5	6	7	8
a.	Even Parity		—	—	○	—	—	—	—	—
b.	8th Bit Mark		—	—	●	—	—	—	—	—
435. End-of-Line on Receive			SPD4							
			1	2	3	4	5	6	7	8
a.	Auto CR-LF performed		○	—	—	—	—	—	—	—
b.	Bell & Print Inhibit at last char. position		●	—	—	—	—	—	—	—

- Indicates toggle or slide position to ON.
- Indicates toggle or slide position to OFF.
- Position of switch does not affect feature.
- * Factory furnished state of feature.
- † Not applicable.

- * On friction feed terminals, 432c (80 Characters) is factory furnished.
- 432a (132 Characters) should not be selected.
- § LEFT-HAND MARGIN adjustment must be performed (see Page 3-9).

PART 2 -- INSTALLATION (Cont)A. VARIABLE FEATURES (Cont)

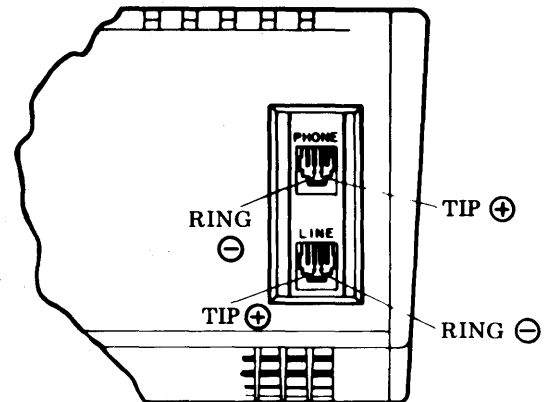
436. Speed Control	SPB5				
	1	2	3	4	
a. 30 Characters/Sec.	—	○	—	—	*
b. 10 Characters/Sec.	—	●	—	—	

437. Print Substitute character ■ on odd Parity Received.	SPB5				
	1	2	3	4	
a. Print ■ on odd parity received.	○	—	—	—	*
b. Ignore parity.	●	—	—	—	

- Indicates toggle or slide position to ON.
○ Indicates toggle or slide position to OFF.
— Position of switch does not affect feature.
* Factory furnished state of feature.

PART 2 -- INSTALLATION (Cont)
B. INTERFACES

The 4310AAB and AAF sets equipped with 430750 Terminal Data Unit (TDU) provide two modular telephone jacks for connection to the telephone equipment using modular cords. These jacks are labeled line (bottom) and phone (top) and the pin assignments are as shown:



The 4310AAC and AAD sets equipped with a 430751 Terminal Auxiliary Unit (TAU) provide a 25-pin male connector for connection to an external communications device (modem) or distant terminal. The interface meets the requirements of EIA - RS-232C. (See Page 2-6 for cables available from Teletype Corporation.) The pin assignments are given below:

EIA DATA SET INTERFACE SIGNALS

<u>Connector</u>		<u>EIA Circuit</u>		<u>Status</u>
<u>Pin</u>	<u>Signal</u>	<u>Designation</u>		
1	Protective Ground	AA	Not Wired in TAU or Recommended Cable	
2	Transmit Data	BA	Always Mark	
3	Receive Data	BB	Active	
4	Request to Send	RS	Always Off (Issue 1B Logic Card) -- Always On (Issue 2A Logic Card)	
5	Clear to Send	CB	Active	
6	Data Set Ready	CC	Active	
7	Signal Ground	AB	Active	
8	Received Line Signal Detector	CF	Active	
9			Not Wired in TAU or Recommended Cable	
10			Not Wired in TAU or Recommended Cable	
11	TWX Control	-	Not Applicable	
12	Data Speed Indicator	SCF	Not Applicable	
13			Not Wired in TAU or Recommended Cable	
14			Not Wired in TAU or Recommended Cable	
15			Not Wired in TAU	
16			Not Wired in TAU or Recommended Cable	
17			Not Wired in TAU	
18	TWX Indicator	-	Not Applicable, Not Wired in Recommended Cable	
19			Not Wired in TAU or Recommended Cable	
20	Data Terminal Ready	CD	Active	
21			Not Wired in TAU or Recommended Cable	
22			Not Wired in TAU or Recommended Cable	
23	Data Speed Select	CH	Always Off	
24			Not wired in TAU or Recommended Cable	
25	Analog Loop Test		Always Off	

PART 2 -- INSTALLATION (Cont)B. INTERFACES (Cont)

The 4310AAA and AAE sets are furnished without the interface signaling unit. Connection to the external communications device (provided by the customer) is made through a 20-pin connector, Berg 65346-003 or 3M 3421-300 or equivalent at the end of a short ribbon cable. No provision is made for adding additional cable length.

Electrical Characteristics of Interface Leads are:

Electrical signals compatible with low-power TTL logic are utilized for both control and data interchange as described below:

STATE	DRIVER	TERMINATOR
MARK (OFF) (1)	$+2.4 \leq V_{\text{MARK}} \leq +5.25 \text{ Volts}$	$+2.0 \leq V_{\text{MARK}} \leq +5.25 \text{ Volts}$
SPACE (ON) (0)	$0 \leq V_{\text{SPACE}} \leq +0.4 \text{ Volts}$	$0 \leq V_{\text{SPACE}} \leq +0.7 \text{ Volts}$

TTL PIN ASSIGNMENT CHART

<u>Pin No.</u>	<u>Code</u>	<u>Function</u>	<u>Status</u>
1	DL	Digital Loop Test	Active
2	DSI	Data Speed Indicator to Terminal	Not Applicable, Not Wired in TTL Cable
3	AL	Analog Loop Test	Not Applicable, Is Wired in TTL Cable
4	DSS	Data Speed Select from Terminal	Not Applicable, Not Wired in TTL Cable
5	TR	Terminal Ready	Active
6	RS	Request to Send	Not Connected, Always Off (Issue 1B Logic Card) -- Always On (Issue 2A Logic Card)
7	+5	+5 Volts	Active
8		Reserved for future	Not Applicable, Not Wired in TTL Cable
9	GND	Circuit Ground	Active
10		Reserved for future	Not Applicable, Not Wired in TTL Cable
11	-12	-12 Volts	Active
12		Reserved for future	Not Applicable, Not Wired in TTL Cable
13	+12	+12 Volts	Active
14	DP	Duplex Indicator from Terminal	Not Applicable, Is Wired in TTL Cable
15	DR	Data Ready	Active
16	TW2	TWX Indicator	Not Applicable, Not Wired in TTL Cable
17	RD	Receive Data	Active
18	TW1	TWX Control	Not Applicable, Not Wired in TTL Cable
19	SD	Transmit Data	Always Mark
20		Reserved for future	Not Applicable, Not Wired in TTL Cable

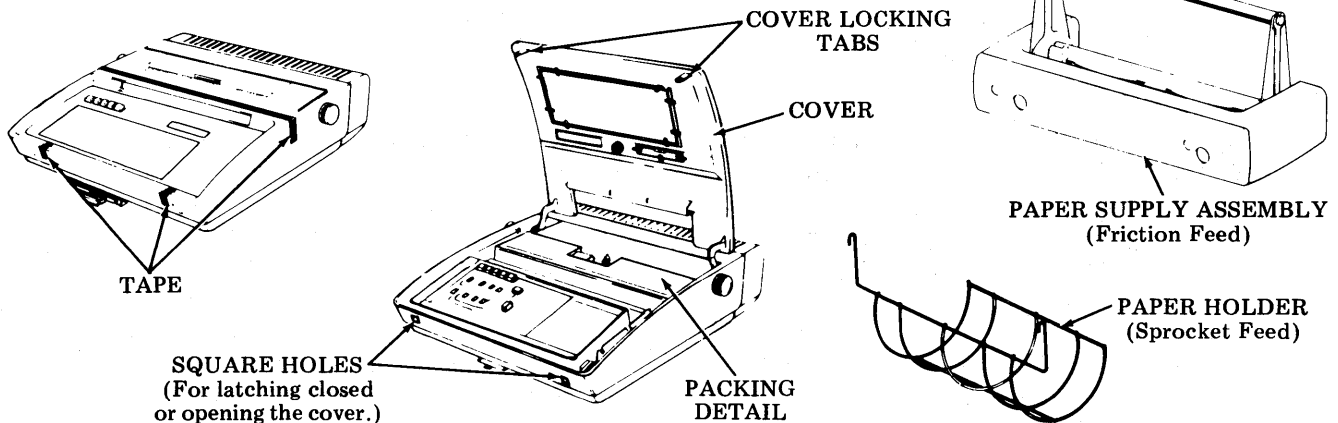
PART 2 -- INSTALLATION (Cont)
C. ASSEMBLY

The 43 Teleprinter Basic RO Set is furnished fully assembled and tested with one of the signal interfaces described on Page 2-3, B. INTERFACES.

CAUTION: TO AVOID CONDENSATION ON THE ELECTRICAL COMPONENTS, THE TERMINAL SHOULD BE ALLOWED TO ASSUME ROOM TEMPERATURE BEFORE UNPACKING, FOR EXAMPLE, WHEN BROUGHT INTO A WARM HUMID ROOM FROM OUTSIDE SUBZERO TEMPERATURES.

1. UNPACKING

- a. Unpack the large carton. Refer to instructions on the container.
- b. Remove tape securing the cover to the housing (see below).
- c. Depress the cover locking tabs on the lower front of the cabinet and lift the cover. Remove the packing detail securing the print head (see below).
- d. Verify that the following items are included in the box:
 - 1 - Set -- 43 Teleprinter Basic RO (4310AAA, AAB, AAC, AAD, AAE, or AAF)
 - 1 - Ribbon
 - 1 - Manual, Installation and Routine Servicing, 373
 - 1 - Manual, Attendant, 372
 - 1 - Paper Holder (Sprocket Feed only)
 - 1 - Paper Supply Assembly (Friction Feed only)



NOTE: Fan-fold 12 by 8-1/2 inch paper (sprocket feed), 8-1/2 inch wide by 5 inch diameter rolls (friction feed) and EIA and modular telephone cords must be obtained locally or ordered separately. Refer to HTO for paper suppliers. EIA and modular telephone cords can be ordered from Teletype Corporation (see Page 2-6).

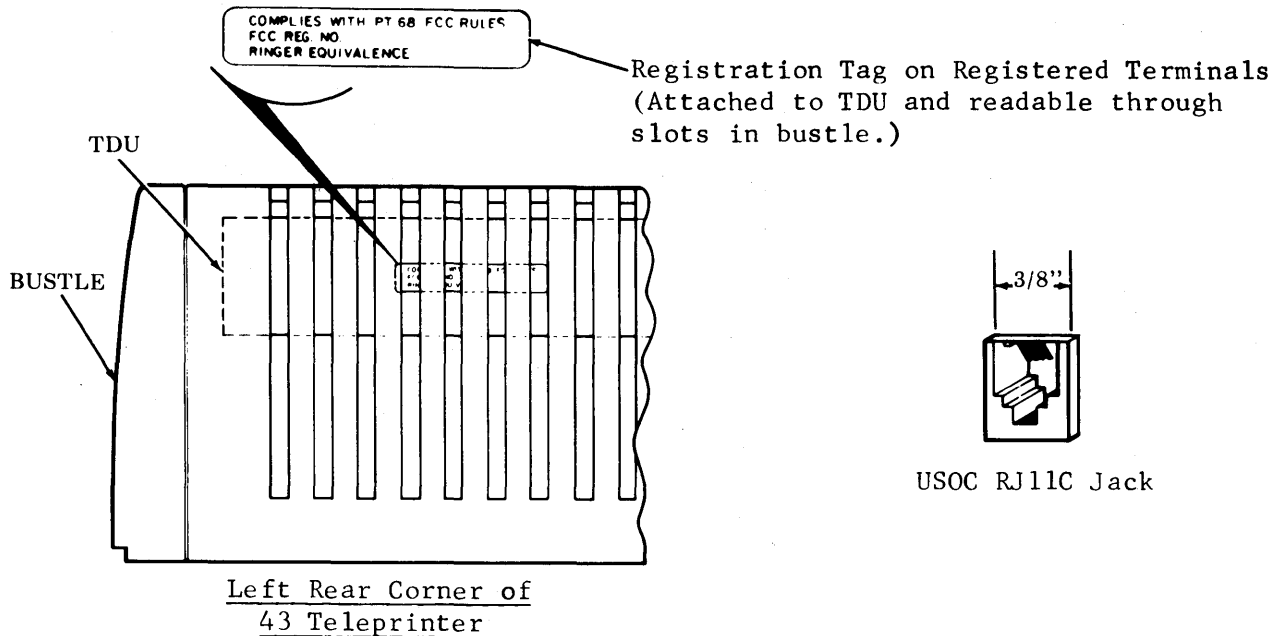
2. TELEPHONE AND LINE CONNECTION

NOTICE: In the U.S.A., under the FCC registration program, the 43 Teleprinters with 430750 terminal data units (TDU) may be connected directly to the telephone switched network subject to the following conditions:

- a. Connection must be through a standard six-pin miniature jack (USOC RJ11C) installed by the Telephone Company.
- b. The telephone, if any is to be connected to the teleprinter, must be registered or grandfathered (Bell System 500 or 2500 type or equivalent) and be reported as such to the local Telephone Company.

PART 2 -- INSTALLATION (Cont)
C. ASSEMBLY (Cont)

2. TELEPHONE AND LINE CONNECTION (Cont)



- c. Before connection or reconnection to the switched network, the local Telephone Company must be advised of the following:

Registered Terminals Only
 (With Registration Tag)

- (1) Registration Number (from tag)
- (2) Ringer Equivalence (from tag)
- (3) Telephone number where terminal will be connected.

Grandfathered Terminals Only
 (No Registration Tag)*

- (1) Teleprinter model number 4310 (RO) or 4320 (KSR) with suffix AAB (sprocket feed) or AAF (friction feed). Includes built-in Western Electric 153A1 modem (TDU).
- (2) Telephone number where terminal will be connected.
- (3) Ringer Equivalence: 0.3
- (4) Ringer Type: A
- (5) Voice baud metallic signal power: Nonadjustable -9 dbm max.
- (6) Baud Rate: 300 max.

*First time connection must take place before July 1, 1979. The teleprinter may remain connected and be reconnected for its life.

- Refer to Manual 407 for additional registration instructions.

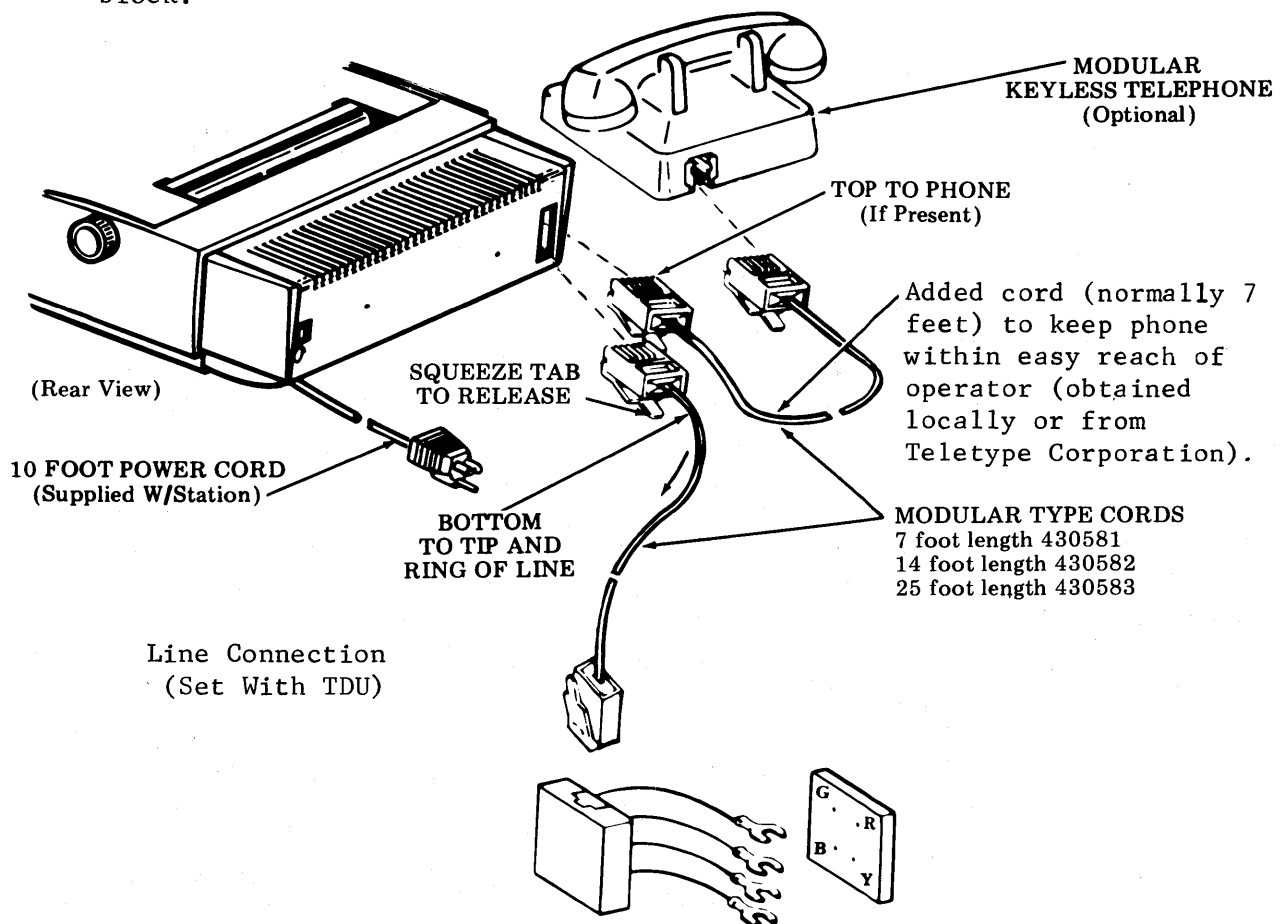
4310AAB and AAF Sets With TDU

Modular telephone present at installation location:

- a. Remove the modular cord plug from the modular jack associated with the keyless telephone to be used with the teleprinter (squeeze tab to release). Connect the plug to the lower connector marked LINE on the rear of the TDU accessible through the opening in the left rear of the bustle cover as shown below.
- b. Connect the additional modular cord between the upper connector on the TDU marked PHONE and the telephone jack as shown below.

No modular telephone present at installation location:

Connect the modular cord plug to the lower connector marked LINE on the rear of the TDU, accessible through the opening in the left rear of the bustle cover, connect remaining end of modular cord to line connecting block.

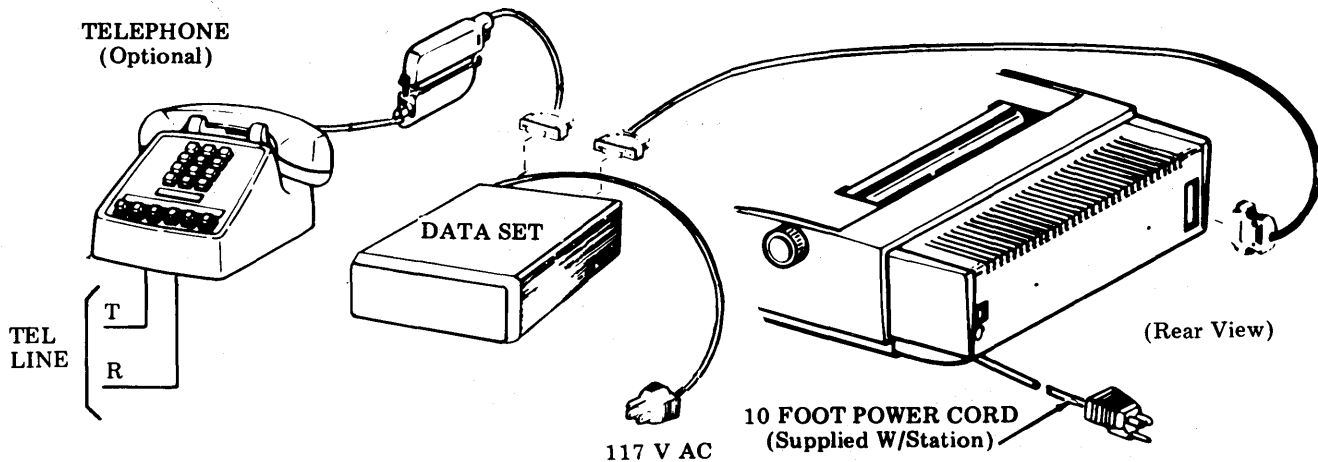
4310AAC and AAD Sets with TAU

- a. The connecting cables between the terminal and the data set must be furnished by the installer and should employ shielded cable. The following cables are available from Teletype Corporation:

7 foot length	408065
12 foot length	408066
25 foot length	408067
50 foot length	408068

PART 2 -- INSTALLATION (Cont)C. ASSEMBLY (Cont)2. TELEPHONE AND LINE CONNECTIONS, 4310AAC and AAD Sets with TAU (Cont)

- b. The connection to the data set and telephone (if present) should be made following the instructions for the particular data set involved.

4310AAA and AAE Sets Without Interface Signaling Unit

Connection to the 43 RO Teleprinter interface cable requires the removal of the paper holder or paper supply assembly, paper deflector (if present) and bustle cover. Refer to Page 3-7, C. COMPONENT ACCESS for removal instructions.

This set is not equipped with a communications unit and telephone and line connections cannot be made until the RO set is provided with an appropriate communications device. The connections to the telephone, data set or communications device should be performed following the instructions for the particular device involved.

3. ACCESSORIES

- Install the ribbon and paper. Refer to Manual 372.
- Install the friction feed paper supply assembly or the sprocket feed paper holder if desired by the customer. If the paper holder is not installed, provide to attendant for possible future use. Refer to Page 3-7.
- Record any nonstandard options enabled in the space provided on the directory card. (Write in any not listed on card.)
- Fill out remaining information on the directory card in accordance with local procedures, (ie, provide attendant with HTO manual, ribbon ordering form, etc).
- Install the directory card in the holder provided "Frequently Called Numbers" side up. Refer to Page 3-7.

4. STATION TESTING

After installation the station shall perform as stated in the How To Operate Manual 372.

PART 3 -- ROUTINE SERVICING
A. TROUBLE ISOLATION AND CORRECTION

QUESTIONS	YES	NO
1. Is the TERM READY lamp lit? (Depress RESET key.) (Power available and set power on.)	Go to 2.	Go to 1a.
1a. Is there an indication of power in the set? (Lamps flash when power is turned on and off, red lamp on power supply, etc.) (See Page 3-6.)	Go to 1b.	Check and replace set fuse (F1) if blown. Trouble is in terminal if fuse blows again. If not blown go to 1b.
1b. Is red lamp on power supply lit?	Check opcon cable connector. (See Page 3-7.)	Check fuse (F2) on power supply. If blown, check for foreign objects between circuit lands or terminals and replace fuse. Trouble is in terminal if fuse blows agains
2. Does printer print test message while the PRINTER TEST key is depressed? (ie, character set printed repeatedly within margin restraints.)	Go to 2a.	Turn off power for several seconds and retry. Replace terminal.
2a. Are any of the following characters substituted in copy? <div style="text-align: center;"> O Ø ^ ↑ - ← </div>	Check Page 2-1, <u>A. VARIABLE FEATURES</u> , 431.	Go to 2b.
2b. Are undesired line lengths set as follows when power is turned on? <div style="text-align: center;"> 72 80 132 </div>	Check Page 2-1, <u>A. VARIABLE FEATURES</u> , 432.	Go to 2c.
2c. Is printed copy properly centered or aligned with edges of paper? Sprocket Feed-parallel to edge and not printing on fold or form line. Friction Feed-properly centered on roll paper.	Go to 2d.	Sprocket Feed - Check <u>Right Paper Sprocket</u> adjustment and <u>Printed Line</u> adjustment. (See Page 3-8.) Friction Feed - Check <u>Left Hand Margin</u> adjustment. (See Page 3-9.)

PART 3 -- ROUTINE SERVICING (Cont)
A. TROUBLE ISOLATION AND CORRECTION (Cont)

QUESTIONS	YES	NO
2d. Is print density acceptable (including any carbons)?	Go to 3.	Replace ribbon. Make sure print head is locked. Check proper density multicopy paper.
3. Does terminal have a TDU (Terminal Data Unit)?	Go to 4.	On-line communications troubles encountered using externally connected data sets and telephones or other arrangements may be insolated by observing signals at the EIA or TTL interface. See Page 2-3, <u>B. INTERFACES</u> .
4. Does phone ring only once (if present) and the DATA key light following a received call in the Terminal Ready mode?	Go to 5.	Originating station must send originating frequency tones, ie, go to DATA mode. If ok, trouble is in teleprinter.
5. Are data messages properly received in DATA mode? (stations operating at same speed).	Go to 6.	Check Page 2-2 A. <u>VARIABLE FEATURES</u> , 436. Go to 5a.
5a. Does substitute character ■ appear?	Check Page 2-2, <u>A. VARIABLE FEATURES</u> , 437. If ok, trouble is in teleprinter.	Go to 6.
6. Does carriage return automatically when line lengths beyond the right margin are received on-line and does station disconnect when EOT is received?	Place in service.	Check Page 2-1, <u>A. VARIABLE FEATURES</u> , 433 or 435. If ok, trouble is in station.

PART 3 -- ROUTINE SERVICING (Cont)
B. PERIODIC CHECKS, LUBRICATION AND CLEANING

1. GENERAL

This part provides routine servicing procedures for the 43 Teleprinter Basic RO Station.

Routine servicing should be performed, at the convenience of the customer, at least once a year.

Routine servicing consists of visual checks, lubrication, and cleaning. When performed at routine intervals, the possibility of later troubles will be reduced.

Following routine servicing, a local and on-line installation checkout should be performed. The routine servicing date should be filled out on the bottom side of the directory card holder.

2. VISUAL CHECKS

The following areas should be checked for mechanical condition:

- a. Frayed belts on spacing and line feed motors
- b. Worn or frayed ribbon
- c. All cable connectors fully seated (Page 3-7).
- d. Print head cover fully seated.

3. CLEANING AND APPEARANCE

Examine exterior areas for smudges, dust, etc.

Check proper fit of cover. Replace extremely damaged or discolored cover, housing, bustle, etc.

Exterior cleaning should normally be limited to wiping with a soft cloth moistened with a mild detergent. However, in case of ink stained plastic surfaces, a waterless (nonabrasive) hand cleaner or a lather from abrasive bar soap applied with a cloth should be used.

Interior areas should be examined with the cover opened and accumulations of paper dust or ribbon fragments cleaned by carefully brushing loose material onto a cloth. Ink stains or deposits on interior surfaces, ribbon rollers, platen, etc, can be wiped with a cloth dampened in mineral spirits.

WARNING: DO NOT ALLOW MINERAL SPIRITS OR SOLVENTS TO CONTACT EXTERIOR PLASTIC SURFACES.

4. LUBRICATION PROCEDURES

The printer can be lubricated by opening the cabinet cover. Apply lubricant to points as indicated on Page 3-5 and 3-6.

On small parts, a minimum amount of lubricant should be applied so that the lubricant remains on the parts and does not run off.

Excessive lubricant should be removed with a dry, lint-free cloth.

PART 3 -- ROUTINE SERVICING (Cont)
B. PERIODIC CHECKS, LUBRICATION AND CLEANING (Cont)

The following areas must be kept dry, free of all lubricant: All electrical components, including terminals. All parts normally touched by the operator, including exposed surfaces in ribbon, paper handling areas, and all large flat areas.

The following symbols indicate the quantity of lubricant to be used in a specified area: Symbols 01, 02, 03, etc, refer to 1, 2, 3, etc, drops of oil.

The following list of symbols applies to the lubrication instructions and the type of lubricant to be used:

- O Oil 88970 (1 qt), 88971 (1 gal), 318775 (4 oz)
- G-A Apply thin film of 97116 (4 oz) or 88973 (1 lb) grease.
- G-B Apply thin film of Syn-Tech grease (use 430836 tube with grease and 430838 brush).
- G-C Fill with Poly Oil grease (use 430837 injector with grease).
- S Saturate felt oilers, washers, and wicks with oil.
- D Keep dry, no lubricant permitted.

Lubrication Checklist: (See Pages 3-5 and 3-6.)

Lead Screw -- Film of grease over entire threaded portion of lead screw.
 Carriage Wicks -- Saturate with oil (4 places)
 Ribbon Guide Rollers -- 2 drops of oil (2 places)
 Ribbon Rollers -- 2 drops of oil (2 places)
 Ribbon Tension Arm Pivot and Spring -- 2 drops of oil each (4 places)
 Spacing Tension Arm Pivot, Roller and Spring -- 2 drops of oil each (4 places)
 Platen Bearing -- 5 drops of oil each side (2 places)
 Finger Pivots -- 2 drops of oil each side (2 places)
 Paper-Out Arm Pivot -- 2 drops of oil on both pivot points (sprocket feed only).
 Lead Screw Pulley Clip -- Grease between clip and lead screw shaft.
 Pressure Roller Bail Spring -- 2 drops of oil each end (2 places - friction feed only).
 Platen Tray Shaft -- 2 drops of oil each end at the side plates (2 places - friction feed only).
 Pressure Roller Bail -- 2 drops of oil each end at pivot points on each side of bail (2 places - friction feed only).

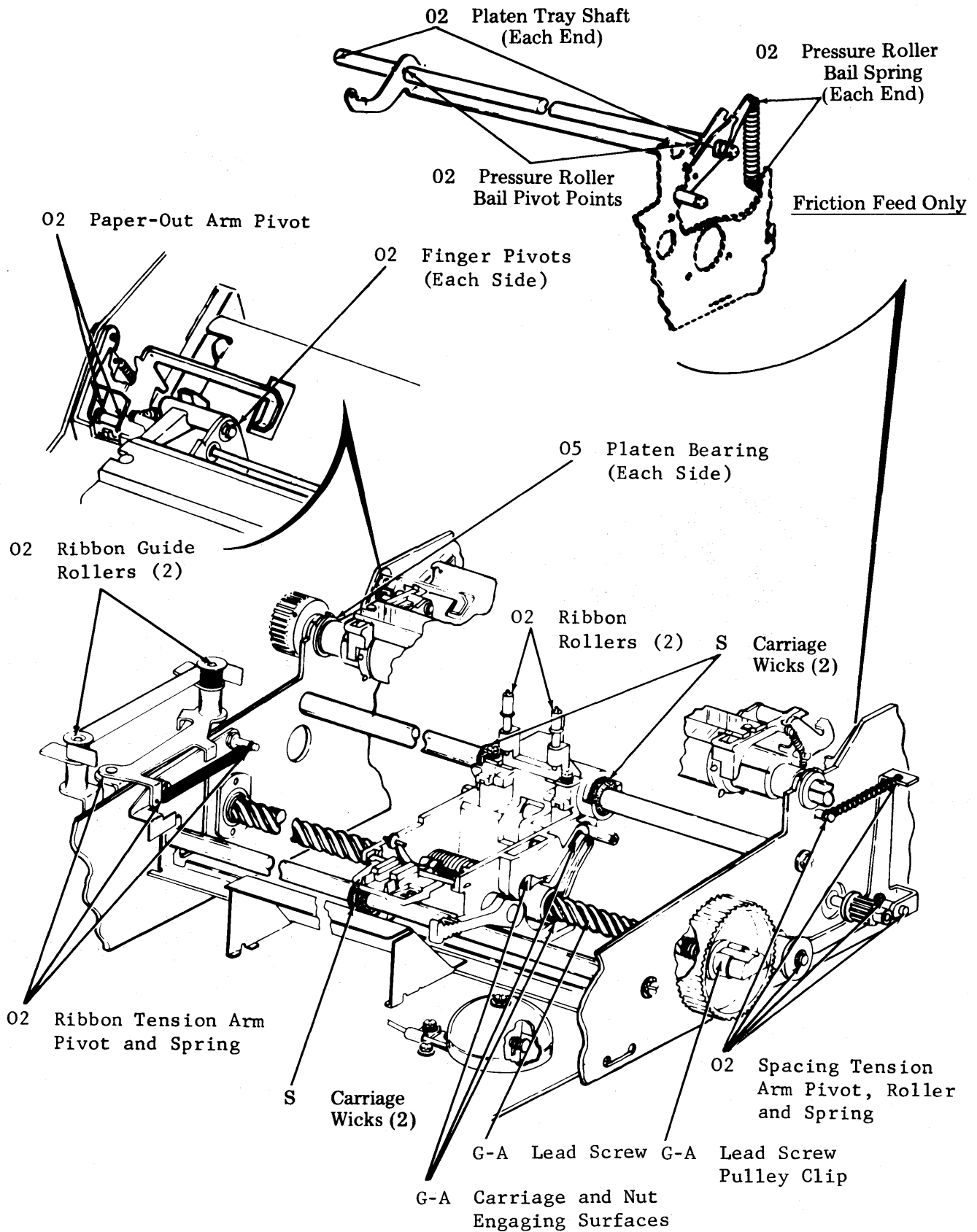
Carriage and Nut Engaging Surfaces:

- a. Two Nut Drive Arms -- Grease four bearing surfaces.
- b. Nut Keying Arm -- Lubricate by packing carriage engaging slot with grease.

Print Head:

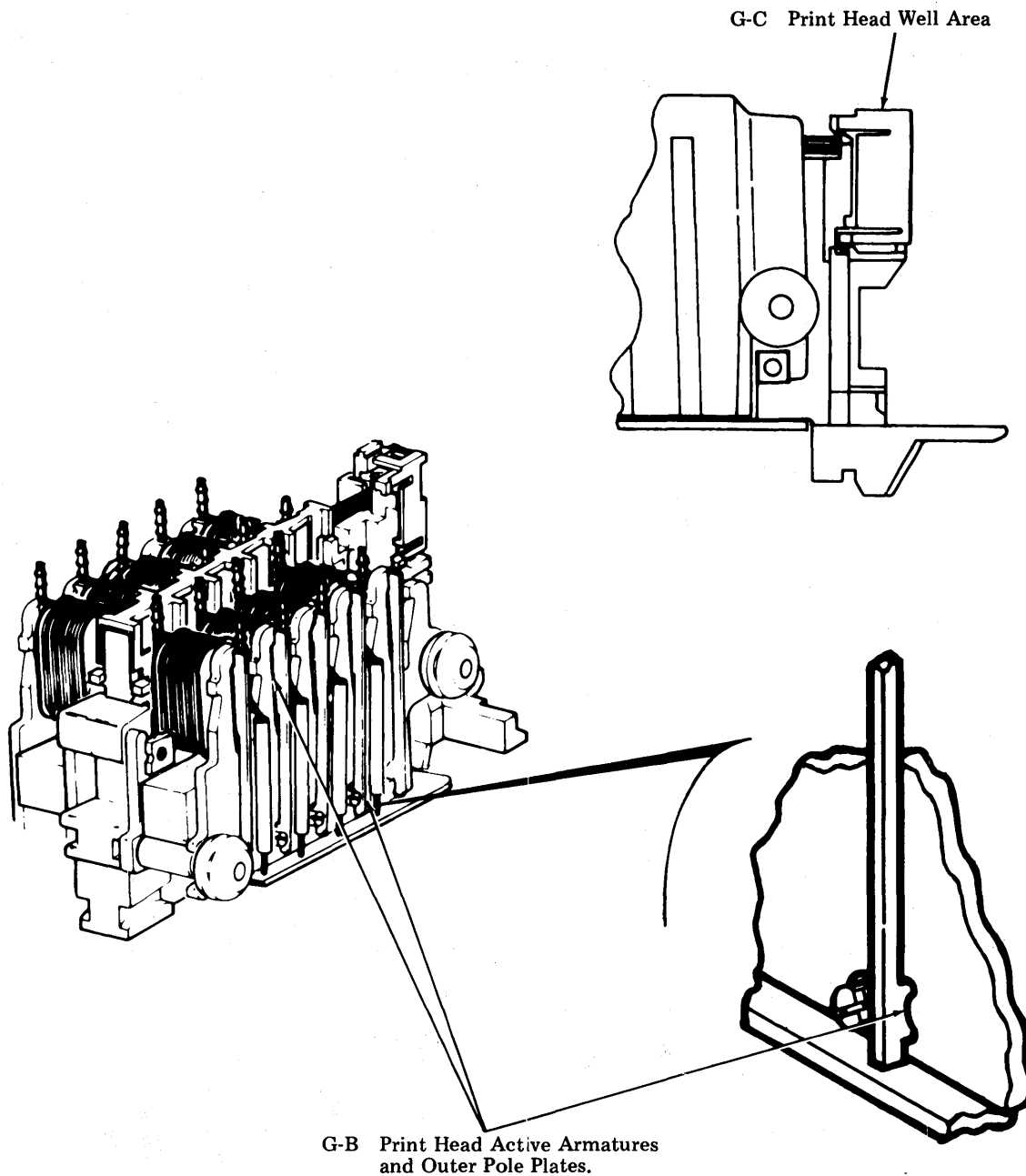
- a. Active Armatures and Outer Pole Plate -- Grease at the upper pivot area as well as the lower locator area (9 places).
- b. Print Wire Well Area -- Completely fill with grease.

5. LUBRICATION POINTS



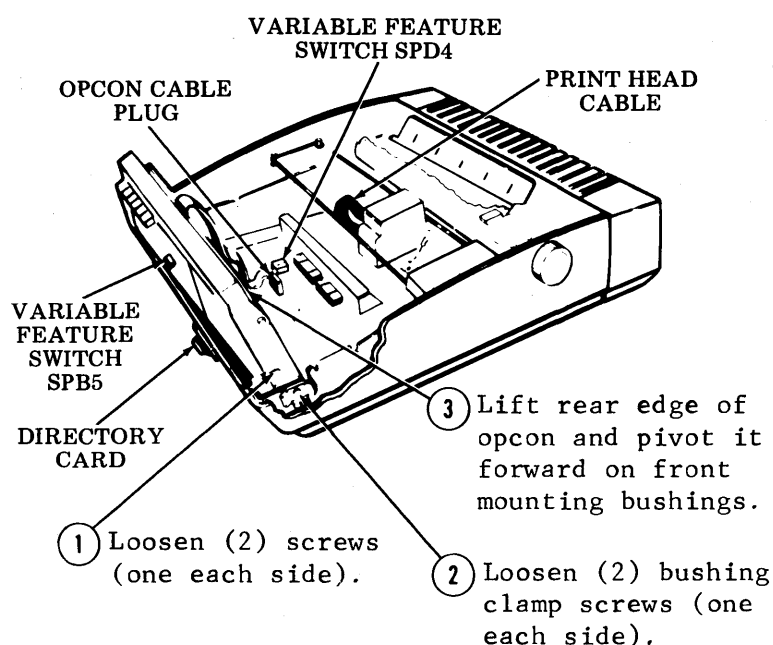
PART 3 -- ROUTINE SERVICING (Cont)
B. PERIODIC CHECKS, LUBRICATION AND CLEANING (Cont)

5. LUBRICATION POINTS (Cont)

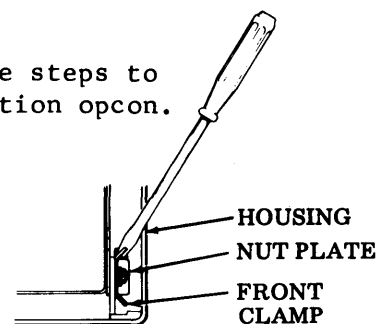


PART 3 -- ROUTINE SERVICING (Cont)
C. COMPONENT ACCESS

1. Operator Console (Opcon), Cables, Directory Card and Variable Feature Switch



④ Reverse steps to reposition opcon.

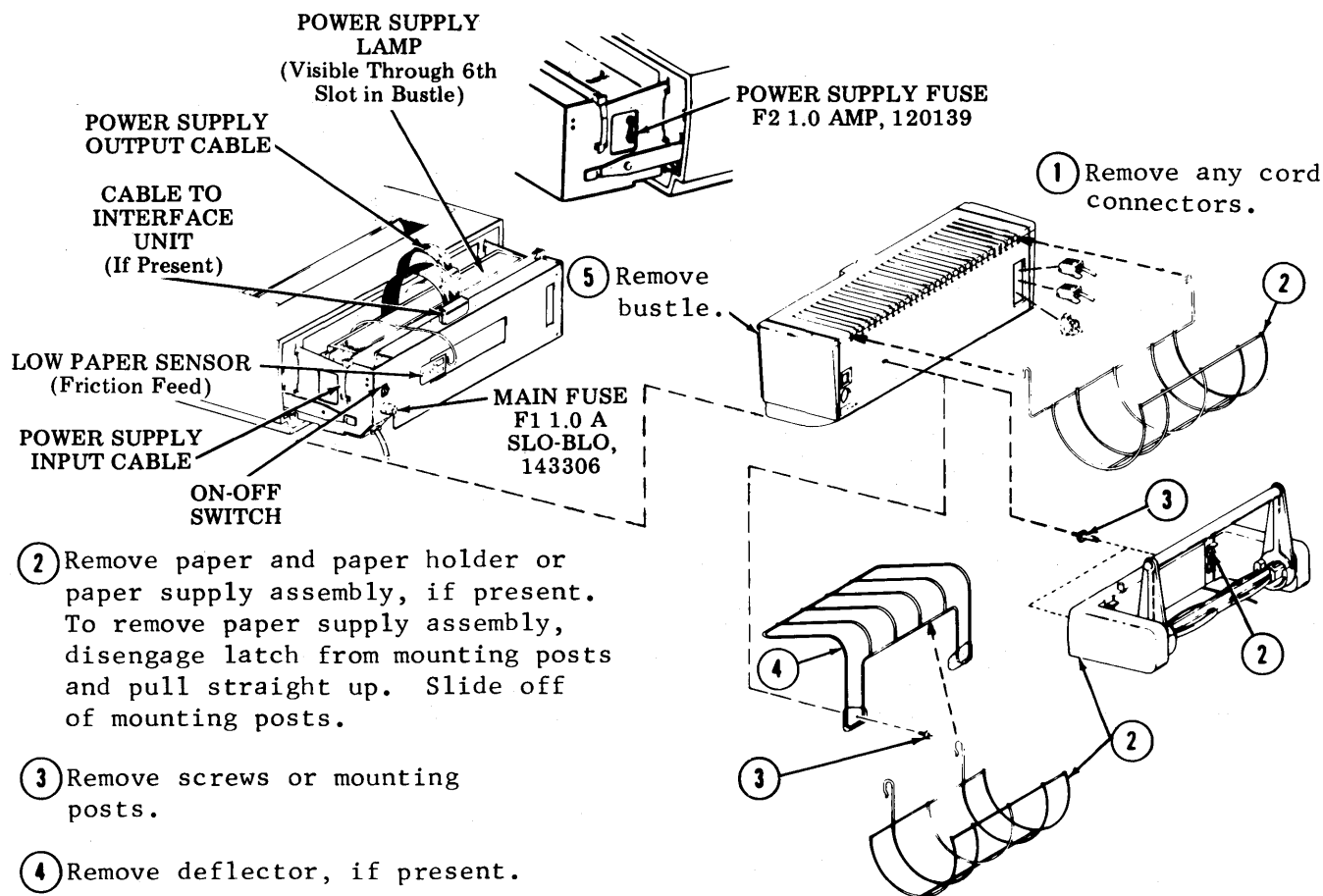


NOTE: When repositioning opcon, insert a screwdriver into the square hole in the nut plate and gently twist (or pry) the screwdriver with enough force to draw the assembly forward.

CAUTION: DO NOT OVERTWIST THE SCREWDRIVER.

Tighten the clamp screws.

2. Power Supply Lamp, Cables and Fuses



PART 3 -- ROUTINE SERVICING (Cont)
D. ADJUSTMENTS

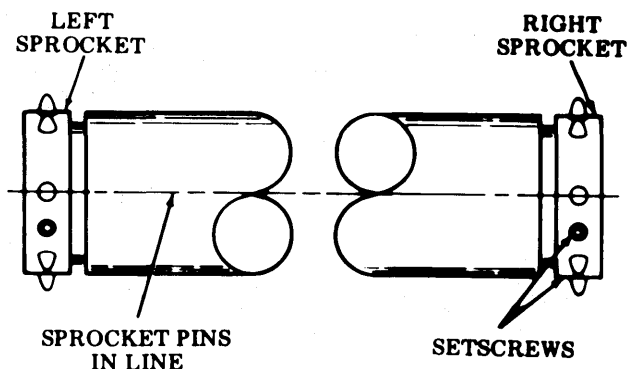
RIGHT PAPER SPROCKET (Sprocket Feed Only)

Requirement

The right sprocket should be biased against the collar of the platen hub and the pins should be in line with the pins of the left sprocket.

To Adjust

Loosen setscrews and position right sprocket to meet requirement.



PLATEN ENDPLAY AND PRINTED LINE POSITION

The following two requirements must be met:

(1) **Requirement**

Platen Endplay -- With the platen biased against the right bearing, there should be

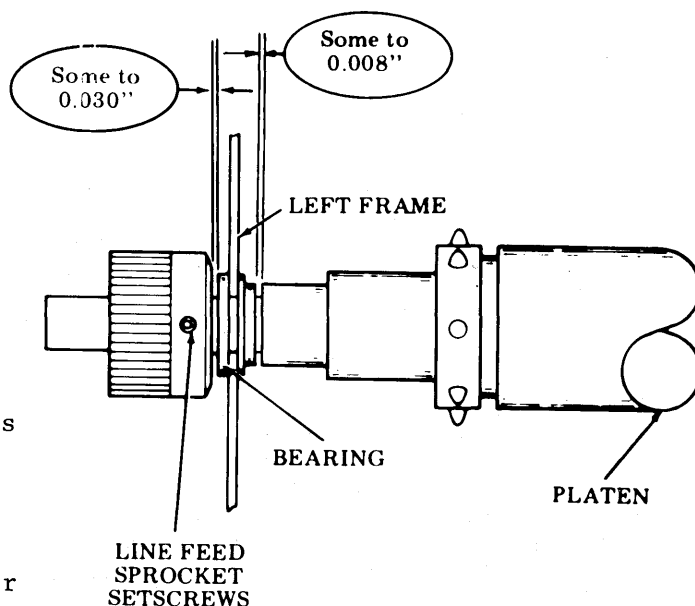
Min Some---Max 0.008 inch clearance between the left bearing and the platen hub, at the closest point, and

Min Some---Max 0.030 inch between the left bearing and the sprocket at the closest point.

(2) **Requirement (Sprocket Feed Only)**

Printed Line Position -- The lower edges of a typed line of M characters should be $\frac{1}{32} \pm \frac{1}{64}$ inch above a horizontal line located by any of the following methods:

- (a) A line drawn between the lower edges of two opposite sprocket holes.
- (b) A preprinted line on the form the same as in (a) above or in $\frac{1}{6}$ inch multiples.
- (c) A fold midway between two sprocket holes on fanfold paper.



(Power must be on line feed motor for this adjustment.)

To Adjust

Loosen the line feed sprocket (at platen) setscrews and position. Print the character 'M' across the line and check (2) Requirement. If necessary, loosen setscrew on right sprocket to meet alignment requirement.

LEFT-HAND MARGIN (Friction Feed Only)**Requirement**

When the variable feature switch arrangement on the printer logic card has been enabled for 80 character lines, the slide should be located all the way to the left. When the switch arrangement has been enabled for 72 character lines and printed line centering (Option 432d) is required, then the slide must be located all the way to the right.

To Adjust

Loosen the single mounting screw holding the slide to the bracket and move the slide to meet the adjustment.

