43 BASIC TELEPRINTER

INSTALLATION AND REMOVAL

CONTENTS

1. GENERAL

1.01 This section provides station installation and removal information for the 43 KSR and RO Station Sprocket Feed (Fig. 1).

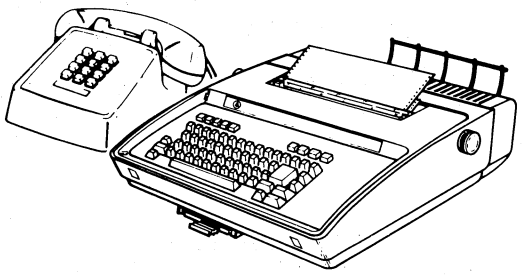


Fig. 1—43 KSR Station (Sprocket Feed)

1.02 This section is revised to include information to add either an internal modem or EIA interface to terminals furnished without an interface unit, prior to installation.

1.03 Installation should be performed under the direction of a service order indicating USOC codes, options, date, materials required and location.

1.04 For additional information, refer to: Section 574-500-501, RO Teleprinter Testing, Section 574-500-500, Basic KSR Teleprinter Testing, and Section 574-500-210, Engineering Options.

1.05 The 43 Teleprinter is furnished fully assembled and tested with or without an interface unit. After addition of a TAU, TAU1 or TDU the teleprinter is ready to connect to an external communications device (EIA) or between a modular 500DM or 2500DM-type keyless telephone and the line telephone jack. Where telephones and jacks are not of the modular type, they must be converted to the modular type before station installation. (Refer to local procedures and Section 503-100-100 for conversion information.)

Prepared for American Telephone and Telegraph Company by Teletype Corporation

Note: When installing a terminal with a TDU (KSR or RO with telephone), if a length other than the seven foot D4BU modular cord provided is required, obtain locally or from Teletype Corporation at least one D4BU modular cord of the appropriate length to connect between the telephone or line and the 43 Teleprinter (Fig. 4). Discuss with the customer where the teleprinter and phone are to be installed before obtaining cord(s).

1.06 Before starting the installation procedure, verify that all boxes which make up the Basic 43 Teleprinter USOC Arrangement are present at the installation location. These boxes may contain:

(a) A 43 Teleprinter and documentation
(b) Additional documentation
(c) A TDU, TAU or TAU1
(d) A roll or box of paper
(e) A D4BU or EIA cable
(f) Two keytops
(g) Four mounting screws

1.07 Reference in the procedures to left or right, up or down, and top or bottom, etc, refer to the teleprinter in its normal operating position.

1.08 When ordering replaceable components, unless otherwise specified, prefix each part number with the letters "TP" (ie, TP430202).

1.09 Factory-type packing may be duplicated by ordering the required PK materials from Teletype Corporation.

2. TOOLS REQUIRED

2.01 Tools required for assembly or installation are as follows:

1/4 inch, 6 inch Blade Screwdriver — 100982
3/8 inch Open End Wrench — 152835

For tools required to enable engineering options, refer to the Engineering Options, Section 574-500-210. A keytop extractor (346260) is required if keytops must be removed.

3. PREASSEMBLY MATERIAL

3.01 Verify that the following items are included as specified on the service order (USOC) and are at the assembly or installation location:

1 — Set, 43 Teleprinter
1 — Paper, Box of White Fanfold 12 x 8-1/2 inch, (Sprocket Feed Only)
1 — Paper, Box of White Roll 8-1/2 inch, KS8621 (Friction Feed Only)
1 — This Practice, Installation (Section 574-500-200)
1 — 153A1 Terminal Data Unit (TDU), 410751 EIA Terminal Auxiliary Unit (TAU) or 410755 EIA Terminal Auxiliary Unit (TAU1) if required.
4 — 341797 6-32 x 5/16 Screw w/washer
1 — Manual, Attendant
999-300-126 TDU KSR (DATAPHONE)
999-300-127 EIA KSR (DATAPHONE)
999-300-128 TDU RO (DATAPHONE)
999-300-129 EIA KSR (Private line)
999-300-130 EIA RO (Private line)
1 — D4BU Cable 7 foot (TDU) or an EIA Cable Length per WES Code
1 — 346116 AUTO ANSW Keytop (TDU) KSR
1 — 346161 LOCAL-TALK Keytop (TDU) KSR

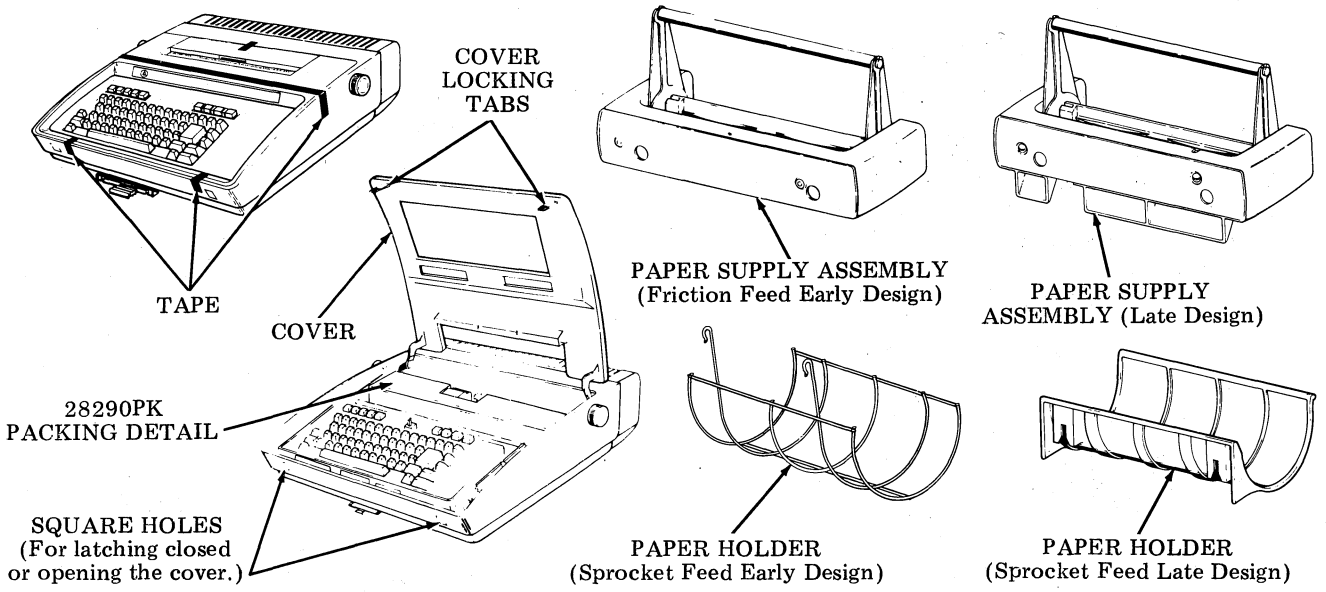


Fig. 2—Packing Detail

4. INSTALLATION PROCEDURE

UNPACKING

4.01 Select a convenient area for unpacking and assembly.

4.02 When unpacking, be sure to wear approved safety glasses.

4.03 Unpack the terminal carton. Refer to instructions on the container. Remove tape securing the cover to the housing (Fig. 2).

Note: Observe all "caution" notes printed on the carton.

4.04 Depress the cover locking tabs on the lower front of the cabinet and lift the cover. Remove the 28290PK packing detail securing the print head in place (Fig. 2).

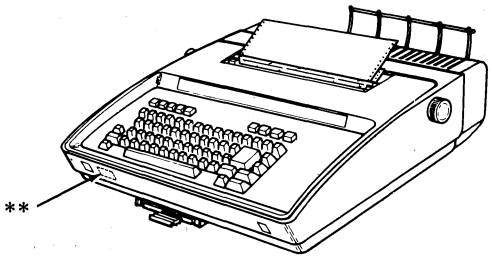
Note: Verify that a new ribbon and paper holder (sprocket feed) or paper supply assembly (friction feed) are present and a document package including Manual 367 (KSR) or Manual 372 (RO), Section 574-500-200, Installation and Removal and W-43AXS Wiring Plan.

4.05 The containers and other packing details are to be retained and reused by field locations to facilitate movement of stations.

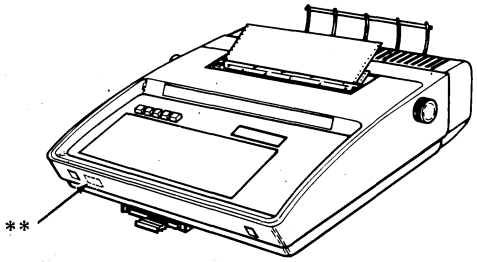
IDENTIFICATION

RO TELEPRINTERS

Sprocket Feed With TDU — 4310/AAB
Sprocket Feed With TAU — 4310/AAC
Sprocket Feed With TAU1 — 4310/AAG
Sprocket Feed With TTL — 4310/AAA*
Friction Feed With TDU — 4310/AAF
Friction Feed With TAU — 4310/AAD
Friction Feed With TAU1 — 4310/AAH
Friction Feed With TTL — 4310/AAE*



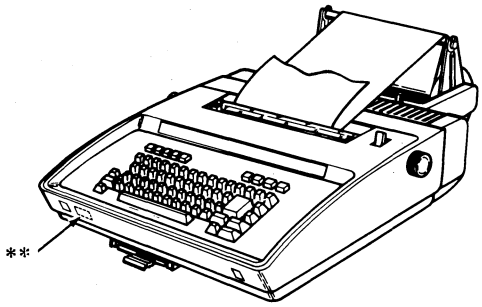
Assembled 43 KSR — Sprocket Feed



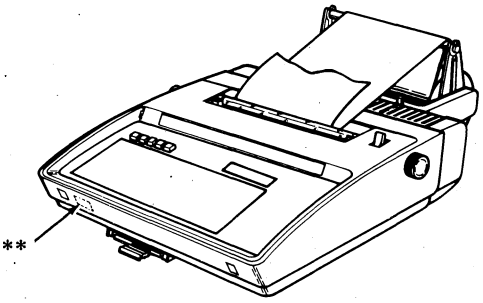
Assembled 43 RO — Sprocket Feed

KSR TELEPRINTERS

Sprocket Feed With TDU — 4320/AAB
Sprocket Feed With TAU — 4320/AAC
Sprocket Feed With TAU1 — 4320/AAK
Sprocket Feed With TAU2 — 4320/AAH
Sprocket Feed With TTL — 4320/AAA*
Friction Feed With TDU — 4320/AAF
Friction Feed With TAU — 4320/AAD
Friction Feed With TAU1 — 4320/AAL
Friction Feed With TAU2 — 4320/AAJ
Friction Feed With TTL — 4320/AAE*



Assembled 43 KSR — Friction Feed



Assembled 43 RO — Friction Feed

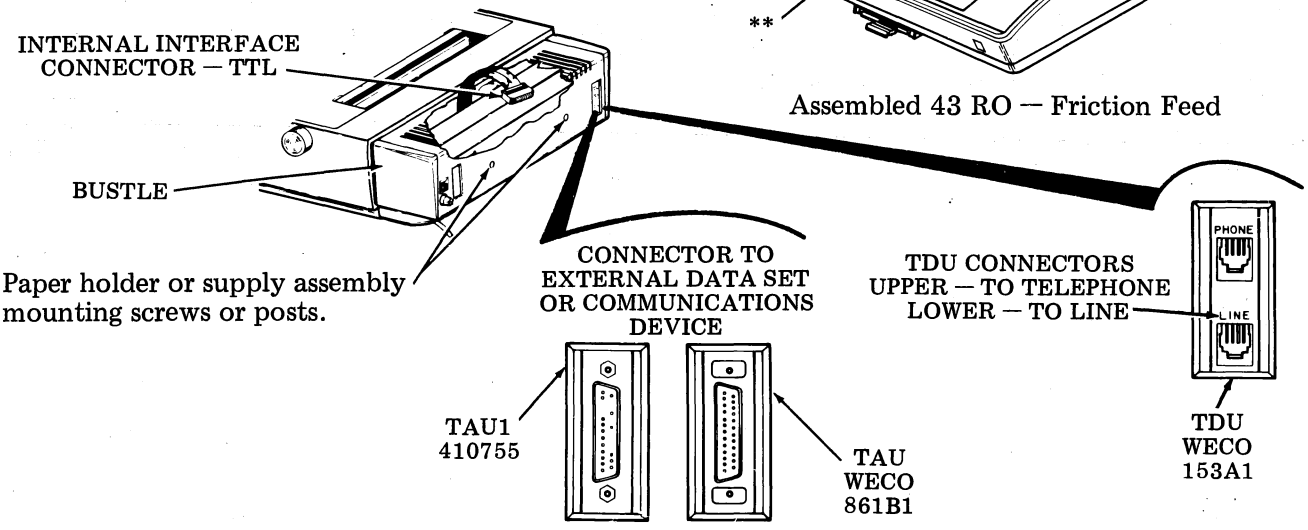


Fig. 3 — Identification

*These sets are originally furnished from the factory without an interface unit (TTL interface). Reused "C" stock terminals having other code plates as listed above may also be furnished without an interface unit. Code plates need not be changed or marked when adding or removing an interface unit as specified in 50961S included with TAU1.

** Code plate (inside).

5. ASSEMBLE TELEPRINTER

ACCESS TO INTERFACE UNIT AREA

5.01 Remove the paper holder screws (sprocket feed) or posts (friction feed) and remove rear bustle. (See Fig 3.)

MOUNTING INTERFACE

5.02 Place the TDU, TAU or TAU1 in the rear frame with the modular or EIA connector toward the left rear. Secure with (4) 341797 screws provided.

Note: If mounting holes do not match refer to 50961S included with the TAU1 for location of new holes required.

5.03 Connect the TTL connector (Fig. 3) to the circuit card or the associated external TTL device cable (internal applications only). See 5.12.

5.04 Reassemble the bustle.

KEYBOARD CONVERSION

5.05 On KSR sets with TDU remove the LOCAL and TERM READY keytops and replace with LOCAL TALK and AUTO ANSWR keytops.

CONNECTION

5.06 Place the 43 Teleprinter on the desk, table, etc, indicated by the customer. Placement should be near the external communications device or modular phone that will be used with the teleprinter.

KSR and RO Sets With TDU

Modular telephone present at installation location:

5.07 Unplug the modular plug of the D4BU cord from the modular jack associated with the telephone specified on the service order (compress tab to release) and connect it to the lower connector marked LINE on the rear of the TDU accessible through the opening in the left rear of the bustle cover (Fig. 4). If telephone is not to be placed at original phone location, a different length cord may be needed. Connect the additional modular cord between the upper connector on the TDU marked PHONE and the telephone jack.

5.08 Since the two cords are interchangeable, the selection of which cord to apply to which function is a matter of installer judgement based on length of cords available and terminal location with respect to the wall jack.

No modular telephone present at installation location:

5.09 Modify phone in Section 503-100-100 or replace with modular phone. Connect one of the arrangements shown at the 42A block to provide a modular jack.

5.10 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 the remaining end of the modular cord to the line connecting block or adapter.

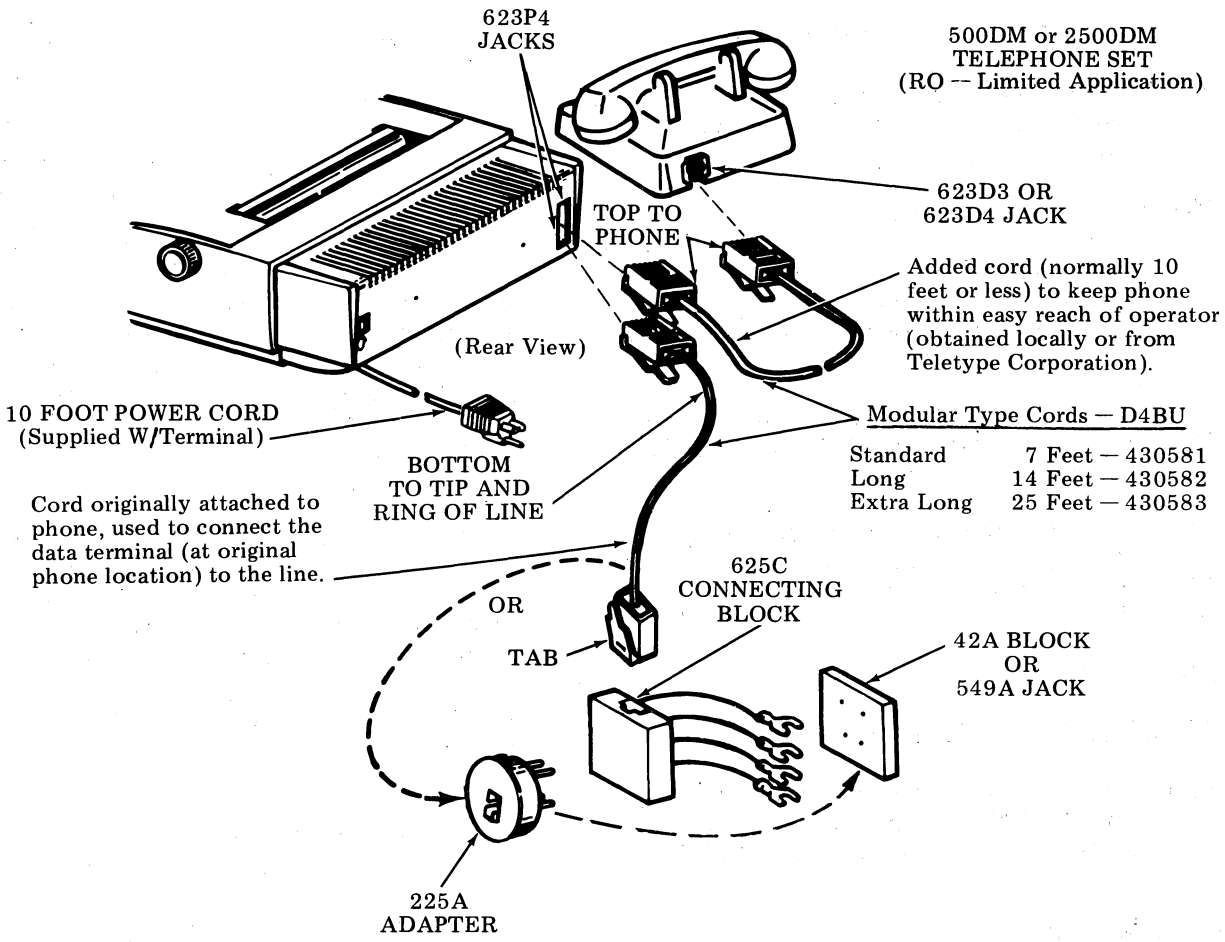


Fig. 4—Telephone Connection

KSR and RO Sets With TAU or TAU1

EIA INTERFACE CONNECTION

5.11 A 25-pin male receptacle with male pins is provided for connection to an external communications device (modem) or distant terminal. The interface meets the requirements of EIA RS-232-C. The pin assignments are given below.

5.12 The connecting cables between the terminal and the data set must be furnished with the order and should employ shielded cable. The following cables are available from Teletype Corporation.

3 foot length — 430569
7 foot length — 408065
12 foot length — 408066
25 foot length — 408067
50 foot length — 408068

TAU INTERFACE SIGNALS

Connector Pin	Signal	EIA Circuit Designation	Status
1	Protective Ground	AA	Not Wired in TAU or Recommended Cable
* 2	Transmit Data	BA	KSR, Active — RO, 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	Ring Indicator		Not Wired in TAU
* 23	Data Speed Select	CH	Always Off
‡ 24			Not Wired in TAU
25	Analog Loop Test		KSR, Active — RO, Always Off

* *Note:* Refer to 50944S if 410710 answer-back circuit card is present.
† Wired in all recommended cables except three foot cable.
‡ Wired in three foot cable only.

TAU1 INTERFACE SIGNALS

Connector Pin	Signal	EIA Circuit Designation	Status
1	Protective Ground	AA	Active
* 2	Transmit Data	BA	KSR, Active -- RO, Always Mark
3	Receive Data	BB	Active
4	Request to Send	RS	Always On
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 TAU1 or Recommended Cable
10			Not Wired in TAU1 or Recommended Cable
11	TWX Control	—	Not Wired in TAU1
12	Data Speed Indicator	SCF	Active
13	Transmit Current Loop	See Fig. 6	Active - Not Wired in Recommended Cable
14	Transmit Current Loop	See Fig. 6	Active - Not Wired in Recommended Cable
†15	Receive Current Loop	See Fig. 6	Active
16	Receive Current Loop	See Fig. 6	Active - Not Wired in Recommended Cable
17			Not Wired in TAU1
18	TWX Indicator	—	Not Wired in TAU1 or Recommended Cable
19			Not Wired in TAU1 or Recommended Cable
20	Data Terminal Ready	CD	Active
21			Not Wired in TAU1 or Recommended Cable
22	Ring Indicator		Active
23	Data Speed Select	CH	Not Wired in TAU1
‡ 24			Not Wired in TAU1
25	Analog Loop Test		KSR, Active -- RO, Always Off

* *Note:* Refer to 50944S if 410710 answer-back circuit card is present.
† Wired in all recommended cables except three foot cable.
‡ Wired in three foot cable only.

5.13 The connection to the data set and telephone (if required) should be performed following the instructions for the particular data set involved (Fig. 5).

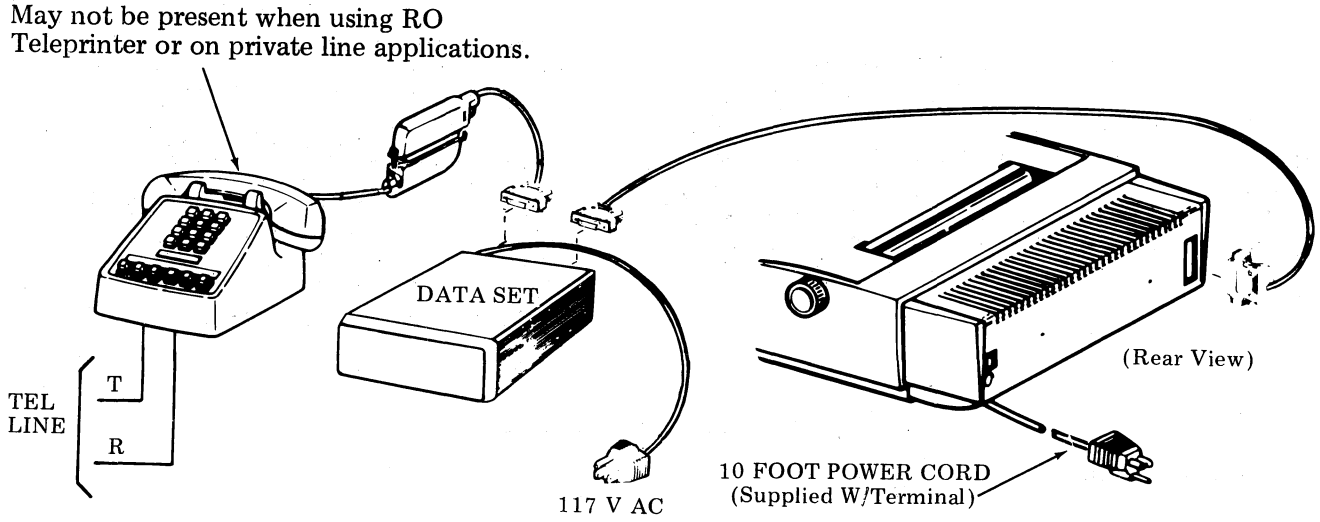


Fig. 5 Data Set Connection (Set W/TAU or TAU1)

KSR and RO Sets Without Integrated Terminal Unit

5.14 Connection to the external communications device (provided by the customer) is made through a 20-pin connector at the end of a short ribbon cable. No provision is made for adding additional cable length. The pin assignments are given on the TTL Pin Assignment Chart shown below. Refer to 574-500-150 for available connectors. See 5. for ACCESS TO INTERFACE UNIT AREA.

5.15 The connections to the communications device should be performed following the instructions for the particular device involved.

Electrical Characteristics

TTL Interface	Electrical Characteristics	
	From 43 (Drivers)	To 43 (Terminators)
State 0 (Space) On	0 to 0.4VDC	0 to 0.7VDC
State 1 (Mark) Off	2.4 to 5.25VDC	2 to 5.25VDC

TTL PIN ASSIGNMENT CHART

Pin No.	Code	Function	Status
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	KSR, Active — RO, Not Applicable
†† 4	DSS	Data Speed Select from Terminal	Not Applicable, Not Wired in TTL Cable
5	TR	Terminal Ready	Required
6	RS	Request-to-Send	Not Connected, Always Off (Issue 1B Logic Card) — Always On (Issue 2A Logic Card) Active
7	+5	+5 Volts	Not Applicable, Not Wired in TTL Cable
8		Reserved for future	
9	GND	Circuit Ground	Active
†† 10	RTS aux.	Request to Send aux.	Not Applicable, Not Wired in TTL Cable
11	-12	-12 Volts	Active
†† 12	RI	Ring Indicator	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	KSR, Active — RO, Always Marked
20		Reserved for future	Not Applicable, Not Wired in TTL Cable

†† *Note:* Refer to 50944S if 410710 Answer-Back Circuit Card is present.

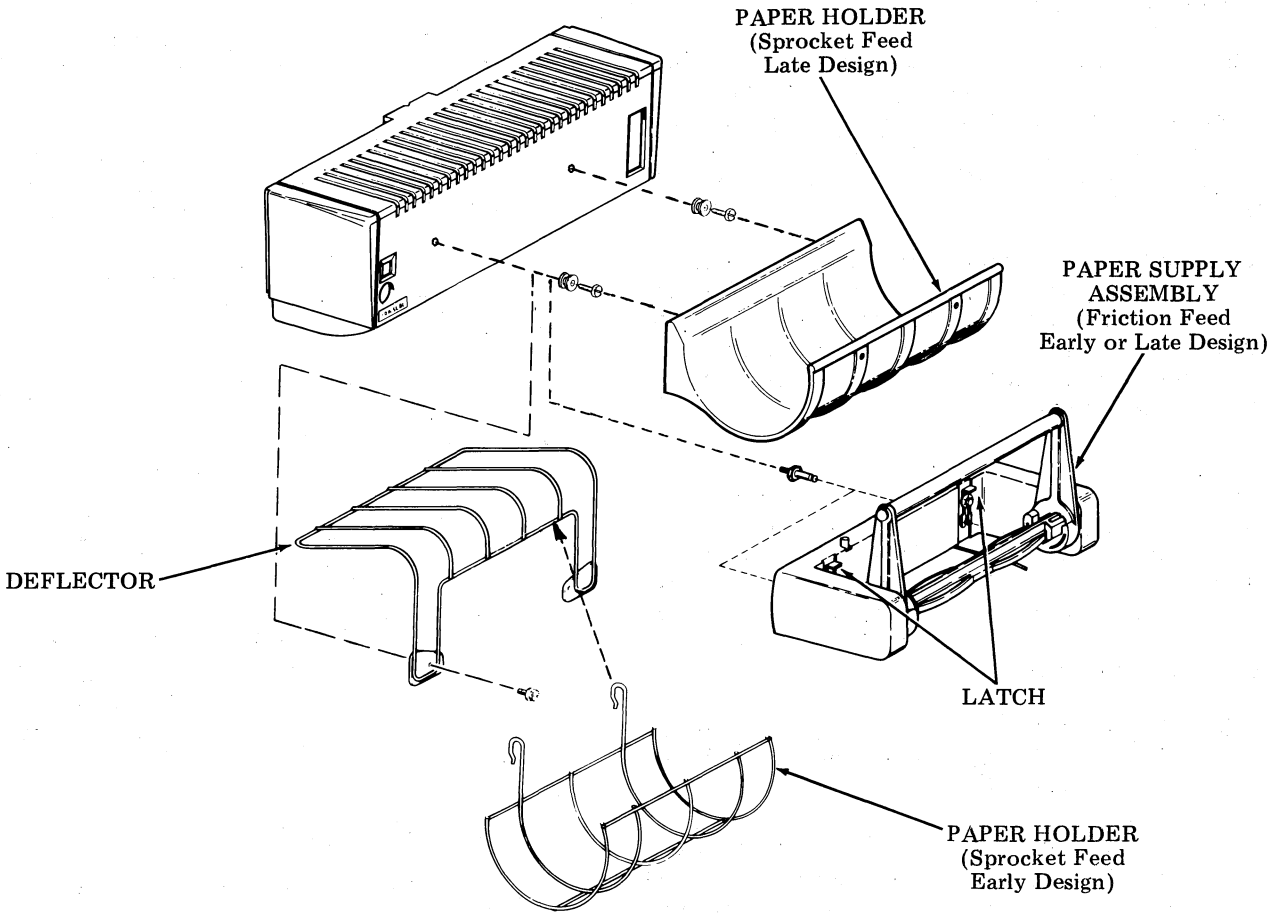


Fig. 6—Paper Holder and Paper Supply Assembly

PAPER HOLDER (Sprocket Feed)

5.16 Attach the paper holder to the deflector if present, otherwise attach it to the bustle cover by sliding down over the bushings as shown in Fig. 6.

PAPER SUPPLY ASSEMBLY (Friction Feed)

5.17 Pull the latches straight up and slide the paper supply assembly fully onto the mounting posts, located at the rear of the bustle cover. Push down on the latches until they are secured over the mounting posts.

RIBBON AND PAPER

5.18 Install the ribbon and paper supplied. Refer to the appropriate How to Operate Manual (Paragraph 3.01) for ribbon and paper installation information. Refer to Section 570-008-010 for information on other types of paper.

CHECKOUT PROCEDURE

5.19 Plug the 43 Teleprinter into a properly grounded and polarized 3-wire 115V ac ±10% 50-60 Hz electrical power source.

5.20 Perform the appropriate Station Installation Checkout Procedures (Local and On-Line) found in 43 Basic KSR Teleprinter Testing, Section 574-500-500 and RO Teleprinter Testing, Section 574-500-501 or perform a "basic operability" check using the How to Operate Manual.

DIRECTORY CARD

5.21 Record the installed location of the station (floor, area, and phone number), location of extension phone(s) if any, and the number to be called in case of trouble in the space provided on the slide-out directory card (Fig. 8).

5.22 Remove the directory card by pulling it out as far as it will go then by holding card at edges, move it slightly to one side and pivot to clear the opposite latch. Fill in the information requested on the underside of the card. Replace the directory card.

Note: If the BSP checkout procedure was performed successfully, the teleprinter has the standard engineering options incorporated as shown on the card. Record any nonstandard options enabled in the space provided on the card.

INITIATE SERVICE

5.23 Clean up the unpacking area, wipe off any finger prints on the set, and turn the 43 Station over to the subscriber.

5.24 Provide the customer with the appropriate attendant manual and discard any other extra manuals. Explain any option changes, changes in operation procedure and any special added features such as answer-back.

Note: Attendant manuals designated DATAPHONE apply to teleprinters used on the switched network. Attendant manuals designated Private Line apply to teleprinters associated with external data sets used on private lines.

5.25 Advise the customer to order spare ribbons and paper as soon as possible (quantities depending on expected usage).

5.26 Advise the customer of the "Trouble Number" location on the directory card.

5.27 Place Section 574-500-200, Installation and Removal and the Wiring Plan in the shipping containers and retain.

6. STATION REMOVAL

6.01 Reverse the procedures in 3. INSTALLATION PROCEDURE to remove the station from service (service disconnect).

6.02 If a paper holder was provided with the terminal at the time of installation (check underside of directory card) verify its presence before packing teleprinter.

6.03 Before repacking the teleprinter, move the print head to the center of the printer and insert the 28290PK packing detail removed in 3.04.

6.04 Using the containers and packing details retained in 3.05, pack the 43 Teleprinter (Fig. 7).

6.05 If a modular telephone is present, reconnect the telephone to the phone line. Retain modular cords for future use.

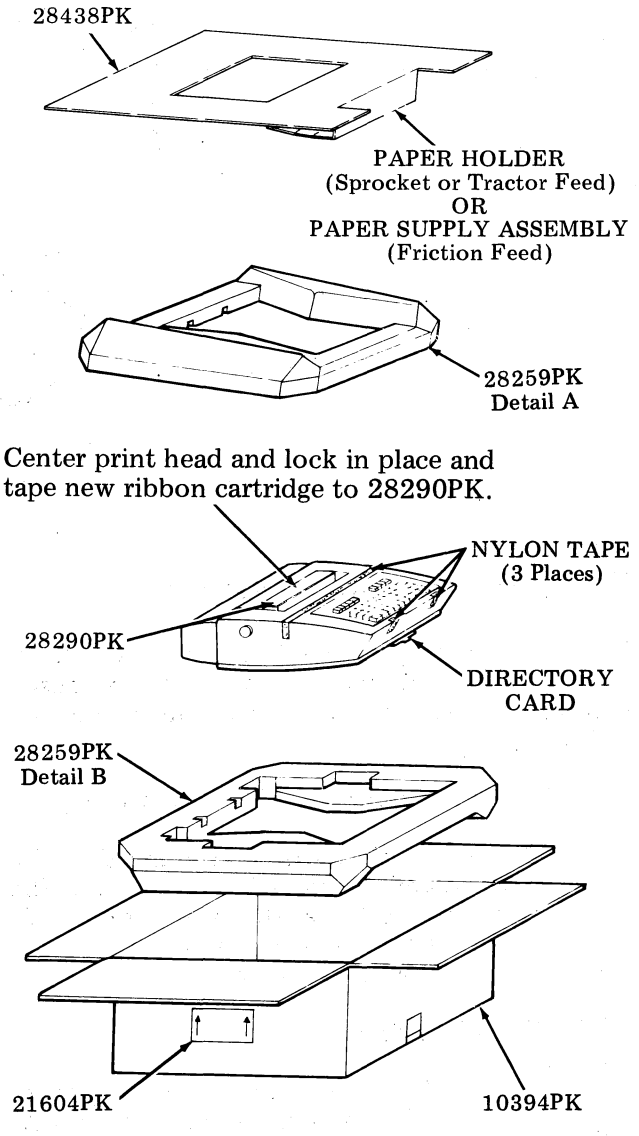
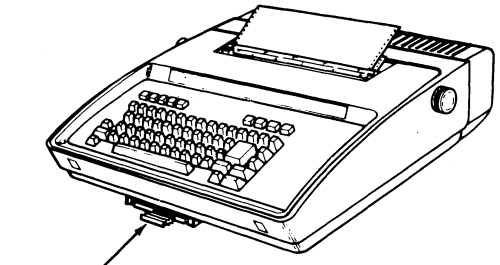


Fig. 7—Packing Details



DIRECTORY CARD

TOP SIDE

FREQUENTLY CALLED NUMBERS

NAME	AREA CODE	TEL NO
EXAMPLE		

INSTALLED LOCATION IN BUILDING

FLOOR 3 AREA Post A16 PHONE 341-7296

LOCATION OF EXTENSION PHONE IF ANY Post B16

IF THE TERMINAL DOES NOT APPEAR TO BE WORKING PROPERLY, CONSULT THE HOW TO OPERATE MANUAL THEN IN CASE OF TROUBLE CALL 362-1212

BOTTOM SIDE

STANDARD SWITCH POSITION

INSTALLATION DATE 11-4-76 INITIALS LM

CHECK MON STANDARD OPTIONS ENABLED

OPTION NO	
435	
434	b. Send Bit & Mark
433	
432	c. Line Length - 80
431	

INSTALLATION TEST PERFORMED

LOCATION Floor 3,
STATION Post A16
TEST CENTER 362-3261
MAINTENANCE SPARES — 431 W. 5th St.
LUBRICATION DATE —

FURNISHED AT INSTALLATION
ATTENDANT MANUAL
PAPER HOLDER
RIBBON & ORDERING CARD
PAPER

DATE	TROUBLE INDICATION	CORRECTIVE ACTION	INITIALS
	EXAMPLE		

Early Design

SERVICE RECORD

INSTALLATION DATE 11-4-76 INSTALLED BY L. M.
PRINTER S N 3212
MAINT SPARES LOC 431 W. 5th St.
TEST CENTER NO 362-3261
CIRCUIT NO 431-7701
LUBRICATION DATE —

INSTALLATION TEST PERFORMED

FURNISHED AT INSTALLATION
ATTENDANT MANUAL
PAPER HOLDER
RIBBON
PAPER

NON-STANDARD OPTIONS INSTALLED (NUMBER & DESCRIPTION)

#434 b. Send Bit & Mark #432 c. Line Length - 80

DATE	TROUBLE INDICATION	CORRECTIVE ACTION	INITIALS
	EXAMPLE		

NOTES:

Late Design

Fig. 8 — Directory Card