## 43 TELEPRINTER 8-LEVEL BUFFERED SEND RECEIVE (BSR) STATION

### INSTALLATION AND REMOVAL

## 1.  GENERAL

1.01    This section provides installation and removal information for fully assembled, friction feed or tractor feed, 43 Teleprinter 8-Level Buffered Send Receive (BSR) Stations. The feature group and keytop kit, which determines the operating characteristics of the teleprinter, may be furnished separately for terminals without a feature group. Specification 51055S is furnished with these partially assembled terminals to provide instructions necessary to configure and assemble the teleprinter in accordance with USOC arrangements.
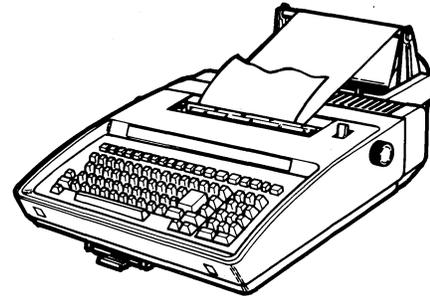


Fig.—43 Teleprinter BSR (Friction Feed)

1.02    Whenever this section is reissued, the reason for reissue will be listed in this paragraph.

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 574-500-502, 43 Teleprinter 8-Level Buffered Send Receive (BSR) Station, Testing, and Section 574-500-210, Engineering Options.

1.05    Before starting the installation procedure, verify that paper, the EIA cable and data set (modem), if required, in addition to the 43 8-Level BSR are present at the installation location.

1.06    Some or all station removal and installation procedures may be used for local station relocation.

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

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

## 2.    TOOLS REQUIRED

2.01    A 100982 screwdriver, 1/4-inch, 6 inch blade, is required to secure the data set cable to the customer provided data set (modem) if used.

## 3.    INSTALLATION PROCEDURE

A.    Unpacking (unless already done as part of pre-installation assembly at the installation site).

3.01    Select an area to unpack the carton so that damage to the terminal will not occur.

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

*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.*

3.03    The tabletop 43 Teleprinter BSR, tractor or friction feed, is furnished in a single carton.

3.04    Unpack the carton referring to instructions on the container. Remove tape securing the cover and paper separator to the housing (Fig. 2). If tractor feed, remove tape from tractor mechanism and roller bail.

*Note:*    Observe all "Caution" notes printed on the carton.

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

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

3.07    Verify that the following items are included in the box:

1—Teleprinter Set (4340BZJ or 4340BZD)
1—Ribbon
1—Practice, Installation and Removal (Section 574-500-201)
1—Manual, How To Operate 999-300-135
1—Paper Supply assembly (Friction Feed) or Paper Holder (Tractor Feed)

*Note:*    Paper for tractor feed terminals must be obtained locally or ordered separately. Refer to How To Operate Manual 999-300-135.

B.    Assembly

3.08    Position the terminal on a table or suitable stand, in the location specified by the customer. A minimum of 6 inches of space behind the terminal is required when the paper holder (tractor or friction feed) is used to feed the paper and 9 inches of space is required when sprocket feed paper is fed from a box behind the terminal on the floor. Additional space is required if paper with folded form lengths greater than 8-1/2 inches is used.
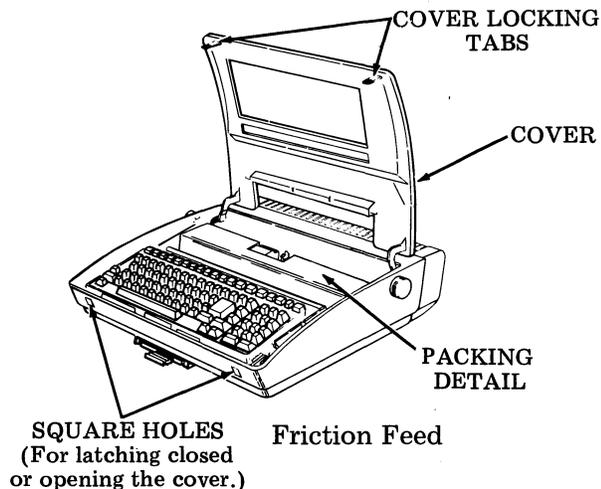


Tractor Feed



COVER LOCKING TABS

COVER

PACKING DETAIL

SQUARE HOLES
(For latching closed or opening the cover.)     Friction Feed

Fig. 2—Packing Detail

3.09    Assemble the paper holder or paper supply assembly as shown in Fig. 3.

(a)    Tractor Feed:   Attach the paper holder to the bustle cover by sliding down over the bushings.

(b)    Friction Feed:   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.

3.10    With ac power to the customer supplied data set turned off, connect the EIA data set cable to the terminal as shown in Fig. 4.

Secure by using two captive screws on plug. To accomodate distances up to 50 feet, the following shielded EIA cables are available from Teletype Corporation:

    3 Ft. Length — 430569
    7 Ft. Length — 408065
    12 Ft. Length — 408066
    25 Ft. Length — 408067
    50 Ft. Length — 408068

*Note:*   Data set must be located within 50 feet from the terminal.

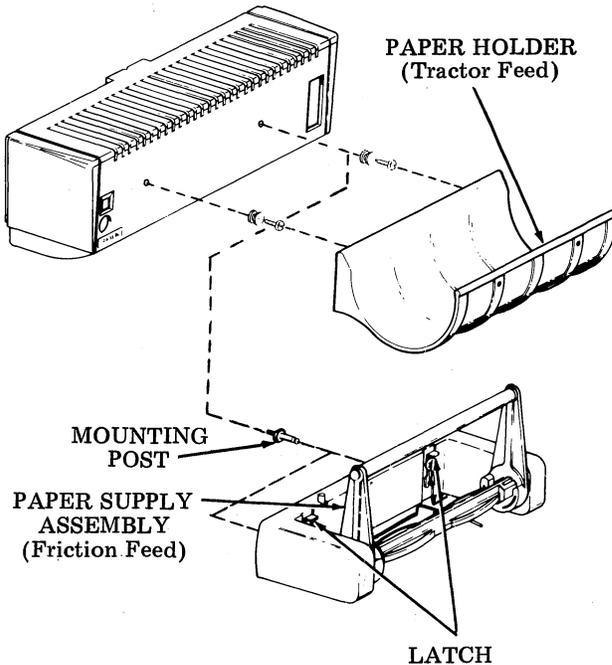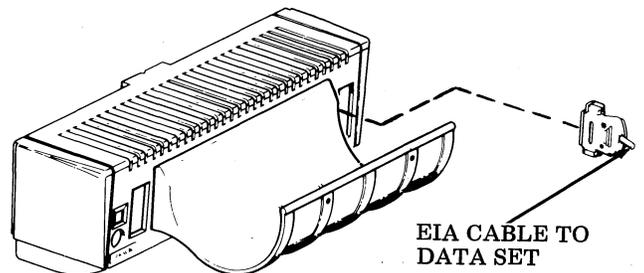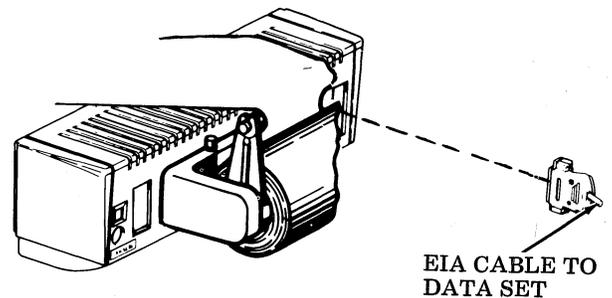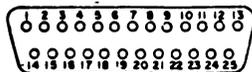See Page 4 for EIA interface leads and descriptions.



PAPER HOLDER (Tractor Feed)

MOUNTING POST

PAPER SUPPLY ASSEMBLY (Friction Feed)

LATCH

Fig. 3



EIA CABLE TO DATA SET

Tractor Feed (Rear View)

EIA CABLE TO DATA SET

Friction Feed (Rear View)

Fig. 4

## INTERFACE LEADS

| TERMINAL | | DATA SET |
|---|---|---|
| 1 (AA) | PG | |
| 2 (BA) | SD → | |
| 3 (BB) | RD ← | |
| 4 (CA) | RTS → | |
| 5 (CB) | CTS ← | |
| 6 (CC) | DSR ← | |
| 7 (AB) | SG | |
| 8 (CF) | CD ← | |
| 11 (SCA)● | SRTS → | |
| 12 (SCF) | RATE I ← | |
| 15 (DB) | SCT ← | |
| 17 (DD) | SCR ← | |
| 19 (SCA)● | SRTS → | |
| 20 (CD) | DTR → | |
| 22 (CE) | RING I ← | |
| 23 (CH) | RS → | |
| 25 (AC) | AL → | |
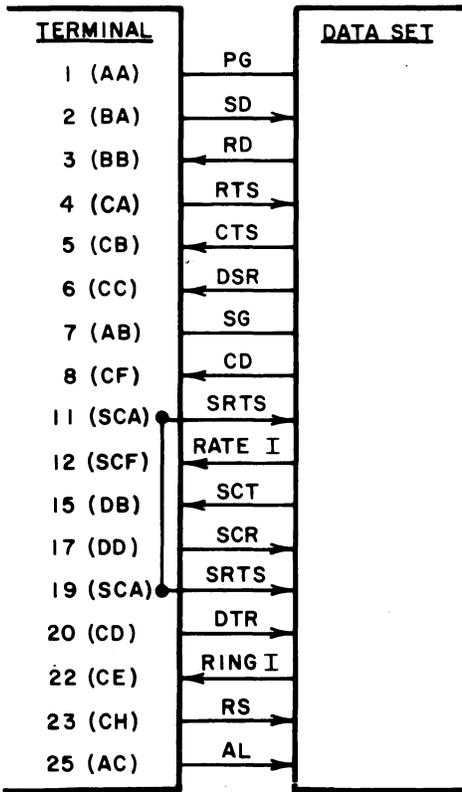
EIA Connector Pin Locations

Electrical Characteristics

| EIA (RS232) Interface | Electrical Characteristics | |
|---|---|---|
| | From 43 | To 43 |
| State 0 (space) On | +3 to +25 V dc | +3 to +25 V dc |
| State 1 (mark) Off | -3 to -25 V dc | -3 to -25 V dc |

PG — Protective Ground.

SD — Send Data. Mark in all modes varies when on-line and sending data.

RD — Receive Data. In state supplied by Data Set.

RTS — Request To Send. ON if DTR and DSR are on.

CTS — Clear To Send. Must be on for teleprinter to send. May be on or off to receive.

DSR — Data Set Ready. DSR and CD ON puts teleprinter in Term On Line mode if DTR is on. If DSR is OFF > 450 ms teleprinter switches from Term On Line to Term Ready.

SG — Signal Ground.

CD — Carrier Detect. CD and DSR On puts teleprinter in Term On Line mode if DTR is on. If CD turns off, teleprinter remains in Term On Line mode for approximately 20 seconds then switch to Term Ready. Data will appear to be sent but will not. If CD is restored in less than 20 seconds sending will resume with possible loss of one or two characters.

SRTS — Secondary Request To Send. Wired internally always OFF. Also strapped to Pin 19.

RATE I — Rate Indicator. Controlled by dual speed data set. OFF is low speed and ON is 1200 Baud. If not connected or user programmable, Option 212 = n then speed is determined by Option Speed.

SCT — Serial Clock Transmit. Wired but not active in terminal.

SCR — Serial Clock Receive. Wired but not active in terminal.

DTR — Data Terminal Ready. OFF if teleprinter in term local, ON if teleprinter in Term Ready or Term On Line mode. Receipt of Dscnt (Option) character or depression of Term Ready if in Term On Line mode turns off DTR for 50 ms. Alarm condition turns off DTR if in Term Ready mode. Alarm does not turn off if in Term On Line mode. Off when controller self-test is entered.

RING I — Ring Indicator. On condition Primes terminal answer-back. Not connected is an OFF.

RS — Rate Select. Wired internally always OFF.

AL — Analog Loopback. Wired internally always OFF.

C. Ribbon and Paper Installation

3.11 Install the ribbon and paper. Refer to the How To Operate Manual 999-300-135.

D. Checkout Procedure

3.12 Connect the data set and terminal power cords to a properly polarized and grounded source of 115 Vac power (50 or 60 Hz). Normally the power cords should be connected to unswitched outlets to avoid loss of stored data or call disconnects. Fuse protection should be time delayed and provide for a running current of 0.8 A for the terminal.

3.13 Certain user programmable options listed below should be reviewed to properly interface the 43 8-level BSR teleprinter with the data set and/or to meet system requirements. To enter the options mode, depress TERM LOCAL and KP ON — SR keys (lights on), then depress CTRL and – (minus) keys simultaneously. The option list is stepped by depressing the "next line" key on the numeric pad. Depress CTRL and + keys to store the options. See directory card for options list.

3.14 If any of the options changed from the furnished condition, enter the new values in the RECORD OF USER PROGRAMMABLE OPTIONS section of the directory card. (See Fig. 5.)

3.15 Perform the teleprinter installation checkout procedures found in Section 574-500-502, 43 Teleprinter 8-Level BSR Station, Testing.

E. Directory Card

3.16 Record the installed location of the station (floor, area, and phone, if any), location of extension phone if any, and the number to be called in case of trouble in the space provided on the slide-out directory card (Fig. 5). Also mark the appropriate memory size.

3.17 To remove the directory card, pull 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 card. Replace the directory card.

3.18 Clean up the unpacking area, wipe off any fingerprints on the set, and turn the 43 BSR station over to the subscriber.

| MNEMONIC | DESCRIPTION | STATE FURNISHED |
|---|---|---|
| Speed | The decimal value for the baud rate of the terminal. If a dual speed data set is used (212 type) this option is the baud rate for the low speed mode. Allowed values: 0110, 0200, 0300, 0600, 1200, 1800 (leading zeros must be included). | 0300 |
| StopU | The number of stop units in a transmitted character. Allowed values: 1, 2 (2 stop units is usually associated with 110 baud rate. 1 stop unit is usual for all other speeds). | 1 |
| DS212 | A "y" response conditions the terminal for dual speed operation with a 212 data set. The low speed of operation will be as specified by the Speed option and the StopU option. The high speed of operation will always be 1200 baud, using the HsStp option for stop bit definitions. | n |
| HsStp | The number of units in the stop element for the 212 data set high speed mode. Values allowed: 1, 2 (1 is the usual value). | 1 |

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DIRECTORY
CARD

F.    Initiate Service

3.19   Provide the customer with the How To Operate Manual 999-300-135.

3.20   Inform customer that terminal must be ON for at least 10 hours to fully charge the controller battery.

3.21   Advise the customer of the "trouble number" location on the directory card.

3.22   Properly dispose of the shipping container.

| FREQUENTLY CALLED NUMBERS | | |
|---|---|---|
| NAME | AREA CODE | TEL. NO. |
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INSTALLED LOCATION IN BUILDING
FLOOR *3*   AREA *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*

**RECORD OF OPTIONS NOT PROGRAMMABLE BY USER**

MEMORY SIZE  4K [*]  16K [ ]  32K [ ]

TYPE FONT SWITCHES
TYPE FONT  OO [*]  Oφ [ ]  φo [ ]
(1 ON)(2 ON)  (1 OFF)(2 ON)  (1 OFF)(2 OFF)
(NUMERIC)

SWITCHES 3,4 & 5 MUST REMAIN OFF

SWITCHES SHOWN AS FACTORY FURNISHED

**RECORD OF USER PROGRAMMABLE OPTIONS**
(REFER TO HOW TO OPERATE MANUAL)

Speed = [ ][ ][*][ ][ ][ ]
0110 0200 0300 0600 1200 1800

StopU = l [*] or 2 [ ]

LgKey = ← [*] or [ ]

SmKey = ≡ [*] or [ ]

LfBdy = OOO [*] or [ ]

RtBdy = O80 [*] or [ ]

FmLgf = OOO [*] or [ ]

HTon? = n [*] or y [ ]

VTon? = n [*] or y [ ]

PtNL? = n [*] or y [ ]

DbLF? = n [*] or y [ ]

RBSze = [*] or [ ]
02000

RBufW = lOO [*] or [ ]

RBlow = 5OO [*] or [ ]

FlWrn = BRK [*] or XOF [ ]

RBntl = n [*] or y [ ]

EBWrn = 132 [*] or [ ]

ABoa? = n [*] or y [ ]

MsEnd = [ ]

StpSn = [ ]

StrSn = [ ]

NegRs = [ ]

Dscnt = [ ]

DLEr? = n [*] or y [ ]

PrTyp = [*] or [ ] or [ ] or [ ]
E(EVEN)   O   M   S

RcPor = n [*] or y [ ]

DS212 = n [*] or y [ ]

HsStp = l [*] or 2 [ ]

Duplx = h [*] or f [ ]

ABmsg = [ ]

[*] STATE OF OPTION FURNISHED UNLESS OTHERWISE CHECKED [✓] OR WRITTEN IN [7][5][0] OR [Gs][ ]

Fig. 5—Directory Card

## 4. STATION REMOVAL

4.01 Reverse the procedures in 3. INSTALLATION PROCEDURE to remove the teleprinter from service.

4.02 Before repacking the teleprinter, move the print head to the center of the printer and insert the packing detail and new ribbon removed in 3.05.

4.03 Tape the units as shown in Fig. 6.

4.04 Using the proper containers and packing detail, pack the 43 teleprinter as shown in Fig. 6.

4.05 Close and seal the carton flaps with three strips of tape, apply one strip to each of the seam ends and one strip the length of the carton.

4.06 Mark the outside of the carton with the teleprinter code (ie, 4340BZD).

4.07 If the station qualifies as a "Working Station" candidate, mark the return material ticket in the appropriate block.
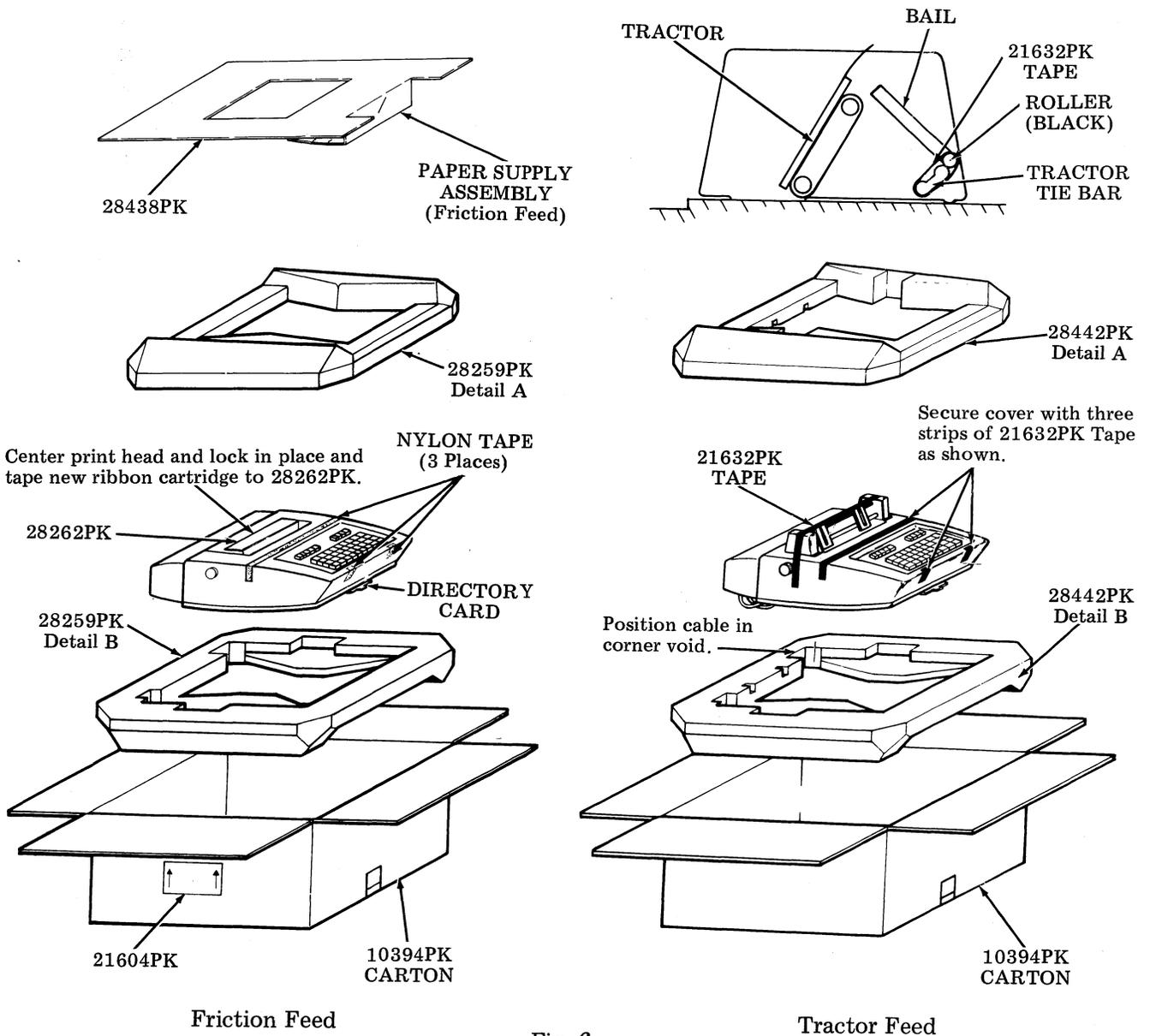
28438PK

PAPER SUPPLY ASSEMBLY (Friction Feed)

28259PK Detail A

Center print head and lock in place and tape new ribbon cartridge to 28262PK.

NYLON TAPE (3 Places)

28262PK

DIRECTORY CARD

28259PK Detail B

21604PK

10394PK CARTON

Friction Feed

TRACTOR

BAIL

21632PK TAPE

ROLLER (BLACK)

TRACTOR TIE BAR

28442PK Detail A

Secure cover with three strips of 21632PK Tape as shown.

21632PK TAPE

28442PK Detail B

Position cable in corner void.

10394PK CARTON

Tractor Feed

Fig. 6