ANSWER-BACK FOR "DATASPEED*" TERMINALS

INSTALLATION

1. GENERAL

1.01 This section provides installation and related information for DATASPEED 40AB101/AA and 40AB101/AC Answer-Backs. The 40AB101/AC Answer-Back is the replacement of 40AB101/AA Answer-Back with added features. The answer-back assemblies are factory assembled and tested, and are usually installed in DATASPEED 40/1 or 40/2 Terminals or DATASPEED Magnetic Tape Terminals used in switched network applications.

1.02 This section is reissued to incorporate the 40AB101/AC Answer-Back and the latest engineering changes available at this time.

1.03 When ordering replaceable parts or components, unless otherwise specified, prefix each part number with the letters "TP" (ie, TP410055).

1.04 The 341896 cable assembly is included with the answer-back. For DATASPEED 40 applications a 403404 cable assembly must be ordered separately. All magnetic tape terminals and some early design DATASPEED 40 Terminals require wiring modifications to supply power to the answer-back assembly. Refer to Part 4. INSTALLATION in this section for instructions on modifying these terminals.

1.05 There is no routine maintenance procedure for the answer-back assembly. Defective assemblies are replaced in the field with

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the exception of the 410724 diode matrix card (Fig. 1), which may be retained with the new unit.

1.06   The following Wiring Diagrams (WD) and Circuit Descriptions (CD) shipped with the answer-back also contain helpful operating and installation information.

40AB101/AA Answer-Back:

WDP 0434	Wiring Diagram Package
4722SD	Schematic Diagram
4722CD	Circuit Description
4723SD	Schematic Diagram
4723CD	Circuit Description
4724SD	Schematic Diagram
4724CD	Circuit Description

40AB101/AC Answer-Back:

WDP 0434	Wiring Diagram Package
4724SD	Schematic Diagram
4724CD	Circuit Description
4732SD	Schematic Diagram
4732CD	Circuit Description

1.07   References to left, right, front and rear are viewed from the operator's position facing the terminal. Standard tools required for installation are listed in Section 570-005-800.

2.   UNPACKING

2.01   The following procedure is recommended for unpacking and inspection of the answer-back assembly:

(a)   Remove tape from carton lid.

(b)   Open carton flaps, remove drawings and envelope containing cables, straps, clips and mounting hardware.

(c)   Remove answer-back from carton.

(d)   Remove the four mounting screws securing cover to box. Remove cover and retain screws.

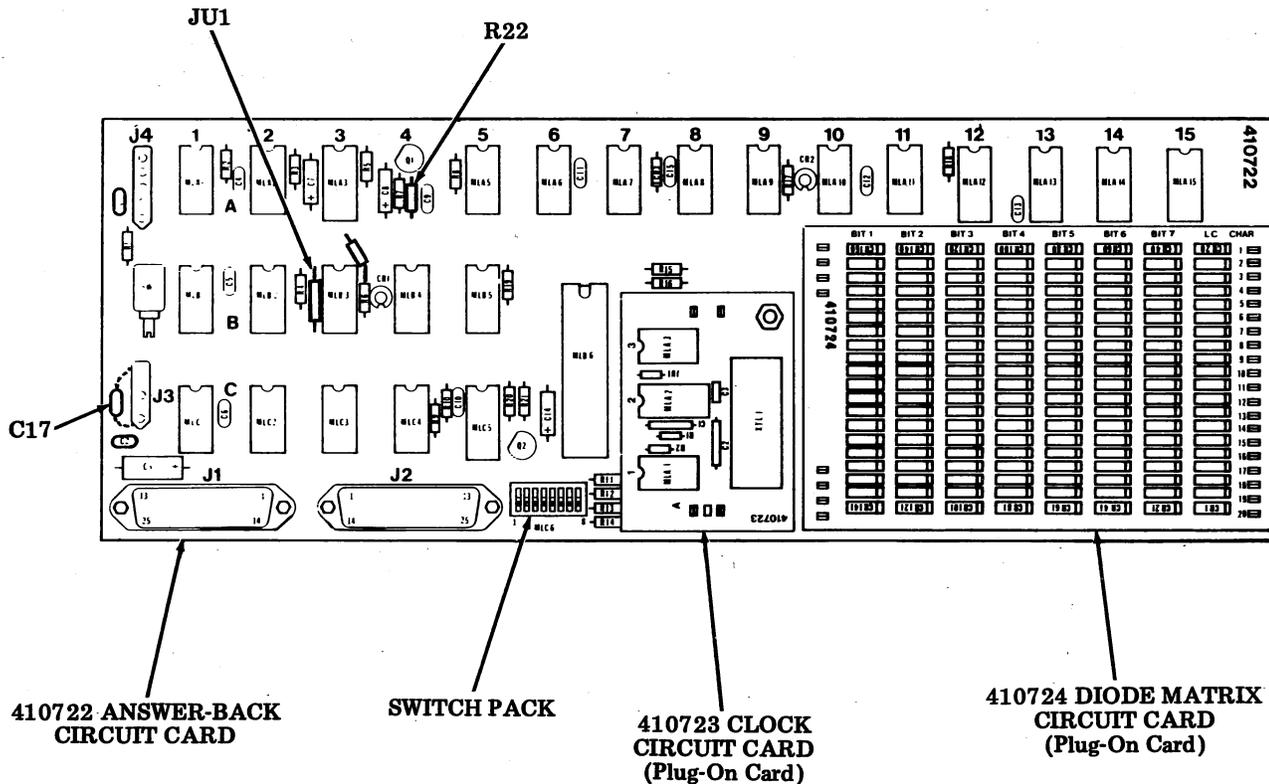(e)   Inspect circuit cards for visible damage.

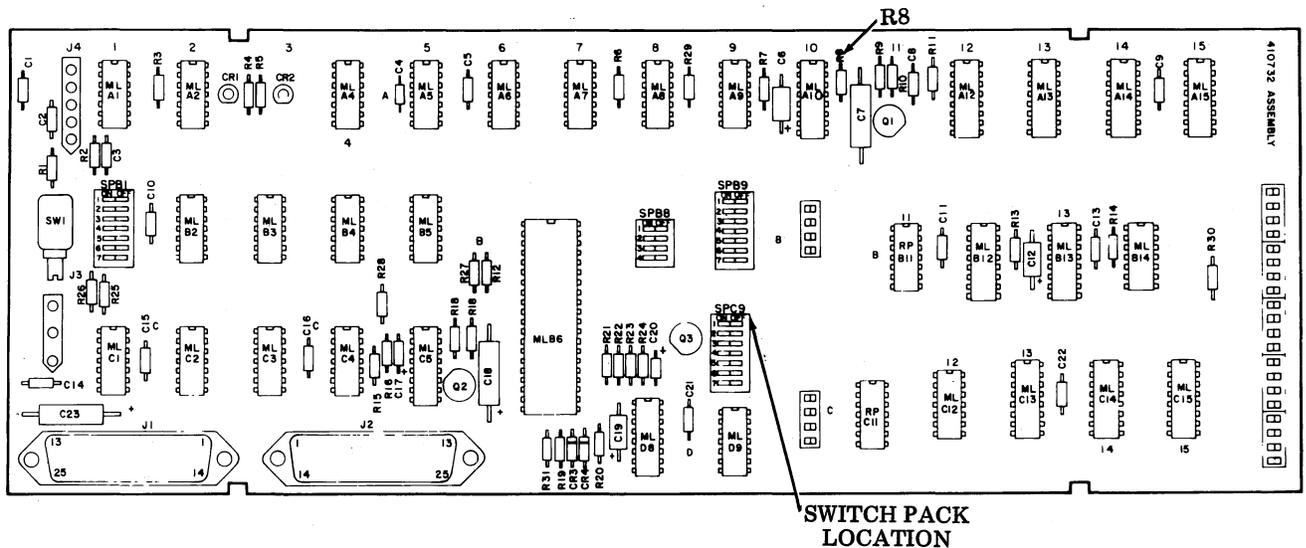Fig. 1—Answer-Back Assembly Circuit Cards in 40AB101/AA

Fig. 2—410732 Answer-Back Card in 40AB101/AC

(f) Make sure 410723 and 410724 circuit cards are secure in their receptacles on the 410722 circuit card (Fig. 2).

(g) Follow programming instructions in Part 3. PROGRAMMING AND OPTIONS.

3. PROGRAMMING AND OPTIONS

A. Diode Matrix Card Programming

3.01 The answer-back message is programmed on the 410724 diode matrix circuit card (Fig. 1). This card contains 20 character rows of diodes with seven bits per row. The eighth bit of each character (parity) is programmed by setting Option 76 (see Option Chart) as directed in 3.05.

3.02 Diodes are disconnected for marking bits and left connected for spacing bits, the LC diode is left connected for the last character sent. Program character bits for the AB according to coding of the associated equipment.

Note: Diode matrix card may be unplugged from 410722 (40AB101/AA) or 410732 (40AB101/AC) answer-back card for programming procedure.

3.03 To program a marking bit cut both diode leads and remove diode (Fig. 3). Leave diode connected for spacing bits.
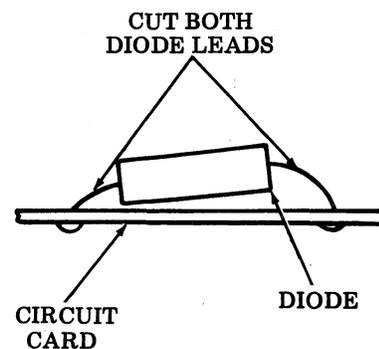
Fig. 3—Diode on Matrix Circuit Card

3.04   Leave diode connected in the right-hand row (LC) for last character sent, cut LC diodes for all
previous characters programmed (Fig. 4).

B.   Answer-Back Options

3.05   The 410722 (40AB101/AA) circuit card (Fig. 1) includes one 8-position switch pack for optioning.
The 410732 (40AB101/AC) circuit card (Fig. 2) includes three 7-position switch packs and one
4-position switch pack for optioning. Use the following Option Chart to program AB options.

Fig. 4—Programming Example

OPTION CHART

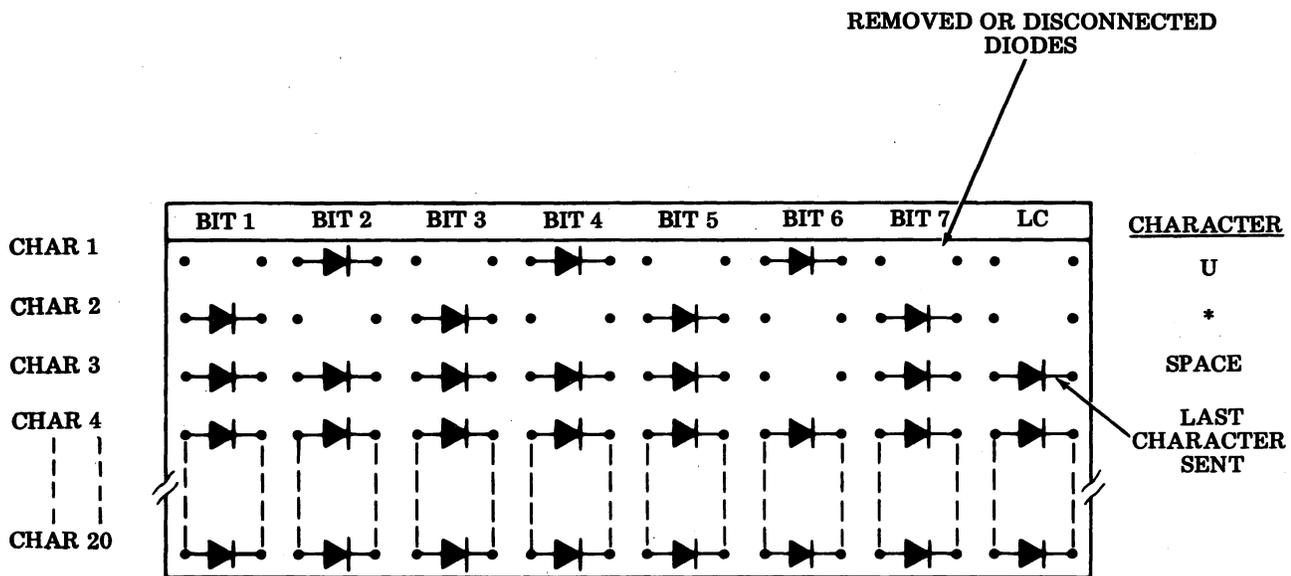| No.		OPTIONS	MLC6-1	2	3	4	5	6	7	8	AA†	MLB1-1	2	3	4	5	6	7	MLB8-1	2	3	4	MLB9-1	2	3	4	5	6	7	MLC9-1	2	3	4	5	6	7	AC†
		CIRCUIT CARD	\multicol TP410722									\multicol TP410732																									
		SW PACK LOCATION	MLC6									MLB1							MLB8				MLB9							MLC9							
70	a.	Answer-Back Message Coded (See 3.04)																																			
	b.	Not Coded									†																										†
71	a.	Answer-Back on ENQ Enabled (See 3.12)				●					†	●																									†
	b.	Not Enabled				O						O																									
72	a.	Disconnect on Loss of Carrier for 45 Seconds	NOT AVAILABLE										●	O																							
	b.	Disconnect on Loss of Rev. Chan. for 45 Seconds											O	●																							
	c.	Disable Disconnect Timer											O	O																							
73	a.	Reverse Channel Required (See 3.06)		O	●										●																						
	b.	Not Required		●	O						†				O																						†
74	a.	AB on Auto Answer Enabled (See 3.11)	●								†						●																				†
	b.	Not Enabled	O														O																				
75	a.	Local Copy Yes (See 3.07)																			O																
	b.	No									†										●																†
76	a.	Parity Even					O				†					O																					†
	b.	Odd					●									●																					
77	a.	Data Bits 5 (See 3.10)	NOT AVAILABLE																●	●																	
	b.	6 (See 3.10)	NOT AVAILABLE																O	●																	
	c.	7						●	O		†								●	O																	†
78	a.	1 Stop Bit								●												●															
	b.	2 Stop Bits								O												O															
79	a.	Baud Rate 75	NOT AVAILABLE																				●	O	O	O	●	O	●	●	●	●	●	●	●	●	
	b.	110																					●	O	●	●	●	●	●	O	●	●	●	O	O	●	
	c.	150																					●	O	O	O	●	O	●	●	●	●	●	●	O	●	
	d.	300	NOT AVAILABLE																				O	●	O	O	●	●	O	●	●	●	●	●	O	●	
	e.	1050 (See 3.09)									†												O	O	O	●	●	O	O	●	●	●	●	●	O	●	
	f.	1200 (See 3.09)																					O	O	O	●	O	O	O	●	●	O	●	●	O	●	†
	g.	1800																					O	O	O	O	●	O	●	●	O	●	●	●	O	●	
	h.	2400																					O	O	O	O	O	O	●	O	O	●	●	●	O	●	
	i.	4800	NOT AVAILABLE																				O	O	O	O	O	●	O	O	●	O	●	●	O	●	
	j.	9600																					O	O	O	O	●	O	O	O	O	O	O	●	O	●	
80	a.	Manual Operation (Here Is) No †																																				
	b.	Yes	Customer Supplied See 2.07																																		

● Switch closed (black dot down)
O Switch open (black dot up)
† Factory option

3.06   If Reverse Channel (Option 73.a.) is used, remove resistor R22 (5100 ohms) from 410722 Area A4 (Fig. 1) or resistor R8 (5.1K ohms) from 410732 Area A10 (Fig. 2) to make Clear To Send (CTS) signal time delay 4 seconds instead of 22 milliseconds.

3.07   The answer-back message can be locally copied by the host terminal, if Option 75.a. is selected, by cutting option strap JU1 on 410722 circuit card Area A3 (Fig. 5) or by setting MLB1 SW7 open on 410732 circuit card.
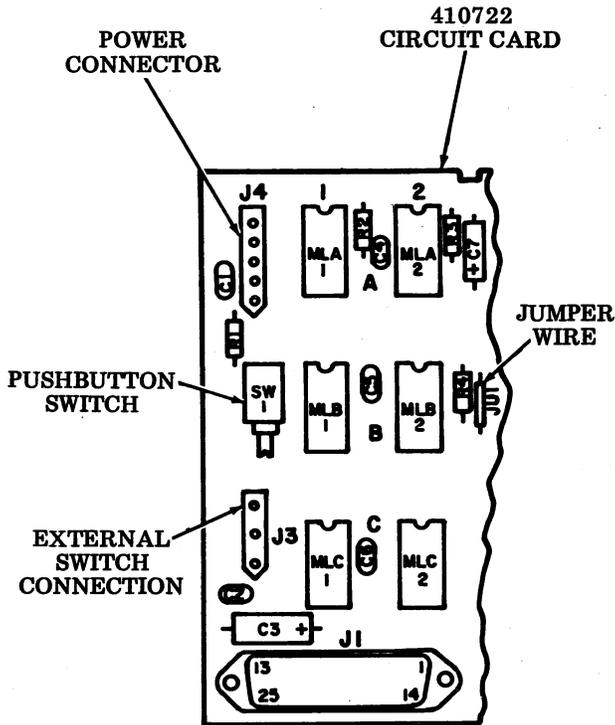

Fig. 5—Left-Hand Part of Answer-Back Card (410722)

C.   Baud Rate

3.08   Operating speed (Option 79) may be programmed to conform to the operating speed of the associated terminal by cutting a strap (if necessary) on the 410723 clock card as shown in Fig. 6 or by setting option switches on 410732 as shown in Option Chart.
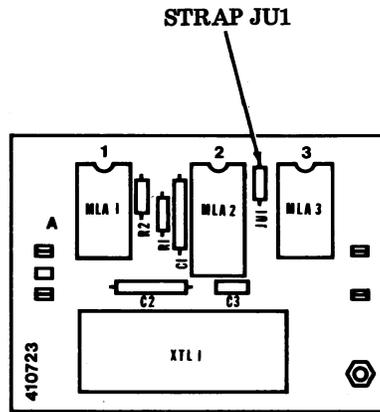
Fig. 6—410723 Clock Circuit Card

3.09   For operating speed of 1050 baud with 410722 circuit card, leave strap (JU1) uncut. For 1200 baud operating speed with 410722 circuit card, cut strap (JU1) on both ends and remove.

Note: Clock card may be unplugged from answer-back card for programming procedure see Part 5 DISASSEMBLY/REASSEMBLY).

3.10   If Option 77.a. (five data bits) or Option 77.b. (six data bits) are selected, program the 410724 diode matrix card starting with bit one and ending with the bit number selected. All excess bits will be ignored by the AB logic. Five-level baudot can not be generated.

3.11   Calls that are manually answered will not enable the answer-back provided there is a 4-second delay between the receiver being taken off hook and the data mode switch depressed. In this case, auto answer (Option 74.a.) is ignored.

3.12   For Option 71.a. ENQ operation with 212A data set and 40AB101/AA answer-back, the land at MLA8-5 for CTS input must be cut.

4.   INSTALLATION

4.01   Mounting the answer-back assembly in DATASPEED 40 or Magnetic Tape Terminals may require some wiring changes to these terminals in order to supply power to the answer-back. Carefully follow the modification instructions on the appropriate terminal.

MAGNETIC TAPE TERMINALS

A. Modifications to Magnetic Tape Terminals

Note: Turn off power to magnetic tape terminal before starting modifications to the terminal or installation of the answer-back.

4.02 Open door to electronics module of terminal and modify electronics module as follows:

(a) If present, remove screw, lockwasher, flat washer and module clamp from bottom front edge of electronics module and slide module forward out of cabinet and place on floor.

(b) Make the following connections in the electronics module wiring field with three 344373 straps (included with answer-back) as shown in Fig. 7.

FROM J112	TO XZ13	
Pin B9	Pin B2	(+12 volts dc)
Pin B10	Pin B33	(-12 volts dc)
Pin A12	Pin B1	(+5 volts dc)
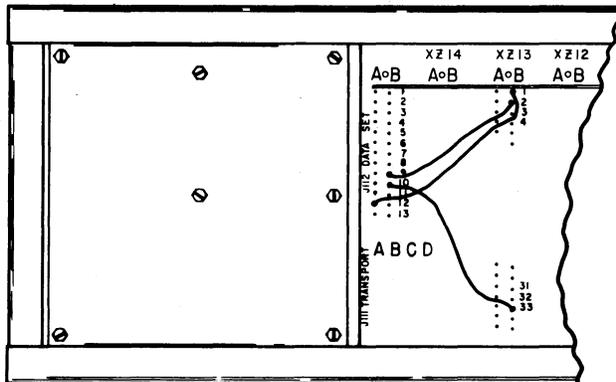
Fig. 7—Modifications to Magnetic Tape Terminals

Note: If the magnetic tape terminal is used in the future with the answer-back removed, the three TP344373 straps must be removed from the electronics module wiring field.

(c) Remove the 337496 fuse cover from the power supply and replace the F3 fuse (2.5A) with the 171658 fuse (3.0A — fast acting) furnished with the 40AB101/AC answer-back. Install the two 181844 fuse plates (3.0A), also furnished, over the designation 2.5A for the F3 fuse on the 337360 cover (through which the fuse holders extend) and on the 337496 fuse cover. The part number 321955 may be scratched off the 337496 fuse cover using a sharp edged blade, and 171658 printed in with a pen. Replace the 337496 fuse cover. See Fig. 8.
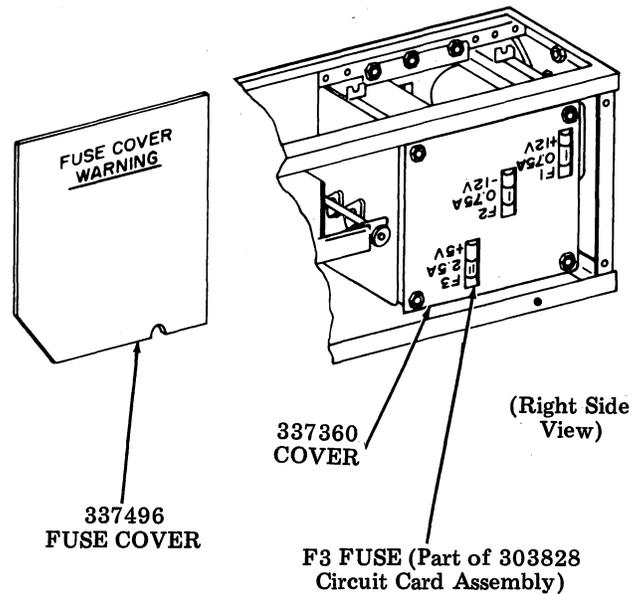
Fig. 8—Electronics Module With Power Supply in Magnetic Tape Terminal

(d) When the 40AB101/AC answer-back is used in a magnetic tape terminal, it is desirable to cool the electronic components by means of a fan. DMAC800 cabinets manufactured after March 1976 are equipped with a ventilation fan. For cabinets of earlier manufacture, a 345701 modification kit (to provide a ventilation fan for the DMAC800 cabinet) is available.

4.03 The modifications to the magnetic tape terminal are now complete. Proceed to Installation in Magnetic Tape Terminals.

B.   Installation in Magnetic Tape Terminals

4.04   The answer-back cover and cover mount-
         ing screws are not used when installing the
answer-back in a magnetic tape terminal.

4.05   Disconnect the 337380 data set cable
         (between the data set and electronics
module) at the data set and plug it into answer-
back J1 connector (Fig. 1 and 2). Connect 341896
cable (shipped with answer-back) to J2 on
answer-back and connect other end to the data
set (Fig. 9).

184055 SCREW

337434 CLIP

341896 CABLE

337380 CABLE
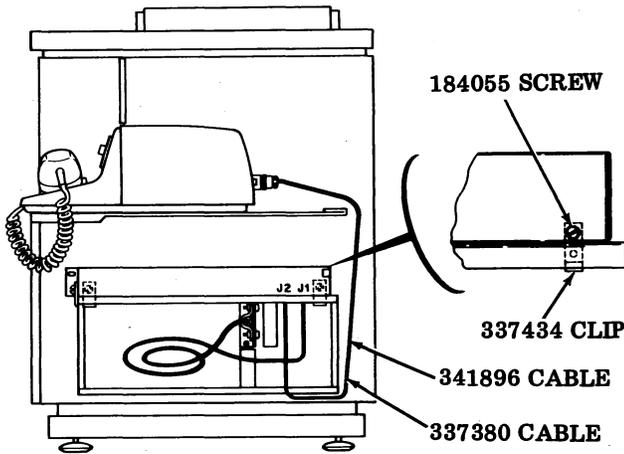
Fig. 9—Answer-Back in Magnetic Tape Terminal

4.06   Attach the answer-back to the electronics
         module of the magnetic tape terminal.
with three 337434 clips and three 184055 screws
(shipped with the answer-back) as shown in Fig. 9.

4.07   Lift the electronics module with the
         answer-back mounted on it and slide it
into the bottom of the magnetic tape terminal
cabinet. If module clamp was used, reinstall with
screw, lockwasher and flat washer.

"DATASPEED" 40 TERMINALS

4.08   Wiring changes must be made to the
         DATASPEED 40 Terminal if it has not
already been modified to supply power to the
answer-back. In the RO, the PTR connector on
the electronics package must have pins in posi-
tions 4, 5, 7, and 8 (Fig. 10). If the terminal is a

KD or KDP, the opcon connector on the electro-
nics package must have a pin in position 5 (Fig.
10). If these pins are not present, perform the
modifications appropriate to the DATASPEED
40 Terminal before installing the answer-back.

(Rear View)
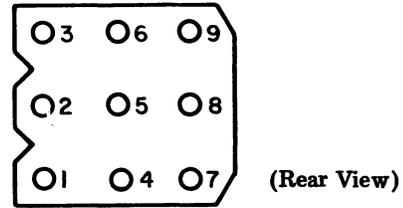
Fig. 10—SSI Connector (Printer or Opcon)

A.   Modifications to DATASPEED 40 Terminals

RO Terminals

4.09   If the printer connector on the electronics
         package does not have pins in positions 4,
5, 7, and 8 (Fig 10), the electronics package must
be removed from the pedestal to make the
necessary modifications. Obtain a 402172 cable
and four 341885 wire leads for these modifica-
tions.

4.10   Disconnect power to the unit, and open
         the door of the pedestal by using the
handle located on the front of the pedestal, below
the top (Fig. 11). Press upward behind the curved
portion of the handle to release the door latch
(locking tabs must be positioned toward the
center of the door). With the latch released,
slowly pull the door open until the top of the
door rests on the floor.

*Caution: When opening the pedestal door,
the weight increases rapidly once the center
of gravity of the electronics package moves
outside of the pedestal.*

HANDLE LATCH

LOCKING
TAB
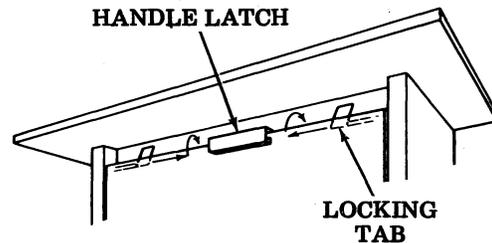
(Right Front View)

Fig. 11—Pedestal Door

4.11 Unplug the connectors at the rear of the electronics package.

4.12 Unplug the ac cable from the farthest left-hand receptacle of the ac distribution strip located in the bottom of the pedestal. Pull the cable itself up to disengage it from the foam in the bottom of the pedestal.

4.13 Remove the retaining bar by removing the screw at each end holding it to the electronics package (Fig. 12).

4.14 Remove the power supply by the following:

(a) Unplug the ac cable from the power supply.

(b) Loosen the terminal block cover, turn it to the side and disconnect the power cables from the terminal block.

(c) Using the power supply handle lift the power supply up and out of the electronics package.

4.15 Remove the electronics package from the pedestal door by removing the two screws that secure the front of the electronics package to the door. Pull the electronics package to the front to release it from the hold-down clips located at the back of the electronics package. After the electronics package is free from the hold-down clips it can be lifted and removed from the pedestal door.

4.16 Remove the controller (Fig. 12) from the electronics package by lifting the RO controller extractors.

POWER SUPPLY

RETAINING BAR

POWER SUPPLY HANDLE

RO CONTROLLER EXTRACTOR

RO CONTROLLER

RO CONTROLLER POWER CABLE

POWER SUPPLY AC CABLE

ELECTRONICS PACKAGE MOUNTING SCREW (2)

(Left Front View)
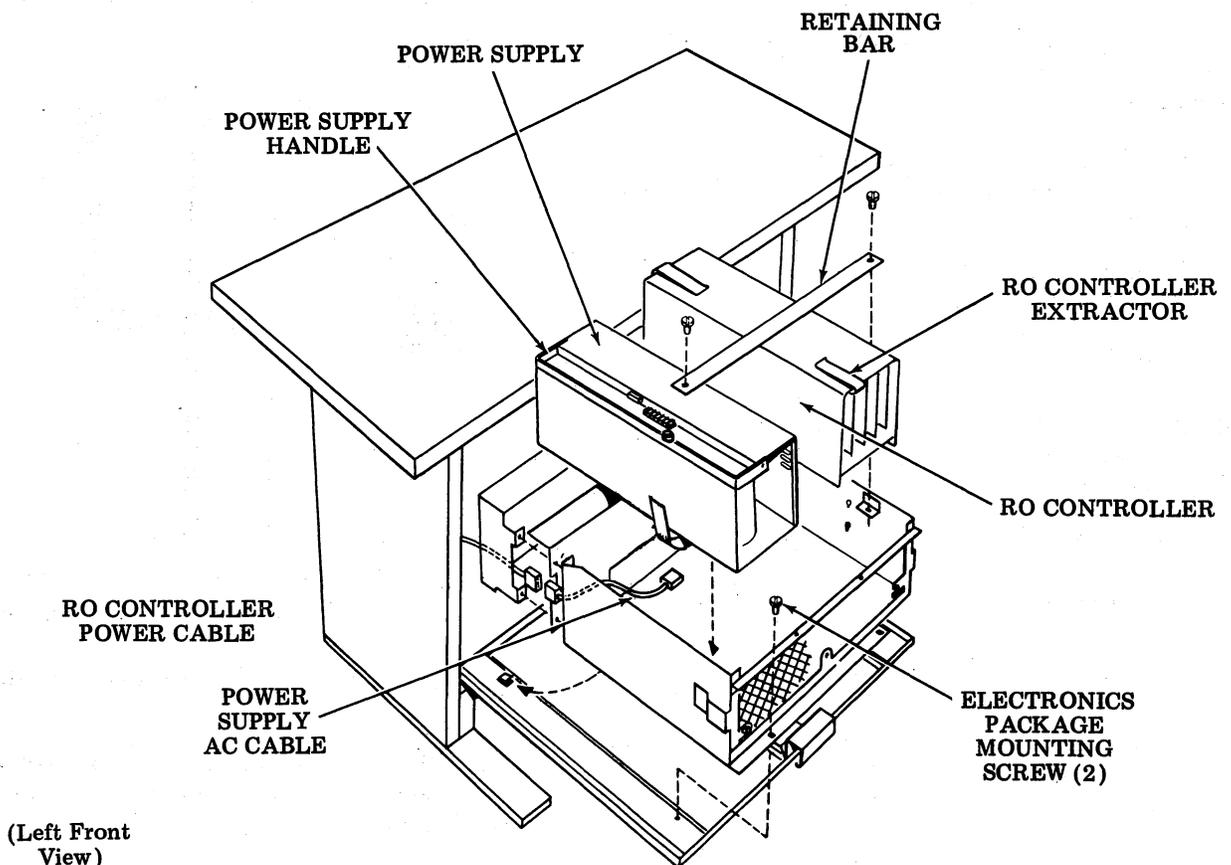
Fig. 12—RO Electronics Package

145914
DATA SET
CONNECTOR

401150
OPCON
CONNECTOR

401150
PRINTER
CONNECTOR

341920 FILTER COVER

36
35

2
1

(Bottom View)

"FB" SIDE OF
FILTER (Solder Side)

"FA" SIDE OF
FILTER

(End View of 341877
Filter Assembly)
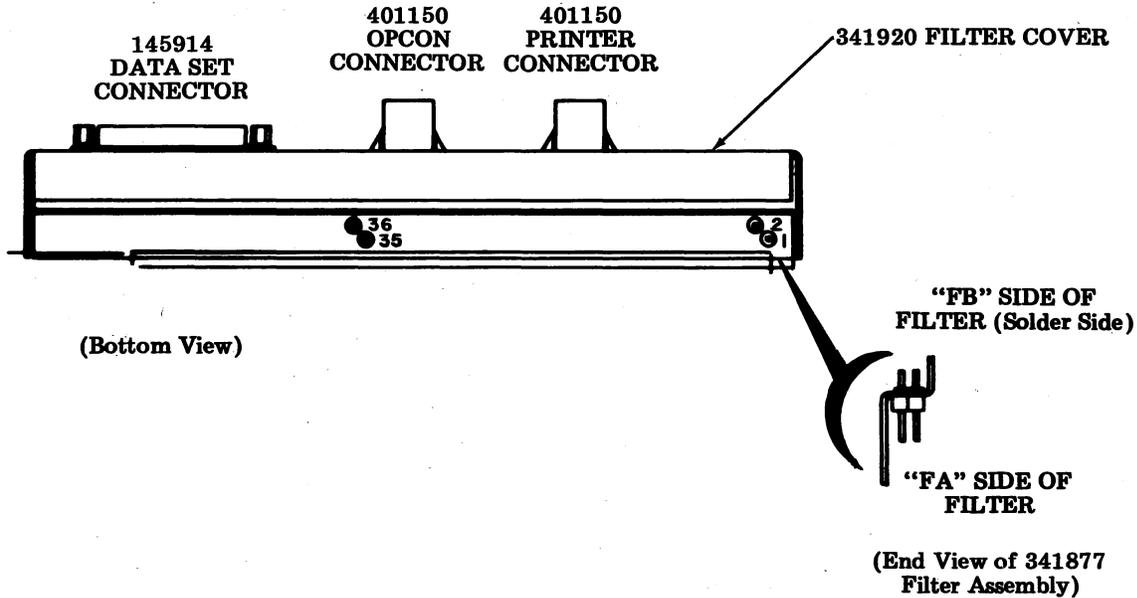
Fig. 13—Filter Assembly

4.17   Remove the 341920 filter cover (Fig. 13) from the filter assembly by removing two round head screws on the front surface of the fan assembly.

4.18   Solder the four leads of the 402172 cable assembly to the filter assembly terminals as shown:

FB20 — Blue Wire
FB21 — Red Wire
FB22 — Black Wire
FB23 — Yellow Wire

4.19   Install four 341885 leads between the filter assembly and printer connector (Fig. 13) as follows:

Filter Assembly		Printer Connector
FA20	to	Pin 7 (+12 v dc)
FA21	to	Pin 5 (+5 v dc)
FA22	to	Pin 4 (Gnd)
FA23	to	Pin 8 (-12 v dc)

Note: If there is a wire in position 4 of the printer connector, eliminate the 341885 wire between FA22 and pin 4.

4.20   Reassemble the filter cover to the filter assembly and route the flat 402172 cable assembly between the controller card connectors as shown in Fig. 14.

40PSUI0I POWER SUPPLY

(Top View)
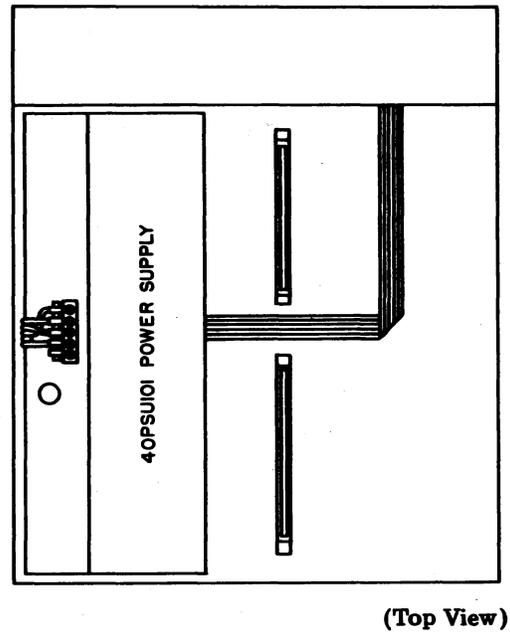
Fig. 14—RO Modification Cable Routing

4.21   Reassemble the electronics package into the pedestal, reversing the above disassembly steps.

4.22   After reinstalling the power supply, connect the terminal strip on the 402172 cable assembly over the other flat cable connec-

tions to the terminal block on the power supply. Proceed to Installation in DATASPEED 40 Terminals.

KD or KDP Terminals (Electronics Package Under Monitor)

4.23 If the opcon connector on the rear of electronics package does not have a pin in position 5 (Fig. 10), the electronics package must be removed from the cabinet to make the necessary modifications. Obtain 341885 wire lead for these modifications.

4.24 Disconnect power to the unit and remove all connectors from the rear of the electronics package cabinet.

4.25 Gently tilt the monitor back until it reaches its stop.

4.26 Open the cover of the electronics package cabinet by sliding the two latches located on top of the cover toward the center and lifting it up to its stop (Fig. 15).
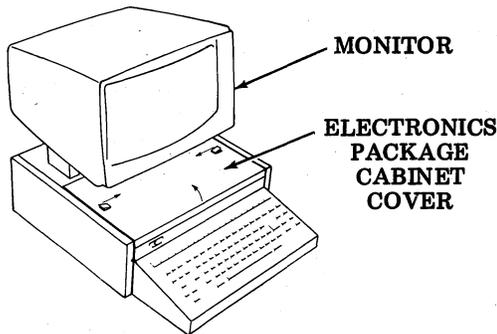
Fig. 15—Electronics Package Access

4.27 Lift the front of the electronics package slifgtly and pull forward to the stop. Do not lift the electronics package by the opcon (Fig. 16):

4.28 Remove the power supply by the following (Fig. 16):

(a) Unplug the ac cable from the power supply.

(b) Loosen the terminal block cover, turn it to the side and disconnect the power cables from the terminal block.
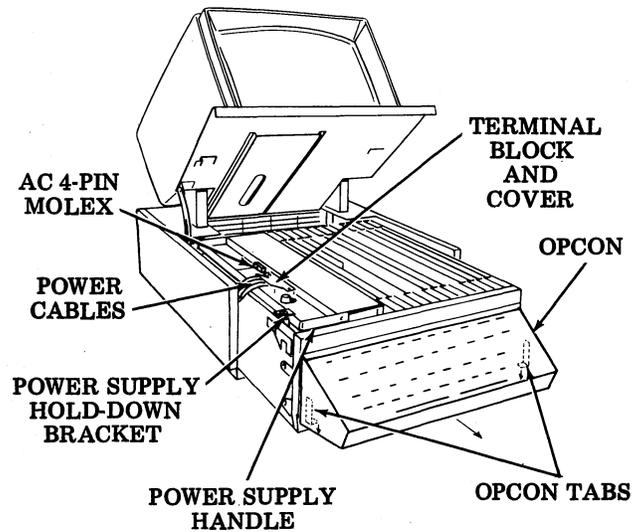
Fig. 16—Electronics Package Under Monitor

(c) Loosen the power supply hold-down bracket by loosening the captive screw located next to the power supply.

(d) Using the power supply handle lift the power supply up and forward out of the electronics package.

4.29 Remove the opcon by pulling down on the tabs located on both sides under the opcon cover. After tabs are down in the unlatched position pull opcon forward, removing it (Fig. 16).

4.30 Unplug the ac cable from the electronics package by pulling out the 3-pin Molex connector located on the back of the electronics package at the left-hand side of the fan assembly (Fig. 17).
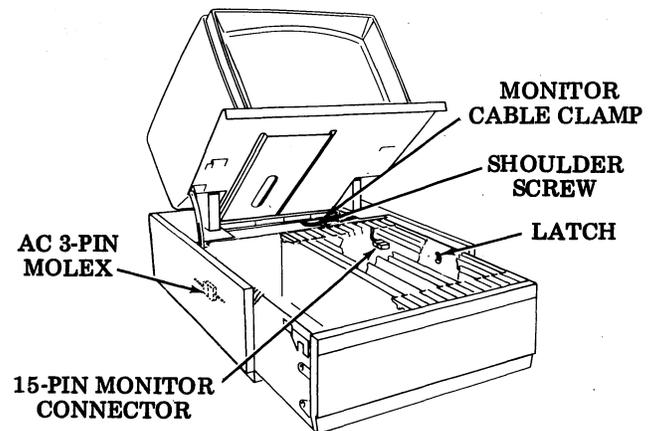
Fig. 17—Electronics Package Removal

4.31   Loosen the shoulder screw located on the top of the fan assembly near the right side. With the shoulder screw loose, slide the cable clamp to the rear, removing it from under the shoulder screw. Remove the cable from the slot in the top right side of the fan bracket and also from the slot in the connector bracket located at the back right-hand side of the electronics package. Unplug the 15-pin Molex from the same connector bracket that the cable was in (Fig. 17).

4.32   Unlatch the electronics package from its stop by using a screwdriver to raise the latch up over the projection attached to the right side of the electronics package. When the electronics package is released from its stop it is free to be pulled out and removed (Fig. 17).

4.33   Remove the two Molex connector bracket screws from the left side of the electronics package (Fig. 18), and pull the bracket and Molex connector forward.
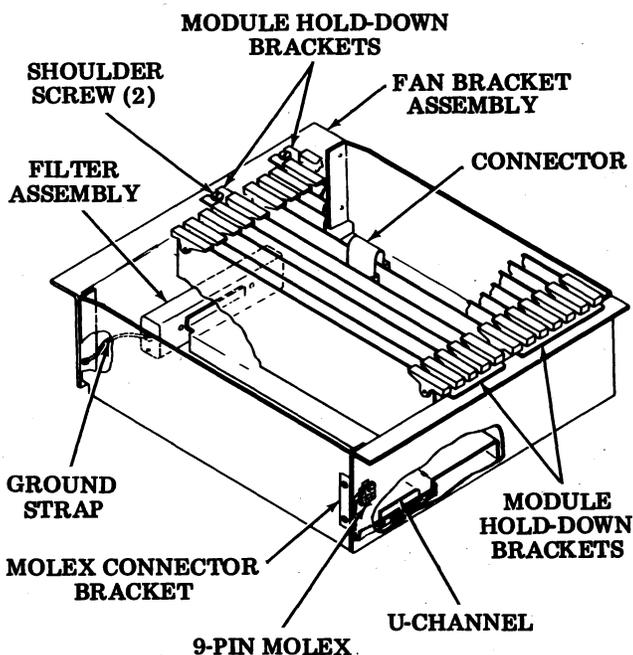
Fig. 18—Electronics Package (Under Monitor)

4.34   Compress the ears of the 9-pin Molex and remove the connector from the bracket. Push the 9-pin Molex into the electronics package.

4.35   Lift the Molex and cable up to remove it from its U-channel inside the front plate of the electronics package (Fig. 18).

4.36   Disconnect the ground strap from the electronics package by removing the lower left-hand screw from the rear of the electronics package. This screw is one of four that also holds the fan bracket assembly to the electronics package (Fig. 18).

4.37   Remove the fan bracket assembly by removing the remaining three screws from the other corners on the back of the electronics package. Pull the fan assembly straight back to disengage the shoulder screws on the top of the fan assembly from the hold-down brackets of the controller logic module and display logic module (Fig. 18).

4.38   Unplug the connector from the top of the circuit card in position X06 of the display logic (Fig. 18).

4.39   Lift the rear of the controller module slightly and pull it to the rear until the hold-down bracket clears the front. When the bracket is cleared, lift the controller module up and out of the electronics package.

4.40   Remove the screws on the left and right side of the filter assembly cover attached to the rear of the controller module (Fig. 18). One of the screws attaches the ground strap to the left side of the filter assembly. Remove the metal strip from the sides and bottom of the filter assembly.

   Note: Some filter covers only have a screw attaching the ground strap and do not have the metal strip around the bottom of the cover. On these covers the ground strap screw need not be removed.

4.41   Remove the four round head screws that attach the filter cover to the filter assembly (the screws are on the front side of the filter assembly), and separate the cover from the filter assembly (Fig. 13).

   Note: Some filter covers have two screws on the top, instead of four screws on the front, that attach the cover to the filter assembly.

4.42   Add a 24-gauge (AWG) wire between XZ05 connector, B33 pin to the FB-20 filter assembly terminal and a 341885 lead from FA-20 filter assembly to JC-2 connector, pin 5 (9-pin opcon). See Fig. 10 and 13.

4.43   The assembly should be done in the reverse order of the disassembly. When installing the controller module check to see that the power cable from the display logic module is located under the cutout provided in both sides of the controller module.

KDP Terminals (Electronics Package in Pedestal)

4.44   If the opcon connector on the rear of the electronics package does not have a pin in position 5 (Fig. 10), the electronics package must be removed from the pedestal door to make the necessary modifications. Obtain a 341885 wire lead for these modifications.

4.45   Disconnect power to the unit, then open the door of the pedestal by using the handle located on the front of the pedestal, below the top (Fig. 11). Press upward behind the curved portion of the handle to release the door latch (locking tabs must be positioned toward the center of the door). With the latch released, slowly pull the door open until the top of the door rests on the floor.

Caution: When opening the pedestal door the weight increases rapidly once the center of gravity of the electronics package moves outside of the pedestal.

4.46   Unplug the connectors at the rear of the electronics package.

4.47   Unplug the ac cable from the farthest left-hand receptacle of the ac distribution strip located in the bottom of the pedestal. Pull the cable itself up to disengage it from the foam in the bottom of the pedestal.

4.48   Open the cover of the electronics package by loosening the two captive screws located on the top of the cover near each side, then lift the cover and secure it in the open position by means of the wire hook that is located inside the pedestal on the left side of the door opening (Fig. 19).

4.49   Remove the power supply by the following (Fig. 19):

(a)   Unplug the ac cable from the power supply.

(b)   Loosen the terminal block cover, turn it to the side, and disconnect the power cables from the terminal block.

(c)   Loosen the power supply hold-down bracket by loosening the captive screw located next to the power supply.

(d)   Using the power supply handle, lift the power supply up and forward out of the electronics package.
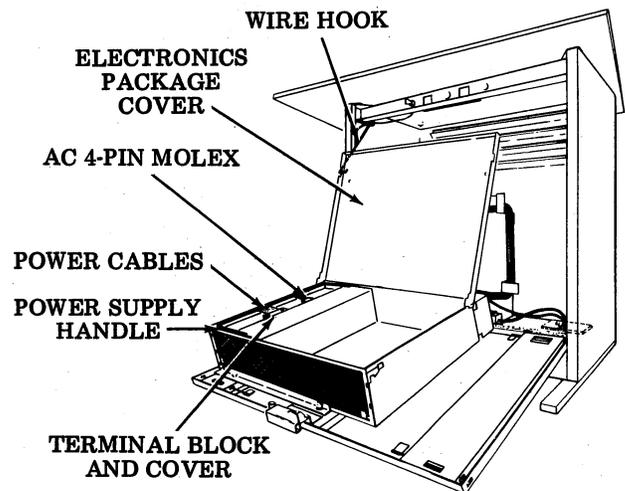
Fig. 19—Pedestal Mounted Electronics Package

4.50   Remove the electronics package from the pedestal door by removing the two screws that secure the front of the electronics package to the door. Pull the electronics package to the front releasing it from the hold-down clips located at the back of the electronics package. After the electronics package is free from the hold-down clips it can be lifted and removed from the pedestal door (Fig. 20).
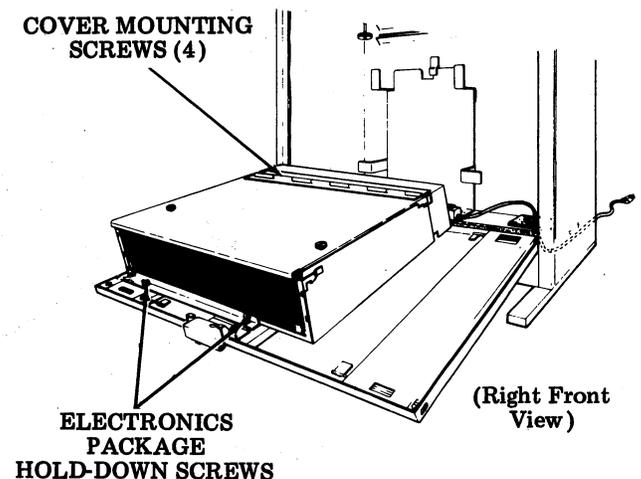

Fig. 20—Removal of Pedestal Mounted Electronics Package

4.51 Remove the cover of the electronics package by removing the four screws that hold the covers hinge to the fan collar. With these four screws removed the cover can be lifted off the electronics package (Fig. 21).
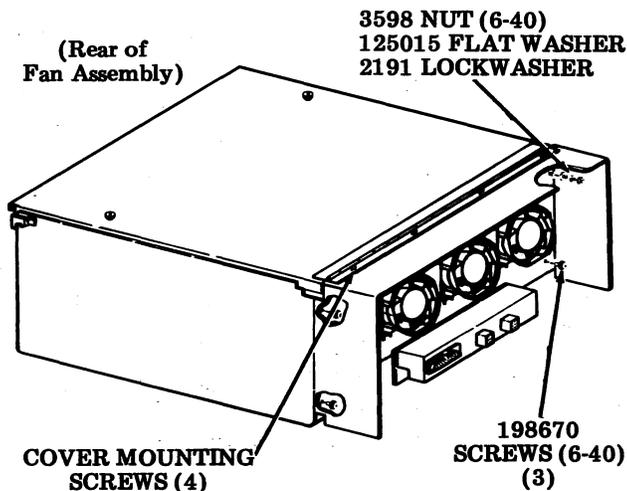

Fig. 21—Fan Assembly Removal

4.52 Remove the cable clamp located inside the fan collar on the left side by removing the nut that holds it (Fig. 22).

4.53 Disconnect the ground strap from the electronics package by removing the lower left-hand screw from the rear of the electronics

package. This screw is one of four that also hold the fan collar and fan bracket assembly to the electronics package (Fig. 21).

4.54 Remove the fan assembly and fan collar by removing the remaining two screws and nut from the other three corners of the rear of the fan assembly (Fig. 21). Pull the fan assembly and fan collar straight back to disengage the shoulder screws on top of the fan assembly from the module hold-down brackets (Fig. 18).

4.55 Unplug the connector from the top of the circuit card in position X06 of the display logic (Fig. 18).

4.56 Lift the rear of the controller module slightly and pull it to the rear until the hold-down bracket clears the front. When the bracket is cleared, lift the controller module up and out of the electronics package.

4.57 Remove the screws from the left and right side of the filter assembly cover attached to the rear of the controller module (Fig. 22). One of the screws attaches the ground strap to the left side of the filter assembly. Remove the metal strip from the sides and bottom of the filter assembly.

Note: Some filter covers only have a screw attaching the ground strap and do not have the metal strip around the bottom of the cover. On these covers, the ground strap screw need not be removed.
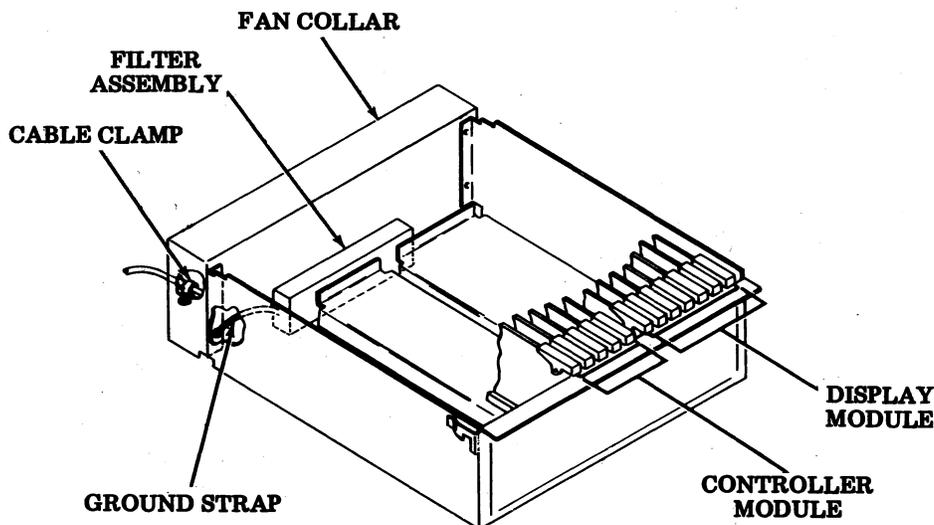
Fig. 22—Electronics Package Removed From Pedestal Door

4.58 Remove the four round head screws that attach the filter cover to the filter assembly (the screws are on the front side of the filter assembly), and separate the cover from the filter assembly (Fig. 13).

Note: Some filter covers have two screws on the top, instead of four screws on the front, that attach the cover to the filter assembly.

4.59 Add a 24-gauge (AWG) wire between XZ05 connector, B33 pin and FB-20 filter assembly terminal and a 341885 lead from FA-20 filter assembly to JC-2 connector, pin 5 (9-pin opcon connector). See Fig. 10 and 13.

4.60 The assembly should be done in the reverse order of the disassembly. When installing the controller module, check to see that the power cable from the display logic module is located under the cutout provided in both sides of the controller module.

KDP Terminals (Electronics Package in Self-Contained Cabinet)

4.61 If the opcon connector on the rear of the electronics package does not have a pin in position 5 (Fig. 10), the electronics package must be removed from the cabinet to make the necessary modifications. Obtain a 341885 wire lead for these modifications.

4.62 Disconnect power to the unit and remove all connectors from the rear of the electronics package cabinet.

4.63 Open the cover of the electronics package cabinet by sliding the two latches located on top of the cover toward the center of the unit, and lifting the cover up to its vertical position (Fig. 23).
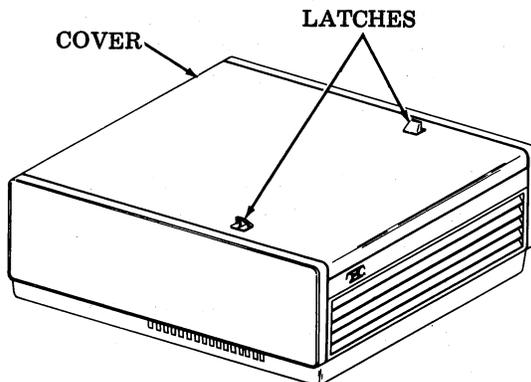
Fig. 23—Electronics Package Cabinet

4.64 Remove the power supply by the following (Fig. 24):

(a) Unplug the ac cable from the power supply.

(b) Loosen the terminal block cover, turn it to the side, and disconnect the power cables from the terminal block.

(c) Loosen the power supply hold-down bracket by loosening the captive screw located next to the power supply.

(d) Using the power supply handle, lift the power supply out of the electronics package.
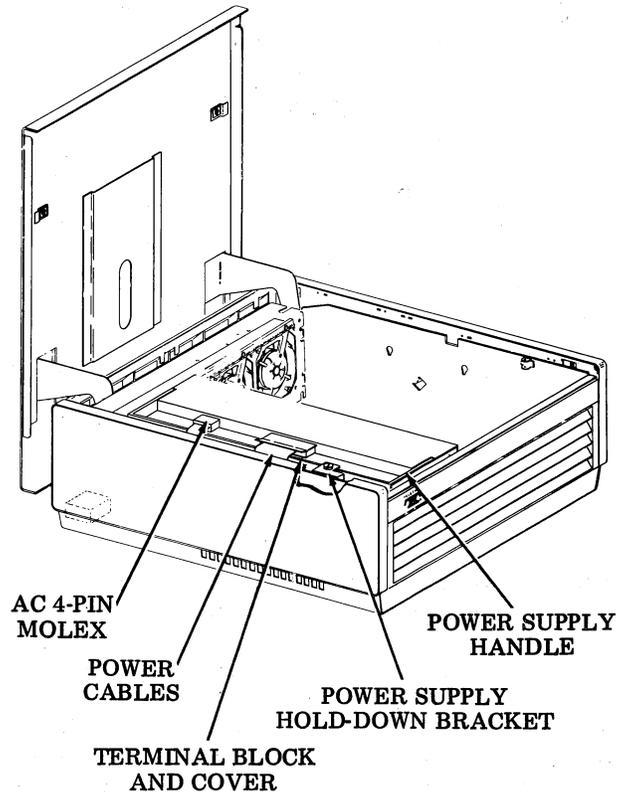

Fig. 24—Power Supply Removal

4.65 To remove the four bolts that are located on the bottom of the electronics package cabinet, slide the cabinet to the edge of the table so that one corner of the cabinet overhangs the table exposing one of the four bolts holding the electronics package into the cabinet. Remove this bolt and then repeat the procedure until all four bolts are removed. Caution should be exercised so that there is not too much of the cabinet overhanging the table at one time.

4.66   Lift the front of the electronics package to release it from its latch and pull it forward slightly to allow access to the connectors at the rear of the electronics package.

4.67   Remove the ac cable by unplugging the 3-pin Molex connector from the left rear of the electronics package. Unplug the 15-pin Molex connector from the display logic module at the right rear of the electronics package (Fig. 25).
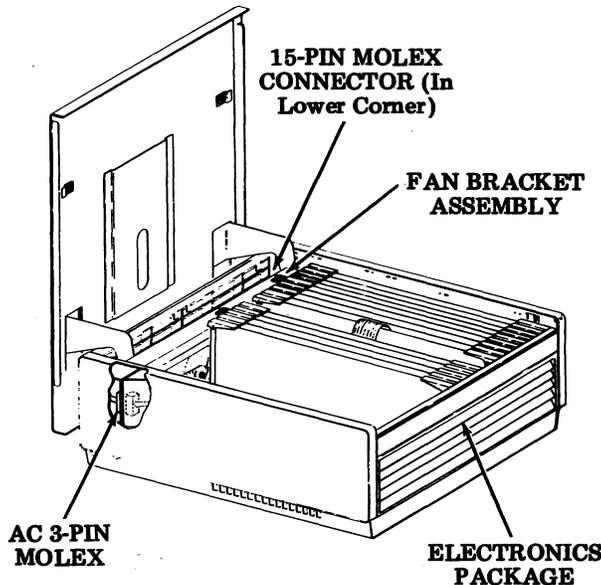

Fig. 25—Electronics Package in Cabinet

4.68   Slide the electronics package forward and remove from the cabinet.

4.69   Disconnect the ground strap from the electronics package by removing the lower left-hand screw from the rear of the electronics package. This screw is one of four that also hold the fan bracket assembly to the electronics package (Fig. 26).

4.70   Remove the fan bracket assembly by removing the remaining three screws from the other corners of the back of the electronics package and pulling the fan assembly straight back to disengage the shoulder screws on the top of the fan assembly from the modules (Fig. 26).

4.71   Unplug the connector from the top of the circuit card in position X06 of the display logic (Fig. 26).
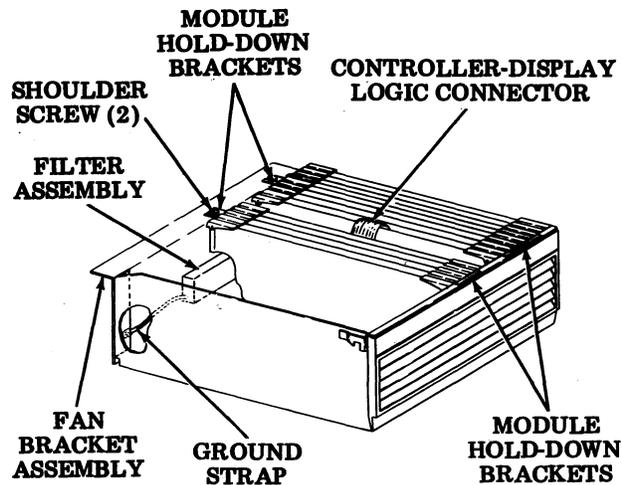
Fig. 26—Electronics Package (Removed From Cabinet)

4.72   Lift the rear of the controller module slightly and pull it to the rear until the hold-down bracket clears the front bracket. When the bracket is cleared, lift the controller module up and out of the electronics package.

4.73   Remove the screws on the left and right side of the filter assembly cover (Fig. 26). attached to the rear of the controller module. The screw on the left side attaches the ground strap to the filter assembly cover. Remove the metal strip from the sides and bottom filter assembly.

Note: Some filter covers only have a screw attaching the ground strap and do not have the metal strip around the bottom of the cover. On these covers, the ground strap screw need not be removed.

4.74   Remove the four round head screws that attach the filter cover to the filter assembly (the screws are on the front side of the filter assembly), and separate the cover from the filter assembly (Fig. 13).

Note: Some filter covers have two screws on the top, instead of four screws on the front, that attach the cover to the filter assembly.

4.75   Add a 24-gauge (AWG) wire between XZ05 connector, B33 pin and FB-20 filter assembly terminal and a 341885 lead from FA-20 filter assembly to JC-2 connector, pin 5 (9-pin opcon connector). See Fig. 10 and 13.
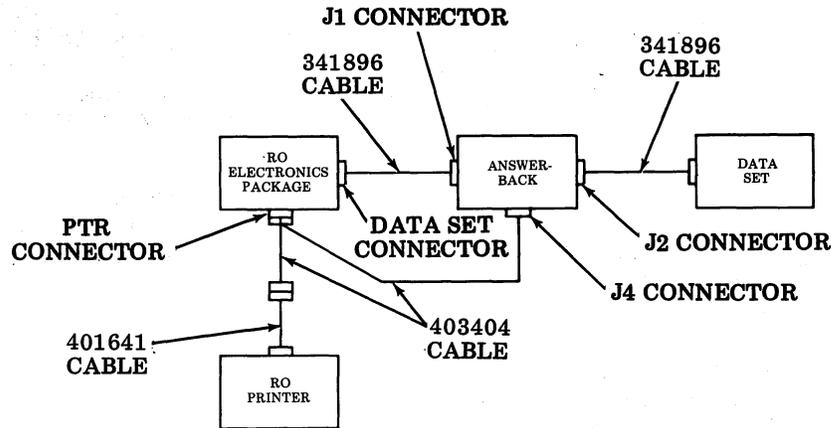
Fig. 27—RO Cable Arrangement

4.76 The assembly should be done in the reverse order of the disassembly. When installing the controller module, check to see that the power cable from the display module is located under the cutout provided in both sides of the controller module.

B. Installation in DATASPEED 40 Terminals

RO Terminals

4.77 With the pedestal door open, and the answer-back resting on the right side of the pedestal door, connect the cables as follows (Fig. 27):

(a) Unplug the DATASPEED 40 data set cable (341896) from its associated data set and route it through the rectangular hole in the answer-back cover into J1 connector (Fig. 2).

(b) Route one end of the 341896 cable supplied with the answer-back through the rectangular hole in the answer-back cover and plug it into J2 connector. Connect the other end of the cable to the associated data set.

(c) Unplug the 401641 printer cable from the printer connector on the rear of the electronics package.

(d) Plug the connector of the 403404 cable that has two cables attached to it, into the printer connector at the rear of the electronics package (the 403404 cable assembly must be ordered separately).

(e) Plug the disconnected end of the 401641 printer cable into the short leg of the 403404 cable.

(f) Plug the long leg of the 403404 cable into J4 connector of the answer-back (Fig. 2), routing the end of the cable through the rectangular hole in the answer-back cover.

(g) Replace the cover on the answer-back with the four screws that were removed when unpacking.

4.78 Attach the answer-back to the pedestal door using the 185871 screw (Fig. 28). Slide the rear of the answer-back under the tab on the pedestal door and secure the front of the answer-back with the mounting screw.
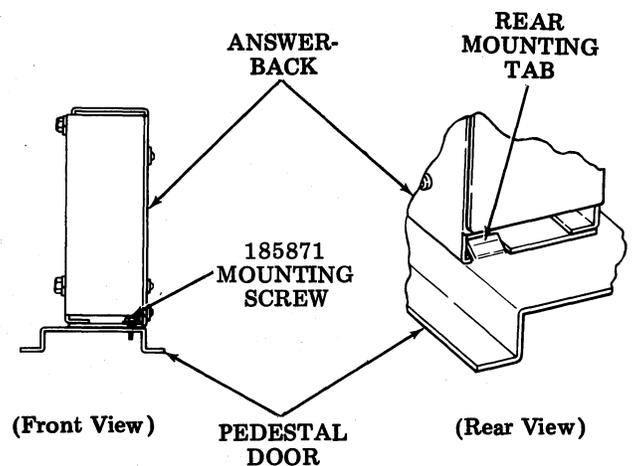

Fig. 28—Pedestal Door Answer-Back Mounting

4.79 If a pedestal is not provided, local engineering will be required for external mounting arrangements for the answer-back.

KD Terminals

4.80 With the pedestal door open, and the answer-back resting on the right side of the pedestal door, connect the cables as follows (Fig. 29):

(a) Unplug the DATASPEED 40 data set cable (341896) from its associated data set and route it through the rectangular hole in the answer-back cover into J1 connector (Fig. 1 or 2).

(b) Route one end of the 341896 cable supplied with the answer-back through the rectangular hole in the answer-back cover and plug it into J2 connector. Connect the other end of the cable to the associated data set.

(c) Plug the end of the 403404 cable that has two cables attached to it, into the opcon connector at the rear of the electronics package (the 403404 cable assembly must be ordered separately).

(d) Plug the long leg of the 403404 cable into J4 connector of the answer-back (Fig. 2), routing the end of the cable through the rectangular hole in the answer-back cover. The short leg of the 403404 cable is not used.

(e) Replace the cover on the answer-back with the four screws that were removed when unpacking.

4.81 Attach the answer-back to the pedestal door using the 185871 screw (Fig. 28): Slide the rear of the answer-back under the tab on the pedestal door and secure the front of the answer-back with the mounting screw.

4.82 If a pedestal is not provided, local engineering will be required for external mounting arrangements for the answer-back.

KDP Terminals

Note: If the answer-back is being installed in a 40/2 KDP, modification kit 402325 must be installed in the 40/2 to prevent premature disconnect.

4.83 With the pedestal door open, and the answer-back resting on the right side of the pedestal door, connect the cables as follows (Fig. 30):

(a) Unplug the DATASPEED 40 data set cable (341896) from its associated data set and route it through the rectangular hole in the answer-back cover into J1 connector (Fig. 1 or 2).

(b) Route one end of the 341896 cable supplied with the answer-back through the rectangular hole in the answer-back cover and plug it into J2 connector. Connect the other end of the cable to the associated data set.
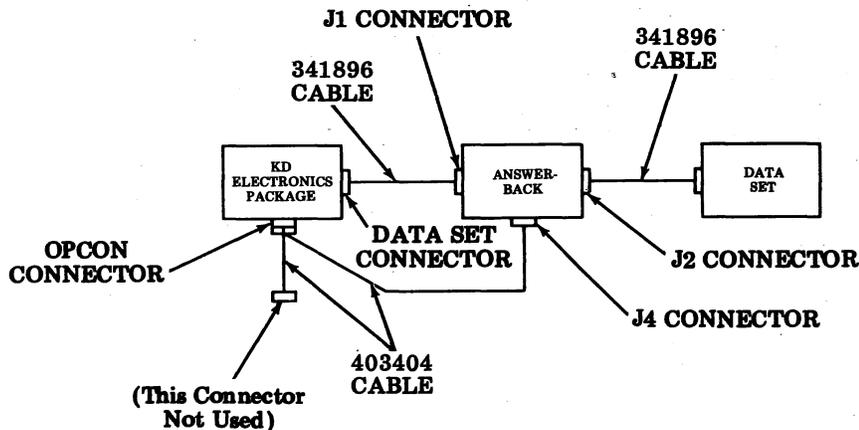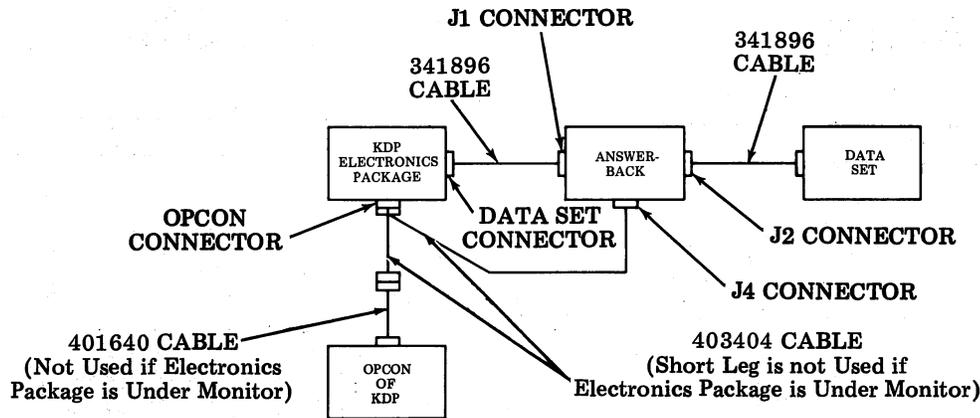
Fig. 29—KD Cable Arrangement

Fig. 30—KDP Cable Arrangement

(c) Unplug the 401640 opcon cable from the opcon connector on the rear of the electronics package (if electronics package is under monitor, the opcon cable is not used).

(d) Plug the connector of the 403404 cable that has two cables attached into the opcon connector at the rear of the electronics package (the 403404 cable assembly must be ordered separately).

(e) Plug the disconnected end of the 401640 opcon cable into the short leg of the 403404 cable (opcon cable is not used if electronics package is under monitor).

(f) Plug the long leg of the 403404 cable into connector J4 of the answer-back (Fig. 2), routing the end of the cable through rectangular hole in the answer-back cover.

(g) Replace the cover on the answer-back with the four screws that were removed when unpacking.

4.84 Attach the answer-back to the pedestal door using the 185871 screw (Fig. 28). Slide the rear of the answer-back under the tab on the pedestal door and secure the front of the answer-back with the mounting screw.

4.85 If a pedestal is not provided, local engineering will be required for external mounting arrangements for the answer-back.

External "HERE IS" Switch

4.86 If an installation requires manual initiation of the answer-back sequence, a locally supplied cord (Shielded Recommended) and switch may be used as shown in Fig. 31.
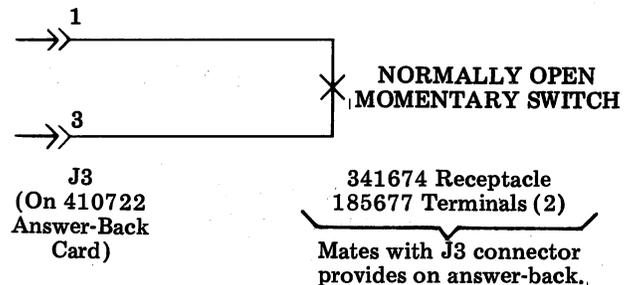

Fig. 31—External Switch

5. DISASSEMBLY/REASSEMBLY

5.01 The disassembly sequence follows the most convenient procedure for removing subassemblies and specific parts. These procedures cover only subassemblies that may be removed and replaced to correct troubles in field locations.

5.02 The answer-back should be disassembled and reassembled under clean conditions. Oil, dust, and grease should not come in contact with circuit card, cables, and connectors.

5.03 Do not force or pry parts to provide the necessary clearance for removal. Follow the removal and disassembly procedure to provide access to the required areas of the answer-back. Reverse the removal and disassembly procedures to reassemble and install the answer-back, except where otherwise indicated.
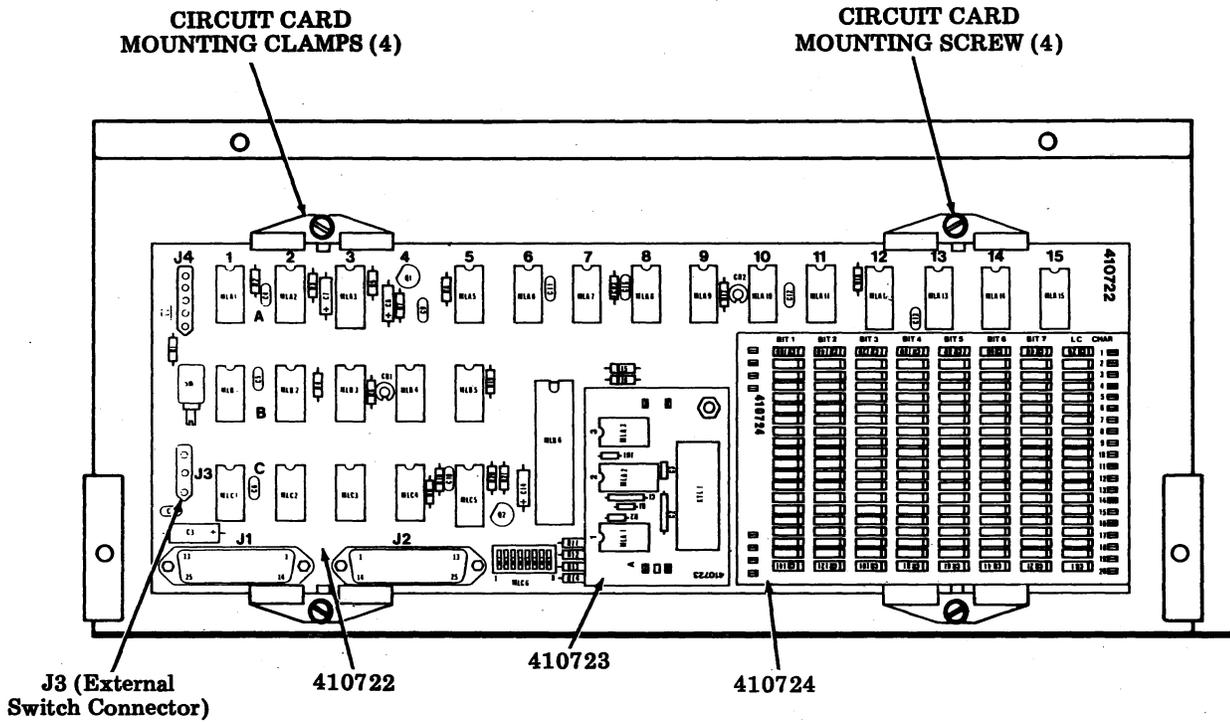
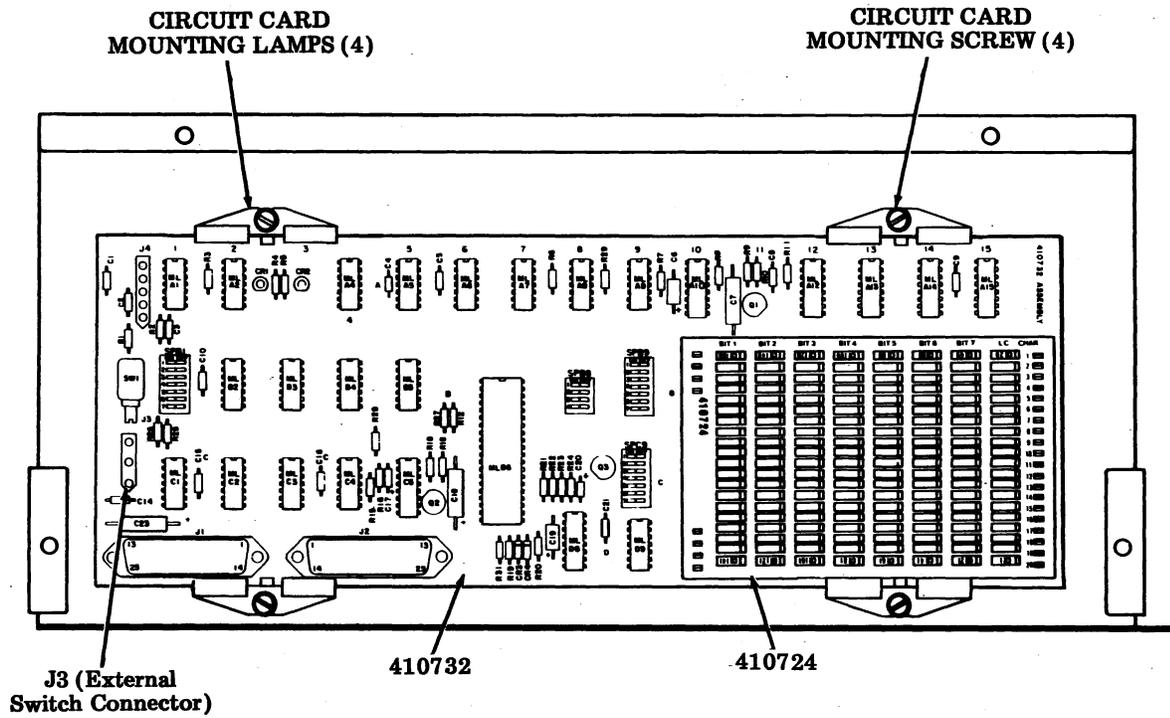Fig. 32—Circuit Card Mounting in 40AB101/AA

Fig. 33—Circuit Card Mounting in 40AB101/AC

A. Removal From DATASPEED 40 Terminals

5.04 Open the front panel on the pedestal. Remove the 185871 mounting screw from the slot in the answer-back mounting tab (Fig. 28). Slide the answer-back forward from under the clip on the rear.

5.05 Remove four answer-back cover mounting screws and remove the answer-back cover. Disconnect all cables from the answer-back.

B. Removal From Magnetic Tape Terminals

5.06 Open cabinet door, pull out module from bottom shelf, and place module on floor.

5.07 Remove the three 337434 mounting clips attaching the answer-back to the module. Remove the answer-back from the top of the module and disconnect all cables from the answer-back.

Note: If the answer-back is not to be reassembled to the magnetic tape terminal, remove the three straps that were added to the magnetic tape terminal in 4.02.

C. Disassembly Procedure

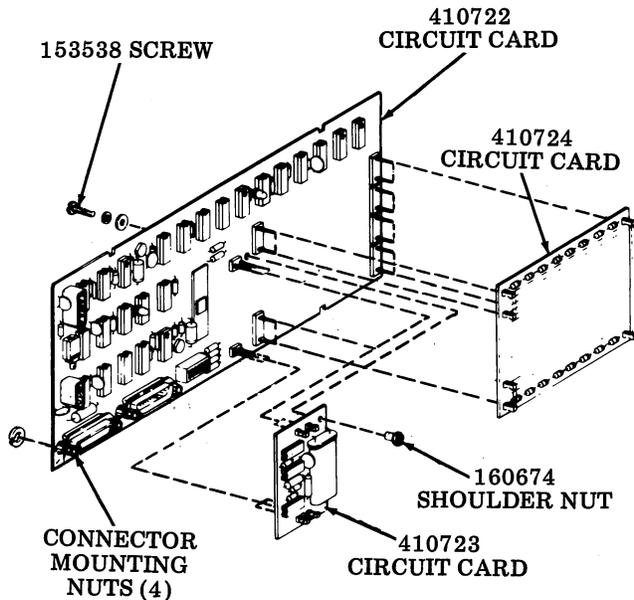5.08 Remove the four circuit card mounting screws and clamps (Fig. 32 or 33). Remove the mounting nuts that secure J1 and J2 connectors to the spacers mounted to the box (Fig. 34 or 35).

5.09 Remove the 40AB101/AA circuit card assembly (three circuit cards — Fig. 32 or 34) from the housing. Remove the 153538 screw and its associated lockwasher and flat washer from the rear of the 410722 circuit card (Fig. 34). Remove the 160674 shoulder nut from the front of the 410723 circuit card.

5.10 Remove the 40AB101/AC circuit card assembly (two circuit cards Fig. 33 or 35) from the housing.

5.11 Grasp the answer-back card (410722 or 410732) in one hand, approximately midway along the two extended sides of the card, while removing the plug-on diode matrix card (410724) and clock card (410723 if present) with the other hand. Grasp the plug-on card(s) along the two connecting edges and rock them gently back and forth until they are loose enough to remove (Fig. 34 or 35).

5.12 Further removal of components is not recommended in the field. Removal and replacement of electronic components from the circuit cards should be undertaken only by qualified technical personnel in factory or laboratory controlled conditions.
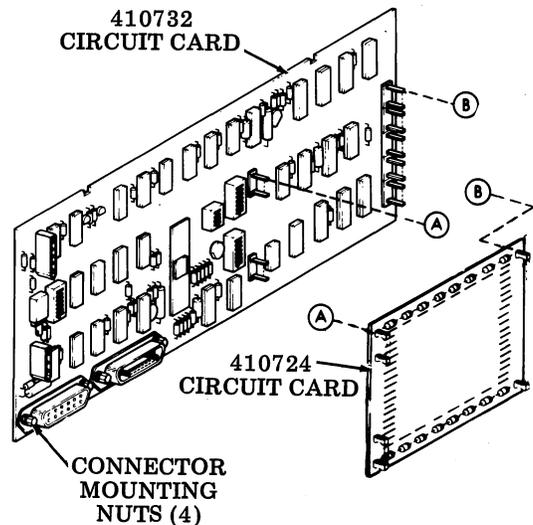

Fig. 34—Circuit Card Disassembly in 40AB101/AA

Fig. 35—Circuit Card Disassembly in 40AB101/AC