



2601A

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# 1

## PRODUCT INFORMATION

### A. PRODUCT DESCRIPTION

The 2601A is a typewriter quality printer used for word processing applications.

### B. OPTIONS

2601A	40/32 cps daisywheel printer; "Pica 10" 96 character plastic daisywheel; ribbon cartridge; 120V, 49-61 Hz; 10 foot modem cable.
015	220V, 49-61 Hz
016	100V, 49-61 Hz
017	240V, 49-61 Hz
242	Includes 13242G cable in place of standard modem cable.
826	9826/36 Compatible

### C. PERFORMANCE SPECIFICATIONS

#### Print Features

40 cps (peak speed) with plastic print wheel; 32 cps with metal wheel. (Actual time required to print a particular document will vary depending on the content and sequence of characters, line feeds, ect.)

88, 92, or 96 character print wheels  
10, 12, or 15 cpi pitch  
1/120 inch horizontal spacing (minimum)  
6 lpi spacing  
1/48 inch vertical spacing (minimum)  
Bidirectional printing  
Left/right margin controls  
Horizontal/vertical tabs  
Shadow print  
Bold print  
Auto underline

#### Word Processing Enhancements

Automatic proportional spacing  
Proportionally spaced print wheels  
Automatic center and right justification

#### Forms Handling

Single or multipart forms  
Friction feed single sheets  
Available forms tractors accessory

### **Life Expectancy**

The expected life of the HP 2601A printer mechanism is 2500 hours of printing time which equates to approximately 300 million characters. The duty cycle is specified at 2 hours printing for every 8 hours on-time.

### **Paper Widths**

16.00 inches (406.4mm) maximum with friction platen

15.25 inches (387.4mm) maximum full width with optional forms tractor (14.75 inches/374.4 mm between holes)

3.25 inches (83.55 mm) minimum with forms tractor (2.75 inches/69.85 mm between holes)

### **Paper Thickness**

.000-.010 inches (.254 mm) at low carriage setting (1-3 part forms)

.010-.027 inches (.254-.686 mm) at high carriage setting (4-6 part forms)

### **Power Consumption**

130 watts typical printing

180 watts maximum

### **Vertical Drift**

The specification for returning to the original print line after a subscript or superscript is 0.040 inches.

### **Physical Specifications**

Weight: 57 pounds (26 KG)

### **Safety Compliance**

The HP 2601A is listed by Underwriter's Laboratories in Electronic Data Processing Equipment category.

The Canadian Standards Association has certified this printer in the category of Data Processing Equipment.

The printer meets the requirements of VDE 0804, the standard for remote signaling devices and information processing devices.

The printer is not approved for use in medical non-patient applications where U.L. 544, IEC 65, or IEC 601 standards prevails.

### **D. NON-VOLATILE MEMORY**

Operating conditions such as margin settings, form size, BOF, TOF, tabs, and ribbon lift are stored in a non-volatile RAM located on the HPR05 board (P/N 02601-69103). To reset the content of the non-volatile RAM to default conditions, a REMOTE RESET must be executed by sending: ESC CR P (ESC CTRL M P) or ESC SUB I (ESC CNTL Z I).

**E. A66/A60 SWITCH CONFIGURATIONS**

The factory configuration for the 8-position dip switch A66 on the HPR05 PCA is S1-S6 open and S7 + S8 closed. For A60, the factory configuration is 3 & 4 jumpered for STD, 3 & 4 plus 5 & 6 jumpered for option 826. The following table lists the jumper functions:

<b>JUMPER LOCATION</b>	<b>JUMPER</b>	<b>FUNCTION</b>
A60-1 & 2	In	Enables individual test selection is self-test mode.
	Out	Enables only the normal printer self-test.
A60-3 & 4	In	Enables programming the "continue" message buffer.
	Out	Protects the current continue message buffer.
A60-5 & 6	In	Option 826. Enables signal on the DATA TERMINAL READY interface line to switch the same as the PRINTER READY interface signal.
	Out	Cause DATA TERMINAL READY to be HI.
A60-7, 8, 9, 10	Not used	Not used





# 2



## ENVIRONMENTAL/ INSTALLATION/PM

### A. POWER REQUIREMENTS

AC input voltages .....	100 VAC, +10/-15%
	120 VAC, +10/-15%
	220 VAC, +10/-15%
	240 VAC, +10/-15%
Input frequency .....	49 Hz to 61 Hz

### B. ENVIRONMENTAL

Ambient Temperature	
Storage .....	-20°F to 135°F (-29°C to +57°C)
Operating .....	+45°F to 105°F (+7°C to +41°C)
Ambient Relative Humidity	
Storage .....	0 to 90%
Operating .....	10 to 80% without condensation
Altitude	
Storage .....	-1000 to 25,000 ft. (-305m to 7620m)
Operating .....	-100 to 8,000 ft. (-31m to 3048m)

### C. PREVENTATIVE MAINTENANCE

No CE preventative maintenance is required.

### D. RIBBON LIFE

One or two color fabric .....	1,000,000 impressions
Carbon film multistrike .....	185,000 impressions





# 3

## CONFIGURATION

### A. SYSTEM CONFIGURATION

SYSTEM	SYSTEM INTERFACE	FROM	CONFIGURATION	CABLE	FROM
120/125	RS232C Interface	POD	<ul style="list-style-type: none"> <li>- X-ON/X-OFF Protocol</li> <li>- 1200 baud maximum</li> <li>- Parity Enabled, EVEN</li> <li>- See Table C for Menu Configuration</li> </ul>	13242G (13242-60010)	DTD
250	45120A	CSR	<ul style="list-style-type: none"> <li>- X-ON/X-OFF Protocol</li> <li>- 9600 baud maximum</li> </ul>	2601A Modem Cable	VCD
1000	12792A	DSD	<ul style="list-style-type: none"> <li>- DVM.00</li> <li>- DVM.12</li> <li>- No Handshake Protocol</li> <li>- 300 baud maximum</li> </ul>	2601A Modem Cable	VCD
1000A/L	12005A/B	DSD	<ul style="list-style-type: none"> <li>- DD.00</li> <li>- ID.00</li> <li>- No Handshake Protocol</li> <li>- 300 baud maximum</li> </ul>	12005-60004*	DSD
<b>*NOTE:</b> 12005A option 003 includes the 12005-60004 cable.					
1000M/E/F or 1000A/L	12040B or 12792B	DSD	<ul style="list-style-type: none"> <li>- DD.00</li> <li>- IDM00</li> <li>- X-ON/X-OFF Protocol</li> <li>- 1200 baud</li> </ul>	2601A Modem Cable	VCD
3000/III	30032B (ATC)	CSY	<ul style="list-style-type: none"> <li>- Termtype 13 Subtype 1</li> <li>- 2028 or later MIT release</li> <li>- X-ON/X-OFF Protocol</li> <li>- Full Duplex on 2601A</li> <li>- 1200 baud maximum</li> </ul>	2601A Modem Cable	VCD
3000/30,33 40,44,64	30018A/ 30019A (ADCC)	CSY	<ul style="list-style-type: none"> <li>- Termtype 13 Subtype 1</li> <li>- 2028 or later MIT release</li> <li>- X-ON/X-OFF Protocol</li> <li>- Full Duplex on 2601A</li> <li>- 1200 baud maximum</li> </ul>	2601A Modem Cable	VCD

**NOTE:** The baud rate on the system and on the printer must be the same.

**B. TERMINAL CONFIGURATION**

TERMINAL	TERMINAL INTERFACE	FROM	CONFIGURATION	CABLE	FROM
2624A/ 2626A/ 2626W	262X STD.	DTD	-X-ON/X-OFF -1200 baud maximum -Full Duplex on 2601A -See Table D for 262X Configuration	13242G*	DTD
<p><b>*NOTE:</b> The part number for the cable included in 13242G is 13242-60010. The old cable (P/N 13242-60008) will not work properly with the 2601A printer.</p>					
2642A/ 2645A/ 2647A/ 2648A	13250B	DTD	-No Handshake Protocol -300 baud maximum -Full Duplex on 2601A -See Table F for 264X Configuration	13232G	DTD

**C. HP 120/125 MENU CONFIGURATION**

Baud rate: 1200	Parity: EVEN
Straps: xz	Handshaking: etX(X-ON/X-OFF)
SRRXmit: OFF	SRR Invert: OFF
Prtr nulls: 0	
X-ON/X-OFF: XMIT	

**D. 2624A/2626A/2626W MENU CONFIGURATION**

The Full Duplex Hardwired Configuration for the 262X should be configured as described below:					
Baud Rate: 1200	Parity: 0's	DataBits: 7	BufSize: 128	XmitClkSource: Int	
Asterisk: OFF		StopBits: 1	EnqAck: NO	RecvClkSource: Int	
TR(CD): HI	ChkParity: NO	SR(CH): LO	StripNulDel: YES	XmitClkOut: x16	
				ExtClkIn: x16	
RecvPace: NONE	SRRXmit: NO	RR(CF)Recv: NO			
XmitPace: X-ON/X-OFF	SRRInvert: NO	CS(CB)Xmit: NO			

**E. DESKTOP CONFIGURATION**

DESKTOP UNIT	DESKTOP INTERFACE	FROM	CONFIGURATION	CABLE	FROM
9826/36	98626A	DCD	- 1200 baud maximum - Full Duplex on 2601A - Hardware Handshake (A60 pins 5 & 6 must be jumpered on HPR05 Interface) - Parity Disabled - Parity Sense Odd - 1 Stop Bit - 8 bits per character - Modem Line Disconnect Switch set to "Connect"	98626A OPT 002 plus 2601A Modem Cable	DCD VCD
9845	98036A Option 445	DCD	- 1200 baud maximum - Full Duplex on 2601A - Hardware Handshake (A60 Pins 5 & 6 must be jumpered on HPR05 Interface - Option 826) - Parity Disabled - Parity sense ODD	98036A OPT 445 plus 2601A Modem Cable	DCD VCD

**F. 264X SWITCH CONFIGURATION**

13250B	SETTING	FUNCTION PERFORMED
S1FC7	Closed	Selects one null character
S1FC6	Closed	
S1FC5	Closed	
S1FC4	Open	Selects parity No parity = FC4 open
S1FC3	Don't Care	
S1FC2	Closed	Set for 300 baud
S1FC1	Open	
S1FC0	Open	
S4A4	Open	Set Address 12
S4A11	Closed	
S4A10	Open	
S4A9	Closed	
S4IAT	Open	Not used for printer applications
S42SB	Open	
S4THE	Open	
S4RHE	Open	
S2XXX	Open	Not used for printer applications
S3XXX	Open	Not used for printer applications

**G. HP 8X CONFIGURATION**

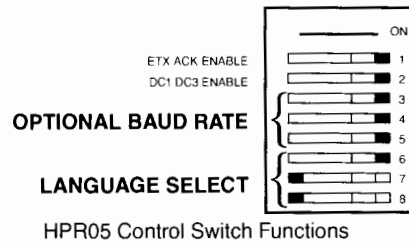
UNIT	INTERFACE	FROM	CONFIGURATION	CABLE	FROM
HP 85/87	82939A w/female con- nector	PCD	- 1200 baud - Full Duplex on 2601A - Parity Enabled, EVEN	2601A Modem Cable	VCD

In addition, the following statements need to be executed in your program or at power up to direct printer output to the 2601A:

**SET I/O 10,2,5**                      DSR and CTS high  
**SET I/O 10,3,8**                     Baud rate set to 1200 bits/second  
**SET I/O 10,4,26**                    7 data bits, 1 stop bit  
**SET I/O 10,11,192**                 Enable transmit on R15 (XON) and disable on R14 (XOFF)  
**SET I/O 10,14,19**                 Set XOFF  
**SET I/O 10,15,17**                 Set XON  
**SET I/O 10,9,141**                 Enable transmit and receive in XON/XOFF mode  
**PRINTER IS 10,80**                 Specify the serial printer as the output device.

**H. HPR05 CONTROL SWITCH FUNCTIONS**

The switch module (A66) on the HPR05 PCA allows the selection of ETX/ACK enable, DC1/DC3 (X-on/X-off) enable, optional baud rate, and different language print wheels.



**OPTIONAL BAUD RATE SELECT**

SWITCH			BAUD
3	4	5	150
OFF	OFF	OFF	150
ON	OFF	OFF	600
OFF	ON	OFF	1800
ON	ON	OFF	2000
OFF	OFF	ON	2400
ON	OFF	ON	4800
OFF	ON	ON	7200
ON	ON	ON	9600

**LANGUAGE SELECT**

SWITCH			PRINT WHEEL SELECT
6	7	8	DEFAULT TWP
OFF	OFF	OFF	DEFAULT TWP
ON	OFF	OFF	TWP
OFF	ON	OFF	LOGICAL BIT PAIRED
ON	ON	OFF	APL
OFF	OFF	ON	FRENCH AZERTY
ON	OFF	ON	GERMAN
OFF	ON	ON	SCANDINAVIAN
ON	ON	ON	NORSK

TWP = Typewriter Paired  
 APL = A Programming Language

\*Factory Configuration

**I. MODE SWITCHES FUNCTIONS** (Refer to Figure 3-1)**Left DIP Switch Module**

This switch is set to determine how the printer responds to a line feed (LF) command.

Switch 1	Double LF (double line feed) On – Printer executes double line feed for every line feed command, and for every carriage return if switch 3 (auto line feed) is on. Off – Printer executes single line feed for every line feed command, and for every carriage return if switch 3 (auto line feed) is on.
Switch 2	(unused)
Switch 3	Auto LF (auto line feed) On – Printer executes line feed (single or double) for every carriage return Off – No line feed executed with each carriage return. Line feed occurs only with separate line feed commands.
Switch 4	(unused)
Switch 5	(unused)
Switch 6	(unused)
Switch 7	Message Load (unused)
Switch 8	(unused)

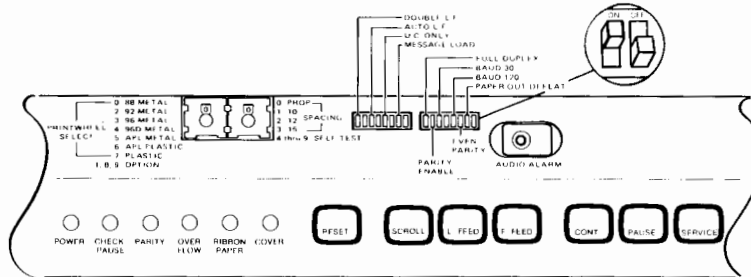
**3-6 Configuration**

**Right DIP Switch Module**

This switch is set to determine duplexing, parity enable, baud rate, and paper-out sensing.

Switch 1	Full Duplex On – Full duplex ASCII mode (normal operating position) Off – Half duplex ASCII mode (local copy)																	
Switch 2	Parity Enable On – Enables parity checking and parity transmission																	
Switch 3,5	Baud Rate Selection <table border="1" style="margin-left: 40px;"> <thead> <tr> <th colspan="2">Switch</th> <th rowspan="2">Baud Rate Selected</th> </tr> <tr> <th>SW3</th> <th>SW5</th> </tr> </thead> <tbody> <tr> <td>On</td> <td>On</td> <td>110</td> </tr> <tr> <td>On</td> <td>Off</td> <td>300</td> </tr> <tr> <td>Off</td> <td>On</td> <td>1200</td> </tr> <tr> <td>Off</td> <td>Off</td> <td>Optional baud rate as per switches 3, 4, and 5 on the HPR05 PCA</td> </tr> </tbody> </table>	Switch		Baud Rate Selected	SW3	SW5	On	On	110	On	Off	300	Off	On	1200	Off	Off	Optional baud rate as per switches 3, 4, and 5 on the HPR05 PCA
Switch		Baud Rate Selected																
SW3	SW5																	
On	On	110																
On	Off	300																
Off	On	1200																
Off	Off	Optional baud rate as per switches 3, 4, and 5 on the HPR05 PCA																
Switch 4	(unused)																	
Switch 6	Even Parity This switch is used in conjunction with the parity enable switch. On – Selects even parity check and transmission Off – Selects odd parity check and transmission																	
Switch 7	Paper Out Defeat On – Paper-out sensing disabled Off – Paper-out sensing enabled																	
Switch 8	(unused)																	

**3-1 OPERATOR CONTROL PANEL**





# 4

## ██████████ TROUBLESHOOTING

### A. SELF TEST FAILURES

PROBLEM	CAUSE
Unable to initiate self test at all; test does not begin when initiated.	<ol style="list-style-type: none"> <li>1. Self test selected improperly. Self test is initiated by powering the printer down, selecting self test, and powering the printer on.</li> <li>2. HPR05 PCA</li> <li>3. Control Panel PCA</li> <li>4. Cable from HPR05 PCA to Control Panel</li> <li>5. Power Regulator PCA</li> <li>6. Power Harness</li> <li>7. Power Supply</li> </ol>
Begins self test by printing "es" and then halts.	<ol style="list-style-type: none"> <li>1. HPR05 PCA (possible dead battery)</li> <li>2. Power Regulator PCA</li> </ol>
HPR05 ROM Bad	<ol style="list-style-type: none"> <li>1. HPR05 PCA</li> <li>2. Power Regulator PCA</li> </ol>
HPR05 RAM Bad	<ol style="list-style-type: none"> <li>1. HPR05 PCA</li> <li>2. Power Regulator PCA</li> </ol>
PCE RAM Bad	<ol style="list-style-type: none"> <li>1. PCE PCA</li> <li>2. Cable between PCE PCA and HPR05 PCA</li> <li>3. HPR05 PCA</li> <li>4. Power Regulator PCA</li> </ol>
Pass checksum test of HPR05 and PCE ROM and HPR05 RAM then dies before doing ripple print.	<ol style="list-style-type: none"> <li>1. HPR05 PCA</li> <li>2. SCE PCA</li> <li>3. PCE PCA</li> <li>4. Carriage</li> <li>5. Carriage Motor (bad Xducer)</li> <li>6. Power Regulator PCA</li> <li>7. Power Supply</li> </ol>



**B. CHECK/PAUSE CONDITIONS**

PROBLEM	CAUSE
CHECK/PAUSE at power up	<ol style="list-style-type: none"> <li>1. SCE PCA</li> <li>2. PCE PCA</li> <li>3. Carriage Motor</li> <li>4. Cable going from carriage motor to the SCE PCA is disconnected at the motor or at the SCE PCA.</li> <li>5. Tie wrap has not been removed from the carriage at installation.</li> </ol>
CHECK/PAUSE – Carriage moves to home position at left of printer and spins print wheel several times (8) then goes into error condition.	<ol style="list-style-type: none"> <li>1. Print wheel home position transducer eccentric is backed out too far and requires adjustment.</li> <li>2. Carriage Assembly</li> <li>3. SCE PCA</li> <li>4. PCE PCA</li> <li>5. Power regulator card</li> <li>6. Flat cable assembly</li> </ol>
CHECK/PAUSE – Control panel lights and servos move slowly during operation.	<ol style="list-style-type: none"> <li>1. Transformer strapped for 220/240V on 100/120V unit.</li> <li>2. PCE PCA</li> <li>3. SCE PCA</li> <li>4. HPR05 PCA</li> <li>5. Power Regulator PCA</li> </ol>
CHECK/PAUSE – Following carriage crash to the left or right.	<ol style="list-style-type: none"> <li>1. SCE PCA</li> <li>2. Carriage Motor</li> <li>3. PCE PCA</li> <li>4. Cable from carriage motor to SCE PCA has become loose, pinched, or the connector is improperly installed.</li> <li>5. Power Regulator PCA</li> </ol>
CHECK/PAUSE – Destroys print wheel	<ol style="list-style-type: none"> <li>1. SCE PCA</li> <li>2. Carriage</li> <li>3. PCE PCA</li> <li>4. Power Regulator PCA</li> <li>5. Static</li> <li>6. Flat Cable Assembly</li> </ol>
Intermittently goes into CHECK/PAUSE	<ol style="list-style-type: none"> <li>1. SCE PCA</li> <li>2. PCE PCA</li> <li>3. Carriage Motor</li> <li>4. Carriage</li> <li>5. Power Regulator PCA</li> <li>6. Control Panel PCA (bounce)</li> <li>7. Static (check interface cable for proper grounding)</li> <li>8. Flat Cable Assembly</li> </ol>
CHECK/PAUSE – Intermittently when the carriage returns to the left.	<ol style="list-style-type: none"> <li>1. SCE PCA</li> <li>2. PCE PCA</li> <li>3. Power Regulator PCA</li> <li>4. HPR05 PCA</li> <li>5. Carriage motor</li> <li>6. Ribbon motor heat sink hanging up on frame.</li> </ol>

**C. PRINTING**

PROBLEM	CAUSE
Nothing happens when the printer is powered on.	<ol style="list-style-type: none"> <li>1. 4A (100 and 120V) or 2A (220 and 240V) fuse on the rear of the printer is blown.</li> <li>2. Cable connecting the HPR05 and the control panel is disconnected or installed backwards at the HPR05 PCA or the Control Panel PCA.</li> <li>3. Power Regulator PCA</li> <li>4. Power Harness</li> <li>5. Power Supply</li> </ol>
All lights light up and continuous alarm sounds.	<ol style="list-style-type: none"> <li>1. Loose cards in card cage</li> <li>2. Cable between HPR05 PCA and Control Panel PCA</li> <li>3. Control Panel PCA</li> <li>4. Power Regulator PCA</li> <li>5. HPR05 PCA</li> </ol>
Printing Wrong Characters	<ol style="list-style-type: none"> <li>1. Wrong Print Wheel Selected</li> <li>2. Wrong Language Selected</li> <li>3. HPR05 PCA</li> <li>4. SCE PCA</li> <li>5. PCE PCA</li> <li>6. Carriage</li> <li>7. Control Panel PCA</li> </ol>
Side to Side shading of character	<ol style="list-style-type: none"> <li>1. Hammer to Print Wheel Adjustment</li> <li>2. Carriage Assembly</li> <li>3. Platen improperly installed</li> </ol>
Top to Bottom shading of the character	<ol style="list-style-type: none"> <li>1. Hammer Angle Adjustment</li> <li>2. Carriage Assembly</li> <li>3. Platen improperly installed</li> </ol>
Printing Light	<ol style="list-style-type: none"> <li>1. Hammer Armature Adjustment (eccentric)</li> <li>2. Carriage Assembly</li> <li>3. Platen improperly installed</li> <li>4. Power Regulator PCA</li> <li>5. Power Supply</li> <li>6. Flat Cable Assembly</li> </ol>
Plastic Print Wheels wearing out prematurely	<ol style="list-style-type: none"> <li>1. Forms Thickness Select Switch is in the 4-6 parts position and the user is printing on single part paper.</li> <li>2. Forms Thickness Select Switch is not being toggled by the select lever.</li> <li>3. HPR05 PCA</li> <li>4. Power Regulator PCA</li> <li>5. PCE PCA</li> </ol>
Left Margin Drift	<ol style="list-style-type: none"> <li>1. SCE PCA</li> <li>2. Carriage Motor (Xducer)</li> <li>3. Static</li> <li>4. PCE PCA</li> <li>5. Power Regulator PCA</li> </ol>

(continued on next page)

## Printing (continued)

PROBLEM	CAUSE
Left Margin Drift (cont.)	6. HPR05 PCA 7. Power Harness 8. Cable from Carriage Motor to SCE PCA
Default page size of 12" instead of 11"	1. Jumper installed at location J2 between 9 and 10 (want jumper in for European units) on HPR05 PCA 2. HPR05 PCA
No carriage movement; all characters printed in home column.	1. Remote Reset (ESC CR P or ESC CNTL Z I) 2. HPR05 PCA 3. Carriage Motor 4. SCE PCA
Prints okay with plastic print wheels but hangs with metal print wheels	1. HPR05 PCA 2. Carriage Assembly 3. SCE PCA 4. PCE PCA 5. Power Regulator PCA 6. Interface Cable 7. Control Panel
Dropping characters intermittently; leaving a blank in place of the missing character.	1. Is the character valid for print wheel selected? 2. Carriage Assembly 3. SCE PCA 4. HPR05 PCA 5. Power Regulator PCA 6. Power Harness 7. Flat Cable Assembly
Printing from right to left; resulting in text being printed backwards	1. ESC > 2. HPR05 PCA
Not underlining the text completely in the PS mode	1. Does the software package customer is using support proportional spacing? 2. HPR05 PCA
Underline characters are faint or nonexistent	1. Ribbon Height Adjustment (Section 6). 2. Hammer-to-Print wheel Adjustment (Section 6). 3. Print wheel
Does not print Bi-directionally	1. ESC / 2. HPWORD does not support bi-directional print. 3. Data transfer is too slow to allow bi-directional print.

**D. RIBBON**

PROBLEM	CAUSE
Ribbon lifting but not being held up during printing. Hammer may catch on ribbon and tear ribbon.	<ol style="list-style-type: none"> <li>1. PCE PCA</li> <li>2. Power Regulator PCA</li> <li>3. Carriage</li> <li>4. Power Harness</li> <li>5. Power Supply</li> <li>6. Flat Cable Assembly</li> </ol>
Ribbon not lifting completely, causing the tops of the characters to be clipped.	<ol style="list-style-type: none"> <li>1. Ribbon Height Adjustment (Pg. 5-34 of Ser. Man.)</li> <li>2. Check for obstruction in ribbon area (check sound foam)</li> <li>3. PCE PCA</li> <li>4. Carriage</li> <li>5. Power Regulator PCA</li> </ol>
Printer never lifting ribbon	<ol style="list-style-type: none"> <li>1. Ribbon Height Adjustments</li> <li>2. Remote Reset or ESC B</li> <li>3. PCE PCA</li> <li>4. Power Regulator PCA (+ 16V used to hold ribbon and + 40V used to lift ribbon).</li> <li>5. Carriage</li> <li>6. HPR05 PCA</li> </ol>
Not detecting End-Of-Ribbon	<ol style="list-style-type: none"> <li>1. Multistrike Ribbon is not installed</li> <li>2. Carriage</li> <li>3. PCE PCA</li> </ol>

**E. PAPER FEED**

PROBLEM	CAUSE
Super- and sub-scripts are wavy; paper does not return to original position exactly.	<ol style="list-style-type: none"> <li>1. Bi-directional tractors are not installed or are installed improperly.</li> <li>2. Platen is not open.</li> <li>3. Not printing the super- or sub-script characters after a positive line feed.                             <ol style="list-style-type: none"> <li>a. Super-script –                                     <ol style="list-style-type: none"> <li>1. Negative LF</li> <li>2. Half LF</li> <li>3. Print super-script</li> <li>4. Half LF</li> </ol> </li> <li>b. Sub-script –                                     <ol style="list-style-type: none"> <li>1. Half LF</li> <li>2. Print sub-script</li> <li>3. Negative LF</li> <li>4. Half LF</li> </ol> </li> </ol> </li> <li>4. Paper is not within the thickness specification.</li> <li>5. Paper Feed Backlash Adjustment</li> </ol>
Tearing paper holes when bi-directional tractors are used	<ol style="list-style-type: none"> <li>1. The platen should be opened when bi-directional tractors are used.</li> <li>2. The paper cradle is not seated properly.</li> <li>3. Bi-directional tractors are not seated properly.</li> <li>4. Platen is not installed properly.</li> </ol>

(continued on next page)

**Paper Feed (continued)**

<b>PROBLEM</b>	<b>CAUSE</b>
The 2601A is doing double line feeds.	<ol style="list-style-type: none"> <li>1. Check Left Dip Switch – Double Line Feed</li> <li>2. The 2601A is hung off of a terminal and user is using a software package that is intended to talk directly from the system and not through a terminal.</li> <li>3. Remote Reset</li> <li>4. HPR05 PCA</li> <li>5. Control Panel PCA</li> <li>6. PCE PCA</li> <li>7. Wrong Interface Cable</li> </ol>
Not responding to paper feed instructions	<ol style="list-style-type: none"> <li>1. Remote Reset</li> <li>2. PCE PCA</li> <li>3. Paper Feed Motor</li> <li>4. HPR05 PCA</li> <li>5. Power Regulator PCA</li> </ol>
Bi-directional tractors are binding and/or not moving together	<ol style="list-style-type: none"> <li>1. Bi-directional tractors not seated properly.</li> <li>2. Inter and/or outer bearings in tractors are defective.</li> </ol>
Paper out switch does not detect paper out condition.	<ol style="list-style-type: none"> <li>1. Bi-directional tractors are not installed.</li> <li>2. Paper installed in front of the paper scale.</li> <li>3. Paper-out is defeated on the control panel.</li> <li>4. The switch is not connected properly.</li> <li>5. Paper Out Switch Assembly</li> <li>6. PCE PCA</li> <li>7. Flat Cable Assembly</li> </ol>
Erratic line feeds	<ol style="list-style-type: none"> <li>1. Paper Feed Backlash Adjustment</li> <li>2. Platen improperly installed</li> <li>3. Bi-directional Tractors improperly installed.</li> <li>4. PCE PCA</li> <li>5. Paper Feed Motor</li> <li>6. HPR05 PCA</li> <li>7. Damaged Paper Feed Gear</li> </ol>

**F. INTERFACE**

<b>PROBLEM</b>	<b>CAUSE</b>
Will not talk to host	<ol style="list-style-type: none"> <li>1. Check 1A fuse</li> <li>2. Improperly configured</li> <li>3. Wrong Cable – Pins 4, 5, &amp; 6 on the printer end of the cable must be jumpered together if one is using a three wire cable.</li> <li>4. Check that the same baud rate is selected on the host and the printer.</li> <li>5. Check that the dip switch under the access cover is configured for full duplex.</li> <li>6. Cable from I/O bracket assembly to the HPR05 PCA is disconnected or improperly installed.</li> </ol>

(continued on next page)

**Interface (continued)**

PROBLEM	CAUSE
Will not talk to host (continued)	<ol style="list-style-type: none"> <li>7. HPR05 PCA</li> <li>8. Power Regulator PCA</li> <li>9. Power Supply</li> </ol>
Overflow occurring when using handshaking.	<ol style="list-style-type: none"> <li>1. Even parity is selected on 2601A control panel (3000/III, 30, 33, 40, &amp; 44). Must be odd to generate 0 padding character.</li> <li>2. HPR05 PCA</li> <li>3. Interface Cable</li> <li>4. Customer using ETX/ACK protocol</li> </ol>
Overflow occurring when no handshaking is used	<ol style="list-style-type: none"> <li>1. Selected baud rate exceeds the maximum recommended baud rate of 300 when no handshaking is used</li> <li>2. If overflow occurs with a baud rate of 300 or less, check for binding in the carriage and rail area.               <ol style="list-style-type: none"> <li>a. Lubricated</li> <li>b. Felt washers in the bearing assembly area of carriage are worn or exposed.</li> <li>c. Carriage rails are installed incorrectly.</li> <li>d. Carriage rails are bent.</li> </ol> </li> <li>3. PCE PCA</li> <li>4. HPR05 PCA</li> <li>5. SCE PCA</li> <li>6. Interface cable</li> </ol>
Prints out a phrase (e.g. "This message stored in RAM") in the middle of the user's text and continues printing.	<ol style="list-style-type: none"> <li>1. The user is using ENQ/ACK protocol which is not supported. Whenever the 2601A receives an ENQ, the contents of the message buffer in non-volatile RAM is printed out.</li> <li>2. HPR05 PCA</li> </ol>
A continuous alarm sounds when the 2601A is connected to the host. The alarm stops when the I/F cable is disconnected.	<ol style="list-style-type: none"> <li>1. The wrong baud rate is selected.</li> <li>2. HPR05 PCA</li> <li>3. Interface cable</li> <li>4. PCE PCA</li> <li>5. Cards loose in card cage</li> <li>6. Control Panel PCA</li> <li>7. Power Regulator PCA</li> <li>8. Cable going from HPR05 PCA to Control Panel</li> </ol>
Prints horizontal L	<ol style="list-style-type: none"> <li>1. Different Baud Rates selected between Host and Printer</li> <li>2. Configuration</li> <li>3. Cable</li> <li>4. HPR05 PCA</li> </ol>

(continued on next page)

## Interface (continued)

PROBLEM	CAUSE
When operating on the 264X terminal, the terminal comes up with the display "Printer Not Ready" and discontinues sending data to the printer.	1. The user is using XON/XOFF protocol between the 264X terminal and the 2601A which is not supported. 300 baud max. with no handshaking is the supported configuration.
The printer responds with garbage when data is transmitted by the host.	1. Improperly configured 2. Wrong Print Wheel Selected 3. Wrong Interface Cable 4. HPR05 PCA 5. Power Regulator PCA
"Buffer Overflow" light comes on	1. Check 1A Fuse 2. Improperly Configured 3. Wrong Interface Cable 4. HPR05 PCA

## G. FUSES

PROBLEM	CAUSE
Blowing 1A fuse on power regulator PCA	1. HPR05 PCA 2. Power Regulator PCA 3. Power Harness
Blowing 4A fuse on power regulator PCA	1. SCE PCA 2. PCE PCA 3. Power Regulator PCA 4. Power Harness 5. Carriage 6. Carriage Motor 7. Paper Feed Motor
Blowing 6A fuse on power regulator PCA	1. SCE PCA 2. PCE PCA 3. HPR05 PCA 4. Power Regulator PCA 5. Power Harness 6. Control Panel PCA 7. Membrane Switches 8. Flat Cable Assembly





## 5-2 Diagnostics/Self-Test

**SERVICE Switch** – Serves as an alternate-action Stop/Start switch. Successive actuations of the SERVICE Switch alternately stops and starts the test. The test resumes each time from the point where it was stopped. This switch is disabled by a connector when not in use.

**PAUSE Switch** – After the test has been stopped by the SERVICE switch, the PAUSE switch may be used to single-step through each test. Each time the switch is pressed, the test advances one step.

**RESET Switch** – When this switch is pressed, the test is interrupted and immediately starts over from the beginning.

5. To discontinue the Self-Test mode, turn AC power OFF, set the SPACING switch to the appropriate spacing setting (0-3) and turn AC power ON.

### B. INDIVIDUAL SELF-TESTS

The Self-Test mode for individual test sections is activated at power-up if the SPACING switch on the control panel is set to a Self-Test position between 4 and 9 and jumper A60-1/2 is installed in the HPR05 PCA. In this mode, the functions of all control panel lights and switches are redefined as described in Section 5.6.3 of the 2601A Service Manual (P/N 02601-90904). Individual self-test routines are selected by dialing in the proper test number on the two rotary switches (PRINT WHEEL SELECT and SPACING), and then pressing the RESET switch.

#### Test Procedure:

1. With the AC power switch OFF, set the SPACING switch on the control panel to the Self-Test position (any position 4 - 9). NOTE: The individual tests are accessible only on units with jumper A60-1/2 installed on the HPR05 circuit board.
2. Turn ON the AC power. At power-up, the buzzer will sound briefly and the word "test" will be printed. The 2601A is now in the individual Self-Test mode.
3. Use the two rotary switches on the control panel to select the test number desired. The left-hand switch selects the left digit of the test number and the right-hand switch selects the right digit.
4. Press the RESET switch. This inputs the test selection set up by the two rotary switches.
5. Press the SERVICE switch to start the test. The SERVICE switch functions as an alternate-action start/stop switch; pressing this switch a second time will stop the test. When the test has been stopped, the PAUSE switch can be used to single step the test. Each time this switch is pressed, the test will advance one step. The Service Switch Disable connector will need to be removed to enable the service switch if present.
6. To discontinue the Self-Test mode, turn AC power off, return the jumper at A60-1/2 to its normal position of A60-3/4 on the HPR05 PCA, set the SPACING switch to the appropriate spacing setting (0-3) and turn AC power ON.

**Description of Individual Self-Tests**

1. Tests of HPR05 and Associated Components
  - Test 00 – ROM TEST
  - Test 01 – RAM TEST
  - Test 03 – SERIAL INTERFACE WRAPAROUND TEST
2. PCE and SCE Tests
  - Test 20 – 8041 ROM TEST
  - Test 22 – PCE PRINTER STATUS TEST
  - Test 30 – PRINT WHEEL RESTORE TEST
  - Test 31 – PRINT WHEEL SERVO TEST
  - Test 40 – CARRIAGE RESTORE TEST
  - Test 41 – CARRIAGE SERVO TEST
  - Test 50 – SERVO DISABLE AND DISPLAY CHECK STATUS
  - Test 51 – PAPER FEED TEST
3. Overall Printer Verification Tests
  - Test X4 – COMBINED HORIZONTAL and VERTICAL MOTION, and PRINT TEST
  - Test X5 – SWIRL TEXT PRINTOUT
  - Test X7 – OVERALL CONFIDENCE TEST

**NOTE:** See Section 5.6.3 of the 2601A Service Manual (P/N 02601-90904) for a complete description of the individual self tests.



# 6

## ADJUSTMENTS

### A. TOOLS REQUIRED

- Combination/Adjustment Tool (P/N 40795-02-DIA)
- Adjustment Tool (P/N 301445-01-DIA)
- Pin Gauge (P/N 40796-DIA)
- T15 Torx Driver
- T9 Torx Driver
- Blade Screwdriver
- $\frac{7}{16}$ " Open-Ended Wrench
- Oscilloscope

**NOTE:** The adjustments are not routinely required for the 2601A and should only be performed if a specific problem is encountered or if an individual part on the carriage assembly is changed.

### B. HAMMER TO PRINT WHEEL ADJUSTMENT (Refer to figure 2)

The purpose of this adjustment is to align the hammer to strike the print wheel spoke exactly in the center of the spoke. This adjustment is required if shading of the sides of characters is observed. The "H" character should be inspected if shading is suspected.

The 2601A's mechanical print wheel hub uses a special compression washer to maintain proper positioning of the print wheel alignment plate. The following procedure would be followed to properly position the print wheel alignment plate in relation to the mechanical print wheel hub.

1. Snap off plastic ribbon guide.
2. Apply power to the printer and allow the printer to complete its RESTORE sequence. Remove paper, the ribbon cartridge, and the print wheel.
3. Install the adjustment tool (P/N 301445-01-DIA) over the nut on the front of the print wheel hub as shown in figure 2. Install the combination/adjustment tool (P/N 40795-02-DIA) firmly on the print wheel motor shaft hub and ensure that it is properly seated with the alignment slot engaged over the tab on the hub's alignment plate.
4. Rotate the alignment tool to bring its hammer slot in front of the print hammer. Apply pressure to the left side of the carriage to try to push it off position, thus causing the print wheel to detent; hold this pressure while the adjustment is made.

## 6-2 Adjustments

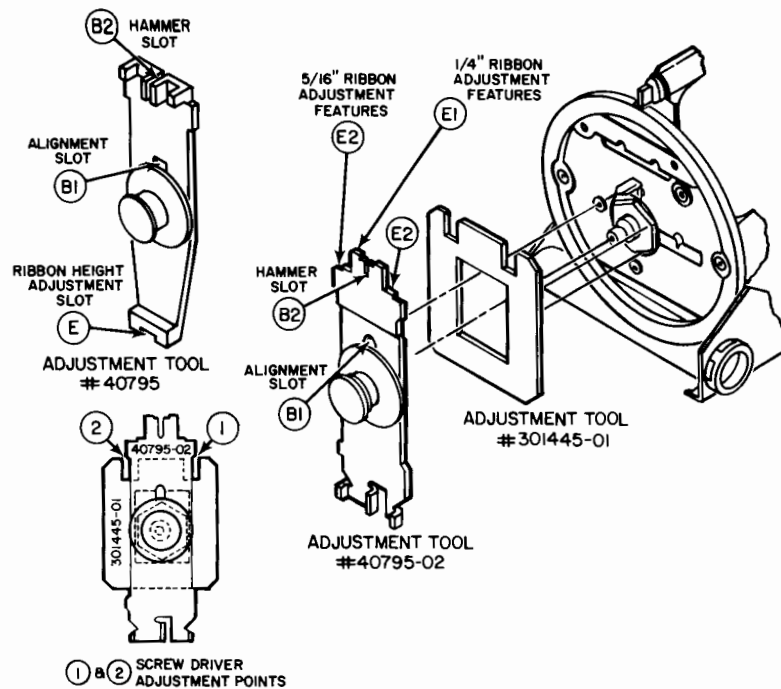


Figure 2.

5. Manually push the print hammer gently toward the alignment tool until its face enters the tool's hammer slot. Use the tip of a screwdriver to push the rear of the hammer forward. If the hammer face slides easily into the slot without contacting the sides of the slot, the print wheel to hammer alignment is correct. If the hammer contacts the sides of the slot or will not enter the slot at all, adjustment is required.
6. To adjust, place the tip of a blade screwdriver in either point 1 or 2 as shown on figure 3. The screwdriver may then be twisted to move the alignment plate in relation to the print wheel hub to achieve proper alignment.

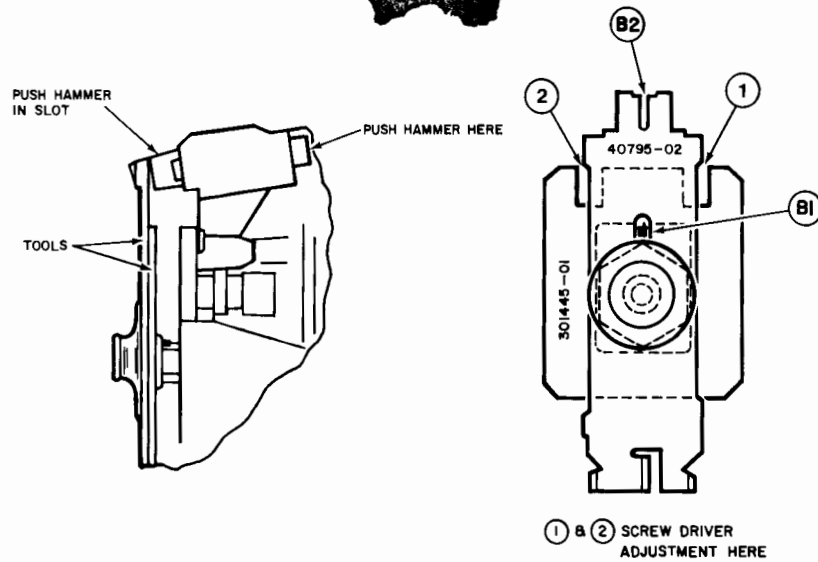


Figure 3.

### C. HAMMER ADJUSTMENTS (Refer to figure 4)

1. Hammer Backlash Adjustment
  - a. Remove power from the printer.
  - b. Remove the ribbon cartridge and paper. Move the multicopy lever to its single copy position.
  - c. Verify that the platen is in good condition and free of surface defects. If this is to be an adjustment for high print quality, installation of a new platen (temporarily) should be considered.
  - d. Hold the hammer armature (A) against the hammer coils (F), and check that there is no gap between them. Insert the pin gauge (P/N 40796-DIA) between the armature (A) and the armature stop eccentric (B) using the H2 diameter.
  - e. Adjust the eccentric (B) as necessary for a very light resistance to passage of the tool when slid along the side of the armature past the eccentric. Adjustment is made by loosening the nut and turning the armature top eccentric with a screwdriver. When the correct position is reached, the eccentric is held in place and the nut tightened.

## 6-4 Adjustments

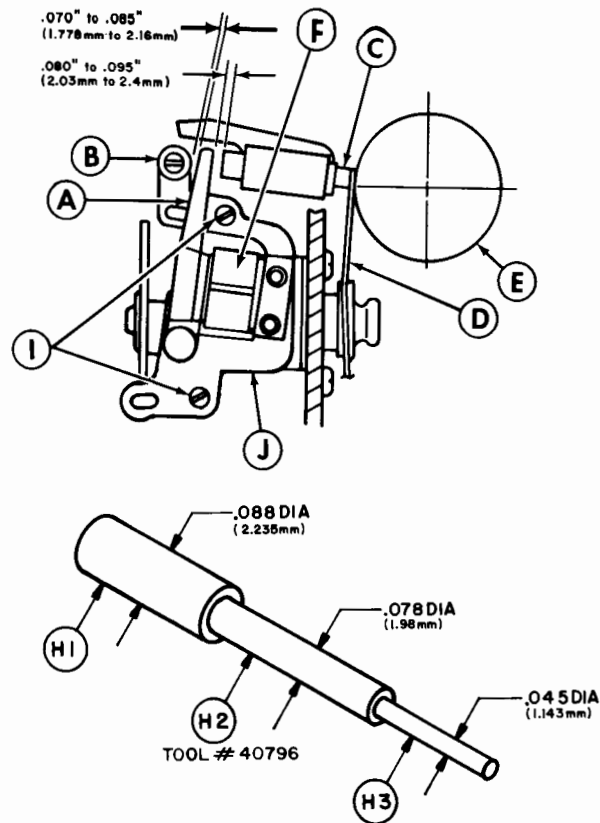


Figure 4.

### 2. Hammer Coil Adjustment

- a. Install a metal print wheel on the unit. This adjustment can only be made with a metal print wheel due to the differences in thickness of the characters between metal and plastic print wheels.
- b. Hold the hammer against the H1 section of the pin gauge adjustment tool (P/N 40796-DIA), inserting the tool between the hammer and the hammer armature. With the gauge in place there should be a slight drag between the metal character and the platen.
- c. If adjustment is required, loosen the two mounting screws holding the coil assembly, and adjust the assembly for a slight drag. When the adjustment is complete, retighten the screw.

## D. HAMMER ANGLE

This adjustment should only be performed if the hammer or hammer guide assembly has been changed. The hammer angle is precisely aligned at the factory and will not change except upon failure of a part. This adjustment will not compensate for a worn hammer, hammer guide, ribbon or print wheel.

Misalignment of the hammer angle causes shading of the tops, bottoms, or sides of characters.

1. Print a line of capital "H's" and determine if shading is in evidence.
2. Refer to figure 5 and 6. To correct top-to-bottom shading:
  - a. Loosen screws (A) slightly on both sides of the hammer guide.
  - b. Using a small screwdriver in eccentric slot (B), adjust the hammer pitch angle.
 

**NOTE:** After each change in pitch, screws (A) should be tightened and a row of "H's" printed.
  - c. Repeat 2a and 2b above until top-to-bottom shading is eliminated.

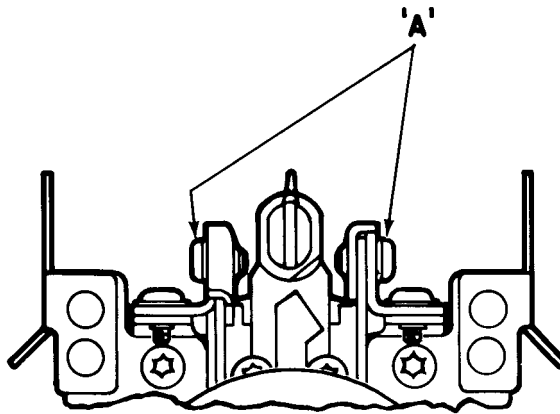


Figure 5.

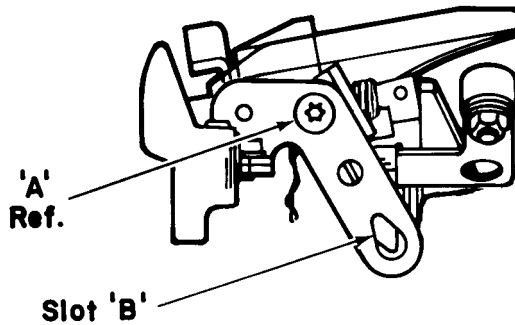


Figure 6.



## 6-6 Adjustments

3. Refer to figure 7. To correct side-to-side shading:
  - a. Loosen screws (C) on each side of the hammer adjustment bracket.
  - b. Using a small screwdriver in slot (D), adjust the hammer azimuth angle. **NOTE:** After each change in azimuth, screws (C) should be tightened and a row of "H's" printed.
  - c. Repeat 3a and 3b above until side-to-side shading is eliminated.
4. Verify the Hammer to Print Wheel Alignment and Hammer Adjustment are in specification.

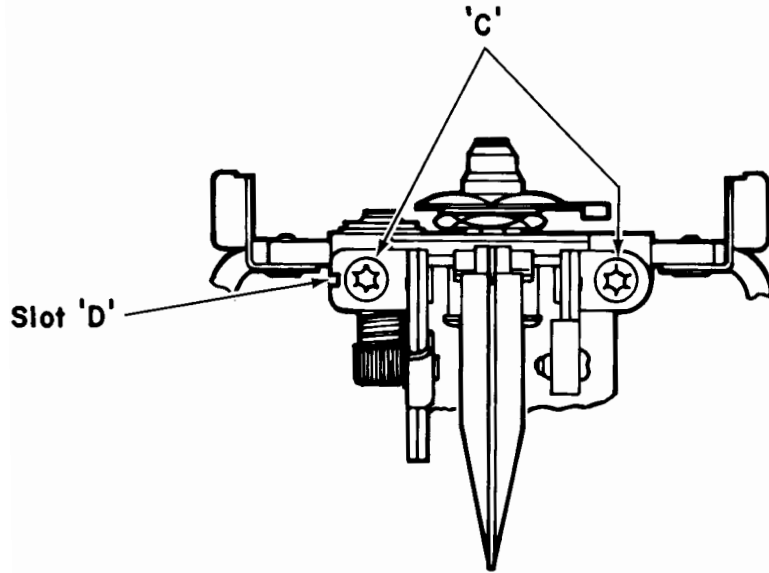


Figure 7.

### E. PRINT QUALITY FINE ADJUSTMENT HINT

To fine adjust the print quality, a .005" plastic shim, as shown in figure 8, may be placed between the hammer armature and hammer coil. The shim will decrease hammer energy significantly. This in turn will amplify nonuniform print density for ease of adjustment.

The fine adjustment shim may be cut from .005" plastic shim stock, using the pattern shown. Remove the shim after the Hammer Angle adjustment is complete.

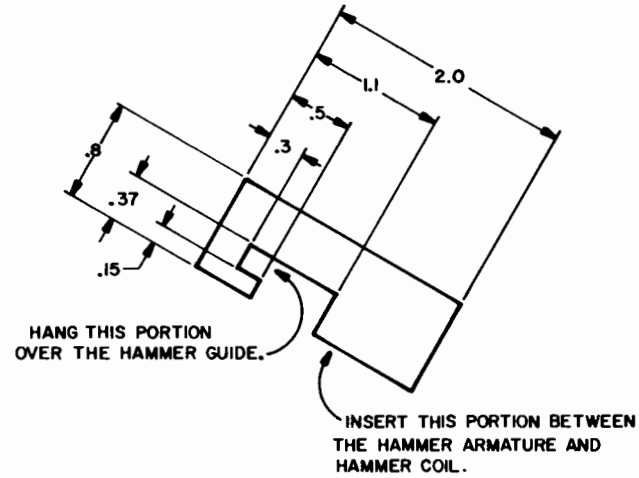


Figure 8.



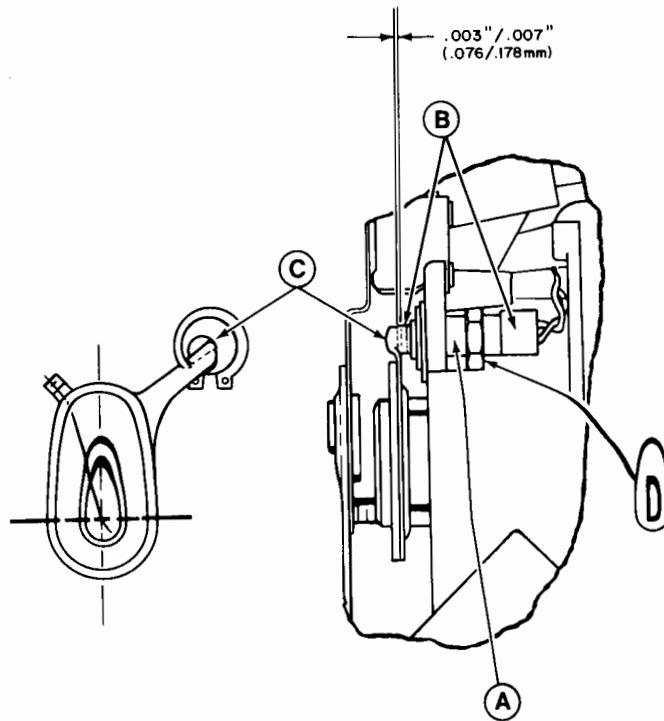
**F. PRINT WHEEL HOME ADJUSTMENT** (Refer to figure 9)

If the microprocessor is unable to obtain the correct home character position after eight (8) consecutive attempts (retries), it will issue a CHECK command to stop the printer. This situation normally indicates that the print wheel home adjustment is required.

**NOTE:** If the home character is displaced less than one character width, perform the hammer to print wheel alignment. If the home character is displaced one full character position, perform the print wheel home adjustment procedure (below). If the home character is displaced more than one full character position, perform the hammer to print wheel alignment first, followed by the print wheel home alignment procedures (below).

## 1. Home Position Alignment Without an Oscilloscope

- a. Use a  $\frac{7}{16}$ " open end wrench to adjust the home sensor eccentric (A) (see Fig. 9) as follows. Move the eccentric slightly in either direction, and initiate individual self test 30 which performs the print wheel restore test. Continue adjusting the eccentric in that direction, a little at a time, until the print wheel spins (8 revolutions) and the printer goes into its CHECK mode. Note the eccentric position.
- b. Move the eccentric in the opposite direction in the same manner until the printer goes into CHECK again. Note the second eccentric position.
- c. The two extremes noted above may be as much as 180 degrees apart. Adjust the eccentric to the approximate mid-point between the two extremes.



A. HOME SENSOR ECCENTRIC

B. HOME SENSOR

C. HOME SENSOR FLAG

D. NUT

Figure 9.

- d. If the print wheel spins continuously (8 revolutions) without finding its home position, it will issue a CHECK command. This may indicate that sensor (B) is located too far from the print wheel stops. Use a feeler gauge to verify 0.003" to 0.007" clearance between the surface of the sensor and the edge of the flag. Retighten nut (D). Use care to avoid twisting the wires to the sensor enough to cause strain and subsequent failure.
- e. The electrical signal out of the sensor should be at least 400 mV (Peak). Figure 10 illustrates this signal, as seen at the input to the print wheel home sensor amplifier on the SCE assembly (J3 pin 13).
- f. Check the hammer to print wheel adjustment.

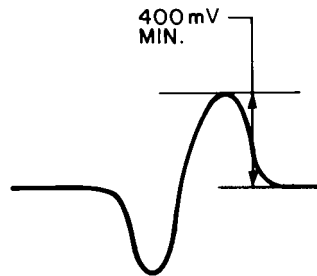


Figure 10.

## 2. Home Position Adjustment With Oscilloscope

The procedure given above is the normal procedure to use in the field to correct a condition where the wrong character is consistently printed or if a print wheel CHECK condition occurs. A more precise method which requires the use of an oscilloscope is available if the above method fails. However, normal field procedure in this case would be to change the carriage assembly.

- a. Perform individual self test 30 and verify at least 400 mV (Peak) at the input to the print wheel sensor amplifier on the SCE assembly (J3 pin 13).
- b. Connect probe A of the oscilloscope to +PW EVEN (J3-47) on the PCE assembly. (2V/div)
- c. Connect probe B of the oscilloscope to -PW HOME (J3-48) on the PCE assembly. (2V/div)
- d. Trigger negative on -PW HOME.
- e. Set sweep for 100 microseconds/division.
- f. Perform individual self test number 30.
- g. Rotate the home position sensor such that the negative edge of -PW HOME is centered at the midpoint of the positive portion of +PW EVEN as shown in figure 11.

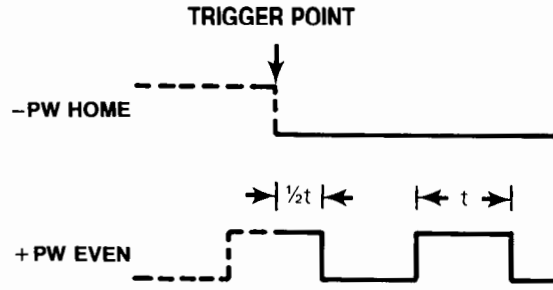


Figure 11. Print Wheel Home Adjustment Waveforms

**G. RIBBON BASE PLATE ADJUSTMENT**

The following adjustments must be checked if the ribbon base plate is removed. Refer to figure 12 and 13 before performing the adjustments.

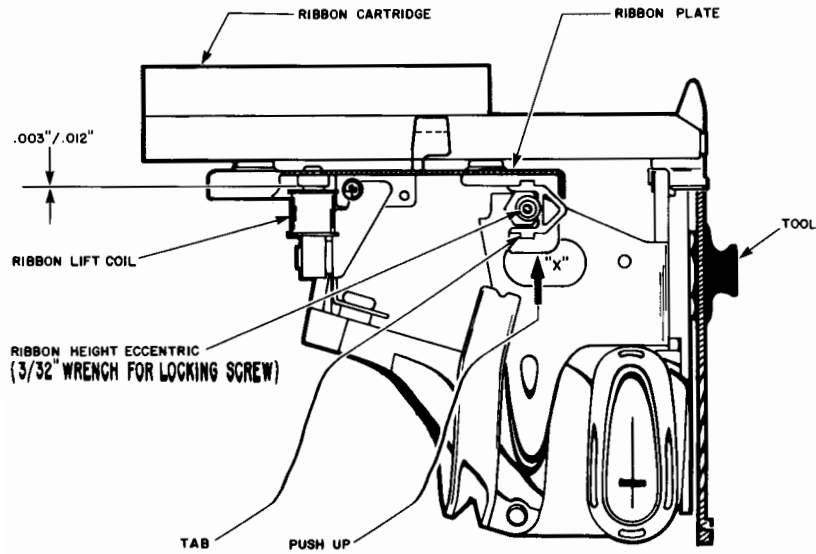


Figure 12.

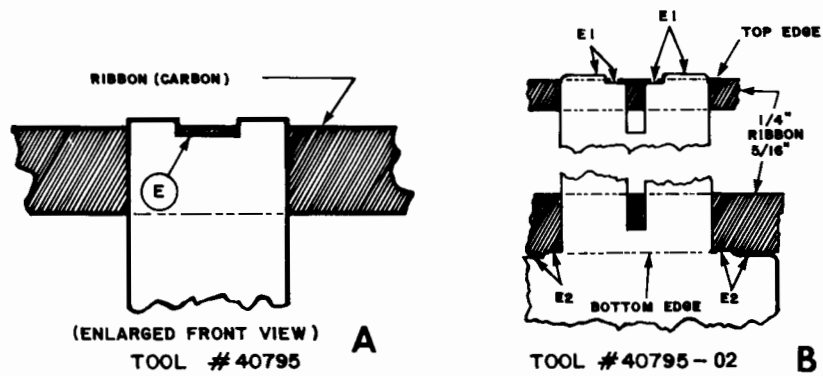


Figure 13.

## 1. Ribbon Height Adjustment.

The 2601A has the ribbon height adjusted for optimum use of the  $\frac{5}{16}$ " multistrike ribbon. The ribbon height adjustment may be required if the customer uses the red and black cloth ribbon.

- a. Apply power to the printer and allow the printer to complete its restore sequence.
- b. Remove the ribbon cartridge and print wheel. Install the combination/adjustment tool (P/N 40795-02-DIA) on the print wheel motor shaft hub, and rotate the tool to bring its hammer adjustment slot feature to the top.
- c. Tilt the print wheel motor into operating position, and install a ribbon cartridge.
- d. Push up on the carriage ribbon base plate tab "X" so that the tab is held against the carriage ribbon height eccentric. Do not apply excess pressure which would cause the ribbon cartridge to pivot off of the ribbon base plate.
- e. Check the position of the exposed portion of the ribbon for proper height adjustment as follows:
  - $\frac{1}{4}$ " ribbon – The TOP edge of the ribbon must appear between the high and low planes of tool features (E1).
  - $\frac{5}{16}$ " ribbon – The BOTTOM edge of the ribbon must appear between the high and low planes of tool features (E2).
- f. Adjust the ribbon height eccentric as required to achieve proper ribbon height.

## 2. Ribbon Lift Coil Adjustment

- a. Loosen the two mounting screws holding the ribbon lift coil.
- b. Push up on the base plate tab "X".
- c. Adjust the ribbon lift coil position such that there is 0.005 to 0.012 inches clearance between the coil and striker plate. The coil should not touch the plate.
- d. Tighten the coil mounting screws.

**H. CARD GUIDE HEIGHT** (Refer to figure 14)

1. Using self-test, print a line of characters. Loosen the screws and adjust card guide if necessary.

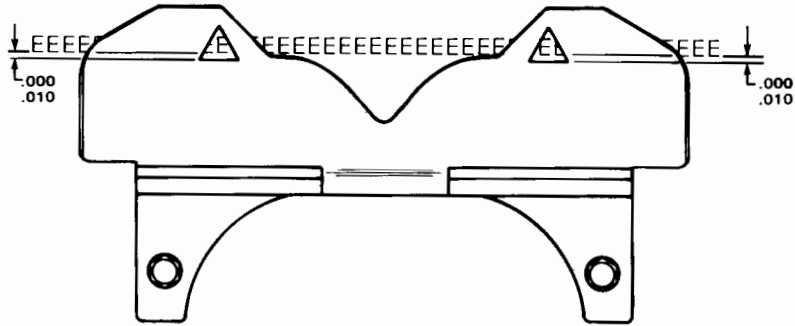


Figure 14.

**I. CARD GUIDE TO RIBBON GUIDE**

This adjustment should only be performed if the ribbon binds.

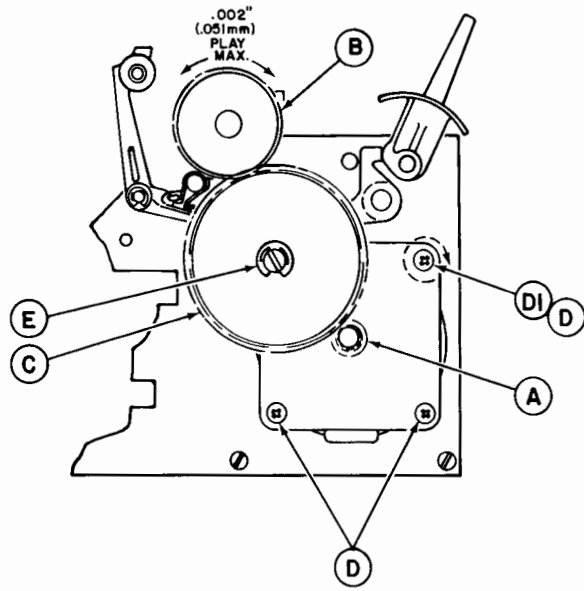
1. Measure the distance from the card guide to the ribbon guide.
2. If the distance is less than 0.005", re-form the card guide.

**J. PAPER FEED GEAR BACKLASH** (Refer to figure 15)

1. Remove the access cover, top cover and platen.
2. Slightly loosen locking nut located on far side of (E).
3. Turn idler gear eccentric (E) clockwise to move idler gear (C) away from motor pinion gear (A).
4. Move pinion gear (A) in-and-out (not side-to-side). While moving pinion gear (A), rotate idler gear eccentric (E) counterclockwise until idler gear (C) starts to move with pinion gear (A). Back off (clockwise) on eccentric (E) to the point the idler gear just

*stops moving.*

5. Carefully tighten locking nut on far side of (E).
6. Loosen paper feed motor mounting screws (D).
7. Install platen.
8. Rotate the paper feed motor clockwise about mounting screw (D1) until idler gear (C) and platen drive can be hand held together tightly.
9. While holding gears (B) and (C) together with one hand, tighten screws (D).
10. Replace top cover and access cover.



- A. MOTOR SHAFT
- B. PLATEN GEAR
- C. IDLER GEAR

- D. MOUNTING SCREWS

Figure 15.







**7**

**PERIPHERALS**

**DOES NOT APPLY.**



# 8

## REPLACEMENT PARTS

This section contains a copy of the 2601A parts manual, 02601-90009.



## 8-2 Replacement Parts

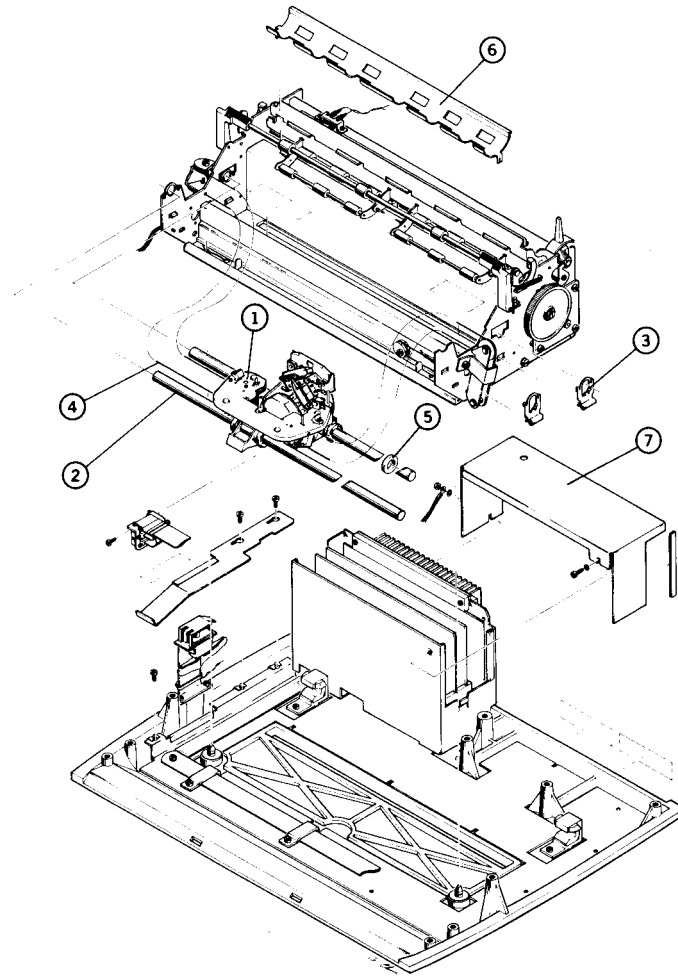
### A. FINAL ASSEMBLY

(Refer to Figure 8-1)

<u>ITEM</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	302500-XX-DIA	CARRIAGE ASSEMBLY (NOTE 1) (SEE SECTION 2)
2	302574-02-DIA	SHAFT, CARRIAGE
3	301657-02-DIA	CLIP, RAIL
4	302507-03-DIA	CARRIAGE DRIVE CABLE
5	24144-DIA	END STOP
6	320276-01-DIA	PAPER CRADLE ASSEMBLY (NOTE 2)
7	301678-06-DIA	SHIELD, CARD CAGE

NOTES:

- (1) 302500-03s-DIA IS CARRIAGE ASSEMBLY WITH RIBBON LIFT.  
302500-04s-DIA IS CARRIAGE ASSEMBLY WITHOUT RIBBON LIFT.
- (2) FOR SHEET FEEDER EQUIPPED 2601A (SERIAL PREFIX 2239A AND ABOVE),  
PAPER CRADLE PART NUMBER IS 320958-01-DIA.



**Figure 8-1**  
**Final Assembly**

**B. 302500-XX-DIA CARRIAGE ASSEMBLY**

(Refer to Figure 8-2)

<u>ITEM</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	302520-03-DIA 302520-04-DIA	RIBBON BASE ASSEMBLY WITH RIBBON LIFT (SEE SECTION 4) RIBBON BASE ASSEMBLY WITHOUT RIBBON LIFT (SEE SECTION 4)
2	302797-01-DIA	SPRING, CARRIAGE
3	301416-01-DIA	PRINT WHEEL SHIELD
4	40786-01-DIA	HAMMER
5	20353-DIA	SPRING, COMPRESSION
6	302935-02-DIA	CARD GUIDE
7	24128-DIA	FELT WASHER
8	24129-DIA	WIPER, SHAFT
9	302487-04-DIA	CRADLE, REAR BEARING
10	302489-05-DIA	BEARING ASSEMBLY
11	302625-03-DIA	HAMMER ARMATURE ASSEMBLY

## NOTES:

- (1) CARRIAGE ASSEMBLIES: 302500-03s-DIA (WITH RIBBON LIFT)  
302500-04s-DIA (WITHOUT RIBBON LIFT)
- (2) RIBBON LIFT  
CONVERSION KITS: 320497-01-DIA (MAKES A NON-RIBBON LIFT  
CARRIAGE INTO A RIBBON  
LIFT CARRIAGE)  
320497-02-DIA (MAKES A RIBBON LIFT  
CARRIAGE INTO A NON-RIBBON  
LIFT CARRIAGE)

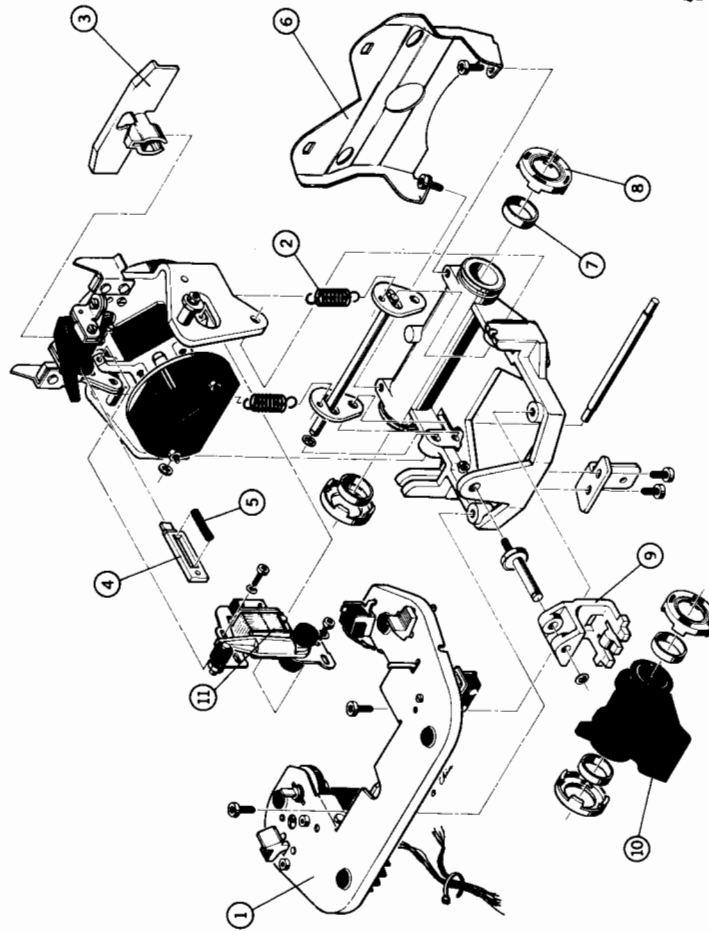


Figure 8-2  
302500-XX-DIA Carriage Assembly



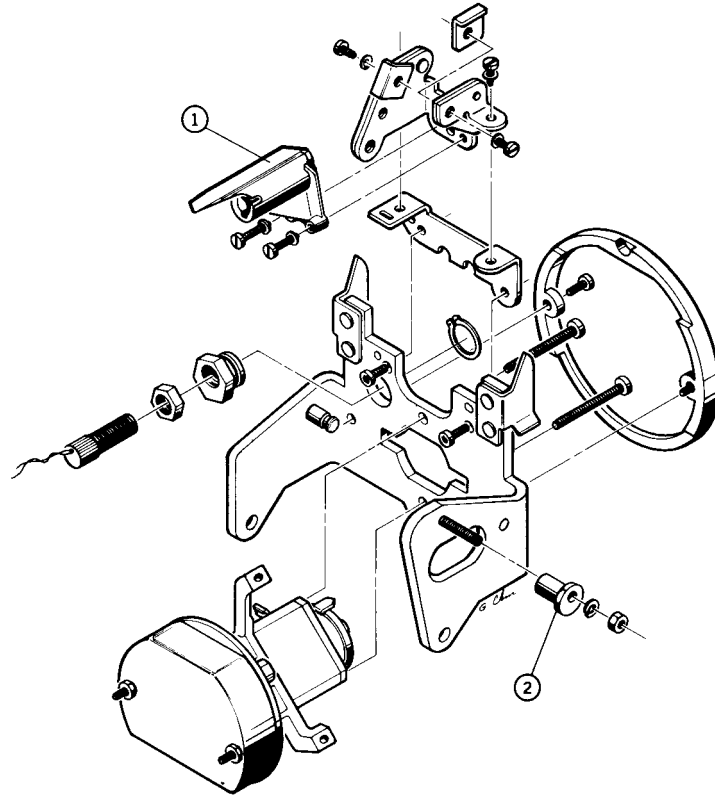
**C. CARRIAGE PIVOT ASSEMBLY**

(Refer to Figure 8-3)

<u>ITEM</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	320542-01-DIA	HAMMER GUIDE (NOTE 2)
2	320480-01-DIA	ECCENTRIC, NON-RIBBON LIFT (NOTE 1)

NOTES:

- (1) LARGER ECCENTRIC, USED ON 302500-04s-DIA CARRIAGE ASSEMBLY
- (2) FOR CARRIAGE ASSEMBLIES WHICH DO NOT HAVE THE ADJUSTMENT SCREWS ON EITHER SIDE OF THE HAMMER, THE HAMMER GUIDE PART NUMBER IS 320063-01-DIA.



**Figure 8-3**  
**Carriage Pivot Assembly**

**D. 302520-XX-DIA RIBBON BASE PLATE ASSEMBLY**  
 (Refer to Figure 8-4)

<u>ITEM</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	24120-DIA	LATCH (NOTE 2)
2	24147-DIA	PIN, LATCH (NOTE 3)
3	24146-DIA	SPRING (NOTE 3)
4	24115-DIA	RUBBER PAD
5	70172-04-DIA	RETAINING RING
6	70170-03-DIA	RETAINING RING
7	302740-02-DIA	SPRING

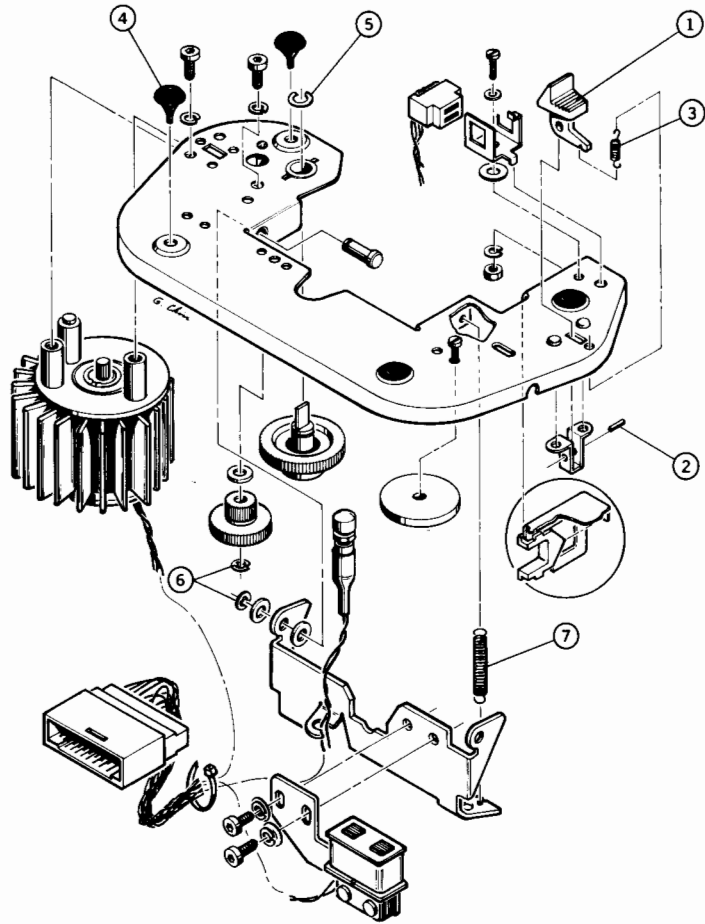
## NOTES:

(1) RIBBON BASE PLATE ASSEMBLIES:

302520-03-DIA BASE PLATE WITH RIBBON LIFT, OLDER STYLE  
 302520-04-DIA BASE PLATE WITHOUT RIBBON LIFT, OLDER STYLE  
 320265-04-DIA BASE PLATE WITH RIBBON LIFT, NEWER STYLE  
 (NOT SHOWN)  
 320265-02-DIA BASE PLATE WITHOUT RIBBON LIFT, NEWER STYLE  
 (NOT SHOWN)

(2) NEWER STYLE LATCH (USED ON 320265-02 AND 320265-04) IS PART NUMBER 320484-01-DIA.

(3) NOT USED ON NEWER STYLE BASE PLATES, 320265-02-DIA AND 320265-04-DIA.



**Figure 8-4**  
**302520-XX-DIA Ribbon Base Plate Assembly**

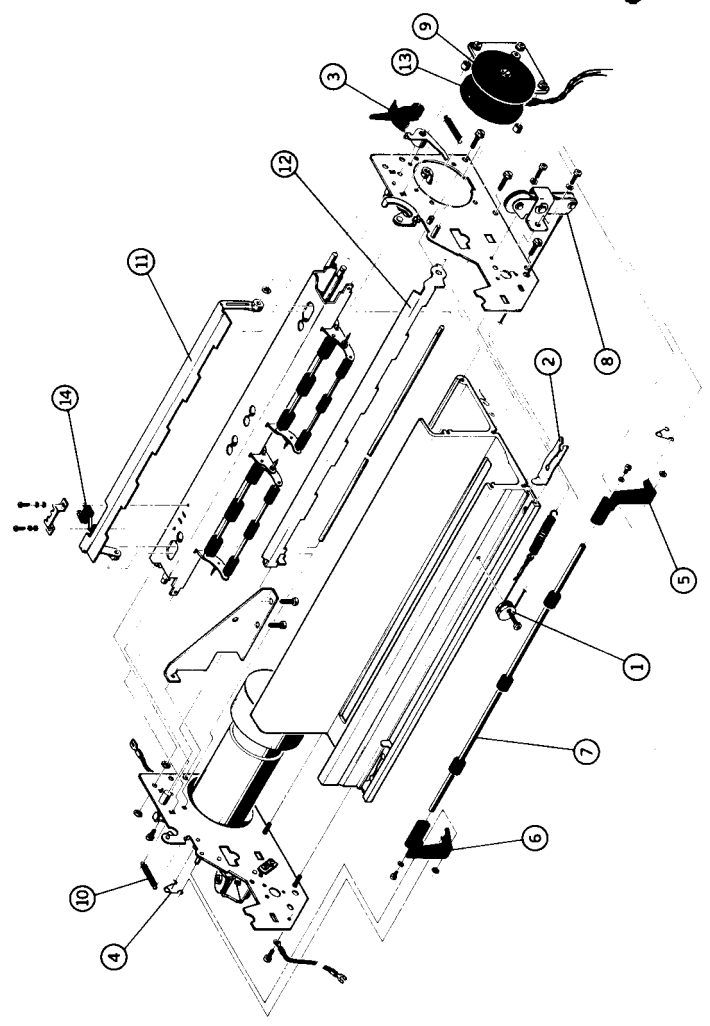
### E. FRAME ASSEMBLY

(Refer to Figure 8-5)

<u>ITEM</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	302522-02-DIA	SNUBBER POST
2	302784-01-DIA	LOCK, SLIDE
3	320473-01-DIA	LEVER, PRESSURE RELEASE
4	24088-01-DIA	SPRING, BAIL ARM
5	24074-02-DIA	BAIL ARM, RIGHT (NOTE 1)
6	24076-02-DIA	BAIL ARM, LEFT (NOTE 1)
7	320583-01-DIA	ROD, PAPER BAIL (NOTE 2)
8	302595-02-DIA	PULLEY ASSEMBLY, RIGHT
9	20452-DIA	GEAR, 85T IDLER
10	20424-DIA	SPRING, PLATEN LATCH
11	301897-01-DIA	BAIL ASSEMBLY, PAPER OUT (NOTE 3)
12	320546-02-DIA	SCALE, PAPER
13	302637-02-DIA	STEPPER MOTOR, PAPER FEED (NOTE 4)
14	24436-03-DIA	SWITCH, PAPER OUT

## NOTES:

- (1) IF 2601A IS EQUIPPED WITH OLDER STYLE BAIL ARMS THAT DO NOT PROTRUDE THROUGH SLOTS IN THE PLASTIC SOUND COVER, ORDER PART NUMBER 320720-01-DIA, BAIL ARM KIT. THIS KIT CONTAINS A SLOTTED SOUND COVER (302672-04-DIA), A RIGHT BAIL ARM (24074-02-DIA), AND A LEFT BAIL ARM (24076-02-DIA).
- (2) THIS PART NUMBER INCLUDES THE ROD AND THE THREE RUBBER ROLLERS.
- (3) NEWER STYLE BAIL ASSEMBLY THAT CLIPS ON TO THE PAPER OUT SHAFT CONSISTS OF THE FOLLOWING PARTS:
- |               |                        |
|---------------|------------------------|
| 320331-02-DIA | PLATE, PAPER OUT       |
| 320332-01-DIA | ARM, PAPER OUT (QTY 2) |
- (4) ITEM 13 INCLUDES ITEM 9, IDLER GEAR.

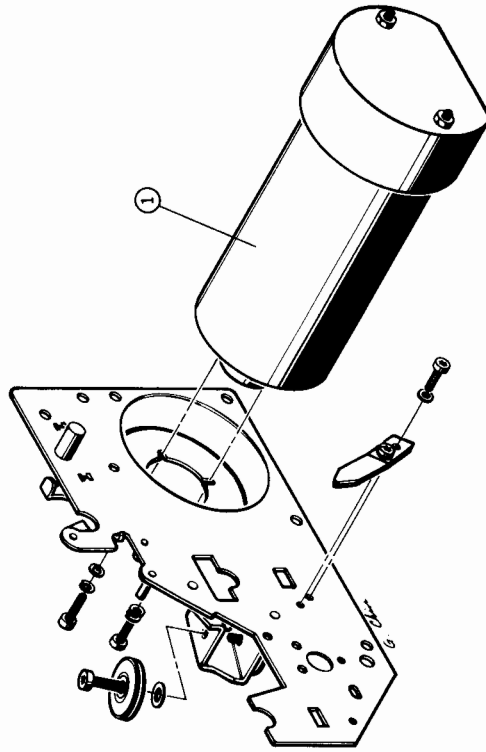


**Figure 8-5**  
**Frame Assembly**

**F. LEFT SIDE PLATE ASSEMBLY**

(Refer to Figure 8-6)

<u>ITEM</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	302640-02-DIA	MOTOR, CARRIAGE



**Figure 8-6**  
**Left Side Plate Assembly**



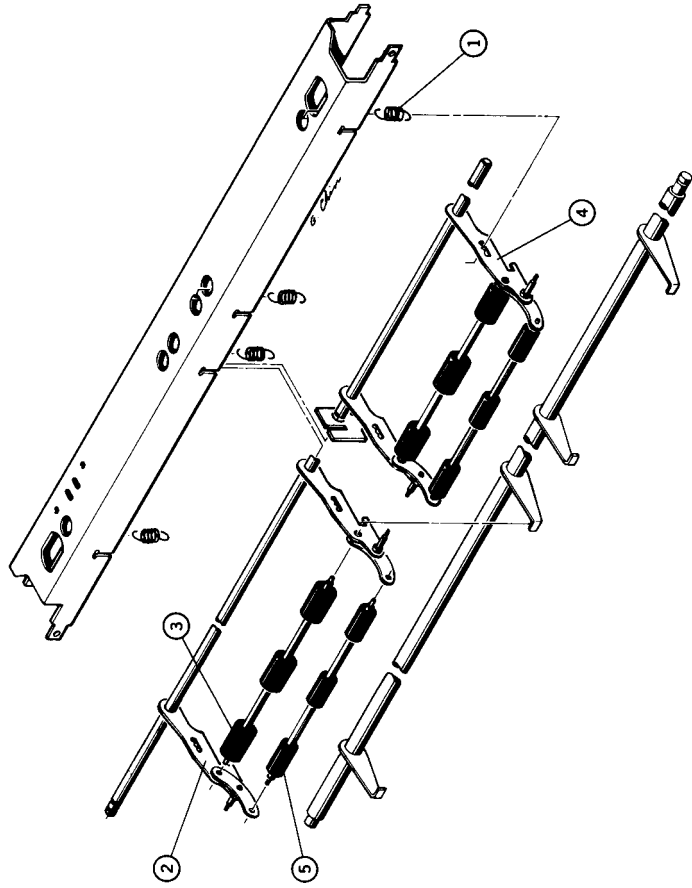
**G. CARRIER ASSEMBLY**

(Refer to Figure 8-7)

<u>ITEM</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	24047-DIA	SPRING, TENSION (NOTE 1)
2	24042-DIA	LEVER, PRESSURE ROLLER, LEFT
3	24080-01-DIA	ROLLER, REAR PRESSURE
4	24038-DIA	LEVER, PRESSURE ROLLER, RIGHT
5	24081-01-DIA	ROLLER, FRONT PRESSURE

NOTES:

- (1) FOR UNITS WITH SHEET FEEDER CAPABILITY, THERE ARE 8 SPRINGS PER CARRIER ASSEMBLY.



**Figure 8-7**  
**Carrier Assembly**

## H. COVER BASE ASSEMBLY

(Refer to Figure 8-8)

ITEM	PART NUMBER	DESCRIPTION
1	320044-01-DIA	BASEPLATE ASSEMBLY
2	320616-01-DIA	FOOT, FRONT
3	320617-01-DIA	PLUG, MOUNT
4	10961-DIA	SWITCH, INTERLOCK (NOTE 1)
5	02601-69102	SERVO CONTROL ELECTRONICS PCA
6	302926-03-DIA	LEVER, SWITCH (NOTE 2)
7	302634-06-DIA	FLAT CABLE ASSEMBLY
8	02601-69101	PRINTER CONTROL ELECTRONICS PCA
9	302736-02-DIA	INTERFACE CABLE
10	302897-05-DIA	I/O BRACKET ASSEMBLY
11	02601-69103	HPRO5 PCA
12	320890-05-DIA	SHEET FEEDER CONTROL PCA
13	302732-01-DIA	RIBBON CABLE, SF/HPRO5/PCE (NOTE 3)
14	302845-03-DIA	POWER HARNESS ASSEMBLY (NOTE 4)
15	100398-01-DIA	JUMPER PLUG FOR A60 BLOCK ON HPRO5 PCA

## NOTES:

- (1) FOR NEWER STYLE VDE APPROVED SWITCH ASSEMBLIES, SWITCH P/N IS 100591-01-DIA.
- (2) FOR NEWER STYLE VDE APPROVED SWITCH ASSEMBLIES, SWITCH LEVER P/N IS 320824-01-DIA.
- (3) FOR OLDER STYLE CABLE (PCE TO HPRO5 ONLY), P/N IS 302882-01-DIA.
- (4) FOR UNITS WITH SHEET FEEDER, P/N IS 302845-09-DIA.

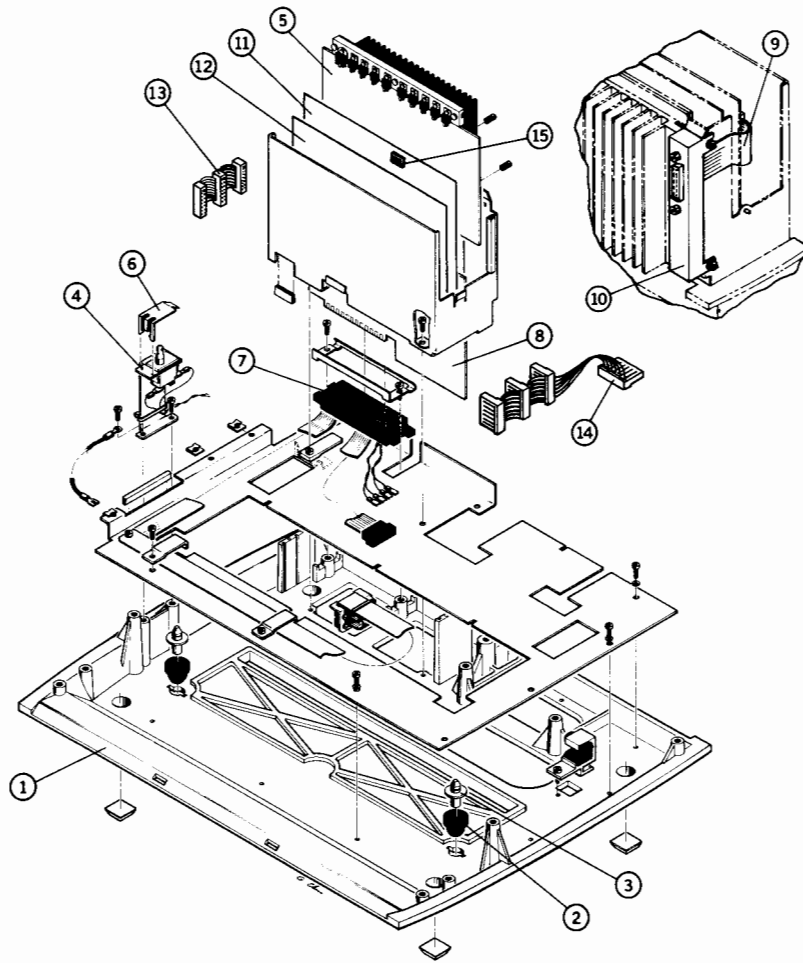


Figure 8-8  
Cover Base Assembly

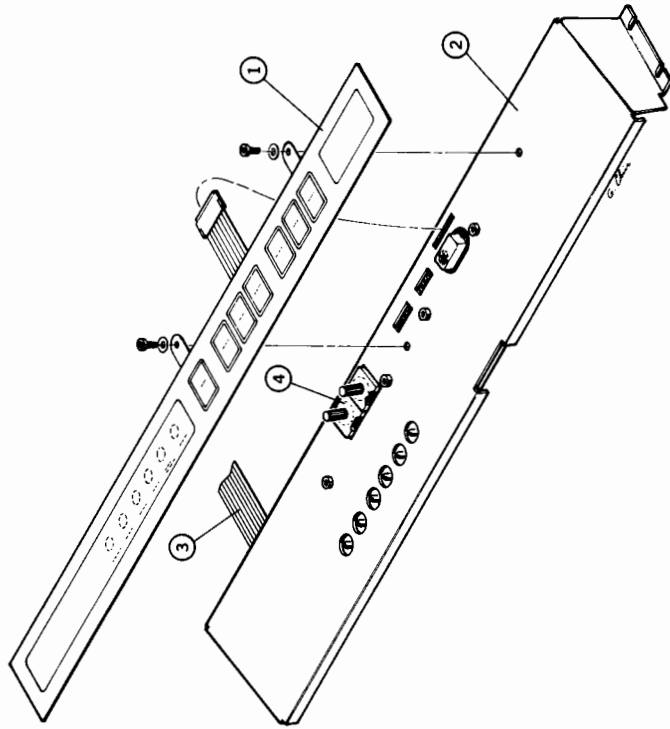
**I. CONTROL PANEL ASSEMBLY**

(Refer to Figure 8-9)

<u>ITEM</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	320257-01-DIA	MEMBRANE SWITCH PANEL (NOTE 2)
2	302945-06s-DIA	CONTROL PANEL FRAME (NOTE 1) (NOTE 2)
3	302878-03-DIA	RIBBON CABLE
4	302561-06-DIA	CONTROL PANEL PCA (NOTE 2)

NOTES:

- (1) ITEM 2 INCLUDES ITEM 4.
- (2) A COMPLETE CONTROL PANEL KIT, WHICH INCLUDES ITEMS 1, 2, AND 4, CAN BE ORDERED UNDER PART NUMBER 320315-02s-DIA.



**Figure 8-9**  
**Control Panel Assembly**

**J. 302825-20-DIA POWER SUPPLY ASSEMBLY**  
(Refer to Figure 8-10)

<u>ITEM</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	320659-01-DIA	POWER TRANSFORMER ASSEMBLY
2	100323-01-DIA	FUSE HOLDER, 3AG
3	10162-01-DIA	BRIDGE RECTIFIER, 100V
4	302810-08-DIA	POWER SUPPLY REGULATOR PCA
5	100043-01-DIA	ROCKER SWITCH, DPST

NOTES:

- (1) 120 VAC POWER SUPPLY; TO CONVERT TO OTHER VOLTAGE OPTIONS, ORDER POWER SUPPLY CONVERSION KIT, P/N 321344-01-DIA.

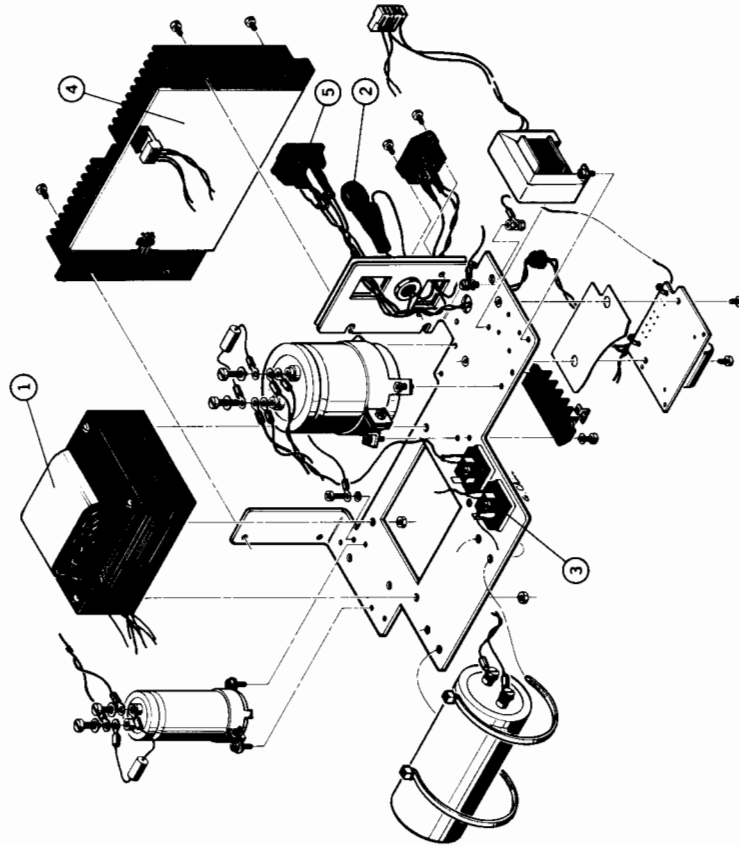


Figure 8-10  
302825-20-DIA Power Supply Assembly

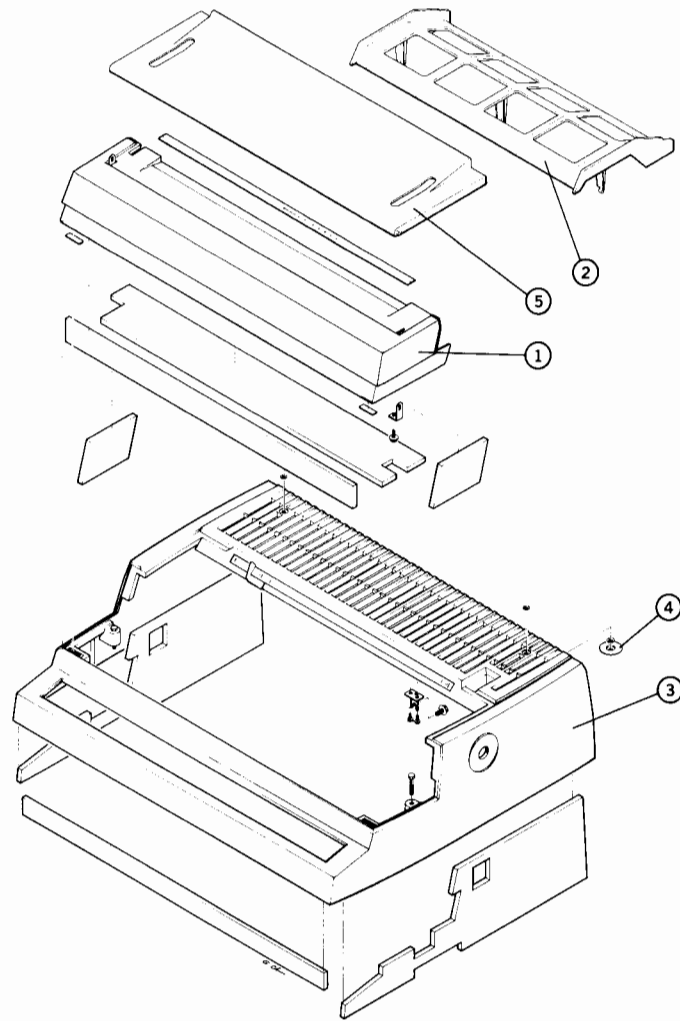


**K. 302949-11s-DIA COVER ASSEMBLY**  
(Refer to Figure 8-11)

<u>ITEM</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	(NOTE 1)	ACCESS COVER
2	320697-01-DIA	PAPER RACK, PLASTIC
3	302949-11s-DIA	MAIN COVER SET (NOTE 2)
4	320338-01-DIA	INSULATOR, PAPER RACK (NOTE 3)
5	302672-04-DIA	SOUND PANEL WITH BAIL ARM SLOTS (NOTE 4)

## NOTES:

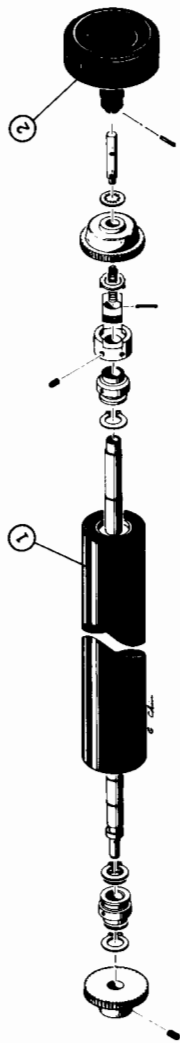
- (1) TO RECEIVE ACCESS COVER, ORDER COMPLETE COVER ASSEMBLY, PART NUMBER 302949-11s-DIA.
- (2) ITEM 3 INCLUDES ITEM 1.
- (3) USED ONLY ON OLDER STYLE METAL PAPER RACKS.
- (4) SHEET FEEDER COMPATIBLE SOUND PANEL IS P/N 320956-01-DIA. TRACTOR MECHANISM SOUND PANEL IS P/N 302673-02-DIA.



**Figure 8-11**  
**302949-11s-DIA Cover Assembly**

**L. FRICTION PLATION ASSEMBLY**  
(Refer to Figure 8-12)

<u>ITEM</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	320580-01-DIA	PLATEN ASSEMBLY, FRICTION
2	321977-01-DIA	KNOB, PLATEN



**Figure 8-12**  
**Friction Plation Assembly**

**M. 301180-11-DIA TRACTOR ASSEMBLY**  
(Refer to Figure 8-13)

<u>ITEM</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	70170-03-DIA	RETAINING RING
2	301904-02-DIA	BEARING, OUTER
3	301902-01-DIA	BEARING, INNER
4	100395-01-DIA	NUT, PUSH-ON
5	70817-07-DIA	RETAINING RING
6	301504-03-DIA	ARM ASSEMBLY, LEFT TRACTOR
7	301504-04-DIA	ARM ASSEMBLY, RIGHT TRACTOR
8	302623-01-DIA	SPRING, MANIFOLD
9	301966-01-DIA	TRACTOR HEAD, LEFT
10	301966-02-DIA	TRACTOR HEAD, RIGHT
11	301481-01-DIA	BEARING, ARM
12	70172-07-DIA	RETAINING RING
13	301478-01-DIA	SPROCKET
14	301359-01-DIA	INTERLOCK
15	100211-03-DIA	SCREW, 10-16 x .6250 PAN HEAD TORX
16	100379-01-DIA	SCREW, 4-40 x .375 HEX HEAD
17	70172-04-DIA	RETAINING RING
18	301695-01-DIA	SPRING, EXTENSION
19	301326-05-DIA	COVER, TRACTOR, LEFT
20	301326-06-DIA	COVER, TRACTOR, RIGHT

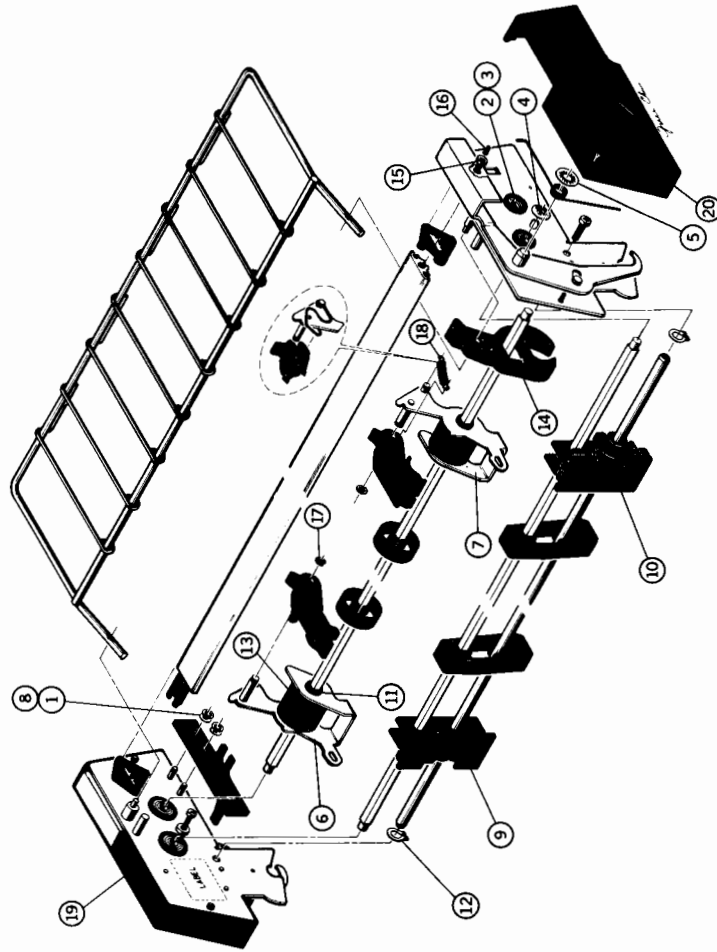


Figure 8-13  
301180-11-DIA Tractor Assembly



# 10

## REFERENCE

### A. DOCUMENTATION SUMMARY

TITLE	HP P/N
Operator's Manual	02601-90901
Installation and Reference Manual	02601-90902
Maintenance Manual	02601-90904
Parts Catalog	02601-90009
Application Note — Interfacing the HP 2601A Daisywheel Printer to Series 80 Personal Computers	5953-7816
Application Note — Using the HP 2601 Printer with Series 200 computers	02601-90909
Application Note — Using the HP 2601 Printer with HP 9845 computers	02601-90908

### B. OPERATING CODES

A host system or terminal will communicate with the HP 2601A. These machines use special Escape codes to control the exchange and storage of text and the format of the printout. ESC codes make use of the ESC character followed by one or two additional characters to form the command — the ESC input preconditions the printer logic to recognize the next character or characters as a command rather than print data. Note that some ESC sequences contain CTRL codes. The following information is provided as a guide to using these codes. Not included are those codes not normally available to the operator, such as coded interchanges between the terminal and a host system having to do with the content of data storage or memory banks.

MARGINS & FORMATTING	
Set Top Page Margin (at current position).***	ESC T
Set Left Margin (at current position).***	ESC 9
Set Horizontal Tab (HT) Stop (at current position).***	ESC 1
Set Right Margin (at current position).***	ESC 0
Set Vertical Tab (VT) Stop (at current position).***	ESC -
Set Lines Per Page to (n).**	ESC FF (n)
Set Bottom Page Margin (at current position).***	ESC L
Clear Top and Bottom Margins	ESC C
Clear Horizontal Tab (HT) Stop (at current position).***	ESC 8
Clear all HT and VT Stops	ESC 2
Set Horizontal Motion Index (HMI)* to (n — 1).**	ESC US (n)
Set Vertical Motion Index (VMI)* to (n — 1).**	ESC RS (n)
Return HMI Control to Spacing Switch.	ESC S

(continued on next page)



<b>CARRIAGE MOVEMENT</b>	
Absolute HT to print column (n)**	ESC <u>HT</u> (n)
Enable Auto Bi-directional Printing	ESC /
Disable Auto Bi-directional Printing	ESC \
Reverse Printing Mode	ESC <
Normal Printing Mode	ESC >
Forward Print Mode ON	ESC 5
Backward Print Mode ON — Forward Mode OFF (clear with CR)	ESC 6
<b>PAPER MOVEMENT</b>	
Absolute VT to line (n)**	ESC <u>VT</u> (n)
Perform Negative Line Feed	ESC <u>LF</u>
Perform Half-Line Feed	ESC <u>U</u>
Perform Negative Half-Line Feed	ESC D
<b>PRINTING</b>	
Graphics Mode ON (clear with CR)	ESC 3
Graphics Mode OFF	ESC 4
Print in Secondary Color (red)	ESC A
Print in Primary Color (black)	ESC B
Print Suppression ON (clear with CR)	ESC 7
<b>WORD PROCESSING COMMANDS</b>	
Proportional Space ON (clear with ESC S)	ESC P
Proportional Space OFF	ESC Q
Offset Selection*	ESC <u>DC1</u> (n)
Auto Underscore ON	ESC E
Auto Underscore OFF	ESC R
Bold Print ON (clear with CR)	ESC O
Shadow Print ON (clear with CR)	ESC W
Bold/Shadow Print OFF	ESC &
Increase Carriage Settling Time to 20 ms (clear w/ESC M)	ESC %
Backspace <sup>1</sup> / <sub>120</sub> "	ESC BS
Program Mode ON	ESC <u>SO</u> M
Cancel all WP modes except Proportional Space	ESC X
Auto Center ON (clear with CR)	ESC =
Auto Justify ON	ESC M
<b>MISCELLANEOUS COMMANDS</b>	
Initiate Remote RESET	ESC <u>CR</u> P or ESC <u>CNTL</u> Z I
Print Print Wheel Character #94 (Plastic PW = c)	ESC Y
Print Print Wheel Character #95 (Plastic PW = --i)	ESC Z
Enter Program "Continue" Mode	ESC (
Exit Program "Continue" Mode	ESC )

(    ) = Underlining indicates the item is CTRL Code.

\* = See Installation Notes for detailed information.

\*\* = (n) is the decimal value of an ASCII character selected from the chart below.

\*\*\* = Left and Right MARGIN positions must be arrived at using SPACE or BACKSPACE commands FROM Carriage Home (RESET) position. Top and Bottom MARGIN position must be arrived at using LINE FEED commands FROM the manually set Top Of Form position.

ASCII CTRL CODES		
ACK = CTRL F	ETB = CTRL W	STX = CTRL B
BEL = CTRL G	ETX = CTRL C	SUB = CTRL Z
BS = CTRL H or BACKSPACE	FF = CTRL L	SYN = CTRL V
CAN = CTRL X	FS = CTRL \	US = CTRL _
CR = CTRL M or RETURN	GS = CTRL ]	VT = CTRL K
DC1 = CTRL Q	HT = CTRL I or TAB	( = CTRL 9
DC3 = CTRL S	LF = CTRL J or LF	) = CTRL 0
DC4 = CTRL T	NAK = CTRL U	, = CTRL ,
DLE = CTRL P	NUL = CTRL @	. = CTRL .
EM = CTRL Y	RS = CTRL ^	; = CTRL ;
ENQ = CTRL E	SI = CTRL O	/ = CTRL /
EOT = CTRL D	SO = CTRL N	' = CTRL '.
ESC = CTRL [	SOH = CTRL A	

## DECIMAL VALUES FOR ASCII CHARACTERS

TENS	UNITS									
	0	1	2	3	4	5	6	7	8	9
0		SOH	STX	ETX	EOT	ENQ	ACK	BEL	BS	HT
10	LF	VT	FF	CR	SO	SI	DLE	DC1	DC2	DC3
20	DC4	NAK	SYN	ETB	CAN	EM	SUB	ESC	FS	GS
30	RS	US	SP	!	"	#	\$	%	&	'
40	(	)	*	+	,	-	.	/	0	1
50	2	3	4	5	6	7	8	9	:	;
60	<	=	>	?	@	A	B	C	D	E
70	F	G	H	I	J	K	L	M	N	O
80	P	Q	R	S	T	U	V	W	X	Y
90	Z	[	\	]	^	_	`	a	b	c
100	d	e	f	g	h	i	j	k	l	m
110	n	o	p	q	r	s	t	u	v	w
120	x	y	z				~			



### C. POTENTIAL PROBLEMS CAUSED BY NON-VOLATILE RAM

Before changing the HPR05 PCA, be sure that the NON-VOLATILE RAM on the failing HPR05 PCA is not set to some spurious condition. To check this, send the following Escape sequences from the host device to the 2601A:

HP 264X            Send this Escape sequence: ESC C/R P (Note 1)

HP 3000	}	Send this Escape sequence: ESC SUB I (Note 2)
HP 120/125		
HP 250		
HP 1000		
HP 262X		
HP 9826/36		
HP 8X		
HP 9845		

Notes: (1) "C/R" refers to carriage return.

"ESC" refers to a control code, accessed by depressing the ESC key on HP Keyboards while in Display Functions Mode.

(2) "SUB" refers to a control code, accessed by depressing CTRL and Z on HP Keyboards while in Display Functions mode.

"ESC" refers to a control code, accessed by depressing the ESC key on HP keyboards while in Display Functions mode.

In addition, the following two Escape sequences can clear non-bidirectional printing problems and right-to-left printing problems:

ESC >  
ESC /

These ESC sequences have the effect of clearing the NON-VOLATILE RAM on the HPR05 PCA to a default condition, and will frequently take care of what appears to be a defective hardware situation. Sending the ESC C/R P or ESC SUB I sequences from the host device should have the following effect on the 2601A:

- The carriage should move to the left stop.
- The print wheel should spin.

If this action does not occur, ensure that the proper ESC sequence was sent, the printer is powered on, the correct configuration is being used, and the correct method for sending ESC sequences is being used.

# 11

## SERVICE NOTES/ IOSMs

### A. 2601A SERVICE NOTES

SEQ. NO.	PUB. DATE	TITLE
1	August 1981	2601A Revised Print Hammer Adjustment and Paper Feed
2	August 1981	2601A Daisywheel Printer Service Switch Disable Connector for all Serial numbers 2044A 01400 and above
3	February 1982	2601A Firmware Upgrade for Series Prefix 2044
4	June 1982	2601A Hardware Handshake Option 826
5	August 1982	2601A Control Panel PCA Change
6	August 1982	2601A Field Rollover of PCE Assembly - Serial Prefix change to 2236
7	November 1982	2601A Change to become Sheet Feeder Compatible — S/N 2239A and above
8	February 1983	Sheet Feeder Control PCA firmware update

### B. INTER-OFFICE SERVICE MEMOS

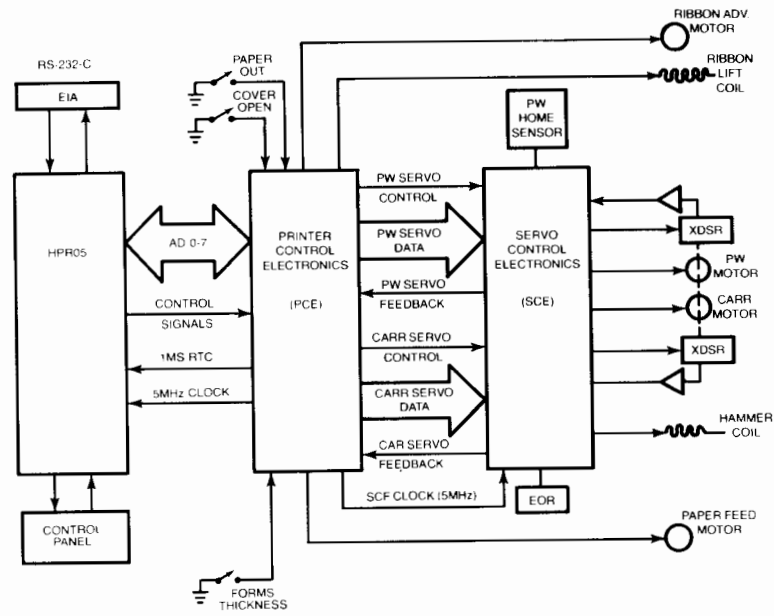
PUB. DATE	TITLE
June 1981 August 1981	2601A Daisywheel Printer Support Plan Service Tips



# 9

## DIAGRAMS

### A. BLOCK DIAGRAM







# 10

## REFERENCE

### A. DOCUMENTATION SUMMARY

TITLE	HP P/N
Operator's Manual	02601-90901
Installation and Reference Manual	02601-90902
Maintenance Manual	02601-90904
Parts Catalog	02601-90905

### B. OPERATING CODES

A host system or terminal will communicate with the HP 2601A. These machines use special Escape codes to control the exchange and storage of text and the format of the print-out. ESC codes make use of the ESC character followed by one or two additional characters to form the command – the ESC input preconditions the printer logic to recognize the next character or characters as a command rather than print data. Note that some ESC sequences contain CTRL codes. The following information is provided as a guide to using these codes. Not included are those codes not normally available to the operator, such as coded interchanges between the terminal and a host system having to do with the content of data storage or memory banks.

MARGINS & FORMATTING	
Set Top Page Margin (at current position).***	ESC T
Set Left Margin (at current position).***	ESC 9
Set Horizontal Tab (HT) Stop (at current position).***	ESC 1
Set Right Margin (at current position).***	ESC 0
Set Vertical Tab (VT) Stop (at current position).***	ESC -
Set Lines Per Page to (n).**	ESC <u>FF</u> (n)
Set Bottom Page Margin (at current position).***	ESC L
Clear Top and Bottom Margins	ESC C
Clear Horizontal Tab (HT) Stop (at current position).***	ESC 8
Clear all HT and VT Stops	ESC 2
Set Horizontal Motion Index (HMI)* to (n - 1).**	ESC <u>US</u> (n)
Set Vertical Motion Index (VMI)* to (n - 1).**	ESC <u>RS</u> (n)
Return HMI Control to Spacing Switch.	ESC S
CARRIAGE MOVEMENT	
Absolute HT to print column (n).**	ESC <u>HT</u> (n)
Enable Auto Bi-directional Printing	ESC /
Disable Auto Bi-directional Printing	ESC \
Reverse Printing Mode	ESC <
Normal Printing Mode	ESC >
Forward Print Mode ON	ESC 5
Backward Print Mode ON – Forward Mode OFF (clear with CR)	ESC 6

(continued on next page)



<b>PAPER MOVEMENT</b>	
Absolute VT to line (n).** Perform Negative Line Feed Perform Half-Line Feed Perform Negative Half-Line Feed	ESC <u>VT</u> (n) ESC <u>LF</u> ESC U ESC D
<b>PRINTING</b>	
Graphics Mode ON (clear with CR) Graphics Mode OFF Print in Secondary Color (red) Print in Primary Color (black) Print Suppression ON (clear with CR)	ESC 3 ESC 4 ESC A ESC B ESC 7
<b>WORD PROCESSING COMMANDS</b>	
Proportional Space ON (clear with ESC S) Proportional Space OFF Offset Selection* Auto Underscore ON Auto Underscore OFF Bold Print ON (clear with CR) Shadow Print ON (clear with CR) Bold/Shadow Print OFF Increase Carriage Settling Time to 20 ms (clear w/ ESC M) Backspace 1/20" Program Mode ON Cancel all WP modes except Proportional Space Auto Center ON (clear with CR) Auto Justify ON	ESC P ESC Q ESC <u>DC1</u> (n) ESC E ESC R ESC O ESC W ESC & ESC % ESC BS ESC <u>SO</u> M ESC X ESC = ESC M
<b>MISCELLANEOUS COMMANDS</b>	
Initiate Remote RESET  Print Print Wheel Character #94 (Plastic PW = ¢) Print Print Wheel character #95 (Plastic PW = ¯i) Enter Program "Continue" Mode Exit Program "Continue" Mode	ESC <u>CR</u> P or ESC <u>CNTL</u> Z I ESC Y ESC Z ESC ( ESC )

(    ) = Underlining indicates the item is a CTRL Code.

\* = See Installation Notes for detailed information.

\*\* = (n) is the decimal value of an ASCII character selected from the chart below.

\*\*\* = Left and Right MARGIN positions must be arrived at using SPACE or BACKSPACE commands FROM Carriage Home (RESET) position. Top and Bottom MARGIN position must be arrived at using LINE FEED commands FROM the manually set Top Of Form position.

ASCII CTRL CODES		
ACK = CTRL F	ETB = CTRL W	STX = CTRL B
BEL = CTRL G	ETX = CTRL C	SUB = CTRL Z
BS = CTRL H or BACKSPACE	FF = CTRL L	SYN = CTRL V
CAN = CTRL X	FS = CTRL \	US = CTRL _
CR = CTRL M or RETURN	GS = CTRL ]	VT = CTRL K
DC1 = CTRL Q	HT = CTRL I or TAB	( = CTRL 9
DC3 = CTRL S	LF = CTRL J or LF	) = CTRL 0
DC4 = CTRL T	NAK = CTRL U	, = CTRL ,
DLE = CTRL P	NUL = CTRL @	. = CTRL .
EM = CTRL Y	RS = CTRL ^	; = CTRL ;
ENQ = CTRL E	SI = CTRL O	/ = CTRL /
EOT = CTRL D	SO = CTRL N	' = CTRL '.
ESC = CTRL [	SOH = CTRL A	

## DECIMAL VALUES FOR ASCII CHARACTERS

TENS	UNITS									
	0	1	2	3	4	5	6	7	8	9
0		SOH	STX	ETX	EOT	ENQ	ACK	BEL	BS	HT
10	LF	VT	FF	CR	SO	SI	DLE	DC1	DC2	DC3
20	DC4	NAK	SYN	ETB	CAN	EM	SUB	ESC	FS	GS
30	RS	US	SP	!	"	#	\$	%	&	'
40	(	)	*	+	,	-	.	/	0	1
50	2	3	4	5	6	7	8	9	:	;
60	<	=	>	?	@	A	B	C	D	E
70	F	G	H	I	J	K	L	M	N	O
80	P	Q	R	S	T	U	V	W	X	Y
90	Z	[	\	]	^	_	`	a	b	c
100	d	e	f	g	h	i	j	k	l	m
110	n	o	p	q	r	s	t	u	v	w
120	x	y	z				~			



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## SERVICE NOTES/ IOSMs

### A. 2601A SERVICE NOTES

SEQ. NO.	PUB. DATE	TITLE
1	Aug. 1981	2601A Revised Print Hammer Adjustment and Paper Feed
2	Aug. 1981	2601A Daisywheel Printer Service Switch Disable Connector for all Serial numbers 2044A 01400 and above
3	Feb. 1982	2601A Firmware Upgrade for Series Prefix 2044
4	June 1982	2601A Hardware Handshake Option 826
5	August 1982	2601A Control Panel PCA Change
6	August 1982	2601A Field Rollover of PCE Assembly - Serial Prefix change to 2236
7	Nov. 1982	2601A Change to become Sheet Feeder Compatible – S/N 2239A and above

### B. INTER-OFFICE SERVICE MEMOS

PUB. DATE	TITLE
June 1981 Aug. 1981	2601A Daisywheel Printer Support Plan Service Tips



