



Office: (800) 683-7248 Technical Support: (702) 651-3444 FAX: (702) 651-0214
E-Mail: techsupport@jcm-american.com Web-Site: www.jcm-american.com



*Thermal
Printer Series - 200
Operation and Maintenance Manual (Rev. A)*

JCM Part No. 960-000051

Table of Contents

Introduction	1
Model Classification	2
General Specifications	3
Installation	5
Loading Paper	6
Pin Assignments	7
Dip Switch Settings	8
Sensor Adjustment Procedure	10
General Cleaning and Troubleshooting	10
Exploded View	11
Parts List	12

Introduction

The Thermal Printer Series - 200

The Thermal Printer Series – 200 is a multi-purpose thermal printer that is suitable for any application requiring quality printing ability.

JCM provides the thermal paper specifications for optimum performance,

while allowing the customer the freedom to create a unique 4-color design on the top surface. The thermal side is reserved for the barcode created by the thermal printer, which is read by bill acceptors and other barcode reading devices.



Model Classification

How to read the Model Classification Number

TSP – X X – X X – X XX – X X –XXX
(1) (2) (3) (4)(5)(6) (7) (8)

(1) TSP Thermal Security Printer

(2) CPU

02 Use fanfold paper, 4 MB EPROM

(3) Mounting & Cable Bracket configuration

00	No mounting brackets,	no cabling
01	No mounting brackets,	024 cable output
02	“A” type 314 mm,	024 cable output
03	“B” type 288mm,	024 cable output
04	No mounting brackets,	ribbon cable output
05	“C” type 288mm,	ribbon cable output

(4) Paper capacity

2	200 notes (Standard)
3	300 notes
6	600 notes (with extended hopper)

(5) Paper size

2	Fanfold paper, 65 mm x 156 mm (US \$ size)
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(6) Faceplate

0	No Faceplate
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(7) Type of Software

03	ID-003 JCM Standard
24	ID-024 IGT Netplex

(8) Other Options

001	Standard configuration
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Examples:

TSP-02-05-310-03-001

Printer model 02 with no front bracket, small rear style mounting, 003 ribbon style cable; 200 note capacity; USA size paper; no faceplate; ID-003 software, no special options.

General Specifications

Outside Dimensions

Width : 113 mm (4.4 inches)
Height : 67.5 mm (2.65 inches)
Depth : 285.8 mm (11.2 inches)

Weight

2.5 Kg (5.5 lbs)

Power Requirements

DC 24V (+10%, -5%)
3A (50% print ratio)

Paper Hopper Capacity

200 standard.
With optional hopper extension, 400 and 600 ticket capacity.

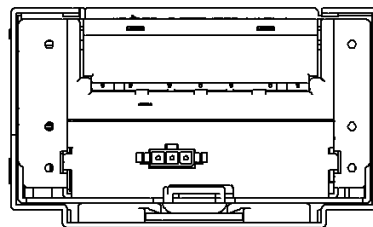
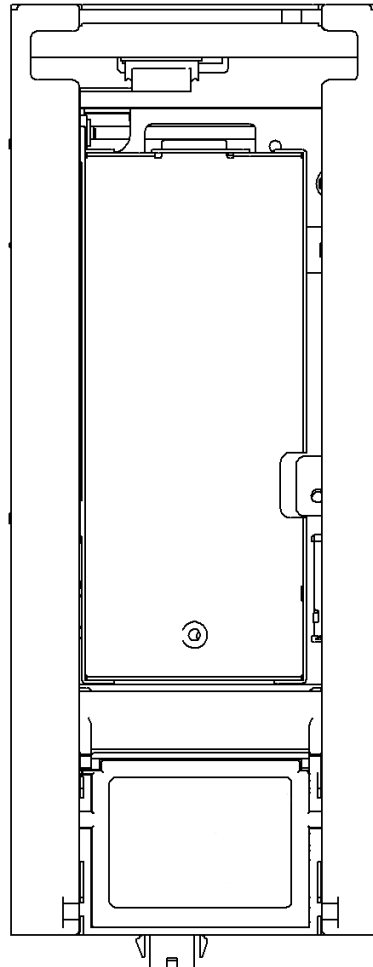
Recommended Thermal Paper

Brand - Kanzaki
Part No. TO-381N

NOTE: Using paper not recommended may affect quality and thermal printer head longevity. Contact your JCM account representative for a list of qualified suppliers.

Paper Dimensions

65 mm width
156 mm Length



General Specifications: Con't

Installation

Indoors

Avoid direct sunlight

A lengthwise installation angle between 0° and 45° Angle

Operating Environment

Temperature : +5°C ~ +45°C (41°F ~ 113°F)

Humidity : 10 ~ 90% RH (no condensation)

Storage Environment

Temperature : -25°C ~ +70°C (77°F ~ 158°F)

Humidity : 10 ~ 90% RH (no condensation)

Types of Sensor Detectors

Mark Sensor

Exit Sensor

Paper Near End Sensor

Paper Upper Tray Open Sensor

Printer Removed Sensor

Printing Method

Thermal line dot method

Dot Density

8 dots / mm

Effective Print Dot Area

480 dots wide

1200 dots long

Effective Print Area

60 mm X 150 mm

Maximum Print Speed

75 mm / second

Thermal Print Head Rating

Pulse Life : 50 million pulses

Abrasion Life : 50 km

Handling Time

From receipt of data to full dispense : ~ 5 seconds

Paper pick up time (from box to head) : ~ 1 second

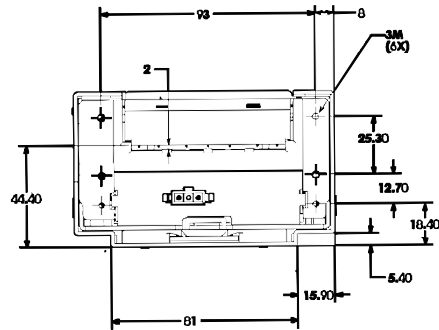
Print time : ~ 2 seconds

Dispense time (from print finish to full dispense) : ~ 2 seconds

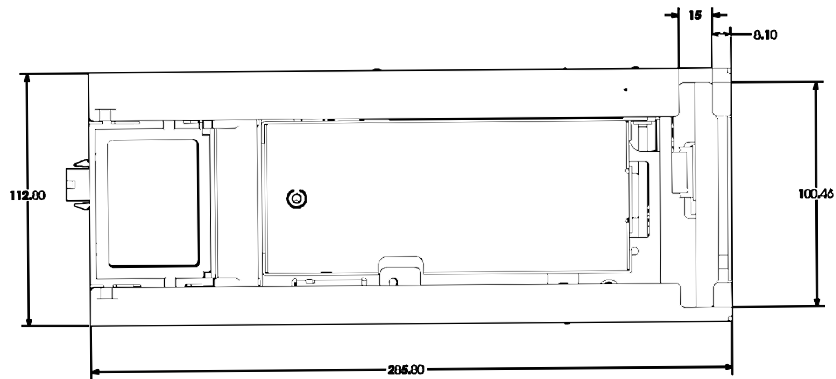
Installation

4. Outline Drawing (Dimensions in millimeters, shown with 200-note capacity hopper)

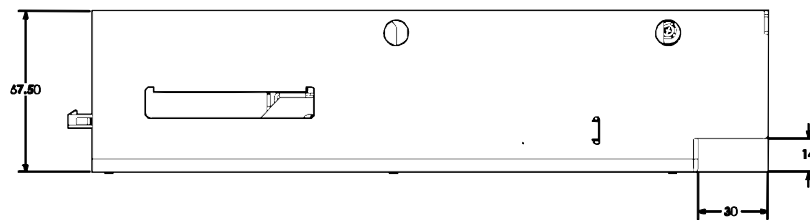
a. Front View



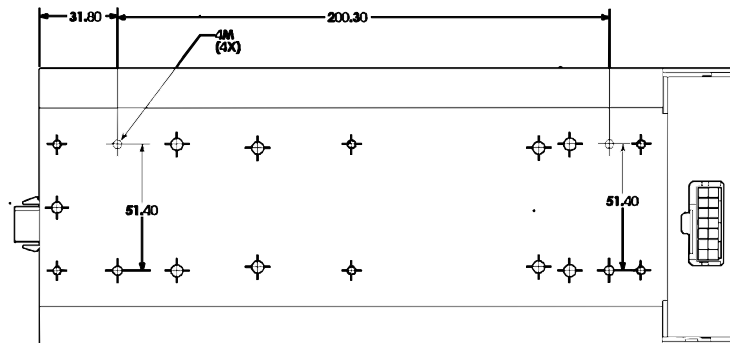
b. Top View



c. Side View

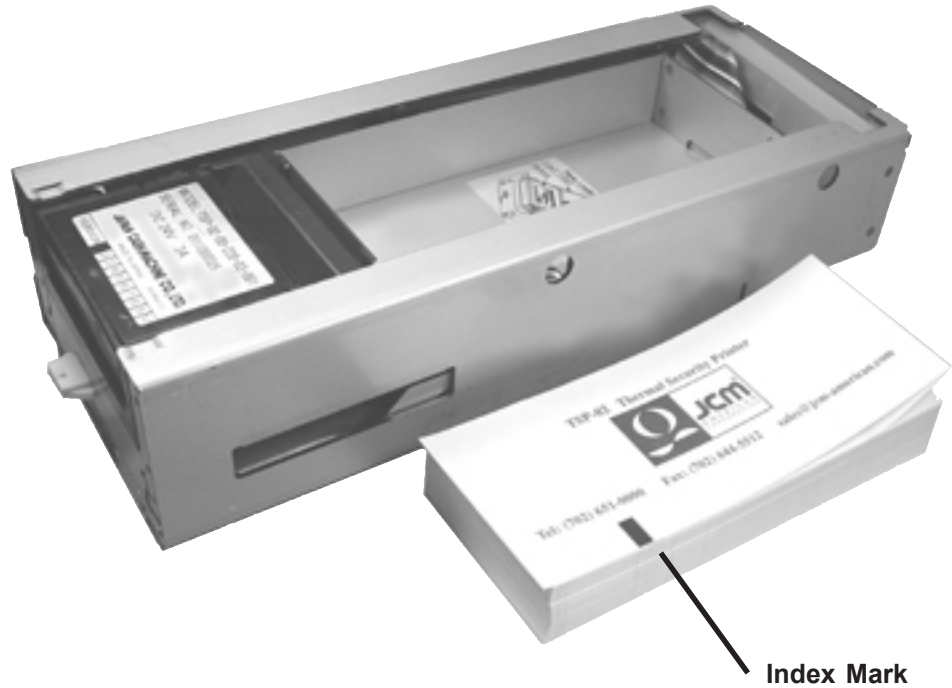


d. Bottom View



Loading Paper

Set the packet of fan-folded paper beside the printer, making sure the Index mark is positioned properly.



Remove the band from the packet and drop it in the printer hopper. Turn the printer ON. Place the top sheet of paper in the entry opening as shown in photo. The sheet of paper will automatically advance to the appropriate position.



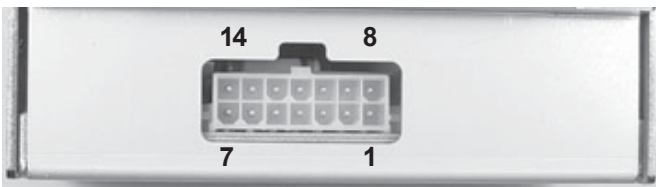
Pin Assignments

a. Pin Assignments (Main connector on underside of printer)

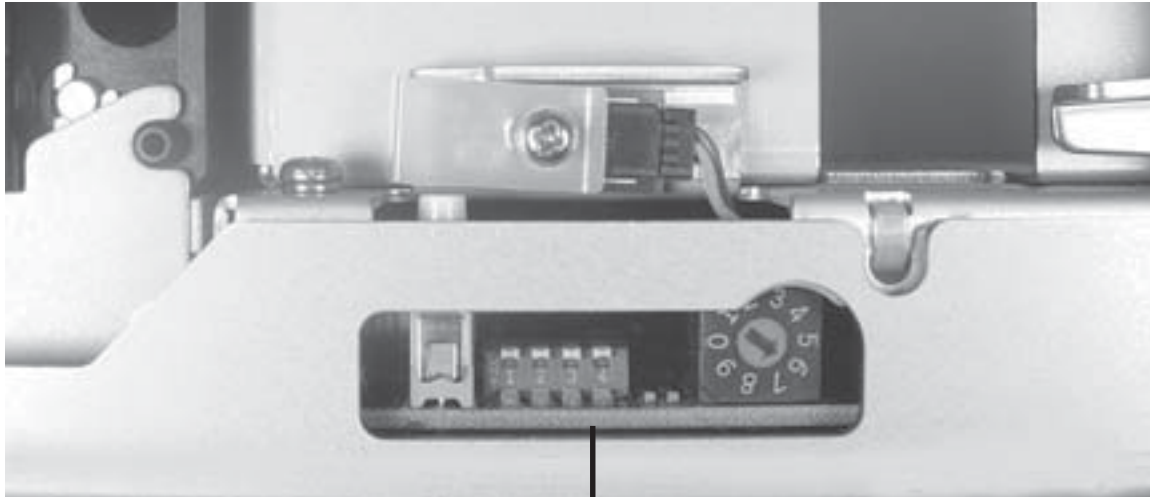
Position	Name	Description
1	MRESET	Hardware reset
2	RXD -I	Receive data (printer), Photo-coupler Isolation
3	VDD	Photo-coupler bias voltage. (DC+12 V or DC+13 V)
4	TXD -I	Transmit data (printer), Photo-coupler Isolation
5	IGND	Isolated Ground
6	DC+24 V	Printer Power Supply
7	GND	Ground
8	DC+24 V	Printer Power Supply
9	RCTR24	Modulated 24 V signal. For showing status via LED.
10	GND	Ground
11	RXD	Receive data (Printer), RS-232C
12	TXD	Transmit data (Printer), RS-232C
13	DTR	
14	RTS	

- Both photo-coupler isolation and RS-232C physical interfaces are available.
- Mating Connector: Molex, Mini-Fit Jr.™, Receptacle #39-01-2145

Interface Receptacle



Dip Switch Settings



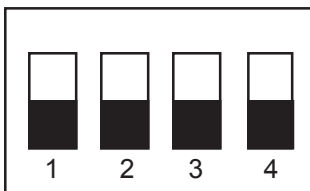
DIP Switch

Dip Switches

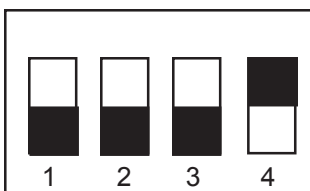
1	2	3	4	Function
0	0	0	0	Normal operation (interfaced with a host controller)
1	0	0	0	Reserved
0	0	0	1	Ticket print test
1	0	0	1	Continuous ticket print test
0	1	0	1	Reserved
1	1	0	1	Sensor adjustment data
0	0	1	1	Test pattern and version information
0	1	1	1	Motor function test
1	1	1	1	Sensor calibration

1 = On (Up)

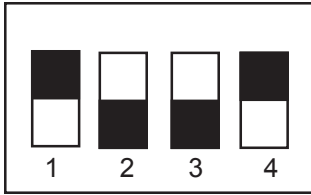
0 = Off (Down)



Normal Operating Setting - Printer is interfaced with a Host controller. Host commands the printer through the interface (Print Command, etc.).



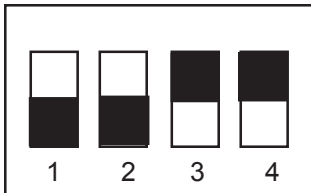
Ticket Print Test - With power applied, the printer will print and dispense a ticket. Once a ticket is removed, another ticket will be printed.



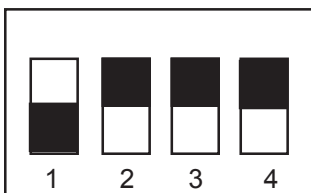
Continuous Ticket Printer Test - Printer will print one ticket after another (Previously printed ticket does not have to be removed.).



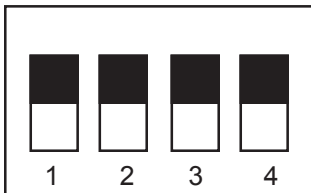
Sensor Adjustment Data - Mark sensor and Exit sensor adjustment data is printed on ticket.



Test Pattern and Version Information - A checker pattern, model name and version information is printed on ticket. This function can be used to test print quality.

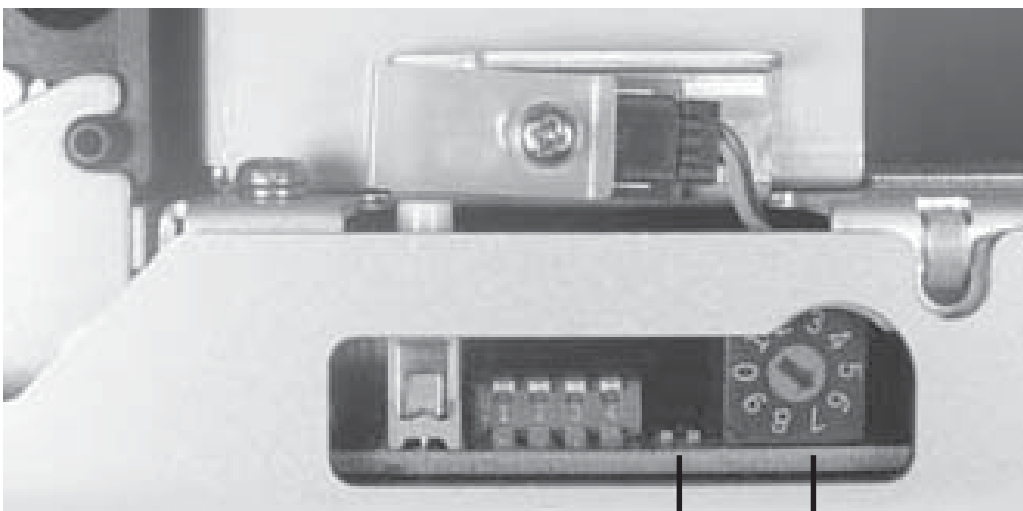


Motor Function Test - Test forward and reverse operation of the motor.



Sensor Calibration - Calibrate the Mark and Exit sensors.

Rotary Switch - Changes darkness of image on ticket. Lower number equals darker image. Factory setting =



LED's

Rotary Switch

Maintenance

Sensor Adjustment Procedure

- Make sure printer power is turned off
- Turn ON all four DIP switches
- Open the printer and insert the reference paper (Part No. 501-000059)
- Turn on printer power
- Wait for the LED to flash (On - 100ms, Off - 1 sec.). You may need to wait 10 seconds
- Open the printer, remove the reference paper, and close the printer
- Turn off DIP switch #1

General Operation and Troubleshooting

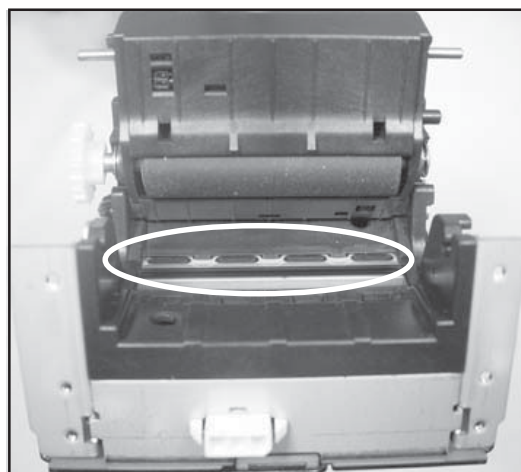
Upon receiving a message from the host, the printer moves the paper into position and prints the appropriate data which may include bar code information.

A sensor in the hopper section indicates to the host when the paper supply is low. There is also a sensor in the head that informs the host when the hopper is empty.

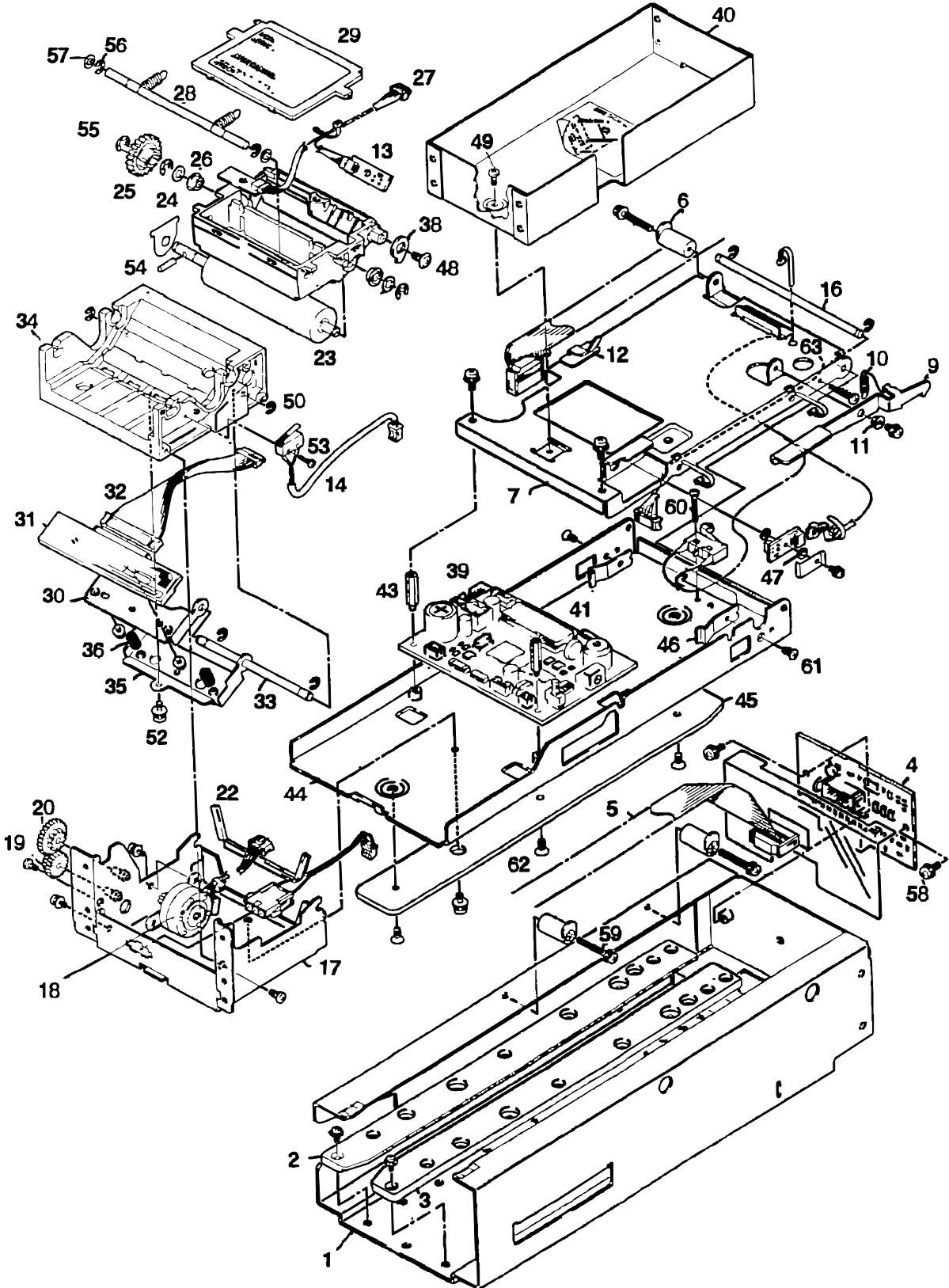
If there is a paper jam, the printer sends a message to the host and the host signals a paper jam. The only time a service technician becomes involved with the printer is when it needs paper (see “Loading Paper” on page 6), when there is a paper jam, or when there is a software update.

Cleaning

Use compressed air to clean any debris from the hopper area, then use a lint-free cloth and 25% alcohol to clean the head area indicated in the



Exploded View



Parts List

No.	EDP	Part No.	Description	Qty
1	079520	4009PT0107	Slide Frame	1
2	079526	4009RE0101	Slide Guide (L)	1
3	079527	4009RE0102	Slide Guide (R)	1
4	079575		I/F Assy	1
5	079574	3141-05-04A	Slide Harness	1
6	079530	4009RE0105	Harness Clamp	3
7	079517	4009PT0104	Unit Base	1
8	079533	4009PE0102	(B)	1
9	079519	4009PT0106	Unit Lock	1
10	079538	4009TS0101	Unit Lock Spring	3
11	079537	4009BU0101	Unit Lock Bush	1
12	005663	SD-10	Cord Clamp	1
13	079576		Sensor Assy	3
14	079573	3141-05-03A	Near End Switch Harness	1
15	001244	T-18R		4
16	079536	4009SH0103	Unit Base Shaft	1
17	079513	4009AS0101	Printer Frame Assy	1
18	079541	PM25S048ZWP2	Stepping Motor	1
19	071903	0667GE0102	Idle Gear (A)	1
20	071905	0667GE0106	Idle Gear (B)	1
21	079578	3141-05-05	LED Harness	1
22	079532	4009PE0101	Harness Protection Seat (A)	1
23	079525	4009RU0101	Platen	1
24	079529	4009RE0104	Upper Guide	1
25	079514	4009GE0101	Platen Gear	1
26	034397	B-F5-53	Metal Bearing	2
27	079572	3141-05-02A	Sensor Harness	1
28	079535	4009SH0102	Lock Shaft	1
29	079531	4009RE0106	Upper Guide Cover	1
30	079515	4009PT0102	Head Plate	1
31	071758		Thermal Head	1
32	079571	3141-05-01	Head Harness	1
33	079534	4009SH0101	Head Plate Shaft	1
34	079528	4009RE0103	Lower Guide	1
35	079516	4009PT0103	Head Bracket	1
36	079539	4009CS0101	Head Spring	2
37	079558	3141-05-07A	Head Up Harness	1
38	079524	4009PT0111	Upper Guide Plate	1
39	079556		CPU Assy	1
40	079521	4009PT0108	Hopper (200)	1
41	065633		EPROM	1
42	072284	0667PE0108	Switch Insulation Seat	1

No.	EDP	Part No.	Description	Qty
43	079540	BSB-316	Hexagon Spacer	2
44	079518	4009PT0105	Unit Frame	1
45	079522	4009PT0109	Slide Rail	1
46	079523	4009PT0110	Slide Ring	2
47	079542	MN-2606-10	Nylon Washer	2
48			M3 x 6 Pan WH P-Tight (Black)	2
49			M3 x 5 Bind P-Tight (Black)	5
50			3 E Type Clip	8
51			M2.6 x 4 W-SEMS (Small)	3
52			M3 x 5 Pan Screw (Small)	9
53			M2 x 8 Pan Screw P-Tight	2
54			2 x 8 Spring Pin	1
55			4 E Type Clip	2
56			2 E Type E Clip	2
57			3 x 6 x 0.5 Flat Washer	2
58			M3 x 6 Pan W-SEMS (Small)	3
59			M3 x 20 Pan W-SEMS (Small)	3
60			M2.3 x 8 Pan Screw	2
61			M2.6 x 5 Pan Flat Head Screw	2
62			M3 x 6 Pan Flat Head Scew	3
63			M3 x 14 Pan Screw	1



925 Pilot Road, Las Vegas, Nevada 89119

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