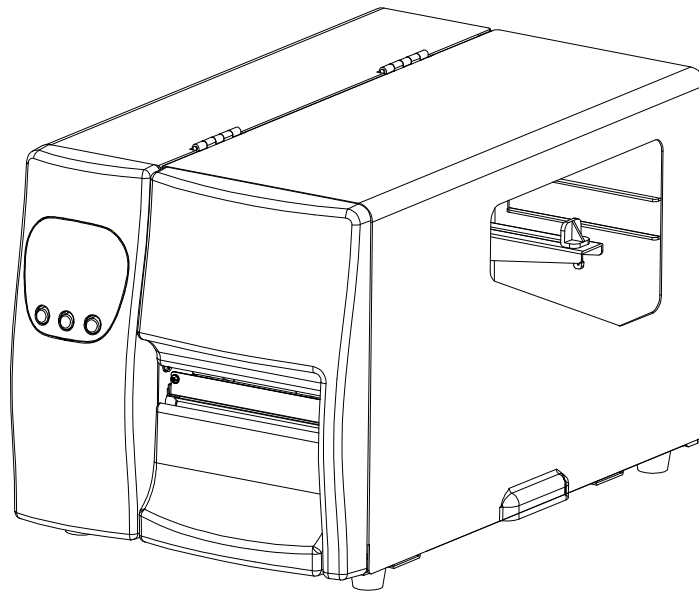


H-427 / H-436 Thermal Transfer Printer Parts / Service Manual

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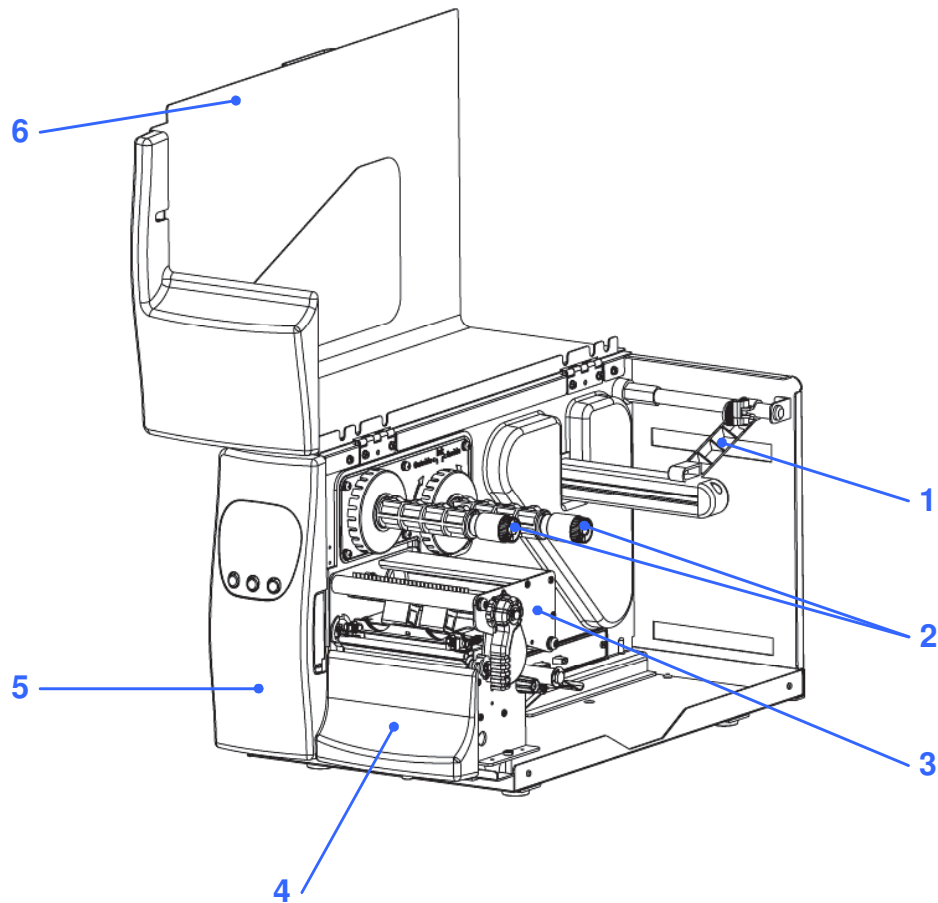
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Specifications

MODEL	H - 427	H - 436
Resolution	203 dpi (8 dot/mm)	300 dpi (12 dot/mm)
Print Mode	Thermal Transfer / Direct Thermal	
CPU	32 Bit	
Memory	4MB Flash, 16MB SDRAM	
Print Speed	50.8 mm (2") ~ 177.8 mm (7")/sec	50.8 mm (2") ~ 152.4 mm (6")/sec
Print Length	5 mm (0.20") ~ 4572 mm (180")	5 mm (0.20") ~ 2159 mm (85")
Print Width	13 mm (0.51") ~ 104 mm (4.09")	13 mm (0.51") ~ 105.7 mm (4.16")
Sensor Type	Moveable transmissive sensor and reflective sensor; left aligned	
Sensor Detection	Type: Label gap and black mark sensing Detection: Label length auto sensing and/or program command setting	
Media	Label Roll: Max. 203 mm (8.0") Core Diameter: 38.1 mm (1.5") ~ 76.2 mm (3") Width: 25.4 mm (1") ~ 118.00 mm (4.64") Thickness: 0.06 mm (0.002") ~ 0.25 mm (0.009")	
Ribbon	Length: 450 m (1471') Type: Ink inside or ink outside thermal transfer ribbons (wax, resin and wax/resin) in widths of 30 to 110 mm (1.18" to 4.33"). Core inner diameter 25.4 mm (1"). Maximum ribbon roll diameter 76 mm (2.99").	
Printer Language	TPL (Tharo Programming Language)	
Software	EASYLABEL [®] Start Microsoft Windows Drivers, CUPS (Common UNIX Printing System) Driver	
Resident Fonts	11 resident alphanumeric fonts (including OCR A & B), are expandable eight times horizontally and vertically. Scalable Font (Code Page 850 & 852)	
Downloadable Fonts	Windows Bit-map fonts, TrueType fonts and Asian fonts	
Image Handling	BMP and PCX	
Bar Codes	Code 39, Code 93, Code 128 (subsets A, B, C), UCC/EAN-128, UPC-A, UPC-E, UPC and EAN 2 or 5 digit extensions, I 2 of 5, EAN-8, EAN-13, Codabar, Postnet, DUN 14, MaxiCode, Plessey, Telepen, FIM, China Postal Code, RPS 128, PDF417, Data Matrix & QR Code	
Interfaces	RS-232 (Baud rate 4800 ~ 115200, XON/XOFF, DSR/DTR) USB (2.0) CompactFlash card slot Parallel PS/2 Keyboard Port	
Control Panel	Backlit LCD Display: 128 dot x 64 dot Graphical LCD Three single-color LEDs: Power, Ready, Error Three Control Keys: Feed, Pause, Cancel	
Power	Auto Switching 110/240VAC, 50/60 Hz	
Real Time Clock	Standard	
Environment	Operation: 32° F to 104° F (0° C to 40° C) Storage: -40° F to 122° F (-20° C to 50° C)	
Humidity	Operation: 30-85%, non-condensing. Free air. Storage: 10-90%, non-condensing. Free air.	
Printer Dimensions	Length: 512 mm (20.15") Height: 291 mm (11.45") Width: 274 mm (10.78") Weight: about 15 Kg (33.1 lbs)	
Options	Cutter Internal Rewind Ethernet Adapter Applicator Interface PA2000, PA1200 or PA500w Applicator EASYLABEL Silver, Gold, Platinum or Multi-User	

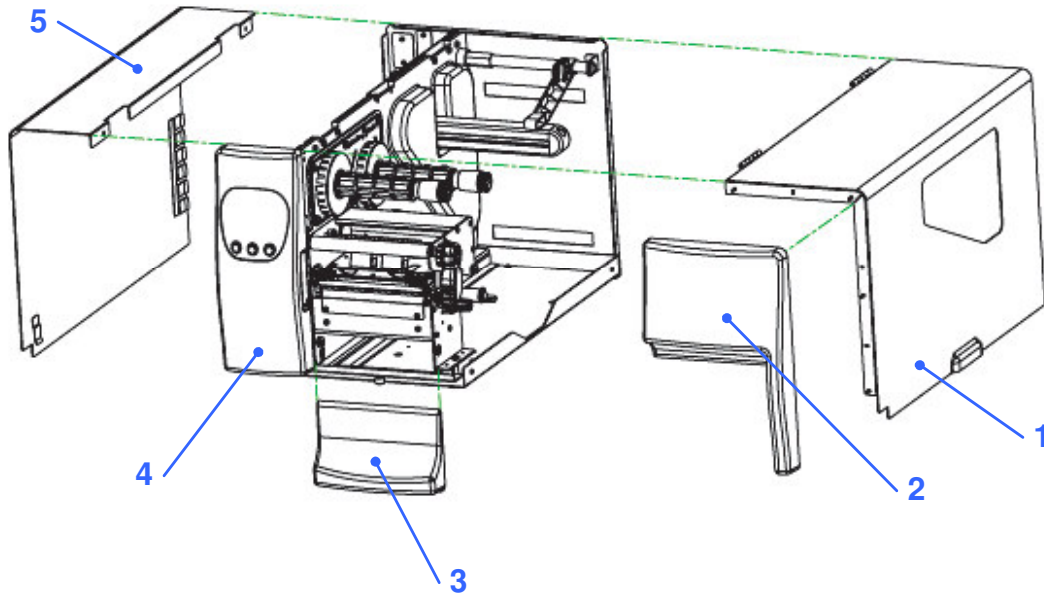
Parts Listing

2.01 General Overview



Item	Part No.	Description	Remarks
1	700-050000-001	LABEL ROLL GUIDE	
2	Part Group	RIBBON MODULE	
3	Part Group	MECHANISM	
4	700-031903-021	BOTTOM FRONT COVER	
5	700-031703-031	LEFT PANEL	
6	720-058000-010	TOP RIGHT COVER	

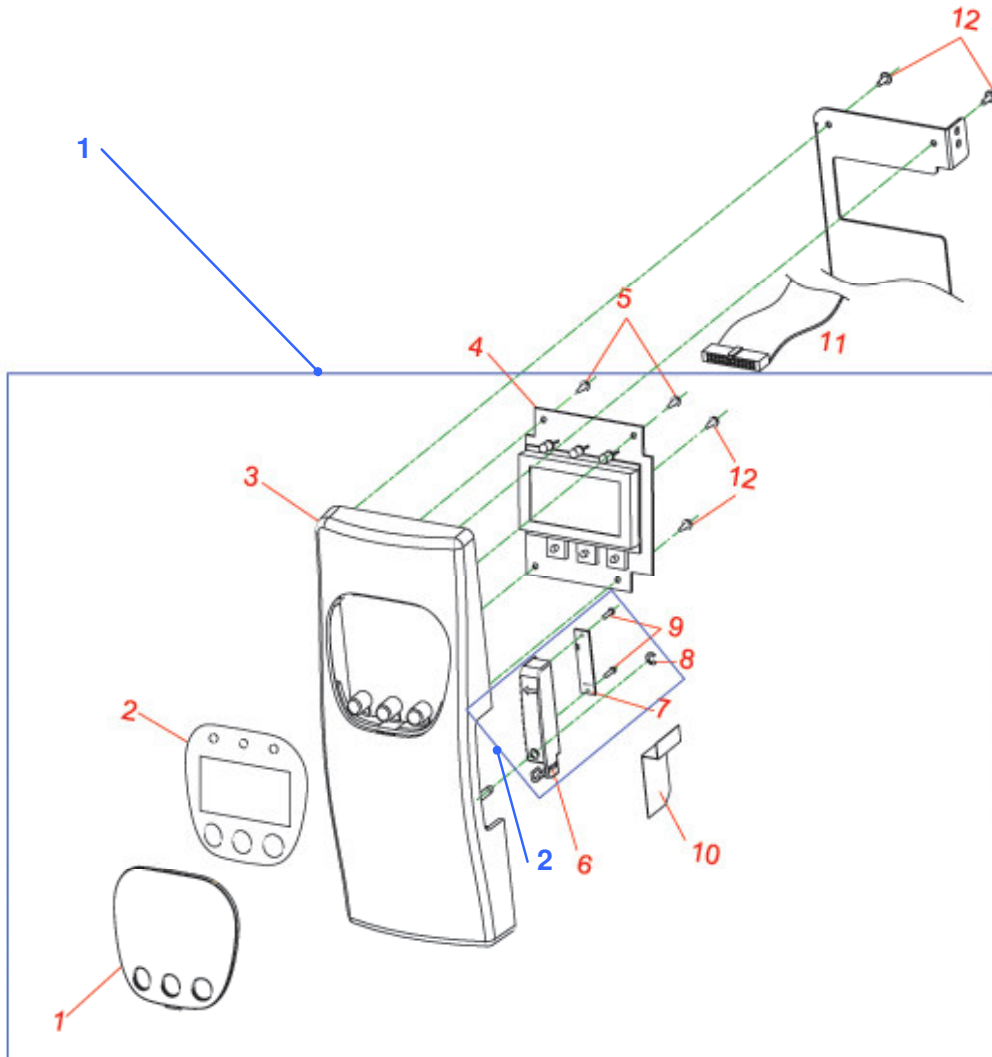
2.02 Covers



NOTE: Use Part Number 023-22P013-060 for LCD Front Panel (left) #4
NOTE: Use Part Number 023-22P011-060 for Front Panel (upper right) #2
NOTE: Use Part Number 023-22P015-060 for Front Panel Kit (lower right) #3

Item	Part No.	Description	Remarks
1	720-058000-010	TOP RIGHT COVER	
2	700-031803-021	TOP RIGHT PANEL	
3	700-031903-021	BOTTOM FRONT COVER	
4	700-031703-031	LEFT PANEL	
5	720-058100-010	TOP LEFT COVER	

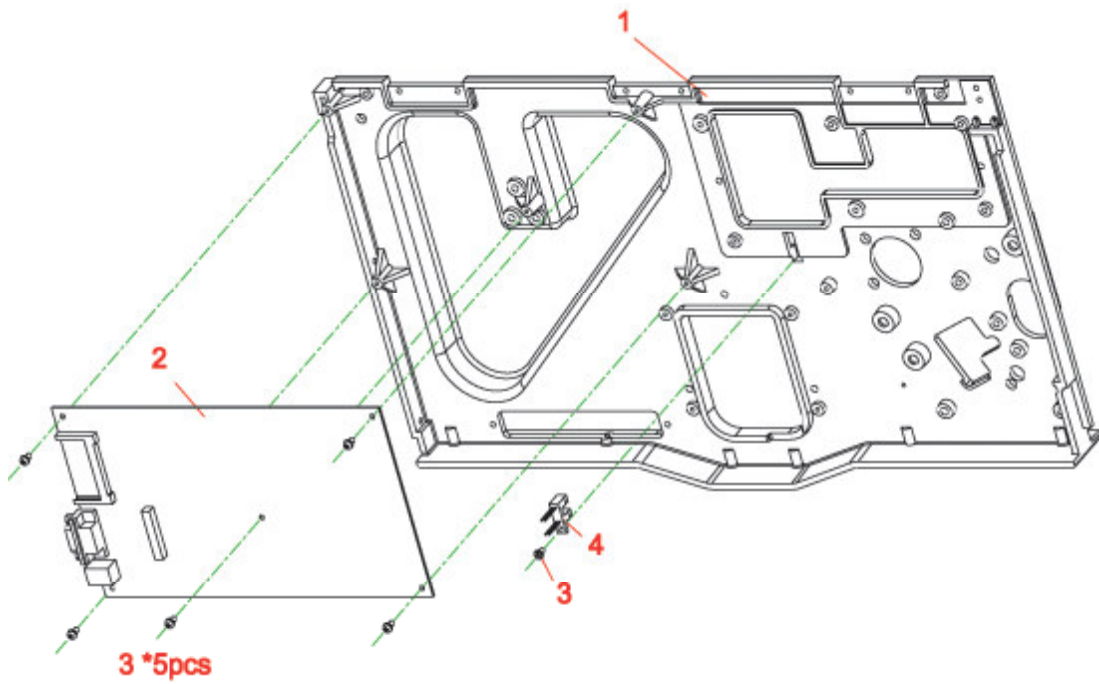
2.03 LCD Panel Module



NOTE: Use Part Number 023-22P017-060 for replacement Strip Sensor Assembly
NOTE: Use Part Number 023-22P014-060 for replacement LCD Front Panel

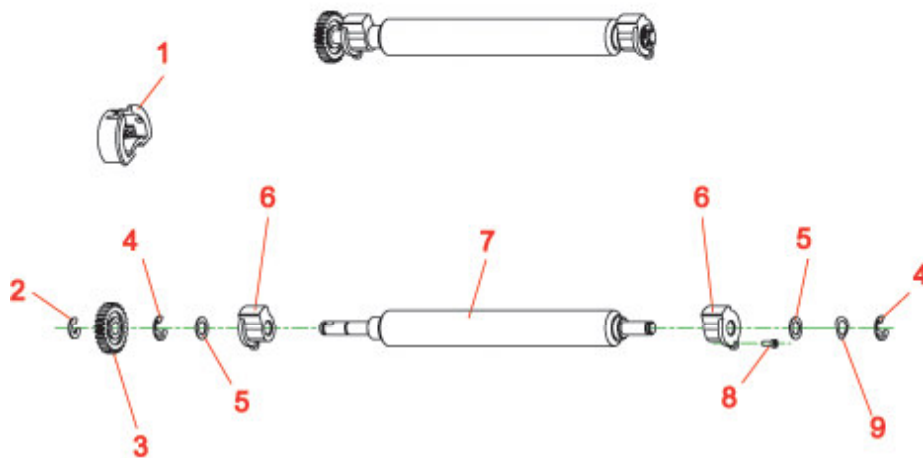
Part No.	Description	Remarks
1. LCD Left Panel Module Parts		
1	700-041000-001	LCD PANEL
2	755-006300-010	NAME PLATE
3	700-031703-031	LEFT PANEL
4	160-000103-030	LCD BOARD ASSEMBLY
5	765-230085-245	TAPPING SCREW/T/BK/3*8(TAP/III)
2. Strip Sensor Module Parts		
6	700-036003-011	STRIP PCB BOX
7	160-000114-001	STRIP SENSOR ASSEMBLY
8	775-620307-063	E-RING/Φ3.0*Φ7.0*0.6t/mm
9	765-217054-145	TAPPING SCREW/P/NI/1.7*5(TAP/III)
10	745-001800-000	MYLAR PLATE
11	227-126004-060	HOUSING 254FC-26Px2
12	765-230085-245	TAPPING SCREW/T/BK/3*8(TAP/III)

2.04 Main Board



Part No.	Description	Remarks
1	710-045100-000 MIDDLE PLATE	
2	023-22P006-060 MAIN PCB ASSEMBLY	
3	765-130064-142 MACHINE SCREW/P/NI/M3*6	
4	160-100019-000 RIBBON SENSOR OUT ASSEMBLY	

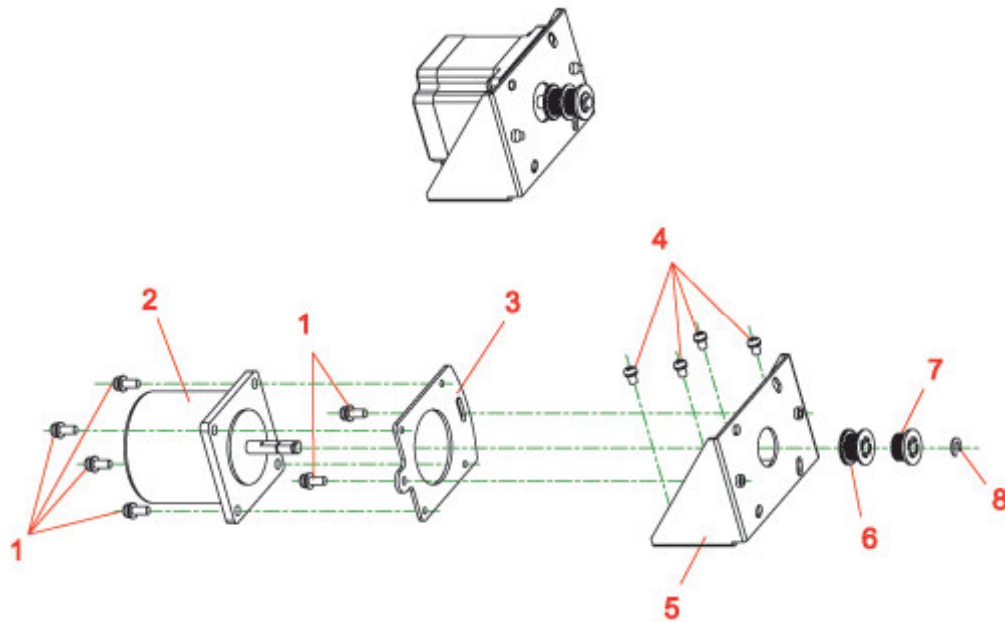
2.05 Platen Roller



NOTE: Use Part Number 023-22P009-060 for replacement Platen Roller Assembly

Part No.	Description	Remarks
1	700-045800-001 PLATEN-BUSHING-CAP (NL66/Green)	
2	775-620409-063 E-RING/ $\Phi 4.0 \times 9.0 \times 0.6$ t/mm(BK)	
3	715-012608-100 GEAR/26T*M0.8 (NL66)	
4	775-620511-063 E-RING/ $\Phi 5.0 \times \Phi 11 \times 0.6$ t/mm	
5	775-C60609-053 GRAPHITE WASHER/ $\Phi 6.2 \times 9.5 \times 0.5$ t	
6	730-000800-000 PLATEN BUSHING(BRONZE)	
7	705-002100-000 PLATEN	
8	765-120052-140 MACHINE SCREW/I/NI/M2*5	
9	775-520610-013 WAVE WASHER / $\Phi 6.8 \times \Phi 10.6 \times 0.15$ t/mm	

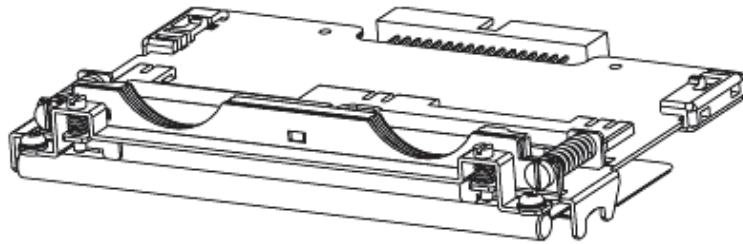
2.06 Motor Module



NOTE: Use Part Number 023-22P016-060 for replacement Motor Kit

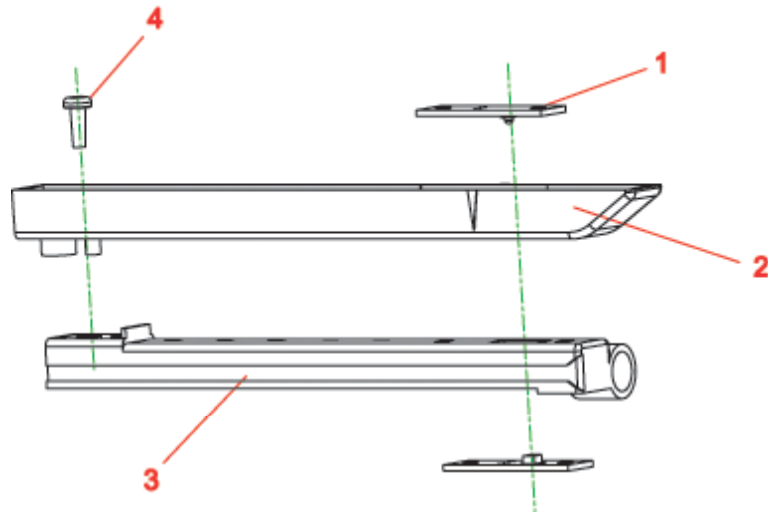
Part No.	Description	Remarks
1	765-140104-141 MACHINE SCREW/P/NI/M4*10	
2	220-345602-104 MOTOR/4S56Q-03554SE	
3	725-046500-001 MOTOR PLATE (SECC 2.0t)	
4	765-140064-142 MACHINE SCREW/P/NI/M4*6	
5	725-046600-001 MOTOR BRACKET (SECC 1.6t)	
6	715-032522-100 GEAR DOUBLE HUB MXL-025/22T	
7	715-032522-101 GEAR MXL-025/22T	
8	775-620409-063 E-RING/Φ4.0*9.0*0.6t/mm(BK)	

2.07 Thermal Printhead Module



Part No.	Description	Remarks
023-22P005-060	TPH MODULE 203dpi	203dpi
023-23P001-060	TPH MODULE 300dpi	300dpi

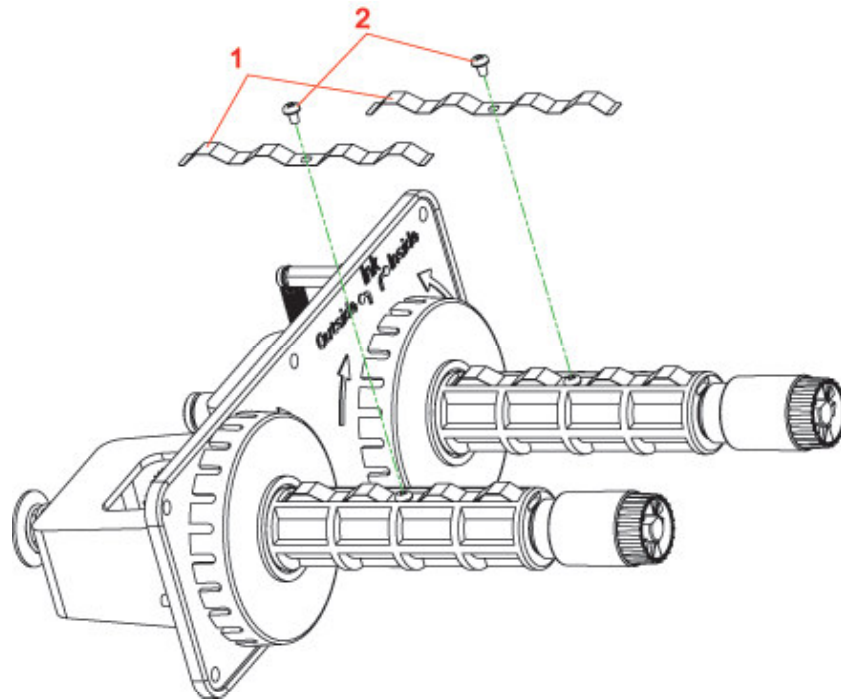
2.08 Label Gap Sensor Parts



NOTE: Use Part Number 023-62P009-060 for replacement Sensor Assembly

Part No.	Description	Remarks
1	160-000104-100 BLACK MARK & SEE-THROUGH PCB	
2	700-045900-001 MOVABLE SENSOR BOX-UP	
3	700-046000-001 MOVABLE SENSOR BOX-DOWN	
4	765-230084-145 TAPPING/P/NI/3*8(TAP/III)	

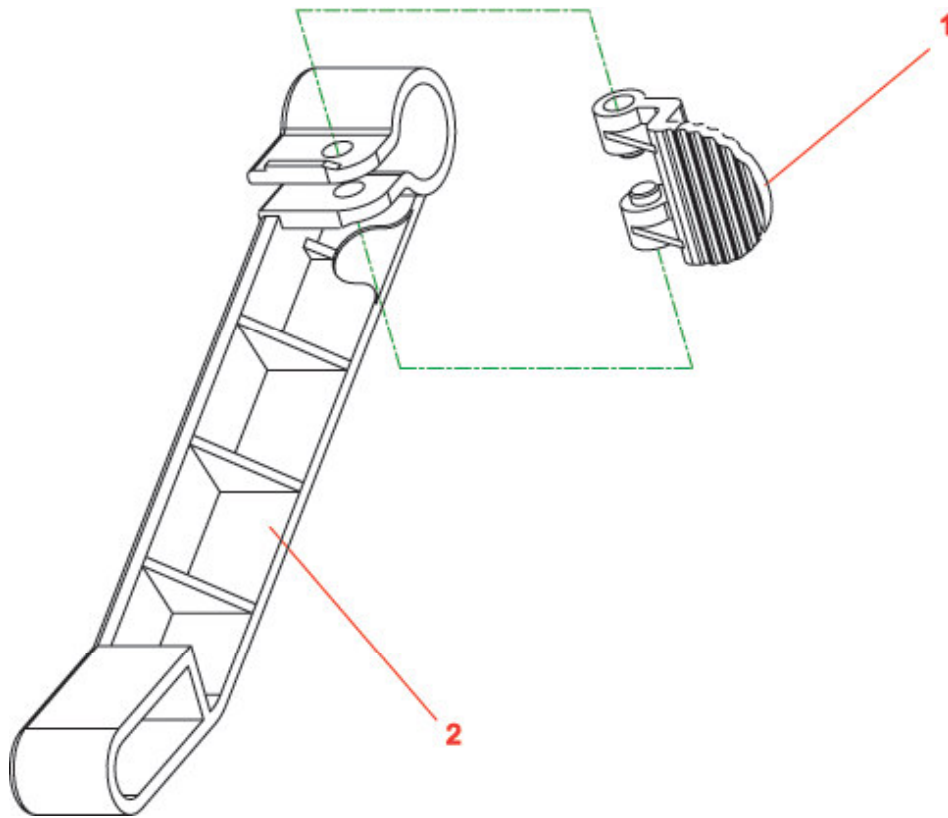
2.09 Ribbon Module



NOTE: Use Part Number 023-22P007-060 for replacement Ribbon Assembly

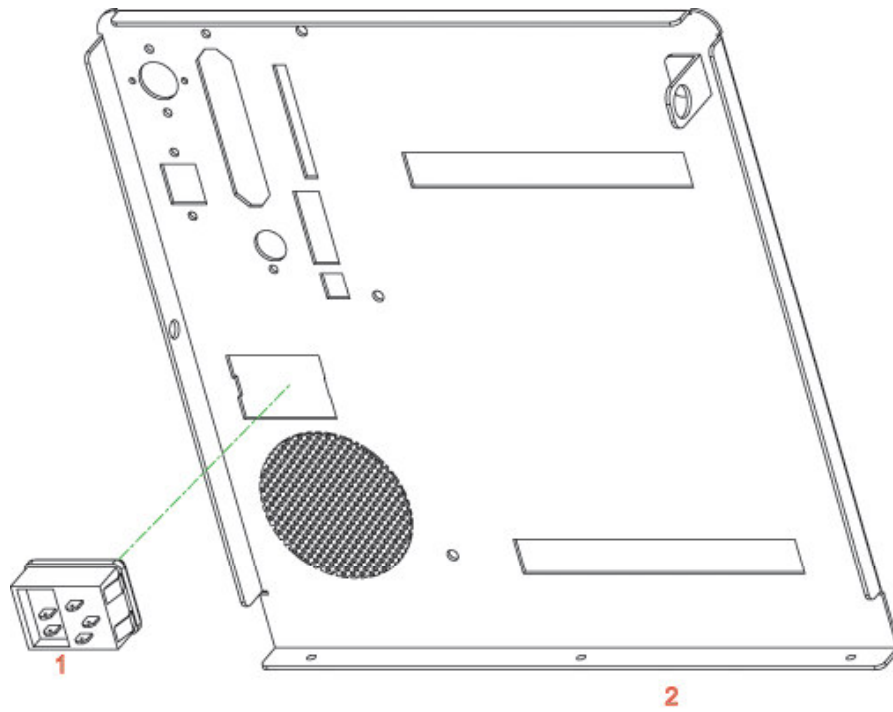
Part No.	Description	Remarks
1	725-027900-001 RIBBON CORE,SPRING BLADE/SUS 301 0.2t	
2	765-230044-143 TAPPING SCREW/P/NI/3*4(Triangle)	

2.10 Label Supply Guide



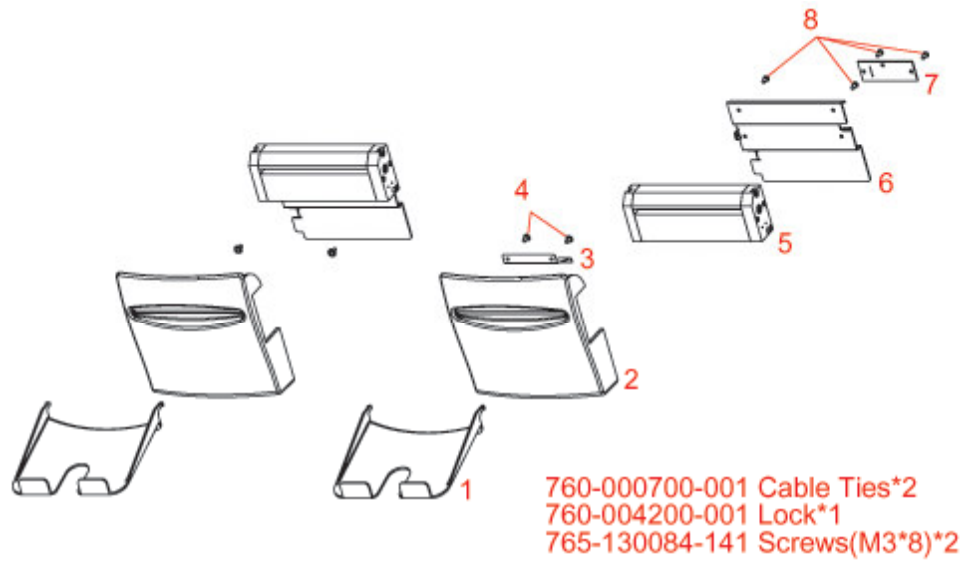
Part No.		Description	Remarks
1	700-050200-001	LABEL ROLL GUIDE STOPPER KNOB	
2	700-050000-001	LABEL ROLL GUIDE	

2.11 Power Switch



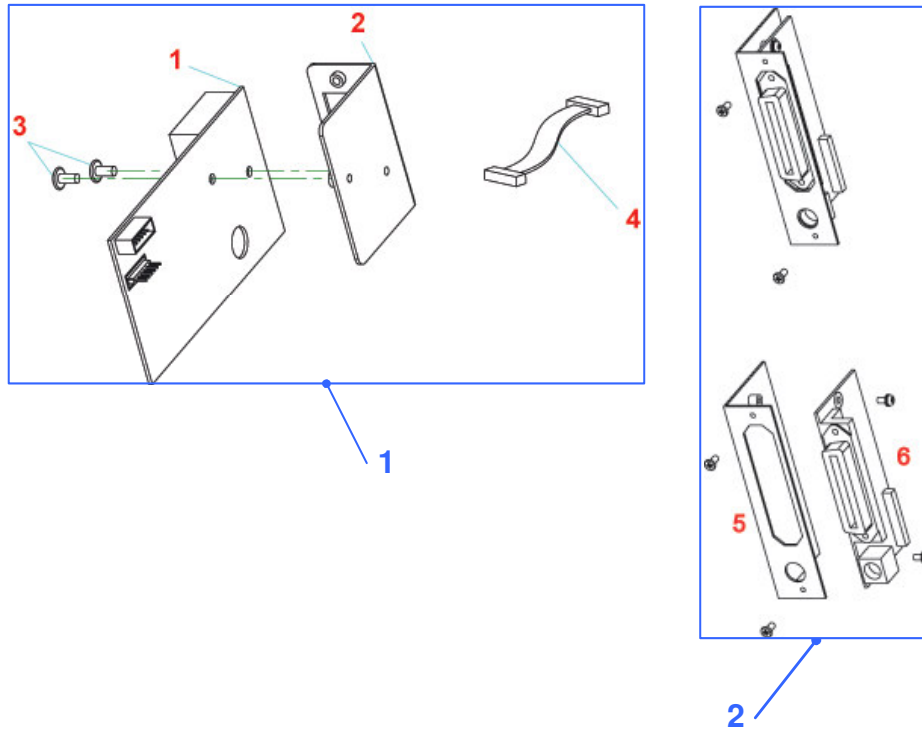
Part No.	Description	Remarks
1	150-000022-000	POWER SWITCH ASSEMBLY
2	720-057700-000	BACK PLATE

2.12 Optional-Cutter Parts



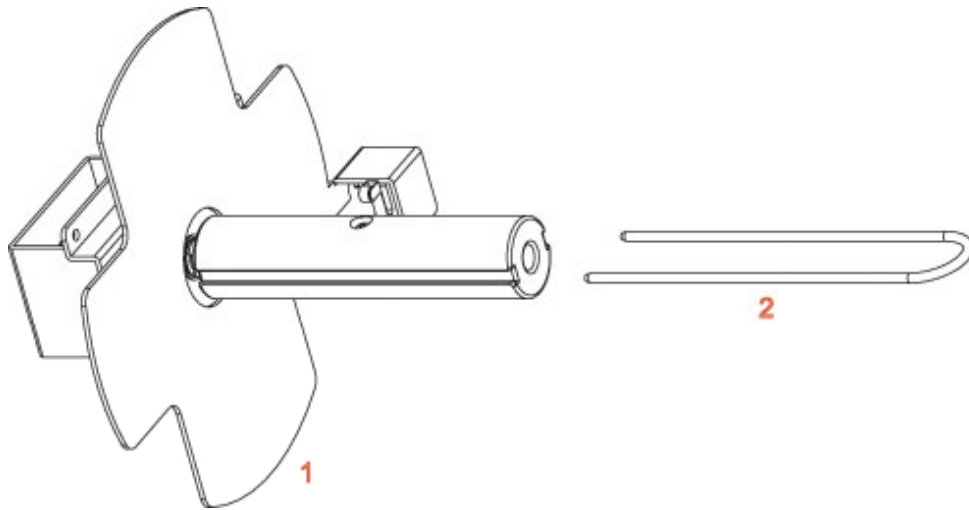
Part No.	Description	Remarks
1	700-036303-001	TICKET TRAY, Black
2	700-036203-001	R/CUTTER COVER, Black
3	720-040700-000	CUTTER SPLINT/SUS 301 0.5t
4	765-230064-148	TAP/P/NI(FW)Φ3*6(TAP/III)
5	230-140002-100	4" ROTARY CUTTER
6	720-059200-000	CUTTER BRACKET
7	160-000064-020	CUTTER PCB ASSEMBLY
8	765-130064-142	MACHINE SCREW/P/NI/M3*6

2.13 Ethernet (Optional) and Parallel Ports Parts



Part No.	Description	Remarks
1. Ethernet Module		
1	160-000192-000	ETHERNET ASSEMBLY
2	725-065300-002	ETHERNET BRACKET
3	765-130065-240	MACHINE SCREW T/BK/M3*6
4	227-106013-040	HOUSING PHD2.0-2*6P#28 /N130mm
2. Parallel/PS2 Module		
5	725-057100-002	BRACKET, PARALLEL PCB
6	160-000176-000	PARALLEL ADAPTOR BOARD ASSEMBLY

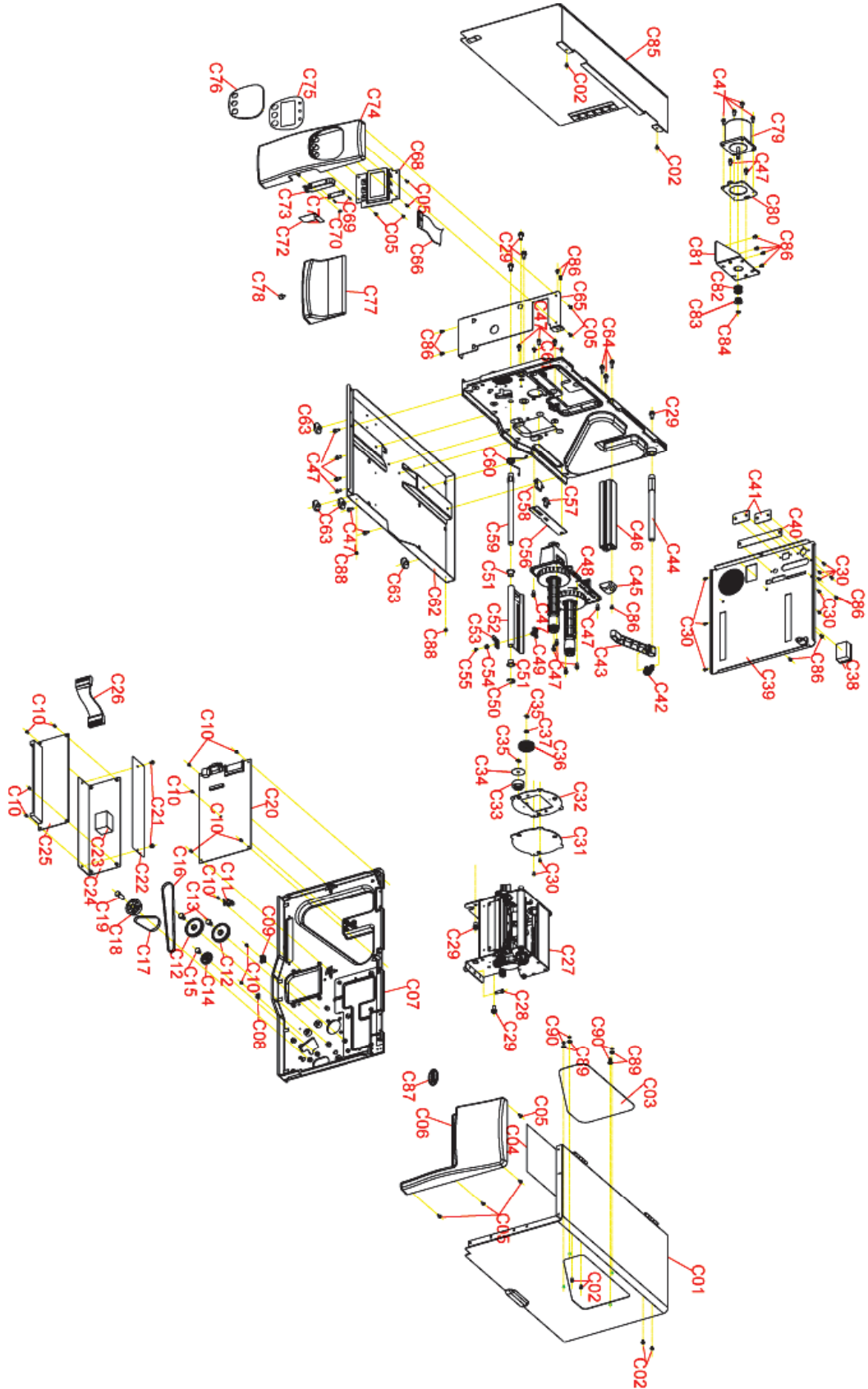
2.14 Optional- Internal Rewind Parts



Part No.	Description	Remarks
1	031-22P004-000 INTERNAL REWIND	
2	750-028400-000 U SHAPED CLIP	

Exploded Diagrams and Parts Lists

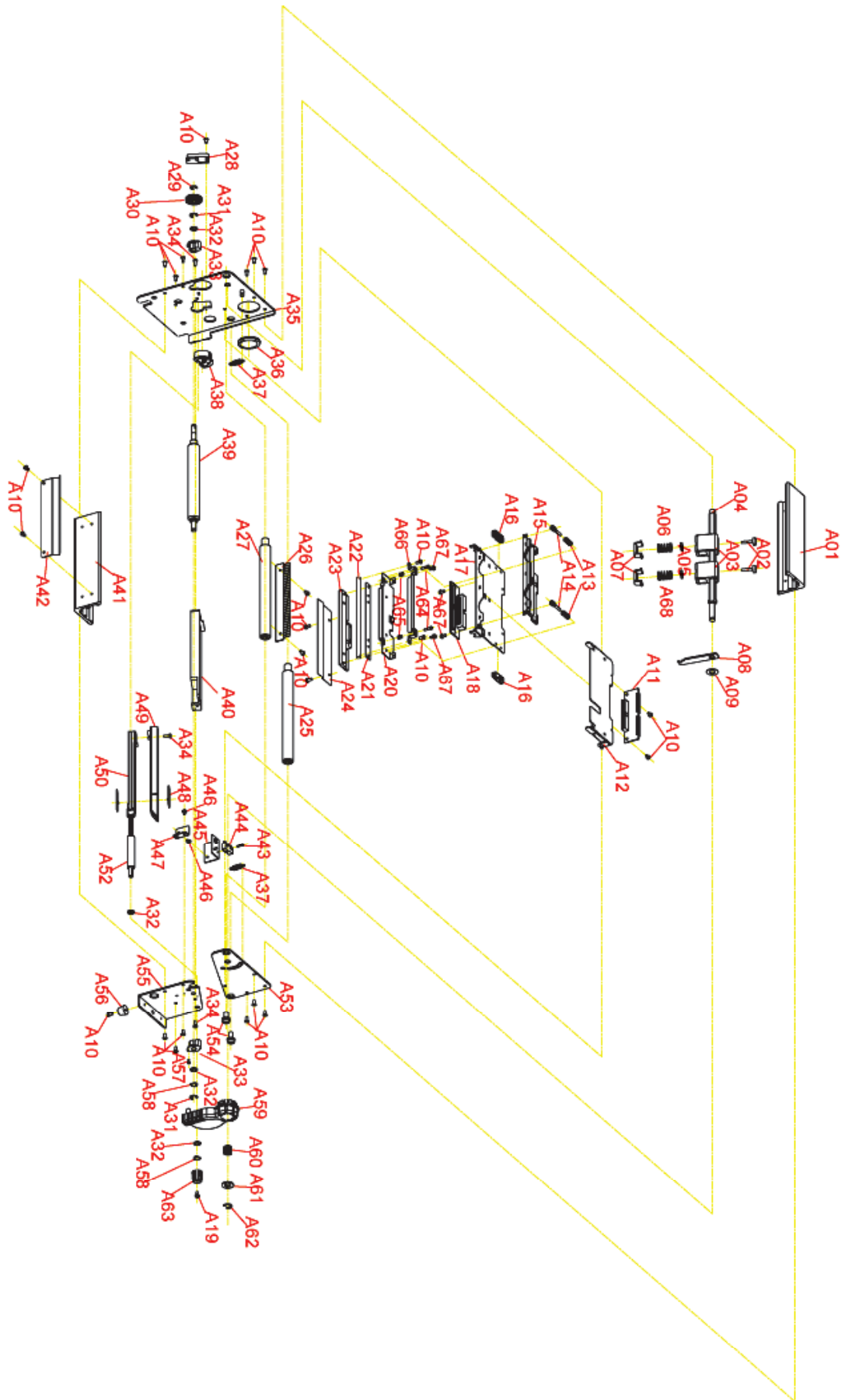
3.01 MAIN ASSEMBLY



MAIN ASSEMBLY - PARTS LIST				
MODEL: H-427 / H-436		Date: 06-11-2007		REV: A
Item	Part No.	Part Name	Qty	Remarks
C-01	720-058000-010	TOP RIGHT COVER	1	
C-02	765-130066-146	HEX. SCREW M3*6	6	
C-03	745-002300-000	ACRYLIC PLATE	1	
C-04	325-017800-103	RIBBON & LABEL INSTRUCTION LABEL	1	
C-05	765-230085-245	TAPPING SCREW/T/BK/3*8(TAP/III)	10	
C-06	700-031803-021	RIGHT COVER	1	
C-07	710-045100-000	MIDDLE PLATE	1	
C-08	760-001200-001	CABLE CLAMP /CC-1SS	1	
C-09	760-004000-001	WIRE CLAMP / AB-1	1	
C-10	765-130064-142	MACHINE SCREW/P/NI/M3*6(SPW ONLY)	12	
C-11	160-100019-000	RIBBON SENSOR OUT ASSEMBLY	1	
C-12	715-015208-100	GEAR 52T*M0.8 (NL66)	2	
C-13	720-043700-000	GEAR SHAFT(52T)	2	
C-14	715-013208-100	GEAR 32T*M0.8 (NL66)	1	
C-15	720-049100-000	GEAR SHAFT(32T)	1	
C-16	760-005100-001	ROUND BELT/ 160MXL	1	
C-17	760-005200-001	ROUND BELT/ 105MXL	1	
C-18	715-025120-100	DOUBLE GEAR 51/20T	1	
C-19	720-043800-000	GEAR SHAFT(34T/20T)	1	
C-20	160-000175-003	MAIN PCB ASSEMBLY	1	
C-21	765-140064-144	WASHER M4*6	2	
C-22	745-001600-000	MYLAR (FOR POWER BRACKET)	1	
C-23	745-001200-000	SPONGE 20*20*5T/MM	1	
C-24	725-051900-002	POWER BRACKET	1	
C-25	215-300012-004	SWITCHING POWER /AB-LPP-150-024	1	See Note
C-26	227-106009-070	HOUSING 396VH-6P*2/ UL-1007 #18 N150MM	1	
C-27		MECHANISM	1	
C-28	720-058600-000	MECHANISM SCREW	1	
C-29	765-160124-141	MACHINE SCREW/P/NI/M6*12(SPW & FW)	6	
C-30	765-130062-140	MACHINE SCREW/I/NI/M3*6(#2)	11	
C-31	725-047100-001	REWIND MODULE COVER PLATE/SPCC1.5T	1	
C-32	725-047000-001	REWIND MODULE BRACKET (SPCC 1.5T)	1	
C-33	715-024036-100	DOUBLE GEAR (40T/36T)	1	
C-34	775-B30629-051	NYLON WASHER/ $\phi 6.0 \times \phi 29 \times 0.5T$ / MM	1	
C-35	775-620511-063	E-RING/ $\phi 5.0 \times \phi 11 \times 0.6T$ /MM	2	
C-36	715-016405-101	GEAR/64T*M0.5 (NL66)	1	
C-37	775-C60609-053	GRAPHITE WASHER/ $\phi 6.2 \times 9.5 \times 0.5T$	1	
C-38	150-000022-000	POWER SW ASSEMBLY	1	
C-39	720-057700-000	BACK PLATE	1	
C-40	725-056500-002	PARALLEL PORT COVER	1	
C-41	725-048100-001	ETHERNET COVER PLATE	2	
C-42	700-050200-001	LABEL ROLL GUIDE STOPPER KNOB	1	
C-43	700-050000-001	LABEL ROLL GUIDE	1	
C-44	720-052500-000	LABEL ROLL GUIDE SHAFT	1	
C-45	700-049900-001	LABEL ROLL BRACKET CAP	1	
C-46	735-001000-002	LABEL ROLL BAR	1	
C-47	765-140104-141	MACHINE SCREW / P / NI / M4*10 (SPW/FW)	21	
C-48		RIBBON ASSEMBLY	1	
C-49	700-050100-001	LABEL GUIDE KNOB (NL66 GREEN #A4637D)	1	
C-50	775-620918-082	E-RING/NI $\phi 9.0 \times \phi 18 \times 0.8T$ /MM	1	
C-51	730-000900-000	BEARING/6028CT	2	
C-52	725-053200-011	LABEL TENSION PLATE	1	
C-53	700-046100-001	LABEL GUIDE (NL66 GREEN #A4637D)	1	
C-54	750-032400-000	LABEL GUIDE SPRING	1	
C-55	765-230064-148	TAP / P / N I(FW) $\phi 3 \times 6$ (TAP/III) # 1-092430-00	1	

C-56	725-046900-001	CONNECTOR PLATE (SPCC 1.5T)	1	
C-57	227-102014-080	1.58-2P-MALE/1007#26 130MM/PH2.0-2P	1	
C-58	227-105010-080	1.58 HOUSING 5P MALE/ #26 /N130MM	1	
C-59	720-052200-000	LABEL GUIDE SHAFT	1	
C-60	750-034400-000	LABEL TENSION PLATE SPRING	1	
C-61	765-130084-141	MACHINE SCREW / P / NI / M3*8 (SPW/FWΦ8)	2	
C-62	720-057600-000	BOTTOM PLATE	1	
C-63	760-005300-001	RUBBER FOOT(GL-24L-B)	4	
C-64	765-140164-141	MACHINE SCREW/ P / NI / M4*16 (SPW/FW)	3	
C-65	720-058500-010	PANEL BRACKET	1	
C-66	227-126004-060	HOUSING 254FC-26PX2 /N250MM	1	
C-68	160-000103-030	LCD BOARD ASSEMBLY	1	
C-69	765-217054-145	TAPPING SCREW / P / NI / 1.7*5 (TAP/III)	2	
C-70	775-620307-063	E-RING/Φ3.0*Φ7.0*0.6T/MM #1-092406-00	1	
C-71	160-000114-001	(TONE DETECT) STRIP SENSOR ASSEMBLY	1	
C-72	745-001800-000	MYLAR PLATE / 60*25*0.38T	1	
C-73	700-036003-011	STRIP PCB BOX	1	
C-74	700-031703-031	LEFT PANEL	1	
C-75	755-006300-010	NAME PLATE	1	
C-76	700-041000-001	LCD PANEL	1	
C-77	700-031903-021	BOTTOM RIGHT PANEL	1	
C-78	760-004700-002	HAND SCREW /M4*10*6	1	
C-79	220-345602-104	MOTOR/4S56Q-03554SE	1	
C-80	725-046500-001	MOTOR PLATE (SECC 2.0T)	1	
C-81	725-046600-001	MOTOR BRACKET (SECC 1.6T)	1	
C-82	715-032522-100	GEAR DOUBLE HUB MXL-025/22T	1	
C-83	715-032522-101	GEAR MXL-025/22T	1	
C-84	775-620409-063	E-RING/Φ4.0*9.0*0.6T/MM(BK)1-092401-00	1	
C-85	720-058100-000	TOP LEFT COVER (SPCC 1.2T #KC01-0016)	1	
C-86	765-140064-142	MACHINE SCREW/P/NI/M4*6	12	
C-87	755-006500-000	BRAND PLATE	1	
C-88	760-001600-001	SNAP RIVET/SR2.6-3.2 (BLACK)	2	
C-89	775-720310-033	O-RING/Φ3.0*Φ10*0.3t/mm (SPN-3)	4	
C-90	765-330553-200	NUT/BK/M3.0*5.5	4	

NOTE: Use Part Number 023-22P012-060 for Power Supply Assembly
3.02 PRINT MECHANISM

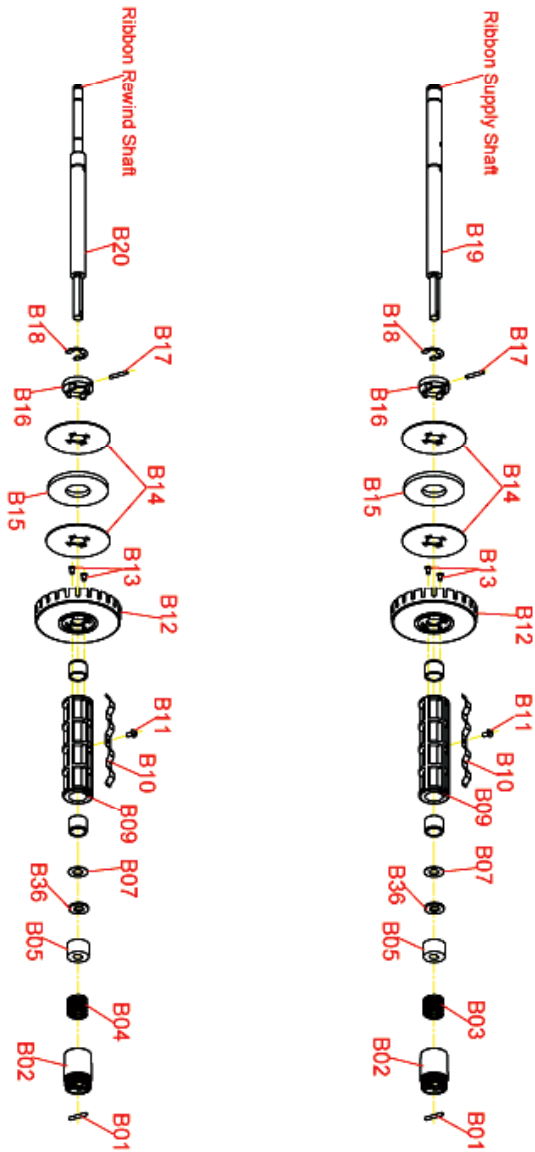
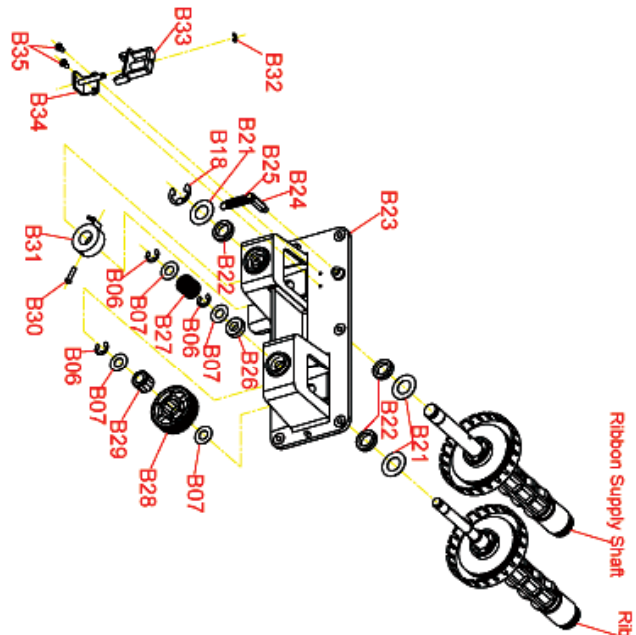


PRINT MECHANISM - PARTS LIST

MODEL: H-427 / H-436		Date: 06-11-2007	REV: A	
Item	Part No.	Part Name	Qty	Remarks
A-01	735-000200-002	MID BRACKET/TOP	1	
A-02	720-038600-000	PRESSURE POSITION SCREW	2	
A-03	700-045200-001	TPH SPRING BOX (PC+10%GF GREEN#4637D)	2	
A-04	720-057500-000	TPH PRESSURE ROTARY SHAFT	1	
A-05	725-039600-002	WASHER / D11.7*1.6T	2	
A-06	750-031800-000	TPH SPRING	1	
A-07	700-050300-001	TPH PRESSURE LUMP (PC+10%GF GREEN #4637D)	2	
A-08	725-034200-001	TPH LEVER HOOK (SUS 304)	1	
A-09	775-230816-053	GRAPHITE WASHER/Φ8.1*Φ16*0.5T	1	
A-10	765-130062-140	MACHINE SCREW/I/NI/M3*6(#2)	24	
A-11	160-000177-001	TPH EXTEND PCB ASSEMBLY	1	
A-12	725-052700-001	TPH BRACKET	1	
A-13	750-029800-000	TPH POSITION ADJ SPRING Φ0.8*6.0*16.1*7N	2	
A-14	720-038500-000	TPH POSITION ADJUSTMENT SCREW	2	
A-15	700-051600-021	TPH PLATE	1	
A-16	700-045300-001	TPH VICE BRACKET GUIDE (NL66 GREEN)	2	
A-17	725-057200-001	TPH VICE-BRACKET	1	
A-18	160-000178-001	TPH ADAPTOR PCB ASSEMBLY (200dpi)	1	
	160-000178-011	TPH ADAPTOR PCB ASSEMBLY (300dpi)	1	
A-19	765-130064-142	MACHINE SCREW/P/NI/M3*6(SPW ONLY)	1	
A-20	725-061900-001	TPH ADJUSTMENT BRACKET	1	
A-21	725-056600-001	TPH WASHER	1	
A-22	720-057400-000	RIBBON SHIELD SHAFT	1	
A-23	219-114240-002	TPH/ KPC-108-8TAE1-GO	1	
	219-124240-002	TPH/ KPG-106-12TAO1-GO	1	
A-24	725-057400-001	TPH COVER	1	
A-25	720-052400-000	RIBBON ROD	1	
A-26	720-057200-000	ANTISTATIC BRUSH	1	
A-27	720-057100-000	LOCATING SHAFT	1	
A-28	700-050500-001	MOVABLE SENSOR STOPPER PLATE	1	
A-29	775-620409-063	E-RING/Φ4.0*9.0*0.6T/MM(BK)1-092401-00	1	
A-30	715-012608-100	GEAR/26T*M0.8 (NL66)	1	
A-31	775-620511-063	E-RING/Φ5.0*Φ11*0.6T/MM	2	
A-32	775-C60609-053	GRAPHITE WASHER/Φ6.2*9.5*0.5T	4	
A-33	730-000800-000	PLATEN BUSH (BRONZE)	2	
A-34	765-230084-145	TAPPING/P/NI/3*8(TAP/III) #1-092405-00	3	
A-35	725-045900-001	LEFT PLATE(SPCC 2.0T)	1	
A-36	760-003900-001	SNAP BUSHING/ SB-2530	1	
A-37	750-033700-000	PRINthead LIFT SPRING	2	
A-38	700-045800-001	PLATEN-BUSH-CAP (NL66/GREEN)	1	
A-39	705-002100-010	PLATEN	1	
A-40	700-051800-001	MOVABLE SENSOR HOLDER	1	
A-41	735-000100-002	BOTTOM MECH,BRACKET	1	
A-42	725-053100-001	TEAR OFF BAR	1	
A-43	765-120084-140	MACHINE SCREW/P/NI/M2*8	1	
A-44	160-100016-000	SENSOR,HEADLIFT SWITCH	1	
A-45	725-047500-001	SWITCH BRACKET (SECC 1.2T)	1	
A-46	765-130044-142	MACH SCREW /P/NI/M3*4(SPW ONLY)	2	
A-47	725-047400-001	SWITCH HOLDER BRACKET (SECC 1.2T)	1	
A-48	160-000104-100	BLACK MARK & SEE-THROUGH PCB ASSEMBLY	1	
A-49	700-045900-001	MOVABLE SENSOR BOX-UP(PC+10%GF BLACK))	1	
A-50	700-046000-001	MOVABLE SENSOR BOX-DOWN(PC/BLACK)	1	
A-52	720-052300-000	MOVABLE SENSOR ROTARY SHAFT	1	
A-53	725-046000-001	RIGHT-UP PLATE(SPCC 2.0T)	1	
A-54	765-160124-141	MACHINE SCREW/P/NI/M6*12 (SPW & FW)	2	
A-55	725-046100-001	RIGHT- DOWN PLATE (SPCC 2.0T)	1	
A-56	760-003600-001	RUBBER FOOT(GL-2)	1	
A-57	765-120052-140	MACHINE SCREW/I/NI/M2*5	1	
A-58	775-520610-013	WAVE WASHER Φ6.8*Φ10.6*0.15T	2	
A-59	150-000032-010	TPH LEVER / (PC+GF#590745-001 GREEN)	1	
A-60	750-027500-010	TPH LEVER SPRING/ Φ1.0*11*12.5L*5N	1	
A-61	775-210816-155	PLANE WASHER/Φ8.2*Φ16*1.5T	1	

A-62	775-620612-082	E-RING/Φ6.0*Φ12*0.8/MM	1	
A-63	700-049200-001	SENSOR KNOB(ABS/GREEN)	1	
A-64	720-050700-000	RIBBON SHIELD ADJUSTMENT SCREW	2	
A-65	750-031900-000	RIBBON SHIELD ADJUSTMENT SPRING	2	
A-66	725-062100-001	RIBBON SHIELD ADJUSTMENT BRACKET	1	
A-67	765-13006A-102	MACHINE SCREW/P/NI/M3*6 (SPW ONLY)	4	
A-68	750-029600-000	TPH SPRING, (C) D9.1*D1.2*20.5L*7N	1	

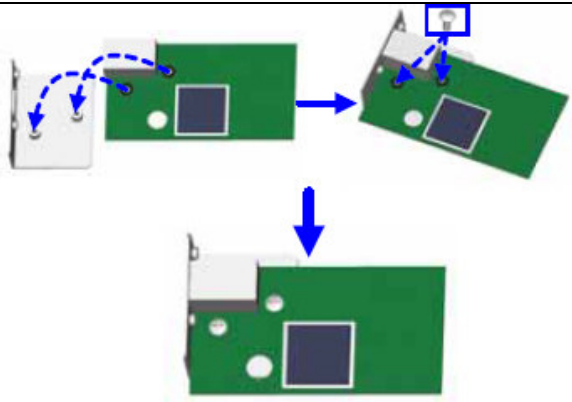
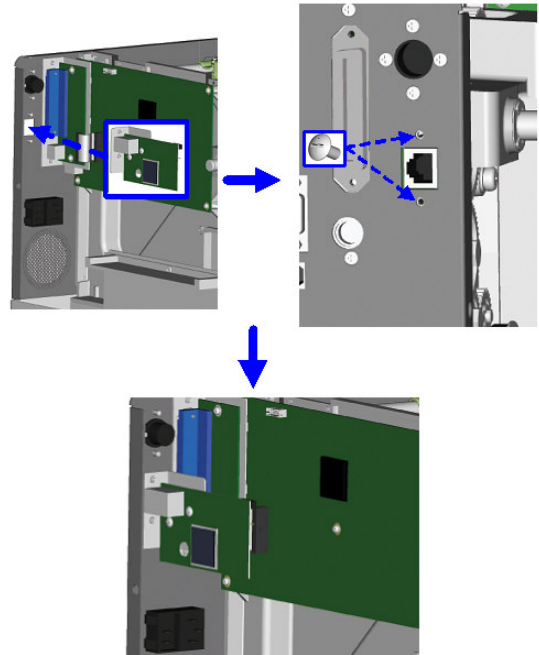
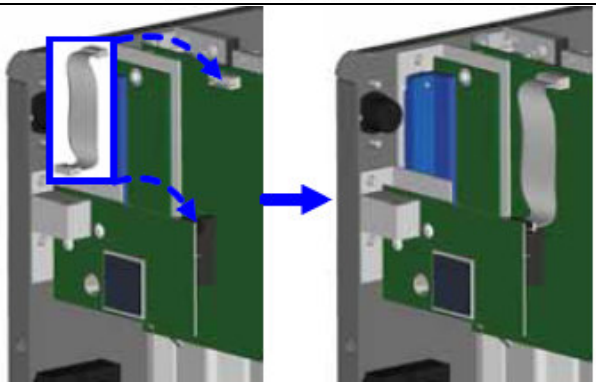
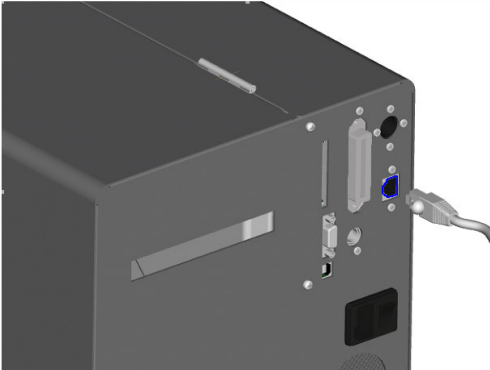
3.03 RIBBON MODULE



RIBBON MODULE - PARTS LIST				
MODEL: H-427 / H-436			Date: 06-11-2007	REV: A
Item	Part No.	Part Name	Qty	Remarks
B-01	760-006400-002	SPRING TWIG/Φ2.5*16L	2	
B-02	700-030201-001	4 NOTCH KNOB (ABS/Green#A4637D)	2	
B-03	750-029500-010	RIBBON SUPPLY SPRING	1	
B-04	750-027400-000	RIBBON COMPRESS SPRING	1	
B-05	700-029901-001	Φ18 FRICTION PLATE (ABS/GREEN)	2	
B-06	775-620612-082	E-RING/Φ6.0*Φ12*0.8/mm	3	
B-07	775-230816-053	GRAPHITE WASHER /Φ8.1*Φ16*0.5t/mm	6	
B-09	150-000033-030	ROD,RIBBON/(ABS #4637D Green)	2	
B-10	725-027900-001	Ribbon Core, Spring Blade/SUS 301 0.2t #074072-001	2	
B-11	765-230044-143	TAPPING SCREW/P/NI/3*4(Triangle)	2	
B-12	700-049400-001	RIBBON SENSOR PLATE (ABS Black)	2	
B-13	765-226067-245	TAPPING SCREW/F/BK/2.6*6(TAP/III)	4	
B-14	725-050500-001	FRICTION PLATE(SUS 304 1.2t)	4	
B-15	745-000900-000	WOOL FIBER(Φ50*Φ20*4t)	2	
B-16	700-049300-001	RIBBON FRICTION PLATE HOLDER (ABS Green)	2	
B-17	760-007100-002	SPRING TWIG/D2.5*25L	2	
B-18	775-621020-102	E-RING/NI/Φ10*Φ20*1.0t/mm	3	
B-19	720-052000-010	RIBBON SUPPLY SHAFT	1	
B-20	720-052100-000	RIBBON REWIND SHAFT	1	
B-21	775-C61222-053	GRAPHITE WASHER/Φ12.2*22*0.5t	3	
B-22	760-007200-002	BALL BEARING/Φ12*Φ18*4t/mm #6701	3	
B-23	710-047800-000	RIBBON SHAFT BRACKET	1	
B-24	720-050800-000	RIBBON RETURN SPRING HOLDER SHAFT	1	
B-25	750-032500-000	RIBBON RETURN SPRING	1	
B-26	760-007300-002	BALL BEARING /Φ8*Φ16*5t/mm #688	1	
B-27	750-031500-000	RIBBON COMPRESS SPRING	1	
B-28	715-014608-100	GEAR 46T*M0.8 /NL66	1	
B-29	760-006000-022	ONE WAY CLU 1WC0812/ HEXAGON*Φ8/	1	
B-30	765-130124-140	MACHINE SCREW/P/NI/M3*12	1	
B-31	700-049500-001	RIBBON RETURN CAP(ABS/Green)	1	
B-32	775-620307-063	E-RING/Φ3.0*Φ7.0*0.6t/mm #1-092406-00	1	
B-33	700-045700-001	RIBBON IN OUT ADJUSTMENT KNOB(ABS/Green)	1	
B-34	725-051500-001	RIBBON IN-OUT ADJUSTMENT KNOB BRACKET	1	
B-35	765-130062-140	MACHINE SCREW/I/NI/M3*6(#2)	2	
B-36	775-210816-155	PLANE WASHER/Φ8.2*Φ16*1.5t/mm	2	

Ethernet Installation

<table border="1"> <tr><td>1</td><td>RJ-45 Ethernet Cable</td></tr> <tr><td>2</td><td>Ethernet Adaptor Bracket</td></tr> <tr><td>3</td><td>Ethernet Adaptor Module</td></tr> <tr><td>4</td><td>12 Pin Connector Cable</td></tr> <tr><td>5</td><td>Bracket to Module Screws</td></tr> <tr><td>6</td><td>Module to Printer Screws</td></tr> </table>	1	RJ-45 Ethernet Cable	2	Ethernet Adaptor Bracket	3	Ethernet Adaptor Module	4	12 Pin Connector Cable	5	Bracket to Module Screws	6	Module to Printer Screws	
1	RJ-45 Ethernet Cable												
2	Ethernet Adaptor Bracket												
3	Ethernet Adaptor Module												
4	12 Pin Connector Cable												
5	Bracket to Module Screws												
6	Module to Printer Screws												
<p>1. Make sure the power is off and the power cable is unplugged. Place the Printer onto a smooth surface and open the Top Cover.</p>													
<p>2. Remove the Left Top Cover from the Printer.</p>													
<p>3. Remove the Ethernet Port Cover from the back of the Printer.</p>													

<p>4. Secure the Ethernet Adaptor Bracket to the Ethernet Adaptor Module.</p>	
<p>5. Secure the Ethernet Adaptor Module Assembly to the back of the Printer as shown.</p>	
<p>6. Connect one end of the 12 Pin Connector Cable to the main board at UART1 (CN24) and the other end to the Ethernet Adaptor Module.</p>	
<p>7. To complete installation, replace the Left Top Cover and plug the RJ-45 cable into the Ethernet Port.</p>	

Appendix A. Communication Interfaces

Parallel Interface

The Printers are equipped with a 36-pin Parallel interface connector. Any standard IBM PC compatible parallel cable can be used to connect to your Printer. In the event of any difficulties, the table listed below can be used to obtain a suitable cable.

PIN NO.	FUNCTION	TRANSMITTER
1	Strobe	Host / Printer
2-9	Data 0-7	Host
10	Acknowledge	Printer
11	Busy	Printer
12	Paper Empty	Printer
13	Select	Printer
14	Auto-Linefeed	Host / Printer
15	N/C	
16	Signal Ground	
17	Chassis Ground	
18	+5V DC	
19-30	Signal Ground	Host
31	Initialize	Host / Printer
32	Fault	Printer
33	Signal Ground	
34-35	N/C	
36	Select-in	Host / Printer

Serial Interface

The Printers are equipped with a 9-pin SUB-D connector to be used as a Serial interface.



NOTICE!

Make sure that the “COM Port Setup Options” in the Printer’s front panel are configured the same as the software you will be using with the Printer.

Connector Type: DB9 female, pin assignment is as follows:

PIN NO.	1	2	3	4	5	6	7	8*	9
FUNCTION	+5 V	TXD	RXD	N/C	GND	N/C	CTS	RTS	N/C

**Flow Control Line*

Serial interface from PC to Printer

PC			Printer
---	1		+5V
RXD	2		TXD
TXD	3		RXD
DTR	4		N/C
GND	5		GND
DSR	6		N/C
RTS	7		CTS
CTS	8		RTS
---	9		N/C

USB Interface

The Printer is equipped with a Type B USB connector that can be connected to any compatible USB port.

PIN NO.	1	2	3	4
FUNCTION	USBVCC	D-	D+	GND

PS/2 Interface

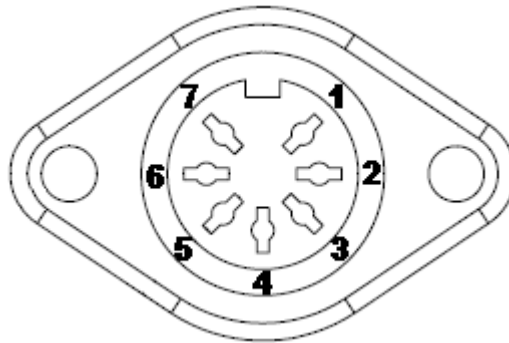
The PS/2 interface can be used to connect a keyboard to the Printer for stand-alone printing without a computer attached. (See section 9. Using the Printer with a PS/2 Keyboard)

PS/2 interface from keyboard to Printer

PC			Printer
DATA	1	1	DATA
N/C	2	2	N/C
GND	3	3	GND
VCC	4	4	VCC
CLOCK	5	5	CLOCK
N/C	6	6	N/C

Optional Applicator Interface

The applicator interface provides a means of communications between an applicator and the H-400/H-600 Series Printers.



PIN NO.	1	2	3	4	5	6	7
FUNCTION	Print Signal	+5 V	Printer Error Signal	+24 V	Printed Signal	Printing Signal	Ground

Appendix B. Error Messages/Troubleshooting

Self-Test

The Self-Test function in the Printer will help the user to troubleshoot whether the Printer is operating normally. In the Self-Test Mode, the Printer will print out a test sample each time the FEED Key is pressed. To stop the Self-Test procedure simply power off the Printer. Below are the Self-Test procedures:

To perform a Self Test:

1. Turn the Printer Off.
2. Press and hold the FEED Key.
3. Turn the Printer On while still holding the FEED Key down.
4. Release the FEED Key after hearing 3 beeps.

After about 1 second the Printer will print the Test Label and the LCD will display "Self Test". This means the Printer is operating normally. Simply cycle the power on the Printer to exit the Self Test.

Dump Mode

The Printer's Dump Mode provides the ability to print the command sequences received by the Printer instead of executing them. Dump Mode is very useful as a troubleshooting tool when the label settings and the print results do not match, and can be used to check for errors in data transmission between the Printer and the PC. Examining the Dump Mode print out will confirm whether or not the correct commands were received.

To enter Dump Mode:

1. Turn the Printer Off.
2. Press and hold the FEED Key.
3. Turn the Printer On while still holding the FEED Key down.
4. The Printer will beep three times. Continue to hold the FEED Key down; the Printer will beep one more time.
5. When the LCD shows the message "DUMP MODE BEGIN", release the FEED Key. The Printer will print "DUMP MODE BEGIN". The Printer is now in Dump Mode.
6. Send commands to the Printer and check to see if the commands printed are the same commands sent by your application.
7. Press the FEED Key to exit Dump Mode. The Printer will print "OUT OF DUMP MODE" to confirm that it is no longer in Dump Mode.

LCD Error Messages and Descriptions



Blinking Quickly



Blinking Slowly



Steady

LCD Message	LED Lights		Beep	Description	Solution
	Ribbon	Media			
Printhead is opened			4	The Printhead not firmly locked in place.	Re-open the Printhead and make sure it closes tightly.
Entering the Cooling Process				Printhead temperature is too high.	Printer goes back to standby mode after cooling.
Out of ribbon or check ribbon sensor			3	No ribbon is installed and using Direct Thermal stock.	Make sure the Printer is in Direct Thermal mode.
				The ribbon is used up or the Ribbon Supply Shaft is not moving.	Replace with new ribbon roll.
Out of media or check media gap sensor			1	The moveable sensor is unable to detect paper.	Make sure the movable sensor mark is at the correct position. If the sensor is still unable to detect the paper, then go through the Auto Sensing steps again.
				The label stock is used up or label sensor can't detect paper.	Replace with new roll of labels. If the moveable sensor is still not able to detect the paper, then go through the Auto Sensing steps again.
Check paper setting			1	Improper paper feed.	Possible causes: <ol style="list-style-type: none"> Media falling into the gap behind the platen roller. Can't find label gap/black mark. Perform Auto Sensing procedure. Black mark paper out.
CF Card not found			2	CF Card is not installed or installed incorrectly.	Install the CF Card correctly.
Memory Full			2	Memory is full.	Delete unnecessary data in the memory.
Rewinder Full			2	The Rewind is full.	Remove the labels from the Rewind.
Filename cannot be found			2	Cannot find the file.	Use “~X4” command to print out all the files and check whether the file exists and if the name is correct.
Filename repeated			2	Another file with this name exists.	Change the file name and download again.



NOTICE!

The Printer repeats all warning beeps. For example when the Printer's Printhead is opened, the Printer will beep four times, pause, and then beep four more times.

Problems and Recommended Solutions

Problem	Recommended Solution
LCD shows no message after switching the Printer on.	<ul style="list-style-type: none"> ◆ Check the power cord.
LED light turns red (power/status) after printing stops.	<ul style="list-style-type: none"> ◆ Check for software setting or program command errors ◆ Check if labels or ribbon is out and replace with suitable labels or ribbon. ◆ Check if label stock is jammed. ◆ Check if Printhead Mechanism is closed (Printhead is not positioned correctly). ◆ Check if sensor is blocked by paper/label. ◆ If Cutter is installed, check that it is working and working properly.
Printing started but nothing was printed on the label.	<ul style="list-style-type: none"> ◆ Check that the ribbon is installed with the inked side facing the label media. ◆ Select the correct Printer driver. ◆ Select the correct label stock and print mode.
The labels jammed when printing.	<ul style="list-style-type: none"> ◆ Clear the label jam and check that the Printhead is clean.
Only part of the label was printed.	<ul style="list-style-type: none"> ◆ Check if label or ribbon is stuck on the Printhead. ◆ Check if application software has errors. ◆ Check if start position setting has errors. ◆ Check if ribbon has wrinkles. ◆ Check if Ribbon Supply Shaft is creating friction with the platen roller. If the platen roller needs to be replaced, please contact your Reseller for more information. ◆ Check if power supply is within the voltage range.
Part of the label was not printed completely.	<ul style="list-style-type: none"> ◆ Check if Printhead is dirty. ◆ Use internal command "~T" to perform a Test Print and check if the Printhead can print across its entire width. ◆ Check the media quality.
Printout not in desired position.	<ul style="list-style-type: none"> ◆ Check if sensor is covered by paper or is dirty. ◆ Check if liner is suitable for use, please contact Reseller for more information. ◆ Check if label roll edge is aligned with Label Width Guide.
Labels are skipped while printing.	<ul style="list-style-type: none"> ◆ Check if error occurs on label height setting. ◆ Check if the sensor is covered by paper or is dirty.
Smudged or blurry printout.	<ul style="list-style-type: none"> ◆ Check print darkness setting. ◆ Check if Printhead is dirty.
The cutter did not cut straight.	<ul style="list-style-type: none"> ◆ Check if label stock is installed correctly.
The cutter did not cut the label successfully.	<ul style="list-style-type: none"> ◆ Check if the label thickness exceeds 0.16mm (.006").
When using the Cutter the labels could not feed or abnormal cutting occurs.	<ul style="list-style-type: none"> ◆ Check if Cutter is installed properly. ◆ Check if Paper Feed Rods are sticky. ◆ Check that label is greater than 35mm (1.38") high so it can clear the Cutter.
The Stripper Sensor is not functioning correctly.	<ul style="list-style-type: none"> ◆ Check if Stripper Sensor is covered with dust. ◆ Check if labels are installed properly.

Appendix C. Maintenance and Adjustment

Thermal Printhead Cleaning



CAUTION!

The Printhead is the Most Fragile part of your Printer. Do NOT use sharp or hard objects to clean the Printhead. Do NOT touch the glass surface of the Printhead with your hand.

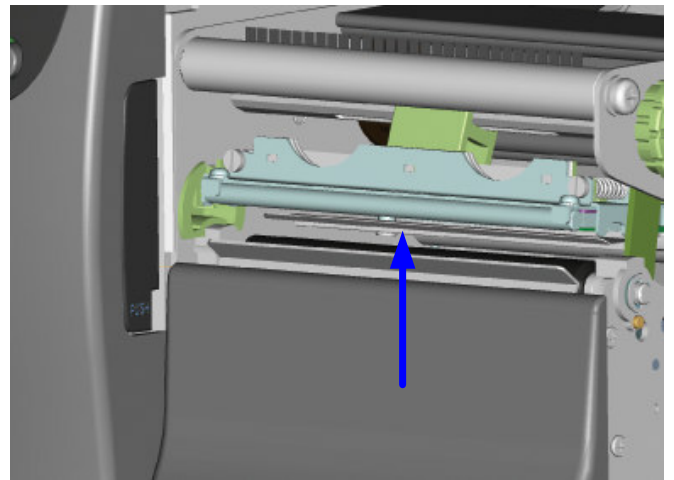


CAUTION!

During the print process the Printhead will become hot. Do NOT attempt to clean the Printhead until it has had time to cool.

Printing labels will cause dirt such as paper dust, particles of ink and label adhesive to accumulate on the Thermal Printhead. This can cause poor print quality and incomplete printouts. When this happens the Printhead must be cleaned:

1. Turn the Printer Off.
2. Open the Top Cover.
3. Pull the Printhead Lever out and rotate it upward to the right (counterclockwise) to open the Thermal Printhead.
4. Remove the label stock and ribbon from the Printer.
5. Clean the Printhead surface (see arrow) with a special cleaning pen or a cotton swab soaked in Isopropyl Alcohol.
6. Allow the Printhead to dry for 2-3 minutes before turning the Printer back on.



NOTICE!

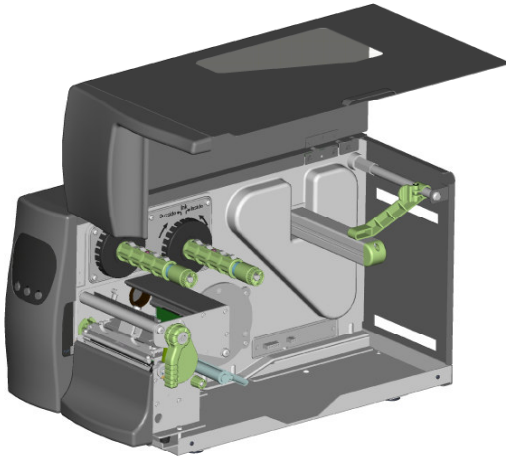
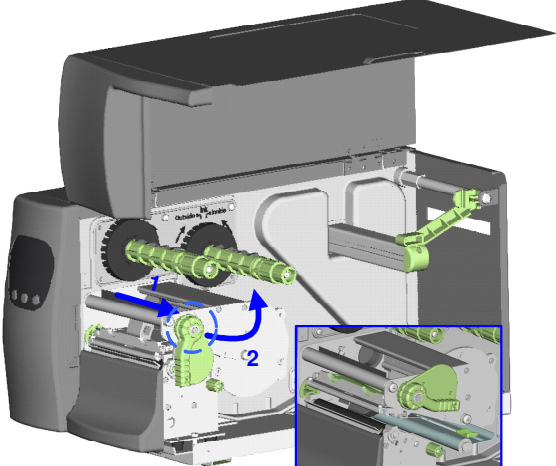
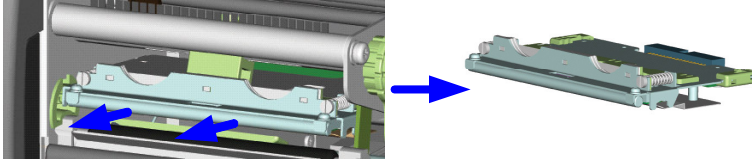
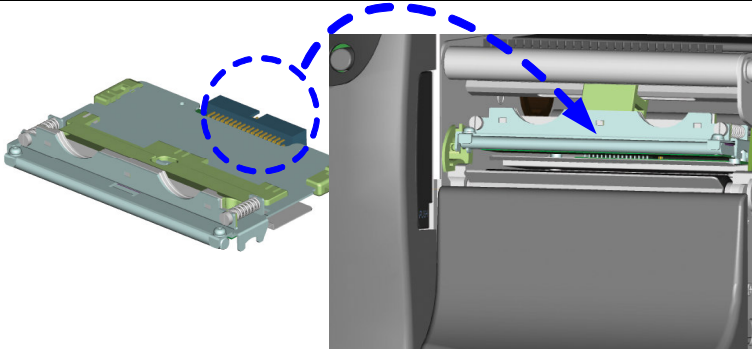
To help keep the Printhead clean, the Top Cover of the Printer should be closed when printing. To ensure print quality and prolong Printhead life, do NOT use dusty or dirty print media in the Printer.



NOTICE!

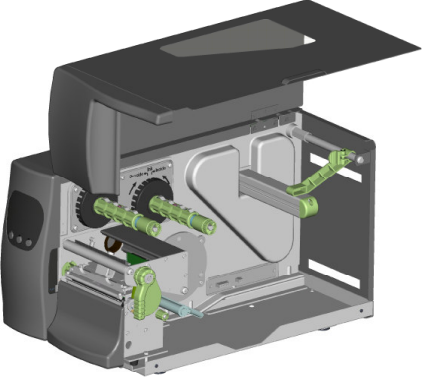
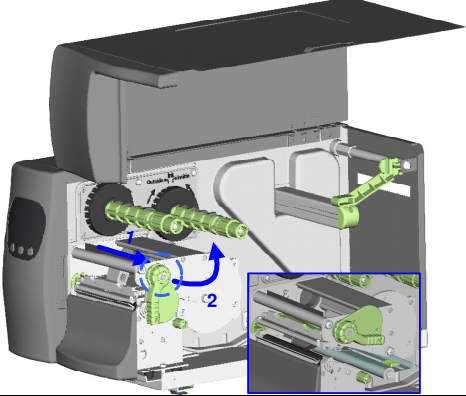
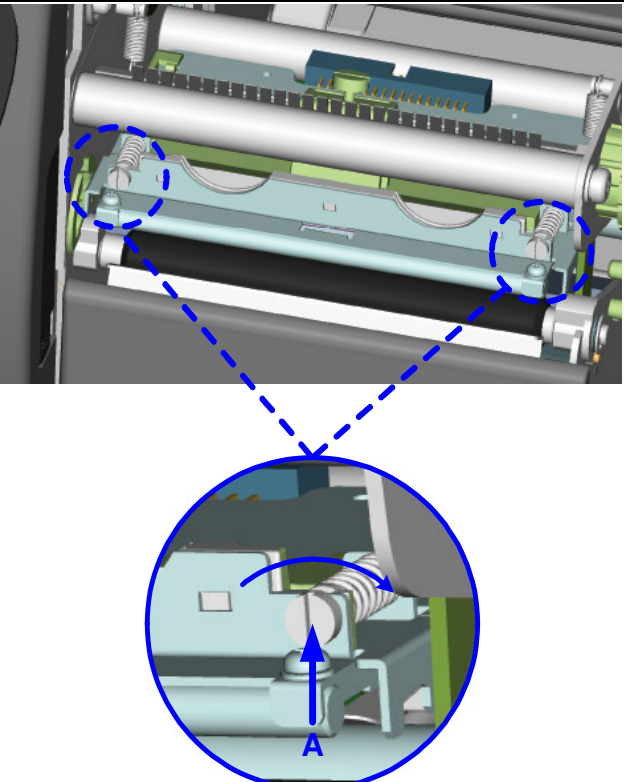
Recommended cleaning intervals for the Thermal Printhead:
Direct Thermal Printing – Each time the label roll is changed.
Thermal Transfer Printing – Each time the ribbon is changed.

Printhead Module Installation / Removal Instructions

<p>1. Switch the Printer off and unplug it.</p>	 A 3D cutaway illustration of a printer with its top cover open, showing the internal carriage and printhead assembly.
<p>2. Pull the Printhead Lever out and rotate it upward to the right (counterclockwise) to open the Printhead.</p>	 A 3D cutaway illustration showing the printhead lever being rotated. A blue arrow indicates the rotation direction. An inset image shows a close-up of the lever's movement.
<p>3. Gently pull the Printhead assembly towards you.</p>	 A 3D cutaway illustration showing the printhead assembly being pulled out of the printer. Blue arrows indicate the direction of movement. An inset image shows the printhead assembly being held out.
<p>4. To replace the Printhead, line up the plug and side guides of the Printhead assembly and gently insert the Printhead back into its carriage.</p>	 A 3D cutaway illustration showing the printhead assembly being inserted back into the printer. A dashed blue circle highlights the alignment points. An inset image shows the printhead assembly being inserted into the carriage.

Printhead Print Line Adjustment

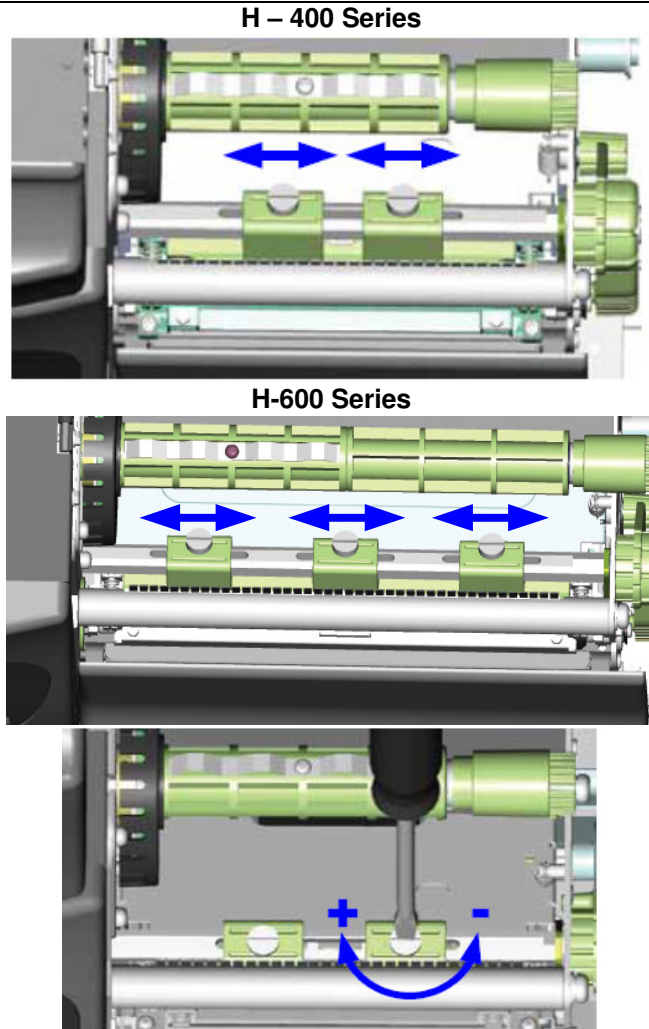
When printing on stiff or thick paper, the Print Line needs to be moved forward (paper feed direction) in order to achieve better print quality.

<p>1. Open the Top Cover.</p>	
<p>2. Pull the Printhead Lever out and rotate it upward to the right (counterclockwise) to open the Printhead.</p>	
<p>3. Move the Print Line all the way back by turning the screws on each side of the Printhead (marked A) counterclockwise</p> <p>4. Then turn the screws clockwise a quarter turn at a time to move the Print Line forward. Adjust both screws by the same amount to ensure that the Print Line and the Platen Roller are parallel.</p> <p>5. Print a test label with a black bar across the entire width of the label to check print quality and repeat step 4 as necessary to achieve proper print quality.</p>	

Thermal Printhead Balance Adjustment

If one side of the printed labels is not being printed clearly, or if ribbon wrinkles occur, then adjust the Thermal Printhead Spring Box position to cure the problem.

1. Pull the Printhead Lever out and rotate it upward to the right (counterclockwise) to open the Printhead.
2. Move the Thermal Printhead Spring Box on the right side. Normally, the wider the paper, the farther the Thermal Printhead Spring Box will be from the center wall and for narrower paper, the Thermal Printhead Spring Box will be closer to the center wall.
3. To adjust the TPH Spring Box pressure, use a flat tip screwdriver to turn the screw clockwise to increase the pressure or counterclockwise to decrease the pressure.



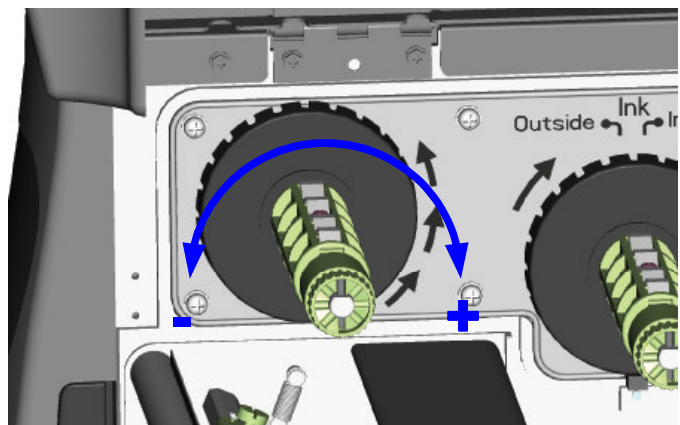
Ribbon Tension Adjustment

Due to differences in ribbon material, ribbon wrinkles may occur during printing. When this happens increase the ribbon tension by:

1. Pushing the end of the shaft in.
2. Then turn the ribbon shaft clockwise to increase the tension.

If narrower ribbons are being used (especially ribbon widths of less than 2"), the Printer might have a problem feeding labels. When this happens decrease the ribbon tension by:

1. Pushing the end of the shaft in.
2. Then turn the ribbon shaft counterclockwise to decrease the tension.



Ribbon Shield Adjustment

If ribbon wrinkle occurs during printing, adjust the ribbon shield.

Example: If ribbon wrinkle occurs as shown in figure (a), please turn the ribbon shield screw A clockwise, and if ribbon wrinkle occurs as shown in figure (b), please turn the ribbon shield screw B clockwise.



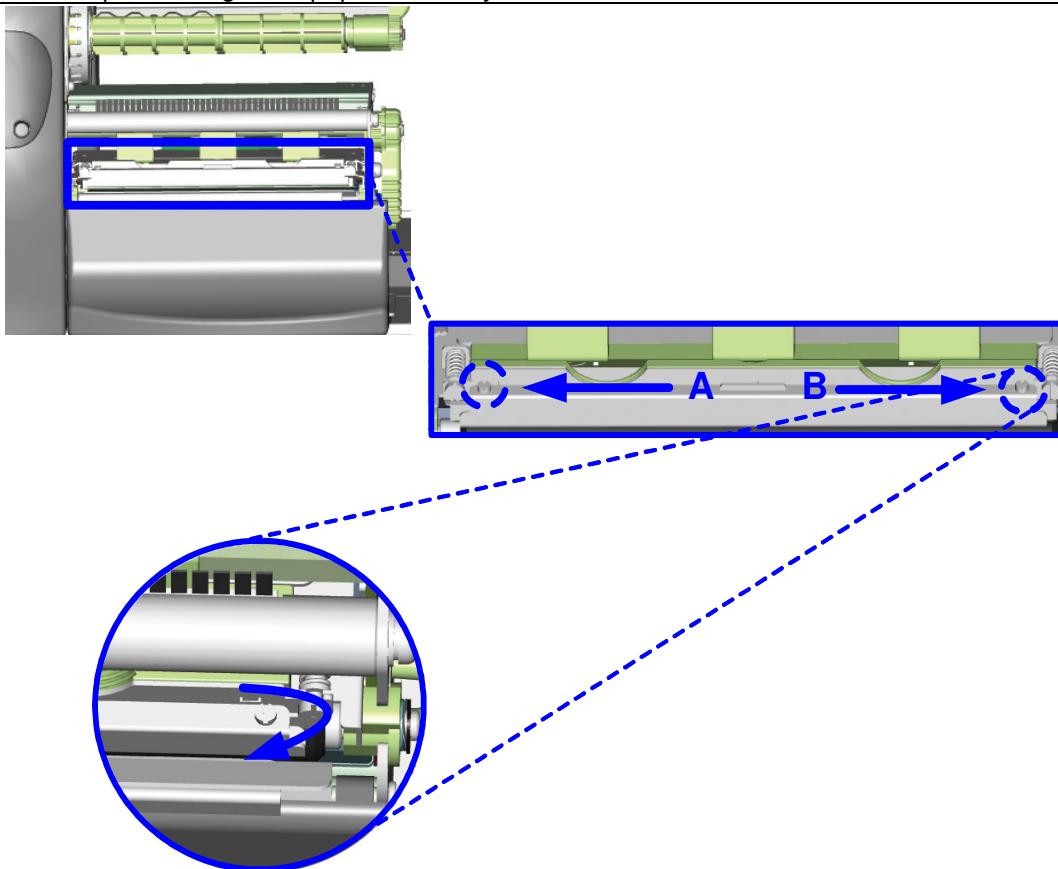
(a)



(b)

For best results, only adjust the screw by one half turn for each test print.

The maximum adjustment of the screw is two revolutions. If the screws are turned more than the acceptable range, the paper feed may not be smooth.



Auto Sensing

Using Auto Sensing the Printer automatically detects and records the label type and length (gap or black mark paper). Then the Printer can accurately detect the label positions.

1. Adjust the Moveable Sensor so that it is located in a position to sense the label gaps or black marks.
2. Turn the Printer Off and press and hold the PAUSE Key.
3. Turn the Printer On while holding down the PAUSE Key.
4. The Printer will beep 3 times and the LCD will display “Auto Sensing Mode” then release the PAUSE Key.
5. The Printer will now detect and record the label size/length.
6. The LCD will display the measurement in dots and the Printer will go back into Standby Mode.

NOTICE!

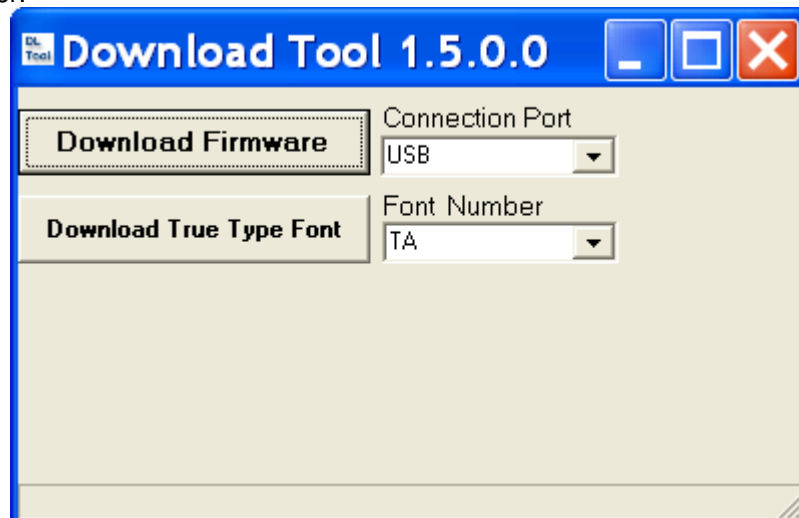


Generally, the Printer should be set to Auto Mode and the Auto Sensing procedure will detect the label stock correctly. Some label stock has gaps AND black marks. This can cause the Printer to NOT correctly detect the label stock. If this happens, the Auto Sensor Option should be set to Black Mode or Gap Mode based on what you wish to base the label size on.

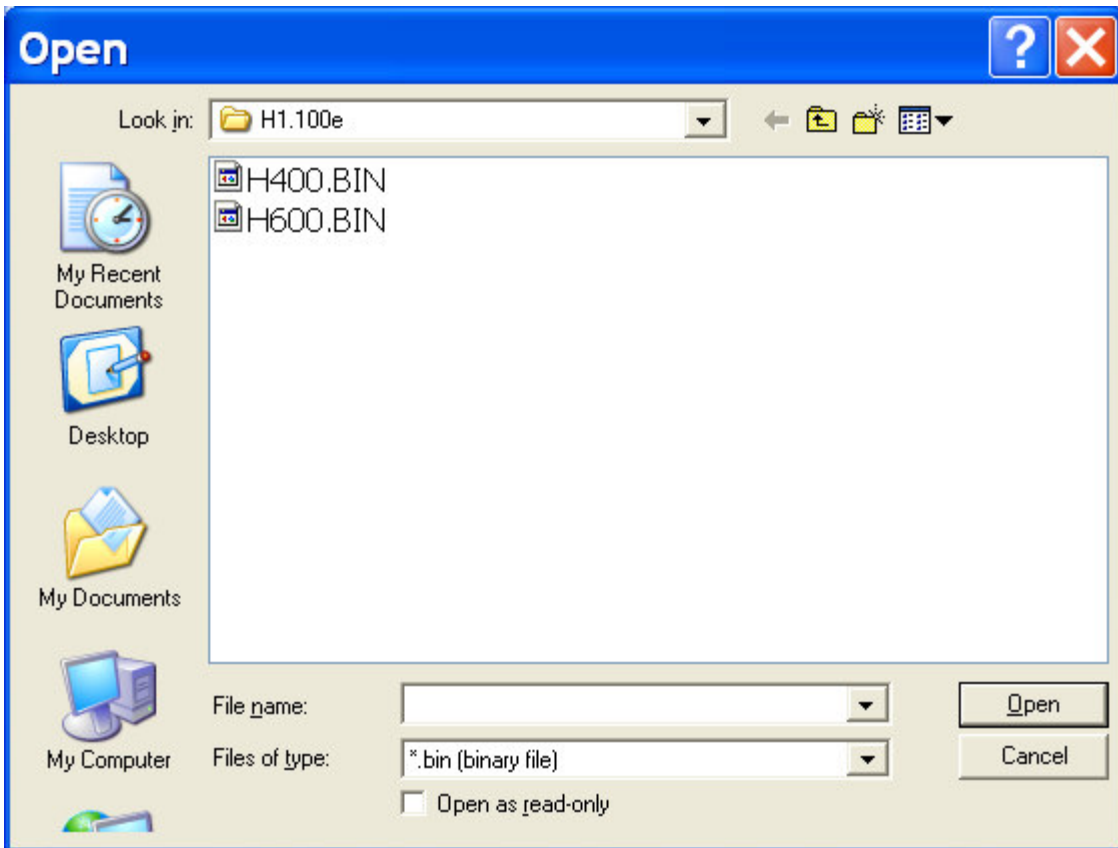
Upgrading the Printer’s Firmware

The Printer’s firmware can be upgraded in the field by performing the following procedure:

1. Connect the Printer to a computer.
2. Unzip the firmware files and save them to a directory on your computer.
3. Start the Download Tool program by double clicking on DownloadTool.exe.
4. Select the port that is being used to communicate with the Printer and click the “Download Firmware” button. If downloading via the serial port the baud rate MUST be set to 115200 in the Printer.



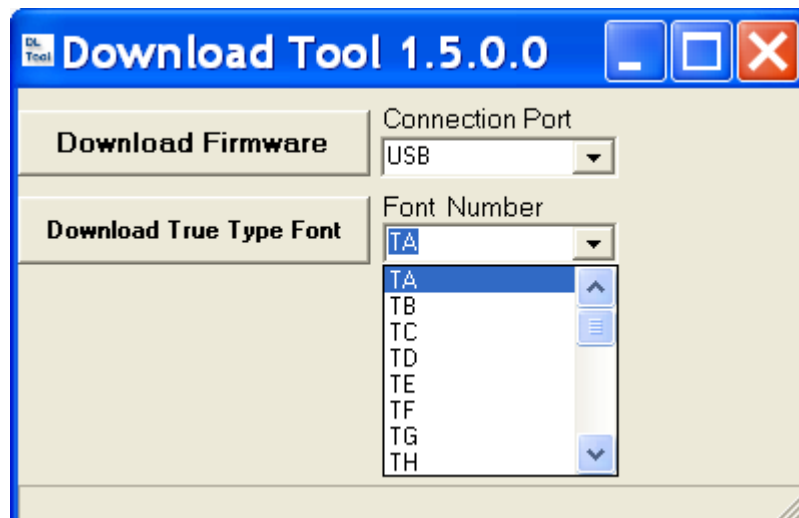
5. This will bring up a Browse Window displaying the firmware (.bin) files that can be downloaded to the Printer. Select the appropriate firmware file (H400.BIN for the H-400 Series and H600.BIN for the H-600 Series) and click “Open”.



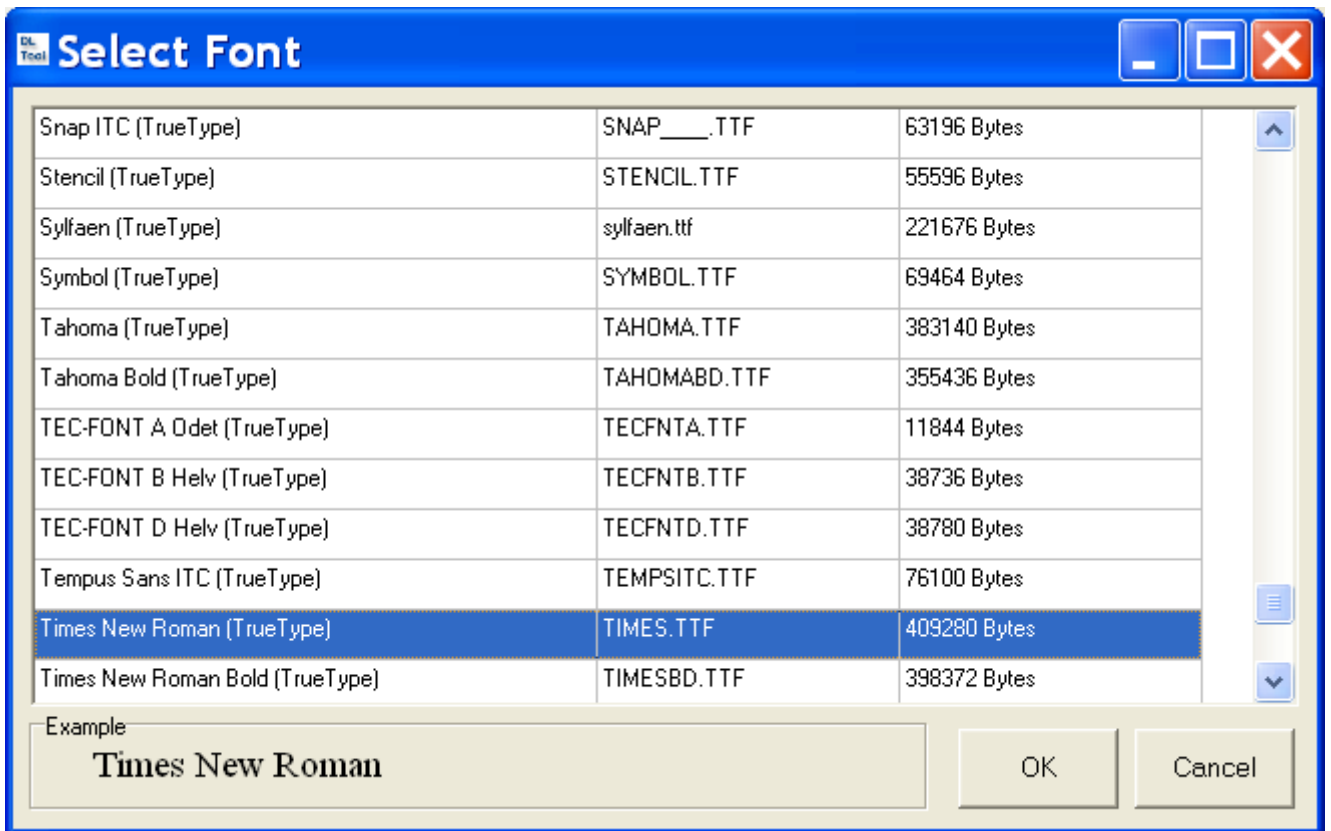
6. After the “Open” button is clicked, the firmware download process will start immediately. A blue progress bar will pop up to display the progress of download.
7. When the progress bar reaches “100%”, the firmware download is complete. As the download finishes, the Ribbon and Media light will alternately flash slowly and then rapidly.
8. The Printer will now reset. Please wait for Printer to complete the reset procedure. The Printer will return to “Ready to print” status after the reset.
9. The new firmware version will be displayed on the Printer’s LCD. This confirms that the firmware has been updated.

Downloading True Type Fonts to the Printer’s Flash Memory

1. Start the Download Tool program by double clicking on DownloadTool.exe.
2. Select a ‘Font Number’ that will be used to identify the downloaded TrueType Font.



3. Click the “Download TrueType Font” button, the program will show a list of TrueType Fonts that are available for download. Select a TrueType Font and click “OK”.

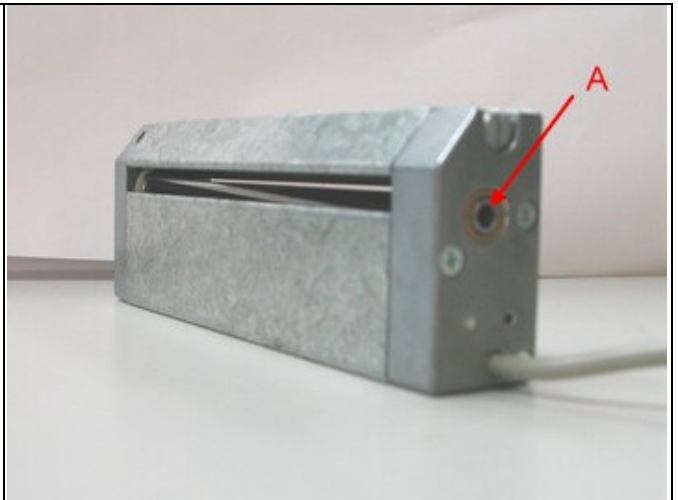


4. After the "Open" button is clicked, the download process will start immediately. A blue progress bar will pop up to display the progress of download.
5. When the progress bar reaches "100%", the TrueType Font download is complete and the TrueType Font is stored in the Printer's Flash memory.

Clearing Cutter Jams on the H-400 Series Cutter

1. If the Cutter jams or malfunctions turn the Printer Off.
2. There is a hole (marked "A") on each side of the Cutter. Insert a 3mm hex key into one of these holes and use the key to turn the cutter blade clockwise.
3. After the problem is corrected, turn the Printer back on and the cutter blade will go back to its original position.

Note: It is recommended to use labels greater than 35mm (1.38") in height in order for them to clear the Cutter.



Cleaning Adhesive from the H-400 Series Cutter Blade

When using adhesive labels, the cutter may malfunction due to a build up of adhesive on the blade. When this happens it will be necessary to clean the Cutter Blade:

1. Turn the Printer Off.
2. Remove the Cutter assembly from the Printer.
3. Wet a cotton swab in Isopropyl Alcohol and use it to remove any build-ups of adhesive.
4. There is a hole (marked "A") on each side of the Cutter. Insert a 3mm hex key into one of these holes and use the key to turn the cutter blade clockwise to allow access to the entire length of the blade.
5. Allow the cutter to dry for 10 minutes.
6. Re-install the Cutter assembly and turn the Printer back On. The cutter blade will go back to its original position.

