

SECTION 5 MAINTENANCE AND ASSEMBLY DRAWINGS

DESCRIPTION

Use the mechanical assembly drawings when troubleshooting or replacing components and use the associated parts list when ordering replacement parts. Item parts that do not have associated part numbers are not available and need to be ordered using the next highest assembly number.

All parts shown in bold face are purchasable. All parts shown in light face *italic* are not purchasable, but may be available as part of a maintenance kit. Hardware shown in light face are not available as an individual part, but may be purchased as part of a hardware kit.



Top: 90X/III™ and 96X/III™

Bottom: 140X/III™, 170X/III™, and 220X/III™

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SECTION 5 MAINTENANCE AND ASSEMBLY DRAWINGS

Table 5-1. Final Assembly 90/96/140/170XiIII, XiIIIPlus, and R-140 Mechanical

Item	Part Number	Description	Qty
1	46937	Media Door with Window	1
1	47077M	Media Door Kit, Bi-fold with Window	1
2	30392-004*	Screw, 6-32 × 0.25, Phillips head	12
3	01861	Supplies Label	1
4	48252	Media Load Label	1
5	46396-006	Screw, 6-32 × 0.37, Phillips head	1
6	30407-008	Screw, 6-32 × 0.5, 3/64 Allen	4
7	44114**	Screw, M4.2 × 8 Hilo	12
8	44356†	Washer, 0.198, 0.75 0.085	3
9	32038	Electronics Cover	1
10	47721M	Cover Media Maintenance Kit (90/96XiIII/XiIIIPlus)	1
10	48721M	Media Maintenance Kit (140XiIII/XiIIIPlus and R-140)	1
10	46721M	Cover Media Maintenance Kit (170XiIII/XiIIIPlus)	1
11	46142	Name Plate, (170XiIII)	1
11	47142	Name Plate, (90XiIII)	1
11	48142	Name Plate, (140XiIII)	1
11	47146	Name Plate, (96XiIII)	1
11	48146	Name Plate, (R-140)	1
11	33150-3	Name Plate, (170XiIIIPlus)	1
11	33150-1	Name Plate, (90XiIIIPlus)	1
11	33150-2	Name Plate, (140XiIIIPlus)	1
11	33150-6	Name Plate, (96XiIIIPlus)	1
12	22021	Switch, Panel Membrane	1
13	22492M	Maintenance Kit, Switch Panel (Complete)	1
14	33036-1	New Style Front Cover, (170XiIII/XiIIIPlus)	1
14	33036-3	New Style Front Cover, (90/96XiIII/XiIIIPlus)	1
14	33036-2	New Style Front Cover, (140XiIII/XiIIIPlus and R-140)	1
15	46755M	Old Style LCD, Back Light XiIII/R-140 (Can be used in new style front cover)	1
15	32043M	New Style LCD, Back Light XiIIIPlus (Can not be used in old style front cover)	1
16	30392-003††	Screw, 6-32 × 0.19	3
17	01130	Nut, 6-32	3
18	07257‡	Washer	3
19	46491-1	Lower Media Trim Panel, (170XiIII/XiIIIPlus)	1
19	46491-2	Lower Media Trim Panel, (140XiIII/XiIIIPlus and R-140)	1
19	46491-3	Lower Media Trim Panel, (90/96XiIII/XiIIIPlus)	1
20	46836	Spacer	2
21	30256-B‡‡	Thumb Nut, 6-32 × 0.50 Brass	2
22	38342	Bracket, Front Cover, (170XiIII/XiIIIPlus)	1
22	47342	Bracket, Front Cover, (90/96XiIII/XiIIIPlus)	1
22	48342	Bracket, Front Cover, (140XiIII/XiIIIPlus)	1
23	46049-1	Support Bracket, (170XiIII/XiIIIPlus)	1
23	47049-1	Support Bracket, (90/96XiIII/XiIIIPlus)	1
23	48049-1	Support Bracket (140XiIII/XiIIIPlus)	1

*Available only as HW30392-004 in quantities of 50

††Available only as HW30392-003 in quantities of 25

**Available only as HW44114 in quantities of 50

‡Available only as HW07257 in quantities of 25

†Available only as HW44356 in quantities of 25

‡‡Available only as HW30256-B in quantities of 25

Bold=Part available for purchase

Light italic=Part not available for purchase, listed and shown for reference only

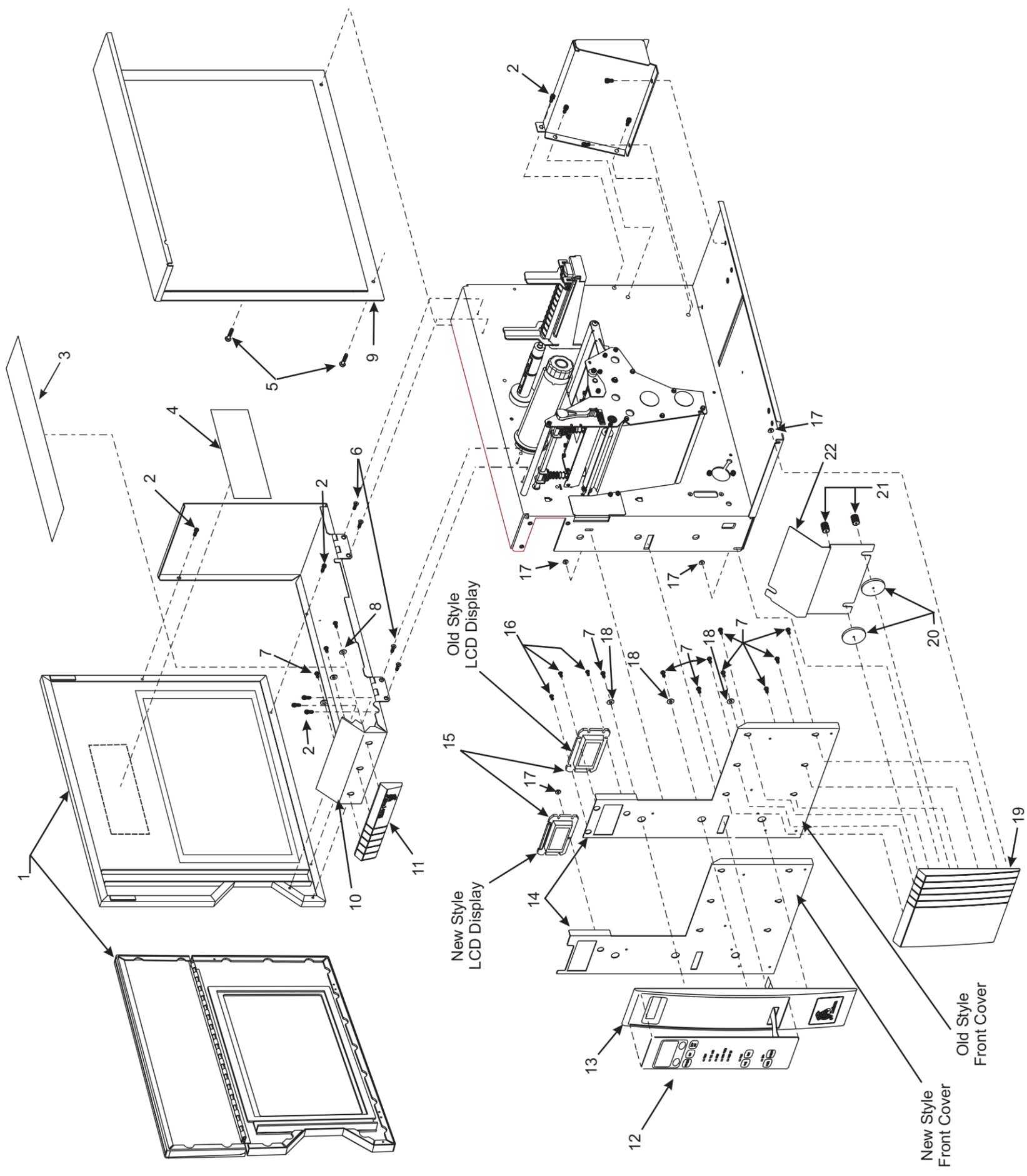


Figure 5-1. Final Assembly 90/96/140/170X1111/X1111Plus and R-140 Mechanical



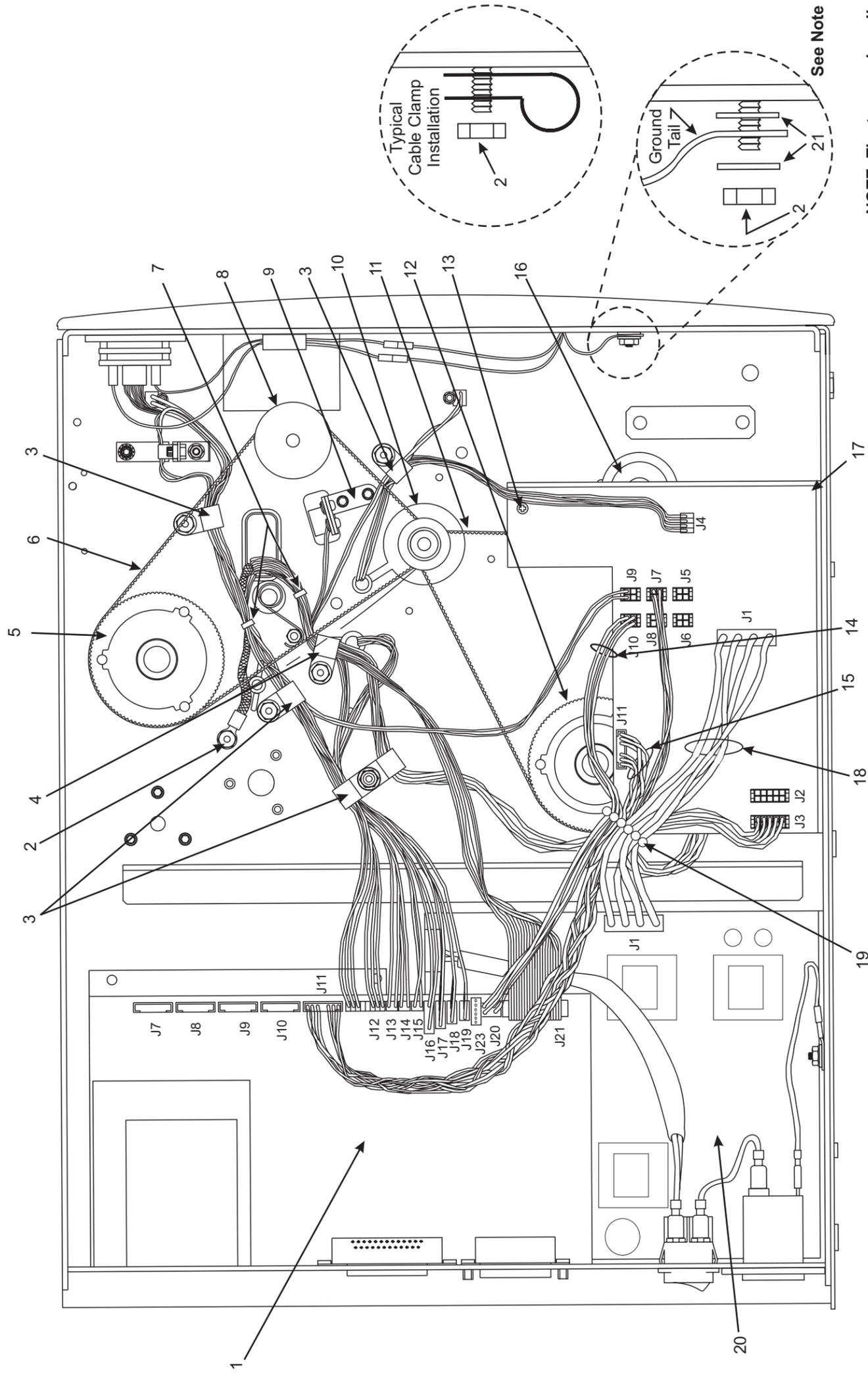
Table 5-2. Final Assembly Electrical (X'III and R-140)

Item	Part Number	Description	Qty
1	47004M	Main Logic Board Maintenance Kit (X'III and R-140)	1
2	01130	Hex Head Washer Nut, 6-32	2
3	01117	Cable Clamp, 0.312	5
4	06222	Cable Clamp, 0.50	1
5	31336M	RTU/MTU Pulley Maintenance Kit (90/140/170/220X'III/X'IIIPlus)	1
5	47358M	RTU/MTU Pulley Maintenance Kit, 600dpi (96X'III)	1
6	45189-5	Conductive Belt, 0.080P 235T (90/140/170/220X'III/X'IIIPlus)	1
6	45189-12	Conductive Belt, 0.080P 245T (96X'III) (600dpi)	1
7	Q06020	Cable-Tie, 0.09W x 3.62L	1
8	40355M	Platen Pulley Maintenance Assembly (90/140/170/220X'III/X'IIIPlus)	1
8	47356M	Platen Pulley Maintenance Kit 600 dpi (96X'III)	1
9	38226M	Reflect Media Sensor Maintenance Kit	1
10	46199M	Stepper Motor w/Pulley Kit (90/170X'III/X'IIIPlus) (300 dpi)	1
10	46198M	Stepper Motor w/Pulley Kit (140/220X'III/X'IIIPlus) (203 dpi)	1
10	46196M	Stepper Motor w/Pulley Kit (96X'III)	1
11	45189-2	Conductive Belt, 0.080P 255T (90/140/170/220X'III/X'IIIPlus)	1
11	45189-13	Conductive Belt, 0.080P 265T (96X'III)	1
12	31336M	Pulley Ribbon Take-up/Media Take-up Maintenance Kit (90/140/170X'III/X'IIIPlus)	1
12	47358M	Pulley Ribbon Take-up/Media Take-up Maintenance Kit (96X'III)	1
13	46392-006	Truss-Head Phillips Screw, 6-32 x 0.37	1
14	49604-010	Power Distribution Cable	1
15	49600-010	SP Comm Cable	1
16	30914M	Peel-Off Pulley Maintenance Kit (90/140/170/220X'III/X'IIIPlus)	1
16	47915M	Peel-Off Pulley Maintenance Kit (96X'III)	1
17	49790M	DC Power Supply Maintenance Kit	1
17	49990M	DC Power Supply Maintenance Kit (220X'IIIPlus)	1
18	46777	AC Power Cable	1
19	04393	Beaded Cable-Tie	1
20	49780M	AC Power Supply Maintenance Kit	1
21	30208*	Flat Washer, 0.500 x 0.191 x 0.030	2

*Only available as HW30208 in quantities of 25

**Only available as HW01152 in quantities of 100

Bold=Part available for purchase*Light italic = Part not available for purchase, listed and shown for reference only*



NOTE: The two washers listed as item 21 must be installed.

Figure 5-2. Final Assembly Electrical (XrIII and R-140)

Table 5-3. Final Assembly Electrical (XiiiPlus)

Item	Part Number	Description	Qty
1	33008M	Main Logic Board XiiiPlus Maintenance Kit	1
2	01130	Hex Washer Head Nut, 6-32	2
3	01117	Cable-Clamp, 0.312	5
4	06222	Cable-Clamp, 0.50	1
5	31336M	RTU/MTU Pulley Maintenance Kit (90/140/170/220XiiiPlus)	1
5	33094-6M	RTU/MTU Pulley Maintenance Kit 600dpi (96XiiiPlus)	1
6	45189-5	Conductive Belt, 0.080P 235T (90/140/170/220XiiiPlus)	1
6	45189-12	Conductive Belt, 0.080P 245T (96XiiiPlus) (600dpi)	1
7	Q06020	Cable-Tie, 0.09W x 3.62L	1
8	40355M	Platen Pulley Assembly Maintenance (90/140/170/220XiiiPlus)	1
8	33079-6M	Platen Pulley Maintenance Kit 600 dpi (96XiiiPlus)	1
9	38226M	Reflect Media Sensor Maintenance Kit,	1
10	46199M	Stepper Motor w/Pulley Kit (90/170XiiiPlus) (300 dpi)	1
10	46198M	Stepper Motor w/Pulley Kit (140/220XiiiPlus) (203 dpi)	1
10	43420M	Stepper Motor (96XiiiPlus) (600 dpi)	1
10	33084M	Stepper Motor Pulley (96XiiiPlus) (600 dpi)	1
11	45189-2	Conductive Belt, 0.080P 255T (90/140/170/220XiiiPlus)	1
11	45189-13	Conductive Belt, 0.080P 265T (96XiiiPlus)	1
12	31336M	Maintenance Kit Pulley Ribbon Take-up/Media Take-up (90/140/170XiiiPlus)	1
12	33094-6M	Maintenance Pulley Kit RTU/MTU (96XiiiPlus)	1
13	46392-006	Screw, 6-32 x 0.37 Truss-Head Phillips	1
14	30914M	Peel-Off Pulley Maintenance Kit (90/140/170/220XiiiPlus)	1
14	47915M	Peel-Off Pulley Maintenance Kit (96XiiiPlus)	1
15	49790M	DC Power Supply Maintenance Kit	1
15	49990M	DC Power Supply Maintenance Kit (220XiiiPlus)	1
16	49604-010	PA Cable Power Distribution	1
17	46777	AC Power Cable	1
18	49600-010	PA Cable SP Comm	1
19	49730M	PCB Cutter Control Maintenance Kit	1
20	04393	Beaded Cable-Tie	1
21	33122	Advanced Counter Mounting Bracket (Temporary)	1
22	47020M	Advanced Counter Kit	1
23	49780M	AC Power Supply Maintenance Kit (90/96/140/170XiiiPlus)	1
24	33037M	PCMCIA PCB Assembly	1

*Only available as HW30208 in quantities of 25

**Only available as HW01152 in quantities of 100

Bold=Part available for purchase*Light italic = Part not available for purchase, listed and shown for reference only*

Table 5-4. Final Assembly Mechanical 220XíIII (View 1)

Item	Part Number	Description	Qty
1	46937	Media Door with Window	1
1	47077M	Media Door Bi-fold with Window	1
2	30392-004*	Screw, 6-32 x 0.25	18
3	01861	Supplies Label w/Logo	1
4	22254	Tip-Over Label	1
5	47097	Media Load Label	1
6	32038	Electronics Cover	1
7	46396-006	Screw, 6-32 x 0.37, Tr Ph S Bz	2
8	30407-008	Screw, 6-32 x 0.5, 3/64 Allen	4
9	07257†	Washer, 0.438 x 0.188 x 0.036	9
10	44114**	Hex Screw HiLo, M4, 2 x 8	3
11	22721M	Media Cover Maintenance Kit	1
12	22142	Name Plate 220XíIII	1
12	33150-4	Name Plate 220XíIIIPlus	1
13	22021	Panel Membrane Switch	1
14	22492M	Switch Panel Maintenance Kit,	1
15	22342	Old Style Front Cover, 220XíIII	1
15	33036-4	New Style Front Cover, 220XíIIIPlus	1
16	46755M	Old Style LCD, Back Light 220XíIIIPlus (Can be used in new style front cover)	1
16	32043M	New Style LCD, Back Light 220XíIIIPlus (Can not be used in old style front cover)	1
17	01130	Hex Head Washer Nut, 6-32	4

Table 5-4. Final Assembly Mechanical 220XíIII (View 1)

Item	Part Number	Description	Qty
18	22491	Lower Media Trim Panel	1
19	46837	Spacer	2
20	30256-B††	Thumb Nut, 6-32 x 0.50 Brass	2
21	22342	Front Cover Bracket	1
22	22049-1	Support Bracket	1
23	22304M	Cover Damper Assembly Maintenance Kit	1
24	44931	E-Ring, 0.218 (5.5 mm)	2
25	44288	Washer, 0.50 x 0.25 x 0.031 (13 mm x 6.5 mm x .79 mm)	4
26	22249	Pivot Pin	2
27	22202	Connecting Link	1
28	06319†††	Screw 10-32 x 0.37	4
29	30402-006‡	Screw 6-32 x 0.37	3
30	10474‡‡	Split Washer M4	3
31	22203	Damper Mounting Bracket	1

*Only available as HW30392-004 in quantities of 50

**Only available as HW44114 in quantities of 50

†Only available as HW07257 in quantities of 25

††Only available as HW30256-B in quantities of 25

†††Only available as HW06319 in quantities of 25

‡Only available as HW30403-006 in quantities of 25

‡‡Only available as HW10474 in quantities of 25

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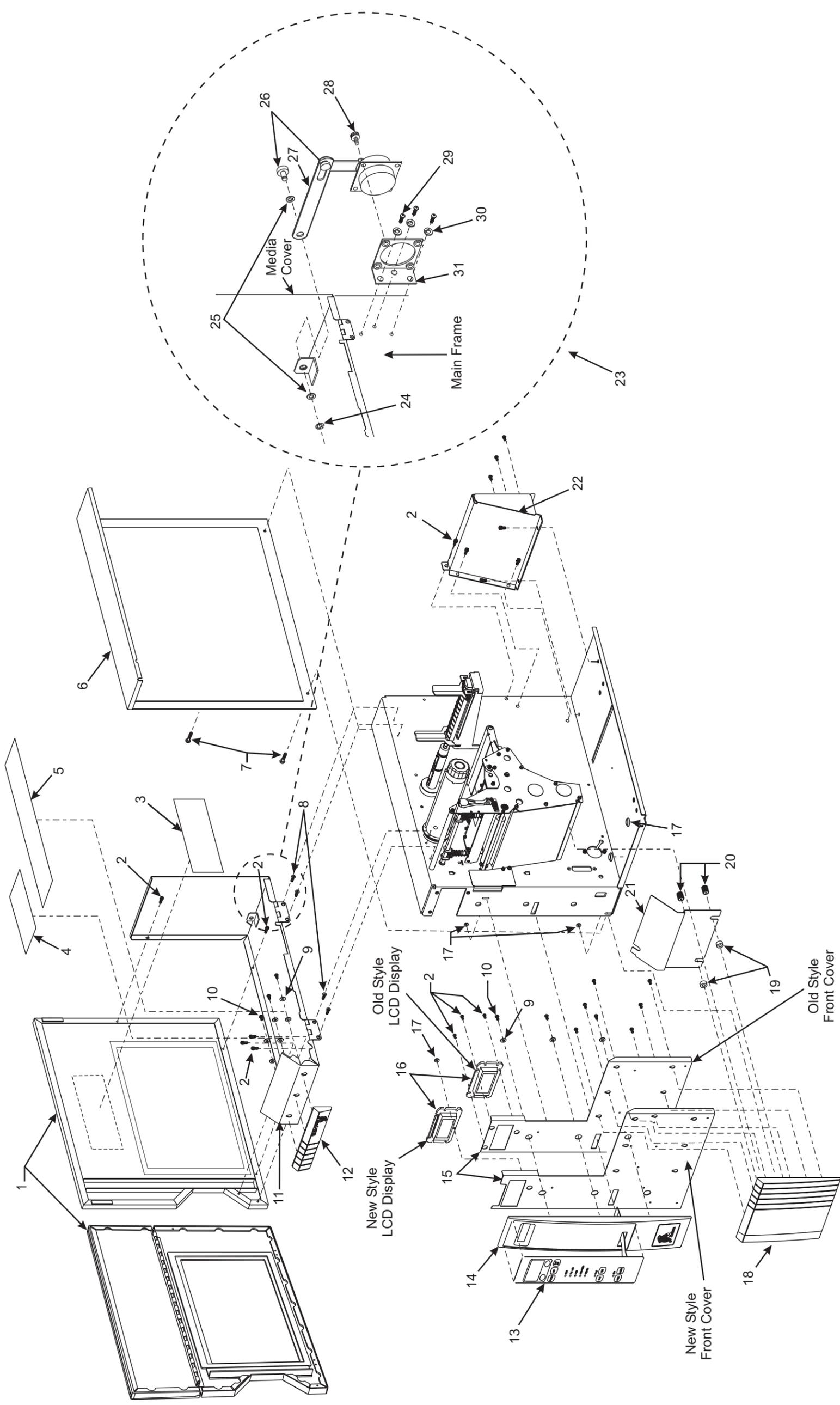


Figure 5-4. Final Assembly 220X/III Mechanical

Table 5-5. Print Mechanism Assembly 90/96/140/170XIII/XIIIPlus and R140 (View 1)

Item	Part Number	Description	Qty
1	30392-004*	Screw, 6-32 x 0.25	13
2	REF	Tri Mount Shoulder	1
3	46352M	Flag Maintenance Kit	1
4	01130	Nut, 6-32 Hex Washer Head	1
5	22613M	Head Open Switch Assembly	1
6	30266	Head Lift Spring Stop	1
7	40462	Media Take-up Sensor Cover	2
8	06268**	Lock Washer #6	3
9	30392-006†	Screw, 6-32 x 0.37	2
10	48023††	Bearing, 0.313 x 0.190 x 0.375	1
11	47009-1	Roller, 0.37 0.312 x 4.437 (90/96XIII/XIIIPlus)	1
11	47009-3	Roller, 0.37 0.312 x 6.437 (140XIII/XIIIPlus and R-140)	1
11	47009-8	Roller, 0.37 0.312 x 8.437 (170 XIII/XIIIPlus)	1
12	30007-1	Roller, Shaft 0.187 x 4.5 (90/96XIII/XIIIPlus)	1
12	30007-3	Roller, Shaft 0.187 x 5.60 (140XIII/XIIIPlus and R-140)	1
12	30007-8	Roller, Shaft (170XIII/XIIIPlus)	1
13	44007‡	Self-Tap Screw, M3.5 x 11mm w/5mm Hex Head	11
14	40355M	Platen Pulley Maintenance Assembly 90/170/220XIII	1
14	47356M	Platen Pulley Maintenance Assembly 96XIII	1
14	33079-6M	Platen Pulley Maintenance Assembly 96XIII Plus	1
15	38226	Reflective Media Sensor Maintenance Kit	1
16	30256-B‡‡	Thumb Nut	1
17	30305RM	Media Guide Assembly (90/96XIII/XIIIPlus)	1
17	40305RM	Media Guide Assembly (140XIII/XIIIPlus and R-140)	1
17	46305M	Media Guide Assembly (170XIII/XIIIPlus)	1
18	30033	Adjustable Media Guide	1
19	46267	Hole Plug, 0.5 Diameter x 0.125 thick	12
20	46091	Grommet, for a 1.25 x 0.625 cutout	1
21	30023	Cutter Cover Plate	1
22	46224	Rubber Grommet, 0.312 x 0.34 x 0.109	1
23	46199M	Stepper Motor and Pulley Maintenance Kit (90/170XIII/XIIIPlus I) (300 dpi)	1
23	46198M	Stepper Motor and Pulley Maintenance Kit (140/220XIII/XIIIPlus and R-140) (203 dpi)	1
23	43420M	Stepper Motor Maintenance Kit (96XIII) (600 dpi)	1
23	47357M	Pulley Maintenance Kit (96XIII) (600 dpi)	1
23	43420M	Stepper Motor Maintenance Kit (96XIII Plus) (600 dpi)	1
23	33084-6M	Pulley Maintenance Kit (96XIII Plus) (600 dpi)	1
24	30393-006§	Screw, 8-32 x 0.37	4
25	49688	Flanged Ball Bearing, 0.5 x 0.250 x 0.125	2
26	30705§§	Nylon Bearing, 0.312 x 0.251 x 0.078	1
27	46705¶	Nylon Bearing, 0.312 x 0.251 x 0.140	1
28	46808	Peel/Tear-Off Bar (170 XIII/XIIIPlus)	1
28	47808	Peel/Tear-Off Bar (90/96XIII/XIIIPlus)	1
28	48808	Peel/Tear-Off Bar (140XIII/XIIIPlus and R-140)	1

Table 5-5. Print Mechanism Assembly 90/96/140/170XIII/XIIIPlus and R140 (View 1)

Item	Part Number	Description	Qty
29	46278M	Platen Roller Maintenance Kit, 0.780 x 6.73 (170XIII/XIIIPlus)	1
29	47601M	Platen Roller Maintenance Kit, 0.788 x 3.588 (90/96XIII/XIIIPlus)	1
29	40038M	Platen Roller Maintenance Kit, 0.78 x 5.213 (140XIII/XIIIPlus and R-140)	1
30	02252	Crescent Ring, 0.250 Yel	2
31	48076	Upper Media Guide (Snap Plate) (90/96XIII/XIIIPlus)	1
31	48043-1	Upper Media Guide (Snap Plate) (170XIII/XIIIPlus)	1
31	48043-2	Upper Media Guide (Snap Plate) (140XIII/XIIIPlus)	1
31	48090M	Upper Media Guide (Snap Plate) R-140	1
32	Q10019	E-Ring, Ext. 0.250	1
33	38202M	Pivot Bar Kit (170XIII/XIIIPlus)	1
33	47202M	Pivot Bar Kit (90XIII 96XIII/XIIIPlus)	1
33	48202M	Pivot Bar Kit (140XIII/XIIIPlus and R-140)	1
34	35099M	Toggle Assembly Maintenance	1 or 2
35	46302-4M	Media Sensor Maintenance Kit (170XIII/XIIIPlus), (Includes Upper and Lower Sensor)	1
35	47302-4M	Media Sensor Maintenance Kit (90/96XIII/XIIIPlus), (Includes Upper and Lower Sensor)	1
35	48302-4M	Media Sensor Maintenance Kit (140XIII/XIIIPlus and R-140), (Includes Upper and Lower Sensor)	1
36	48411¶¶	Thumb Screw	2
37	46691-1M	Dancer Arm Assembly Maintenance Kit, w/Springs (90/96XIII/XIIIPlus)	1
37	46691-2M	Dancer Arm Assembly Maintenance Kit, w/Springs (140XIII/XIIIPlus and R-140)	1
37	46691-3M	Dancer Arm Assembly Maintenance Kit, w/Springs (170XIII/XIIIPlus)	1
38	33789	Washer,	1
39	07229«	Wave Washer, 0.49 x 0.33 x 0.0075	1
40	30423-003««	Set Screw, 8-32 x 0.187	1
41	40248	Shaft Wear Plate	1
42	40154	Eccentric Pin	1
43	30956	Flat Washer 0.207 x 0.146 x 0.030	2
44	30392-008»	Screw, 6-32 x 0.50	1
45	30826	Hole Plug	2
46	30255	Hole Plug	1
47	48888M	RFID Maintenance Kit	1
48	48062	Screw, M3 x .5 6 Nylon	1

*Only available as HW30392-004 in quantities of 50

**Only available as HW06268 in quantities of 25

†Only available as HW30392-006 in quantities of 25

††Only available as HW48023 in quantities of 25

‡Only available as HW44001 in quantities of 25

‡‡Only available as HW30256-B in quantities of 25

§Only available as HW30393-006 in quantities of 25

§§Only available as HW30105 in quantities of 25

¶Only available as HW46105 in quantities of 25

¶¶Only available as HW48411 in quantities of 10

«Only available as HW07229 in quantities of 50

««Only available as HW30423-003 in quantities of 25

»Only available as HW30392-008 in quantities of 25

Bold=Part available for purchase*Light italic = Part not available for purchase, listed and shown for reference only*

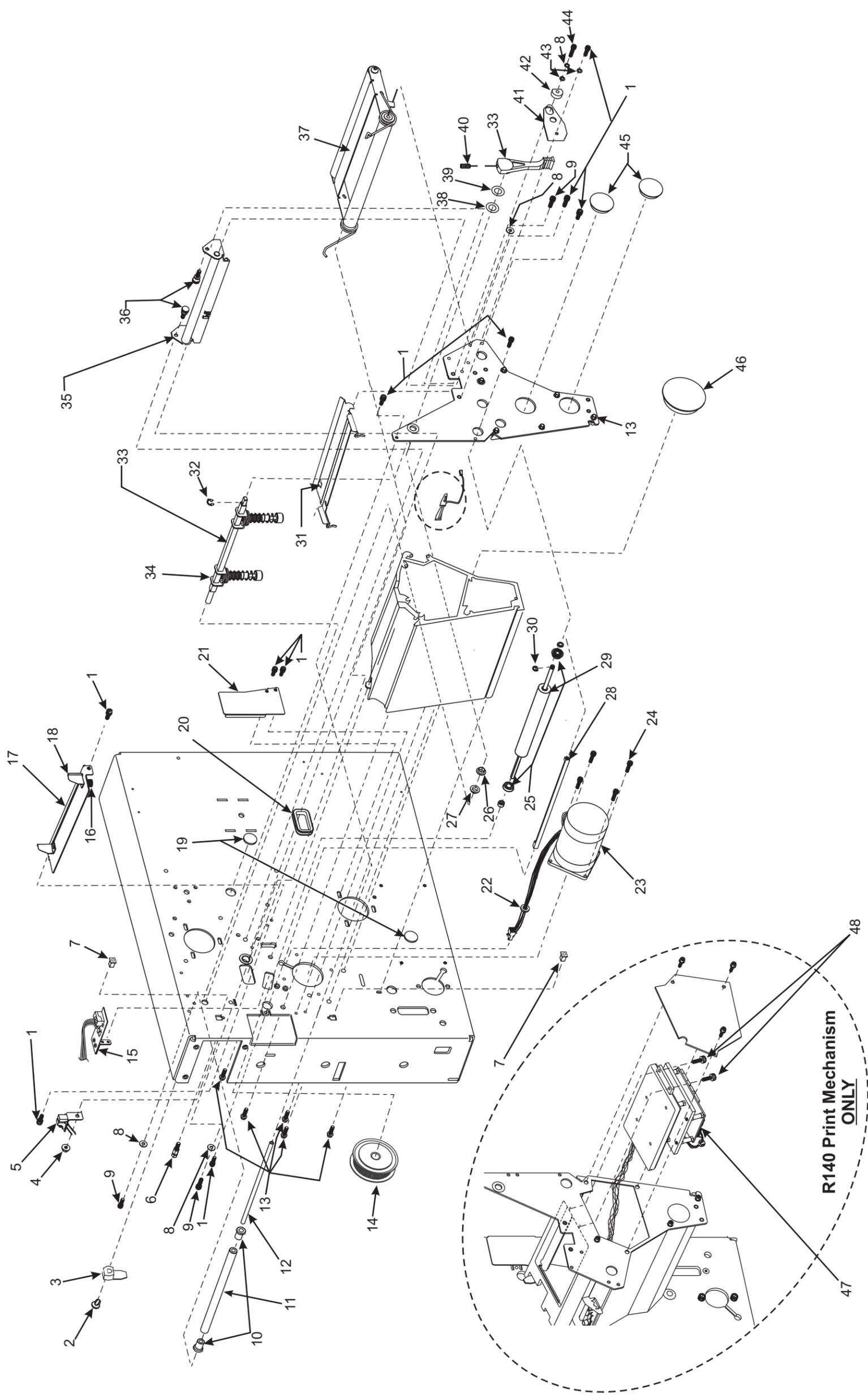


Figure 5-5. Print Mechanism for 90/96/140/170/XiIIIPlus and R140 (View 1)

Table 5-6. Print Mechanism for 90/96/140/170X/III/X/III/Plus and R140 (View 2)

Item	Part Number	Description	Qty
1	30118*	E-Ring Ext, 0.500 x 0.042	1
2	31336M	RTU/MTU Pulley Maintenance Kit (90X/III, 140X/III, and 170X/III)	1
2	47358M	RTU/MTU Pulley Maintenance Kit (96X/III)	1
2	33094-6M	RTU/MTU Pulley Maintenance Kit (96X/III/Plus)	1
3	30114**	Flat Washer, 0.76 x 0.51 x 0.03	1
4	30115†	Wave Washer, 0.740 x 0.520 x 0.080	1
5	06250††	E-Ring EXT, 0.312 Yel	1
6	40027‡	Torsion Spring	1
7	30106‡‡	Crescent Ring, External, 0.312	1
8	30393-006§	Screw, 8--32 x 0.37	6
9	40193§§	Flat Washer, 0.406 x 0.172 x 0.048	3
10	30405-006	Cap Screw, 1/4-20 x 0.75	1
11	30466¶	Washer, 0.26 x 0.63 x 0.06	1
12	46386	Media Supply Support	1
13	46253M	Media Supply Spindle Kit, 3-Inch (170X/III/X/III/Plus) (Optional)	1
13	46044M	Media Supply Spindle Kit, 40mm (170X/III/X/III/Plus) (Optional)	1
13	47253M	Media Supply Spindle Kit, 3-Inch (90/96X/III/X/III/Plus) (Optional)	1
13	47044M	Media Supply Spindle Kit, 40mm (90/96X/III/X/III/Plus) (Optional)	1
13	48253M	Media Supply Spindle Kit, 3-Inch (140X/III/X/III/Plus) (Optional)	1
13	48044M	Media Supply Spindle Kit, 40mm (140X/III/X/III/Plus) (Optional)	1
14	30239¶¶	Washer, Crescent, 0.415 x 323 x 0.062	1
15	46151M	Spindle Ribbon Supply Maintenance Kit (170X/III/X/III/Plus)	1
15	47151M	Spindle Ribbon Supply Maintenance Kit ((90/96X/III/X/III/Plus)	1
15	48151M	Spindle Ribbon Supply Maintenance Kit (140X/III/X/III/Plus)	1
16	46350	Enhanced Ribbon Take-Up Upgrade Kit (170X/III/X/III/Plus)	1
16	47250	Enhanced Ribbon Take-Up Upgrade Kit (90/96X/III/X/III/Plus)	1
16	48250	Enhanced Ribbon Take-Up Upgrade Kit (140X/III/X/III/Plus)	1
17	46813-7M	Compliant Roller Maintenance Kit (170X/III/X/III/Plus Only)	1
18	30392-004¶¶¶		2
19	01130	Hex Head Washer Nut, 6-32	3

*Only available as HW30118 in quantities of 25

**Only available as HW30114 in quantities of 25

†Only available as HW30115 in quantities of 25

††Only available as HW06250 in quantities of 25

‡Only available as HW40027 in quantities of 25

‡‡Only available as HW30106 in quantities of 25

§Only available as HW30393-006 in quantities of 25

§§Only available as HW40193 in quantities of 25

¶Only available as HW30466 in quantities of 25

¶¶Only available as HW30239 in quantities of 25

¶¶¶Only available as HW30392-004 in quantities of 50

Bold=Part available for purchase*Light italic= Part not available for purchase, listed and shown for reference only*

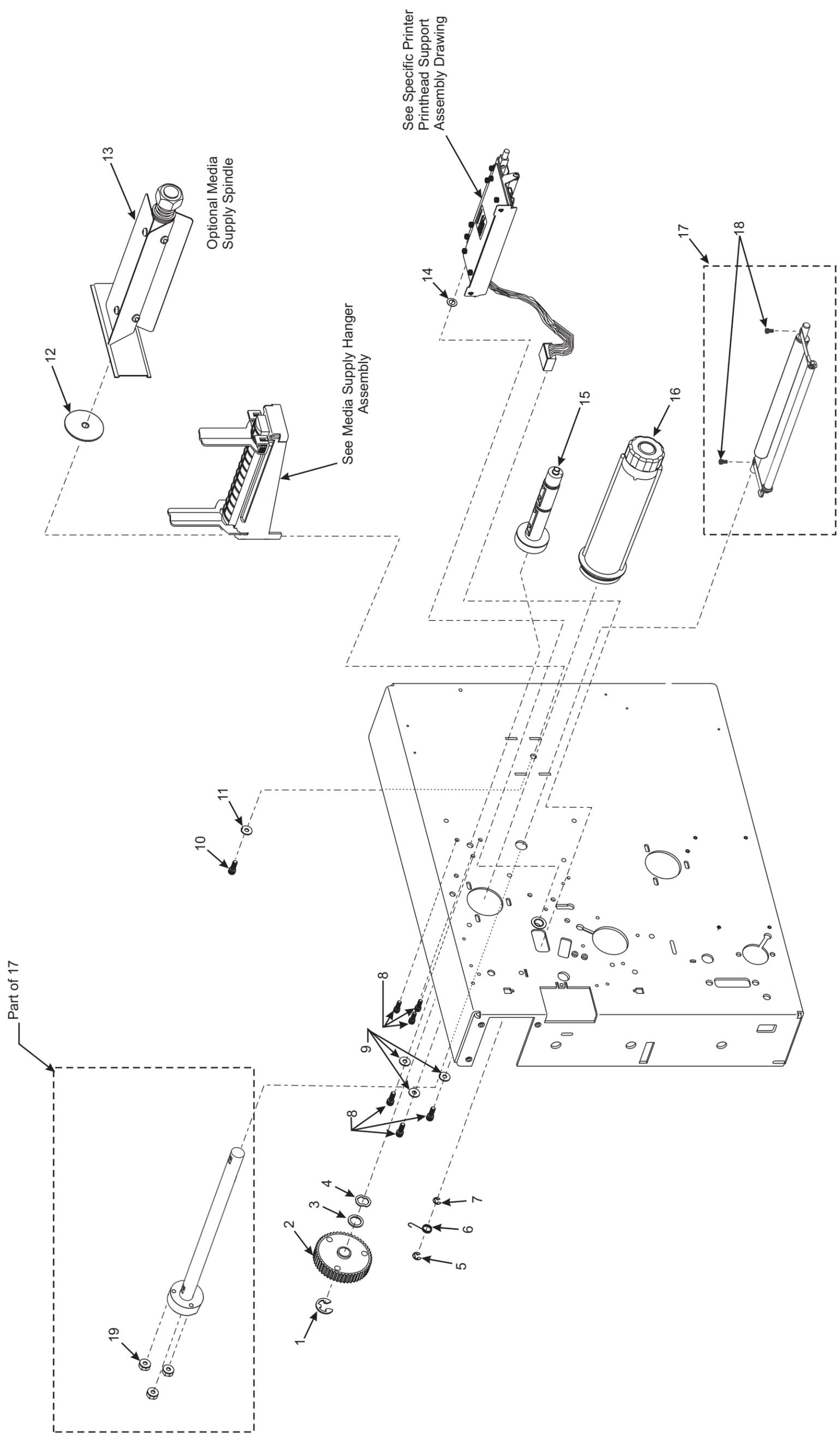


Figure 5-6. Print Mechanism for 90/96/140/170X/III/X/IIIPlus and R140 (View 2)

Table 5-7. Print Mechanism X'III (View 3)

Item	Part Number	Description	Qty
1	47004M	Main Logic Board Maintenance Kit	1
2	30391-003*	Screw, 4-40 x 0.19	4
3	49036-1	Option Board Cover	1
4	49605-009	Power Switch Cable	1
5	49669	Power Switch	1
6	30406-006	Screw, 4-40 x 0.375	2
7	49673	Power Entry w/Fuse and Ground Wire	1
8	49699-01	Cable (Brown)	1
9	49699-06	Cable (Blue)	1
10	46392-006	Truss Head Phillips Screw, 6-32 x 0.37	7
11	01159**	Lock Washer, #6	1
12	01130	Hex Washer Head Nut, 6-32	3
13	22416†	Hex Standoff, 4-40	2
14	01155††	Lock Washer, #6	2
15	07696	Screw, 4-40 x 0.31	2
16	30236	Screw, 4-40 x 0.25	1
17	49013	Memory Card Cover, (PCMCIA)	1
18	46148	Rear Panel	1
19	47020M	Counter Board Maintenance Kit	1
20	49313	Top Spacer (AC Power Supply)	2
21	01822	Nut, 4-40	5
22	49780M	AC Power Supply Maintenance Kit	1

Table 5-7. Print Mechanism X'III (View 3)

Item	Part Number	Description	Qty
23	49285	Insulation Pad (AC Power Supply)	1
24	30253	Options Cover Plate	1
25	30023	Cutter Cover Plate	1
26	30405-006	Screw, 1/4-20 x 0.38	1
27	30466‡	Washer, 0.26 x 0.63 x 0.06	1
28	30393-006‡‡	Screw, 8-32 x 0.37	5
28	30393-010	Screw, 8-32 x 0.62 (220X'III)	3
29	30407-004	Screw, 6-32 x 0.25	2
30	49990	DC Power Supply Maintenance Kit (90/96/140/170X'III)	1
30	49790M	DC Power Supply Maintenance Kit (220X'III)	1
31	46015§	Bumper	4
32	08754§§	Eye, 0.183 x 0.157 x 0.187	4
33	07435¶	Hex Lock Screw, 6-32 x 0.37	4
34	49286	Insulation Pad (DC Power Supply)	1

*Only available as HW30391-003 in quantities of 25

**Only available as HW01159 in quantities of 100

†Only available as HW22416 in quantities of 25

††Only available as HW01155 in quantities of 100

‡Only available as HW30466 in quantities of 25

‡‡Only available as HW30393-006 in quantities of 25

§Only available as HW46015 in quantities of 25

§§Only available as HW08754 in quantities of 100

¶Only available as HW07435 in quantities of 100

Bold=Part available for purchase*Light italic = Part not available for purchase, listed and shown for reference only*

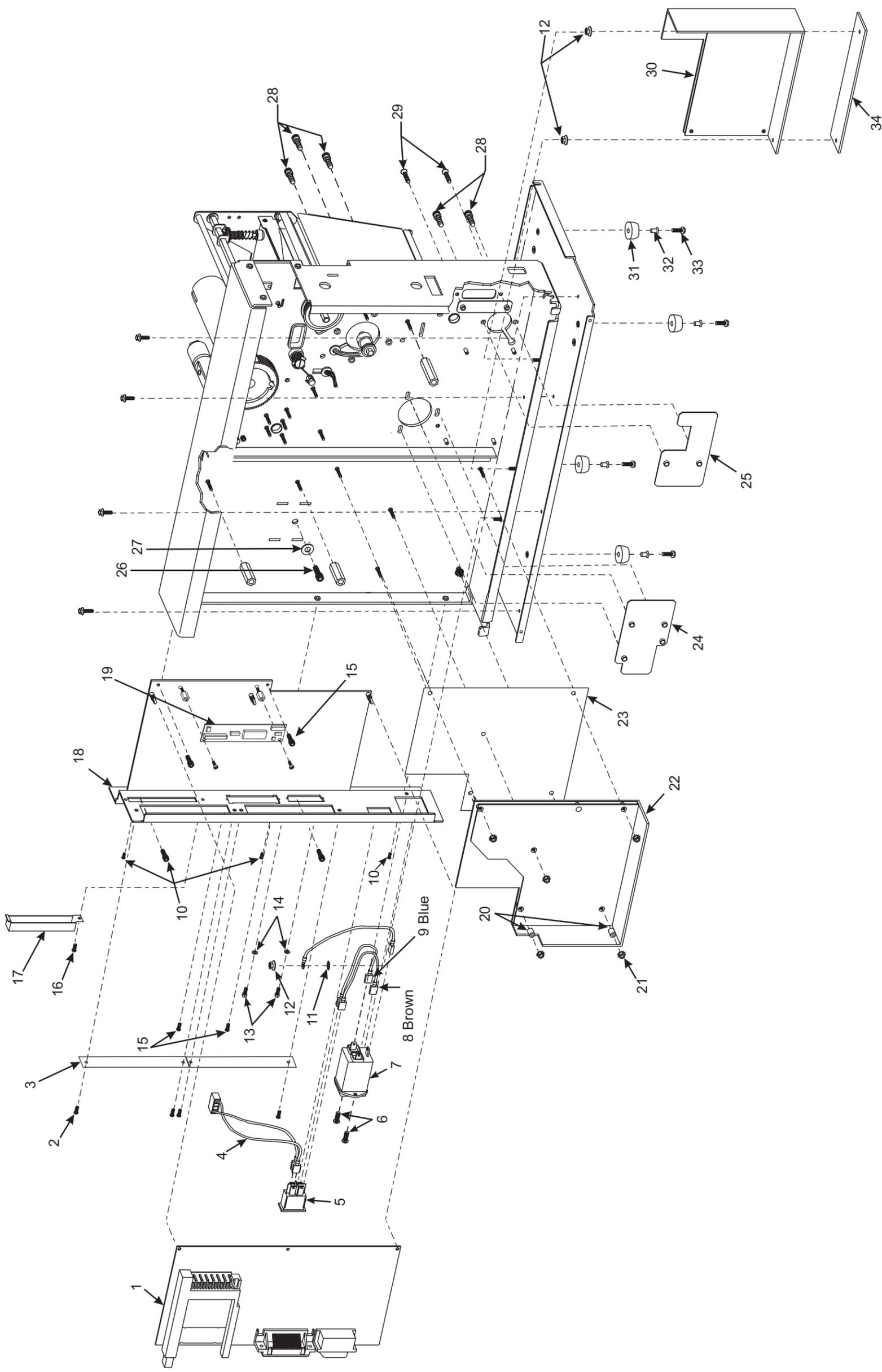


Figure 5-7. Print Mechanism X1111 Printers (View 3)



Table 5-8. Print Mechanism XiiiIPlus (View 3)

Item	Part Number	Description	Qty
1	38000M	Main Logic Board Maintenance Kit	1
2	30391-003*	Screw, 4-40 x 0.19	4
3	49036-1	Option Board Cover	1
4	33127-012	Power Switch Cable	1
5	33123	Power Switch	1
6	30406-006	Screw, 4-40 x 0.375	2
7	49673	Power Entry w/Fuse and Ground Wire	1
8	33147-01	Cable (Brown)	1
9	33147-06	Cable (Blue)	1
10	46392-006	Truss Head Phillips Screw 6-32 x 0.37	7
11	01159**	Hex Washer Head Lock Washer #6	1
12	01130	Nut, 6-32	3
13	22416†	Hex Standoff, 4-40	2
14	01155††	Lock Washer, #6	2
15	07696	Screw, 4-40 x 0.31	2
16	33112	Memory Card Cover (PCMCIA)	1
17	33104	Rear Panel	1
18	06319†††	Screw, 10-32 x 0.37 Hex	4
19	49313	Top Spacer (AC Power Supply)	2
20	01822	Nut, 4-40	5
21	49780M	AC Power Supply Maintenance Kit	1
22	49285	Insulation Pad (AC Power Supply)	1
23	30253	Options Cover Plate	1

Table 5-8. Print Mechanism XiiiIPlus (View 3)

Item	Part Number	Description	Qty
24	46254	Cutter Cover Plate	1
25	33325-1	Spacer 4-40 x 1.37	1
26	30405-006	Screw, 1/4-20 x 0.38	1
27	30466‡	Washer, 0.26 x 0.63 x 0.06	1
28	46325-5	Spacer, 6-32 x 1.56 x 0.357	1
29	30393-006‡‡	Screw, 8-32 x 0.37	5
30	30393-010	Screw, 8-32 x 0.62 (220XiIlliPlus)	3
30	30407-004	Screw, 6-32 x 0.25	2
31	46015§	Bumper	4
32	07435¶	Hex Lock Screw, 6-32 x 0.37	4
33	49990M	DC Power Supply Maintenance Kit (90/96/140/170XiIlliPlus)	1
33	49790M	DC Power Supply Maintenance Kit (220XiIlliPlus)	1
34	49286	Insulation Pad (DC Power Supply)	1
35	30236	Screw, 4-40 x 0.25	2
36	46646	Spacer	2
37	33037	PCMCIA Board	1

*Only available as HW30391-003 in quantities of 25

**Only available as HW01159 in quantities of 100

†Only available as HW22416 in quantities of 25

††Only available as HW01155 in quantities of 100

†††Only available as HW06319 in quantities of 25

‡Only available as HW30466 in quantities of 25

‡‡Only available as HW30393-006 in quantities of 25

§Only available as HW46015 in quantities of 25

§§Only available as HW08754 in quantities of 100

¶Only available as HW07435 in quantities of 100

Bold=Part available for purchase*Light italic = Part not available for purchase, listed and shown for reference only*

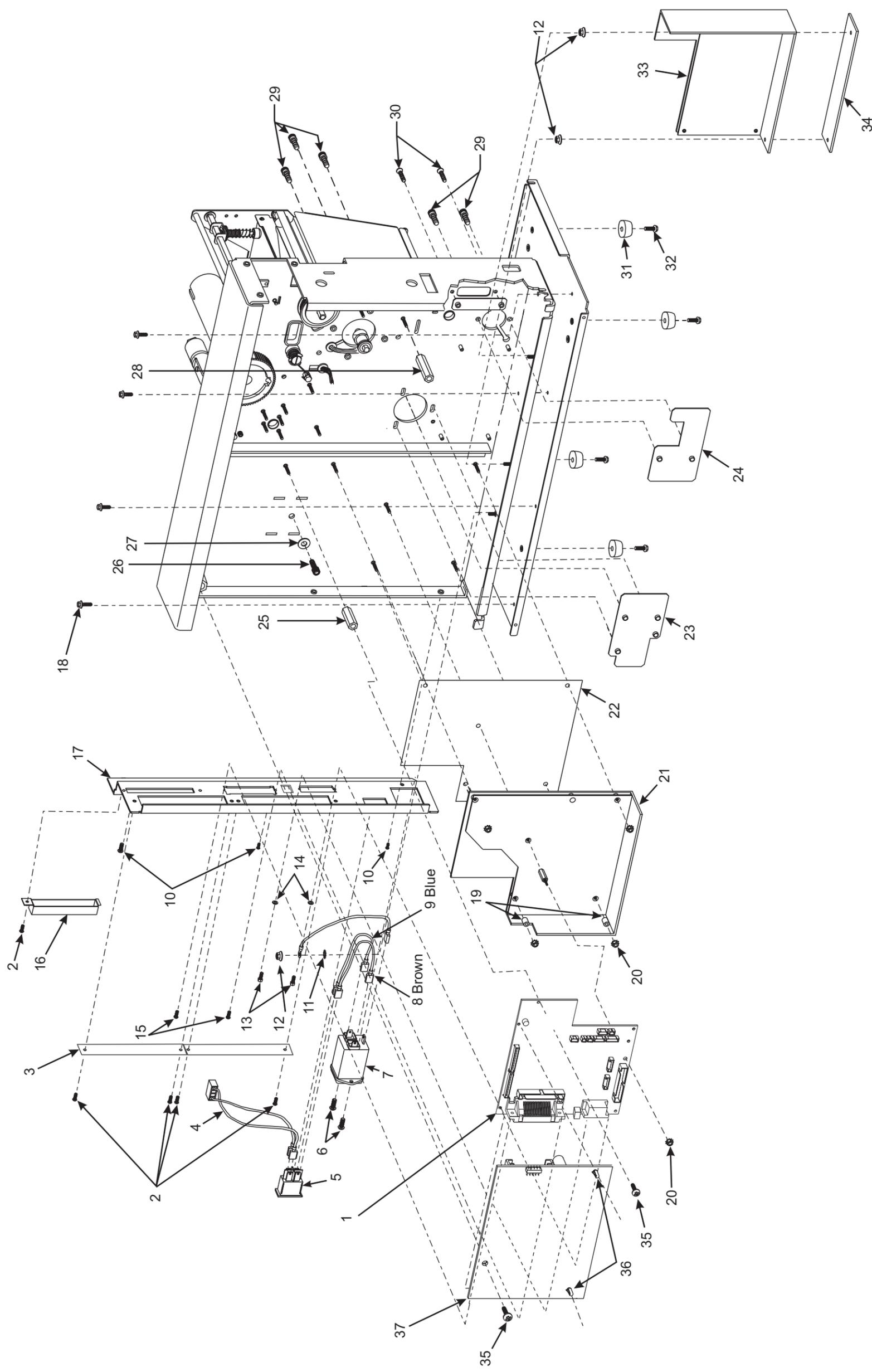


Figure 5-8. Print Mechanism X111Plus (View 3)



Table 5-9. Print Mechanism 220XIII (View 1)

Item	Part Number	Description	Qty
1	46091	Grommet (for 1.25 x 0.625 cutout)	2
2	30392-004*	Screw, 6-32 x 0.25	13
3	REF	Tri Mount Shoulder	1
4	46352M	Maintenance Kit Flag	1
5	01130	Hex-Head Washer Nut, 6-32	1
6	30353M	Head Open Switch Assembly, Maintenance	1
7	46896	Bushing	2
8	46128**	Flat Washer, Nylon, 0.505 x 0.192 x 0.015	2
9	48023†	Bearing, 0.313 x 0.190 x 0.375	2
10	30009-10	Roller 0.37 x 0.312	1
11	30007-9	Roller Shaft	1
12	30392-008††	Screw, 6-32 x 0.50	2
13	30392-006‡	Screw, 6-32 x 0.25	2
14	06268‡‡	Lock Washer, #6	3
15	40462	Take-Label Sensor Cover	2
16	22266	Spring Stop	1
17	44001§	Self-Tap Screw, 3.5 x 11 mm with 5 mm Hex Head	11
18	40355M	Platen Pulley Assembly, Maintenance	1
19	22004-2	Spacer	1
20	38226M	Reflective Media Sensor Maintenance Kit	1
21	40462	Expansion Nut, 8/10	1
22	30256-B§§	Thumb Nut, Brass, 6-32 x 0.50	2
23	22305M	Media Guide Maintenance Kit	1
24	30033	Adjustable Media Guide	1
25	22304M	Damper Cover Maintenance Kit	1
26	30402-006¶	Screw, 6-32 x 0.37	1
27	46267	Hole Plug, 0.5 Diameter x 0.125 Thick	3
28	46224	Rubber Grommet, 0.312 x 0.34 x 0.109	2
29	31493M	DC Stepper Motor Maintenance Kit	1
30	30393-006¶¶	Screw, 8-32 x 0.37	1
31	22808	Peel/Tear-Off Bar	1
32	49688	Flange Ball Bearing, 0.5 x 0.250 x 0.125	2
33	30105«	Nylon Bearing, 0.312 x 0.251 x 0.078	1
34	46105««	Nylon Bearing, 0.312 x 0.251 x 0.140	1
35	30247«	Flat Washer, 0.42 x 0.260 x 0.0747	1
36	02252	Crescent Ring, 0.250	1

Table 5-9. Print Mechanism 220XIII (View 1)

Item	Part Number	Description	Qty
37	22101M	Platen Roller Maintenance Kit, 0.780 x 8.73	1
38	30599M	Toggle Assembly, Maintenance	2
39	22222M	Bar Pivot Maintenance Kit	1
40	Q10019	E-ring, Ext 0.250	1
41	48043-4	Upper Media Guide Plate (Snap Plate)	1
42	22302M	Media Sensor Maintenance Kit	1
43	48411»	Thumb Screw	2
44	22391M	Dancer Arm Assembly, w/Springs	1
45	33189	Washer	1
46	07229»»	Curved Washer, 0.49 x 0.33 x 0.0075	1
47	30423-003«	Set Screw 8-32 x 0.187	1
48	30909	Handle	1
49	40248	Wear Shaft Plate	1
50	40154	Eccentric Pin	1
51	30956	Flat Washer, 0.207 x 0.146 x 0.030	2
52	30826	Hole Plug	2
53	30236	Screw, 40/40	1
54	30494	Washer, 0.32 x 0.119 x 0.062	1
55	40031	Sensor Wire Cover	1
56	46663	Upper Media Sensor Assembly	1
57	22302M	Media Sensors Maintenance Kit	1
58	46664	Lower Media Sensor Assembly	1
59	44931	E-ring, 0.218	2
60	44288	Washer, 0.50 x 0.25 x 0.031	4
61	22249	Pivot Pin	2

*Only available as HW30392-004 in quantities of 50

**Only available as HW46128 in quantities of 25

†Only available as HW48023 in quantities of 25

††Only available as HW30392-008 in quantities of 25

‡Only available as HW30392-006 in quantities of 25

‡‡Only available as HW06268 in quantities of 25

§Only available as HW44001 in quantities of 25

§§Only available as HW30256-B in quantities of 25

¶Only available as HW30402-006 in quantities of 25

¶¶Only available as HW30393-006 in quantities of 25

«Only available as HW30105 in quantities of 25

««Only available as HW46105 in quantities of 25

«««Only available as HW48411 in quantities of 10

»Only available as HW07229 in quantities of 50

»»Only available as HW30247 in quantities of 25

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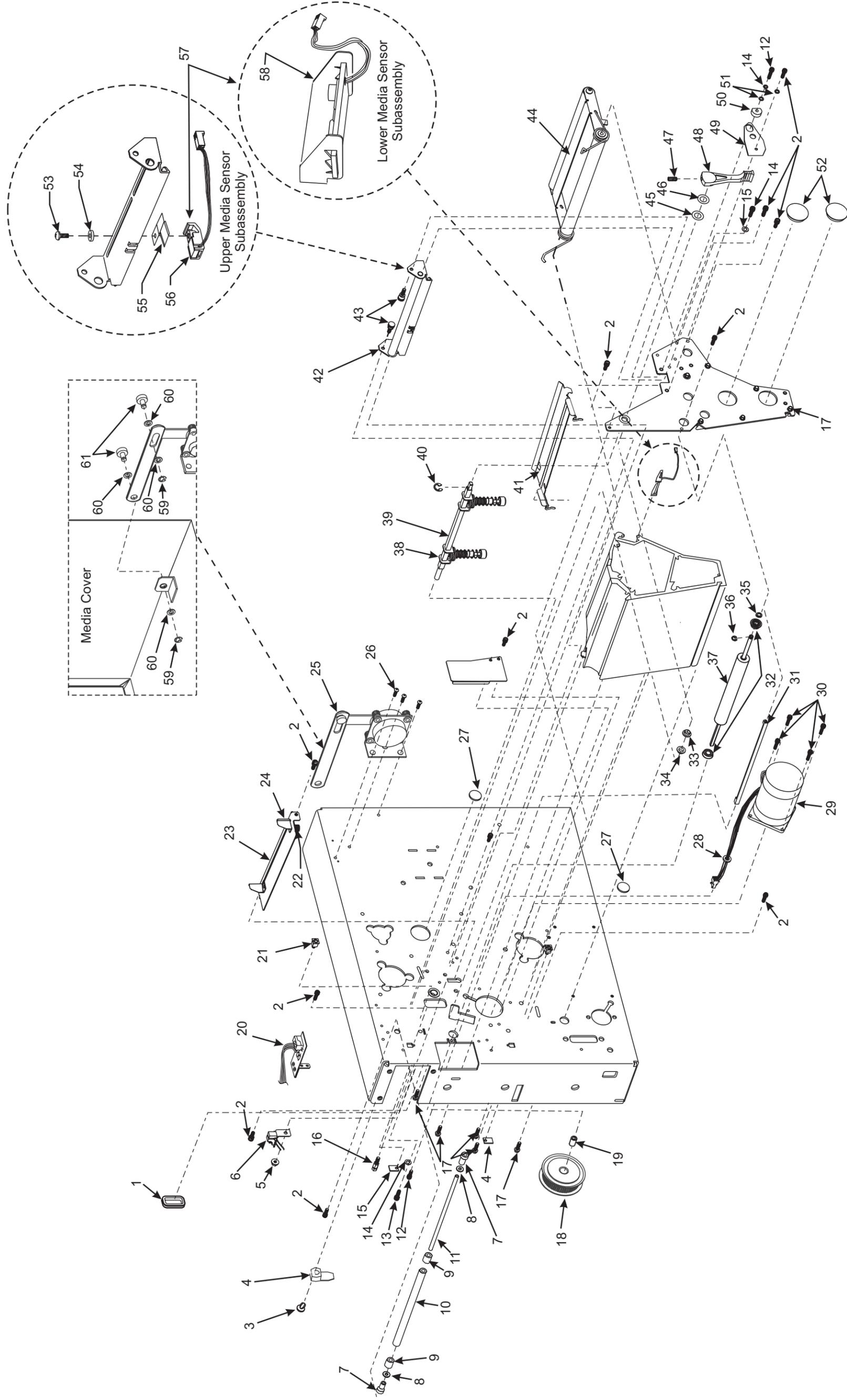


Figure 5-9. Print Mechanism 220XIII (View 1)

Table 5-10. Print Mechanism 220Xiii/XiiiPlus View 2

Item	Part Number	Description	Qty
1	30118*	E-ring 0.500 x 0.042	1
2	31336M	RTU/MTU Pulley Maintenance Kit	1
3	30114**	Flat Washer 0.76 x 0.51 x 0.03	1
4	30115†	Wave Washer 0.740 x 0.520 x 0.080	1
5	06250††	E-ring 0.312 Yel	1
6	40027‡	Torsion Spring	1
7	30106‡‡	Crescent Ring, External 0.312	1
8	30265	Idler Pulley	1
9	22207	Idler Pulley Shaft	1
10	30393-006§	Screw, 8-32 x 0.37	5
11	40193§§	Flat Washer 0.406 x 0.172 x 0.048	4
12	30405-006	Srew, 1/4-20 x 0.38	1
13	30466¶	Washer, 0.26 x 0.63 x 0.06	1
14	30392-004¶¶	Screw, 6-32 x 0.25	1
15	22334	Media Supply Support	1
16	22253M	Media Supply Spindle Maintenance Kit	1
17	30239«	Crescent Washer 0.415 x 0.323 x 0.062	1
18	22151M	Ribbon Supply Spindle Maintenance Kit	1
19	22250	Enhanced Ribbon Take-up Kit	1
20	22213-7M	Compliant Roller Maintenance Kit	1
21	30392-014	Screw, 6-32 x 0.87	3

*Only available as HW30118 in quantities of 25

**Only available as HW30114 in quantities of 25

†Only available as HW30115 in quantities of 25

††Only available as HW06250 in quantities of 25

‡Only available as HW40027 in quantities of 25

‡‡Only available as HW30106 in quantities of 25

§Only available as HW30393-006 in quantities of 25

§§Only available as HW40193 in quantities of 25

¶Only available as HW30466 in quantities of 25

¶¶Only available as HW30392-004 in quantities of 50

«Only available as HW30239 in quantities of 25

Bold=Part available for purchase*Light italic = Part not available for purchase, listed and shown for reference only*

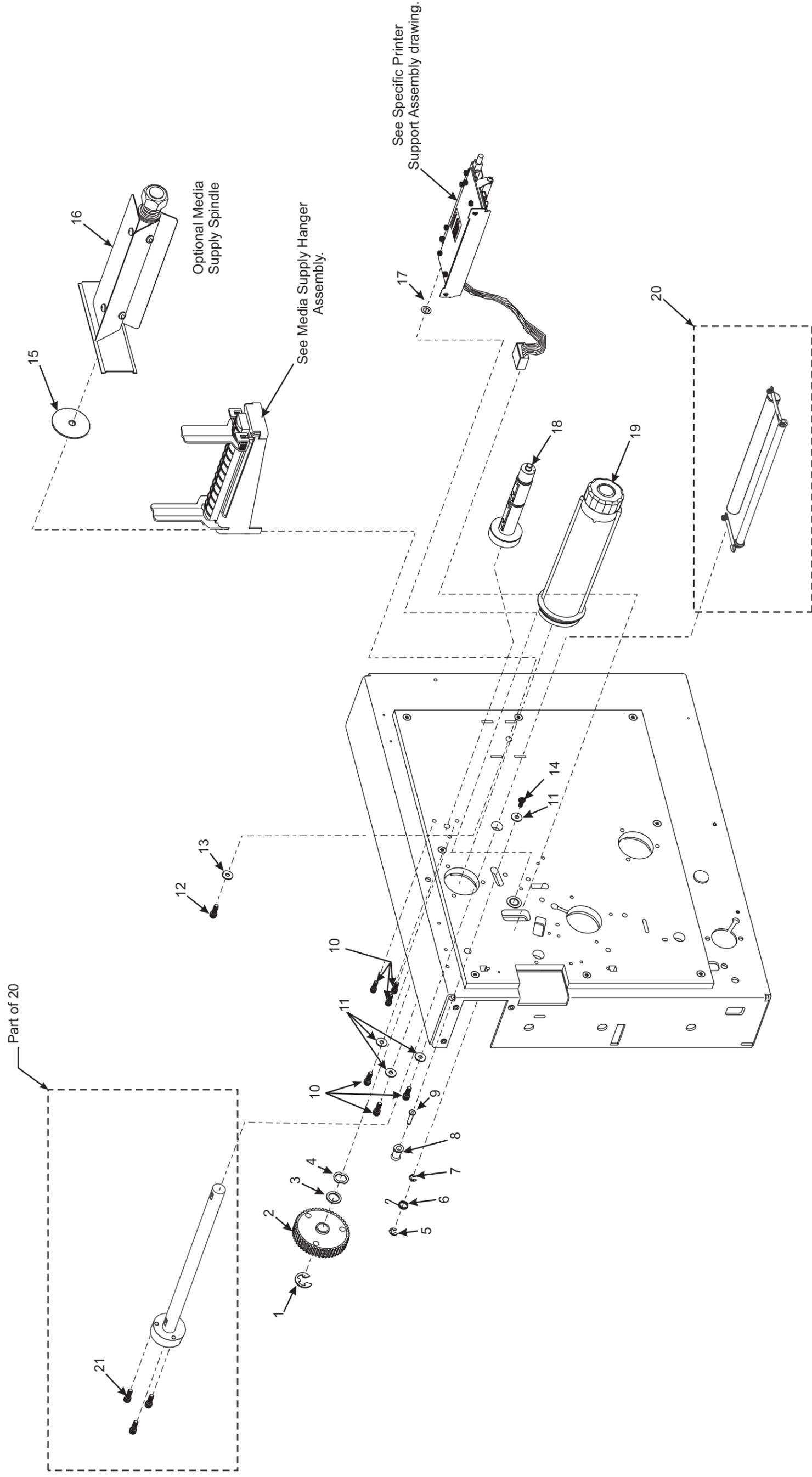


Figure 5-10. Print Mechanism 220X/III/IIIPlus View 2

Table 5-11. Printhead Support Assembly 90/96/140/170X/III/X/IIIPlus and R-140

Item	Part Number	Description	Qty
1	47181	Pressure Pad (90/96X/III/X/IIIPlus)	1
1	48181	Pressure Pad (140X/III/X/IIIPlus and R-140)	1
1	46181	Pressure Pad (170X/III/X/IIIPlus)	1
2	30392-004*	Screw, 6-32 x 0.25	10
3	30781	Printhead Ground Cable	1
4	01159**	Flat Washer, 0.250 x 0.125 x 0.028	4
5	48182†	Snap Rivet, 0.138 x 0.08 Plastic	2
6	30314R	Adhesive	1
6	30007-5	Roller Shaft, 0.187 x 4.105 (90/96X/III/X/IIIPlus)	1
6	30007-4	Roller Shaft, 0.187 x 5.875 (140X/III/X/IIIPlus and R-140)	1
7	30007-7	Roller Shaft (170X/III/X/IIIPlus)	1
8	46882-003	Screw, 4-40 x 3/16	2
8	47017	Ribbon Strip Plate (90/96X/III/X/IIIPlus)	1
8	48017	Ribbon Strip Plate (140X/III/X/IIIPlus and R-140)	1
9	46017	Ribbon Strip Plate (170X/III/X/IIIPlus)	1
9	48099-2	Roller, 0.332 x 0.212 x 4.050 (90/96X/III/X/IIIPlus)	1
9	48099-5	Roller, 0.332 x 0.212 x 5.820 (140X/III/X/IIIPlus and R-140)	1
10	48099-7	Roller, 0.332 x 0.212 x 7.796 (170X/III/X/IIIPlus)	1
11	22016	Captive Fastener M3 Press-In	1
11	47212	Pressure Plate (90/96X/III/X/IIIPlus)	1
11	48215	Pressure Plate (140X/III/X/IIIPlus and R-140)	1
12	46170	Pressure Plate (170X/III/X/IIIPlus)	1
12	47099	Static Brush (90/96X/III/X/IIIPlus)	1
12	31899	Static Brush (140X/III/X/IIIPlus and R-140)	1
13	46173	Static Brush (170X/III/X/IIIPlus)	1
13	47102	Head Mounting Bracket (90X/III/X/IIIPlus)	1
13	47105	Head Mounting Bracket (96X/III/X/IIIPlus)	1
13	48003	Head Mounting Bracket (140X/III/X/IIIPlus)	1
14	46169	Head Mounting Bracket (170X/III/X/IIIPlus)	1
15	06268††	Washer, #6 Lock	4
15	30013	Washer Plate (90/96X/III/X/IIIPlus)	1
15	40013	Washer Plate (140X/III/X/IIIPlus and R-140)	1
16	46013	Washer Plate (170X/III/X/IIIPlus)	1
17	30402-006‡	Screw, 6-32 x 0.37	1

Table 5-11. Printhead Support Assembly 90/96/140/170X/III/X/IIIPlus and R-140

Item	Part Number	Description	Qty
18	30494	Washer, 0.320 x 0.119 x 0.062	1
19	Q06020	Cable-Tie, 0.09 W x 3.62 L	1
20	01153‡‡	Flat Washer, 0.250 x 0.125 x 0.028	1
21	30391-003§	Screw, 4-40 x 0.19	1
21	47641	Printhead Data Cable (90/96X/III)	1
21	46803M	Printhead Data Cable Kit (96X/III)	1
21	33027	Printhead Data Cable Kit (90X/IIIPlus)	1
21	46682	Printhead Data Cable (140/170X/III/and R-140)	1
22	33028	Printhead Data Cable (96/140/170X/IIIPlus)	1
22	47000M	Printhead Maintenance Kit (90X/III/X/IIIPlus)	1
22	47500M	Printhead Maintenance Kit (96X/III/X/IIIPlus)	1
22	48000M	Printhead Maintenance Kit (140X/III/X/IIIPlus and R-140)	1
23	46500M	Printhead Maintenance Kit (170X/III/X/IIIPlus)	1
23	47640	Printhead Power Cable (90/96X/III/X/IIIPlus)	1
23	49640-021	Printhead Power Cable (140X/III/X/IIIPlus and R-140)	1
24	49640-023	Printhead Power Cable (170X/III/X/IIIPlus)	1
25	46665M	Ribbon Sensor Maintenance Kit	1
25	47014	Guard Plate (90/96X/III/X/IIIPlus)	1
25	48014	Guard Plate (140X/III/X/IIIPlus and R-140)	1
26	46174	Guard Plate (70X/III/X/IIIPlus)	1
26	47162	Head Pivot Bar (90/96X/III/X/IIIPlus)	1
26	48162	Head Pivot Bar (140X/III/X/IIIPlus and R-140)	1
27	46002-1	Head Pivot Bar (170X/III/X/IIIPlus)	1
28	40193§§	Flat Washer 0.406 x 0.172 x 0.048	2
29	40194¶	Curved Washer, 0.344 x 0.172 x 0.006	2
30	46481-1¶¶	Adjustment Screw M3.5	2

*Only available as HW30392-004 in quantities of 50

**Only available as HW01159 in quantities of 100

†Only available as HW48182 in quantities of 10

††Only available as HW06268 in quantities of 25

‡Only available as HW30402-006 in quantities of 25

‡‡Only available as HW01153 in quantities of 100

§Only available as HW30391-003 in quantities of 25

§§Only available as HW40193 in quantities of 25

¶Only available as HW40194 in quantities of 25

¶¶Only available as HW46481-1 in quantities of 5

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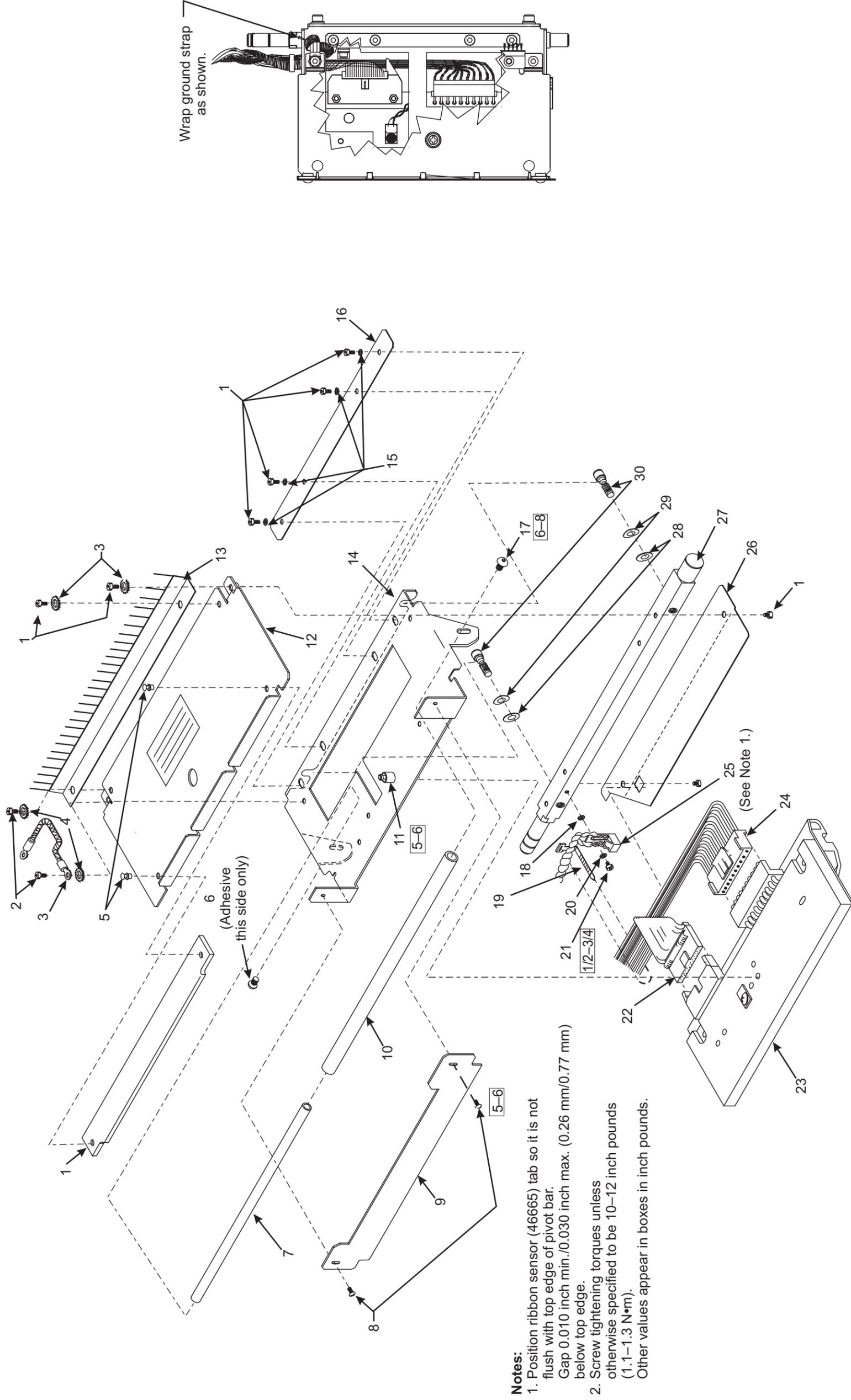


Figure 5-11. Printhead Support Assembly 90/96X/III, 140X/III, and 170X/III

Table 5-12. Printhead Support Assembly 220XiIII/XiIIIPlus

Item	Part Number	Description	Qty
1	22181	Pressure Pad	1
2	30392-004*	Screw, 6-32 x 0.25	10
3	30781	Printhead Ground Cable	1
4	01159**	Flat Washer 0.250 x 0.125 x 0.028	4
5	48182†	Rivet Snap 0.138 x 0.08 Plastic	2
6	30314R	Adhesive	1
7	30007-8	Roller Shaft	1
8	46882-003	Screw, 4-40 x 0.19	2
9	22017	Ribbon Strip Plate	1
10	30009-9	Roller	1
11	22016	Printhead Mounting Screw	1
12	22180	Pressure Plate	1
13	22191	Static Brush	1
14	22003	Head Mounting Bracket	1
15	06268††	Lock Washer, #6	7
16	22013	Washer Plate	1
17	30402-006‡	Screw, 6-32 x 0.37	1
18	30494	Washer, 0.320 x 0.119 x 0.062	1
19	Q06020	Cable-Tie 0.09 W x 3.63 L	1
20	01153‡‡	Washer, Flat 0.250 x 0.125 x 0.028	1
21	30391-003§	Screw, 4-40 x 0.19	1
22	22640-020	Printhead Data Cable	1
23	22602	Printhead Data Cable	1
24	22000M	Maintenance Kit Printhead	1
25	22640-025	Printhead Power Cable	1
26	46665M	Ribbon Sensor Maintenance Kit	1
27	22174	Guard Plate	1
28	22002	Head Pivot Bar	1
29	40193§§	Flat Washer, 0.406 x 0.172 x 0.048	2
30	40194¶	Curved Washer 0.312 x 0.144 x 0.016	2
31	46481-1¶¶	Adjustment Screw 6-32	2

*Only available as HW30392-004 in quantities of 50

**Only available as HW01159 in quantities of 100

†Only available as HW48182 in quantities of 10

††Only available as HW06268 in quantities of 25

‡Only available as HW30402-006 in quantities of 25

‡‡Only available as HW01153 in quantities of 100

§Only available as HW30391-003 in quantities of 25

§§Only available as HW40193 in quantities of 25

¶Only available as HW40194 in quantities of 25

¶¶Only available as HW46481-1 in quantities of 5

Bold=Part available for purchase*Light italic = Part not available for purchase, listed and shown for reference only*

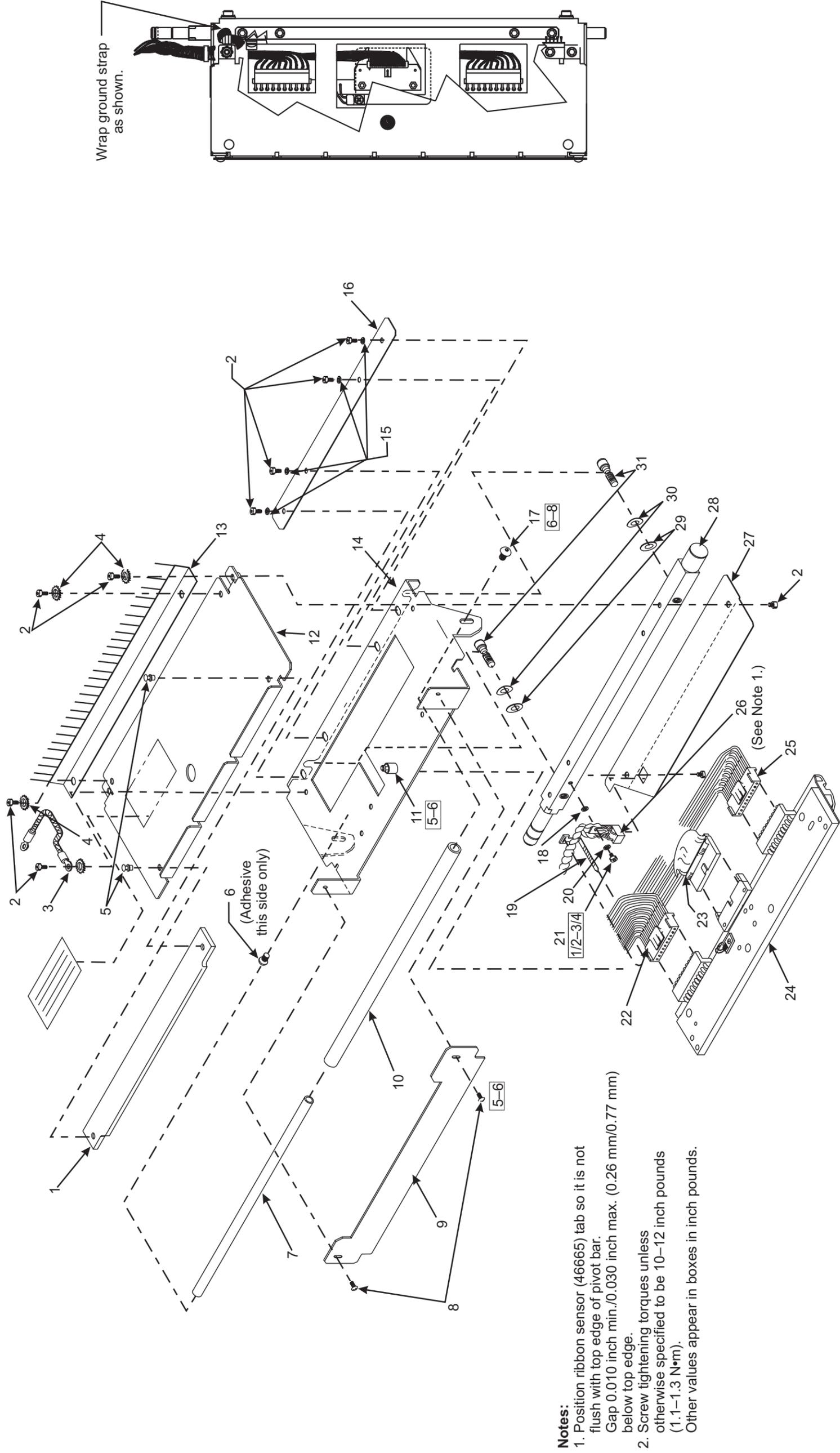


Figure 5-12. Printhead Support Assembly 220XIII/XIIIPlus

Table 5-13. Media Supply Hanger

Item	Part Number	Description	Qty
1	47153M	Media Hanger Maintenance Kit (90/96XíIII/XíIIIPlus)	1
1	48153-4M	Media Hanger (Maintenance Kit (140XíIII/XíIIIPlus and R-140)	1
1	46153M	Media Hanger Maintenance Kit (170XíIII/XíIIIPlus)	1
1	22153M	Media Hanger Maintenance Kit (220XíIII/XíIIIPlus)	1
2	48417	Bearing Block	2
3	22395	Outer Edge Guide	1
4	22152M	Link and Pad Maintenance Kit	1
Bold Part available for purchase			
<i>Light italic</i> = Part not available for purchase, listed and shown for reference only			

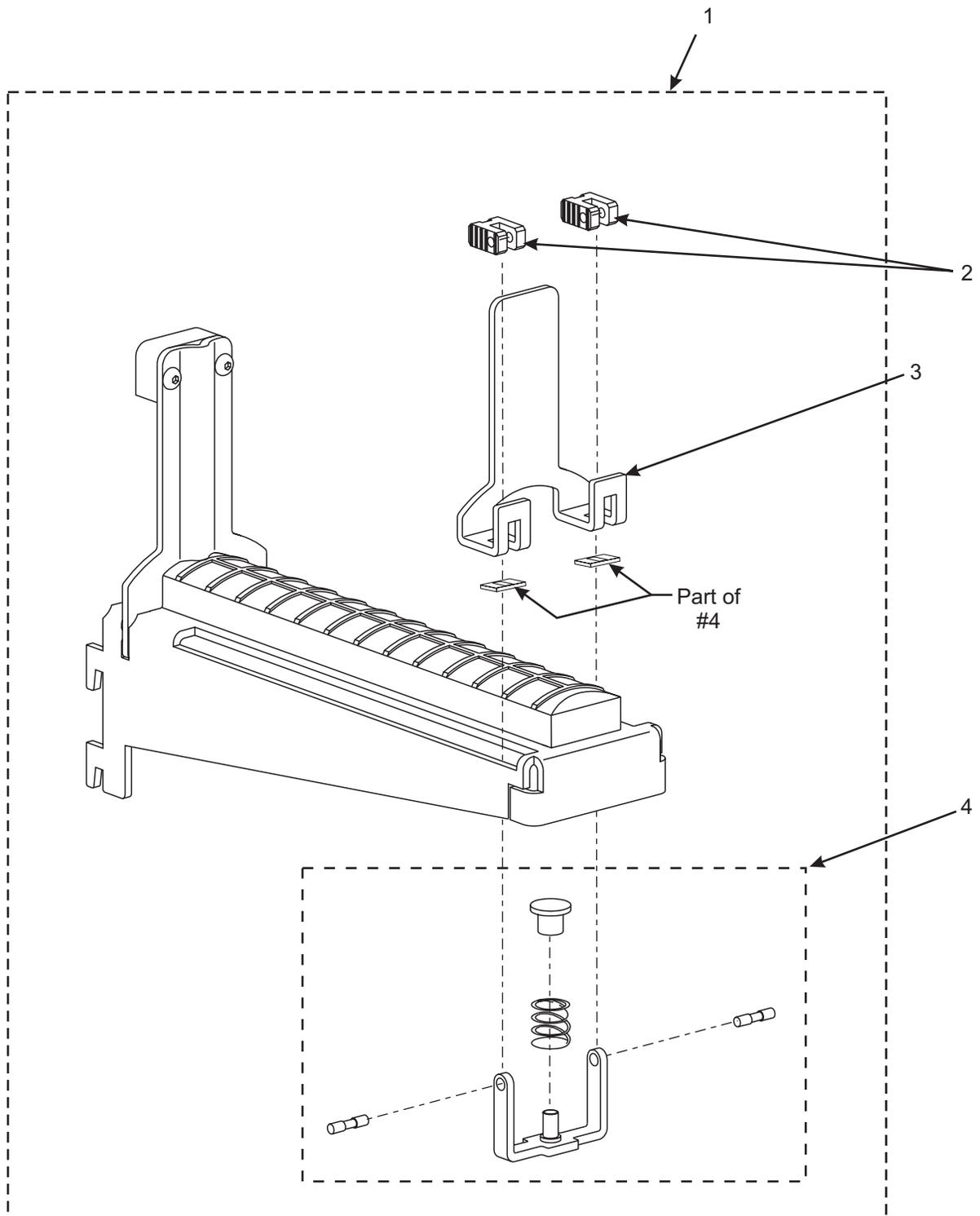


Figure 5-13. Media Supply Hanger

SECTION 5 MAINTENANCE AND ASSEMBLY DRAWINGS

Table 5-14. Optional Media Supply Spindle

NOTE: Optional 40 mm media supply spindle not available for 220XiIII.

Item	Part Number	Description	Qty
1	<i>30140*</i>	Screw, 6–32 × 0.125	6
2	46068	Compression Spring	1
3	46397-625	Locking Nut, 5/8 × 18	1
4	<i>30466**</i>	Washer, 0.26 × 0.63 × 0.06	1
5	<i>30395-012</i>	Screw, 1/4–20 × 0.75	1
6	47253M	Media Supply Spindle 3–inch Spindle Kit Complete (90/96XiIII/XiIIIPlus)	1
6	47044M	40 mm Spindle Complete Kit, (90/96XiIII/XiIIIPlus)	1
6	48253M	Media Supply Spindle 3–inch Spindle Complete Kit (140XiIII/XiIIIPlus and R-140)	1
6	48044M	40 mm Spindle Complete Kit (140XiIII/XiIIIPlus and R-140)	1
6	46253M	Media Supply Spindle 3–inch Spindle Complete Kit (170XiIII/XiIIIPlus)	1
6	46044M	40 mm Spindle Complete Kit (170XiIII/XiIIIPlus)	1
6	22253M	Media Supply Spindle 3–inch Spindle Complete Kit (220XiIII/XiIIIPlus)	1

***Only available as HW30140 in quantities of 25*

***Only available as HW30006 in quantities of 10*

Bold = Part available for purchase

Light italic = Part not available for purchase, listed and shown for reference only

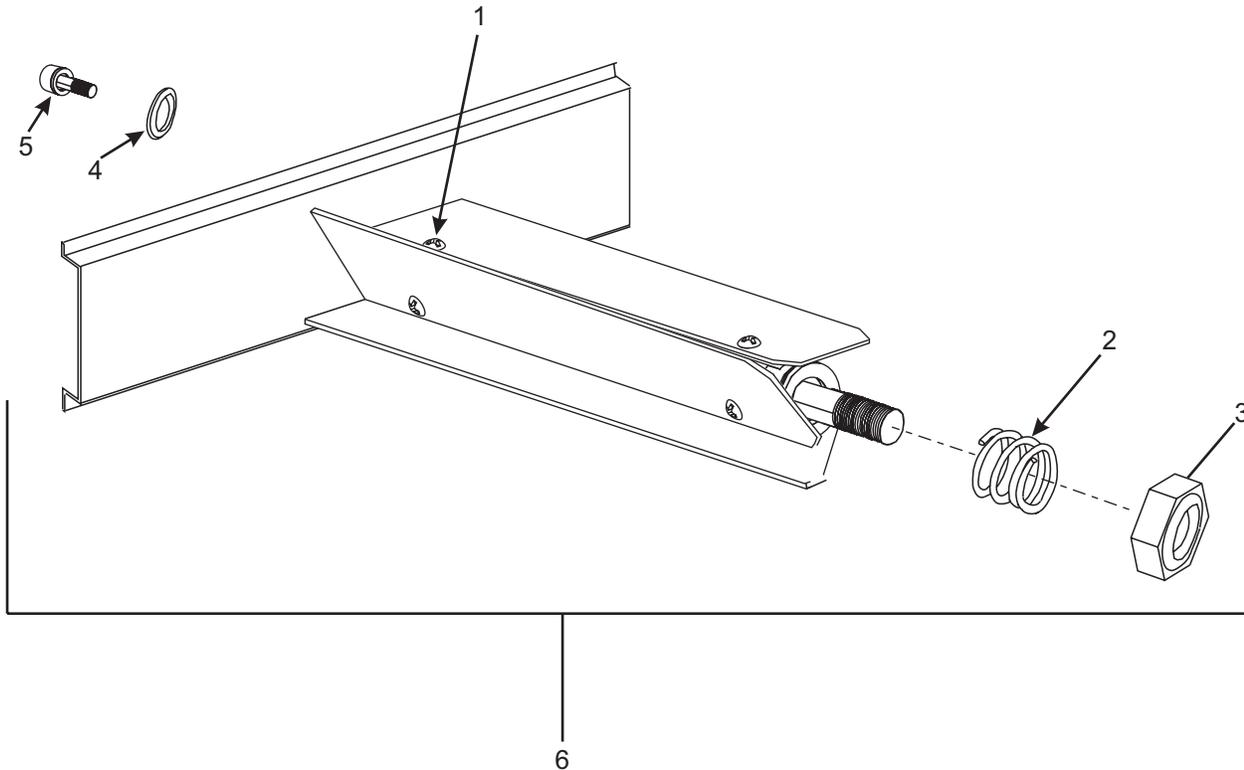


Figure 5-14. Optional Media Supply Spindle

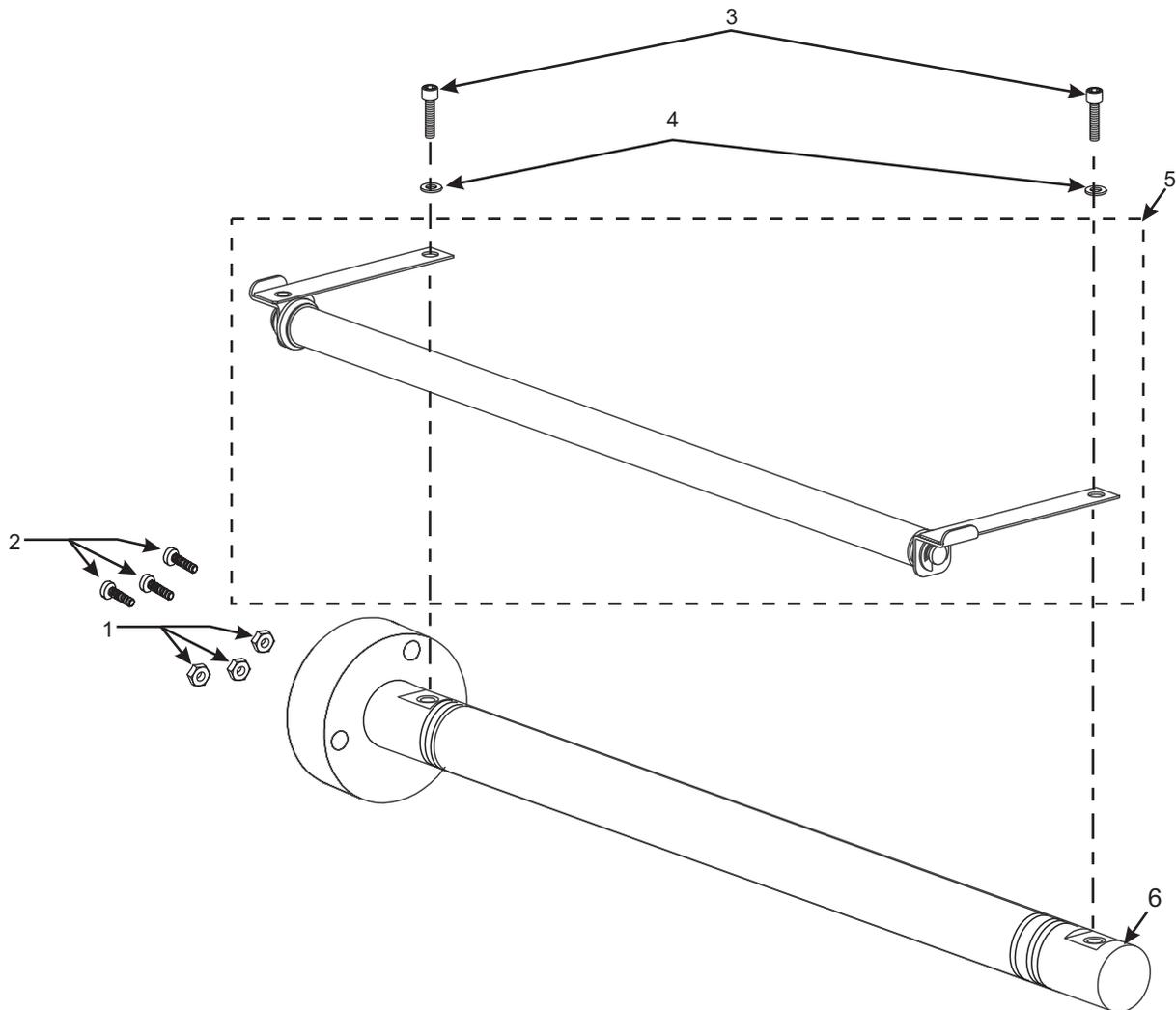
Table 5-15. Compliant Roller Assembly

Item	Part Number	Description	Qty
1	01130	Hex Head Washer Nut, 6-32 (170XiIII/XiIIIPlus)	3
2	30392-014	Screw, 6-32 × 0.87 (220XiIII/XiIIIPlus)	3
3	<i>30392-004*</i>	Screw, 6-32 × 0.25	2
4	46127	Washer, 0.312 × 0.153 × 0.030	2
5	22213-7M	Compliant Roller Assembly Maintenance Kit (220XiIII/XiIIIPlus)	1
5	46813-7M	Compliant Roller Assembly Maintenance Kit (170XiIII/XiIIIPlus)	1
6	<i>46424-1</i>	Shaft, 7.98 (170XiIII/XiIIIPlus)	1
6	<i>30007-11</i>	Roller Shaft, 0.185 (220XiIII/XiIIIPlus)	1

*Only available as HW30392-004 in quantities of 50

Bold=Part available for purchase

Light italic = Part not available for purchase, listed and shown for reference only


Figure 5-15. Compliant Roller Assembly

SECTION 5 MAINTENANCE AND ASSEMBLY DRAWINGS

Table 5-16. Ribbon Take-Up Spindle

Item	Part Number	Description	Qty
1	47250	Enhanced RTU Upgrade Kit (90/96 <i>XiIII</i> / <i>XiIIIPlus</i>)	1
1	48250	Enhanced RTU Upgrade Kit (140 <i>XiIII</i> / <i>XiIIIPlus</i>)	1
1	46350	Enhanced RTU Upgrade Kit (170 <i>XiIII</i> / <i>XiIIIPlus</i>)	1
1	22250	Enhanced RTU Upgrade Kit (220 <i>XiIII</i> / <i>XiIIIPlus</i>)	1
2	47251M	Spindle/Clutch Assembly Kit (90/96 <i>XiIII</i> / <i>XiIIIPlus</i>)	1
2	48251M	Spindle/Clutch Assembly Kit (140 <i>XiIII</i> / <i>XiIIIPlus</i>)	1
2	46351M	Spindle/Clutch Assembly Kit (170 <i>XiIII</i> / <i>XiIIIPlus</i>)	1
2	22251M	Spindle/Clutch Assembly Kit (220 <i>XiIII</i> / <i>XiIIIPlus</i>)	1
3	47276	Compression Spring	1
4	46397-500	Thin Hex Nut Locking	1
5	47251-2M	End Cap/Release Bar Maintenance Kit (90/96 <i>XiIII</i> / <i>XiIIIPlus</i>)	1
5	48251-2M	End Cap/Release Bar Maintenance Kit (140 <i>XiIII</i> / <i>XiIIIPlus</i>)	1
5	46351-2M	End Cap/Release Bar Maintenance Kit (170 <i>XiIII</i> / <i>XiIIIPlus</i>)	1
5	22251-2M	End Cap/Release Bar Maintenance Kit (220 <i>XiIII</i> / <i>XiIIIPlus</i>)	1

Bold=Part available for purchase

Light italic = Part not available for purchase, listed and shown for reference only

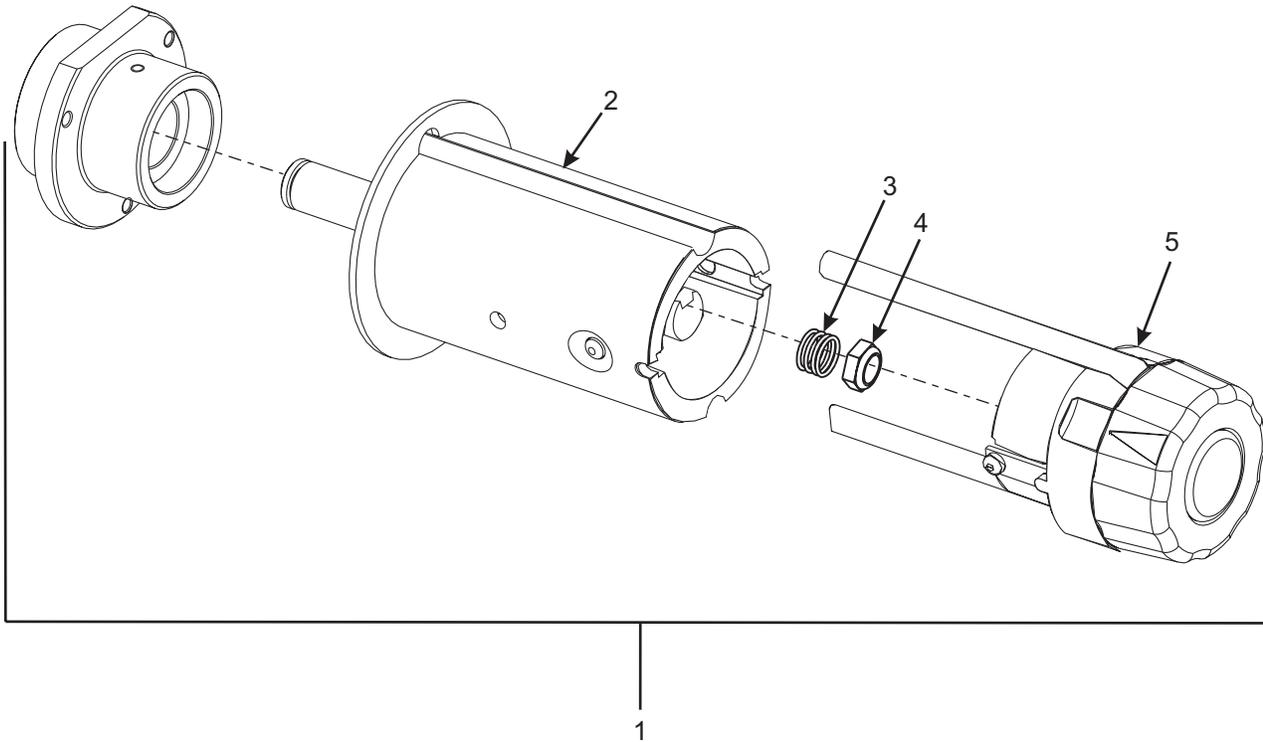


Figure 5-16. Ribbon Take-Up Spindle Assembly



SECTION 5 MAINTENANCE AND ASSEMBLY DRAWINGS

Table 5-17. Communication Options

Item	Part Number	Description	Qty
1	48924	Field Upgrade IBM Twinax Kit	1
2	48752	PCB IBM Twinax Assembly	1
3	30757	Ribbon 40 Option Signal Cable	1
4	30753	Cable IBM Twinax Assembly	1
5	48925	Field Upgrade IBM Coax Kit	1
6	48761	PCB IBM Coax Assembly	1
7	30757	Ribbon 40 Option Signal Cable	1
8	48753	Coax Ext. IBM Cable	1
9	48631	ZebraNet Wireless Card Socket/without ZebraNet PrintServer II	1
9	48632	ZebraNet Wireless Card Socket/with ZebraNet PrintServer II internal	1
9	48633	ZebraNet Wireless Card Socket/with ZebraNet PrintServer II external	1
10	<i>46610</i>	PCB RF Option	1
11	<i>48636</i>	ZebraNet Wireless Setup Disk	1
12	<i>48626</i>	Straight Through Ethernet Cable, 7 feet	1
13	<i>48627</i>	Crossover Ethernet Cable, 7 feet	1
14	49604-016	Power Distribution Cable	1
15	48602	RJ45 1 to 1 10 Base T Cable, 12 inches	1
16	46692	ZebraNet II External Kit Upgrade	1
17	46689	ZebraNet II Internal Kit Upgrade	1
18	46709	Cable Tape ZebraNet II	1
19	47210	Strip Grommet, 2-1/8	1
20	46686	10 Base T Web Internal	1

Bold=Part available for purchase

Light italic=Part not available for purchase, listed and shown for reference only

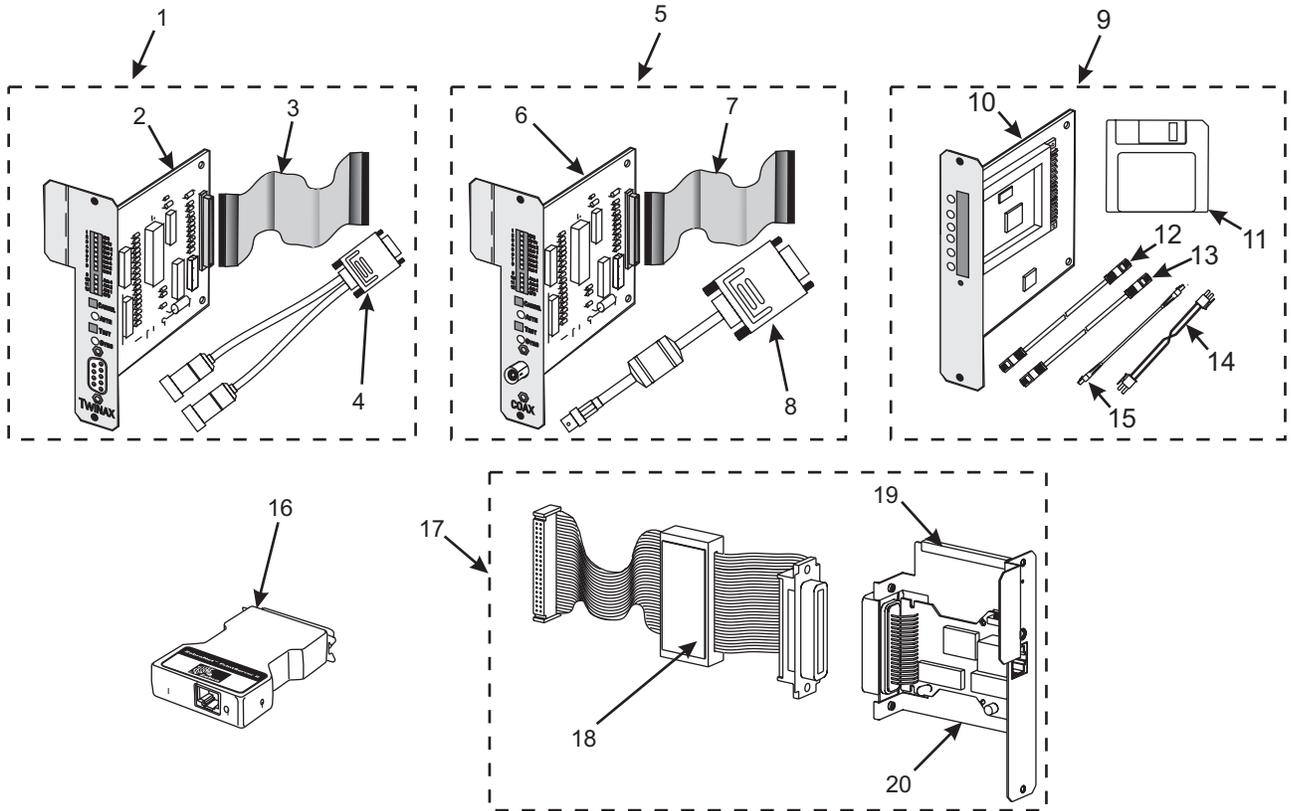


Figure 5-17. Communication Options

SECTION 5 MAINTENANCE AND ASSEMBLY DRAWINGS

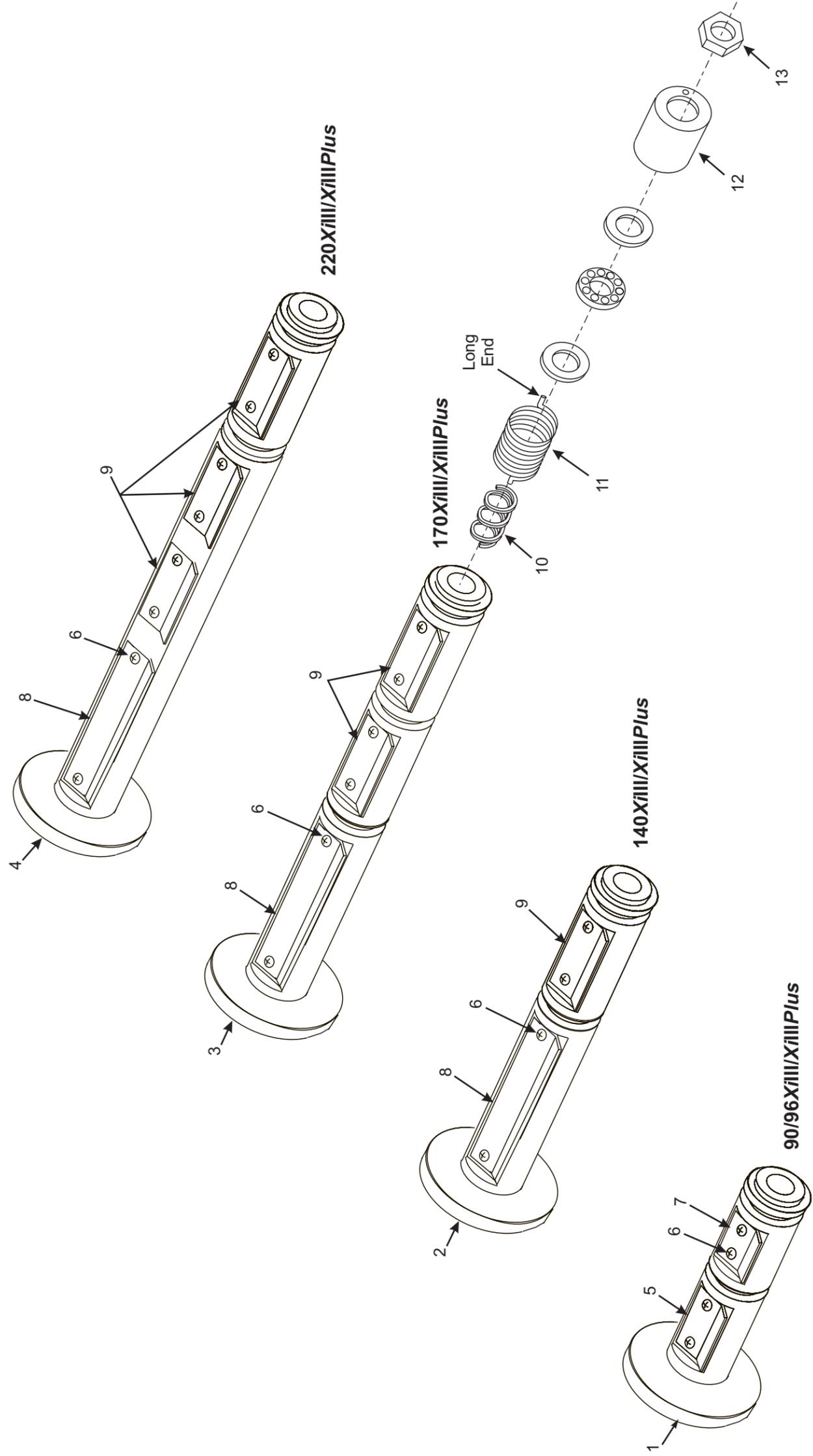
Table 5-18. Ribbon Supply Spindle Assembly

Item	Part Number	Description	Qty
1	47151M	Ribbon Supply Spindle Maintenance Kit (90/96 <i>XiIII/XiIIIPlus</i>)	1
2	48151M	Ribbon Supply Spindle Maintenance Kit (140 <i>XiIII/XiIIIPlus</i>)	1
3	46151M	Ribbon Supply Spindle Maintenance Kit (170 <i>XiIII/XiIIIPlus</i>)	1
4	22151M	Ribbon Supply Spindle Maintenance Kit (220 <i>XiIII/XiIIIPlus</i>)	1
5	30070-2	Inner Ribbon Supply Blade (90/96 <i>XiIII/XiIIIPlus</i>)	1
6	30401-002	Screw, 4–40 × 0.12	8 Max
7	30070-1	Outer Ribbon Supply Blade (90/96 <i>XiIII/XiIIIPlus</i>)	1
8	40070-2	Inner Ribbon Supply Blade (140/170/220 <i>XiIII/XiIIIPlus</i>)	1
9	40070-1	Outer Ribbon Supply Blade (140/170/220 <i>XiIII/XiIIIPlus</i>)	3 Max
10	<i>46211*</i>	Compression Spring, 0.53 × 0.660 × 0.62	1
11	38042	Torsion Spring, 0.739 × 0.805	1
12	47171	Ribbon Spindle Spring Housing	1
13	46397-375	Locking Thin Hex Nut	1

*Only available as HW46211 in quantities of 10

Bold=Part available for purchase

Light italic = Part not available for purchase, listed and shown for reference only



NOTES: 1. All components must be oil free.
 2. O-rings, wear plates, and friction clutches must be handled with care to prevent oil or grease

Figure 5-18. Ribbon Supply Spindle Assembly



Table 5-19. Media Rewind Assembly

Item	Part Number	Description	Qty
1	47383M	Rewind Plate Assembly Maintenance (90/96X/III/X/III/Plus)	1
1	48383M	Rewind Plate Assembly Maintenance (140X/III/X/III/Plus)	1
1	46383M	Rewind Plate Assembly Maintenance (170X/III/X/III/Plus)	1
1	22383M	Rewind Plate Assembly Maintenance (220X/III/X/III/Plus)	1
2	30914M	Lower Platen Pulley Assembly (90/140/170/220X/III/X/III/Plus)	1
2	47915M	Lower Platen Pulley Maintenance Kit (96X/III/X/III/Plus)	1
3	30265	Idler Pulley (90/96, 140, 170X/III/X/III/Plus)	1
3	22265	Idler Pulley (220X/III/X/III/Plus)	1
4	30207	Idler Pulley Shaft (90/96, 140, 170X/III/X/III/Plus)	1
4	22207	Idler Pulley Shaft (220X/III/X/III/Plus)	1
5	45189-5	Rewind Drive Belt, 0.080P 235T (90/140/170/220X/III/X/III/Plus)	1
5	45189-12	Rewind Drive Belt, 0.080P 245T (96X/III/X/III/Plus)	1
6	30118*	E-Ring, External 0.500 x 0.042	1
7	31336M	MTU/RTU Pulley Maintenance Kit (90/140/170/220X/III/X/III/Plus)	1
7	47358M	Pulley MTU Maintenance Kit (96X/III)	1
7	33094-6M	Pulley MTU Maintenance Kit (96X/III/Plus)	1
8	30114**	Flat Washer, 0.76 x 0.51 x 0.03	1
9	30115†	Wave Washer, 0.740 x 0.520 x 0.080	1
10	30393-006††	Screw, 8-32 x 0.31	3
11	07435‡	Screw, 6-32 x 0.37	2
12	40193‡‡	Flat Washer, 0.406 x 0.172 x 0.048	1
13	46609-4M	Take-Label Sensor Maintenance Kit (Includes Lower Sensor)	1

Table 5-19. Media Rewind Assembly

14	47155M	Spindle Media Rewind Maintenance Kit (90/96X/III/X/III/Plus)	1
14	48155M	Spindle Media Rewind Maintenance Kit (140X/III/X/III/Plus)	1
14	46249M	Spindle Media Rewind Maintenance Kit (170X/III/X/III/Plus)	1
14	22155M	Spindle Media Rewind Maintenance Kit (220X/III/X/III/Plus)	1
15	40193‡‡	Flat Washer, 0.406 x 0.172 x 0.048	3
16	30392-004§	Screw, 6-32 x 0.25	2
17	02252	Crescent Ring, 0.25	2
18	40019	Plate, Roller Adjustment	1
19	30247§§	Flat Washer, 0.42 x 0.262 x 0.0740	1
20	30261¶	Flat Washer, 0.442 x 0.255 x 0.020	2
21	47601M	Lower Platen Roller Maintenance Kit, 0.78 x 3.588 (90/96X/III/X/III/Plus)	1
21	40038M	Lower Platen Roller Maintenance Kit, 0.78 x 5.213 (140X/III/X/III/Plus)	1
21	46278M	Lower Platen Roller Maintenance Kit, 0.78 x 6.73 (170X/III/X/III/Plus)	1
21	22101M	Lower Platen Roller Maintenance Kit, 0.78 x 8.73 (220X/III/X/III/Plus)	1
22	49688	Ball Bearing, 0.50 x 0.25 x 0.125	2

*Only available as HW30118 in quantities of 25

‡‡Only available as HW40193 in quantities of 25

**Only available as HW30114 in quantities of 25

§Only available as HW30392-004 in quantities of 50

†Only available as HW30115 in quantities of 25

§§Only available as HW30247 in quantities of 25

††Only available as HW30393-006 in quantities of 25

¶Only available as HW30261 in quantities of 25

‡Only available as HW07435 in quantities of 100

Bold=Part available for purchase*Light italic=Part not available for purchase, listed and shown for reference only*

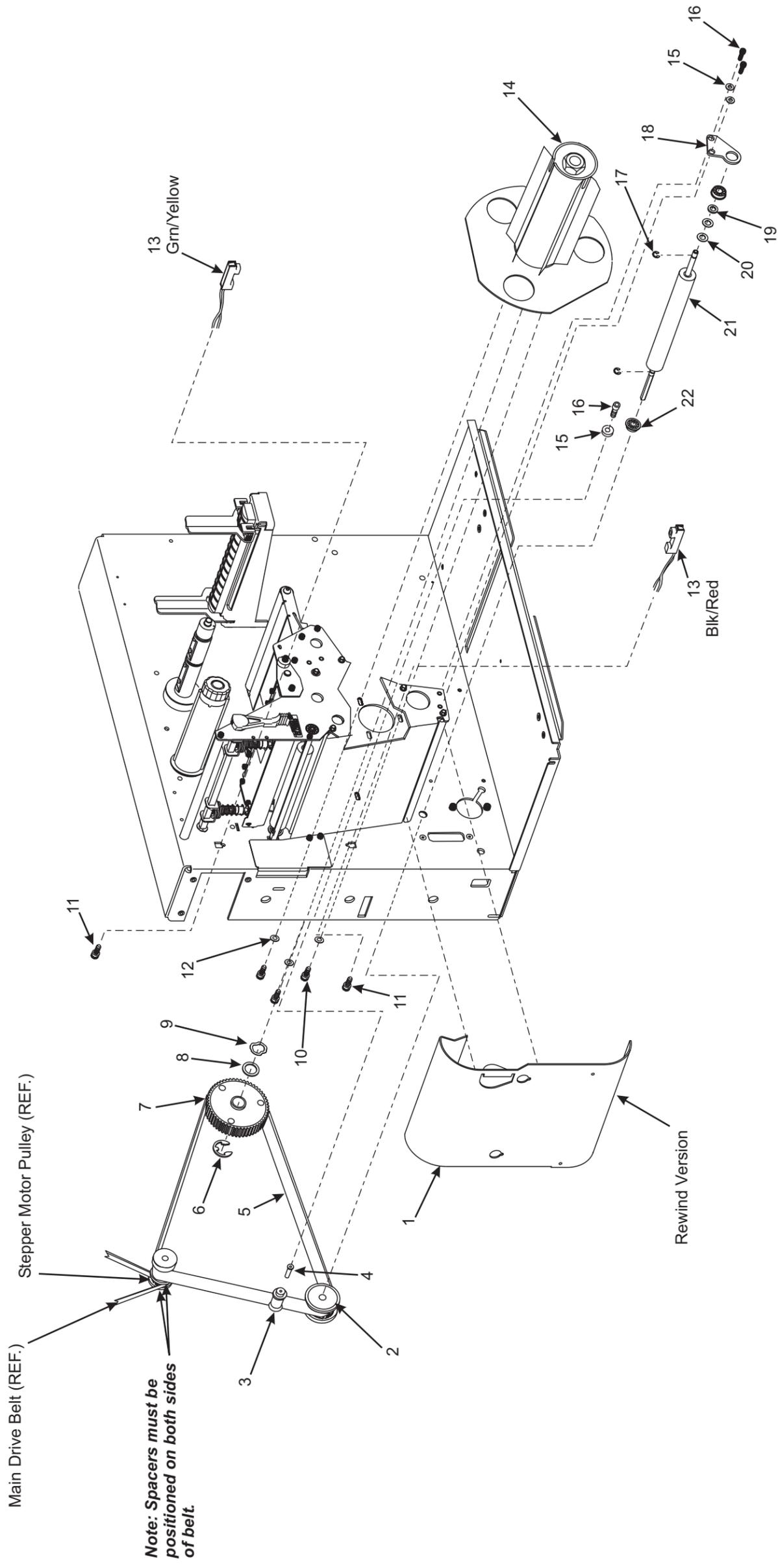


Figure 5-19. Media Rewind Assembly



Table 5-20. Cutter Option Assembly (View 1)

Item	Part Number	Description	Qty
1	02133*	E-Ring, 0.188 Black	4
2	30199	Bearing, 0.375 x 0.189 x 0.125	3
3	30214	MainLink	1
4	Q10019	E-ring, 0.250 Black	1
5	30210	Flat Washer, 0.564 x 0.384 x 0.060	2
6	30217-1	Link Pin, 0.187 Dia.	1
7	30208**	Flat Washer, 0.500 x 0.191 x 0.030	2
8	30215	Slotted Link	1
9	30198	Bearing 0.500 x 0.252 x 0.250	1
10	30133	Ball Bearing 0.375 x 0.187 x 0.125	1
11	30313	Cutter Opto Wire Clamp	1
12	01822	Nut, 4-40	5
13	30380M	Lower Drive Arm Maintenance Kit	1
14	30219	Flag, Sensor	1
15	01155†	Washer, Lock #4	1
16	30236	Screw 4-40 x 0.25	3
17	30216	Post, Pivot	1
18	46618	Cutter Sensor	1
19	30394-005	Screw, 10-32 x 0.312	2
20	30382RM	Cutter/Rewind Plate Maintenance Assembly (90/96X/III/X/III/Plus)	1
20	40382RM	Cutter/Rewind Plate Maintenance Assembly (140X/III/X/III/Plus)	1
20	46382M	Cutter/Rewind Plate Maintenance Assembly (170X/III/X/III/Plus)	1
20	22382M	Cutter/Rewind Plate Maintenance Assembly (220X/III/X/III/Plus)	1
21	30405-006	Screw, 1/4-20 x 0.38 (90/96X/III, 140X/III, 170X/III/X/III/Plus)	1
21	30405-008	Screw, 1/4-20 x 0.50 (220X/III/X/III/Plus)	1
22	44632††	Ferrite Ring 1.1 x 0.75	1
23	46224	Rubber Grommet	1
24	08449	Cable-Tie, 0.187 W x 11.5 L	1
25	30374M	Cutter Motor Maintenance Assembly	1
26	30391-003‡	Screw, 4-40 x 0.19	4
27	49604-010	Power Distribution Cable	1

Table 5-20. Cutter Option Assembly (View 1)

Item	Part Number	Description	Qty
28	49600-012	Comm Cable	1
29	49730M	PCB Cutter Control Maintenance Kit	1
30	46280M	Arm Drive Upper Maintenance Kit	1
31	30816	Lower Cutter Bracket	1
32	40193‡‡	Flat Washer, 0.406 x 0.172 x 0.048	2
33	30392-004§	Screw, 6-32 x 0.25	4
34	10421	Screw, M4 x 0.7 x 5	4
35	30819	Cutter Support Bracket (90/96X/III)	1
35	40819	Cutter Support Bracket (140X/III)	1
35	46819	Cutter Support Bracket (170X/III)	1
35	22819	Cutter Support Bracket (220X/III)	1
36	30196-100	Cutter Module (90/96X/III)	1
36	30196-150	Cutter Module (140X/III)	1
36	30196-200	Cutter Module (170X/III)	1
36	30196-251	Cutter Module (220X/III)	1
37	30320	Carbon Brush, 4.50 x 0.50 (90/96X/III)	1
37	40320	Carbon Brush, 6.50 x 0.50 (140X/III)	1
37	46320	Carbon Brush, 8.50 x 0.50 (170X/III)	1
37	22320	Carbon Brush, 10.47 x 0.50 (220X/III)	1
38	30181	Upper Cutter Guide (90/96X/III)	1
38	40181	Upper Cutter Guide (140X/III)	1
38	46181	Upper Cutter Guide (170X/III)	1
38	22193	Upper Cutter Guide (220X/III)	1
39	46807	Upper Cutter Bracket	1
40	Q10011	Screw, M4 x 0.7	2

*Only available as HW02133 in quantities of 50

**Only available as HW30208 in quantities of 25

†Only available as HW01155 in quantities of 100

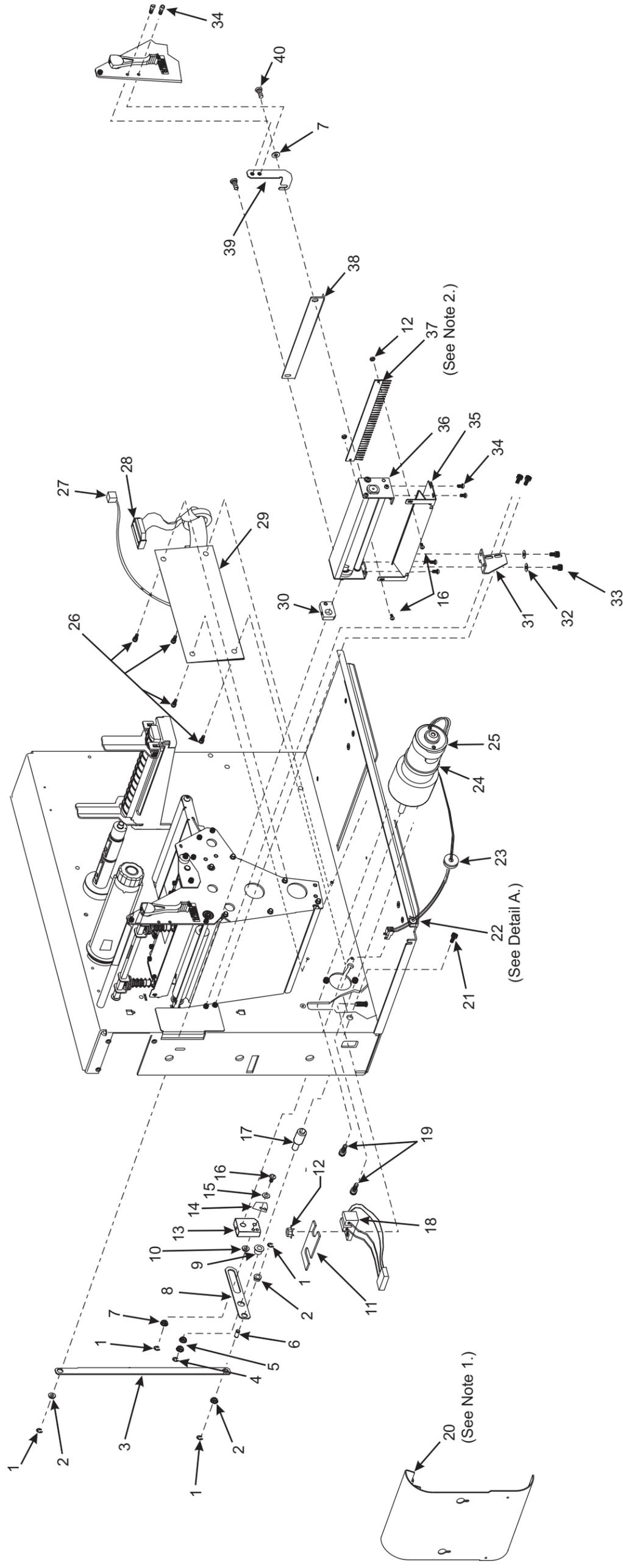
††Only available as HW44632 in quantities of 10

‡Only available as HW30391-003 in quantities of 25

‡‡Only available as HW40193 in quantities of 25

§Only available as HW30392-004 in quantities of 50

Bold=Part available for purchase*Light italic = Part not available for purchase, listed and shown for reference only*



Notes: 1. If rewind option is installed on cutter machine, be sure to order cutter/rewind plate.
 2. Position brush so that approximately 1/8 inch (3 mm) of brush's bristles rub against each moving label and brush's bristles are parallel to label edge.

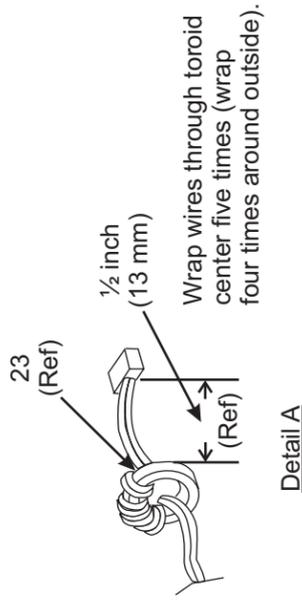
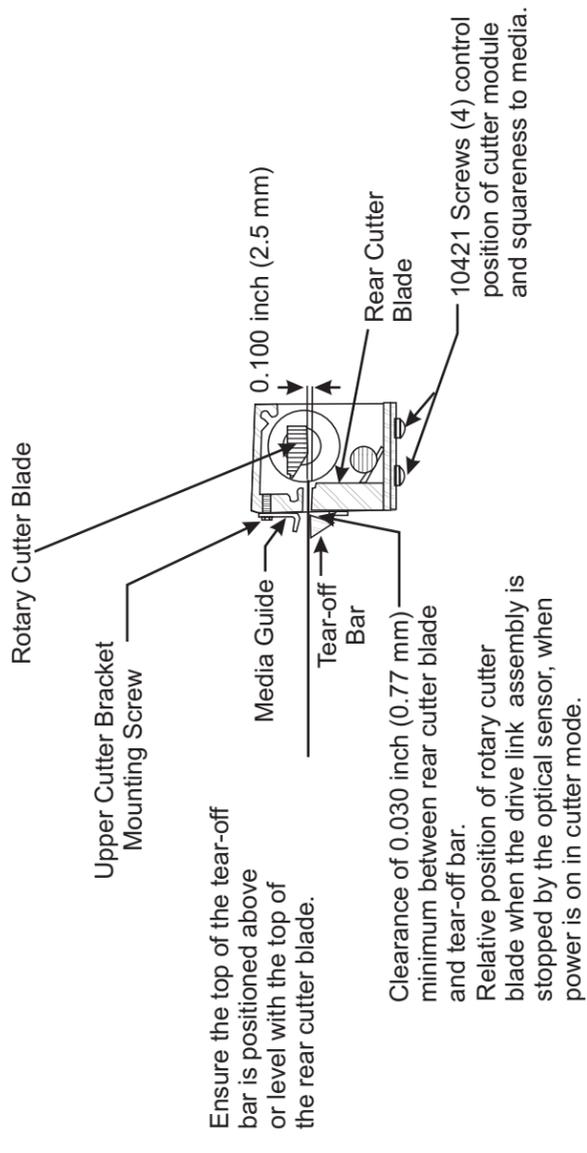


Figure 5-20. Cutter Option Assembly (View 1)





Set screws to engage flats on motor shaft when lower arm is in vertical position.

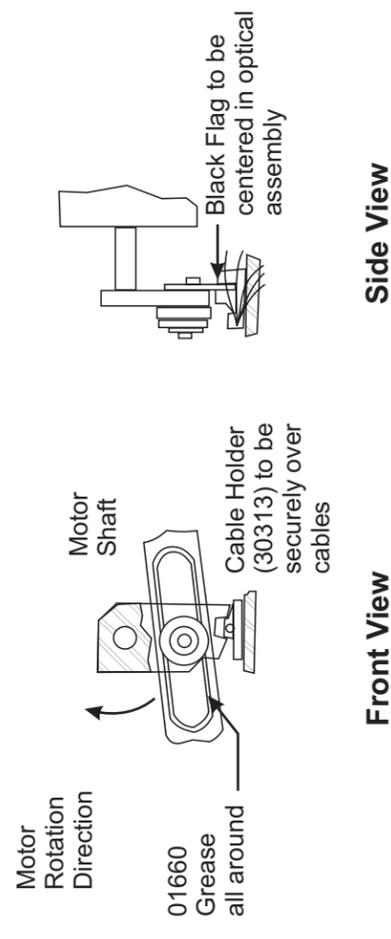


Figure 5-21. Cutter Option Assembly (View 2)

SECTION 6 OPTIONS KITS

OPTIONS INSTALLATION

Font ROM Installation (X/III and R-140 only)



CAUTION:

THE PRINTER ELECTRONICS ARE SUSCEPTIBLE TO STATIC DISCHARGE. BEFORE PROCEEDING, IT IS HIGHLY RECOMMENDED THE TECHNICIAN WEAR AN ANTISTATIC WRIST STRAP CONNECTED TO THE PRINTER CHASSIS.

Font ROM installation-optional scalable and bit-mapped fonts are available in ROMs.

1. Refer to RRP No. 1 on page 4-13. From the rear, turn the printer Off (O) and remove the AC power cord. Remove any communication cables.
2. Refer to RRP No. 2 on page 4-15. Remove the electronics cover.
3. Refer to Figure 6-2. Remove the option card shield. Push the card-eject button to remove the font/memory board.

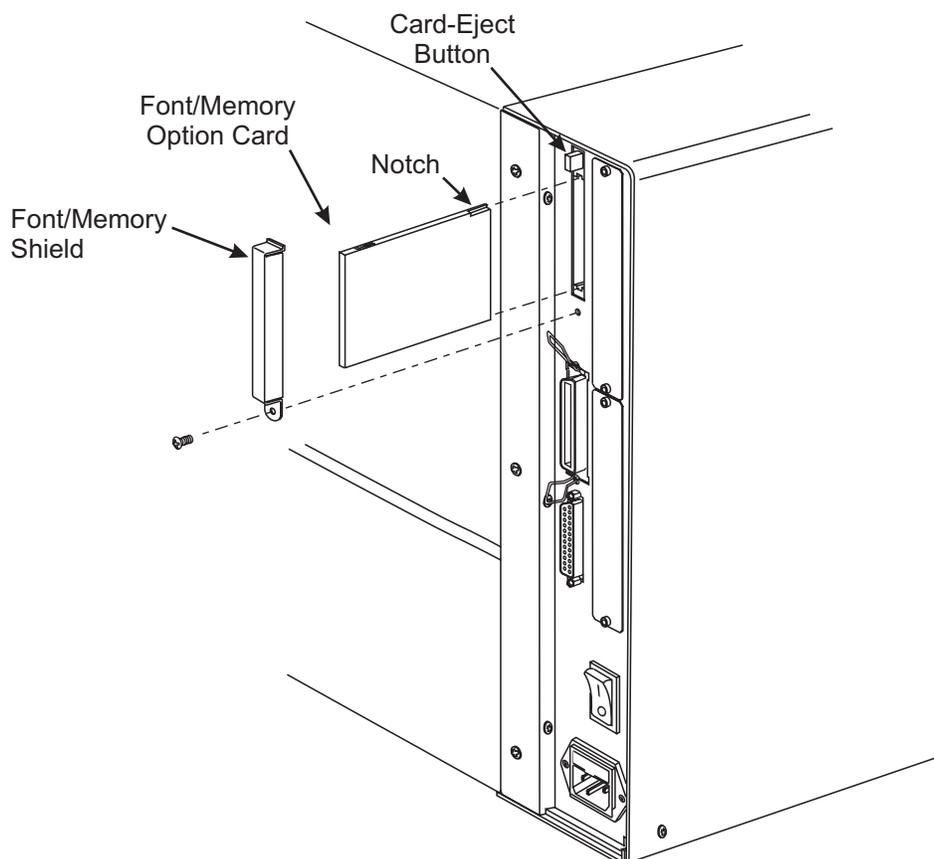


Figure 6-1. Memory and Font Card Installation

4. Refer to Figure. 6-2. Remove any existing ROM from sockets.
5. Insert the tines of the extraction tool firmly into the slots in the chip socket. Be sure the tines catch under the ROM chip as you gently squeeze. The chip will rise out of the socket.

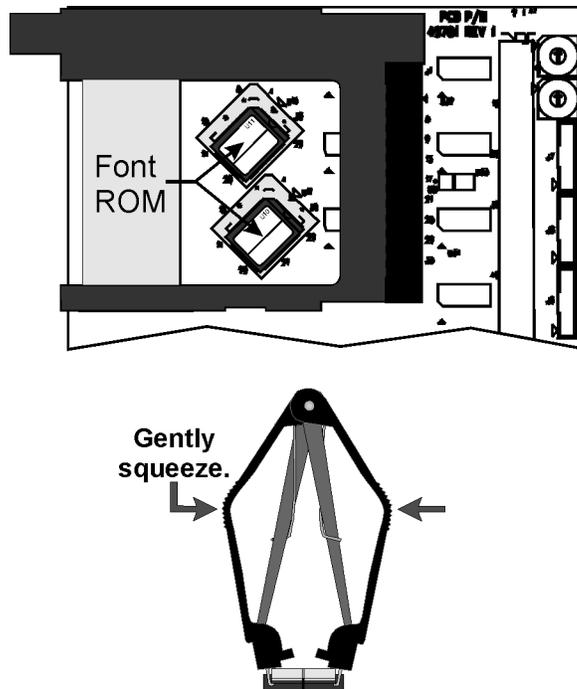


Figure 6-2. Font ROM

6. Insert the new ROM with the notched corner positioned to the top as shown. Slowly seat the chip in place, ensuring that it is straight in the socket.
7. Refer to Figure. 6-1. Reinstall the font/memory card with the notch **UP**. Insert it enough to cause the card-eject button to pop out.
8. Reinstall the font/memory card shield.
9. Reinstall the electronics cover.
10. Reinstall the AC power cord and data cable. Restore power.
11. Print a configuration label by pressing and holding the **FEED** key while turning the AC power switch On (I).
12. Verify the presence of additional memory or optional fonts on the configuration label.

SIMM Installation (X/III and R-140 only)

1. Refer to RRP No. 1 on page 4-13. Turn the printer Off (O) and remove the AC power cord. Remove any communication cables.
2. Refer to RRP No. 2 on page 4-15. Remove the electronics cover.
3. Refer to Figure 6-3. Locate the SIMM socket on the main logic board.
4. Install the SIMM into the socket as illustrated. Ensure the SIMM is locked securely into position.
5. Reinstall the electronics cover.
6. Reconnect the AC power cord and data cable. Restore power.
7. Print a configuration label by pressing and holding the **FEED** key while turning the AC power switch On (I).
8. Verify the presence of additional memory on the configuration label.

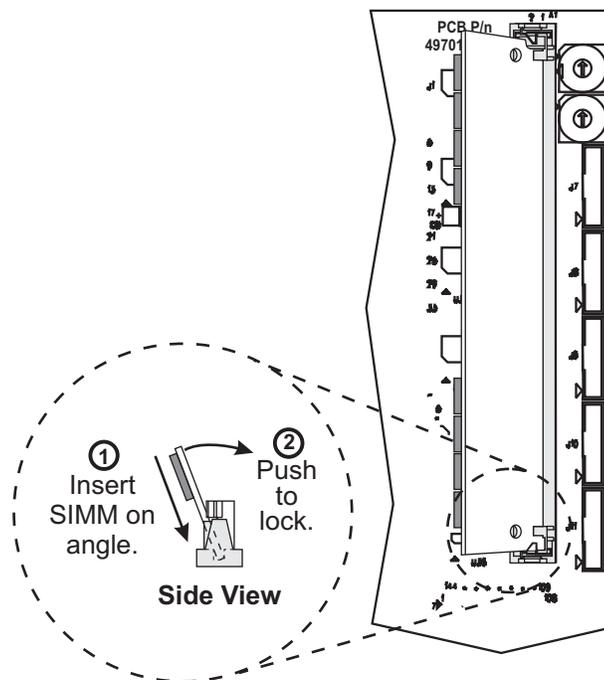


Figure 6-3. SIMM Installation

Optional Supply Spindle Installation

1. Refer to RRP No. 1 on page 4-13. Turn the printer Off (O) and remove the AC power cord. Remove any communication cables.
2. Refer to RRP No. 2 on page 4-15 and remove the electronics cover.
3. Refer to Figure 6-1. Remove the font card or memory card from the card slot located at the rear of the printer by removing the option card shield and pressing the card-release button.
4. Refer to "Optional Interface Boards" on page 16. Remove any optional interface board installed.
5. Refer to RRP No. 4 on page 4-17 or RRP No. 5 on page 4-19. Unplug all ribbon cable connectors and small wire connectors from the main logic board, and remove it.

6. Refer to Figure 6-4. Remove the main logic board mounting plate.

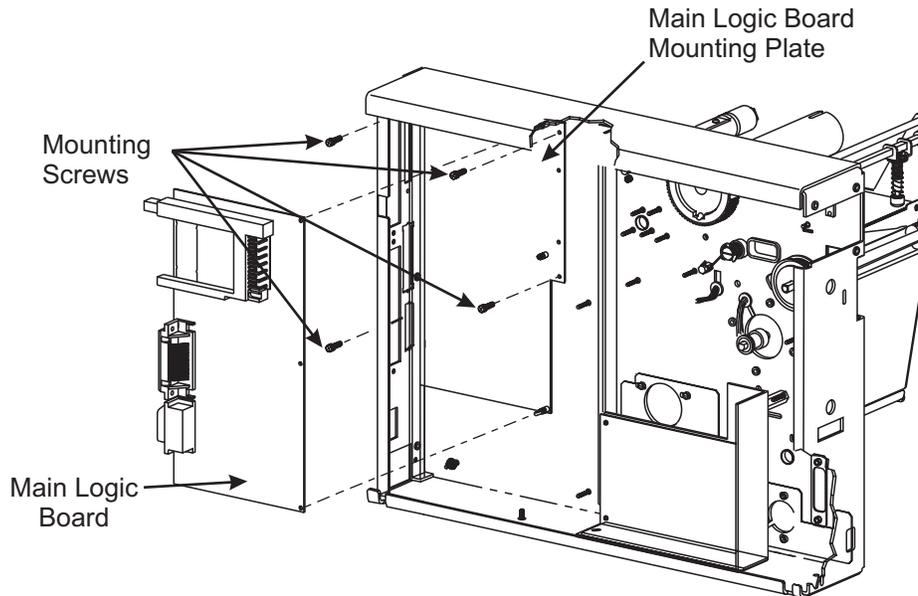


Figure 6-4. Mounting Bracket Removal (XiIII and R-140)

7. Refer to Figure 6-5. Remove the media hanger mounting screw and washer.
8. Remove the media hanger by lifting it straight up then out from the printer frame.

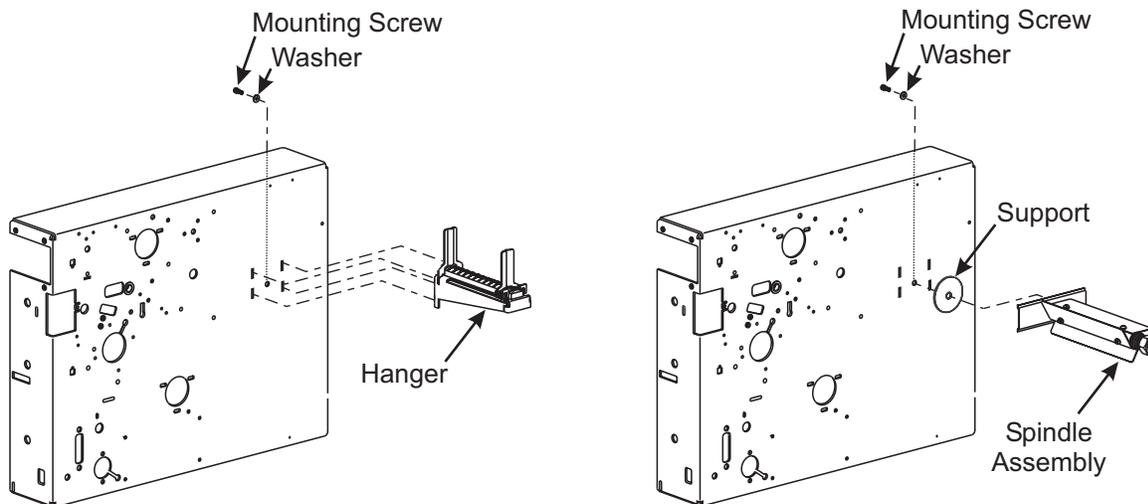


Figure 6-5. Hanger Removal and Spindle Installation

9. Install the media supply spindle with support between the shaft and the printer frame.
10. Install the screw and washer onto the end of the spindle shaft and tighten.
11. Reinstall the main logic board mounting plate.
12. Reinstall the main logic board.
13. Reconnect all cables and small wire connectors previously removed.
14. Refer to Figure. 6-1. Reinstall any optional memory/font boards and the option card shield.

15. Reinstall optional interface boards.
16. Reconnect cabling to interface boards.
17. Reinstall the electronics cover.

Spindle Tension Adjustment

1. Use adhesive tape to attach a 2-inch (5-cm) wide strip of polyester film (part # 01776) to an empty core as illustrated. Wind the polyester film around the core about five times in the direction indicated.
2. Measure tension by slowly pulling the film with a spring scale. Pull **only** in the direction shown. The pull rate should typically be 2 inches (5 cm) per second.
3. The spring tension reading should be 300 grams ± 50 (0.66 inch pounds ± 0.11). Make adjustments using the tension adjustment nut:
 - Clockwise increases tension.
 - Counterclockwise decreases tension.

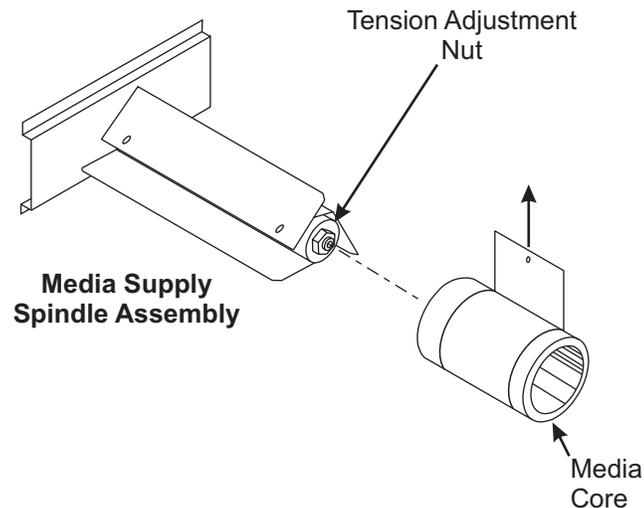


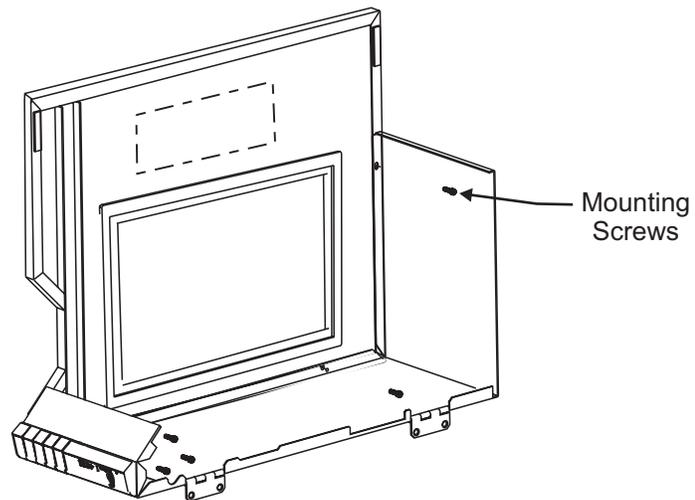
Figure 6-6. Spindle Tension Adjustment

4. Recheck the tension after running a full roll of labels.
5. Reinstall the electronics cover.
6. Reinstall the media and ribbon.

Optional Bifold Door Installation

Refer to Figure. 6-7.

1. Raise the existing media access door.
2. Remove and retain the mounting screws. (Ensure a good hold on the door when removing the last screws.)
3. Remove old door.



4. Install new door using the screws removed in step 2.
5. Installation is complete.

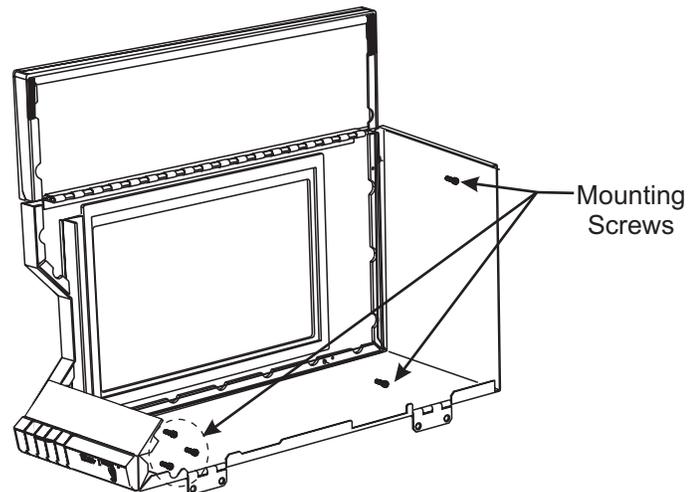


Figure 6-7. Bifold Door Installation

Optional Counter Board Installation (XiIII and R-140 only)

1. RRP No. 1 on page 4-13. Turn the printer Off (O) and remove the AC power cord. Remove any communication cables.
2. RRP No. 2 on page 4-15. Remove the electronics cover.

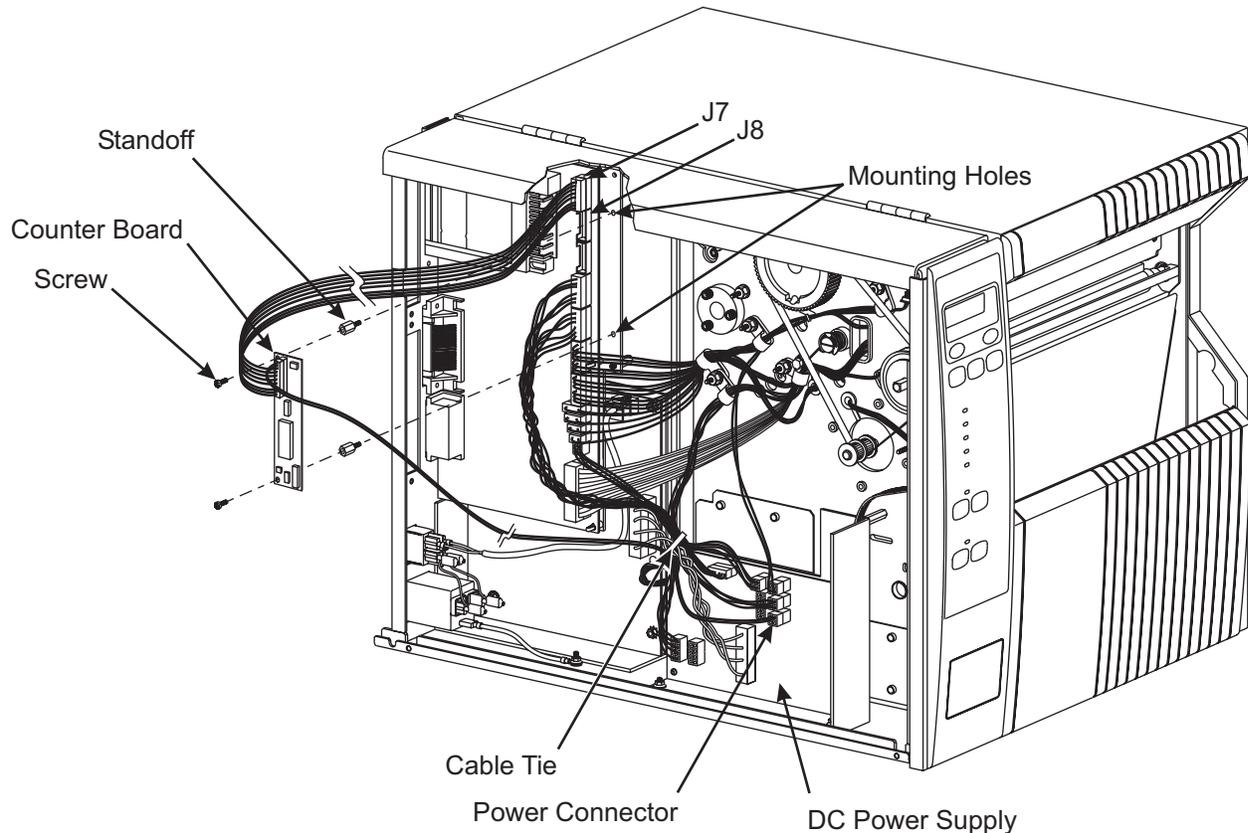


Figure 6-8. Installing the Counter Board (Xiii and R-140 only)

3. Locate the two mounting holes in the main logic board mounting plate.
4. Install the two plastic standoffs in these holes.
5. Install the counter board, with the cable connector on top, with the standoffs. Attach the counter board to the standoffs using the supplied screws.
6. Attach the data cable as seen in Figure 6-8 to the counter board.
7. Connect the other end of the data cable to either J7 or J8 on the main logic board.
8. Route the power connector and wires through the cable tie shown in Figure 6-8. Connect the open end of the power connector to either of open plugs J5 through J10 on the DC power supply.
9. Reinstall the electronics cover.
10. Reconnect the AC power cord and data cable.
11. Restore power and turn the printer On (I).

Rewind Option

The printer must be partially disassembled to install the various parts provided in this kit. Follow the procedures listed below.

1. RRP No. 1 on page 4-13. Turn printer power Off (O) and disconnect the AC power cord. Remove any communication cables.
2. RRP No. 2 on page 4-15 and remove the electronics cover.

3. RRP No. 3 on page 4-16. Disconnect all wires and cables attached to the DC power supply board and remove the DC power supply.
4. Open the media access door, and remove all media and ribbon.
5. Refer to Figure 6-9. Remove and retain the plastic plug in the lower access hole near the bottom of the print mechanism side plate.

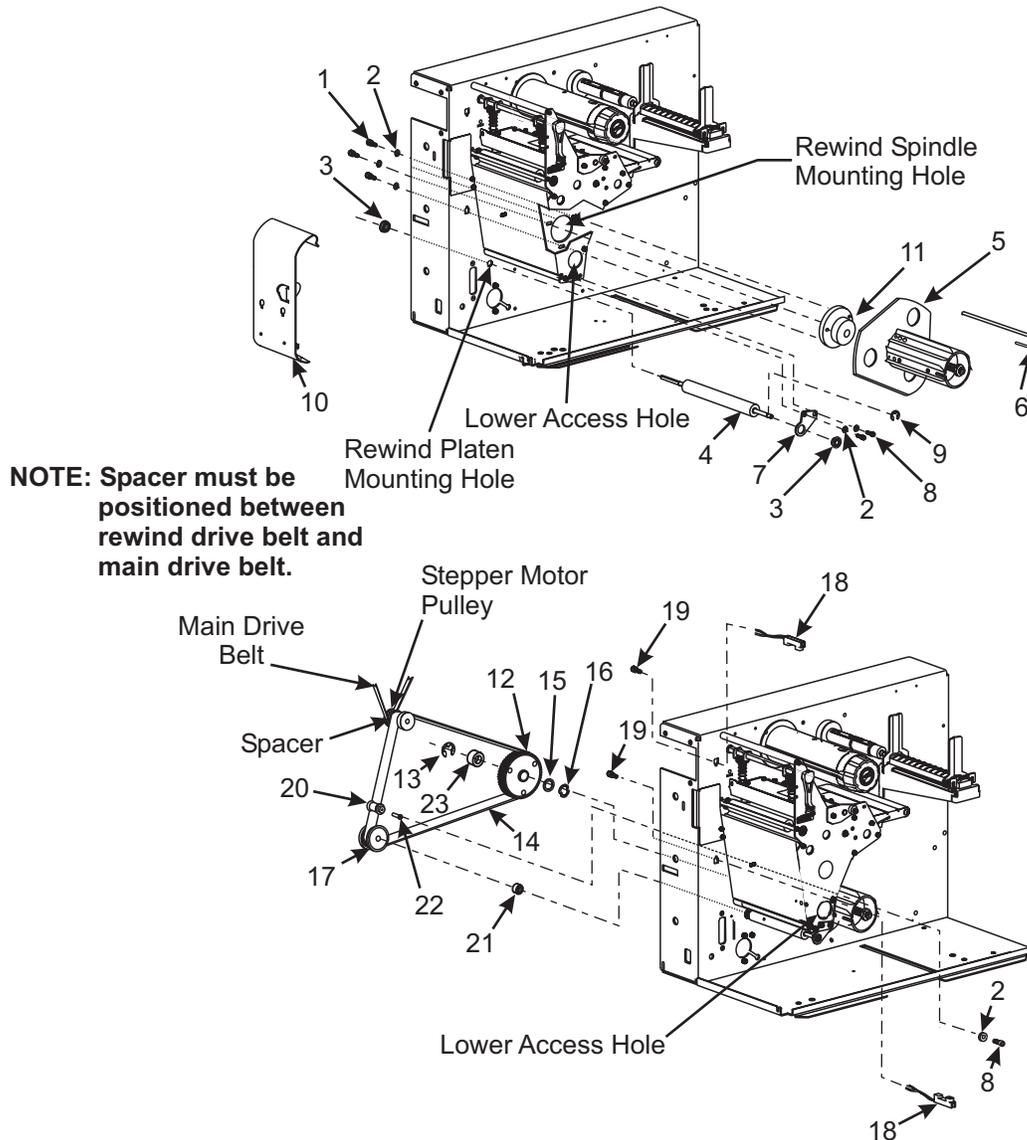


Figure 6-9. Rewind Assembly Installation

Parts List

Table 6-1 lists the parts found in the Media Rewind Option Kits. The last four columns indicate which parts are used in the particular kit for the different printers. Use Table 6-1 and Figure 6-9 to conduct an inventory of the parts before installing the kit. The parts received are dependent on the kit ordered for a particular printer. Labels on the parts packaged in the kits may not show the "M" reorder designation shown on some of the part numbers.

Table 6-1. Rewind Option Kit Parts List

✓	ITEM	QTY	PART NUMBER	DESCRIPTION	22455 220XiIII, and XiIIIPlus	46355 170XiIII and XiIIIPlus	47355 90XiIII and XiIIIPlus	47355-6 96XiIII	47655-6 96 XiIIIPlus	48355 140XiIII, R-140, and XiIIIPlus
	1	3	30393-006*	Screw, 8-32	X	X	X	X	X	X
	2	6	40193**	Washer, Flat	X	X	X	X	X	X
	3	2	48688	Flange Bearing (Part of Platen Roller Kits)	X	X	X	X	X	X
	4	1	22101	Platen Roller (Part of 22101M)	X					
	4		46378	Platen Roller (Part of 46278M)		X				
	4		47601	Platen Roller (Part of 47601M)			X	X	X	
	4		40038	Platen Roller (Part of 40038M)						X
	5	1	22155M	Rewind Spindle Assembly	X					
	5		46249M	Rewind Spindle Assembly		X				
	5		47155M	Rewind Spindle Assembly			X	X	X	
	5		48155M	Rewind Spindle Assembly						X
	6	1	47062-4	J-Hook	X					
	6		47062-3	J-Hook			X	X	X	
	6		47062-2	J-Hook						X
	6		47062-1†	J-Hook		X				
	7	1	40019	Platen Support Bracket	X	X	X	X	X	X
	8	3	30392-004††	Screw, 6-32	X	X	X	X	X	X
	9	1	02252	E-Ring	X	X	X	X	X	X
	10	1	22383M	Rewind Plate	X					
	10		46383M	Rewind Plate		X				
	10		47383M	Rewind Plate			X	X	X	
	10		48383M	Rewind Plate						X
	11	1	22334M	Bearing Housing Assembly	X					
	11		30334M	Bearing Housing Assembly (all but 220XiIII)		X	X	X	X	X
	12	1	31336M	RTU/MTU Pulley Assembly	X	X	X			X
	12	1	47358M	RTU/MTU Pulley Assembly				X		
	12	1	33094-6M	RTU/MTU Pulley Assembly					X	
	13	1	30118‡	E-Ring	X	X	X	X	X	X
	14	1	45189-2	Rewind Drive Belt	X	X	X			X
	14	1	45189-13	Rewind Drive Belt				X	X	
	15	1	30114‡‡	Washer, Flat	X	X	X	X	X	X
	16	1	30115§	Washer, Wave	X	X	X	X	X	X
	17	1	30914M	Rewind Platen Pulley	X	X	X			X
	17		47915M	Rewind Platen Pulley				X	X	
	18	1	46609-4M	Take-Label Sensors Assembly	X	X	X	X	X	X
	19	2	07435§§	Screw 6-32	X	X	X	X	X	X
	20	1	22265	Idler Pulley	X					
	20		30265	Idler Pulley (all but 220XiIII)		X	X	X	X	X
	21	1	N/A	Spacer (Part of Platen Roller Kits)	X	X	X	X	X	X
	22	1	22207	Idler Shaft	X					
	22		30207	Idler Shaft (all but 220XiIII)		X	X	X	X	X
	23	1	N/A	Spacer (Part of 31336M)	X	X	X	X	X	X
	N/S	1	11301	Allen Wrench, Long 7/64 inch	X	X	X	X	X	X

N/A – Not available as separate service item
N/S – Not shown

*Available only as HW30393-006 in quantities of 25
 **Available only as HW40193 in quantities of 25
 †Available only as HW47062-1 in quantities of 5
 ††Available only as HW30392-004 in quantities of 50

‡Available only as HW30118 in quantities of 25
 ‡‡Available only as HW30114 in quantities of 25
 §Available only as HW30115 in quantities of 25
 §§Available only as HW07435 in quantities of 100

Bold = Part available for purchase
Light italic = Part not available for purchase, listed and shown for reference only

Installation

1. Refer to Figure. 6-9. Place a flat washer (#2) onto one of the screws (#8). Use the Allen wrench provided in the kit to place this mounting screw through the lower access hole in the side plate and through the idler pulley mounting slot in the printer main frame. On the electronics side of the printer main frame, attach the idler shaft (#22) to the mounting screw.
2. Position the idler shaft in the middle of the mounting slot and tighten the mounting screw. Apply a very small amount of grease (provided in kit) to the idler shaft with a toothpick or small screwdriver. Keep excess grease away from other components.
3. Slide the idler pulley (#20), flat side out, onto the idler shaft.
4. In the lower center portion of the main frame, remove the cover plate from the rewind spindle mounting hole.
5. Slide the bearing housing assembly (#11) out of the media rewind spindle assembly (#5).
6. Install the bearing housing assembly on the printer main frame using three screws (#1) and three flat washers (#2). Do not tighten the screws at this time.
7. Insert the shaft of the rewind spindle (#5) through the bearing housing assembly.
8. Place the wave washer (#16), flat washer (#15), and pulley, recessed side facing away from the main frame, (#12) onto the rewind spindle shaft.
9. Slide the spacer (#23) on the rewind spindle shaft. Press the E-ring (#13) into the groove in the rewind spindle shaft.
10. Attach the platen support bracket (#7) to the side plate with two flat washers (#2) and two screws (#8). Do not tighten the screws at this time.
11. Remove the plastic plug from the rewind platen mounting hole near the bottom of the main frame.
12. Insert the long end of the rewind platen shaft (#4) through the rewind platen mounting hole.
13. Place the flange bearing (#3) over the left end of the rewind platen shaft. Press the bearing into the mounting hole with the flange on the outside (left side) of the main frame.
14. Place the opposite end of the rewind platen shaft through the platen support bracket (#7).
15. Place the remaining flange bearing (#3) over the right end of the rewind platen shaft with the flange of the bearing on the outside (right side) of the platen support bracket. Press it into the mounting hole in the platen support bracket and secure with the E-ring (#9).
16. Use the Allen wrench to tighten the mounting screws that secure the platen support bracket to the side plate. The bracket may need adjustment later.
17. Slide the spacer (#21) onto the rewind platen shaft.
18. Slide the rewind platen pulley (#17) onto the rewind platen shaft and align the two pulley set screws with the flat surfaces of the rewind platen shaft.
19. Leave approximately a 0.020 inch (0.5 mm) gap between the E-ring (#9) and platen support bracket (#7), and tighten the set screws.
20. Position the rewind plate as shown in Figure 6-10 with the attached hook plate pointing down.

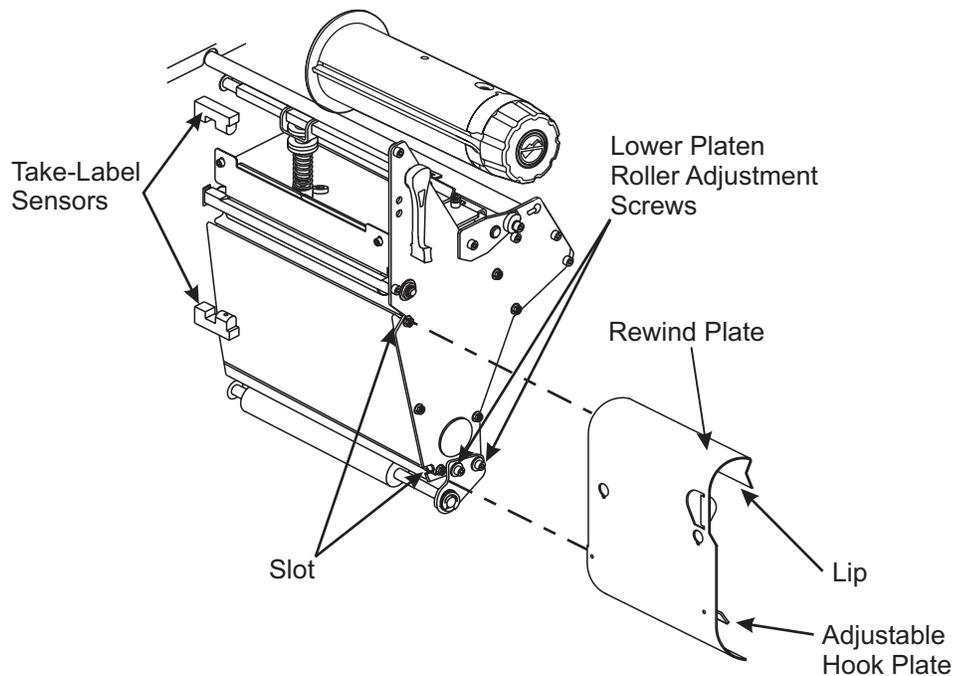


Figure 6-10. Take-Label Sensor Location

21. Insert the hook plate 1/2 inch (13 mm) into the lower opening in the side plate.
22. Align the upper end of the media rewind plate with the corresponding opening in the side plate, then slide the rewind plate in until it stops against the main frame.

Drive Belt Installation and Tension Adjustment

Refer to RRP No. 10 on page 4-28 and install the rewind drive belt.

Refer to RRP No. 9 on page 4-26 and adjust the rewind drive belt tension.

Refer to RRP No. 7 on page 4-24 and readjust the main drive belt tension.

Take-Label Sensor Installation

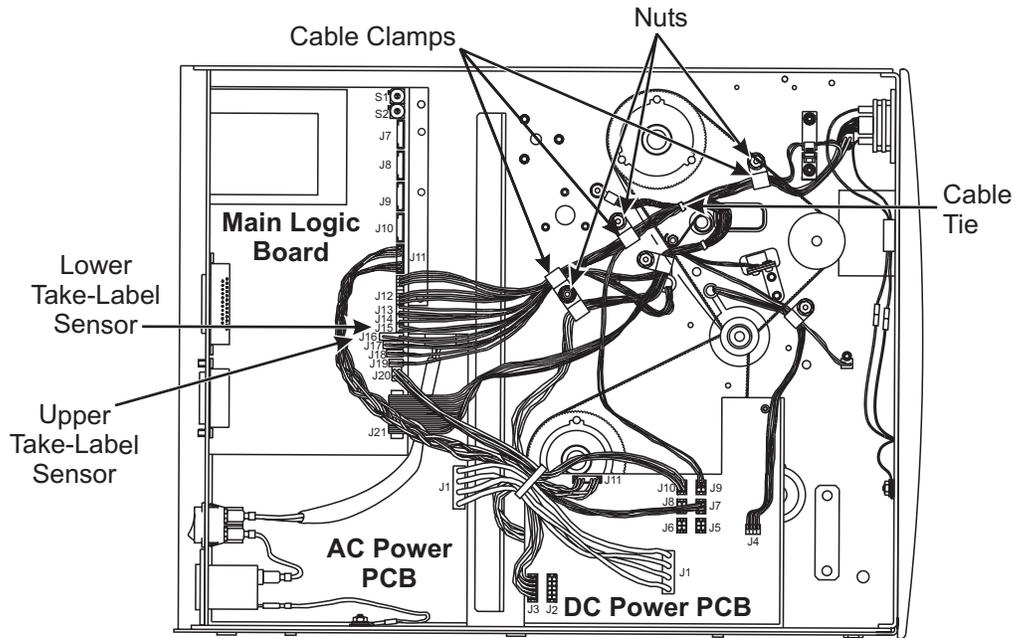
(Do not install on cutter units.)

The Take-Label Sensors are required only in the Peel-Off Mode of operation.

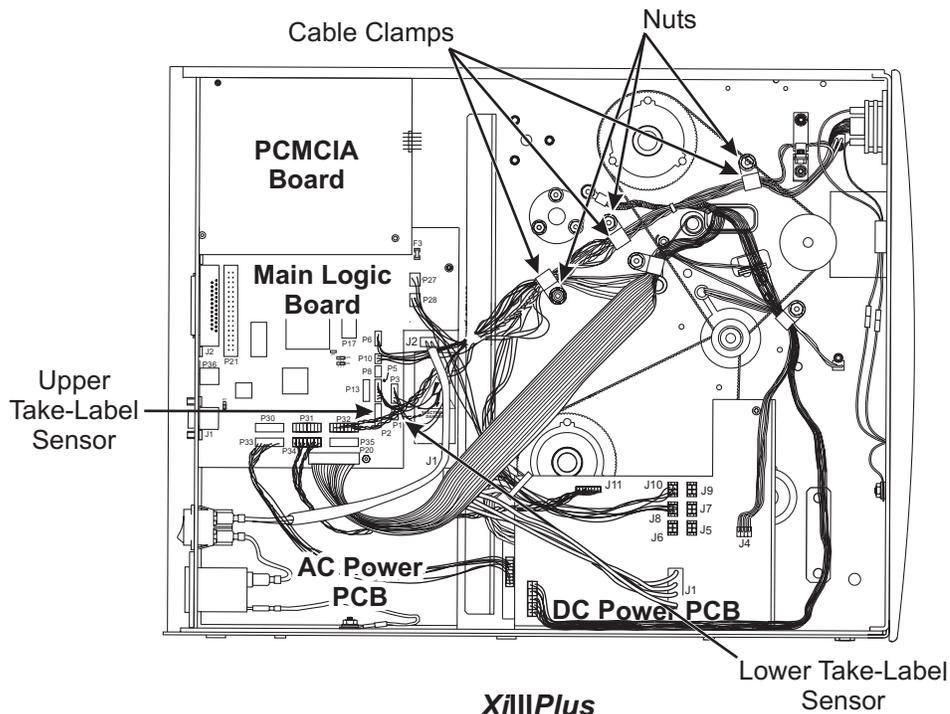
Refer to Figure. 6-9 and Figure. 6-10.

1. Remove the upper and lower take-label sensor cover plates by removing the two socket head cap screws with the Allen wrench.
2. Insert the upper take-label sensor assembly (#18) (green/yellow wires), connector, and cable through the upper take-label sensor hole in the main frame.
3. Position the sensor with the window facing directly down and use one (#19) screw to fasten the sensor in place.
4. Insert the lower take-label sensor assembly (#18) (red/black wires), connector, and cable through the lower take-label sensor hole in the main frame.
5. Position the sensor with the window facing directly up and use one (#19) screw to fasten the sensor in place.

6. Route the wires through the cable clamps and toward the main logic board ensuring the wires do not come in contact with any moving parts.
7. Refer to Figure 6-11. Connect the upper take-label sensor connector to J16 (*XiIII*) or P2 (*XiIIIPlus*) on the main logic board and the lower take-label sensor connector to J15 (*XiIII*) or P1 (*XiIIIPlus*).



***X/III* and R-140**



X/IIIPlus

Figure 6-11. Take-Label Sensor Connections

NOTE: When in Peel-Off mode, if the two sensors are not aligned with each other, the Take-Label LED lights up and the printer will not operate.

8. Reinstall the DC power supply assembly.
9. Reinstall the electronics cover.
10. Reconnect the AC power cord and data cable.
11. Restore power and turn the printer On (I).

Adjustments

The Rewind Option Kit usually requires some adjustments to prevent printing problems such as ribbon wrinkle, non-centered labels, and tearing of the media. Print a number of test labels and use the following procedures to correct any problems.

Rewind Mode Adjustments

Tracking Adjustment

Refer to Figure 6-12 and Figure 6-13.

1. If the media walks from side to side or tears or wrinkles against the backing plate on the media rewind spindle, it may be necessary to adjust the position of the rewind plate assembly mounted on the front of the printer or the rewind spindle assembly.
2. Remove the rewind plate assembly from the front of the printer and loosen the nuts securing the hook plate to the rewind plate.
3. Move the outer end of the hook plate up to force the media to wind closer to the large backing plate on the rewind spindle.
or
Move the outer end down to force the media away from the backing plate.
4. Reinstall the rewind plate on the front of the printer and print a number of test labels. If problems persist, adjust the hook plate position again.
5. If the media cannot be made to track correctly after making this adjustment, check the distance from the backing plate to the main frame. This dimension is set at the factory and should be 0.550 inch (14 mm) \pm 0.020 inch (0.5 mm). If the distance needs to be reset, perform step 6 and 7.
6. Refer to Figure 6-12. Loosen the set screws in the collar located inside the rewind spindle assembly near the backing plate. The set screws are accessible through a single hole in the rewind spindle assembly. Reposition the backing plate as required and retighten the set screws in the collar.
7. Perform the rewind plate assembly adjustment in steps 1 and 2 until the desired results are achieved.

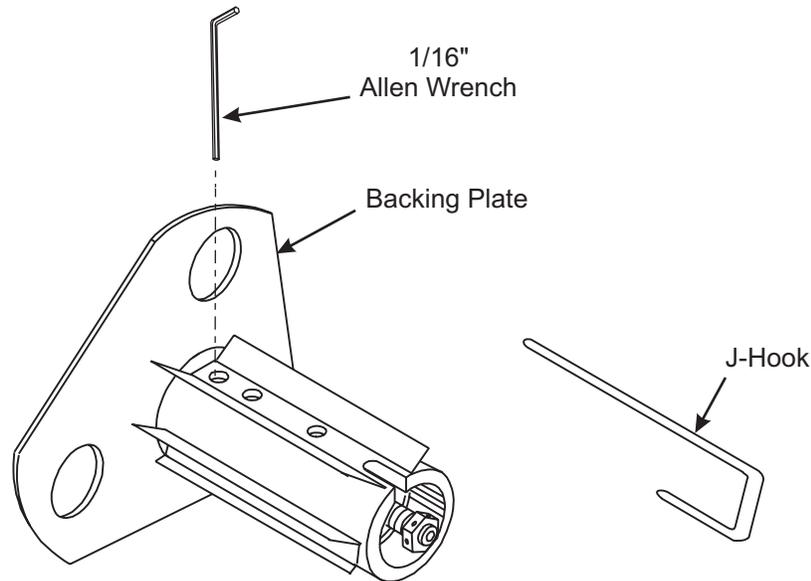


Figure 6-12. Position Adjustment of Rewind Spindle Assembly

Tension Adjustment

If the backing material is wound too tightly on the spindle, it can cause misregistration of labels, tearing, or poor print quality due to smudging. Backing material rewound too loosely could jam up the printer before completing a roll, or make it impossible to separate the labels from the liner in Peel Mode.

1. Refer to Figure 6-13. Use a spring scale gauge to set the spindle tension. Use adhesive tape to attach a 2-inch wide by 30-inch long (5 cm wide by 17 cm long) strip of polyester film to the spindle in the direction shown.

Table 6-2. Rewind Spindle Tension Specifications

Printer	Tension
90/96	1450 ±100 grams
140/R-140	1450 ±100 grams
170	1650 ±100 grams
220	1850 ±100 grams

2. Refer to Table 6-2. Insert the spring scale tip through the reinforced hole in the end of the strip and pull slowly and evenly (2 inch [5 cm] per second) in the direction shown. Make this measurement several times to insure an accurate reading.
3. If required, readjust the tension as described below and recheck the tension setting.
4. To keep the spindle from rotating while turning the adjusting nut, insert the Allen wrench through the access hole at the rear of the rewind spindle to lock the spindle in position.
5. Turn the adjusting nut with fingers or pliers clockwise for more tension, or counterclockwise for less tension.



WARNING:

DO NOT OPERATE PRINTER WITHOUT AT LEAST ONE SET SCREW TIGHTENED.

6. Tighten one of the adjusting nut set screws and retest (step 2).
7. If proper tension is not achieved, loosen the set screw and readjust as needed.
8. When proper tension is obtained, tighten both set screws.
9. Recheck the tension after running a full roll of labels.

NOTE: Depending on the width of the media and the thickness of the backing material, it may be necessary to deviate slightly from the recommended tension setting shown above.

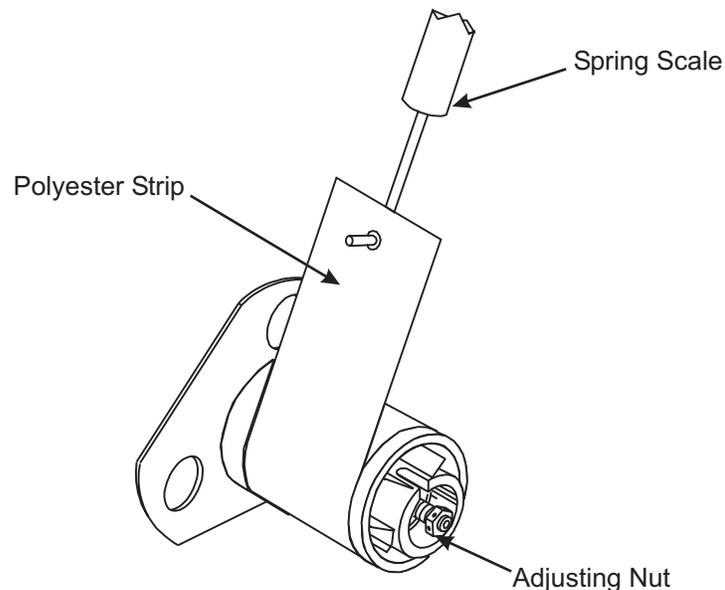


Figure 6-13. Tension Adjustment of Rewind Spindle Assembly

Peel-Off Mode Adjustments

Lower Roller Adjustment

If the media walks from side to side, it may be necessary to adjust the position of the lower roller.

Refer to Figure 6-9.

1. Loosen the two screws (#8) securing the platen support bracket (#7) to the side plate.
2. Moving the bracket toward the rear of the printer forces the media to wind closer to the main frame. Moving the bracket toward the front moves the media away from the main frame. Adjust as required and tighten screws.
3. Perform this adjustment until required results are achieved.

Tension Adjustment

For backing/label combinations that are particularly difficult, it may be necessary to increase rewind tension in the Peel-Off Mode. Follow the same tension adjustment procedures on the previous page used for the Rewind Mode Adjustments.

Optional Interface Boards

Internal PrintServer II™

Hardware Description

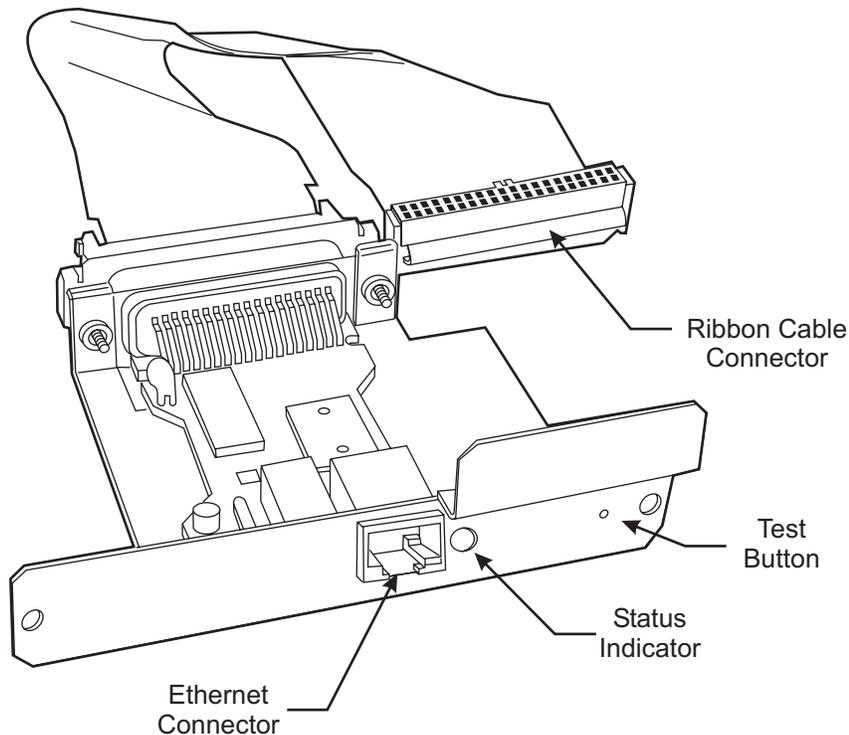


Figure 6-14. Internal PrintServer II

Test Button: This generates a detailed PrintServer II configuration label.

Status Indicator: A bi-colored indicator displays the state of the PrintServer II.

Ethernet Connection: Connection for a 10 Base-T cable. Connecting the PrintServer II does not interrupt network operation.

Ribbon Connector: The internal PrintServer II is powered by the printer; no additional power source is required.

NOTE: To print a PrintServer II configuration label from your Zebra printer, a 4" wide by 6" long (10 cm wide by 15 cm long) label is recommended. If the label is smaller, some information may print outside the label edges. If you are printing on a 90XIII or 90XIII-Series printer, some of the heading information on the right side of the label will not print. Refer to Figure 6-15 for any missing data.

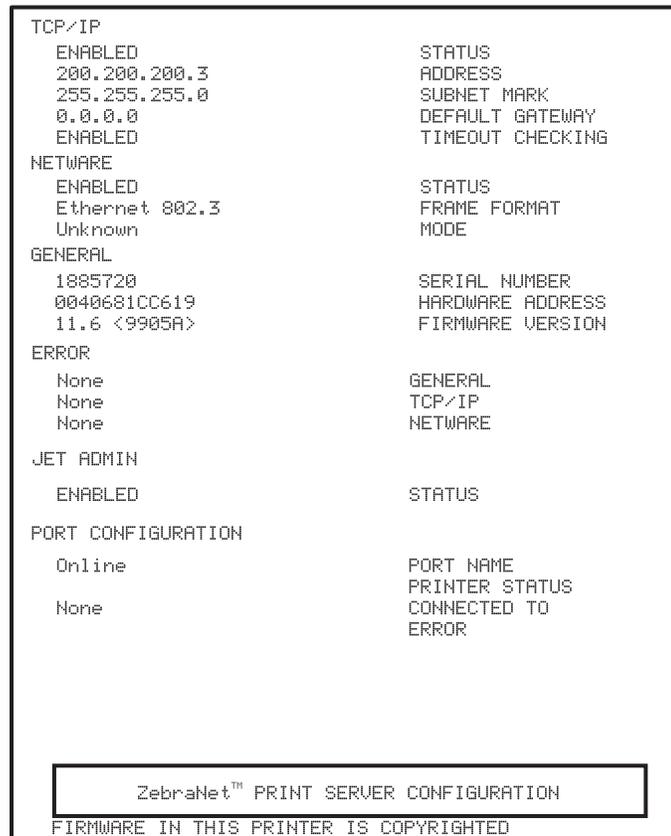


Figure 6-15. Configuration Label PrintServer II

Installation

This section provides the information necessary to install the internal PrintServer II in the Zebra XlIII-Series printers. Read this section completely before performing the installation procedure.

NOTE: The parallel port on the back of the printer is not operational when the internal PrintServer II is installed. The hardware of the PrintServer II mounting bracket covers the parallel port.

This installation should be performed by a qualified service technician, who must follow the step-by-step procedure provided in these instructions.

After you have finished installing the PrintServer II hardware, refer to the appropriate section of this guide for information on establishing a connection for your network type.

1. RRP No. 1 on page 4-13. Turn the printer power Off (O) and disconnect the AC power cord. Disconnect any data cables.
2. RRP No. 2 on page 4-15 and remove the electronics cover.
3. Refer to Figure 6-16. At the rear of the printer, remove the two screws and the blank cover plate or an existing optional interface board positioned next to the main RS-232 and parallel interface connectors.

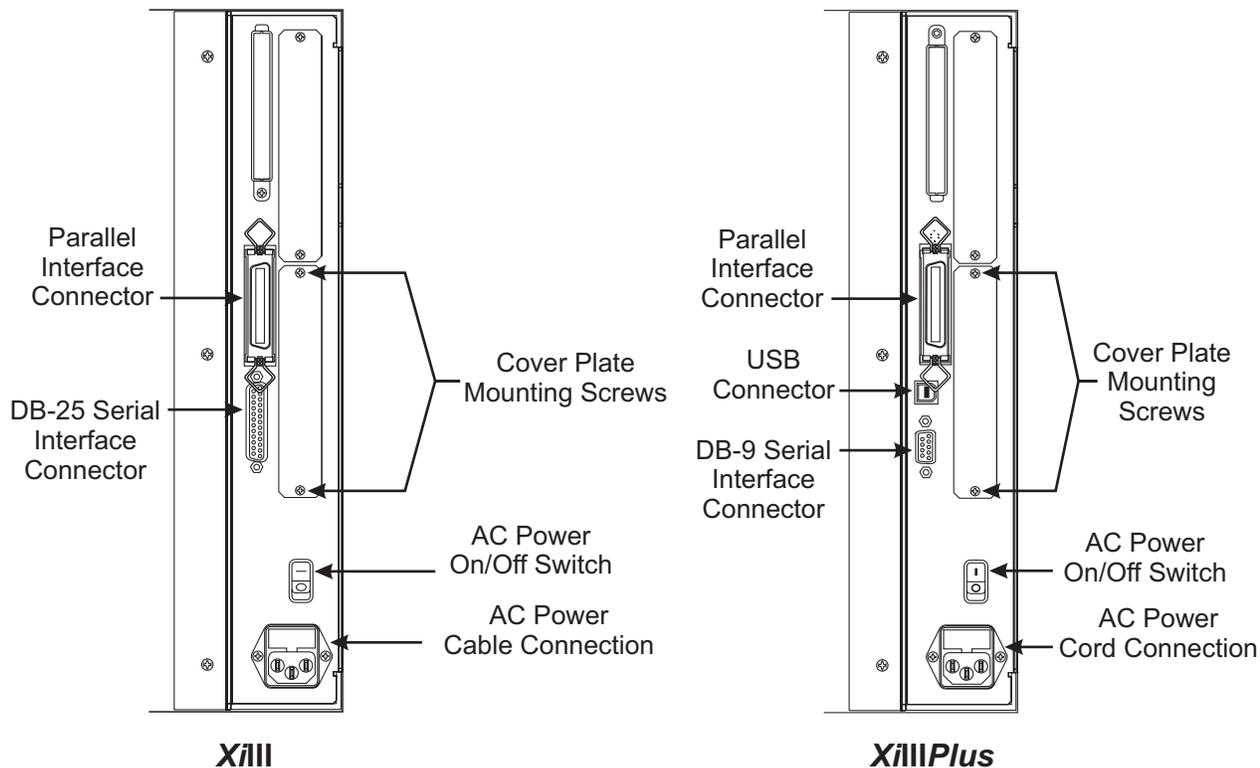


Figure 6-16. Cover Plate Rear View

4. Insert the ribbon cable and PrintServer II device through the mounting slot.
5. Refer to Figures 6-17 or 6-18. Fold the cable and the ferrite bead back over the mounting bracket, and connect the ribbon cable connector into the keyed interface data cable connector (J4–X1111 or P21–X1111Plus) on the main logic board. Ensure that the connector is properly seated and that pin 1 of the interface data cable connector is connected to pin 1 of J4 or P21.

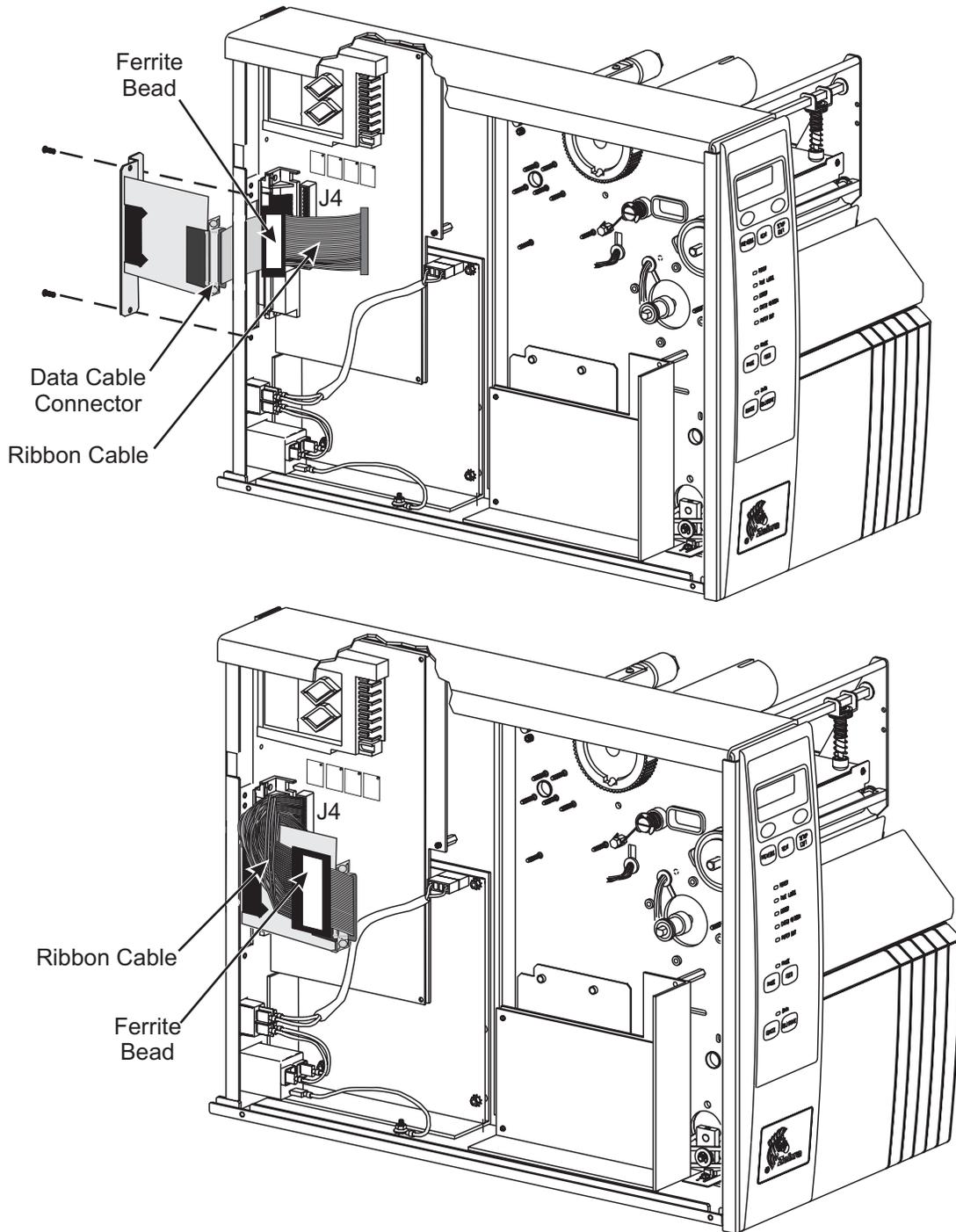


Figure 6-17. X1111 and R-140 Internal PrintServer II Board Installation

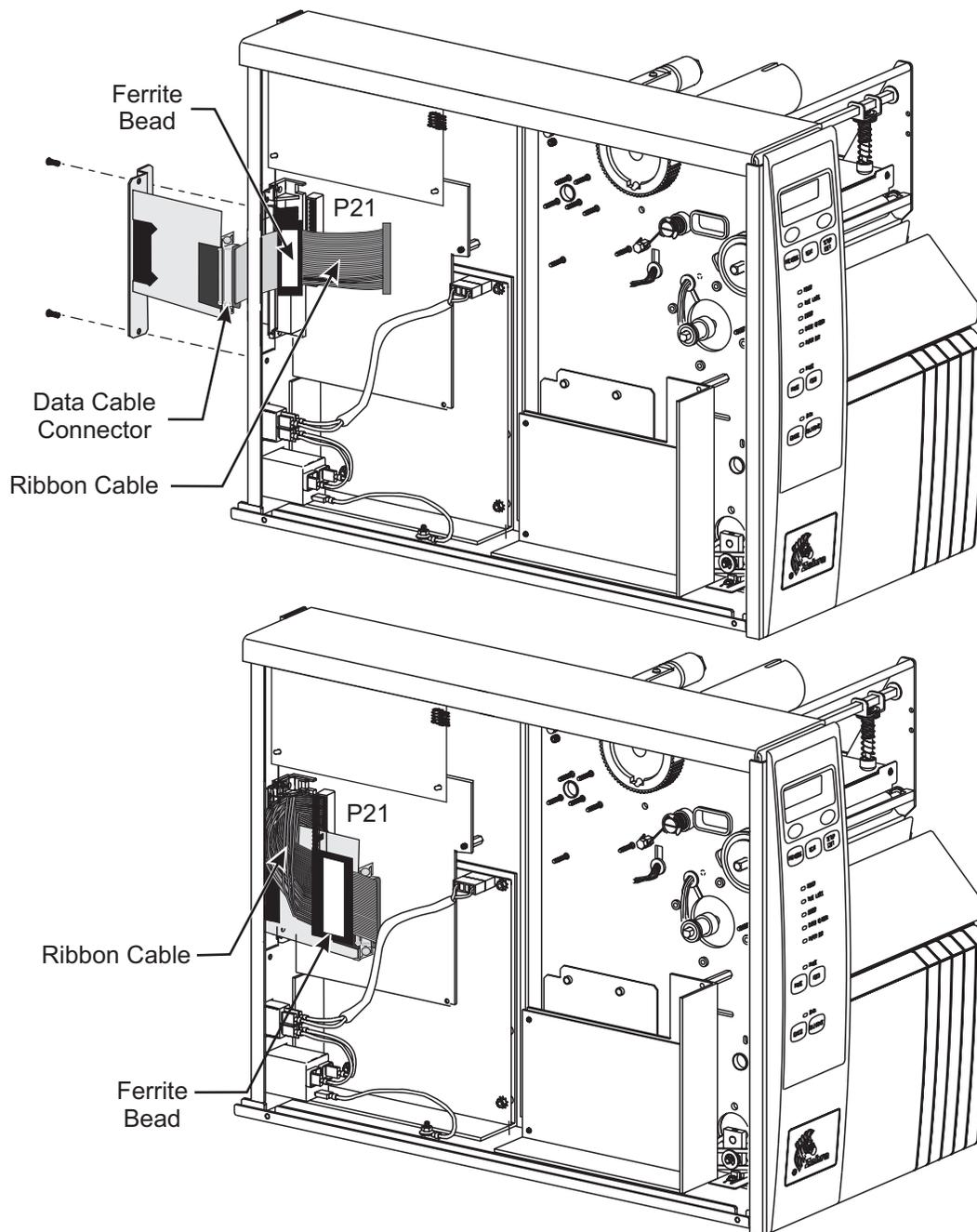


Figure 6-18. XiiiPlus Internal PrintServer II Board Installation

6. Secure the PrintServer II interface board in place with the cover plate screws removed in step 2.
7. Check all connectors for firm connections. Reinstall the electronics cover.
8. This kit includes a label printed with the Ethernet MAC hardware address for the PrintServer II. Remove the backing from the label and affix it to the back of the printer.
9. Reconnect the AC power cord and turn the printer power On (I).

NOTE: Consult your system administrator before configuring the PrintServer II for your network!

External PrintServer II Installation

Hardware Description



CAUTION:

THE PRINTER ELECTRONICS ARE SUSCEPTIBLE TO STATIC DISCHARGE. BEFORE PROCEEDING, IT IS HIGHLY RECOMMENDED THAT THE TECHNICIAN WEAR AN ANTISTATIC WRIST STRAP CONNECTED TO THE PRINTER CHASSIS.

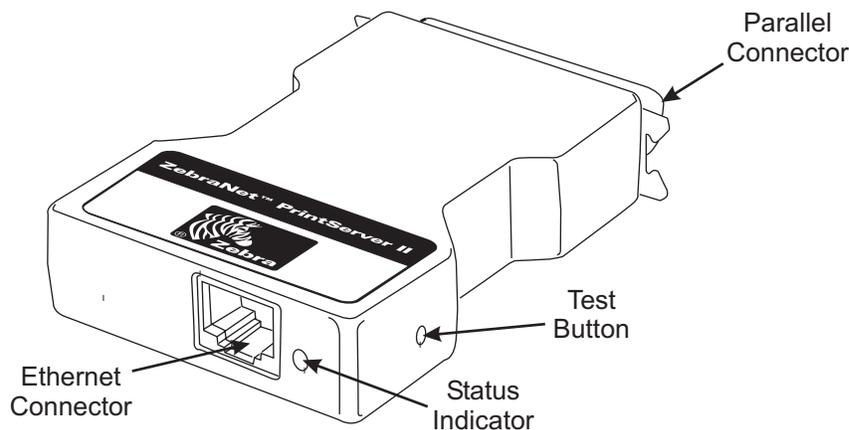


Figure 6-19. External PrintServer II

Test Button: This generates a detailed PrintServer II configuration label.

Status Indicator: A bi-colored indicator displays the state of the PrintServer II.

Ethernet Connection: Connection for a 10 Base-T cable. Connecting the PrintServer II does not interrupt network operation.

Parallel Connector: The external PrintServer II is powered by the printer; no additional power source is required.

Installation

The external ZebraNet PrintServer II is installed using the following steps:

1. Turn the printer Off (O). Install the PrintServer II device directly into the parallel port on the printer and secure with the wire locks.
2. Insert an active 10 Base-T cable into the Ethernet connector on the back of the PrintServer II device.
3. Turn the printer power On (I). The status indicator blinks orange during the POST (Power-On Self Test) phase and changes to green when stabilized.
4. Press the test button located on the back of the PrintServer II to print out a PrintServer II configuration label.

NOTE: To print a PrintServer II configuration label from your Zebra printer, a 4" wide by 6" long (10 cm wide by 15 cm long) label is recommended. If the label is smaller, some information may print outside the label edges. If you are printing on a 90XIII or 90XIIIPlus-Series printer, some of the heading information on the right side of the label will not print. Refer to Figure 6-15 for any missing data.

Twinax Communications Interface Board

Installation Instructions

1. Refer to RRP No. 1 on page 4-13. Turn the power Off (O) and disconnect the AC power cord. Disconnect any data cables.
2. RRP No. 2 on page 4-15 and remove the electronics cover.
3. Refer to Figure 6-20. At the rear of the printer, remove and retain the two screws and the blank cover plate or existing interface board positioned next to the main RS-232 and parallel interface connectors.

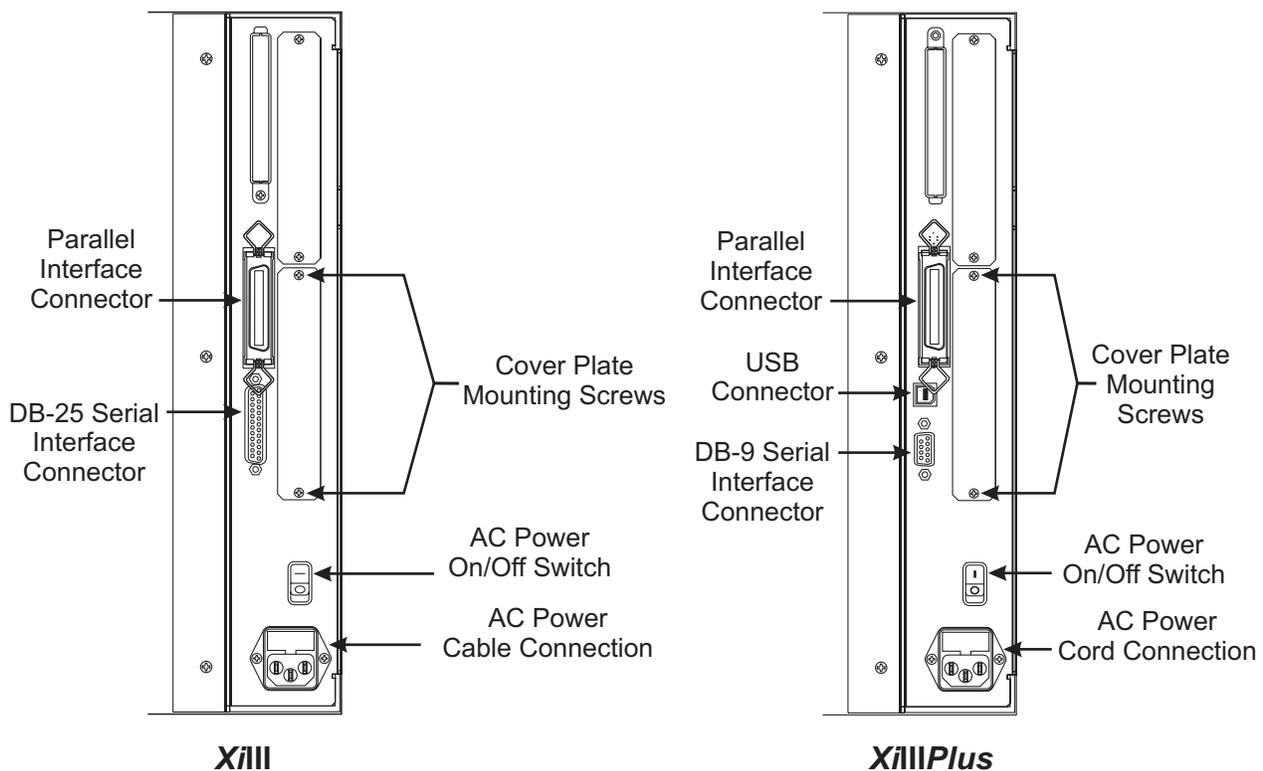


Figure 6-20. Rear View

4. Plug the 40-pin interface data cable into the keyed interface data cable connector (J4–Xiii or P21–XiiiPlus) on the main logic board.
5. Insert the twinax interface board partially into the mounting slot, then attach the other end of the interface data cable into the data cable connector at the rear of the twinax interface board.
6. Dress the ribbon cable behind the twinax interface board as you slide the board completely into the printer.
7. Fasten the twinax interface board in place with the screws previously removed.
8. Reinstall the electronics cover.
9. Connect the 9-pin twinax adapter cable connector to the mating connector on the interface board.

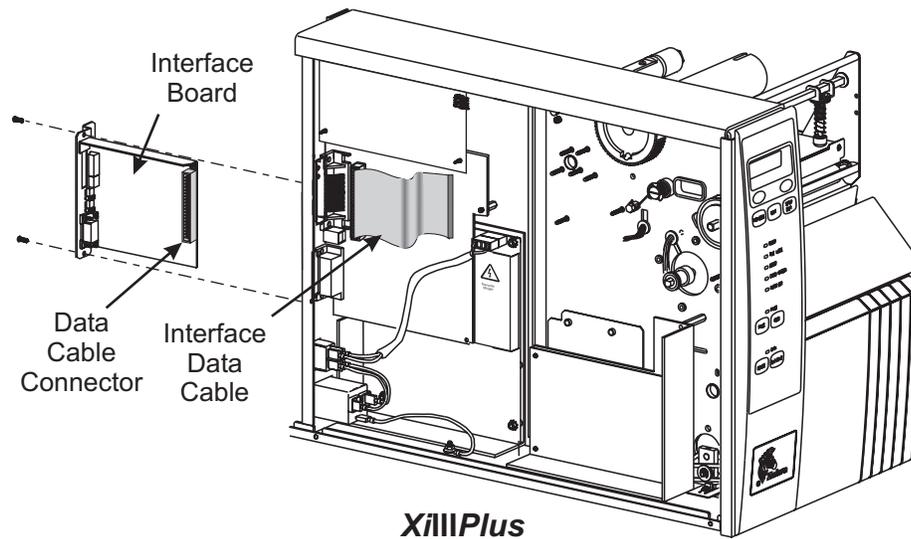
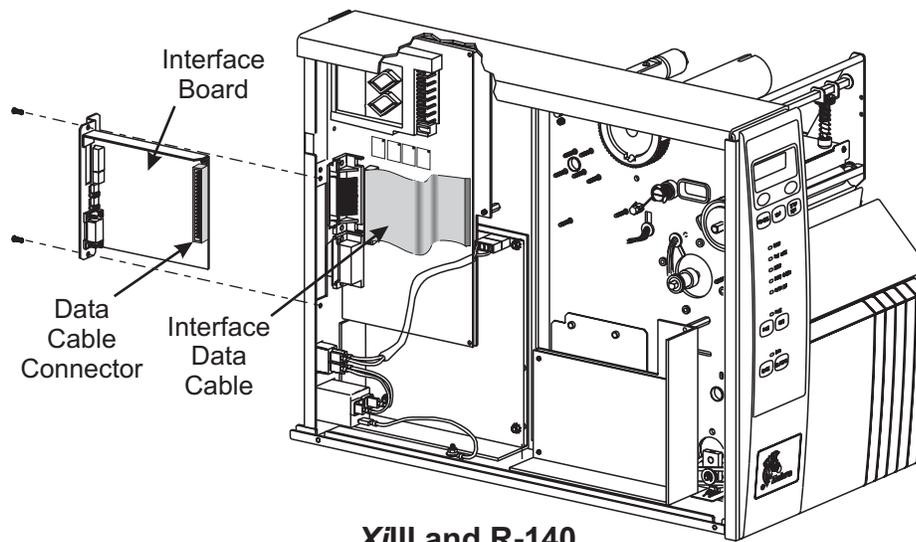


Figure 6-21. Twinax Interface Board Installation

10. Connect the twinax cable from the host computer to the mating connector on the adapter cable.

11. Refer to Table 6-3. Set the DIP switches in the proper positions for the application, then reconnect the AC power cord and turn the AC power On (I).
12. Ensure that the printer configuration is set to:

Parameter	Setting
Host Port	Twinax/Coax

Table 6-3. Twinax Interface Board DIP Switch Settings

Print Complete		
Switch #1	Description	
Left	An Operation Complete status message is sent to the host after a label format is completely printed. The host can then send the next label format to be printed.	
Right	Enables the Early Print Complete function. The host can send additional print jobs to the Zebra printer without waiting for the actual completion of the current print job. The printing status sent to the host reflects the label formats received, not the ones completed.	
EBCDIC Buffer Print		
Switch #2	Description	
Left	Normal operation (received EBCDIC data is translated to ASCII Data).	
Right	Received EBCDIC data prints as large characters that are readable hex equivalents. Use only for troubleshooting with the printer in the Diagnostics mode.	
Printer Emulation Selections		
Switch #3	Switch #4	IBM Printer Configured
Left	Left	5256 Model 3
Left	Right	5225 Model 4
Right	Left	5224 Model 2
Right	Right	4212 Model 2

Table 6-3. Twinax Interface Board DIP Switch Settings

Default Language Selections				
Switch #5	Switch #6	Switch #7	Switch #8	Language Selected
Left	Left	Left	Left	0 — Multinational
Left	Left	Left	Right	1 — USA/Canada (Factory setting)
Left	Left	Right	Left	2 — Austria/Germany
Left	Left	Right	Right	3 — Belgium
Left	Right	Left	Left	4 — Brazil
Left	Right	Left	Right	5 — Canada (French)
Left	Right	Right	Left	6 — Denmark/Norway
Left	Right	Right	Right	7 — Finland/Sweden
Right	Left	Left	Left	8 — France
Right	Left	Left	Right	9 — Italy
Right	Left	Right	Left	A — Japan
Right	Left	Right	Right	B — Japan (English)
Right	Right	Left	Left	C — Portugal
Right	Right	Left	Right	D — Spain
Right	Right	Right	Left	E — Spanish-Speaking
Right	Right	Right	Right	F — United Kingdom
NOTE: The language character sets 1 — US/Canada and B — Japan (English) are the same. The character sets for D — Spain and E — Spanish-Speaking are the same.				
Cable Address Switch Settings				
Switch #9	Switch #10	Switch #11	Address Selected	
Left	Left	Left	0 — (Factory Setting)	
Left	Left	Right	1	
Left	Right	Left	2	
Left	Right	Right	3	
Right	Left	Left	4	
Right	Left	Right	5	
Right	Right	Left	6	
Right	Right	Right	7 — (Use in Diagnostic Mode Only)	
Star Panel Overdrive				
Switch #12	Description			
Left	Normal Operation			

13. Send a sample label format from the host computer to the printer to test for proper operation. After setting the DIP switches, turn the printer power Off (O) and back On (I). With the exception of DIP switch #2, the printer monitors the positions of the DIP Switches only during the Power-On Self Test. The EBCDIC Buffer Print function is enabled whenever DIP Switch #2 is placed in the “Right” position.

Coax Communications Interface Boards



CAUTION:

THE PRINTER ELECTRONICS ARE SUSCEPTIBLE TO STATIC DISCHARGE. BEFORE PROCEEDING, IT IS HIGHLY RECOMMENDED THAT THE TECHNICIAN WEAR AN ANTISTATIC WRIST STRAP CONNECTED TO THE PRINTER CHASSIS.

Installation Instructions

1. Refer to RRP No. 1 on page 4-13. Turn the power Off (O) and disconnect the AC power cord. Disconnect the data cable.
2. Refer to RRP No. 2 on page 4-15 and remove the electronics cover.
3. Refer to Figure 6-20. At the rear of the printer, remove and retain the two screws and the blank cover plate or existing interface board positioned next to the main RS-232 and parallel interface connectors.

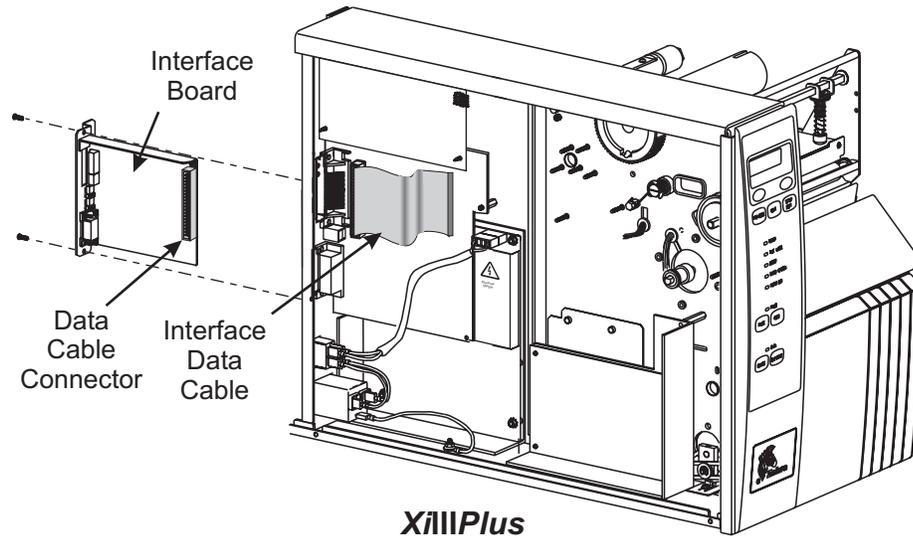
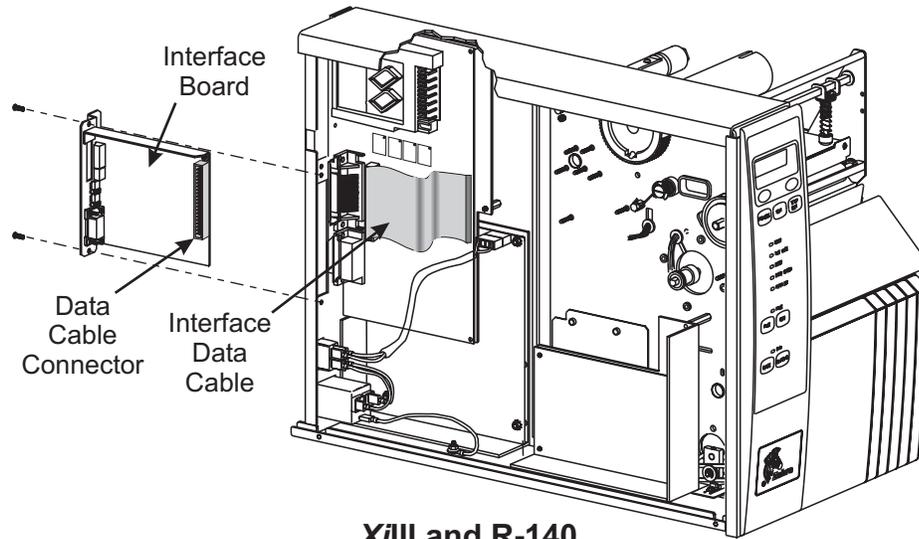


Figure 6-22. Coax Communications Interface Board Installation

4. Plug the 40-pin interface data cable into the keyed interface data cable connector (J4–X111 or P21–X111Plus) on the main logic board.

5. Insert the coax interface board partially into the mounting slot, then attach the other end of the interface data cable into the data cable connector at the rear of the coax interface board.
6. Dress the ribbon cable behind the coax interface board as you slide the board completely into the printer.
7. Fasten the coax interface board in place with the screws removed in step 2, then reinstall the side cover.
8. Connect the 9-pin coax adapter cable connector to the mating connector on the interface board.
9. Connect the coax cable from the host computer to the mating connector on the adapter cable.
10. Set the DIP switches in the proper positions for the application refer to Table 6-4, then reconnect the power cord and turn the AC power On (I).
11. Ensure that the printer configuration is set to:

Parameter	Setting
Host Port	Twinax/Coax

12. Send a sample label format from the host computer to the printer to test for proper operation.

Table 6-4. Coax Interface Board DIP Switch Settings

Test Mode				
Switch #1	Description			
Left	Normal label printing operation.			
Right	When printer power is applied, the coax interface performs a self test. A self test label printout lists the coax interface software revision, the selected language, results of the RAM/ROM tests, and a sample code 39 bar code.			
EBCDIC Buffer Print				
Switch #2	Description			
Left	Normal operation (received EBCDIC data is translated to ASCII Data).			
Right	Received EBCDIC data prints as large characters that are readable hex equivalents. Use only for troubleshooting with the printer in the Diagnostics mode			
Default Language Selections				
Switch #3	Switch #4	Switch #5	Switch #6	Language Selected
Left	Left	Left	Left	0 — Multinational
Left	Left	Left	Right	1 — USA/Canada (Factory setting)
Left	Left	Right	Left	2 — Austria/Germany
Left	Left	Right	Right	3 — Belgium
Left	Right	Left	Left	4 — Brazil
Left	Right	Left	Right	5 — Canada (French)
Left	Right	Right	Left	6 — Denmark/Norway
Left	Right	Right	Right	7 — Finland/Sweden
Right	Left	Left	Left	8 — France
Right	Left	Left	Right	9 — Italy
Right	Left	Right	Left	A — Japan
Right	Left	Right	Right	B — Japan (English)
Right	Right	Left	Left	C — Portugal
Right	Right	Left	Right	D — Spain
Right	Right	Right	Left	E — Spanish-Speaking
Right	Right	Right	Right	F — United Kingdom
NOTE: The language character sets 1 — US/Canada and B — Japan (English) are the same. The character sets for D — Spain and E — Spanish-Speaking are the same.				
Intervention Required Message				
Switch #7	Description			
Left	Inhibits the sending of the “Intervention Required” (IR) status message.			
Right	When a printer error condition is monitored by the coax interface for a period of at least 10 minutes, an “Intervention Required” (IR) status message is sent to the host.			
Switch #8	Description			
Left	An “Operation Complete” status message is sent to the host after a label format is completely printed. The host can then send the next label format to be printed.			
Right	Enables the “Early Print Complete” function. The host can send additional print jobs to the printer without waiting for the completion of the current print job. The printing status sent to the host reflects the label formats received, not the ones completed.			

Table 6-4. Coax Interface Board DIP Switch Settings

Test Mode		
Buffer Size Selection		
Switch #9	Switch #10	Description
Left	Left	3564 Byte buffer
Left	Left	3440 Byte buffer
Left	Right	1920 Byte buffer
Left	Right	960 Byte buffer
Switch #11	Not Active	
Switch #12	Not Active	

After setting the DIP switches, turn the printer power Off (O) and back On (I). With the exception of DIP switch #2, the printer monitors the positions of the DIP Switches only during the Power-On Self Test. The EBCDIC Buffer Print function is enabled whenever DIP Switch #2 is placed in the “Right” position.

Wireless Ethernet

WCSSO Board Removal and Replacement

This document provides the instructions necessary to replace a ZebraNet Wireless Card Socket Option (WCSSO) board.

The main topics include:

- Before you begin on page 6-30
- Installation on page 6-31

Before you begin

This section tells you what tools you need to perform the necessary steps and defines the icon topics used throughout this document.

Installation

The instructions that follow describe the steps to remove a WCSO board, install a new WCSO board, and configure it.

1. Refer to RRP No. 1 on page 4-13, turn the printer Off (O), and disconnect the AC power cord. Remove any communication cables.
2. Refer to RRP No. 2 on page 4-15 and remove the electronics cover.

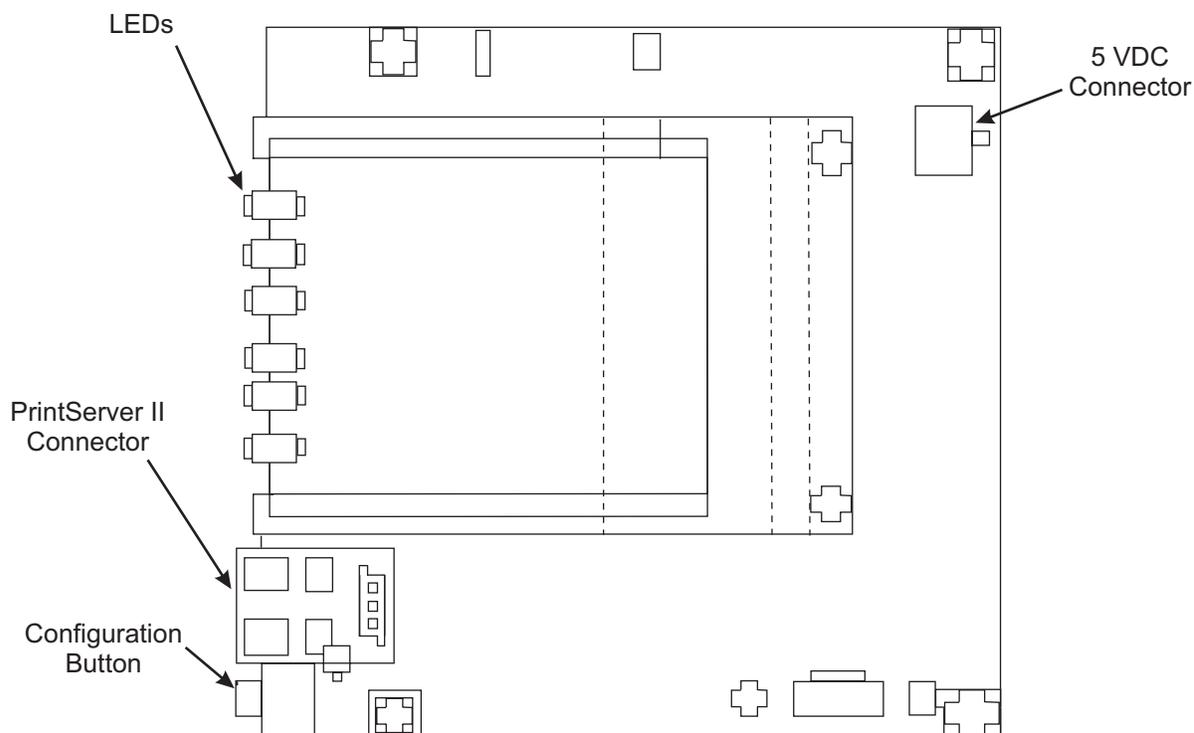


Figure 6-23. WCSO Board

3. Unplug the power cable (multicolored) connected to the 5-VDC connector on the WCSO board.

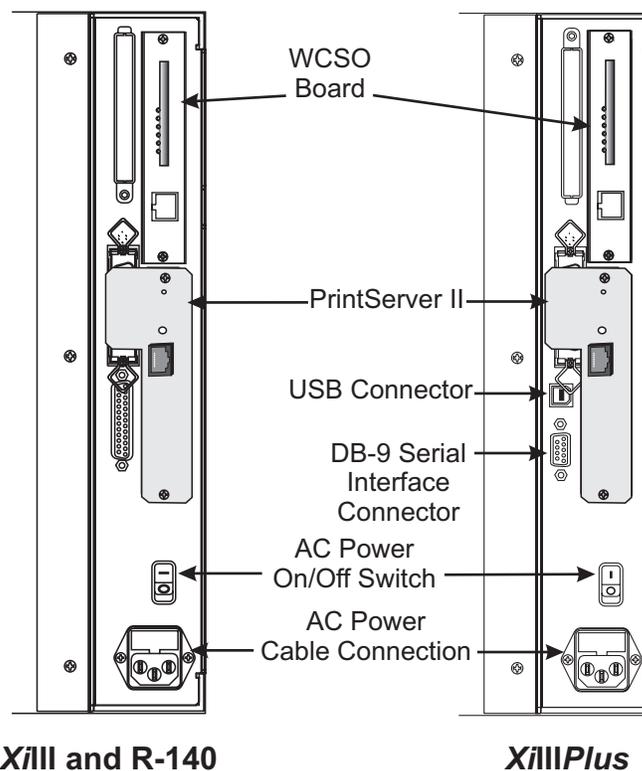


Figure 6-24. WCSO Board Removal

4. On the back of the printer in the upper right-hand corner, remove the screws and the WCSO board.
5. Install the new WCSO board using the two screws previously removed.

NOTE: There are multiple stickers on the WCSO board that identify the board's unique serial number.

6. Reconnect the power (multicolored) cable to the WCSO board's 5-VDC connector.
7. Plug the printer in and turn it On (I). Make sure there is power to the WCSO board (Some LEDs should be lit).

NOTE: If the WCSO board does not have power (no LEDs are lit), ensure that the power (multicolored) cable is securely inserted into one of the available 5-VDC connectors.

8. Turn the printer Off (O) and put the printer's side panel back on.

ZebraNet Wireless View

1. From the status bar, click **Start>Programs>ZebraNet Wireless>ZebraNet Wireless View**.

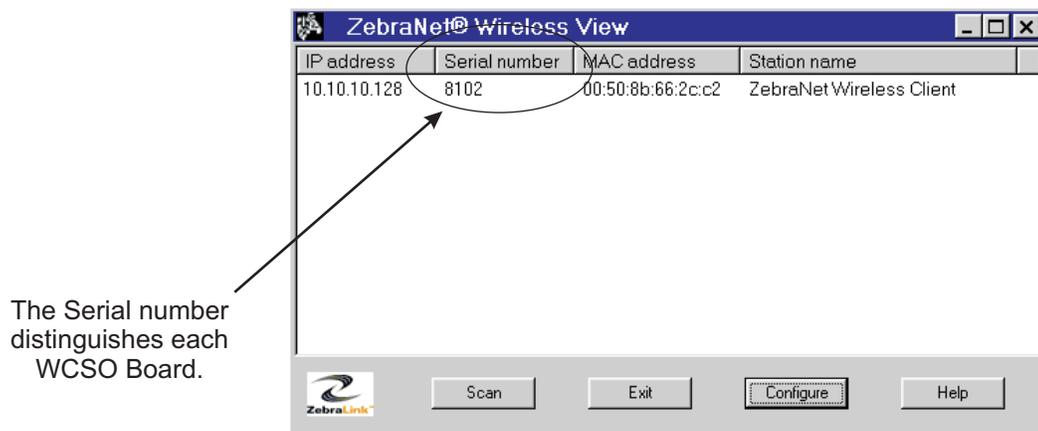


Figure 6-25. The ZebraNet Wireless View Dialog Opens

NOTE: The RF card should not be inserted into the WCSO board at this point.

2. With the printer power Off (O), insert the RF card into the WCSO board.
3. Turn the printer On (I).

NOTE: Most RF cards have status indicators. At least one of the indicators should be lit when the RF card is inserted correctly and the printer is On (I).

4. Look on the back of the printer to confirm that the WCSO board and RF card have power (lights are lit on both).

Cable Overview (7 foot [2 m])

This section describes the use of one of the 7 foot (2 m) cables from the installation kit. This cable is used strictly for setup and configuration purposes to prepare to make your printer wireless.

If you are configuring WCSO through a network connection (using the **red** crossover cable), **read this:**

The default ESSID for WCSO is 125. If the AP is using the same ESSID as the WCSO's ESSID, all wired traffic on that subnet could be passed through the WCSO to the AP and back onto the wired subnet. If this is the situation, a decrease is evident in the available bandwidth, which means you will notice a significant decrease in network throughput to other wireless devices of all other wireless devices associated with the given AP. However, once you break the network loop by disconnecting the crossover cable **red**, all devices resume normal operation.

Here are some solutions if the ESSIDs match:

- To isolate network traffic, use the 7 foot (2 m) green straight-through cable and connect it to the printer and to a laptop.
- Use the 7 foot (2 m) red crossover cable to temporarily change the AP's ESSID.

Cable Usage

NOTE: The 7 foot (2 m) cable does not go in the print server.

1. Use the 7 foot (2 m) cable that applies to your environment. These are your choices:
 - If you are connecting your printer to a computer or laptop, complete the callout illustration step in Figure 6-26 below.
 - If you are connecting your printer to a hub or network connection, complete the callout illustration step in Figure 6-27 below.

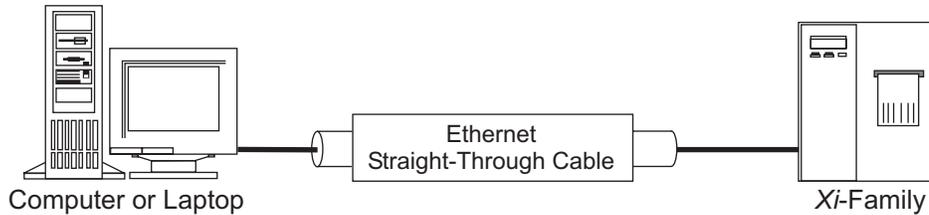


Figure 6-26. Straight-Through Cable Environment

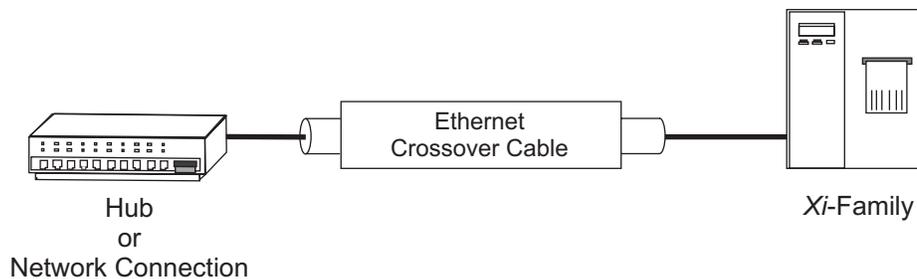


Figure 6-27. Crossover Cable Environment

NOTE: Do not release the Configuration button until the second (yellow) and third LED (green) on the WCSO board begin to flash.

2. On the ZebraNet WCSO board, press and hold in the Configuration Button (little white button on the WCSO board) and turn the power On (I).

ZebraNet WCSO Configuration

1. From the status bar, click **Start>Programs>ZebraNet Wireless>ZebraNet Wireless View**.
2. From the ZebraNet Wireless View dialog, click **Scan**. This can take up to six seconds.

NOTE: The default WCSO IP address is: 10.10.10.128, and the default station name is ZebraNet Wireless Client.

3. Select the WCSO you want to configure, then click **Configure**.

NOTE: If you choose to use the bulleted optional steps below, you must use a static address. You cannot use DHCP addressing.

If you elect to do these optional steps, you can telnet in or ping your device(s). If you elect **not** to do these bulleted optional steps, proceed to step 4.

- Click the **Network** tab and set the IP address to an available IP address on the current network.
 - From the **Network** tab, set the **Netmask** to the current **SubNetMask** of your network.
4. Select the **Radio** tab.

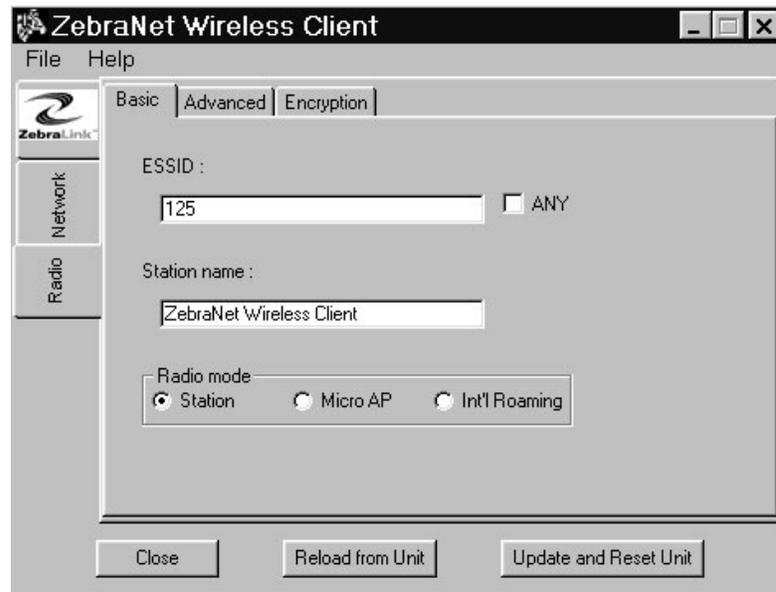


Figure 6-28. The *ZebraNet Wireless Client* dialog with *Radio>Basic* tab open

NOTE: The *ESSID* can be alpha or numeric.

5. From the **Radio>Basic** tab, set the *ESSID* to match the *ESSID* of your wireless network (access point).
6. In the Station Name text-box, type the name of the device you want to make wireless, click **Update and Reset Unit**.
 - If successful, a message log shows this message: Update and Reset Unit.
 - If not successful, a message log shows this message: Upload timed out. This message is followed by instructions explaining what to do next. Follow the prompts accordingly.
7. When you see the Update and Reset Successful message, click **Close**.

Wireless Setup

1. Turn the printer power Off (O).
2. Unplug the 7 foot (2 m) cable from the WCSO board (in the printer) and your other device (hub or computer).
3. From the installation kit, plug the 1 foot (30 cm) **green** cable (straight-through) into the ZebraNet WCSO board (in back of printer).
4. From the installation kit, remove the RF card cover. Pull the **green** cable through the cover opening, then secure the cover with the provided screws.
5. Connect the other side of the **green** cable to the print server.
6. Turn the printer Power On (I).

NOTE: It could take up to 90 seconds for the DATA light to flash.

Watch for the DATA light on the front of the printer to flash; this means that ZebraNet WCSO and the printserver are recognized.

Testing Installation

1. From the status bar, click **Start>Programs>ZebraNet Wireless>ZebraNet Wireless View**.
2. Confirm that your wireless device is listed in the ZebraNet Wireless View dialog. The serial number is each WCSO's unique identifier.
3. From the ZebraNet Wireless View dialog, click Scan. Your wireless device is listed in the ZebraNet Wireless Client dialog. If it is **not** in the ZebraNet Wireless View dialog:
 - confirm that the printer is turned On (I)
 - confirm that you are using the correct cable for your setup

Applicator Interface Port (XIII, XIIIPlus and R-140)

1. Refer to RRP No. 1 on page 4-13. Turn the printer power Off (O) and disconnect the AC power cord. Disconnect the data cable.
2. Refer to RRP No. 2 on page 4-15 and remove the electronics cover.
3. Refer to Figure 6-20 and remove the screws and the blank cover plate (or the interface board and cables) installed next to the PCMCIA memory card slot. (Save the screws.)
4. Attach the DC power cable to J5 on the applicator circuit board, then connect interface data cable to J4 as needed.
5. Refer to Figure 6-29. Insert the applicator circuit board and cable partially into the mounting slot. Connect the other end of the interface data cables to one of the open serial data connectors on the main logic board (J7–J10 or P30–P36) and the DC power cable to one of the open connectors (J5–J10) on the DC power supply board.
6. Slide the applicator circuit board completely into the mounting slot, and secure it with the screws previously removed.
7. Reinstall the electronics cover.
8. Reinstall the AC power cord and restore power. Turn the printer On (I).

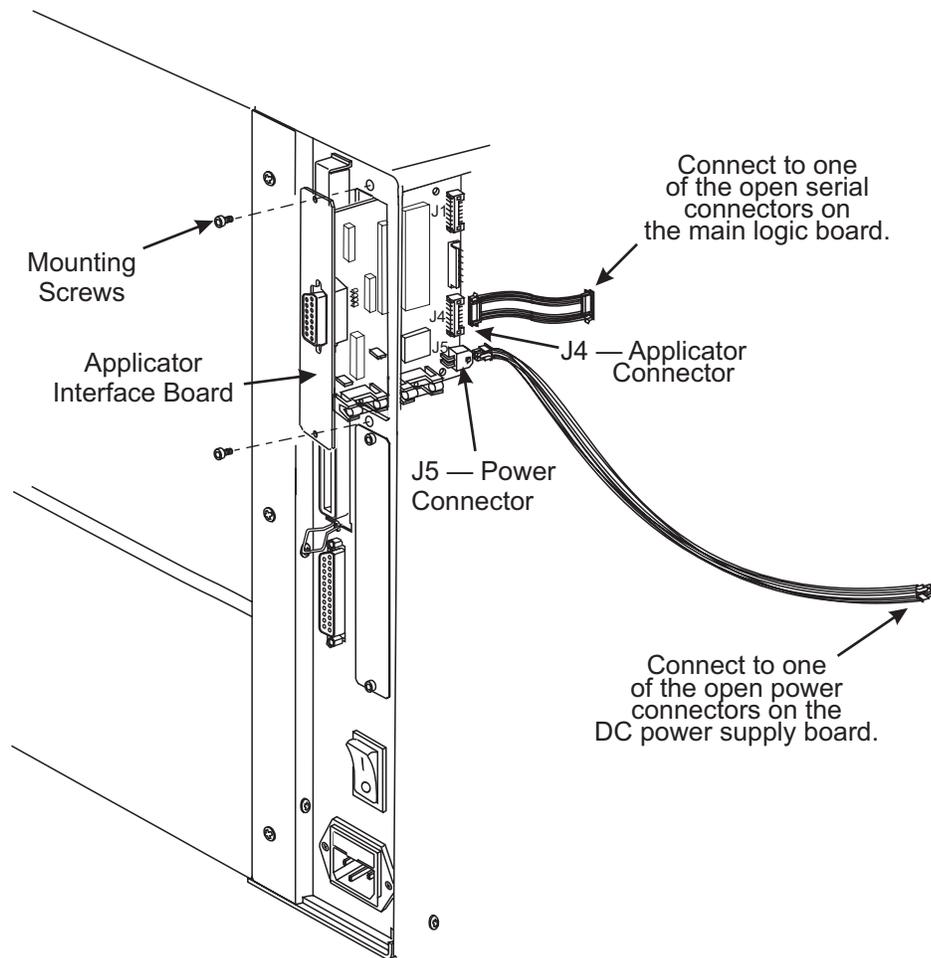


Figure 6-29. Applicator Installation

Applicator Interface Port with Real-Time Clock (X/III and R-140)

NOTE: The real-time clock (RTC) is on the main logic board and is standard on the X/IIIPlus.

1. Refer to RRP No. 1 on page 4-13. Turn the printer power Off (O) and disconnect the AC power cord. Disconnect the data cable.
2. Refer to RRP No. 2 on page 4-15 and remove the electronics cover.
3. Refer to Figure 6-20 and remove the screws and the blank cover plate (or the interface board and cables) installed next to the PCMCIA memory card slot. (Save the screws.)

NOTE: There are two interface data cables that need to be attached from the RTC/applicator circuit board to the main logic board if the applicator interface and the RTC are to work at the same time. J1 on the RTC board connects the RTC, and J4 connects the applicator interface.

4. Attach the DC power cable to J5 on the RTC/applicator circuit board, then connect one or both interface data cables to J1 and J4 as needed.
5. Refer to Figure 6-30. Insert the RTC/applicator circuit board and cables partially into the mounting slot. Connect the other end of the interface data cables to one of the open serial data connectors on the main logic board (J7–J10 or P30–P36) and the DC power cable to one of the open connectors (J5–J10) on the DC power supply board.

6. Slide the RTC/applicator circuit board completely into the mounting slot, and secure it with the screws previously removed.
7. Reinstall the electronics cover.
8. Reinstall the AC power cord and restore power. Turn the printer On (I).

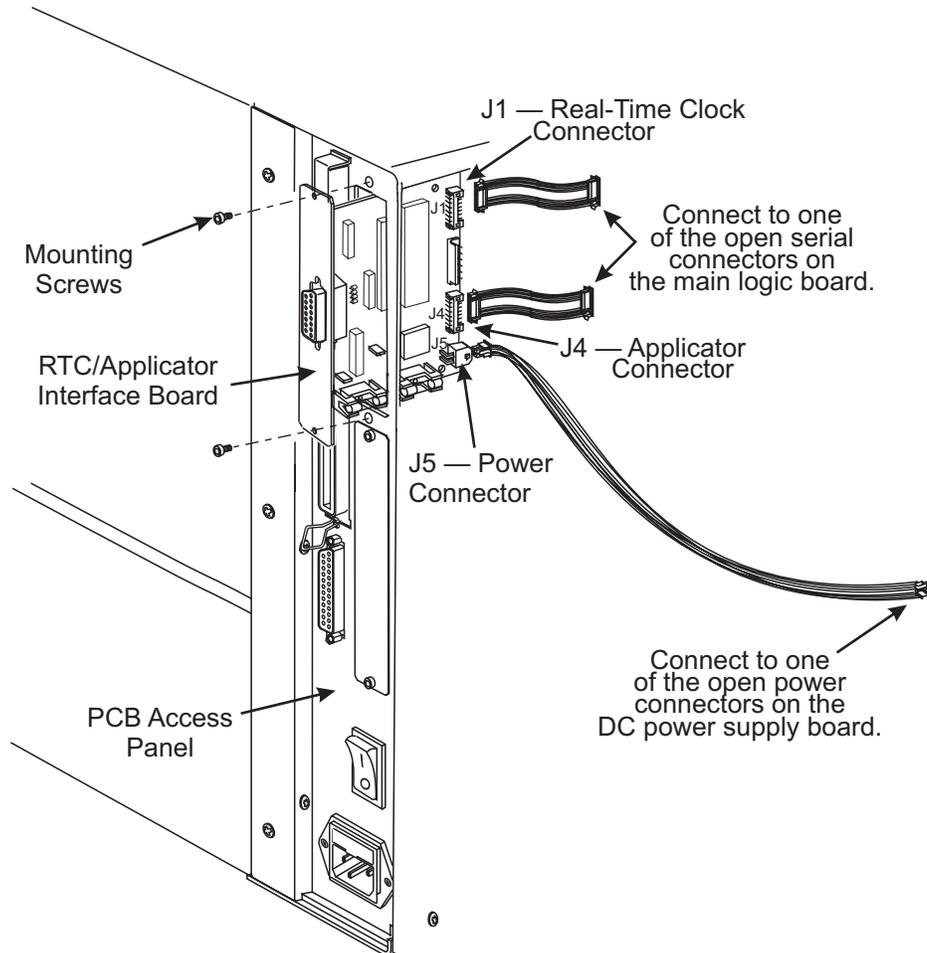


Figure 6-30. Applicator/Real-Time Clock Installation

9. Configure the real-time clock parameters according to the following instructions. Then send a sample label format from the host computer to the printer to test for proper operation.

Real-Time Clock Parameters

The following parameters are added to the front panel configuration prompts only when the real-time clock hardware is installed in the *XiIII*-Series printer.

Idle Display

Selects the printer's idle display format and the method of displaying the time/date information. This parameter also affects the configuration label printout and the **SET DATE** and **SET TIME** formats.

Selections:

FW VERSION	MM/DD/YY 24HR	MM/DD/YY 12HR
DD/MM/YY 24HR	DD/MM/YY 12HR	

If FW VERSION is selected, the format is on the configuration label and on the **SET DATE**.

Set Time

Allows entry of the RTC time in the format selected by the **IDLE DISPLAY** parameter.

Use the left oval key to select the position to be adjusted. Then use the right oval key to select the correct value for that position.

Set Date

Allows entry of the RTC date in the format selected by the **IDLE DISPLAY** parameter.

Use the left oval key to select the position to be adjusted. Then use the right oval key to select the correct value for that position.

Real-Time Clock Commands (ZPL II Commands)

General Information on the Use of Real-Time Clock

NOTE: The ZPL II commands for the RTC are applicable only if the option is installed in the printer.

The field clock (**^FC**) command specifies the clock-indicator character for the primary, secondary, and tertiary clocks. This command must be included within each label field command string whenever the date or time clock values are required within the field. No date or time clock information can be printed in a label field unless this command is included.

A clock indicator can be any printable character except the ZPL II format prefix, control prefix, or delimiter characters. The default value for the primary clock-indicator is the percent sign (%). The secondary and tertiary clock indicators have no defaults and must be specified in order for that clock to be used.

The ZPL II field data (**^FD**) command has been expanded to recognize the clock indicators and associated command characters, and to replace them during the printing process with the corresponding time or date parameter. For example, if the primary clock indicator is the percent sign (%), during printing the character sequence **%H** in the **^FD** statement is replaced by the two-digit current hour.

NOTE: If real-time clock hardware is not installed, or the ^FC command has not preceded the ^FD statement, no replacement occurs. In this case, the characters “%H” print as text on the label.

The name of the day of the week, the name of the month, and the AM or PM designation can also be inserted in place of a specific clock indicator/command character sequence. See Table 4-9 for the list of command characters and their functions.

The set offset (**^SO**) command permits the printing of specific times and dates relative to the primary clock. The secondary (or tertiary) clock is enabled when secondary (or tertiary) offsets are entered using this command. The secondary (or tertiary) clock time and date are determined by adding the offsets to the current clock reading.

One **^SO** command is required to set the secondary offset and an additional **^SO** command is required for a tertiary offset. The offsets remain until changed or until the printer is either turned Off (**O**) or reset.

NOTE: Only dates from January 1, 1998 to December 31, 2097 are supported. Setting the offsets to values outside this range is not encouraged or guaranteed.

The set mode/language (^SL) command is used to select the language in which to print the names of the days of the week and the names of the months. This command also sets the printing mode, which can be 'S' for Start Time or 'T' for Time Now. In Start Time mode, the time printed on the label is the time that is read from the real-time clock when the label formatting begins (when the ^XA command is received by the printer). In Time Now mode, the time printed on the label is the time that is read from the real-time clock when the label is placed in the queue to be printed.

Command Character	Replaced By
%a	Abbreviated weekday name
%A	Weekday name
%b	Abbreviated month name
%B	Month name
%d	Day of the month number, 01 to 31
%H	Hour of the day (Military), 00 to 23
%l	Hour of the day (Civilian), 01 to 12
%j	Day of the year, 001 to 366
%m	Month number, 01 to 12
%M	Minute, 00 to 59
%p	AM or PM designation
%S	Seconds, 00 to 59
%U	Week number of the year, 00 to 53, Sunday is 1st Day
%W	Week number of the year, 00 to 53, Monday is 1st Day
%w	Day # of the week, 00 (Sunday) to 06 (Saturday)
%y	Last 2 digits of the year, 00 to 99
%Y	Full 4-digit year number
NOTE: % is the specified clock indicator character.	

Time and Date Precision (in Time Now Mode)

The time and date placed in a label field is determined at the time the label bitmap is created by the printer. If a batch of labels is formatted, the date and time will be the same for all labels in the batch. If the printer is PAUSED during the printing process and remains in that state for a period of time, when printing resumes the time and date will still be the same as when the batch was first started.

If more precise time and date stamps are required on the labels, the ^CO (cache on) ZPL II command can be used to limit the memory available for label bitmaps and thus reduce the number of labels containing the same time and date stamp. To determine the value for the "b" parameter of the ^CO command, perform the steps that follow:

NOTE: Cycle the printer power Off (O) and On (I) to clear the memory before performing the steps below.

1. Print a Memory Usage Label (**^XA^WD*:*.*^XZ**) and note the following value:
Available RAM (in bytes) (A) _____
2. Print a Configuration Label and note these values:
Printer "Print Width" (in dots) (**not** the label width) (B) _____
Label Length (in dots) (**not** max. label length) (C) _____
3. Determine the desired maximum number of queued labels with the same Time and Date value. (D) _____

NOTE: Increasing the number of queued labels improves throughput performance, but real-time clock values are less accurate. Two is usually an appropriate compromise.

4. Substitute the values for B through D from the previous page into the following formula:
 $(B \times C \times D) / 8 =$ (E) _____
5. Substitute the values for A and E into the following formula:

$$\frac{[(A - E) / 1024] - 5}{\text{The "ACO command" memory required (in kbytes)}} = \text{(F) } \underline{\hspace{2cm}}$$

NOTE: If the value of (F) is less than zero, then no ^CO command is needed. If the value of (F) is greater than zero, use the integer portion in the ^CO command.

EXAMPLE

Available RAM	(A) = <u>714748</u> bytes
Print Width	(B) = <u>832</u> dots
Label Length	(C) = <u>1000</u> dots
Max Labels Queued	(D) = <u>2</u>
The "label queue" memory required ($B \times C \times D$) / 8	(E) = <u>208000</u> bytes
The " ACO command" memory required ($(714748 - 208000) / 1024$) - 5	(F) = <u>489.87</u> kbytes

Therefore, the correct **ACO** command string to add to the label format would be:

^XA^COY,489^XZ

This command string causes 489 kbytes to be set aside as font memory and makes it unavailable as label format memory. The memory remaining allows only two labels to be formatted at one time, and the time and date are more precise for those two labels.

^KD Date/Time Format

The **^KD** (date/time format) instruction is used to select the format in which the real-time clock's date and time information is printed on a configuration label.

The format for the **^KD** instruction is:

^KDa

Where

^KD = Date/Time Format

- a** = Value indicating desired date/time format
 - 0 = Normal version number string (Default)
 - 1 = MM/DD/YY w/24-hour clock
 - 2 = MM/DD/YY w/12-hour clock
 - 3 = DD/MM/YY w/24-hour clock
 - 4 = DD/MM/YY w/12-hour clock

NOTES: If the real-time clock hardware is not present, the display mode will be set to "Version Number."

If the display mode is set to "Version Number" and the real-time clock hardware is present, the date/time format shown on the configuration label when setting the date/time will be in the format MM/DD/YY with a 24-hour clock.

^FC Field Clock

The **^FC** (field clock) instruction is used to set the clock-indicators (delimiters) and the clock mode for use with the real-time clock hardware. This command must be included within each label field command string each time the real-time clock values are required within the field.

The format for the **^FC** instruction is:

^FCa,b,c

Where

^FC = Field Clock

- Primary clock indicator character
 - a** = Default = %
- Secondary clock indicator character
 - b** = No Default – cannot be the same as "a" above
- Tertiary clock indicator character
 - c** = No Default – cannot be the same as "a" or "b" above

NOTE: If no real-time clock hardware is present, this command is ignored.

^SL Set Mode/Language

The **^SL** (set mode/language) instruction is used to specify the language in which real-time clock information is printed and to specify the mode of operation for the real-time clock.

NOTE: The ^SL command must be placed in front of the first time field ^FO command.

The format for the **^SL** instruction is:

^SLa,b

Where

^SL = Set Mode/Language

Mode

S = START TIME mode (Default)

a = T = TIME NOW mode

Language Number

b = (Default = The language selected via the ^KL instruction)

1 = English

4 = German

7 = Portuguese

10 = Spanish 2

2 = Spanish

5 = Italian

8 = Swedish

11 = Dutch

3 = French

6 = Norwegian

9 = Danish

12 = Finnish

^SO Set Offset

The **^SO** (set offset) instruction is used to set the secondary offset and the tertiary offset from the primary real-time clock.

The format for the **^SO** instruction is:

^SOa,b,c,d,e,f,g

Where

^SO = Set Offset

Clock (No Default)

2 = Secondary Clock

a = 3 = Tertiary Clock

b = Months Offset (Default = 0) (Range -32,000 to +32,000)

c = Days Offset (Default = 0) (Range -32,000 to +32,000)

d = Years Offset (Default = 0) (Range -32,000 to +32,000)

e = Hours Offset (Default = 0) (Range -32,000 to +32,000)

f = Minutes Offset (Default = 0) (Range -32,000 to +32,000)

g = Seconds Offset (Default = 0) (Range -32,000 to +32,000)

^ST Set Date/Time

The **^ST** (set date/time) instruction is used to set the date and time of the real-time clock.

The format for the **^ST** instruction is:

^STa,b,c,d,e,f,g

Where

^ST = Set Date/Time

a = Month (Default = Current Month)	Valid Range = 01 to 12
b = Day (Default = Current Day)	Valid Range = 01 to 31
c = Year (Default = Current Year)	Valid Range = 1998 to 2097
d = Hour (Default = Current Hour)	Valid Range = 00 to 23
e = Minute (Default = Current Minute)	Valid Range = 00 to 59
f = Second (Default = Current Second)	Valid Range = 00 to 59
g = Format	
A = AM	
P = PM	
M= 24 Hour (Military) (Default)	

Sample ZPL

The ZPL II scripts shown below establish the initial settings for the date and time clock and must be sent to a printer to provide proper date and time parameters for the ZPL II script on page 6-45.

Setting the date and time for the real-time clock needs to be done only once. An on-board battery maintains the date and time when the printer is reset and when the printer power is turned Off (O).

To set the date and time to April 23, 1999 at 2:30 PM, the following command string should be sent to the printer:

^XA

^ST04,23,1999,02,30,0,P^FS

^XZ

To initialize the real-time clock and set up two offset values (offset #2 set to 3 months and 1 hour in the future, offset #3 set to 1 year in the past), the following command sequence should be sent to the printer:

^XA

^SL

^SO2,3,0,0,1,0,0^FS

^SO3,0,0,-1,0,0,0^FS

^XZ

The following script references the initial settings to provide the output shown in Figure 4-54. It also illustrates the various methods of printing the date and time initialized on the previous page within separate fields on continuous media. For the below example, the **^FC** command delimiters are:

% Primary clock indicator

{ Secondary clock indicator

Tertiary clock indicator

^XA

^LL175

^FO10,025^AD^FC%,{,#{^FD1: Mil: %H:%M:%S Civ: %I:%M:%S %p^FS

^FO10,050^AD^FC%,{,#{^FD2: Mil: {H:{M:{S Civ: {I:{M:{S {p^FS

^FO10,075^AD^FC%,{,#{^FD3: Mil: #H:#M:#S Civ: #I:#M:#S #p^FS

^FO10,100^AD^FC%,{,#{^FD1: On %A, %B %d, %Y (%a, %m/%d/%y, %d %b %Y).^FS

^FO10,125^AD^FC%,{,#{^FD2: On {A, {B {d, {Y ({a, {m/{d/{y, {d {b {Y).^FS

^FO10,150^AD^FC%,{,#{^FD3: On #A, #B #d, #Y (#a, #m/#d/#y, #d #b #Y).^FS

^XZ

```
1: Mil: 14:30:00 Civ: 02:30:00 PM
2: Mil: 15:30:00 Civ: 03:30:00 PM
3: Mil: 14:30:00 Civ: 02:30:00 PM
1: On Friday, April 23, 1999 (Fri, 04/23/99, 23 Apr 1999).
2: On Friday, July 23, 1999 (Fri, 07/23/99, 23 Jul 1999).
3: On Thursday, April 23, 1998 (Thur, 04/23/98, 23 Apr 1998).
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Optional Cutter Kit

Adding the Cutter Option to this printer requires the installation of several parts and assemblies and should be performed only by a qualified Service Technician.

The service technician must follow all of the step-by-step procedures provided in these instructions.

NOTE: Cutter Option not available on 96XIII.

Table 6-5. Kit Parts List

✓	Item #	Qty	Part Number	Description	90 XII, XIII, and XIIIPlus	96 XIIIPlus	140 XII, XIII, and XIIIPlus	170 XII, XIII, and XIIIPlus	220 XII, XIII, and XIIIPlus
	1	4	30391-003*	Screw 4-40	X	X	X	X	X
	2	1	49730M	Cutter Option Circuit Board	X	X	X	X	X
	3	1	49604-010	Cutter Power Cable	X	X	X	X	X
	4	1	49600-012	Cutter Data Cable	X	X	X	X	X
	5	1	31313	Sensor Clamp	X	X	X	X	X
	6	1	01822	Nut	X	X	X	X	X
	7	1	46618M	Cutter Optical Sensor Assembly	X	X	X	X	X
	8	1	<i>47200-4</i>	Cutter Module Assembly	X	X			
	8	1	<i>48200-4</i>	Cutter Module Assembly			X		
	8	1	<i>46200-4</i>	Cutter Module Assembly				X	
	8	1	<i>22864</i>	Cutter Module Assembly					X
	9	4	30392-004**	Screw 6-32	X	X	X	X	X
	10	1	46224	Grommet	X	X	X	X	X
	11	1	30374M	Cutter Motor Assembly	X	X	X	X	X
	12	2	30394-005	Screws (Motor Mounting)	X	X	X	X	X
	13	1	22385	Cutter Catch Tray Kit 220 XII/XIII					X
	13	1	46385	Cutter Catch Tray Kit 170 XII/XIII				X	
	13	1	47385	Cutter Catch Tray Kit 90 XII/XIII	X	X			
	13	1	48385	Cutter Catch Tray Kit 140 XII/XIII			X		
	14	1	30405-006	Screw, 1/4-20 × 0.38	X	X	X	X	X
	15	1	<i>02133†</i>	E-Ring	X	X	X	X	X
	16	1	<i>N/A††</i>	Drive Link Assembly	X	X	X	X	X
	17	1	30449	Allen Wrench, 5/64"	X	X	X	X	X
	18	1	<i>44632‡</i>	Ferrite Core	X	X	X	X	X
N/A = Not available as a separate part (listed for identification purposes only).									

*Available only as HW44632 in quantities of 10

**Available only as HW30392-004 in quantities of 50

†Available only as HW30391-003 in quantities of 25

††Available only as HW02133 in quantities of 50

‡Available only as HW01155 in quantities of 100

Bold=Part available for purchase

Light italic = Part not available for purchase, listed and shown for reference only

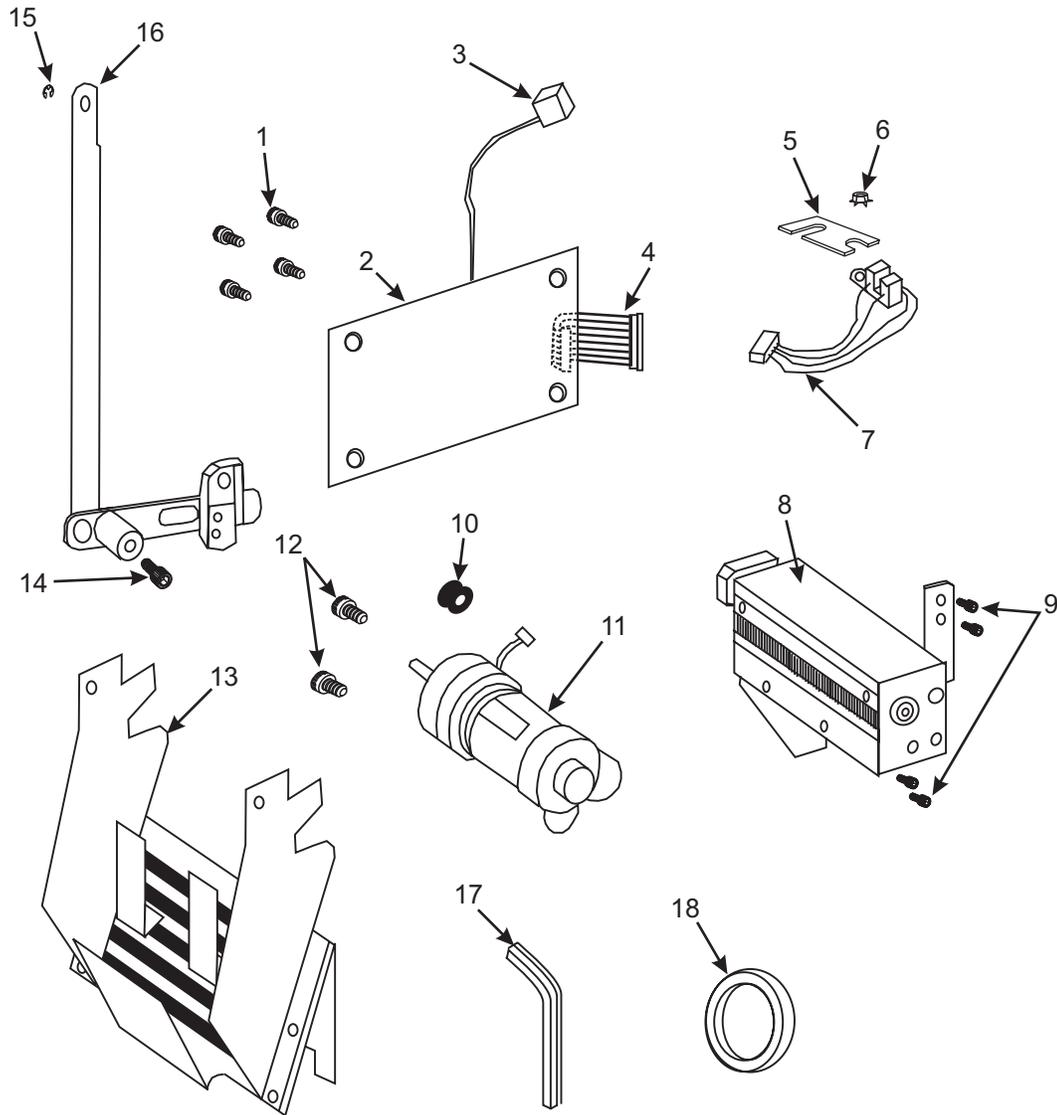


Figure 6-31. Part Identification Cutter Option

NOTE: The lock washer, nut, E-ring, and screws are not shown here. See Table 6-5.

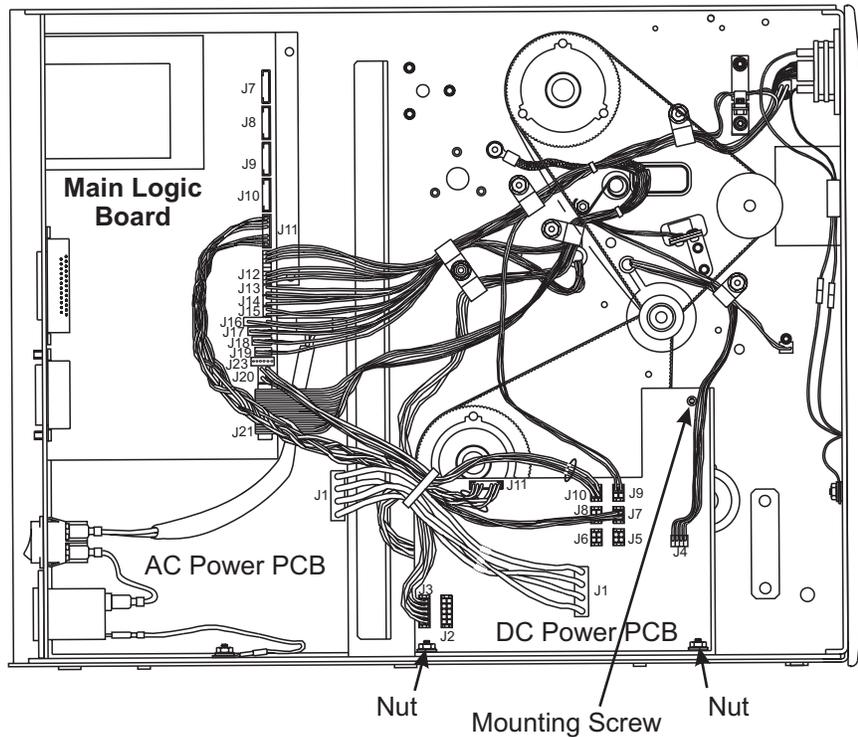


Figure 6-32. DC Power PCB Location and Interconnections

NOTE: J5–J10 have the same outputs.

J1	J1 AC Power PCB	J7	Cutter Option
J2	Additional Printhead Power for 220Xi/III Printers	J8	N/A
J3	Printhead Power for all Xi/III Printers	J9	LCD Display
J4	Stepper Motor	J10	J20 Main Logic PCB
J5	N/A	J11	J11 Main Logic PCB Data
J6	N/A		

Printer Disassembly

The printer must be partially disassembled in order to install the parts in this kit.

1. Refer to RRP No. 1 on page 4-13. Turn the printer Off (O) and remove the power cord. Disconnect the printer communications cable.
2. Refer to RRP No. 2 on page 4-15 and remove the electronics cover.
3. See Figure 4-6-32. Note and remove all connectors from the DC power supply assembly.
4. Remove the mounting screw and two nuts securing the DC power supply.
5. Remove the DC power supply assembly.

NOTE: For part identification, see Table 6-5.

Cutter Motor Installation

NOTE: The cover plates and cover plate mounting screws are not reused.

1. Refer to Figure 6-33. Open the media access door. Remove the cutter assembly cover plate.
2. Remove the cutter motor cover plate.

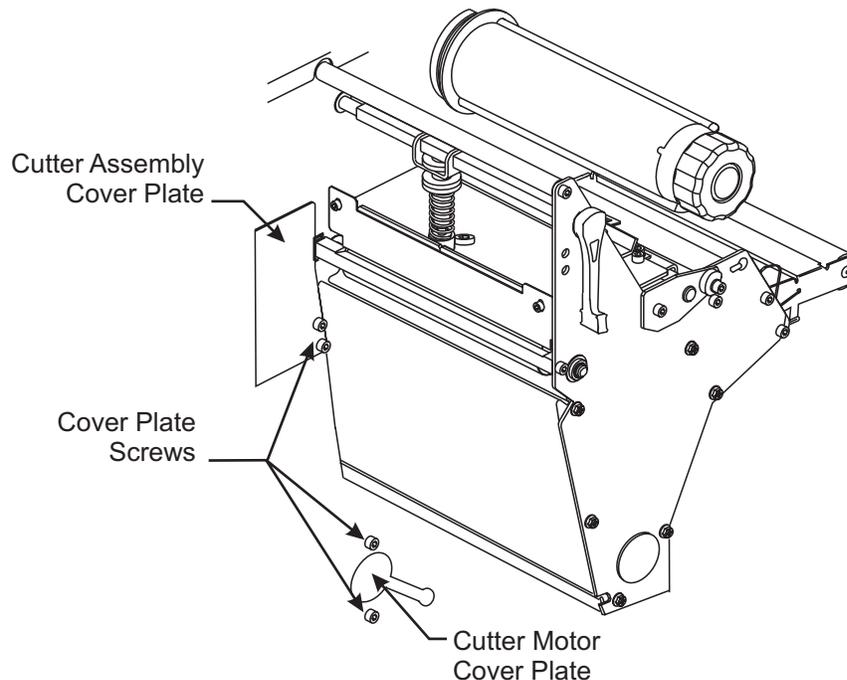


Figure 6-33. Cover Plate Locations

3. See Figure 4-6-34. Position the cutter motor near the mounting hole on the mechanical side of the printer.
4. Pass the cutter motor leads through the slit in the rubber grommet (#10). Insert the grommet into the slot located in the lower right area of the motor mounting hole and slide it into the small hole. The electrical connector must be positioned on the electronics side of the printer. To prevent the leads from coming out, rotate the grommet so the cut is facing away from the motor.
5. Position the cutter motor against the printer frame so that the screw holes in the motor line up with the holes in the frame, with the motor shaft toward the front of the printer.
6. Secure the motor to the main frame using the two motor mounting screws (#12).

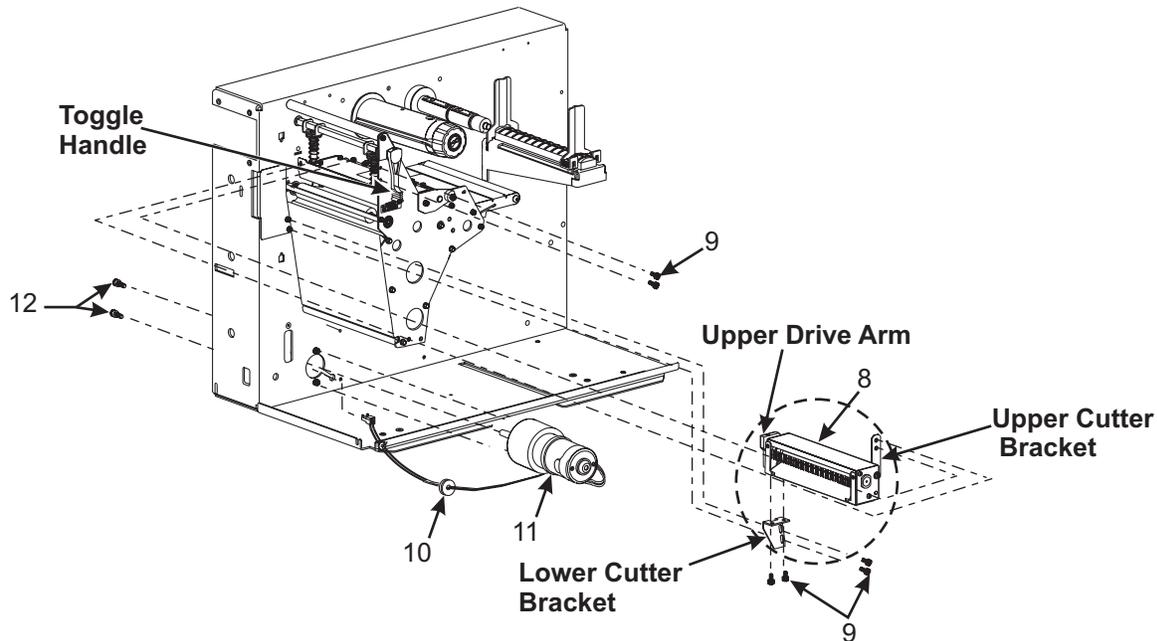


Figure 6-34. Mechanical Side Assembly

Cutter Mechanical Assembly Installation

1. Refer to Figure 6-34. Locate the pre-assembled cutter mechanism. The upper cutter bracket at the right rear corner of the cutter is placed in a horizontal position for shipping. Loosen the mounting screw and rotate the bracket to a vertical position and snug up the screw. Do not tighten.
2. Under the left end of the cutter, loosen the two screws that secure the lower cutter bracket to the cutter support bracket.
3. Locate and orient the cutter mechanism as shown in Figure 6-35. Carefully work the mechanism into position partially in the main frame opening in front of the printhead. Position the upper cutter bracket so the threaded holes are inside the side plate and aligned with the two holes in the side plate near the toggle handle.

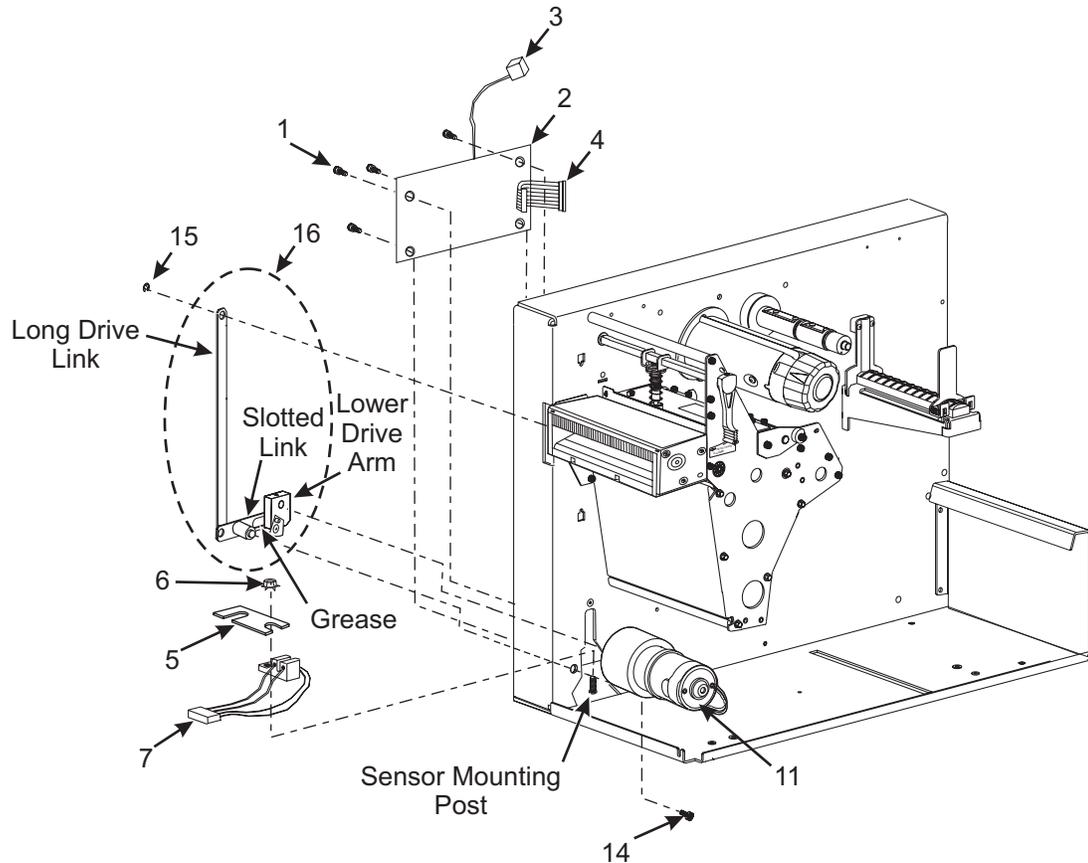
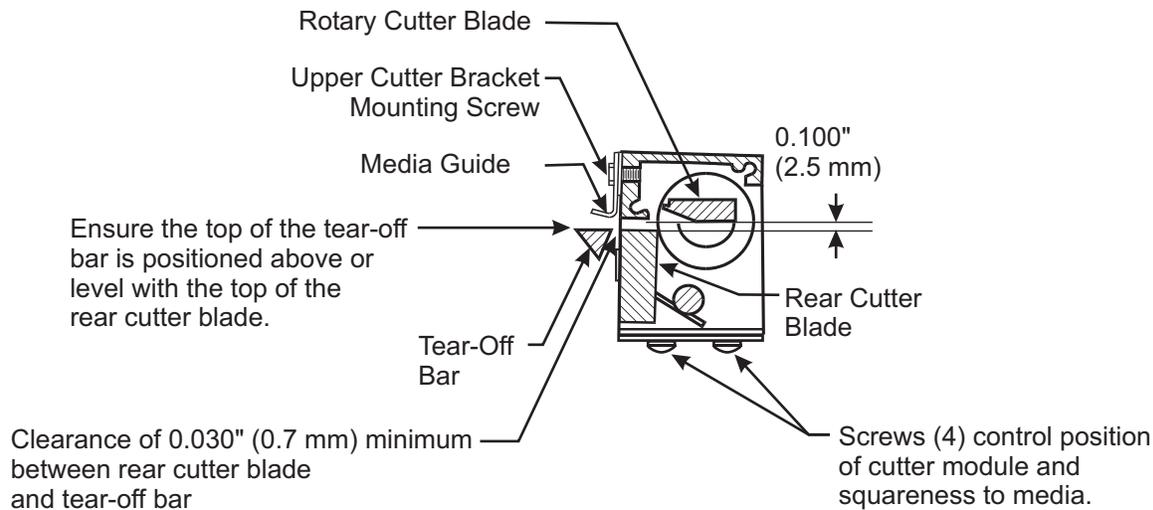


Figure 6-35. Linkage and Circuit Board Installation

4. Loosely attach the upper bracket to the side plate with two of the 6-32 screws (#9).
5. Align the slots in the lower cutter bracket with the threaded holes in the main frame and loosely attach the bracket with two more of the 6-32 screws (#9).
6. Refer to Figure 6-36. Open the printhead and observe the position of the tear-off bar (in front of the platen roller) and the rear cutter blade. Position the cutter mechanism so that the rear cutter blade is parallel with the outer edge of the tear-off bar across the entire width of the media path. The cutter mechanism should be positioned as far forward as possible while maintaining parallelism with the tear-off bar. This should prevent interference of the rear cutter blade with the tear-off bar. Tighten all mounting screws.



Relative position of the rotary cutter blade when the drive link assembly is stopped by the optical sensor, when the power is On (I) in the Cutter mode.

Figure 6-36. Cutter Mechanical Assembly Positioning

NOTE: While tightening the upper cutter bracket mounting screw, be careful not to change the position of the media guide. If the media guide moves out of position, set its height so the lower edge is flush with the rear opening in the cutter mechanism. The lower cutter blade is held in position by two springs. If these springs touch the tear bar or other printer parts, the lower cutter blade will not float properly and will cause excessive wear and premature failure of the cutter blades.

7. Check the clearance between the back of the cutter mechanism and the tear bar by inserting a screwdriver from the front of the cutter mechanism and press the top of the lower cutter blade toward the printer. The blade should move a minimum of 0.030 inch (0.7 mm). If necessary, loosen the four screws on the bottom of the cutter module and reposition the cutter mechanism away from the tear-off bar.

NOTE: For part identification, see Table 6-5.

Drive Link Assembly Installation

Refer to Figure. 6-35.

1. Remove the screw from the mounting post on the drive link assembly (#14). Attach the mounting post to the main frame using the screw just removed (#14).
2. The upper drive arm is pre-assembled to the cutter module. Place the long drive link of the drive link assembly (#16) over the connecting post on the upper drive arm and secure it with the E-ring (#15).
3. Attach the lower drive arm of the drive link assembly (#16) to the cutter motor shaft. Loosen the screws to ensure the lower drive arm rotates freely on the motor shaft.
4. Apply a small amount of grease to the slot in the drive link assembly (#16) where the bearing will ride. Remove any excess grease to avoid damaging the optical sensor.

Cutter Circuit Board and Optical Sensor Installation

1. Refer to Figure. 6-37. Attach the power cable (#3) to J2 on the cutter circuit board.
2. Attach the data cable (#4) to J1 on the cutter circuit board.
3. Locate the four standoffs on the printer frame where the cutter board will be mounted.

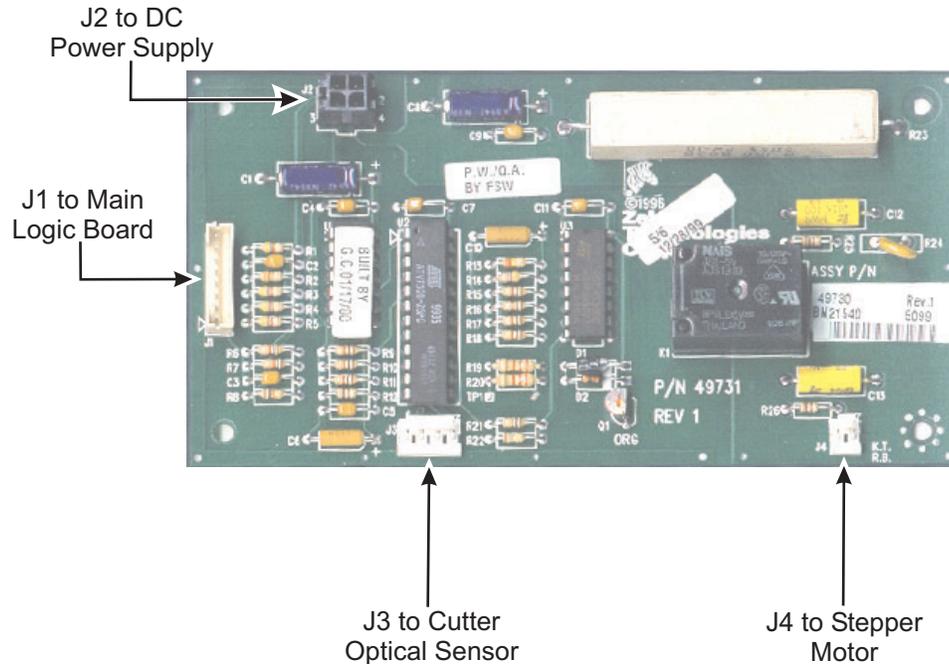


Figure 6-37. Cutter Option Circuit Board

4. Route the cutter motor leads between the two right-hand standoffs and out under the bottom of the circuit board.
5. Position the cutter circuit board over all four standoffs.
6. Install screw (#1) through the lower right-hand circuit board mounting hole. Do not tighten at this time.
7. Install the three remaining mounting screws (#1) and tighten all four screws.
8. Refer to Figure. 6-38. Wind the motor leads around the ferrite core.

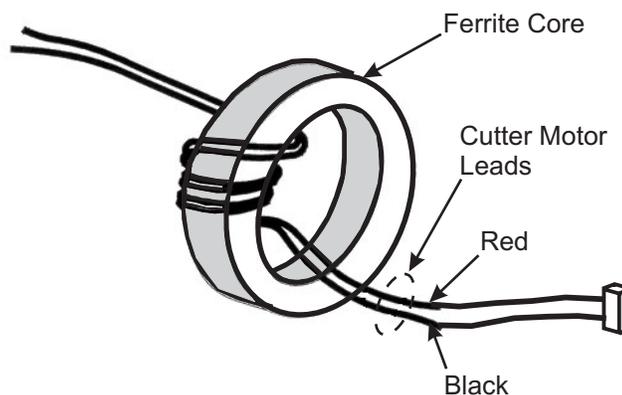


Figure 6-38. Cutter Motor Leads

9. Pass the cutter board power cable along the bottom of the printer frame toward the main logic board.
10. Plug the motor leads into the cutter motor connector J4 on the cutter circuit board with the black lead to the left. To minimize interference between components, wedge the top of the ferrite core under the cutter board relay.
11. See Figure 4-6-31. Install the cutter optical sensor assembly (#7) on the sensor mounting post. The sensor part of the assembly should be mounted toward the printer frame.
12. Place the sensor clamp (#5) over the sensor and start the nut (#4) on the post. **Do not tighten the nut at this time.**
13. Route the sensor leads under the clamp and toward the rear of the printer, and lightly tighten the nut to hold the wires in position. Be careful not to pinch the wires.
14. Refer to Figure. 6-37. Plug the cutter sensor leads into the cutter Opto connector J3 on the cutter circuit board.
15. Check the installation and ensure that no wiring will touch any moving parts.

Lower Drive Arm Mechanical Alignment

NOTE: To perform the lower drive arm mechanical alignment, some cables must be connected between the AC power supply, the DC power supply, and the cutter board, but access to the cutter board is still required. To obtain access, the DC power supply assembly must not be installed inside the printer. Instead, the DC power supply assembly must be carefully positioned so the cables are connected and still allow access to the cutter board. Connect only the cables listed below.

1. See Figure 4-6-32. Connect the power cable from J1 on the AC power supply board to J1 on the DC power supply board.
2. Connect the power cable from J2 on the cutter board to any available J5–J10 connector (normally J7) on the DC power supply board.
3. Connect the data ribbon cable from J1 on the cutter board to any available J7–J10 connector (normally J10) on the main logic board.

NOTE: Do not connect any other cables or connectors at this time.

4. Attach the AC power cord and turn the printer On (I). If the cutter motor starts, wait for it to stop.

NOTE: The cutter motor must be rotated until the two flat surfaces of the cutter motor shaft are aligned with the set screws in the lower drive arm while the lower drive arm is in a vertical position (sensor flag down).

5. See Figure 4-6-37. Attach a test clip at one end of a jumper cable to the lead on the right end of capacitor C1 (+5 VDC SOURCE) on the cutter board.
6. Briefly touch the test clip at the other end of the jumper cable to test point TP1 on the cutter board to “jog” the cutter motor to the desired position.
7. Position the lower drive arm so the sensor flag is centered between the front and back portions of the optical sensor, then tighten the two set screws.
8. See Figure 4-6-31. The set screws must be extremely tight to ensure proper operation of the cutter mechanism. Tighten the set screws with the Allen wrench included with this kit. As a reference, when the set screws are tight, the Allen wrench should deflect approximately 0.6 inch (1.5 cm) past the point of tightness. The tightness specification is 20 inch-lb. (2.3 N•M).

9. Activate the cutter motor, and make certain the sensor flag travels through the slot in the optical sensor without touching it.
10. Turn the printer power switch Off (O).

DC Power Supply Board Reinstallation

1. Reinstall the DC power supply and tighten the mounting screw and nuts. Ensure all wires are positioned away from any moving mechanical parts and are not pinched or cut.
2. See Figure 4-6-32. Carefully connect the remaining cables/connectors to the DC power supply board and verify proper placement and orientation.
3. Reconnect the AC power cord.
4. Turn the printer power switch On (I) and use the front panel LCD and control keys to configure the unit for Cutter mode. Save as "PERMANENT" and then turn the printer power switch Off (O). Refer to the printer User's Guide for this procedure.
5. To test the cutter for proper operation, load media and ribbon, hold in the **PAUSE** key while turning the AC power On (I), and run labels through the printer. If either of the following two conditions are not met, proceed to the upper drive arm alignment:
 - Media fed through the printer without hitting either of the cutter blades.
 - The cutter cut through the label material completely.
6. Complete this installation procedure by reinstalling the electronics cover.

Upper Drive Arm Alignment

NOTE: The upper drive arm is part of the cutter mechanical assembly and has been aligned at the factory. If the position is altered, the following procedure may be used to realign the upper drive arm. The printer must be programmed to operate in Cutter Mode prior to performing the following procedure. If it is not already programmed for Cutter mode, refer to the printer User's Guide for assistance.

1. Remove the printer's electronics cover, if attached.
2. Loosen the Allen wrench screw that clamps the upper drive arm to the rotary cutter blade shaft. The drive arm may be snug on the shaft.
3. Apply power to the printer. The lower drive arm of the drive link assembly should rotate once and stop when the sensor flag activates the optical sensor.
4. Refer to Figure 6-36. After the drive link assembly stops, hold the upper drive arm in position and adjust the rotary cutter blade so that the gap between the cutting edge on the left end and the cutting edge of the rear cutter blade is approximately 0.100 inch (2.5 mm).

NOTE: If the gap between the cutting edges is too large, the cutter may not cut properly across the entire media width. If the gap is too small, the media may catch on the rotary cutter blade edge and cause a jam.

5. Position the upper drive arm out from the cutter frame so its flat surface is flush with the end of the rotary cutter blade shaft.

NOTE: Overtightening the screw can damage the drive arm and can strip out the threads.

6. Tighten the screw with an Allen wrench bit socket on a torque wrench until the slot closes or until a torque of 100 inch-lbs. (11.3 N•m) is reached.

7. Test the cutter alignment by feeding maximum width label stock through the printer and ensuring that complete cutting of the label occurs. If necessary, repeat steps 4, 5, and 6 to achieve complete cutting of the labels.
8. With a felt-tip pen, draw a line across the outer face of the upper drive arm and the end of the cutter blade shaft. Should cutter operation problems ever occur, this “witness mark” would show at a glance if the alignment of the clamp and the cutter blade shaft has changed.