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COMMANDER® PPC™ Service Manual

#### 3.1 OVERVIEW

This chapter provides exploded isometric views of all field spare parts or field replaceable units (FRUs) and their configurations. Each part is indexed to the item number and description on the spare Parts List (PL).

The lists in this chapter form the basis for the numbering system in Chapter 4, Removal & Replacement (R&R). They are indexed by number to the related Parts List (PL) in this chapter. For example, RR-1.5 is the Removal & Replacement procedure for Parts List 1 (PL-1), line item 5.

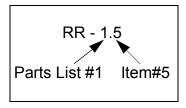


Figure 3-1. R&R Numbering

#### Symbol

#### Description



A circle surrounding a part callout number on the drawing indicates an R&R procedure is contained in the Service Manual for that part. The R&R number for that part is the PL number followed by the part callout number

Example: If the part callout number 5 on PL-3 has a circle surrounding it, the R&R number is RR-3.5 (PL-3 and part 5 on the drawing).



An octagon surrounding a part callout number on the drawing indicates one or more instrument or Verification Procedures (VPs) must be performed before the instrument or system is returned to customer use.



Both symbols surrounding the callout number indicate both the R&R and one or more VPs must be performed before the instrument or system is returned to customer use

#### 3.2 PARTS LISTS

The following pages include Part No., Description, and USO Location for the major components and assemblies of the PPC.



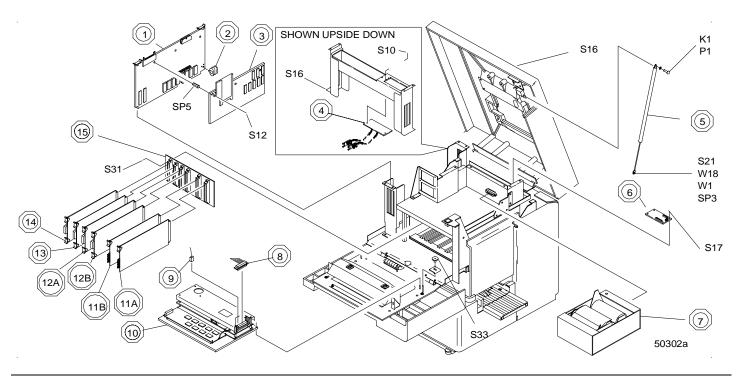
### PL 1 TOP RIGHT

# **PARTS**

Item	Part No.	Description	USO Location
1	6208-78	Main CPU Bd	K
2	14100-016	CPU Bd Battery	K
3	1-43645-02	Flash Memory Card	K
4	1-42568-01	CPU Power Interface Cable	К
5	1-42494-02	Gas Spring (Top Right Cover)	NK
6	1-42486-01	Printer Interface Bd	NK
7	6208-60	PPC™ Printer Assy	NK
8	1-36257-01	CPU Serial Cable	NK
9	1-36257-01	Keypad Power Cable	NK
10	1-43151-01	Keypad/Display Assy	NK
11A	6208-79	Stepper Driver Bd A	K
11B	6208-79	Stepper Driver Bd B	K
12A	6208-80	Stepper Controller Bd A	К
12B	6208-81	Stepper Controller Bd B	K
13	6208-83	Digital I/O Bd	K
14	6208-82	Serial I/O Bd	K
15	1-42470-01	Backplane Bd	NK

HANDWANE				
Item	Part No.	Description	Qty.	
K1	14634-101	Key, Retaining (Hairpin)	1	
P1	36028-101	Pin, Retaining	1	
S10	14494-008	Screw, 4-40 x1/2	2	
S12	14494-010	Screw, 4-40 x 5/8	4	
S16	14494-106	Screw, 6-32 x 3/8	11	
S17	14494-108	Screw, 6-32 x 1/2	2	
S21	14435-121	Screw, 6-32 x 1/2	1	
S31	10851-201	Screw, SHC	12	
S33	14453-010	Thumbscrew	2	
SP3	14688-501	Spacer	1	
SP5	14710-018	Spacer	4	
W1	10890-011	Washer, Flat	1	
W18	14517-005	Washer, Split Lock	1	

## PL 1 TOP RIGHT



PARTS LISTSPL 1 TOP RIGHT3-5

### PL 2 FRONT RIGHT

### **PARTS**

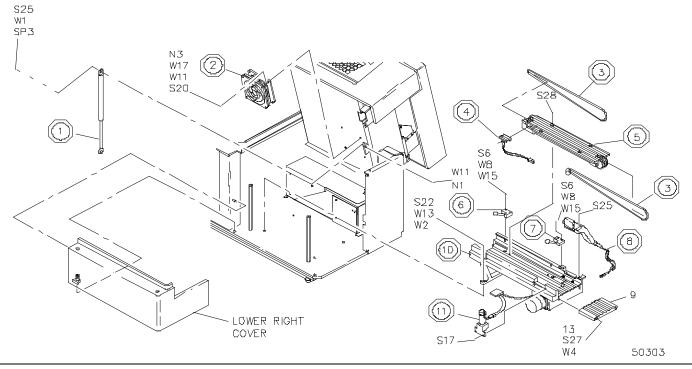
Item	Part No.	Description	USO Location
1	1-42494-01	Gas Spring Card Cage Assy	NK
2	1-42462-01	Fan Assy (Card Cage)	NK
3	1-36072-01	Urge Belts	K
4	1-43636-01	Web Switch	K
5	1-42808-01	Belt Slide, Top-mount Belt Drive	NK
6	1-42806-01	Tray Ready Switch Assy	K
7	1-42806-01	Tray Entered Switch	K
8	1-42484-01	Bar Code Reader Assy	NK
9	1-43493-01	Load Urge Extension	NK
10	1-42803-01	Load Urge Module	NK
11	1-36251-03	Modified Entry Gate Solenoid	K
*12	14346-020	Fan Guard	1
13	10917-006	O-Ring	2

<sup>\*</sup> Item not pictured.

#### HARDWARF

Item	Part No.	Description	Qty.
N1	14414-103	Nut	1
N3	14422-004	Nut, Hex 6-32	4
S6	14519-002	Screw, 2-56 x 0.625"	2
S17	14494-108	Screw, 6-32 x 0.500"	2
S20	10861-424	Screw, 6-32 x 0.750"	4
S22	14435-196	Screw, 6-32 x 0.375"	4
S25	14435-122	Screw, 6-32 x 0.625"	3
S27	14435-132	Screw, 8-32 x 1.00"	2
S28	14494-208	Screw, 8-32 x 0.500"	4
SP3	14688-501	Spacer	1
W1	10890-011	Washer, Flat	1
W2	10890-016	Washer, Flat	4
W4	11425-102	Washer, Flat	2
W8	14519-002	Washer, Flat #2	2
W11	14519-105	Washer, Flat #6	5
W13	14518-007	Washer, Lock	4
W15	14517-001	Washer, Lock #2	2
W17	14517-005	Washer, Lock #6	4

## PL 2 FRONT RIGHT



PARTS LISTS PL 3 TOP LEFT 3-8

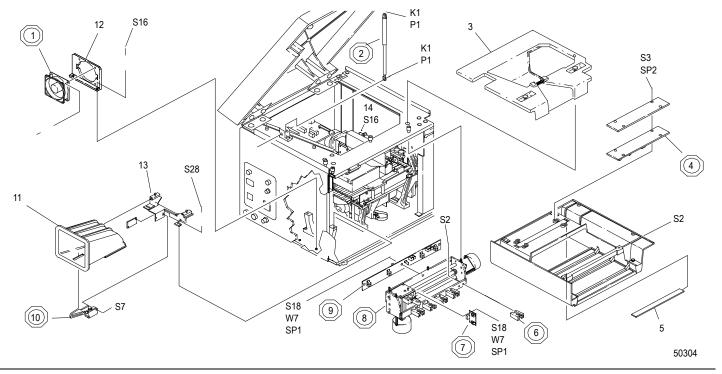
### PL 3 TOP LEFT

## **PARTS**

Item	Part No.	Description	USO Location
1	1-36247-01	Optics Fan Assy	NK
2	1-42494-02	Gas Spring (Top Left Cover)	NK
3	1-42180-01	Plastic Bath Assy	NK
4	1-42473-01	Dispense Station Backlight PCB Bd	NK
5	92198-101	Window	
6	1-4736-023	Holder, Dispense Bottle	K
7	1-42467-01	Dispense Pump Sensor Bd	K
8	1-42488-01	Dispense Pump Assy	NK
9	1-42466-01	Dispense Select Bd	K
10	1-42583-01	Exit Switch Assy	K
11	1-42205-01	New Style Exit Housing	K
12	35839-101	Fan Bracket	1
13	42565-102	Bracket, Exit Switch Assy	1
14	42204-101	Guard, Wash Actuator Sensor Bd	1

Item	Part No.	Description	Qty.
K1	14634-101	Key, Retaining (Hairpin)	2
P1	36028-101	Pin, Retaining	2
S2	14494-308	Screw, 10-32 x 0.625"	4
S3	14494-316	Screw, 10-32 x 1.00"	4
S7	14435-313	Screw, 3-32 x 0.750"	2
S16	14435-192	Screw, 10-32 x 0.500"	8
S18	14487-163	Screw, 6-32 x 0.750"	5
S28	14494-208	Screw, 8-32 x 0.500"	2
SP1	10908-212	Spacer	5
SP2	14685-005	Spacer	4
W7	14537-011	Washer, Flat, Nylon	5

## PL 3 TOP LEFT





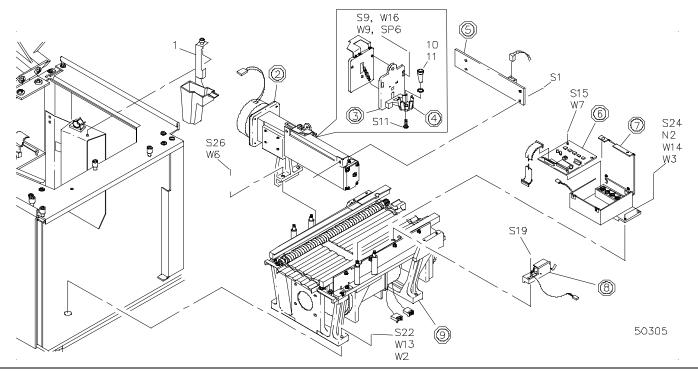
### PL 4 FRONT LEFT

## **PARTS**

Item	Part No.	Description	USO Location
1	1-42141-01	Dispense Drip Cup	NK
2	1-42487-01	Dispense Actuator assy	NK
3	1-36139-01	Guide, Lower Dispense Kit	K
4	1-43504-01	5-Tip Dispense Holder Post Assy	K
5	1-42463-01	Dispense Actuator Sensor Bd	K
6	1-42469-01	Read A/D Bd	K
7	1-43249-01	Read A/D Sensor Enclosure Assy	NK
8	1-43640-01	Tray At Wash Switch Assy	K
9	1-43246-02	Main Transport Drive Assy	NK
10	43558-101	Post	1
11	10917-011	O-Ring	1

Item	Part No.	Description	Qty.
N2	14422-208	Nut	4
S1	14494-105	Screw, with retained washer	2
S9	10854-320	Screw, 4-40 x 0.625"	3
S11	14494-320	Screw, 4-40 x 0.250"	1
S15	14487-157	Screw, 6-32 x 0.375"	4
S19	14494-112	Screw, 6-32 x 0.750"	2
S22	14435-196	Screw, 6-32 x 0.375"	2
S24	14494-104	Screw, 8-32 x 0.375"	4
S26	14435-128	Screw, 8-32 x 0.500"	2
SP6	36145-103	Spacer	3
W2	10890-016	Washer, Flat	2
W3	10809-219	Washer, Flat	4
W6	14519-207	Washer, Flat	2
W7	14537-011	Washer, Flat Nylon	4
W9	14519-103	Washer, Flat #4	3
W13	14518-007	Washer, Lock	2
W14	14518-207	Washer, Lock	4
W16	14518-003	Washer, Lock #4	3

## PL 4 FRONT LEFT



PARTS LISTS PL 4 FRONT LEFT 3-11



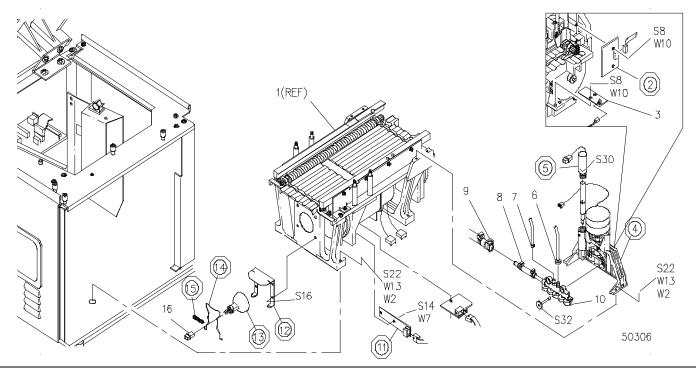
### PL 5 BOTTOM LEFT

### **PARTS**

Item	Part No.	Description	USO Location
1	1-43246-02	Main Transport Drive Assy (REF)	NK
2	1-42464-01	Wash Sensor Bd	K
3	1-42468-01	Sensor Home Bd Transport	NK
4	1-42492-01	Wash Actuator Assy	NK
5	1-36251-01	Modified Solenoid (Wash Gate)	NK
6	6258-22	Wash Manifold Check Valve	K
7	14603-064	Fitting, Luer Lock™	K
8	1-43458-01	Waste Tubing Assy	K
9	1-460372	Fitting, Quick Disconnect (Waste Line)	K
10	6208-76	Wash Manifold	K
11	1-42465-01	Filter Select Bd	K
12	1-42461-01	Read Lamp Bracket Assy	NK
13	6208-75	Lamp, Reader PPC	K
14	43252-101	Retainer, Lamp Spring	NK
15	1-43981-01	Lamp Spring	
16	43294-101	Lamp Socket And Cable Assy	NK

Item	Part No.	Description	Qty.		
S8	10854-310	Screw, 4-40 x 0.312"	4		
S14	14470-001	Screw, 6-32 x 0.375"	2		
S16	14494-106	Screw, 6-32 x 0.375	4		
S22	14435-196	Screw, 6-32 x 0.375"	8		
S30	14457-103	Screw, Set	1		
S32	1-43454-01	Thumbscrew	1		
W2	10890-016	Washer, Flat	8		
W7	14537-011	Washer, Flat	2		
W10	14537-002	Washer Flat #4	4		
W13	14518-007	Washer, Lock	8		

## PL 5 BOTTOM LEFT



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### PL 6 LEFT REAR

### **PARTS**

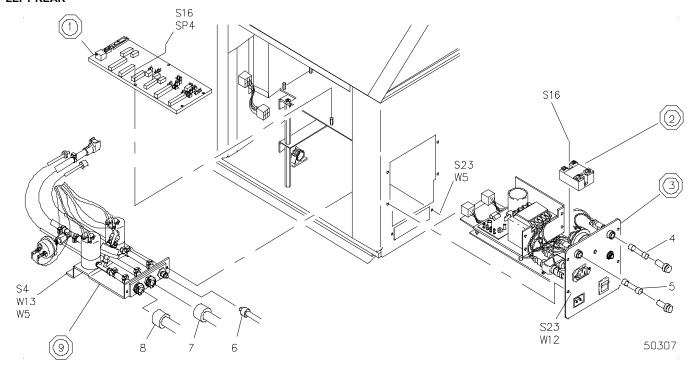
Item	Part No.	Description	USO Location
1	1-42475-01	Cable Panel Interface Bd	NK
2	14117-028	Shelf And Bezel Assy Relay	NK
3	1-42485-01 1-42485-02	Shelf And Bezel Assy (Non CE Mark) Shelf And Bezel Assy (CE Mark)**	NK
4	6208-40	Fuse, 5 Amp	K
5	6208-41	Fuse, 10 Amp*	K
6	1-43457-01	Water Tubing Assy	K
7	1-43458-01	Waste Tubing Assy	K
8	1-43456-01	Air Tubing Assy	K
9	1-36020-01 1-36020-02	Valve Mount Assy (Non-CE Mark) Valve Mount Assy (CE Mark)	NK

 $<sup>^{\</sup>ast}$  In 90 - 120V operation use 10 amp fuse. In 198 - 264V operation use 5 amp fuse.

Item	Part No.	Description	Qty.
S4	14435-192	Screw, 10-32 x 0.500"	1
S16	14494-106	Screw, 6-32 x 0.375"	6
S23	14439-107	Screw, 6-32 x 0.375"	6
SP4	14702-026	Spacer	6
W5	14236-001	Washer, Flat	3
W12	10893-303	Washer, Lock	4
W13	14518-007	Washer, Lock	1

<sup>\*\*</sup> Not shown.

# PL 6 LEFT REAR



### PL 7 RIGHT REAR

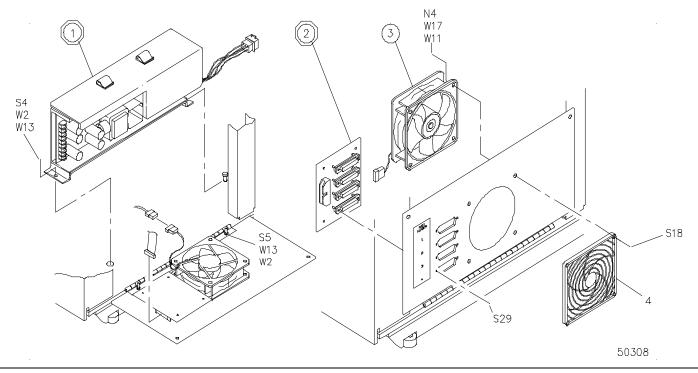
## **PARTS**

Item	Part No.	Description	USO Location
1		Main Power Supply (Non CE-Mark) Main Power Supply (CE Mark)*	K
2	1-42470-02	Backplane Bd	NK
3	1-42462-01	Fan Assy	NK
4	14737-003	Fan Guard	NK

<sup>\*</sup> Not shown.

Item	Part No.	Description	Qty.
N4	14422-204	Nut, 6-32 Hex	4
S4	14435-192	Screw, 10-32 x 1/2"	2
S5	14435-191	Screw, 10-32 x 3/8"	2
S18	14487-163	Screw, 6-32 x 3/4"	4
S29	14289-010	Screw, Conn LK ASM	8
W2	10890-016	Washer, Flat	4
W11	14519-105	Washer, Flat #6	4
W13	14518-007	Washer, Lock	4
W17	14517-005	Washer, Lock #6	4

## PL 7 RIGHT REAR



## 3.3 CABLING

Part Number	Description	From	То
1-36179-01	Printer Interface Cable	J1 on Printer Interface.	Printer Main Bd Connection Assy.
1-36248-01	Bit Bus Cable	J2 on CPU Bd.	J701 on Backplane.
1-36249-01	CPU to Memory Cartridge Interface		
1-36250-01	CPU Serial Cable	J1 on CPU Bd.	J4 on Keypad/Display Assy and J702 on Cable Panel Interface Bd.
36255-102	Bit Bus Power Cable	J10 Power Interface Bd.	J700 on Backplane of Card Cage Bd.
1-36256-01	Printer Power Cable	J2 on Printer Cable Interface Bd.	J8 on Power Interface Assy.
1-36257-01	Keypad Power Cable	J5 on Keypad/Control Bd.	J9 on Power Interface Assy.
1-36258-01	Cabling Panel Interface	J701 on cable Panel Interface Bd.	J7 on Power Interface Bd.
1-3625901	Stepper Driver Power	J1 on Stepper Driver Bads A and B.	J12 on Power Interface Bd.
1-36261-01	Load Module to Cabling	Load Module Assy.	Cabling Panel Interface on Cable Panel Interface Bd J112; Web Switch J213; Tray Enter Switch J109; Tray Ready Switch J106; Entry Gate Solenoid J101; and Load Motor Assy.
1-36263-01	Enter Solenoid Cable	Interim Connector (Load Module to Cabling Interface Bd).	Enter Solenoid Assy.
1-36268-01	Web Switch Interconnect	Load Module to Cabling Interface Bd.	Web Switch Assy.
1-36269-01	Panel Interface Jumper	Cable Panel Interface Bd J208.	J601 on the same assy.
1-36271-01	Transport Sensor Home Cable	Cable Panel Interface Bd J105	Transport Sensor Home Bd J1.

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Part Number	Description	From	То
1-36273-01	Read A/D Cable	Cable Panel Interface Bd J603.	Read A/D Bd J1.
1-36275-01	Dispense Boom Sensor Cable	Cable Panel Interface Bd J301.	Dispense Boom Sensor Bd J1.
1-36277-01	Wash Gate Solenoid Cable	Cable Panel Interface Bd J107.	Wash Gate Solenoid Assy.
36278-101	Wash Sensor Cable	Cable Panel Interface Bd J108.	Wash Limit Sensor Bd J1.
1-36280-01	Filter Select Cable	Cable Panel Interface Bd J401.	Filter Select Bd J1 and Filter Home Bd J1.
1-36283-01	Air Pressure Cable	Cable Panel Interface Bd J403.	Internal Air Pressure Switch Assy.
1-36287-01	Dispense Pump Cable	Dispense Pump Sensor Bd J1.	Dispense Select Bd. J2.
1-36288-01	Dispense Select Cable	Cable Panel Interface Bd J302.	Dispense Select Bd. J1.
1-36289-01	Dispense Motor Cable	Cable Panel Interface Bd J201 and J204.	Interim connector linking to Dispense Select Motor and Dispense Pump Motor.
1-36294-01	Printer Interface Ribbon (Non-CE Mark)	Printer Assy.	Printer Cable Interface Bd J3.
1-36294-02*	Printer Interface Ribbon (CE Mark)	Printer Assy.	Printer Cable Interface Bd J3.
1-36303-01	Stepper Driver A Cable	Cable Panel Interface Bd J100.	Backplane J101.
1-36304-01	Input Power Module Main (Non-CE Mark)	Power Entry Assy (Shelf and Bezel Assy). Power Supply Connector Wire.	Interim connector for Main Power Supply.
1-36304-02*	Input Power Module Main (CE Mark)	Power Entry Assy (Shelf and Bezel Assy). Power Supply Connector Wire.	Interim connector for Main Power Supply.

Part Number	Description	From	То
1-36305-01	Main DC Supply Interconnect	Main Power Supply.	Separating cable bracket (interim connector for Main Power Supply).
1-36307-101	Stepper Driver B Cable	Cable Panel Interface Bd J200.	Backplane J201.
1-36308-01	Input Power Module Logic (Non-CE Mark)	Shelf and Bezel Assy.	Interim connector links to: Water Level Phone Jack (14355-053) to cable Panel Interface Bd J405; Lamp Supply Output (12VDC) to Read Lamp Assy Input of Compressor Relay Control (14117-028) to Main Power Supply Interface Bd.
1-36308-02*	Input Power Module Logic (CE Mark)	Shelf and Bezel Assy.	Interim connector links to: Water Level Phone Jack (14355-053) to cable Panel Interface Bd J405; Lamp Supply Output (12VDC) to Read Lamp Assy Input of Compressor Relay Control (14117-028) to Main Power Supply Interface Bd.
1-36309-01	Power Module Interface	Power Supply Interface Bd J3, Cable I and Cable Panel Interface Bd J405, and Read Lamp Assy.	Input Power Module Logic Connector.
1-36310-01	Power Module Interface (Non-CE Mark)	Main DC Power Supply Interconnect Cable II (separating bracket).	Main Power Supply AC Input.
1-36310-02*	Power Module Interface (CE Mark)	Main DC Power Supply Interconnect Cable II (separating bracket).	Main Power Supply AC Input.

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Part Number	Description	From	То
36311-101	Stepper Controller A Cable	Cable Panel Interface Bd J400.	Backplane J401 and J102.
36312-101	Stepper Controller B Cable	Cable Panel Interface Bd J300.	Backplane J301 and J202.
36313-101	Digital Backplane Cable	Cable Panel Interface Bd J600.	Backplane J501 and Printer Cable Interface Bd J1.
36314-101	Serial Backplane Cable	Cable Panel Interface Bd J500.	Backplane J601 and Back Panel RS-232 Bd J1.
36316-101	Power Supply Fan Cable	Power Supply Fan Assy.	Power Supply Interface Bd.
36320-101	Backlight PWB Power Cable	Backlight PWB J2.	Power Supply Interface Bd J4.
36321-101	Power Interface Cable	Cable Panel Interface Bd J602.	Power Supply Interface Bd J1.
42241-101	Bar Code Switch Cable	Cable Panel Interface Bd J212.	Bar Code Switch Assy.
42241-101	Wash Switch Cable	Cable Panel Interface Bd J113.	Wash Switch.
1-42568-01	CPU Power Cable	J11 on Power Interface Assy.	J1 CPU Power Interface Bd. (Refer to RR-1.4.)

<sup>\*</sup> Used on CE Mark machines only. Reference TSB 50-034.

