## XEROX

#### **Transmittal Page**

Product N24, N32 & N40	Title Xerox DocuPrint N24, N32 and N40 Service Manual	Part Number 720P56510 Rev. C
Status Manual To 720P56510 Issued 9	<b>Update</b> 9/97, 2/98, 4/98 & 7/98	Date March 1999

This update package contains:

- The addition new pages & modification of existing pages to support the enhancements of Version 1.8X System Controller Software.
- New part numbers for the DocuPrint N24, N32 and N40 Printers.
- Change to a selected RAP procedure to support documentation improvements.
- Bulletin numbers 018 through 023 are included in this update.

#### Replace the following Pages:

i / ii	8-71 / 72
3-3 to 3-6	8-79 / 80
3-9 / 10	8-129 / 130
3-13 / 14	8-163 / 164
3-19 / 20	8-167 / 168
3-37 to 3-42	8-177 to 8-182
3-49 to 3-52	8-189 to 8-192
3-55 / 56	8-263 to 8-272
3-59 / 60	8-273 to 8-290
3-65 to 3-76	8-293 / 294
5-1 to 5-64	8-299 to 8-304
7-15 / 16	8-307 to 8-312
8-15 to 8-18	8-591 / 592

#### Add the following Pages:

5-65 to 5-80

# Xerox DocuPrint N24, N32 and N40 Network Laser Printer Service Manual



720P56510 Rev C 3 March 1999 This Service Manual contains information that applies to the DocuPrint N24, N32 and N40 Electronic Laser Printer.

#### NOTICE

This manual is for use by Xerox Technicians and Xerox trained technicians only.

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#### Warning

This equipment complies with the requirements in Part 15 of FCC rules for a class A computing device. Operation of the equipment in a residential area may cause unacceptable interference to radio and TV reception, requiring the operator to take whatever steps are necessary to correct the interference.

#### **Electrostatic Discharge**

This caution indicates that there are components which are sensitive to damage caused by electrostatic discharge.



CAUTION These components are susceptible to electrostatic discharge. Observe all ESD procedures to avoid damage.

#### **Shock Hazard**

This symbol indicates the presence of potentially hazardous voltages.



FM\_001

**Fuser Hazard** 

This symbol indicates the presence of extreme heat from the Fuser Assembly.



#### **CLASS 1 LASER PRODUCT**

The DocuPrint N24, N32 and N40 laser printers are certified to comply with Laser Product Performance Standards set by the U.S. Department of Health and Human Services as a Class 1 Laser Product. This means that this is a class of laser product that does not emit hazardous laser radiation; this is possible only because the laser beam is totally enclosed during all modes of customer operation.

The laser and output of the laser scanner unit produces a beam that, if looked into, could cause eye damage. Service procedures must be followed exactly as written without change.

When servicing the machine or laser module, follow the procedures specified in the manual and there will be no hazards from the laser.

Laser (FDA): Any laser label visible to service must be reproduced in the service manual with location shown or indicated. Safe working procedures and clear warnings concerning precautions to avoid possible exposure must also be included.

The Laser contained in the DocuPrint N24, N32 and N40 meets the following standard: Laser class 3B, maximum 5mW, wavelength 780nm.

The following LASER symbol will be displayed at the start of any procedure where possible exposure to the laser beam exists.



FM\_002

#### LUOKAN 1 LASERLAITE

#### **KLASS 1 LASER APPARAT**

The DocuPrint N24, N32 and N40 have two laser warning labels. Refer to the illustrations on the next two pages for the location of the labels.

The first label is located on top of the Laser Unit. This label is visible when the Low Voltage Power Supply is removed.



The second label is located on the top of the front cover. This label is visible when the Top Cover is removed.



#### **Table of Contents**

Title	Page
Introduction	vi
Organization	vii
Revision Control List	viii
Service Call Procedures	1-1
Printer Specifications	2-1
Parts Lists	3-1
Repair Procedures	4-1
General Procedures	5-1
Wiring Data	6-1
Repair Analysis Procedures	7-1
Options	8-1

#### Introduction

The DocuPrint N24, N32 and N40 Service Manual is the primary document used for repairing and maintaining the DocuPrint N24, N32 and N40 Laser Printers.

This manual contains Service Call Procedures, Diagnostic Procedures, General Information, Repair Analysis Procedures, Image Quality Analysis Procedures, Wiring Data, Parts Lists, and Options that will enable the Service Representative to repair DocuPrint N24, N32 and N40 failures.

#### NOTE

The DocuPrint N24, N32 and N40 are the base models. For the remainder of this service manual, we will consider them as a product line and refer to them as the DocuPrint N32. If there is a difference in a repair procedure, troubleshooting, or part number between the DocuPrint N24, DocuPrint N32 and the DocuPrint N40, it will be noted in the procedure or parts lists.

#### Organization

This manual is divided into eight sections. The title and description of each section of the manual is as follows:

#### Section 1 - Service Call Procedures

This section is used to identify a suspected problem. It contains Call Flow, Initial Actions, Corrective Actions, and Final Actions. This part of the service manual should always be used to start the service call.

#### **Section 2 - Printer Specifications**

This section contains all the specifications for the DocuPrint N24, N32 and N40 printers.

#### Section 3 - Parts Lists

This section contains illustrations of disassembled subsystems and a listing of the spared parts.

Part names are listed in this section of the manual even if the part itself is not spared. All the parts that are spared will have the part number listed. Parts that are not spared will not have a number listed.

#### **Section 4 - Repair Procedures**

This section contains the instructions for removal, replacement, and adjustment of the spared parts.

#### **Section 5 - General Procedures**

This section contains diagnostic routines, features/options availability, printer setup procedures, and a listing of tools, supplies, and accessories.

#### Section 6 - Wiring Data

This section contains illustrations of the plug/jack locations and the routing of power and signal cables.

#### Section 7 - Repair Analysis Procedures

This section contains the procedures necessary to repair failures in the printer. This section also contains the procedures necessary to troubleshoot image quality problems.

#### Section 8 - Options

This section contains the specifications, wiring, instructions for repairing, troubleshooting, and parts lists for customer purchased options.

DocuPr	Product int N24/N32/	N40 Doc	<u>Ma</u> uPrint N24/N	Part Number 720P56510				
Page	Date	Page	Date	]	Page	Date	Page	Date
Title	3/99	2-19	7/98		3-34	7/98	3-72	3/99
ii	3/99	2-20	7/98		3-35	9/97	3-73	3/99
iii	7/98	2-21	7/98		3-36	9/97	3-74	3/99
iv	9/97	2-22	7/98		3-37	9/97	3-75	3/99
V	9/97				3-38	7/98	3-76	7/98
vi	7/98	3-1	9/97		3-39	9/97		
vii	7/98	3-2	7/98		3-40	3/99	4-1	9/97
viii	3/99	3-3	9/97		3-41	3/99	4-2	7/98
ix	3/99	3-4	3/99		3-42	3/99	4-3	9/97
х	3/99	3-5	9/97		3-43	9/97	4-4	7/98
xi	3/99	3-6	3/99		3-44	9/97	4-5	9/97
xii	3/99	3-7	9/97		3-45	9/97	4-6	9/97
xiii	3/99	3-8	7/98		3-46	7/98	4-7	9/97
xiv	3/99	3-9	9/97		3-47	9/97	4-8	9/97
		3-10	3/99		3-48	7/98	4-9	9/97
1-1	9/97	3-11	9/97		3-49	9/97	4-10	9/97
1-2	9/97	3-12	9/97		3-50	3/99	4-11	9/97
1-3	9/97	3-13	9/97		3-51	9/97	4-12	9/97
1-4	9/97	3-14	3/99		3-52	3/99	4-13	9/97
		3-15	9/97		3-53	9/97	4-14	9/97
2-1	7/98	3-16	7/98		3-54	9/97	4-15	9/97
2-2	7/98	3-17	9/97		3-55	9/97	4-16	9/97
2-3	7/98	3-18	7/98		3-56	3/99	4-17	9/97
2-4	7/98	3-19	7/98		3-57	9/97	4-18	9/97
2-5	7/98	3-20	3/99		3-58	7/98	4-19	9/97
2-6	7/98	3-21	9/97		3-59	9/97	4-20	9/97
2-7	7/98	3-22	7/98		3-60	3/99	4-21	9/97
2-8	7/98	3-23	9/97		3-61	9/97	4-22	9/97
2-9	7/98	3-24	7/98		3-62	7/98	4-23	9/97
2-10	7/98	3-25	7/98		3-63	9/97	4-24	9/97
2-11	7/98	3-26	7/98		3-64	7/98	4-25	9/97
2-12	7/98	3-27	9/97		3-65	9/97	4-26	9/97
2-13	7/98	3-28	7/98		3-66	3/99	4-27	9/97
2-14	7/98	3-29	9/97		3-67	3/99	4-28	9/97
2-15	7/98	3-30	9/97		3-68	3/99	4-29	9/97
2-16	7/98	3-31	9/97		3-69	7/99	4-30	9/97
2-17	7/98	3-32	7/98		3-70	3/99	4-31	9/97
2-18	7/98	3-33	9/97		3-71	3/99	4-32	9/97

DocuPr	Product int N24/N32/	'N40	Docu	Print	<u>Ma</u> N24/N	<u>Part Number</u> 720P56510					
Page	Date	Pa	ige	Dat	e	Page	Dat	е		Page	Date
4-33	9/97	4-7	71	9/	97	4-109	7/	98		5-36	3/99
4-34	9/97	4-7	72	9/	97	4-110	7/	98		5-37	3/99
4-35	9/97	4-7	73	9/	97					5-38	3/99
4-36	9/97	4-7	74	9/	97	5-1	3/	99		5-39	3/99
4-37	9/97	4-7	75	9/	97	5-2	3/	99		5-40	3/99
4-38	9/97	4-7	76	9/	97	5-3	3/	99		5-41	3/99
4-39	9/97	4-7	77	9/	97	5-4	3/	99		5-42	3/99
4-40	9/97	4-7	78	9/	97	5-5	3/	99		5-43	3/99
4-41	9/97	4-7	79	7/	98	5-6	3/	99		5-44	3/99
4-42	9/97	4-8	30	7/	98	5-7	3/	99		5-45	3/99
4-43	9/97	4-8	31	9/	97	5-8	3/	99		5-46	3/99
4-44	9/97	4-8	32	9/	97	5-9	3/	99		5-47	3/99
4-45	9/97	4-8	33	9/	97	5-10	3/	99		5-48	3/99
4-46	9/97	4-8	34	9/	97	5-11	3/	99		5-49	3/99
4-47	9/97	4-8	35	7/	98	5-12	3/	99		5-50	3/99
4-48	9/97	4-8	36	7/	98	5-13	3/	99		5-51	3/99
4-49	9/97	4-8	37	9/	97	5-14	3/	99		5-52	3/99
4-50	9/97	4-8	38	9/	97	5-15	3/	99		5-53	3/99
4-51	9/97	4-8	39	9/	97	5-16	3/	99		5-54	3/99
4-52	9/97	4-9	90	9/	97	5-17	3/	99		5-55	3/99
4-53	9/97	4-9	91	9/	97	5-18	3/	99		5-56	3/99
4-54	9/97	4-9	92	9/	97	5-19	3/	99		5-57	3/99
4-55	9/97	4-9	93	9/	97	5-20	3/	99		5-58	3/99
4-56	7/98	4-9	94	9/	97	5-21	3/	99		5-59	3/99
4-57	7/98	4-9	95	7/	98	5-22	3/	99		5-60	3/99
4-58	9/97	4-9	96	7/	98	5-23	3/	99		5-61	3/99
4-59	9/97	4-9	97	7/	98	5-24	3/	99		5-62	3/99
4-60	9/97	4-9	98	7/	98	5-25	3/	99		5-63	3/99
4-61	9/97	4-9	99	7/	98	5-26	3/	99		5-64	3/99
4-62	9/97	4-1	00	7/	98	5-27	3/	99		5-65	3/99
4-63	9/97	4-1	101	7/	98	5-28	3/	99		5-66	3/99
4-64	9/97	4-1	02	7/	98	5-29	3/	99		5-67	3/99
4-65	9/97	4-1	03	7/	98	5-30	3/	99		5-68	3/99
4-66	9/97	4-1	04	7/	98	5-31	3/	99		5-69	3/99
4-67	9/97	4-1	05	7/	98	5-32	3/	99		5-70	3/99
4-68	9/97	4-1	06	7/	98	5-33	3/	99		5-71	3/99
4-69	9/97	4-1	07	7/	98	5-34	3/	99		5-72	3/99
4-70	9/97	4-1	80	7/	98	5-35	3/	99		5-73	3/99

DocuPr	Product int N24/N32/	N40 De	<u>Ma</u> ocuPrint N24/N	<u>anua</u> N32/	<u>al Title</u> N40 Servio	<u>Part Number</u> 720P56510			
Page	Date	Page	Date	] [	Page	Date	Page	Date	
5-74	3/99	7-6	7/98		7-44	7/98	7-82	9/97	
5-75	3/99	7-7	7/98		7-45	9/97	7-83	9/97	
5-76	3/99	7-8	7/98		7-46	9/97	7-84	9/97	
5-77	3/99	7-9	9/97		7-47	9/97	7-85	9/97	
5-78	3/99	7-10	9/97		7-48	9/97	7-86	9/97	
5-79	3/99	7-11	9/97		7-49	9/97	7-87	9/97	
5-80	3/99	7-12	9/97		7-50	9/97	7-88	9/97	
		7-13	9/97		7-51	9/97	7-89	9/97	
6-1	9/97	7-14	9/97		7-52	9/97	7-90	9/97	
6-2	9/97	7-15	3/99		7-53	9/97	7-91	9/97	
6-3	9/97	7-16	3/99		7-54	9/97	7-92	7/98	
6-4	9/97	7-17	9/97		7-55	7/98	7-93	7/98	
6-5	9/97	7-18	9/97		7-56	7/98	7-94	7/98	
6-6	9/97	7-19	9/97		7-57	7/98			
6-7	9/97	7-20	9/97		7-58	7/98	8-1	7/98	
6-8	9/97	7-21	9/97		7-59	7/98	8-2	7/98	
6-9	9/97	7-22	7/98		7-60	7/98	8-3	9/97	
6-10	9/97	7-23	9/97		7-61	7/98	8-4	7/98	
6-11	9/97	7-24	9/97		7-62	7/98	8-5	7/98	
6-12	9/97	7-25	9/97		7-63	7/98	8-6	9/97	
6-13	9/97	7-26	9/97		7-64	7/98	8-7	7/98	
6-14	9/97	7-27	9/97		7-65	7/98	8-8	9/97	
6-15	9/97	7-28	9/97		7-66	7/98	8-9	9/97	
6-16	9/97	7-29	9/97		7-67	7/98	8-10	9/97	
6-17	9/97	7-30	7/98		7-68	7/98	8-11	7/98	
6-18	9/97	7-31	7/98		7-69	7/98	8-12	7/98	
6-19	9/97	7-32	9/97		7-70	7/98	8-13	7/98	
6-20	9/97	7-33	9/97		7-71	7/98	8-14	7/98	
6-21	9/97	7-34	9/97		7-72	7/98	8-15	7/98	
6-22	9/97	7-35	7/98		7-73	9/97	8-16	3/99	
6-23	9/97	7-36	7/98		7-74	9/97	8-17	9/97	
6-24	9/97	7-37	9/97		7-75	9/97	8-18	3/99	
		7-38	9/97		7-76	9/97	8-19	9/97	
7-1	7/98	7-39	9/97		7-77	9/97	8-20	7/98	
7-2	7/98	7-40	9/97		7-78	9/97	8-21	9/97	
7-3	9/97	7-41	9/97		7-79	9/97	8-22	7/98	
7-4	9/97	7-42	7/98		7-80	9/97	8-23	9/97	
7-5	9/97	7-43	9/97		7-81	9/97	8-24	9/97	

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DocuPr	Product DocuPrint N24/N32/N40 De					anua 132/	<u>Part Number</u> 720P56510				
Page	Date	Ρ	age	Da	te	]	Page	Dat	е	Page	Date
8-25	9/97	8-	63	7	/98		8-101	7/	98	8-139	9/97
8-26	9/97	8-	64	7	/98		8-102	7/	98	8-140	9/97
8-27	9/97	8-	65	7	/98		8-103	9/	97	8-141	9/97
8-28	7/98	8-	66	7	/98		8-104	9/	97	8-142	9/97
8-29	9/97	8-	67	9	/97		8-105	9/	97	8-143	9/97
8-30	9/97	8-	68	7	/98		8-106	9/	97	8-144	9/97
8-31	9/97	8-	69	9	/97		8-107	9/	97	8-145	9/97
8-32	9/97	8-	70	7	/98		8-108	9/	97	8-146	9/97
8-33	9/97	8-	71	9	/97		8-109	9/	97	8-147	9/97
8-34	9/97	8-	72	3	/99		8-110	9/	97	8-148	9/97
8-35	9/97	8-	73	9	/97		8-111	9/	97	8-149	9/97
8-36	9/97	8-	74	7	/98		8-112	9/	97	8-150	9/97
8-37	9/97	8-	75	9	/97		8-113	9/	97	8-151	9/97
8-38	9/97	8-	76	7	/98		8-114	9/	97	8-152	9/97
8-39	9/97	8-	77	7	/98		8-115	9/	97	8-153	9/97
8-40	9/97	8-	78	7	/98		8-116	9/	97	8-154	9/97
8-41	9/97	8-	79	9	/97		8-117	9/	97	8-155	9/97
8-42	9/97	8-	80	3	/99		8-118	9/	97	8-156	7/98
8-43	9/97	8-	81	9	/97		8-119	9/	97	8-157	7/98
8-44	9/97	8-	82	9	/97		8-120	7/	98	8-158	9/97
8-45	9/97	8-	83	9	/97		8-121	7/	98	8-159	9/97
8-46	9/97	8-	84	9	/97		8-122	7/	98	8-160	9/97
8-47	9/97	8-	85	9	/97		8-123	9/	97	8-161	9/97
8-48	9/97	8-	86	9	/97		8-124	9/	97	8-162	9/97
8-49	9/97	8-	87	9	/97		8-125	9/	97	8-163	7/98
8-50	9/97	8-	88	9	/97		8-126	9/	97	8-164	3/99
8-51	7/98	8-	89	7	/98		8-127	9/	97	8-165	7/98
8-52	9/97	8-	90	7	/98		8-128	9/	97	8-166	7/98
8-53	7/98	8-	91	9	/97		8-129	7/	98	8-167	9/97
8-54	9/97	8-	92	9	/97		8-130	3/	99	8-168	3/99
8-55	9/97	8-	93	7	/98		8-131	9/	97	8-169	9/97
8-56	9/97	8-	94	7	/98		8-132	7/	98	8-170	7/98
8-57	9/97	8-	95	7	/98		8-133	9/	97	8-171	9/97
8-58	9/97	8-	96	7	/98		8-134	7/	98	8-172	7/98
8-59	9/97	8-	97	7	/98		8-135	9/	97	8-173	9/97
8-60	9/97	8-	98	7	/98		8-136	7/	98	8-174	7/98
8-61	9/97	8-	99	9	/97		8-137	9/	97	8-175	9/97
8-62	9/97	8-	100	9	/97		8-138	9/	97	8-176	7/98

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DocuPri	Product nt N24/N32/	<u>Manual Title</u> 2/N40 DocuPrint N24/N32/N40 Service Manual									Part Number 720P56510			
Page	Date	P	age	Date	e		Page	Date	e		Page	Date		
8-177	7/98	8-	215	9/9	97		8-253	9/	97		8-291	2/98		
8-178	3/99	8-	216	9/9	97		8-254	9/	97		8-292	7/98		
8-179	7/98	8-	217	9/9	97		8-255	7/	98		8-293	7/98		
8-180	7/98	8-	218	9/9	97		8-256	7/	98		8-294	7/98		
8-181	9/97	8-	219	9/9	97		8-257	9/	97		8-295	2/98		
8-182	3/99	8-	220	9/9	97		8-258	9/	97		8-296	7/98		
8-183	7/98	8-	221	9/9	97		8-259	7/	98		8-297	2/98		
8-184	7/98	8-	222	9/9	97		8-260	9/	97		8-298	7/98		
8-185	9/97	8-	223	9/9	97		8-261	7/	98		8-299	2/98		
8-186	7/98	8-	224	9/9	97		8-262	2/	98		8-300	3/99		
8-187	9/97	8-	225	9/9	97		8-263	7/	98		8-301	2/98		
8-188	7/98	8-	226	7/	98		8-264	3/	99		8-302	3/99		
8-189	9/97	8-	227	7/	98		8-265	7/	98		8-303	2/98		
8-190	3/99	8-	228	9/9	97		8-266	3/	99		8-304	3/99		
8-191	7/98	8-	229	9/9	97		8-267	2/	98		8-305	2/98		
8-192	7/98	8-	230	9/9	97		8-268	3/	99		8-306	7/98		
8-193	7/98	8-	231	9/9	97		8-269	2/	98		8-307	2/98		
8-194	9/97	8-	232	9/9	97		8-270	3/	99		8-308	3/99		
8-195	9/97	8-	233	9/9	97		8-271	2/	98		8-309	2/98		
8-196	9/97	8-	234	9/9	97		8-272	3/	99		8-310	3/99		
8-197	9/97	8-	235	9/9	97		8-273	2/	98		8-311	3/99		
8-198	9/97	8-	236	9/9	97		8-274	7/	98		8-312	7/98		
8-199	9/97	8-	237	9/9	97		8-275	2/	98		8-313	2/98		
8-200	9/97	8-	238	9/9	97		8-276	3/	99		8-314	2/98		
8-201	9/97	8-	239	9/9	97		8-277	2/	98		8-315	2/98		
8-202	9/97	8-	240	9/9	97		8-278	7/	98		8-316	2/98		
8-203	9/97	8-	241	9/9	97		8-279	2/	98		8-317	2/98		
8-204	9/97	8-	242	9/9	97		8-280	3/	99		8-318	7/98		
8-205	9/97	8-	243	9/9	97		8-281	2/	98		8-319	7/98		
8-206	9/97	8-	244	9/9	97		8-282	7/	98		8-320	2/98		
8-207	9/97	8-	245	7/9	98		8-283	2/	98		8-321	2/98		
8-208	9/97	8-	246	9/9	97		8-284	3/	99		8-322	2/98		
8-209	7/98	8-	247	7/9	98		8-285	2/	98		8-323	7/98		
8-210	9/97	8-	248	9/9	97		8-286	7/	98		8-324	2/98		
8-211	9/97	8-	249	7/98			8-287	2/	98		8-325	2/98		
8-212	9/97	8-	250	9/97			8-288	3/	99		8-326	2/98		
8-213	9/97	8-	251	7/9	98		8-289	2/	98		8-327	2/98		
8-214	9/97	8-	252	9/9	97		8-290	3/	99		8-328	2/98		

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Page	Date	P	age	Dat	e	Page	Date	9	Page	Date
8-329	2/98	8-	367	7,	/98	8-405	7/	98	8-443	7/98
8-330	2/98	8-	368	7,	/98	8-406	7/	98	8-444	7/98
8-331	2/98	8-	369	7,	/98	8-407	7/	98	8-445	7/98
8-332	2/98	8-	370	7,	/98	8-408	7/	98	8-446	7/98
8-333	2/98	8-	371	7,	/98	8-409	7/9	98	8-447	7/98
8-334	2/98	8-	372	7,	/98	8-410	7/9	98	8-448	7/98
8-335	2/98	8-	373	7,	/98	8-411	7/9	98	8-449	7/98
8-336	7/98	8-	374	7,	/98	8-412	7/9	98	8-450	7/98
8-337	7/98	8-	375	7,	/98	8-413	7/	98	8-451	7/98
8-338	2/98	8-	376	7,	/98	8-414	7/	98	8-452	7/98
8-339	2/98	8-	377	7,	/98	8-415	7/9	98	8-453	7/98
8-340	7/98	8-	378	7,	/98	8-416	7/	98	8-454	2/98
8-341	2/98	8-	379	7,	/98	8-417	7/	98	8-455	2/98
8-342	7/98	8-	380	7,	/98	8-418	7/	98	8-456	7/98
8-343	7/98	8-	381	7,	/98	8-419	7/	98	8-457	2/98
8-344	7/98	8-	382	7,	/98	8-420	7/	98	8-458	7/98
8-345	7/98	8-	383	7,	/98	8-421	7/	98	8-459	2/98
8-346	7/98	8-	384	7,	/98	8-422	7/	98	8-460	7/98
8-347	7/98	8-	385	7,	/98	8-423	7/9	98	8-461	7/98
8-348	7/98	8-	386	7,	/98	8-424	7/9	98	8-462	7/98
8-349	7/98	8-	387	7,	/98	8-425	7/	98	8-463	2/98
8-350	7/98	8-	388	7,	/98	8-426	7/9	98	8-464	7/98
8-351	7/98	8-	389	7,	/98	8-427	7/9	98	8-465	7/98
8-352	7/98	8-	390	7,	/98	8-428	7/9	98	8-466	2/98
8-353	7/98	8-	391	7,	/98	8-429	7/	98	8-467	2/98
8-354	7/98	8-	392	7,	/98	8-430	7/	98	8-468	2/98
8-355	7/98	8-	393	7,	/98	8-431	7/9	98	8-469	2/98
8-356	7/98	8-	394	7,	/98	8-432	7/	98	8-470	2/98
8-357	7/98	8-	395	7,	/98	8-433	7/	98	8-471	2/98
8-358	7/98	8-	396	7,	/98	8-434	7/9	98	8-472	2/98
8-359	7/98	8-	397	7,	/98	8-435	7/9	98	8-473	2/98
8-360	7/98	8-	398	7,	/98	8-436	7/9	98	8-474	2/98
8-361	7/98	8-	399	7,	/98	8-437	7/	98	8-475	2/98
8-362	7/98	8-	400	7,	/98	8-438	7/9	98	8-476	2/98
8-363	7/98	8-	401	7,	/98	8-439	7/9	98	8-477	2/98
8-364	7/98	8-	402	7,	/98	8-440	7/9	98	8-478	2/98
8-365	7/98	8-	403	7,	/98	8-441	7/9	98	8-479	2/98
8-366	7/98	8-	404	7,	/98	8-442	7/	98	8-480	2/98

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Page	Date	Pa	age	Dat	е	]	Page	Date		Page	Date
8-481	2/98	8-	519	2/	'98		8-557	2/9	8		
8-482	2/98	8-	520	2/	98		8-558	2/9	8		
8-483	2/98	8-	521	2/	'98		8-559	2/9	8		
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8-485	7/98	8-	523	2/	'98		8-561	2/9	8		
8-486	7/98	8-	524	2/	98		8-562	2/9	8		
8-487	7/98	8-	525	2/	98		8-563	2/9	8		
8-488	7/98	8-	526	2/	98		8-564	2/9	8		
8-489	7/98	8-	527	2/	98		8-565	2/9	8		
8-490	2/98	8-	528	2/	98		8-566	2/9	8		
8-491	7/98	8-	529	2/	98		8-567	2/9	8		
8-492	2/98	8-	530	2/	98		8-568	2/9	8		
8-493	7/98	8-	531	2/	98		8-569	2/9	8		
8-494	7/98	8-	532	2/	98		8-570	2/9	8		
8-495	7/98	8-	533	2/	98		8-571	2/9	8		
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8-497	7/98	8-	535	2/	98		8-573	7/9	8		
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8-502	2/98	8-	540	2/	98		8-578	7/9	8		
8-503	2/98	8-	541	2/	98		8-579	7/9	8		
8-504	2/98	8-	542	2/	98		8-580	7/9	8		
8-505	2/98	8-	543	2/	'98		8-581	7/9	8		
8-506	2/98	8-	544	2/	'98		8-582	7/9	8		
8-507	2/98	8-	545	2/	'98		8-583	7/9	8		
8-508	2/98	8-	546	2/	'98		8-584	7/9	8		
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8-510	2/98	8-	548	2/	'98		8-586	7/9	8		
8-511	2/98	8-	549	2/	'98		8-587	7/9	8		
8-512	2/98	8-	550	2/	'98		8-588	7/9	8		
8-513	2/98	8-	551	2/	'98		8-589	7/9	8		
8-514	2/98	8-	552	2/	98		8-590	7/9	8		
8-515	2/98	8-	553	2/	98		8-591	7/9	8		
8-516	2/98	8-	554	2/	'98		8-592	7/9	8		
8-517	2/98	8-	555	2/	'98		8-593	7/9	8		
8-518	2/98	8-	556	2/	'98		8-594	7/9	8		

# **Section 1**

# Service Call Procedures

1.1 Call Flow Diagram	
1.2 Initial Actions	1-3
1.3 Corrective Actions	
1.4 Final Actions	

### 1.1 Call Flow Diagram

The basic troubleshooting steps are outlined in the Call Flow Diagram (Figure 1.1). All service calls begin with Initial Actions and end with Final Actions.



Figure 1.1 Call Flow Diagram.

### **1.2 Initial Actions**

- 1 Question the operator and verify the problem.
- 2 Check that the printer paper path is clear of foreign matter such as staples, paper clips, and paper scraps.
- 3 After you have identified the problem symptom, check the following items:
  - The printer is connected to a wall power outlet, and the outlet is supplying the correct voltage.
  - The printer power cord is not frayed or broken.
  - The printer is correctly grounded.
  - The printer is in an appropriate operating environment, with no extremes of heat or humidity.
  - The printer is not exposed to direct sunlight.
  - The printer is on a level and stable surface.

### **1.3 Corrective Actions**

- 1 If the printer has an obvious failure or fault, you can go directly to the appropriate Repair Procedure (Section 4) or Repair Analysis Procedure (RAP) (Section 7) and begin corrective action.
- 2 If the fault is not obvious, follow the Entry Level RAP (Section 7.1) to identify the problem and begin corrective action.
- **3** If the fault is related to Image Quality, go directly to the Image Quality RAP to correct the problem.
- 4 After all corrective actions have been made, perform Final Actions.

### **1.4 Final Actions**

- 1 Run Test Prints to evaluate print quality.
- 2 Perform the Image Quality Checkout procedures in Section 7 to correct any print quality defects.
- 3 Correct any secondary problems (return to Corrective Actions, if necessary).
- 4 Reinstall the machine covers.
- 5 Clean the machine and the work area.
- 6 Ask the customer to send a print job to verify printer operation.
- 7 Provide operator training as required.
- 8 Close the call.

# **Section 2**

# **Printer Specifications**

2.1 Electrical Specifications	2-3
2.1.1 Power Sources and Consumption	2-3
2.1.2 Power On/Off	2-3
2.1.3 Power Saver	2-3
2.1.4 Laser	2-3
2.2 Mechanical Specifications	2-4
2.3 Standard Configuration	2-5
2.4 Physical Location	2-6
2.5 Consumables	2-6
2.6 Status Display/Controls	2-6
2.7 Functional Specifications	2-7
2.7.1 General Information	2-7
2.7.2 Printing Speed For First Sheet Out	2-7
2.7.3 Continuous Printing Speed (CPS) After First Sheet Out 2	2-8
2.7.3.1 CPS After First Sheet Out (N32)	2-8

2.7.3.2 CPS After First Sheet Out (N24)	<i>2-8</i>
2.7.3.3 CPS After First Sheet Out (N40)	2-9
2.7.4 Continuous Printing Speed (CPS) After First Sheet Out	2-10
2.7.4.1 CPS After First Sheet Out (N32)	2-10
2.7.4.2 CPS After First Sheet Out (N24)	2-10
2.7.4.3 CPS After First Sheet Out (N40)	2-11
2.8 Environment	2-12
2.9 Safety Standards	2-12
2.10 Options	2-13
2.11 Paper Specifications	2-14
2.11.1 Special Media Used with DocuPrint N24/N32/N40	2-14
2.11.2 Approved Media Certified on the DocuPrint N24/N32/N40 Printer Family	2-15
2.11.3 Paper Tray Capacity	2-17
2.11.3.1 Trays 1 and 2 (Standard)	2-17
2.11.3.2 Multisheet Bypass Feeder [MBF] (Standard)	2-17
2.11.3.3 High Capacity Feeder [HCF] (Option)	2-18
2.11.3.4 Envelope Feeder (Option)	2-18
2.11.4 Paper Limitations	2-19
2.12 Paper Output Devices & Support Paper Specifications	2-20
2.12.1 Face Down Bin (Standard)	2-20
2.12.2 Offset Unit (Standard)	2-20
2.12.3 Duplex Module (Option)	2-21
2.12.4 Face Up Bin (Standard)	2-21
2.12.5 Mailbox (Option)	2-21
2.12.6 Finisher (Option)	2-21
2.13 Operating Language and Emulation	2-21
2.14 Communication Interfaces	2-22
2.15 Print Alignment Specification	2-22

### **2.1 Electrical Specifications**

### 2.1.1 Power Sources and Consumption

The DocuPrint N24/N32/N40 printer is available with either a 110 or a 220 volt configuration.

Line Voltage	Line Voltage Tolerance	Frequency	Frequency Tolerance	Running Power Consumption	Power Saver
110 VAC	90 - 132 VAC	50/60 Hz	47 - 63 Hz	1180 Watts Maximum 4026 BTU's Maximum	45 Watts 154 BTU's
220/230/240 VAC	198 - 264 VAC	50/60 Hz	47 - 63 Hz	1243 Watts Maximum 4241 BTU's Maximum	45 Watts 154 BTU's

### 2.1.2 Power On/Off

The DocuPrint N24/N32/N40 is switched ON by a power ON/OFF switch mounted on the front of the printer. The power cord is detachable and plugged into a three-wire grounded power socket. The printer powers down automatically when it is not used for a period of time (see Power Saver).

### 2.1.3 Power Saver

The Power Saver reduces power consumption automatically when the printer does not receive data for a period of time. User can set to OFF, or delay times of 15, 30, 60, 90, 120, or 180 minutes.

### 2.1.4 Laser

Class 1 with a maximum output of 15 milliwatts for 0.1 microseconds.

### **2.2 Mechanical Specifications**



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Unit	Width (with MBF installed)	Depth	Height	Weight 110V printer	Weight 220V printer
Metric	642 mm	523 mm	486 mm	45kg	47.5Kg
SAE	25.3 in.	21 in.	19 in	99 lbs	105 lbs

### 2.3 Standard Configuration



Refer to (Figure 2.3a) for the standard configuration of the:

#### DocuPrint N24/N32/N40

- 1) Face Down Bin
- 2) Printer Control Panel
- 3) Tray 1(500 sheets)
- 4) Tray 2 (500 sheets)
- 5) Multisheet Bypass Feeder (MBF) (50 sheets)
- 6) Offset Unit

### 2.4 Physical Location

The printer should be installed on a clean, sturdy, smooth, level, and flat surface. There should be 8 inches (203 mm) clearance on the back and right side and a minimum of 14 inches (356 mm) on the left side, around the printer to allow air circulation around the vents to prevent the printer from overheating, and also allow you to easily:

- Open the front panel
- Remove any jammed paper
- Change consumables

### 2.5 Consumables

EP Cartridge:

The EP cartridge life is 23,000 prints on standard 20lb (80gsm) letter size(A4) paper with 5% image coverage and 4mm white borders.

### 2.6 Status Display/Controls

The printer's status is controlled and displayed by:

8 Front Panel Keys, 4 LED's, and a 32 character (2 x 16) LCD display (Figure 2.6a).

<ul> <li>○ ← On Line</li> <li>○ ↑ Form</li> <li>Feed</li> <li>○ ↓ Fault</li> <li>○ ➡ Data</li> </ul>	Ready	$\begin{array}{c c} On \ Line & \blacksquare \ Menu & \rightarrow \ Item & \Rightarrow \ Value \\ \hline \hline & 0 & \frown & 1 & \frown & 2 & + & 3 \\ \hline \hline & 4 & \checkmark & 5 & \checkmark & 6 & - & 7 \\ \hline Enter & & & & & \\ \end{array}$
		SER774Y

#### Figure 2.6a Status Display/Controls

### **2.7 Functional Specifications**

### 2.7.1 General Information

Warm Up Time	First Print Out	Exposure Method	Printing Method	Resolution - dpi (Dots per inch)
Within 60 seconds	Under 10 seconds	Semiconductor laser beam scanning	Xerography	600 dpi

### 2.7.2 Printing Speed For First Sheet Out

Simplex Mode	Maximum Time	Maximum Time Needed for Initial Print			
Paper Size	(Times shown are from Start command to first sheet out to the Face Down Bin. Times assume the printer is in Ready to Print - with the printer motor idle)				
	<i>Note:</i> LEF = Long Edge Feed and SEF = Short Edge Feed				
	Tray 1	Tray 2	Tray 3	HCF 4	HCF 5
A4 LEF	4.0 sec	4.8 sec	5.1 sec	6.0 sec	7.2 sec
8.5 x 11 LEF	4.0 sec	4.8 sec	5.1 sec	6.0 sec	7.2 sec

Duplex Mode	Maximum Time	Maximum Time Needed for Initial Print				
Paper Size	(Times shown are from Start command to first sheet out to the Face Down Bin. Times assume the printer is in Ready to Print - with the printer motor idle)					
	Note: LEF = Long Edge Feed and SEF = Short Edge Feed					
	Tray 1	Tray 2	Tray 3	HCF 4	HCF 5	
A4 LEF	8.6 sec	9.4 sec	9.7 sec	10.6 sec	11.8 sec	
8.5 x 11 LEF	8.6 sec	9.4 sec	9.7 sec	10.6 sec	11.8 sec	

### 2.7.3 Continuous Printing Speed (CPS) After First Sheet Out

### 2.7.3.1 CPS After First Sheet Out (N32)

#### **Simplex Mode**

Paper Type	Tray 1	Trays 2 and 3	HCF 4 & 5	MBF
	(prints per minute)	(prints per minute)	(prints per minute)	(prints per minute)
A4 LEF	32	32	32	26
Letter LEF	32	32	32	26
Executive LEF	32	32	32	26
Legal 13" SEF	20	20		19
Legal 14" SEF	20	20		19
A3 SEF	16	16		16
Ledger SEF	16	16		16
A5 LEF	32			26
Statement LEF	32			26
Com10 LEF				26
Monarch LEF				26
DL LEF				26
C5 LEF				26
A6 Postcard SEF				26

#### 2.7.3.2 CPS After First Sheet Out (N24)

#### Simplex Mode

Paper Type	Tray 1	Trays 2 and 3	HCF 4 & 5	MBF
	(prints per minute)	(prints per minute)	(prints per minute)	(prints per minute)
A4 LEF	24	24	24	24
Letter LEF	24	24	24	24
Executive LEF	24	24	24	24
Legal 13" SEF	20	20		19
Legal 14" SEF	20	20		19
A3 SEF	16	16		16

Paper Type	Tray 1	Trays 2 and 3	HCF 4 & 5	MBF
	(prints per minute)	(prints per minute)	(prints per minute)	(prints per minute)
Ledger SEF	16	16		16
A5 LEF	24			24
Statement LEF	24			24
Com10 LEF				24
Monarch LEF				24
DL LEF				24
C5 LEF				24
A6 Postcard SEF				24

### 2.7.3.3 CPS After First Sheet Out (N40)

#### Simplex Mode

Paper Type	Tray 1	Trays 2 and 3	HCF 4	HCF 5	MBF
	(prints per minute)	(prints per minute)	(prints per minute)	(prints per minute)	(prints per minute)
A4 LEF	40	38	37	35	32
Letter LEF	40	37	36	35	31
Executive LEF	40	38	37	35	31
Legal 13" SEF	25	24			22
Legal 14" SEF	25	24			22
A3 SEF	20	20			19
Ledger SEF	20	20			19
A5 LEF	40				31
Statement LEF	40				31
Com10 LEF					31
Monarch LEF					31
DL LEF					31
C5 LEF					31
A6 Postcard SEF					31

### 2.7.4 Continuous Printing Speed (CPS) After First Sheet Out

### 2.7.4.1 CPS After First Sheet Out (N32)

#### **Duplex Mode**

Paper Type	Tray 1	Tray 2	Tray 3	HCF 4 & 5	MBF
	(prints per minute)	(prints per minute)	(prints per minute)	(prints per minute)	(prints per minute)
A4 LEF	31	31	28	23	19
Letter LEF	31	31	28	23	19
Executive LEF	31	31	28	23	19
Legal 13" SEF	15	15	15		
Legal 14" SEF	15	15	15		
A3 SEF	14	13	13		
Ledger SEF	14	13	13		

### 2.7.4.2 CPS After First Sheet Out (N24)

#### **Duplex Mode**

Paper Type	Tray 1	Tray 2	Tray 3	HCF 4 & 5	MBF
	(prints per minute)	(prints per minute)	(prints per minute)	(prints per minute)	(prints per minute)
A4 LEF	24	24	24	23	19
Letter LEF	24	24	24	23	19
Executive LEF	24	24	24	23	19
Legal 13" SEF	15	15	15		
Legal 14" SEF	15	15	15		
A3 SEF	14	13	13		
Ledger SEF	14	13	13		

### 2.7.4.3 CPS After First Sheet Out (N40)

#### **Duplex Mode**

Paper Type	Tray 1	Tray 2	Tray 3	HCF 4 & 5	MBF
	(prints per minute)	(prints per minute)	(prints per minute)	(prints per minute)	(prints per minute)
A4 LEF	31	31	29	32	32
Letter LEF	31	31	29	32	32
Executive LEF	31	31	29	32	32
Legal 13" SEF	15	15	15		
Legal 14" SEF	15	15	15		
A3 SEF	14	13	13		
Ledger SEF	14	13	13		

### 2.8 Environment

	Tempera- ture	Humidity	Noise (Printer Only)	Noise (PTR w/ MBX or Finisher & HCF, Dup.)	Level	Altitude (Max.)
Operating	5° - 30° C 50° - 90° F	15 - 85% RH with no condensation	Standby 42 dB Printing 69 dB	Standby 42 dB Printing 71.8 dB	Within 5 <sup>0</sup>	8200 Ft. 2.5 KM.
Shipping	-10 <sup>o</sup> - 40 <sup>o</sup> C 23.8 <sup>o</sup> - 104 <sup>o</sup> F	10 - 90% RH				49,200 Ft. 15 KM.
Ozone					Less than 0.02 PPM	

The printer must not be exposed to:

- abrupt changes in temperature or humidity (near heater or air conditioning vent)
- any condensation
- direct sunlight
- chemicals
- vibration
- extreme dust or smoke
- poor ventilation

### 2.9 Safety Standards

The DocuPrint N24/N32/N40 satisfies the following standards:

Category	Standard Satisfied
Laser Safety	110V and 115V printers: FDA 21 CFR Chapter 1, Subchapter J, Sections 1010 & 1040 for CDRH Class I Laser Product.
	220V printer: IEC825 Class I Laser Product.
Ozone generation	Less than 0.02 ppm in Time Weighted Average (TWA). Measured according to ECMA 129
EMI	<b>110V printer:</b> VCCI Information Processing Equipment, Class II. FCC Part 15, subpart B, Class B (ANSI C63.4/11.4D)
	220V printer: EN55022 (CISPR Publication 22) Class B
Other Standards	110V printer: IEC 950 2nd edition with amendment 1 (1995)
	110V printer: UL 1950 2nd edition
	220V printer: IEC950 2nd edition with amendment 1 (1995). CE directive.

### 2.10 Options

#### **Printer Options**

There are numerous customer installed options available for the DocuPrint N24/N32/N40 printer. For detailed technical and service information on an option, refer to the individual service manual for that option.

Option	Description
HCF Tray 3	Tray Capacity = 500 sheets maximum. (Only 7 Paper Sizes can be used.)
HCF Tray 4 & Tray 5	Trays Capacity = 1000 sheets maximum. (Only 3 Paper Sizes can be used.)
Envelope Feeder	Feeds maximum of 100 envelopes. Only 4 Envelope Sizes can be used.
Multisheet Bypass Feeder	Feeds 50 sheets (Factory installed Option)
Face Up Bin	Holds 200 printed documents, face up (Factory installed Option)
Face Down Bin	Holds 500 printed documents, face down (Factory installed Option)
Mailbox	Mailbox Mode - Provides user to select specific output bin for job printing Sorter Mode - Allows user to select mailbox as a sorter. Perfect for multipage job requiring multiple copies.
Finisher	Stacks, staples, and offsets (Max 667 sheets per bin - 3 bins total)
Duplex Module	Provides printer with Duplex Printing capability
1.4 GByte or 3.25 GByte Hard Drive	Provides storage of Fonts and/or Forms and/or spooling of print jobs in Secure, Non-Secure, or Proof Modes
Token Ring	Provides capability for printer to operate in Token Ring communications envi- ronment
10/100MHz Ethernet	Provides support of faster Ethernet Network speeds
8 MByte SIMM (50 ns)	Memory Expansion required for N40 Printer Only
16 MByte SIMM (50 ns)	Memory Expansion required for N40 Printer Only
32 MByte SIMM (50 ns)	Memory Expansion required for N40 Printer Only
8 MByte SIMM (60 ns)	Memory Expansion required for N24 and N32 Printers
16 MByte SIMM (60 ns)	Memory Expansion required for N24 and N32 Printers
32 MByte SIMM (60 ns)	Memory Expansion required for N24 and N32 Printers
8 MByte Flash SIMM	Provides storage of Fonts and/or Forms

### 2.11 Paper Specifications

Weight: The recommended standard paper type is Xerox DP, 20 lb. (80gsm).

Range: = 60 to 90gsm, 16 - 24 lbs.

60 to 136gsm, 16 - 36 lbs. MBF

### 2.11.1 Special Media Used with DocuPrint N24/N32/N40

Туре	Size	Media Name	MBF	Tray 1 Tray 2	Tray 3 Tray 4 Tray 5	Env
Transparency	Letter - 8.5" x 11" (216mm x 279mm)	XEROX PN3R2780 (US)	Y	Ν	Ν	Ν
Transparency	A4 - 8.3" x 11.7" (210mm x 297mm)	XEROX PN3R9600 (EU)	Y	Ν	Ν	Ν
Transparency	A4 - 8.3" x 11.7" (210mm x 297mm)	XEROX PNJE001 (Japan)	Y	Ν	Ν	Ν
Labels	Letter - 8.5" x 11" (216mm x 279mm)	XEROX PN3R4469 (US)	Y	Ν	Ν	Ν
Labels	A4 - 8.3" x 11.7" (210mm x 297mm)	XEROX PN3R97406 (EU)	Y	Ν	Ν	Ν
Labels	A4 - 8.3" x 11.7" (210mm x 297mm)	XEROX P/N V860 (Japan)	Y	Ν	Ν	Ν
Envelope	4 1/8" x 9 1/2" (105mm x 241mm)	Monroe Brand COM #10	Ν	Ν	Ν	Y
Envelope	3 7/8" x 7 1/2" (98mm x 191mm)	Monroe Brand Mon- arch	Ν	Ν	Ν	Y
Envelope	4" x 8.7" (162mm x 229mm)	C5 (Rivers series #02067/ Gummed	Ν	Ν	Ν	Y
Envelope	4.3" x 8.7" 110mm x 220mm	DL (Rivers series #01029/Gummed	Ν	Ν	Ν	Y
Postcard	A6 - 3.9" x 5.8" (100mm x 148mm)	Japanese Official Post- card	Y	Ν	Ν	N

# 2.11.2 Approved Media Certified on the DocuPrint N24/N32/N40 Printer Family

Substrate	Part	Paper	Paper
US Type	Number	Size	Weight
Xerox 4024DP Bond*	3R721	Letter (8.5x11")	20 lb.
Xerox 4024DP 3 Hole	3R2193	Letter (8.5x11")	20 lb.
Hammermill Tidal DP	16200-8	Letter (8.5x11")	20 lb.
Champion Data Copy	DC-11	Letter (8.5x11")	20 lb.
GP Microprint Multisystem	203111	Letter (8.5x11")	20 lb.
Xerox Image Smooth	3R54	Letter (8.5x11")	20 lb.
Union Camp Great White - Recycled	86700	Letter (8.5x11")	20 lb.
GP Microprint Laser 1000	04F9866	Letter (8.5x11")	24 lb.
Xerox 4024DP	3R2531	Letter (8.5x11")	24 lb.
Xerox 4024DP	3R2353	Letter (8.5x11")	28 lb.
Xerox 4024DP	3R727	Legal (8.5x14")	20 lb.
Hammermill	10127-9	Legal (8.5x14")	24 lb.
Xerox	3R725	Folio (8.5x13")	20 lb.
Xerox 4024	3R729	Ledger (11x17")	20 lb.
Xerox 4024	3R2072	Statement (5.5x8.5")	20 lb.
GP Microprint Laser 1000	Cut from 04F9866	Executive (7.25x10.5")	24 lb.
Envelope - Williamhouse	N086470	Com10 (4x9.5")	20 lb.
Envelope - Williamhouse	N647282	Com10 (4x9.5")	24 lb.
Envelope-Strathmore Writing	0832-0202A	Monarch (4x7.5")	24 lb.
Cover Stock	3R3041	Letter (8.5x11")	65 lb.
Labels - 33 Up Paper	3R3139	Letter (8.5x11")	N/A
Transparency - Permanent Stripe	3R2780	Letter (8.5x11")	N/A
Transparency - Removable Stripe	3R3108	Letter (8.5x11")	N/A

Substrate	Part	Paper	Paper
European Type	Number	Size	Weight
RX 80 Premier TCF*	3R91805	A4 (210x297mm)	80 GSM
RX 80 Business	3R91820	A4 (210x297mm)	80 GSM
80 DP Planet Plus	3R90652	A4 (210x297mm)	80 GSM
Relay 80	ABREL80F	A4 (210x297mm)	80 GSM
Multicopy TCF	AMA157066	A4 (210x297mm)	80 GSM
LaserPrint 80	3R91922	A4 (210x297mm)	80 GSM
Amicus 80	ABAMI80F	A4 (210x297mm)	80 GSM
RX Premier - 4 Hole	3R91723	A4 (210x297mm)	80 GSM
Steinbeis Recycled	3R91165	A4 (210x297mm)	80 GSM
Amicus 70	ABAMI70F	A4 (210x297mm)	70 GSM
RX 90 Exclusive	3R90600	A4 (210x297mm)	90 GSM
Multicopy	AMA157091	A4 (210x297mm)	100 GSM
Amicus 80	ABAMI80K	JISB4	80 GSM
RX Business	3R91821	A3 (297420mm)	80 GSM
Premier 80 - Norland	3R91832	A5 (149x210mm)	80 GSM
Relay 80	ABREL80D	JISB5	80 GSM
Envelope - Autofile	JB 1917	DL (110x220mm)	80 GSM
Envelope - Autofile	JB 1914	DL (110x220mm)	90 GSM
Envelope - Autofile	JB 1933	C5 (162x229mm)	80 GSM
Envelope- Communique	JB 1236	C5 (162x229mm)	90 GSM
Card Stock	3R91798A	A6 (100x148mm)	160 GSM
Transparency - Clear	3R96002	A4 (210x297mm)	N/A
Labels - 24 Up Paper	3R96178	A4 (210x297mm)	N/A

### 2.11.3 Paper Tray Capacity

#### 2.11.3.1 Trays 1 and 2 (Standard)

Each tray has paper size automatic sensing. Trays 1 and 2 can each hold up to 500 sheets (2.1"/54mm stack height of 20lb (80gsm) paper) of the following paper.

Supported Paper Sizes Tray 1	Supported Paper Sizes Tray 2
Ledger SEF - 11" x 17" (279.4mm x 431.8mm)	Ledger SEF - 11" x 17" (279.4mm x 431.8mm)
A3 SEF - 11.7" x 16.5" (297mm x 420mm)	A3 SEF - 11.7" x 16.5" (297mm x 420mm)
Letter LEF - 8.5" x 11" (215.9mm x 279.4mm)	Letter LEF - 8.5" x 11" (215.9mm x 279.4mm)
Legal 13" SEF - 8.5" x 13" (215.9mm x 330.2mm)	Legal 13" SEF - 8.5" x 13" (215.9mm x 330.2mm)
Legal 14" SEF - 8.5" x 14" (215.9mm x 355.6mm)	Legal 14" SEF - 8.5" x 14" (215.9mm x 355.6mm)
A4 LEF - 8.3" x 11.7" (210mm x 297mm)	A4 LEF - 8.3" x 11.7" (210mm x 297mm)
Executive LEF - 7.25" x 10.5" (184.2mm x 266.7mm)	Executive LEF - 7.25" x 10.5" (184.2mm x 266.7mm)
A5 LEF - 5.9" x 8.3" (149mm x 210mm)	
Statement - 5.5" x 8.5" (139.9mm x 215.9mm)	

#### 2.11.3.2 Multisheet Bypass Feeder [MBF] (Standard)

Standard feeder for the DocuPrint N24/N32/N40 printer. The MBF attaches to the left side of the printer. The MBF holds up to 50 sheets (0.2"/5mm stack height of 64 ~ 105gsm paper or 190gsm postcard) of the following paper.

Supported Paper Sizes MBF
Ledger SEF - 11" x 17" (279.4mm x 431.8mm)
A3 SEF - 11.7" x 16.5" (297mm x 420mm)
Letter LEF - 8.5" x 11" (215.9mm x 279.4mm)
Legal 13" SEF - 8.5" x 13" (215.9mm x 330.2mm)
Legal 14" SEF - 8.5" x 14" (215.9mm x 355.6mm)
A4 LEF - 8.3" x 11.7" (210mm x 297mm)
Executive LEF - 7.25" x 10.5" (184.2mm x 266.7mm)
Postcard SEF - 3.9" x 5.8" (100mm x 148mm)
COM #10 LEF - 4 x 9.5" (104.8mm x 241.3mm)
Monarch LEF -4 x 7.5" (98.4mm x 190.5mm)
C5 SEF - 4 x 8.7 (162mm x 229mm)
DL LEF - 110mm x 220mm
A5 LEF - 4 x 8.7 (162mm x 229mm)
Statement LEF - 110mm x 220mm
### 2.11.3.3 High Capacity Feeder [HCF] (Option)

The Optional HCF Unit attaches under the DocuPrint N24/N32/N40. The HCF Unit contains three paper trays -

HCF - Tray 3 the 500 Sheet Feeder

Optional feeder for the DocuPrint N24/N32/N40 printer. Tray 3 has paper size automatic sensing. Tray 3 can hold up to 500 sheets (54mm stack height of 20lb (80gsm)paper) of the following paper.

Supported Paper Sizes Tray 3
Ledger SEF - 11" x 17" (279.4mm x 431.8mm)
A3 SEF - 11.7" x 16.5" (297mm x 420mm)
Letter LEF - 8.5" x 11" (215.9mm x 279.4mm)
Legal 13" SEF - 8.5" x 13" (215.9mm x 330.2mm)
Legal 14" SEF - 8.5" x 14" (215.9mm x 355.6mm)
A4 LEF - 8.3" x 11.7" (210mm x 297mm)
Executive LEF - 7.25" x 10.5" (184.2mm x 266.7mm)

HCF - Tray 4 and Tray 5

Optional feeder for the DocuPrint N24/N32/N40 printer. Trays 4 and 5 can each hold up to 1000 sheets (4.2"/ 108mm stack height of 20lb (80gsm) paper) of the following paper.

Supported Paper Sizes Tray 4	Supported Paper Sizes Tray 5
Letter LEF - 8.5" x 11" (215.9mm x 279.4mm)	Letter LEF - 8.5" x 11" (215.9mm x 279.4mm)
A4 LEF - 8.3" x 11.7" (210mm x 297mm)	A4 LEF - 8.3" x 11.7" (210mm x 297mm)
Executive LEF - 7.25" x 10.5" (184.2mm x 266.7mm)	Executive LEF - 7.25" x 10.5" (184.2mm x 266.7mm)

#### 2.11.3.4 Envelope Feeder (Option)

Optional Envelope feeder for the DocuPrint N24/N32/N40 printer replaces the MBF. The Envelope Feeder has a no paper sensor. The Envelope Feeder can hold the following envelopes (maximum of 100 envelopes between 16 to 28 lb. (64 ~ 105gsm).

Supported Envelope Sizes & Types (100 maximum)
COM #10 LEF (Monroe Brand) - 4 x 9.5" (104.8mm x 241.3mm)
Monarch LEF (Monroe Brand) -4 x 7.5" (98.4mm x 190.5mm)
C5 SEF (River series #02067/Gummed) - 4 x 8.7 (162mm x 229mm)
DL LEF (River series #01029/Gummed) - 110mm x 220mm

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2-18

### 2.11.4 Paper Limitations

The following are recommended for optimum performance:

- Envelopes with peel-off adhesive strips or more than one fold-over flap to seal must have adhesives compatible with the heat and pressure of the printer's fusing process.
- Avoid:
  - Paper with embossed lettering, perforations, or rough texture.
  - Paper to which color was added after the paper was made.
  - Printed forms whose ink is not for laser printing.

Most papers that meet the specifications above may be fed either automatically through the universal paper tray/ envelope tray or manually through the manual feed slot.

Manual feeding, however, will be necessary for envelopes (if envelope tray is not being used), transparency films, and some media that meet specifications but are not ideal for feeding from the paper tray, e.g., paper that is either highly textured, thicker than normal for its weight, or unusually smooth.

### 2.12 Paper Output Devices & Support Paper Specifications

The printer uses the following paper output/paper size combinations:

- Face Down Bin (Standard)
- Offset Unit (Standard)
- Duplex Mode (Option)
- Face Up Bin (Standard)
- Mailbox (Option)
- Finisher (Option)

### 2.12.1 Face Down Bin (Standard)

Standard output bin for the DocuPrint N24/N32/N40. Paper is transported out of the printer face down onto the printer Top Cover. This Bin holds up to 500 sheets of 20 lb (80gsm)paper, and comes equipped with Full Stack detection. When the Finisher is installed on the printer, the maximum paper stack in the Face Down Bin is reduced to 300, and the Finisher monitors Full Stack detection.

### 2.12.2 Offset Unit (Standard)

The Offset Unit is attached above the Fuser on the printer base engine. Each sheet of paper is transported out of the printer, offset 10mm from the previous job, then placed in the Face Down Bin. Paper size supported by the Offset Unit:

Paper
Letter LEF - 8.5" x 11" (216mm x 279mm)
Legal 13" SEF - 8.5" x 13" (216mm x 330mm)
Legal 14" SEF- 8.5" x 14" (216mm x 356mm)
A4 LEF - 8.3" x 11.7" (210mm x 297mm)
Ledger SEF - 11.7" x 17" (297mm x 432mm)
A3 SEF - 11.7" x 16.5" (297mm x 420mm)
Executive LEF - 7.25" x 10.5" (184.2mm x 266.7mm)

### 2.12.3 Duplex Module (Option)

Optional Duplex Module for the DocuPrint N24/N32/N40. Provides duplex printing for 16 to 24 lbs. (64gsm ~ 90gsm) paper fed from Trays 1 through 5. The minimum paper size recommended for Duplex feed is Executive 7.25 x 10.5" (184 x 267mm). The maximum paper size recommended for Duplex feed is A3 SEF or 11" x 17" SEF.

### 2.12.4 Face Up Bin (Standard)

Standard Face Up Bin attaches to the left side of the DocuPrint N24/N32/N40 printer. Paper is transported out of the printer face up onto the Face Up Bin. The Bin holds up to 200 sheets of 20 lb (80gsm) paper. There is **NO** Full Stack detection for this Bin.

### 2.12.5 Mailbox (Option)

Optional Mailbox attaches to the DocuPrint N24/N32/N40 printer. Paper is transported out of the printer and sorted and placed into designated mail bins. Each bin holds up to 100 sheets of 20lb (80gsm) paper. The Mailbox Option can either be installed on a desktop or console N24/N32/N40 Printer.

NOTE: The Mailbox <u>cannot</u> be installed if the Finisher is installed.

### 2.12.6 Finisher (Option)

Optional Finisher attaches to the DocuPrint N24/N32/N40 printer. The Finisher contains three catch bins. Each bin can hold 667 sheets of 20 lb. (80gsm) paper. The Finisher can only be attached to the N24/N32/N40 Printers when the Optional High Capacity Feeder is installed.

NOTE: The Finisher <u>cannot</u> be installed if the Mailbox is installed.

### 2.13 Operating Language and Emulation

The DocuPrint N24/N32/N40 emulates:

- PCL5e
- PostScript Level 2
- PCL6 (Future Release)
- PostScript Level 3 (w/ Version 1.7)

### 2.14 Communication Interfaces

#### Standard:

Parallel (Bidirectional)- Conforms to IEEE STD 1284, December 2, 1994. Connector: Female 36-pin

Serial - RS-232C Connector: Female 9-pin DB-9

Ethernet - 10 Base T Connector: BNC and RJ45

#### **Optional:**

Token Ring Connector: Female 9-pin DB-9 and RJ45

Ethernet (10/100 Base T) Connector: BNC and RJ45

### 2.15 Print Alignment Specification

Item	Specification			Measurement
	Simplex	Duplex	MBF	Length
Skew	Less than +/- 1.54mm	Less than +/- 2.0mm	Less than +/- 1.54mm	200mm
Registration Lead Edge	Less than +/- 1.5mm	Less than +/- 1.9mm	Less than +/- 2.1mm	
Registration Side Edge	Less than +/- 2.0mm	Less than +/- 2.4mm	Less than +/- 2.9mm	

# **Section 3**

# **Parts Lists**

PL 1.1 Top Cover Assembly
PL 1.2 Front Cover
PL 1.3 Rear, Left, and Right Covers
PL 2.1 Tray Unit (1 of 2)
PL 2.2 Tray Unit (2 of 2)
PL 3.1 Tray Interface - Tray 13-14
PL 3.2 Paper Pick Up - Tray 13-16
PL 3.3 Retard and Take Away - Tray 1 3-18
PL 3.4 Tray Interface - Tray 23-20
PL 3.5 Paper Pick Up - Tray 2 3-22
PL 3.6 Retard and Take Away - Tray 23-24
PL 3.7 Feed Drive Transmission
PL 4.1 Multi-Sheet Bypass Feeder (MBF) / Duplex Support
PL 4.2 Multi-Sheet Bypass Feeder Assembly

PL 4.3 MBF Upper Feeder Assembly
PL 4.4 MBF Tray Assembly3-34
PL 5.1 Tray 1 Frame and Left Cover
PL 5.2 Tray 2 Frame and Left Cover
PL 6.1 Registration
PL 6.2 Left Upper Cover Assembly
PL 6.3 Transport Chute Assembly
PL 7.1 Laser Assembly
PL 7.2 Xerography and Development
PL 8.1 Fuser Assembly
PL 9.1 Exit Lower Chute3-52
PL 9.2 Offset Roller
PL 9.3 Exit Upper Chute Assembly3-56
PL 9.4 Exit Drive Assembly3-58
PL 10.1 Main Drive Assembly3-60
PL 10.2 Fuser Drive Assembly 3-62
PL 11.1 Power Inlet and LVPS 3-64
PL 11.2 HVPS and Printer Engine Controller PWB
PL 11.3 System Controller Assembly 3-68
PL 12.1 Part Number Locator Listing

#### Using the Parts List

- 1 The numbers shown in each illustration correspond to the parts list number for that illustration.
- **2** The capital letters C, E, KL, and S shown in an illustration stand for C-ring, E-ring, Clamp, and Screw, respectively.
- **3** The notation "{Includes Items X through Y}" following an part name indicates an assembly that is made up of components X through Y. For example, "1 {Includes Items 2 through 4)" means part 1 consists of part 2, part 3, and part 4.
- **4** The notation "P/O Item 1" following an part name indicates this item is part of a larger assembly. For example, "7 - - Bearing {P/O Item 1}" means item 7 is part of assembly 1.
- NOTE: The parts listed and illustrated in this section are current at the time of this printing. As the machine matures the part number, mounting, etc. may change or be deleted.

# PL 1.1 Top Cover Assembly

ltem	Part	Description
1)	48K58481	Cover Assembly {Includes Items 2 and 3}
2)		Top Cover {P/O Item 1}
3)		Label Switch {P/O Item 1}
4)	48K54503	Console Panel
5)	891E37090	N32 Console Panel Label (English & Symbols)
	891E37100	N32 Console Panel Label (Symbols Only)
	891E42430	N32 Console Panel Label (Spanish)
	891E42440	N32 Console Panel Label (Brazil)
	891E42990	N24 Console Panel Label (English & Symbols)
	891E43000	N24 Console Panel Label (Symbols Only)
	891E43010	N24 Console Panel Label (Brazil)
	891E43020	N24 Console Panel Label (Spanish)
	891E68020	N40 Console Panel Label (English & Symbols)
	891E68030	N40 Console Panel Label (Symbols Only)
	891E68040	N40 Console Panel Label (Brazil)
	891E68050	N40 Console Panel Label (Spanish)
6)	162K25111	Console Harness
7)	2E68401	Cover System Controller
8)	3E23653	Stopper
9)	127K19110	Fuser Fan Assembly
	127K21470	Fuser Fan Assembly (Alternate)
10)	48E37170	Full Fuser Cover
A)	600K65640	Screw Kit



### PL 1.2 Front Cover

I

ltem	Part	Description
1)	48K59930	Front Left Cover Assembly
2)	9E62730	Torsion Spring
3)	48K66971	Front Right Cover
4)		Magnet Plate
5)	54E08320	Duct Bottom
6)	26E40710	Stud Docking
7)		EME Front Spring
8)	49E73290	Left Docking Bracket
A)	600K65640	Screw Kit

NOTE: Mark off the existing tags on a replacement cover



## PL 1.3 Rear, Left, and Right Covers

ltem	Part	Description
1)	48E37211	Left Hand Inner Cover
2)	48K50030	Right Hand Cover
3)	48K49621	Upper Rear Cover
4)	48E37410	Lower Rear Cover
A)	600K65640	Screw Kit



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# PL 2.1 Tray Unit (1 of 2)

	ltem	Part	Description
L	1)	109R00044	Tray Assembly {Includes Items 2 through 17 and PL 2.2 Items 1 through 8}
-	2)		Plate Bottom {P/O Item 1}
	3)		Pad Bottom {P/O Item 1}
	4)		Plate Tongue {P/O Item 1}
	5)		Tongue Shaft Assembly {P/O Item 1}
	6)		Bearing {P/O Item 1}
	7)		Side Guide Assembly {P/O Item 1}
	8)		Lever {P/O Item 1}
	9)		Shaft {P/O Item 1}
	10)		Spring {P/O Item 1}
	11)		Plate Side {P/O Item 1}
	12)		Actuator {P/O Item 1}
	13)		Link {P/O Item 1}
	14)		Torsion Spring {P/O Item 1}
	15)		Stopper {P/O Item 1}
	16)		Tray Housing {P/O Item 1}
	17)		Washer {P/O Item 1}
	A)	600K65640	Screw Kit



# PL 2.2 Tray Unit (2 of 2)

ltem	Part	Description
1)		End Guide Assembly {P/O PL 2.1, Item 1}
2)		End Plate Assembly {P/O PL 2.1, Item 1}
3)		Actuator Assembly {P/O PL 2.1, Item 1}
4)		Cable Assembly {P/O PL 2.1, Item 1} {P/O Item 8}
5)		Extension Spring {P/O PL 2.1, Item 1} {P/O Item 8}
6)		Pulley {P/O PL 2.1, Item 1}
7)		Guide Actuator {P/O PL 2.1, Item 1}
8)	600K61610	Tray Cables Kit {Includes 2 each of Items 4 and 5}
A)	600K65640	Screw Kit



# PL 3.1 Tray Interface - Tray 1

I

ltem	Part	Description
1)	110K07740	Paper Size Switch Assembly
2)	127K20662	Motor Assembly
3)		Sensor Actuator {P/O Item 13}
4)		Support Actuator {P/O Item 13}
5)	107E94941	No Paper Sensor
6)	107E94941	Lift Up Sensor
7)		Chute Assembly Front, (for Tray 1 only)
8)	3E23671	Front Stopper Tray
9)	3E23690	Rear Stopper Tray
10)		Left Spacer
11)	23E08660	Link Stopper Tray 1 & 2
12)	809E05870	Torsion Spring
13)	600K65440	Actuator Sensor Kit (Tray 1 Only) {Includes Items 3 and 4}
A)	600K65640	Screw Kit



# PL 3.2 Paper Pick Up - Tray 1

ltem	Part	Description
1)		46T Gear {P/O Item 15}
2)	121K82820	Feed Clutch Assembly
3)		28T Gear Assembly {P/O Item 15}
4)	5K81990	One Way Clutch
5)	50K29923	Feeder Assembly {Includes Items 6 through 14}
6)		Roll Assembly {P/O Item 5} {P/O Item 16}
7)		One Way Clutch Assembly {P/O Item 5}
8)		Clutch Gear 25T {P/O Item 5}
9)		Bearing {P/O Item 5}
10)		Feed Shaft {P/O Item 5}
11)		31T Gear {P/O Item 5}
12)		25T Gear {P/O Item 5}
13)		Nudger Support Assembly {P/O Item 5}
14)		Bearing {P/O Item 5}
15)	600K56740	Pick Up Gear Kit {Includes Items 1 and 3}
16)	600K61600	Feed Roll Kit {Includes six of Item 6}
A)	600K65640	Screw Kit



## PL 3.3 Retard and Take Away - Tray 1

ltem	Part	Description
1)	50K29983	Retard Assembly {Includes Items 2 through 8} {P/O Item 26}
2)		22T Gear {P/O Item 1} {P/O Item 23} {P/O Item 26}
3)		Retard Shaft Assembly {P/O Item 1} {P/O Item 26}
4)		Bearing {P/O Item 1} {P/O Item 26}
5)		Roll Assembly {P/O Item 1} {P/O Item 26}
6)		Spacer {P/O Item 1} {P/O Item 26}
7)		Friction Clutch Assembly {P/O Item 1} {P/O Item 26}
8)		Retard Support {P/O Item 1} {P/O Item 26}
9)		Bearing {P/O Item 1} {P/O Item 26}
10)		22T Gear {P/O Item 23} {P/O Item 26}
11)		Spacer {P/O Item 26}
12)		Gear Stopper {P/O Item 26}
13)		Rear Bearing {P/O Item 26}
14)		Center Bearing {P/O Item 26}
15)	22K45890	Take Away Roller Assembly {P/O Item 26}
16)		Front Bearing {P/O Item 26}
17)		Bearing {P/O Item 26}
18)	54K88590	Feed Out Chute Assembly {P/O Item 26}
19)		Feed In Chute Assembly {P/O Item 26}
20)		22/20T Gear {P/O Item 23} {P/O Item 26}
21)	74K92500	Spring Support Assembly {P/O Item 26}
22)	9E53230	Spring {P/O Item 26}
23)	600K60970	Take Away Gear Kit {Includes Items 2, 10, and 20}
24)	600K61600	Feed Roll Kit {Includes six of Item 6}
25)		Frame {P/O Item 26}
26)	600K65460	Complete Retard/Take Away Assembly {Includes Items 1, 9 through 22, and 25}
A)	600K65640	Screw Kit



1 {Includes Items 2 through 9} 23 {Includes Items 2, 10, and 20 24 {Includes 6 of Item 5} 26 {Includes Items 1, 9 through 22 and 25}

# PL 3.4 Tray Interface - Tray 2

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ltem	Part	Description
1)	110K07740	Paper Size Switch Assembly
2)	127K20662	Motor Assembly
3)		Sensor Actuator {P/O Item 13}
4)		Support Actuator {P/O Item 13}
5)	107E94941	No Paper Sensor
6)	107E94941	Lift Up Sensor
7)		Front Chute Assembly
8)	3E23671	Front Tray Stopper
9)	3E23690	Rear Tray Stopper
10)		Left Spacer
11)	23E08660	Link Stopper
12)	809E05870	Torsion Spring
13)	600K56730	Actuator Sensor Kit (Trays 2 through 5) {Includes Items 3 and 4}
A)	600K65640	Screw Kit

3/99

3-20



# PL 3.5 Paper Pick Up - Tray 2

ltem	Part	Description
1)		46T Gear {P/O Item 15}
2)	121K82820	Clutch Assembly
3)		28T Gear {P/O Item 15}
4)	13E86260	Feed Bearing
5)	50K29923	Feeder Assembly {Includes Items 6 through 14}
6)		Roll Assembly {P/O Item 5}
7)		One Way Clutch Assembly {P/O Item 5}
8)		25T Gear Clutch {P/O Item 5}
9)		Bearing {P/O Item 5}
10)		Shaft Feed {P/O Item 5}
11)		31T Gear {P/O Item 5}
12)		25T Gear {P/O Item 5}
13)		Nudger Support Assembly {P/O Item 5}
14)		Bearing {P/O Item 5}
15)	600K60960	Pickup Gear Kit {Includes Items 1 and 3}
16)	600K61600	Feed Roll Kit {Includes six of Item 6}
A)	600K65640	Screw Kit



## PL 3.6 Retard and Take Away - Tray 2

ltem	Part	Description
1)	50K29983	Retard Assembly {Includes Items 2 through 8} {P/O Item 20}
2)		22T Gear {P/O Item 1} {P/O Item 18} {P/O Item 20}
3)		Retard Shaft Assembly {P/O Item 1} {P/O Item 20}
4)		Bearing {P/O Item 1} {P/O Item 20}
5)		Roll Assembly {P/O Item 1} {P/O Item 20}
6)		Spacer {P/O Item 1} {P/O Item 20}
7)		Friction Clutch Assembly {P/O Item 1} {P/O Item 20}
8)		Retard Support {P/O Item 1} {P/O Item 20}
9)		22T Gear {P/O Item 18} {P/O Item 20}
10)		Bearing {P/O Item 20}
11)		Gear Stopper {P/O Item 20}
12)	22K45900	Take Away Roll Assembly {P/O Item 20}
13)		Bearing {P/O Item 20}
14)	54E08682	Feed Out Chute Assembly {P/O Item 20}
15)		Feed In Chute Assembly {P/O Item 20}
16)		22/20T Gear {P/O Item 18} {P/O Item 20}
17)	9E53230	Spring {P/O Item 20}
18)	600K56750	Take Away Gear Kit {Includes Items 2, 9, and 16}
19)	600K61600	Feed Roll Kit {Includes six of Item 5}
20)	600K65480	Complete Retard/Take Away Assembly {Includes Items 1, and 9 through 17}
A)	600K65640	Screw Kit



### **PL 3.7 Feed Drive Transmission**

ltem	Part	Description
1)		16T Gear {P/O Item 12}
2)		30T Gear {P/O Item 12}
3)		Take Away Shaft
4)		Bearing {P/O Item 12}
5)		Take Away Support
6)		31T Gear {P/O Item 12}
7)		33T Gear {P/O Item 12}
8)		16/22T Gear {P/O Item 12}
9)		Link Assembly {P/O Item 12}
10)		Spring Torsion {P/O Item 12}
11)		Bearing {P/O Item 12}
12)	600K60980	Feed Drive Repair Kit {Includes Items 1, 2, 4, and 6 through 11}
A)	600K65640	Screw Kit

3/99



12 {Includes Items 1, 2, 4, and 6 through 11}

### PL 4.1 Multi-Sheet Bypass Feeder (MBF) / Duplex Support

ltem	Part	Description
1)	48E37370	Support Front Cover
2)	48K58760	Support Rear Cover
3)		Support Assembly
4)	162K20380	Drawer Harness Assembly
5)		Damper Front Spring
6)		Damper Rear Spring
7)	59K06110	MBF Assembly {Includes Items 8 through 12 and PL4.2 Items 1 through 16}
8)	48E37401	Top Cover {P/O Item 7}
9)		Tray Support {P/O Item 7}
10)		Hinge Stud {P/O Item 7}
11)		Tray Spring {P/O Item 7}
12)		Harness Clamp {P/O Item 7}
A)	600K65640	Screw Kit



### PL 4.2 Multi-Sheet Bypass Feeder Assembly

ltem	Part	Description
1)		Rear Latch {P/O PL 4.1 Item 7}
2)		Link Gear {P/O PL 4.1 Item 7}
3)		Drive Gear Assembly {P/O PL 4.1 Item 7}
4)		Drive Link Spring {P/O PL 4.1 Item 7}
5)		Tie Plate {P/O PL 4.1 Item 7}
6)	19K92810	Pad {P/O PL 4.1 Item 7}
7)		Pad Pin {P/O PL 4.1 Item 7}
8)		Pad Shaft {P/O PL 4.1 Item 7}
9)		Pad Spring {P/O PL 4.1 Item 7}
10)		Paper Guide {P/O PL 4.1 Item 7}
11)		Bracket {P/O PL 4.1 Item 7}
12)		Bracket Front Hook {P/O PL 4.1 Item 7}
13)		Bracket Rear Hook {P/O PL 4.1 Item 7}
14)		Front Latch {P/O PL 4.1 Item 7}
15)		Hook Spring {P/O PL 4.1 Item 7}
16)		Lower Chute {P/O PL 4.1 Item 7}
A)	600K65640	Screw Kit

3/99

3-30



SER514F
### PL 4.3 MBF Upper Feeder Assembly

ltem	Part	Description
1)		Upper Feeder Assembly {Includes Items 2 through 26} {P/O PL 4.1, Item 7}
2)	121K82880	Feed Clutch {P/O Item 1}
3)		Rear 1 Feed Bearing {P/O Item 1}
4)		Feed Shaft {P/O Item 1}
5)		Feed Gear {P/O Item 1}
6)		Rear 2 Feed Bearing {P/O Item 1}
7)		Feed Spring {P/O Item 1}
8)		Front Feed Bearing {P/O Item 1}
9)	22K93360	Feed Roller {P/O Item 1}
10)	107E94941	No Paper Sensor {P/O Item 1}
11)		No Paper Sensor Bracket {P/O Item 1}
12)		Stopper {P/O Item 1}
13)		Wire Harness {P/O Item 1}
14)	59K00430	Nudger Roller Assembly {Includes Items 15 through 25} {P/O Item 1}
15)		Nudger Roller Support {P/O Item 1} {P/O Item 14}
16)		Nudger Gear Cover {P/O Item 1} {P/O Item 14}
17)		Nudger Gear {P/O Item 1} {P/O Item 14}
18)		Rear Nudger Bearing {P/O Item 1} {P/O Item 14}
19)		Gate {P/O Item 1} {P/O Item 14}
20)		Front Nudger Roller Bearing {P/O Item 1} {P/O Item 14}
21)		Nudger Roller Shaft {P/O Item 1} {P/O Item 14}
22)	59K00440	Nudger Roller {P/O Item 1} {P/O Item 14}
23)	5K80880	Friction Clutch {P/O Item 1} {P/O Item 14}
24)		Friction Clutch Spacer {P/O Item 1} {P/O Item 14}
25)		Friction Clutch Gear {P/O Item 1} {P/O Item 14}
26)		Upper Feeder Frame {P/O Item 1}
A)	600K65640	Screw Kit



SER515F

# PL 4.4 MBF Tray Assembly

ltem	Part	Description
1)	50K30711	Tray Assembly {Includes Items 2 through 9}
2)		Side Pad {P/O Item 1}
3)		Side Guide {P/O Item 1}
4)	130K83360	Size Sensor Assembly {P/O Item 1}
5)		Size Guide Spring {P/O Item 1}
6)		Size Guide Link {P/O Item 1}
7)		Lower Cover {P/O Item 1}
8)		Tray {P/O Item 1}
9)		Upper Cover {P/O Item 1}
A)	600K65640	Screw Kit



### PL 5.1 Tray 1 Frame and Left Cover

ltem	Part	Description
1)	68K79283	Pinch Roll Assembly {Includes Items 2 through 7}
2)		Holding Spring {P/O Item 1}
3)		Shaft Spring {P/O Item 1}
4)		Center Bearing {P/O Item 1}
5)		End Bearing {P/O Item 1}
6)		Pinch Roller {P/O Item 1}
7)		Pinch Roller Bracket {P/O Item 1}
8)	48K49430	Cover Assembly {Includes Items 9 and 10}
9)		Grounding Metal {P/O Item 8}
10)		Left Middle Cover {P/O Item 8}
11)		Left Hand Frame
12)	130E81311	Take Away Sensor
A)	600K65640	Screw Kit



3/99

3-37

## PL 5.2 Tray 2 Frame and Left Cover

ltem	Part	Description
1)	48K69960	Left Lower Cover Assembly {Includes Items 2, 3, 9, 10, 11, and 14}
2)		Left Lower Cover {P/O Item 1}
3)	68K83512	Pinch Roll Assembly {Includes Items 4 through 8 and 21} {P/O Item 1}
4)		Pinch Roll End Bearing {P/O Item 3}
5)		Pinch Roll Center Bearing {P/O Item 3}
6)		Pinch Roller {P/O Item 3}
7)		Pinch Roll Spring {P/O Item 3}
8)		Pinch Roll Bracket {P/O Item 3}
9)		Left Lower Cover Handle Assembly {P/O Item 1}
10)		Front Frame {P/O Item 1}
11)		Rear Frame {P/O Item 1}
12)		Front Hinge
13)		Rear Hinge
14)		Feed Out Chute {P/O Item 1}
15)	110E93440	Left Lower Cover Interlock Switch
16)		Well Tie Plate
17)		EME Spring
18)		Сар
19)	130E81311	Tray 3Take Away Sensor
20)		Rear Support
21)		Washer {P/O Item 3}
22)		Door B Interlock/Jam Sensor Harness
A)	600K65640	Screw Kit

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## PL 6.1 Registration

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ltem	Part	Description
1)	121K83200	Registration Clutch Assembly
2)		Bearing
3)	22K33900	Registration Roller Assembly
4)	54K04252	Registration Chute Assembly {Includes Items 5 and 6}
5)		Registration Chute {P/O Item 4}
6)		Static Eliminator {P/O Item 4}
7)	130E81311	Registration Sensor
8)	103K80192	Resistor/Capacitor Assembly
9)		Left Hand Frame
A)	600K65640	Screw Kit

4 {Includes Items 5 and 6}



SER519FC

### PL 6.2 Left Upper Cover Assembly

ltem	Part	Description
1)		Hinge Front Shaft
2)		Hinge Rear Shaft
3)	48K57322	Cover Assembly {Includes Items 4 through 14 and PL6.3 Items 1 through 16}
4)		Lower Chute {P/O Item 3}
5)		Paper Guide {P/O Item 3}
6)		Complete Spring {P/O Item 3}
7)	54K88605	Chute Assembly {Includes Items 8 through 13} {P/O Item 3}
8)		Extension Spring {P/O Item 3} {P/O Item 7}
9)		Registration Roller Assembly {P/O Item 3} {P/O Item 7}
10)		Registration Chute Assembly {P/O Item 3} {P/O Item 7}
11)		Paper Guide {P/O Item 3} {P/O Item 7}
12)		Paper Guide {P/O Item 3} {P/O Item 7}
13)		Pulley {P/O Item 3} {P/O Item 7}
14)	74E91101	Cover Support {P/O Item 3}
A)	600K65640	Screw Kit

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## PL 6.3 Transport Chute Assembly

ltem	Part	Description
1)		Inner BTR Sleeve Spring {P/O PL 6.2 Item 3}
2)		Transport Chute {P/O PL 6.2 Item 3}
3)		Plate Eliminator {P/O PL 6.2 Item 3}
4)		Outer BTR Sleeve Spring {P/O PL 6.2 Item 3}
5)		BTR Sleeve {P/O PL 6.2 Item 3}
6)		Transport Chute Spring {P/O PL 6.2 Item 3}
7)		Transport Chute Rod {P/O PL 6.2 Item 3}
8)		Transport Chute Inlet {P/O PL 6.2 Item 3}
9)		Cover Assembly {P/O PL 6.2 Item 3}
10)		Pad {P/O PL 6.2 Item 3}
11)		Bracket {P/O PL 6.2 Item 3}
12)		Contact Plate {P/O PL 6.2 Item 3}
13)		Contact Plate {P/O PL 6.2 Item 3}
14)		Front Frame {P/O PL 6.2 Item 3}
15)		Rear Frame {P/O PL 6.2 Item 3}
16)		Handle Assembly {P/O PL 6.2 Item 3}
A)	600K65640	Screw Kit



## PL 7.1 Laser Assembly

ltem	Part	Description
1)	62K97924	Laser Assembly
A)	600K65640	Screw Kit



### PL 7.2 Xerography and Development

ltem	Part	Description
1)	22K48230	BTR Assembly {Includes Items 2 through 7}
2)		BTR Front Lever {P/O Item 1}
3)		BTR Roll Bearing {P/O Item 1}
4)		BTR Roll {P/O Item 1}
5)		BTR Positioning Pin {P/O Item 1}
6)		BTR Gear {P/O Item 1}
7)		BTR Gear Lever {P/O Item 1}
8)	38K81662	BTR/DTS Guide Assembly {Includes Items 9, 10, and 11}
9)		BTR/DTS Guide Bracket {P/O Item 8}
10)		BTR Lead Plate {P/O Item 8}
11)		DTS Lead Plate {P/O Item 8}
12)	24K92311	DTS Link Rod
13)		DTS Link Spring
14)	130K55760	Toner Empty Sensor
15)	9E55260	Toner Sensor Spring
16)	162K26540	Connector Assembly {Includes Items 17 through 20}
17)		Connector {P/O Item 16}
18)		Connector Bracket {P/O Item 16}
19)		Connector Spring {P/O Item 16}
20)		Stud Screw {P/O Item 16}
21)		BTR Guide
22)	19K93342	Charge Bias Assembly
23)	110K98770	EP Cartridge Interlock Switch Assembly {Includes Items 24 and 25}
24)		EP Cartridge Interlock Switch Bracket {P/O Item 23}
25)		EP Cartridge Interlock Switch {P/O Item 23}
26)		EP Cartridge Interlock Harness
27)	15E50040	Plate Contact
28)	15E50050	Plate Contact
29)		PWB Stud
30)	113R00173	EP Cartridge
	113R00184	EP Cartridge (Xerox Europe)
A)	600K65640	Screw Kit
B)	109R00046	115V Customer Maintenance Kit {Includes Item 1}
	109R00047	220V Customer Maintenance Kit {Includes Item 1}



3/99

3-49

## PL 8.1 Fuser Assembly

ltem	Part	Description
1)	126K10011	Fuser Assembly - 115V
	126K10021	Fuser Assembly - 220V
A)	600K65640	Screw Kit
B)	109R00046	115V Customer Maintenance Kit {Includes Item 1}
	109R00047	220V Customer Maintenance Kit {Includes Item 1}



### PL 9.1 Exit Lower Chute

	ltem	Part	Description
	1)	22K46547	Offset / Exit Unit {Includes Items 2 through 22 and all Items in PL9.2, PL9.3, and PL9.4}
-	2)	121K82870	Solenoid Assembly {P/O Item 1}
	3)		Solenoid Link {P/O Item 1}
	4)		Spring {P/O Item 1}
	5)	127K18861	Offset Motor {P/O Item 1}
	6)	54K06201	Lower Chute Assembly {Includes Items 7 through 14} {P/O Item 1}
	7)		Front 1 Pinch Roller Spring {P/O Item 1} {P/O Item 6}
	8)		Rear 1 Pinch Roller Spring {P/O Item 1} {P/O Item 6}
	9)		Front 2 Pinch Roller Spring {P/O Item 1} {P/O Item 6}
	10)		Front Pinch Roller {P/O Item 1} {P/O Item 6}
	11)		Rear Pinch Roller {P/O Item 1} {P/O Item 6}
	12)	110K94631	Fuser Exit Sensor {P/O Item 1} {P/O Item 6}
	13)		Lower Chute {P/O Item 1} {P/O Item 6}
	14)		Static Eliminator {P/O Item 1} {P/O Item 6}
	15)		Rear 2 Pinch Roll Spring {P/O Item 1}
	16)	110K98480	Stack Full Sensor {P/O Item 1}
	17)	120E99490	Stack Full Actuator {P/O Item 1}
	18)		Stack Full Sensor Spring {P/O Item 1}
	19)		Stack Full Sensor Bracket {P/O Item 1}
	20)		Front Bracket Assembly {P/O Item 1}
	21)		Front Frame Assembly {P/O Item 1}
	22)		Lower Chute {P/O Item 1}
	23)		Exit/Stack Full Harness Assembly
	A)	600K65640	Screw Kit



1 {Includes all items in PL 9.1, PL 9.2, PL 9.3, and PL9.4} 6 {Includes Items 7 through 14}  $\,$ 

#### PL 9.2 Offset Roller

ltem	Part	Description
1)		Bearing {P/O PL 9.1 Item 1}
2)	22K35430	Face Up Exit Roller Assembly {P/O PL 9.1 Item 1}
3)		19T Gear {P/O PL 9.1 Item 1}
4)	22K46031	Offset Roller Assembly {Includes Items 5 through 9} {P/O PL 9.1 Item 1}
5)		Offset Rack {P/O PL 9.1 Item 1}
6)		Offset Bracket {P/O PL 9.1 Item 1}
7)		Offset Roller Sleeve {P/O PL 9.1 Item 1}
8)		Offset Roller {P/O PL 9.1 Item 1}
9)		Offset Roller Bearing Rear {P/O PL 9.1 Item 1}
10)		Offset Roller Bearing Front {P/O PL 9.1 Item 1}
11)		Offset Shaft {P/O PL 9.1 Item 1}
12)		Offset Shaft Pin {P/O PL 9.1 Item 1}
13)		19T Gear {P/O PL 9.1 Item 1}
A)	600K65640	Screw Kit



## PL 9.3 Exit Upper Chute Assembly

	ltem	Part	Description
I.	1)	54K08504	Upper Chute Assembly {Includes Items 2 through 15} {P/O PL 9.1 Item 1}
_	2)	110K94651	Face Up Exit Switch Assembly {P/O Item 1}
	3)		Tie Plate {P/O Item 1}
	4)		Spring Plate {P/O Item 1}
	5)		H Pinch Spring Assembly {P/O Item 1}
	6)		I Pinch Spring Assembly {P/O Item 1}
	7)		Front Pinch Roller {P/O Item 1}
	8)		Rear Pinch Roller {P/O Item 1}
	9)		Exit Upper Chute {P/O Item 1}
	10)		Guide Paper {P/O Item 1}
	11)		K Pinch Spring Assembly {P/O Item 1}
	12)		Exit Middle Chute {P/O Item 1}
	13)		Exit Gate {P/O Item 1}
	14)		Exit Gate Spring {P/O Item 1}
	15)		J Pinch Spring Assembly {P/O Item 1}
	A)	600K65640	Screw Kit



# PL 9.4 Exit Drive Assembly

ltem	Part	Description
1)	68K12271	Exit Drive Assembly {Includes Items 2 through 19} {P/O PL 9.1 Item 1}
2)		Exit Drive Support {P/O Item 1}
3)		Exit Drive Idler Pulley {P/O Item 1}
4)		Exit Gear 1 {P/O Item 1}
5)		Exit Gear 2 {P/O Item 1}
6)		Exit Gear 2 Bracket {P/O Item 1}
7)		Exit Idler Gear {P/O Item 1}
8)		Exit Ratchet Spring {P/O Item 1}
9)		Inverter CCW Gear {P/O Item 1}
10)	121K84520	Inverter CCW Clutch {P/O Item 1}
11)		Inverter CCW Shaft {P/O Item 1}
12)		Bearing {P/O Item 1}
13)		Inverter CW Gear {P/O Item 1}
14)	121K84520	Inverter CW Clutch {P/O Item 1}
15)		Inverter CW Shaft {P/O Item 1}
16)		Rear Inverter Exit Gear {P/O Item 1}
17)		Front Inverter Exit Gear {P/O Item 1}
18)		Inverter Bracket {P/O Item 1}
19)		Exit Wire Harness {P/O Item 1}
A)	600K65640	Screw Kit



3/99

3-59

### PL 10.1 Main Drive Assembly

	ltem	Part	Description
I.	1)	7K83446	Main Drive Assembly
-	A)	600K65640	Screw Kit



SER530F

### PL 10.2 Fuser Drive Assembly

ltem	Part	Description
1)	68K11604	Rear Exit Frame Assembly {Includes Items 2 through 9}
2)		22T Gear {P/O Item 1}
3)		Spring {P/O Item 1}
4)		Bracket Assembly {P/O Item 1}
5)		Bracket {P/O Item 1}
6)		Exit Spring {P/O Item 1}
7)		Bracket {P/O Item 1}
8)		Rear Exit Frame Assembly {P/O Item 1}
9)		Stopper Hook {P/O Item 1}
10)		Harness Clamp 1
11)		Harness Clamp 2
12)		Harness Clamp 3
13)		Fuser Harness Assembly
A)	600K65640	Screw Kit



3/99

3-63

## PL 11.1 Power Inlet and LVPS

ltem	Part	Description
1)		Power Inlet Connector
2)	160K35141	115V Noise Filter PWB
	160K35151	220V Noise Filter PWB
3)		Noise Filter Bracket
4)		PWB Stud
5)		Harness Clamp
6)		Main Power Harness
7)	910W00202	Main Power Switch
8)		Bracket Assembly Switch
9)		Option Outlet
10)		Bracket Finisher
11)	105K94942	115V LVPS Assembly
	105K94952	220V LVPS Assembly
12)	117K17510	115V Power Cord w/ GFI
	117K26830	220V Power Cord w/ GFI
13)		Manufacturing Test Connector
A)	600K65640	Screw Kit



3/99 3-65

### PL 11.2 HVPS and Printer Engine Controller PWB

Item	Part	Description
1)	160K47100	AC Driver PWB (Universal) {Tag 008}
2)		AC Driver Power Harness
3)		Printer Engine Controller Harness
4)	105K14541	HVPS
5)	101K28691	N24 Printer Engine Controller Assembly {Includes Items 6, 7, and 8}
	101K28671	N32 Printer Engine Controller Assembly {Includes Items 6, 7, and 8}
	101K30972	N40 Printer Engine Controller Assembly {Includes Items 6, 7, and 8}
6)		Printer Engine Controller PWB {P/O Item 5}
7)		Printer Engine Controller Bracket {P/O Item 5}
8)		Printer Engine Controller Cover {P/O Item 5}
9)		AC Driver - Fuser Harness
10)	110E93460	Left Cover Interlock Switch
11)		Interlock Switch Bracket
12)		Interlock Switch Lever
13)		Support Harness
14)		Harness Channel
15)		Harness Clamp 2
16)		PWB Support
17)		Harness Clamp 4
18)		Bracket AC Driver
19)		HCF Connector
20)		Mailbox / Finisher Connector
21)		Duplex Connector
22)		Connectors Bracket
23)		Exit Harness Assembly
24)		Flicker Transformer (220V Only) {Pre-Tag 008} <deleted -="" 5="" matrix:<="" section="" see="" tag="" td=""></deleted>
25)	600K67000	Hashika Repair Kit (Tag 7) [Includes Item 4, Item 9, & Instructions] [FOR USE ON PRE-TAG 7 PRINTERS <u>ONLY]</u>
A)	600K65640	Screw Kit

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# PL 11.3 System Controller Assembly

ltem	Part	Description
1)	160K34445	Chassis Assembly {Includes Items 2 through 9 and 12}
2)		System Controller Interface PWB Bracket Assembly {P/O Item 1}
3)	160K29520	System Controller Interface PWB {P/O Item 1}
4)		Bush Saddle {P/O Item 1}
5)		Guide {P/O Item 1}
6)		Fan Assembly {P/O Item 1}
7)		Fan Bracket {P/O Item 1}
8)		System Controller Box Assembly {P/O Item 1}
9)		Rear Panel {P/O Item 1}
10)		System Controller Cover
11)		SIMM Cover
12)		Clamp (4) {P/O Item 1}
13)	160K44906	N24 & N32 System Controller PWB (Tag 100)
	160K59682	N40 System Controller PWB
14)	121K19780	Hard Disk Drive
15)	733W03647	N24 & N32 8MByte SIMM RAM
	733W03642	N24 & N32 16MByte SIMM RAM
	733W06861	N24 & N32 16MByte SIMM RAM - Alternate
	733W03675	N24 & N32 32MByte SIMM RAM
	733W06865	N40 8MByte SIMM RAM
	733W06866	N40 16MByte SIMM RAM
	733W06867	N40 32MByte SIMM RAM
16)	160K65620	8MByte Flash SIMM
17)	160K44790	Token Ring PWB
	160K54960	100MHz Ethernet PWB
18)	162K25111	Harness Assembly Console
19)		Ferrite Core {P/O Item 18}
20)		Laser Video Harness
21)	14E35020	Hard Disk Drive Right Side Standoff
22)	14E35030	Hard Disk Drive Left Side Standoff
A)	600K65640	Screw Kit



# PL 12.1 Part Number Locator Listing

001K55720	PL 8.5.2.1-5	002E68401	PL 1.1-7	002E68570	PL 8.4.2.1-2
003E23653	PL 1.1-8	003E23671	PL 3.1-8 PL 3.4-8 PL 8.4.2.3-10	003E23690	PL 3.1-9 PL 3.4-9 PL 8.4.2.3-11
003E32140	PL 8.2.2.1-2	003E35350	PL 8.3.2.1-6	003E35360	PL 8.3.2.1-10
003K81881	PL 8.1.2.3-2	003K83860	PL 8.2.2.2-14	003K91881	PL 8.2.2.1-6
005K80880	PL 4.3-23	005K81090	PL 8.1.2.4-12	005K81820	PL 8.1.2.4-4
005K81990	PL 3.2-4	006E55160	PL 8.5.2.24-8	006K83590	PL 8.5.2.12-4
006K83630	PL 8.5.2.13-25	006K83652	PL 8.5.2.11-18	006K83661	PL 8.5.2.11-22
006K83790	PL 8.5.2.12-11	007E45750	PL 8.5.2.4-14	007E54830	PL 8.5.2.5-14 PL 8.5.2.7-11 PL 8.5.2.9-11
007K83446	PL 10.1-1	009E53230	PL 3.3-22 PL 3.6-17 PL 8.4.2.6-3	009E53302	PL 8.1.2.3-3
009E55260	PL 7.2-15	009E62730	PL 1.2-2	009E72130	PL 8.5.2.14-18
009E72520	PL 8.5.2.11-13	009E72550	PL 8.5.2.16-11	013E80030	PL 8.1.2.4-1
013E82680	PL 8.3.2.2-9	013E86260	PL 3.5-4 PL 8.4.2.5-4	013E93460	PL 8.5.2.4-24
014E35020	PL 11.3-21	014E35030	PL 11.3-22	015K28221	PL 8.5.2.22-10
015K28710	PL 8.5.2.1-8	015K29131	PL 8.5.2.14-20	015E50040	PL 7.2-27
015E50050	PL 7.2-28	015K89062	PL 8.5.2.19-26	017K91951	PL 8.4.2.1-13
017K91961	PL 8.4.2.1-14	017E91970	PL 8.4.2.1-7	017E91980	PL 8.4.2.1-8
017K92040	PL 8.5.2.3-4	017K92050	PL 8.5.2.3-5	019E31680	PL 8.5.2.5-11 PL 8.5.2.7-9 PL 8.5.2.9-9
019K92810	PL 4.2-6	019K93342	PL 7.2-22	020E24810	PL 8.5.2.17-7
020E24820	PL 8.5.2.17-9	022E19170	PL 8.3.2.2-21	022K33900	PL 6.1-3
022K33940	PL 8.1.2.4-7	022K33950	PL 8.1.2.4-11	022K35430	PL 9.2-2
022K45890	PL 3.3-15	022K45900	PL 3.6-12 PL 8.4.2.6-13	022K46031	PL 9.2-4
022K46547	PL 9.1-1	022K46650	PL 8.1.2.4-2	022K47500	PL 8.5.2.24-7
022K48230	PL 7.2-1	022K48570	PL 8.3.2.2-26	022K49860	PL 8.3.2.2-27
022K49870	PL 8.3.2.2-24	022K49880	PL 8.3.2.3-12	022E83451	PL 8.2.2.4-9 PL 8.2.2.5-13
022E84460	PL 8.5.2.23-22	022K93360	PL 4.3-9	023E08660	PL 3.1.11 PL 3.4-11
023E13210	PL 8.5.2.23-9	023E15560	PL 8.5.2.14-15	023E15580	PL 8.3.2.2-23

Parts Lists

3/99 3-70

DocuPrint N24, N32 and N40 Service Manual

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024K92311	PL 7.2-12	026E40710	PL 1.2-6	026P62716	PL 8.4.2.1-11 PL 8.2.2.8-5
027E91800	PL 8.5.2.4-21	029K91702	PL 8.5.2.14-9	031K92370	PL 8.1.2.1-8
031E92970	PL 8.3.2.1-14	036K91380	PL 8.3.2.1-15	038K81662	PL 7.2-8
038K83030	PL 8.5.2.11-16	038K83320	PL 8.5.2.6-1 PL 8.5.2.8-1	038K83330	PL 8.5.2.10-1
038K83930	PL 8.3.2.1-12	048E16252	PL 8.2.2.2-4	048E16262	PL 8.2.2.2-3
048E16271	PL 8.2.2.2-1	048E16291	PL 8.2.2.2-6	048E16302	PL 8.2.2.2-7
048E16311	PL 8.2.2.2-8	048K30563	PL 8.2.2.2-5	048E36010	PL 8.1.2.1-2
048E37170	PL 1.1-10	048E37211	PL 1.3-1	048E37260	PL 8.4.2.1-5
048E37272	PL 8.4.2.1-1	048E37281	PL 8.4.2.1-4	048E37370	PL 4.1-1
048E37401	PL 4.1-8	048E37410	PL 1.3-4	048E37560	PL 8.2.2.2-13
048E37570	PL 8.2.2.6-12	048E37580	PL 8.2.2.6-1	048E45281	PL 8.5.2.1-7
048E45900	PL 8.5.2.23-24	048E45921	PL 8.5.2.2-6	048E45930	PL 8.5.2.2-3
048E45940	PL 8.5.2.1-4	048E45950	PL 8.5.2.2-4	048E45960	PL 8.5.2.1-6
048E46560	PL 8.5.2.5-13 PL 8.5.2.7-10 PL 8.5.2.9-10	048K49430	PL 5.1-8	048K49621	PL 1.3-3
048E50030	PL 1.3-2	048K54503	PL 1.1-4	048E54571	PL 8.3.2.1-17
048E54590	PL 8.3.2.1-1	048K57322	PL 6.2-3	048K58321	PL 8.5.2.22-1
048K58481	PL 1.1-1	048K58511	PL 8.5.2.24-28	048K58551	PL 8.5.2.3-1
048K58590	PL 8.5.2.15-1	048K58610	PL 8.5.2.1-2	048K58760	PL 4.1-2
048K59390	PL 8.5.2.2-1	048K59840	PL 8.1.2.1-3	048K59862	PL 8.5.2.1-1
048K59870	PL 8.5.2.2-2	048K59930	PL 1.2-1	048K62420	PL 8.5.2.2-10
048K66970	PL 1.2-3	048K69960	PL 5.2-1	048K69971	PL 8.4.2.11-1
048K69980	PL 8.4.2.14-14	048K71600	PL 8.2.2.3-1	048K74520	PL 8.3.2.3-1
048K74530	PL 8.3.2.1-11	048K74540	PL 8.3.2.1-13	048K79620	PL 8.1.2.1-1
049E08041	PL 8.5.2.24-24	049E30781	PL 8.4.2.1-10	049E30790	PL 8.4.2.1-9 PL 8.2.2.8-4
049E73290	PL 1.2-8	049E74600	PL 8.1.2.2-10	049E78540	PL 8.5.2.3-7 PL 8.5.2.3-11
049E79200	PL 8.2.2.8-3	050K29000	PL 8.2.2.6-11	050K29690	PL 8.1.2.1-5
050K29923	PL 3.2-5 PL 3.5-5 PL 8.4.2.5-5	050K29933	PL 8.4.2.6-4	050K29943	PL 8.4.2.7-3 PL 8.4.2.9-3
050K29955	PL 8.4.2.8-3 PL 8.4.2.10-3	050K29983	PL 3.3-1 PL 3.6-1	050K30221	PL 8.5.2.5-23
050K30231	PL 8.5.2.7-21	050K30241	PL 8.5.2.9-21	050K30281	PL 8.5.2.14-21

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050K30711	PL 4.4-1	050K33241	PL 8.2.2.5-1	050K33251	PL 8.2.2.5-3
050K33260	PL 8.2.2.5-2	050K33802	PL 8.4.2.12-1	050K33812	PL 8.4.2.13-1
050K35941	PL 8.2.2.4-1	054K04252	PL 6.1-4	054K06201	PL 9.1-6
054K08201	PL 8.2.2.3-11	054E08320	PL 1.2-5	054K08504	PL 9.3-1
054K08671	PL 8.1.2.5-1	054E08682	PL 3.6-14	054K09340	PL 8.5.2.15-18
054K09360	PL 8.5.2.12-16	054K09370	PL 8.5.2.12-15	054K09381	PL 8.5.2.13-1
054K88590	PL 3.3-18	054K88605	PL 6.2-7	059K00430	PL 4.3-14
059K00440	PL 4.3-22	059K06110	PL 4.1-7	059K06172	PL 8.4.2.14-2
059K06190	PL 8.4.2.8-13	059E90750	PL 8.3.2.3-7	062K97924	PL 7.1-1
068K11604	PL 10.2-1	068K12271	PL 9.4-1	068K79283	PL 5.1-1
068K83512	PL 5.2-3	074E91101	PL 6.2-14	074E91242	PL 8.2.2.2-16
074K92500	PL 3.3-21	096E64410	PL 8.2.2.2-2	098K57180	PL 8.2.2.1-10
098K57190	PL 8.2.2.8-1	101K28671	PL 11.2-5	101K28691	PL 11.2-5
101K30972	PL 11.2-5	103K80192	PL 6.1-8	105E07050	PL 8.5.2.12-1
105K12530	PL 8.5.2.20-8	105K12560	PL 8.5.2.20-8	105K14541	PL 11.2-4
105K94942	PL 11.1-11	105K94952	PL 11.1-11	107E94941	PL 3.1-5 PL 3.1-6 PL 3.4-5 PL 3.4-6 PL 4.3-10 PL 8.4.2.3-4 PL 8.4.2.3-5 PL 8.4.2.4-3 PL 8.4.2.4-4
108R00158	PL 8.5.2.14-22	109R00044	PL 2.1-1	109R00046	PL 7.2-A PL 8.1-A
109R00047	PL 7.2-A PL 8.1-A	110K07040	PL 8.4.2.3-7	110K07740	PL 3.1-1 PL 3.4-1
110K08140	PL 8.5.2.16-4	110E93440	PL 5.2-15 PL 8.1.2.4-15 PL 8.4.2.11-15	110E93460	PL 11.2-10
110E94000	PL 8.2.2.6-17	110E94510	PL 8.5.2.3-3 PL 8.5.2.16-5	110K94631	PL 9.1-12
110K94651	PL 9.3-2	110E94980	PL 8.5.2.8-16 PL 8.5.2.10-16	110E97990	PL 8.5.2.16-1
110K98480	PL 9.1-16	110K98760	PL 8.4.2.3-8	110K98770	PL 7.2-23
113R00173	PL 7.2-30	113R00184	PL 7.2-30	117K17510	PL 11.1-12
117K26830	PL 11.1-12	120E09580	PL 8.2.2.3-10 PL 8.2.2.4-6 PL 8.2.2.5-8	120E12360	PL 8.5.2.5-3 PL 8.5.2.7-3 PL 8.5.2.9-3
120E12381	PL 8.5.2.22-6	120E12390	PL 8.5.2.3-10	120E12900	PL 8.3.2.2-18

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Parts Lists

DocuPrint N24, N32 and N40 Service Manual

120E13130	PL 8.2.2.3-9 PL 8.2.2.4-5 PL 8.2.2.5-7	120E99480	PL 8.5.2.11-10	120E99490	PL 9.1-17
120E99661	PL 8.5.2.16-6	121K13070	PL 8.5.2.11-19	121K16450	PL 8.3.2.2-13
121K16460	PL 8.3.2.3-17	121K19780	PL 11.3-14	121K82820	PL 3.2-2 PL 3.5-2 PL 8.4.2.5-1 PL 8.4.2.7-1 PL 8.4.2.9-1
121K82870	PL 9.1-2 PL 8.1.2.3-11	121K82880	PL 4.3-2	121E83120	PL 8.2.2.5-10
121K83200	PL 6.1-1	121K84001	P 8.1.2.2-3	121K84520	PL 9.4-10 PL 9.4-14
121K87190	PL 8.3.2.2-11	126K10011	PL 8.1-1	126K10021	PL 8.1-1
127K16360	PL 8.5.2.19-25	127K16600	PL 8.5.2.17-13	127K18860	PL 9.1-5
127K19080	PL 8.4.2.3-9	127K19090	PL 8.1.2.2-4	127K19110	PL 1.1-9
127K19260	PL 8.4.2.2-1	127K19350	PL 8.5.2.17-1	127K19360	PL 8.5.2.17-4
127K20662	PL 3.1-2 PL 3.4-2 PL 8.4.2.3-1	127K20851	PL 8.5.2.4-12	127K20861	PL 8.5.2.5-24 PL 8.5.2.7-23 PL 8.5.2.9-23
127K20871	PL 8.5.2.11-30	127K20900	PL 8.5.2.17-11	127K21470	PL 1.1-9
127K21850	PL 8.3.2.2-2	127K23500	PL 8.5.2.16-9	127E81410	PL 8.2.2.7-7
130K55760	PL 7.2-14	130K56300	PL 8.5.2.5-25 PL 8.5.2.7-24 PL 8.5.2.9-24	130E81311	PL 5.1-12 PL 5.2-19 PL 8.4.2.4-7 PL 8.4.2.11-10
130E81850	PL 8.2.2.6-9	130E81860	PL 8.2.2.3-7	130E82530	PL 8.3.2.2-19 PL 8.5.2.5-5 PL 8.5.2.7-5 PL 8.5.2.9-5 PL 8.5.2.11-6 PL 8.5.2.13-3 PL 8.5.2.14-5 PL 8.5.2.19-3
130E82540	PL 8.5.2.3-8 PL 8.5.2.5-7 PL 8.5.2.7-14 PL 8.5.2.9-15 PL 8.5.2.17-10 PL 8.5.2.17-10 PL 8.5.2.19-24 PL 8.5.2.23-23 PL 8.5.2.24-26	130E82970	PL 8.5.2.24-14	130E83280	PL 8.3.2.3-5
130K83340	PL 8.1.2.3-9 PL 8.1.2.4-14	130K83360	PL 4.4-4 PL 8.3.2.1-16	130K87330	PL 8.5.2.13-26
130K93360	PL 8.5.2.15-2 PL 8.5.2.24-9 PL 8.5.2.24-21	140E76190	PL 8.2.2.6-13	140E79130	PL 8.2.2.7-1

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160K29520	PL 11.3-3	160K34391	PL 8.4.2.2-9	160K34445	PL 11.3-1
160K34454	PL 8.1.2.2-1	160K35141	PL 11.1-2	160K35151	PL 11.1-2
160K36067	PL 8.5.2.20-9	160K44790	PL 11.3-17	160K44906	PL 11.3-13
160K46160	PL 8.3.2.2-17	160K47100	PL 11.2-1	160K54960	PL 11.3-17
160K59682	PL 11.3-13	160K65620	PL 11.3-16	162K10630	PL 8.2.2.7-3
162K16270	PL 8.5.2.3-14 PL 8.5.2.21-5	162K16650	PL 8.5.2.21-1	162K18850	PL 8.5.2.14-10
162K18870	PL 8.5.2.5-17	162K18900	PL 8.5.2.14-3	162K18910	PL 8.5.2.19-1
162K18920	PL 8.5.2.7-2	162K18930	PL 8.5.2.5-2	162K18940	PL 8.5.2.11-31
162K20380	PL 4.1-4	162K20691	PL 8.2.2.7-2	162K21950	PL 8.2.2.7-4
162K25111	PL 1.1-6 PL 11.3-18	162K26540	PL 7.2-16	162K30660	PL 8.1.2.2-11
162K31570	PL 8.5.2.20-6	162K31590	PL 8.5.2.15-7	162K31600	PL 8.5.2.21-4
162K31610	PL 8.5.2.3-9	162K31620	PL 8.5.2.23-1 PL 8.5.2.24-27	162K31640	PL 8.5.2.21-3
162K31650	PL 8.5.2.16-2	162K31660	PL 8.5.2.21-2	162K31670	PL 8.5.2.16-3
162K31680	PL 8.5.2.21-7	162K31690	PL 8.5.2.9-2	162K31700	PL 8.5.2.9-14
162K31720	PL 8.5.2.3-6	162K31730	PL 8.5.2.3-13	162K31750	PL 8.5.2.5-22 PL 8.5.2.21-6
162K33900	PL 8.5.2.7-15	162K33920	PL 8.5.2.20-6	162K37420	PL 8.3.2.1-2
413W08950	PL 8.5.2.4-18	423W00453	PL 8.1.2.4-6	423W09853	PL 8.5.2.13-21
423W12553	PL 8.1.2.4-10	423W21053	PL 8.5.2.11-29	423W23354	PL 8.5.2.12-13
423W25953	PL 8.5.2.17-6	423W38053	PL 8.5.2.18-7	423W46753	PL 8.5.2.17-8 PL 8.5.2.17-14
423W47353	PL 8.4.2.2-2	423W57354	PL 8.5.2.6-10 PL 8.5.2.8-10 PL 8.5.2.10-10	423W91952	PL 8.2.2.4-13
600K56730	PL 3.4-13 PL 8.4.2.3-15 PL 8.4.2.4-15	600K56740	PL 3.2-15	600K56750	PL 3.6-15
600K60950	PL 8.4.2.13-23	600K60960	PL 3.5-15	600K60970	PL 3.3-23
600K60980	PL 3.7-12	600K60990	PL 8.4.2.2-17	600K61010	PL 8.4.2.12-28
600K61021	PL 8.1.2.1-10	600K61600	PL 3.2-16 PL 3.3-24 PL 3.5-16 PL 3.6-19 PL 8.4.2.5-14 PL 8.4.2.6-19 PL 8.4.2.7-13 PL 8.4.2.8-16 PL 8.4.2.9-13 PL 8.4.2.10-21	600K61610	PL 2.2-8

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DocuPrint N24, N32 and N40 Service Manual

600K61630	PL 8.1.2.1-9	600K61660	PL 8.2.2.6-21	600K61670	PL 8.2.2.6-22
600K61680	PL 8.5.2.23-25	600K61690	8.5.2.23-26	600K61860	PL 8.5.2.5-27 PL 8.5.2.7-26 PL 8.5.2.9-26
600K61870	PL 8.5.2.5-26 PL 8.5.2.7-25 PL 8.5.2.9-25	600K65440	PL 3.1-13	600K65460	PL 3.3-26
600K65480	PL 3.6-20	600K65540	PL 8.4.2.6-20	600K65560	PL 8.4.2.8-17
600K65580	PL 8.4.2.10-22	600K65640	PL 1.1-A to PL 8.5.2.24-A	600K67000	PL 11.2-25
600K69040	PL 8.4.2.9-14	600K70020	PL 8.5.2.24-29	733W03642	PL 11.3-15
733W03647	PL 11.3-15	733W03675	PL 11.3-15	733W06861	PL 11.3-15
733W06865	PL 11.3-15	733W06867	PL 11.3-15	809E02941	PL 8.5.2.5-4
809E02950	PL 8.5.2.6-9 PL 8.5.2.8-9 PL 8.5.2.10-9	809E02970	PL 8.5.2.9-18 PL 8.5.2.10-18	809E03000	PL 8.5.2.23-13
809E03020	PL 8.5.2.22-8	809E03060	PL 8.5.2.18-4	809E05870	PL 3.1-12 PL 3.4-12
809E07920	PL 8.3.2.3-11	809E16860	PL 8.3.2.1-5	891E37090	PL 1.1-5
891E37100	PL 1.1-5	891E42430	PL 1.1-5	891E42440	PL 1.1-5
891E42990	PL 1.1-5	891E43000	PL 1.1-5	891E43010	PL 1.1-5
891E43020	PL 1.1-5	891E68020	PL 1.1-5	891E68030	PL 1.1-5
891E68040	PL 1.1-5	891E68050	PL 1.1-5	910W00202	PL 11.1-7

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Notes:

# **Section 4**

# **Repair Procedures**

4.0 Overview	
REP 4.1 Covers	

REP 4.1.1 Fuser Full Cover	
REP 4.1.2 Top Cover Assembly	4-7
REP 4.1.3 Upper Rear Cover Assembly	4-9
REP 4.1.4 Lower Rear Cover	4-10
REP 4.1.5 Right Cover	4-11
REP 4.1.6 Left Upper Cover Assembly	
REP 4.1.7 Control Panel	4-14

## REP 4.2 Tray 1 & 2

REP 4.2.1 Tray 1 Lift Up Motor	4-15
REP 4.2.2 Tray 2 Lift Up Motor	4-16
REP 4.2.3 Tray 1 Feed Clutch	4-17
REP 4.2.4 Tray 2 Feed Clutch	4-18
REP 4.2.5 Tray 1 & 2 Feed Roll, Nudger Roll, and Retard Roll	4-19
REP 4.2.6 Tray 1 Take Away Roll and Retard Assembly	4-21
REP 4.2.7 Tray 2 Take Away Roll and Retard Assembly	4-25
REP 4.2.8 Tray 1 & 2 Lift Up Sensor	4 <b>-</b> 28
REP 4.2.9 Tray 1 & 2 No Paper Sensor	4-29

REP 4.2.10 Tray 1 & 2 Size Switch Assembly	4-30
REP 4.2.11 Tray 1 Feeder Assembly	4-31
REP 4.2.12 Tray 2 Feeder Assembly	4-33

## REP 4.3 Multisheet Bypass Feeder (MBF) Assembly

REP 4.3.1 MBF Assembly	4-35
REP 4.3.2 MBF Tray Assembly	
REP 4.3.3 MBF Feed Roll	
REP 4.3.4 MBF Nudger Roll	
REP 4.3.5 MBF Pad	
REP 4.3.6 MBF No Paper Sensor Assembly	
REP 4.3.7 MBF Feed Clutch	

### **REP 4.4 Registration**

REP 4.4.1 Registration Clutch	. 4-49
REP 4.4.2 Registration Sensor	. 4-50
REP 4.4.3 Registration Roller Assembly	. 4-51

### **REP 4.5 Xerographics**

REP 4.5.1 EP Cartridge	4-53
REP 4.5.2 BTR (Bias Transfer Roll)	4-55
REP 4.5.3 Charge Bias Assembly	4-56

#### REP 4.6 Laser

REP 4.6.1 Laser Assembly.	
---------------------------	--

#### REP 4.7 Fuser Assembly

REP 4.7.1 Fuser Assembly	4-60
REP 4.7.2 Fuser Drive Assembly	4-62
REP 4.7.3 Fuser Exit Sensor	4-64

#### REP 4.8 Offset / Exit Assembly

REP 4.8.1 Offset / Exit Assembly	4-65
REP 4.8.2 Exit Drive Assembly	4-67
REP 4.8.3 Face Up Exit Sensor	4-68
REP 4.8.4 Exit Gate Solenoid	4-69
REP 4.8.5 Stack Full Sensor	4-70
REP 4.8.6 Offset Motor	4-71

#### REP 4.9 Main Drive

REP 4.9.1 Main Drive Assembly
-------------------------------

## **REP 4.10 Electronics**

REP 4.10.1 Main Switch	
REP 4.10.2 LVPS Assembly	
REP 4.10.3 AC Driver PWB	
REP 4.10.4 HVPS Assembly	4-81
REP 4.10.5 Upper Left Cover Interlock Switch Assembly	4-83
REP 4.10.6 Printer Engine Controller PWB	4-85
REP 4.10.7 System Controller PWB	4-87
REP 4.10.8 System Controller PWB Cover	4-88
REP 4.10.9 System Controller Interface PWB	
REP 4.10.10 Toner Sensor	
REP 4.10.11 EP Cartridge Interlock Switch	
REP 4.10.12 Noise Filter PWB	
ADJ 4.1 Overall Lead Edge Registration - Simplex	4-95
ADJ 4.2 Individual Lead Edge Registration - Simplex	4-96
ADJ 4.3 Overall Lead Edge Registration - Duplex	4-98
ADJ 4.4 Overall Side Edge Registration - Simplex	4-100
ADJ 4.5 Individual Side Edge Registration - Simplex	4-102
ADJ 4.6 Overall Side Edge Registration - Duplex	4-104
ADJ 4.7 Individual Side Edge Registration - Duplex	4-106
ADJ 4.8 Finisher Leveling Procedure	4-108

# 4.0 Overview

Locations given in the Repair Procedures (REPs) assume you are facing the Control Panel with the orientation illustrated in (Figure 4.0.1).



The following notations apply:

- Arrows in the illustrations show direction of movement. Follow the numerical order if the arrows are numbered.
- The notation *Figure X.Y.Z* references the illustration corresponding to the REP you are performing.
- Numbers in an illustration refer to the corresponding steps in the procedure being performed. Example, REP 4.1.1, steps 4 and 5 each says to remove a screw. Notice that the screws in the illustration are labeled 4 and 5, indicating steps 4 and 5.

There are a number of steps you should follow each time before you begin a procedure:

- 1 Do not use force to remove or install printer components.
- **2** Use only the screw size and type designated in the REP. The wrong screw could easily damage tapped holes.
- **3** Wear a ESD wrist strap to dissipate static electricity, which may damage sensitive electronic parts, and use a grounded mat when working with PWBs.
- 4 See *Section 6* for the precise location of electrical connectors in the printer.

This manual reflects the configuration of the printer at the time the manual was created. As the printer matures, the number of screws, bolts, E-Rings, etc. attaching components, the placement of hardware, the placement of wire runs, or the design of the components may change.

# **REP 4.1 Covers**

# **REP 4.1.1 Fuser Full Cover**

## Parts List on PL 1.1

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Mailbox Unit, if installed.
- **3** Open the Duplex Unit if one is installed.
- **4** Open the Left Upper Cover Assembly and remove the screw securing the Fuser Cover to the frame (Figure 4.1.1a).
- **5** Open the Front Left Cover and remove the screw securing the Fuser Cover to the frame (Figure 4.1.1a).
- 6 Rotate the cover slightly, in the direction of the arrows to release the lock tabs (Figure 4.1.1a). The lock tabs are illustrated in figure 4.1.1b.
- 7 Lift the Fuser Full Cover off of the Top Cover Assembly.



#### Figure 4.1.1a. Fuser Full Cover.

### Replacement

- **1** Open the Duplex Unit if one is installed.
- 2 Open the Front Left Cover Assembly.
- 3 Slide the Fuser Full Cover over the Fuser Assembly.
- **4** Slide the tabs located at both ends of the Cover into the corresponding openings in the Top Cover Assembly (Figure 4.1.1b).
- **5** Press the Fuser Full Cover into place. Make sure the tabs remain in place.
- 6 Use two screws to secure the Fuser Full Cover.
- 7 Verify proper operation.

#### Figure 4.1.1b. Fuser Full Cover Replacement.



## **REP 4.1.2 Top Cover Assembly**

### Parts List on PL 1.1

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Mailbox Unit, if installed.
- **3** Remove the Fuser Full Cover (REP 4.1.1).
- **4** Remove the two screws securing the right side of the Top Cover Assembly to the Right Cover (Figure 4.1.2a).
- **5** Carefully lift the Top Cover a few inches off of the printer frame (use care not to damage the Stack Full Sensor Actuator).
- 6 Disconnect the Fuser Fan in-line connector (Figure 4.1.2a).
- 7 Disconnect the wire harness attached to the Control Panel(Figure 4.1.2a).
- 8 Lift the Top Cover Assembly off of the printer frame.

#### Figure 4.1.2a. Top Cover Assembly.



#### Replacement



# CAUTION Do not reinstall the Top Cover with the AC Power Cord connected to the printer. Top Cover reinstallation may accidently switch on the Main Power Switch.

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Reconnect the wire harness to the Control Panel.
- **3** Reconnect the Fuser Fan inline connector.

NOTE: In the next step, be sure to insert the left end of the cover under the Stack Full Sensor Actuator and the Exit Chute Pinch Rolls(Figure 4.1.2b).

- 4 Reinstall the Top Cover Assembly onto the printer frame.
- 5 Use two screws to secure the Top Cover Assembly to the Right Cover.
- 6 Reinstall the Fuser Full Cover.
- 7 Verify proper operation.

#### Figure 4.1.2b. Reinstalling Top Cover Assembly.



# **REP 4.1.3 Upper Rear Cover Assembly**

## Parts List on PL 1.3

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- **2** Remove the two screws securing the Upper Rear Cover Assembly to the printer frame (Figure 4.1.3a).
- **3** Lift the cover 1/4" (6 mm), pull the bottom of the Rear Cover away from the printer frame, and slide the Cover down to remove (Figure 4.1.3a).



#### Figure 4.1.3a. Rear Cover Assembly.

- 1 Slide the top edge of the Rear Cover under the edge of the Top Cover, then press the Rear Cover against the printer frame.
- 2 Slide the Cover down so the bottom edge catches the lip of the printer frame (Figure 4.1.3a) (inset).
- **3** Use two screws to secure the Rear Cover Assembly to the printer frame.
- 4 Reconnect the AC power cord to the rear of the printer.
- 5 Verify proper operation.

## **REP 4.1.4 Lower Rear Cover**

#### Parts List on PL 1.3

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 If connected, disconnect the Duplex Module, Mailbox, and High Capacity Feeder Interface Cables.
- **3** Remove the two screws securing the Lower Rear Cover to the printer frame (Figure 4.1.3a).
- 4 Lift the cover 1/4" (6 mm), pull the Rear Cover away from the printer frame (Figure 4.1.3a).

#### Figure 4.1.4a. Rear Cover Assembly.



- 1 Assemble in reverse order.
- 2 Verify proper operation.

# **REP 4.1.5 Right Cover**

## Parts List on PL 1.3

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the two screws securing the Top Cover to the Right Cover (Figure 4.1.5a).

#### Figure 4.1.5a. Right Cover Removal.



**3** Carefully raise the right end of the Top Cover and at the same time lift the Right Cover up and away from the printer frame.

#### Replacement

- 1 Raise the right end of the Top Cover.
- **2** Press the Right Cover against the printer frame and slide the Cover down until the bottom lip is hooked in place under the Tray 1 Cover (Figure 4.1.5b).
- 3 Press the top of the Right Cover against the printer frame while you lower the Top Cover.
- 4 Make sure the Top Cover screw tabs rest on top of the Right Cover.
- 5 Use two screws to secure the Right Cover to the printer frame.
- 6 Verify proper operation.

#### Figure 4.1.5b. Right Cover Replacement.



# **REP 4.1.6 Left Upper Cover Assembly**

#### Parts List on PL 6.2

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- **2** Remove the Rear Cover (REP 4.1.3).
- **3** Remove the Duplex Unit, if installed.
- 4 Open the Left Upper Cover.

## CAUTION When the Left Upper Cover is open, the BTR is exposed. Do not touch the BTR. Grease and dirt on, or physical damage to the BTR will effect print quality.

- **5** Open Tray 1 and carefully open the latch securing the Front Shaft Pin Hinge, and slide the Pin Hinge out of the Cover Assembly. Do not slide the Pin Hinge completely out of the printer frame (Figure 4.1.6a).
- 6 Repeat step 5 with the Rear Shaft Pin Hinge, and slide the Pin Hinge out of the Cover Assembly. Do not slide the Pin Hinge completely out of the printer frame (Figure 4.1.6a).
- **7** Remove the two screws securing the two Cover Support Straps to the frame, and remove the Cover (Figure 4.1.6a).

- 1 Reinstall the Left Upper Cover Assembly so the Pin Hinge openings in the Cover arms line up with the Pin Hinge holes in the printer frame.
- 2 Slide the Rear Shaft Pin Hinge into the hinge opening in the Left Upper Cover arm, until the latch locks the Pin Hinge onto the shaft.
- **3** Open Tray 1 and slide the Front Shaft Pin Hinge into the hinge opening in the Left Upper Cover arm, until the latch locks the Pin Hinge onto the shaft.
- 4 Use two screws to secure the two Cover Support Straps to the frame.
- 5 Reinstall the Rear Cover.
- 6 Open and close the Cover to make sure it opens and latches correctly.
- 7 Verify proper operation.

Figure 4.1.6a. Left Upper Cover Assembly.



# **REP 4.1.7 Control Panel**

#### Parts List on PL 1.1

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Fuser Full Cover (REP 4.1.1)
- 3 Remove the Top Cover (REP 4.1.2)
- 4 Turn the Top Cover up side down to access the Control Panel (Figure 4.1.7a).
- **5** Carefully push in on the four tabs securing the Control Panel to the Top Cover, while you press the Control Panel out of the Cover (Figure 4.1.7a).



#### Figure 4.1.7a. Control Panel Removal.

- 1 Position the Control Panel over the opening in the Top Cover Assembly, and press the Panel into the opening until it snaps into place.
- 2 Reinstall the Top Cover.
- **3** Verify proper operation.

# REP 4.2 Tray 1

# REP 4.2.1 Tray 1 Lift Up Motor

## Parts List on PL 3.1

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove Tray 1.
- 3 Remove the Upper Rear Cover Assembly (REP 4.1.3).
- 4 Disconnect the Lift Up Motor harness (P/J203) (Figure 4.2.1a).
- **5** Release the cable clamp securing the MBF Cable. Remove the three screws securing the Lift Up Motor to the printer frame (Figure 4.2.1a).
- 6 Slide the Motor out to remove.



#### Figure 4.2.1a. Tray 1 Lift Up Motor Removal.

- **1** Reinstall the Lift Up Motor.
- 2 Be careful not to trap any wires between the Motor and the frame.
- **3** Secure the Motor to the frame with the screws.
- 4 Reconnect the harness to the rear of the Lift Up Motor.
- 5 Reinstall the Upper Rear Cover Assembly.
- 6 Reinstall Tray 1.
- 7 Verify proper operation.

# REP 4.2.2 Tray 2 Lift Up Motor

#### Parts List on PL 3.4

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove Tray 2.
- 3 Remove the Lower Rear Cover (REP 4.1.4).
- 4 Disconnect the Lift Up Motor harness (Figure 4.2.2a).
- **5** Move cables out of the way and remove the three screws securing the Lift Up Motor to the printer frame (Figure 4.2.2a).
- 6 Slide the Motor out to remove.

#### Figure 4.2.2a. Tray 2 Lift Up Motor Removal.



- 1 Reinstall the Lift Up Motor.
- 2 Be careful not to trap any wires between the Motor and the frame.
- 3 Secure the Motor to the frame with the screws.
- 4 Reconnect the harness to the rear of the Lift Up Motor.
- 5 Reinstall the Lower Rear Cover Assembly.
- 6 Reinstall Tray 2.
- 7 Verify proper operation.

# REP 4.2.3 Tray 1 Feed Clutch

#### Parts List on PL 3.2

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Upper Rear Cover Assembly (REP 4.1.3).
- **3** Remove the Duplex Unit, if installed.
- 4 Open the Upper Left Cover.
- 5 Remove the Left Hand Inner Cover (PL 1.3) (Figure 4.2.3a).
- 6 Remove the E-ring and the 22/20T Gear (Figure 4.2.3a).
- 7 Disconnect the P/J attached to the Tray 1 Feed Clutch wire harness (Figure 4.2.3a).
- 8 Remove the E-ring that is securing the Feed Clutch to the shaft (Figure 4.2.3a).
- **9** Slide the Feed Clutch off the shaft (Figure 4.2.3a).

#### Figure 4.2.3a. Tray 1 Feed Clutch.



- 1 Slide the Clutch onto the shaft making sure the stop key on the frame is in the slot in the Clutch.
- **2** Use the E ring to secure the Clutch to the shaft.
- **3** Route the wire harness under the Support Spring and reconnect it to the inline connector.
- 4 Reinstall the 22/20T Gear and secure with the E-ring.
- 5 Reinstall the Left Hand Inner Cover.
- 6 Close the Upper Left Hand Cover and reinstall the Duplex Unit, if removed.
- 7 Reinstall the Upper Rear Cover Assembly.
- 8 Verify proper operation.

# REP 4.2.4 Tray 2 Feed Clutch

#### Parts List on PL 3.5

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Lower Rear Cover (REP 4.1.4).
- **3** Disconnect the P/J attached to the Feed Clutch wire harness (Figure 4.2.4a).
- 4 Remove the E-ring that is securing the Feed Clutch to the shaft (Figure 4.2.4a).
- 5 Slide the Feed Clutch completely off of the shaft.

#### Figure 4.2.4a. Tray 2 Feed Clutch.



- 1 Slide the Clutch onto the shaft.
- 2 Rotate the Clutch counter clockwise until the slot in the Clutch lines up with the key on the frame.
- 3 Slide the Clutch onto the shaft until it stops.
- 4 Make sure the key on the frame is in the slot in the Clutch.
- 5 Use the E ring to secure the Clutch to the shaft.
- 6 Reconnect the wire harness to the inline connector.
- 7 Reinstall the Lower Rear Cover Assembly.
- 8 Verify proper operation.

# REP 4.2.5 Tray 1 & 2 Feed Roll, Nudger Roll, and Retard Roll

### Parts List on PL 3.2 / PL 3.5

Replace the Feeder, Nudger, and Retard Rolls as a set.

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- **2** Remove the paper tray from the appropriate feeder.
- **3** Use a small screwdriver to gently pull out on the tab on the front of the Chute, and remove the Chute.
- 4 Pull out on the Roll latch and slide the Rolls off of the shaft. Repeat for the remaining two rolls.



#### Figure 4.2.5a. Feed, Nudger, and Retard Roll.

### Replacement

- 1 Position the Roll with the latch end facing out, and slide the Roll onto the shaft.
- 2 Rotate and push the Roll down the shaft until the latch locks the Roll into place.
- 3 Repeat steps 1 and 2 for the remaining two Rolls.
- 4 Reinstall the Chute by sliding the opening in the rear of the Chute into the tab on the frame, then slightly squeezing the Chute and hooking the tab at the front of the Chute into the opening on the frame.
- **5** Reinstall the paper tray.
- 6 Verify proper operation and check registration using ADJ 4.1.

NOTE: Repeat steps 1 through 6 for each tray if its respective rolls are replaced.

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# REP 4.2.6 Tray 1 Take Away Roll and Retard Assembly

### Parts List on PL 3.3

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the EP Cartridge.
- **3** Remove the Duplex Unit, if one is installed.
- 4 Remove the MBF Assembly (REP 4.3.1).
- 5 Remove the Upper Rear Cover (REP 4.1.4).
- 6 Remove Tray 1 Paper Cassette.
- 7 Remove the Tray 1 Lift Up Motor (REP 4.2.1).
- 8 Disconnect P/J603 the MBF in-line connector (Figure 4.2.6a).
- 9 Remove the screw that secures the Spring Support Assembly and bracket (Figure 4.2.6a).

NOTE: The orientation of the two bearings that are held in place by the Spring Support Assembly.

- **10** Remove the Spring Support Assembly (Figure 4.2.6a).
- 11 Remove the outboard bearing, the E-ring, then the inboard bearing (Figure 4.2.6a).
- **12** Remove the Tray 1 Feed Clutch (REP 4.2.3).

#### Figure 4.2.6a. Spring Support Assembly



- **13** Remove the four screws that secure the MBF mounting Bracket. Remove the bracket (Figure 4.2.6b).
- 14 Remove the four screws that secure the Left Middle Cover. Remove the cover (Figure 4.2.6b).



#### Figure 4.2.6b. MBF / Left Middle Cover Removal.

- **15** Remove the Left Upper Cover Assembly (REP 4.1.6).
- **16** Pry up both ends of the plastic Feed Out Chute covering the Take Away Roll. Allow the chute to rotate down and remove the Chute (Figure 4.2.6c).
- **17** Remove the screw that secures the metal Feed In Chute Assembly (Figure 4.2.6c).
- **18** Grasp the Chute Assembly from the paper tray side. Slide the chute toward the front of the printer, then pull away from the Take Away Assembly (Figure 4.2.6c).
- **19** Remove the Retard Assembly Spring (Figure 4.2.6c).
- 20 Note the position and direction of all the bearings on the Take Away Roll Shaft (Figure 4.2.6c).
- **21** From the rear of the printer, remove the E-ring that secures the gear to the end of the Take Away Roll Shaft (Figure 4.2.6c).
- 22 Remove the gear and the spacer located next on the Take Away Roll Shaft (Figure 4.2.6c).
- 23 Remove the screw that secures the Gear Stopper. Remove the Gear Stopper (Figure 4.2.6c).
- 24 Release the lock tabs and remove the bearing from the front end of the Take Away Roll Shaft (Figure 4.2.6c).
- **25** Slide the Take Away Roll Shaft and the Retard assembly toward the rear of the printer until the front of the shaft is free of the front printer frame.
- **26** Carefully remove the assembly out the front of the printer.

Figure 4.2.6c. Take Away Roll



#### Replacement

- 1 Reinstall the Take Away Roll Assembly in the printer. Ensure that the front white bearing is to the front of the Take Away Shaft.
- **2** Reinstall the front bearing (Figure 4.2.6d).
- **3** Ensure that the slots in the tabs of the white bearings are mated with the tabs on the printer frame.
- 4 Reinstall the Gear Stopper and the screw (Figure 4.2.6d).
- 5 Reinstall the Spacer, Gear, and E-ring on the Take Away Roll Shaft (Figure 4.2.6d).
- 6 Reinstall the Retard Assembly Spring (Figure 4.2.6d).
- 7 Slightly lift the Retard shaft and reinstall the metal Feed In Chute. Install the chute slightly to the front and slide to the rear to engage the tabs. Install the screw to secure (Figure 4.2.6d).
- 8 Reinstall the plastic Feed Out Chute. Note that the front mounting on the chute is slotted. The collar on the front white bearing goes into the slot (Figure 4.2.6d).
- 9 Reinstall the remaining components.
- 10 Verify proper operation.

#### Figure 4.2.6d. Take Away Roll Replacement.



# REP 4.2.7 Tray 2 Take Away Roll and Retard Assembly

#### Parts List on PL 3.6

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Duplex Unit, if one is installed.
- 3 Remove the MBF Assembly (REP 4.3.1).
- 4 Remove the Lower Rear Cover (REP 4.1.4).
- **5** Remove Tray 2.
- 6 Open the Lower Left Cover.
- 7 Release the two locking tabs on the Lower Left Cover Interlock Sensor and remove the sensor (Figure 4.2.7a). Allow the switch to hang down.
- 8 Pry up both ends of the plastic Feed Out Chute covering the Take Away Roll. Allow the chute to rotate down and remove the Chute (Figure 4.2.7a).
- 9 Remove the screw that secures the metal Feed In Chute Assembly (Figure 4.2.7a).
- **10** Grasp the Chute Assembly from the paper tray side. Slide the chute toward the front of the printer, then remove.
- **11** Remove the Retard Assembly Spring (Figure 4.2.7a).
- **12** Remove the E-ring from between the center white bearing and the rubber roll (Figure 4.2.7a).

#### Figure 4.2.7a. Take Away Roll.



- **13** From the rear of the printer, remove the screw that secures the Take Away Roll Clutch stop bracket (Figure 4.2.7b).
- 14 Remove the E-ring that secures the gear to the end of the Take Away Roll Shaft (Figure 4.2.7b).
- **15** Remove the gear and the E-ring located next on the Take Away Roll Shaft (Figure 4.2.7b).
- **16** Remove the screw that secures the Gear Stopper. Remove the Gear Stopper (Figure 4.2.7b).
- **17** Remove the E-ring and bearing from the front of the Take Away Roll Shaft (Figure 4.2.7b).
- **18** Slide the Take Away Roll Shaft and the Retard assembly toward the rear of the printer until the front of the shaft is free of the printer frame.
- **19** Carefully remove the assembly out the front of the printer.
- 20 Note the position and direction of all the bearings on the Take Away Roll Shaft.
- **21** Remove the E-ring that secures the Retard Assembly to the Take Away Roll Shaft. Remove the Retard Assembly (Figure 4.2.7b).



#### Figure 4.2.7b. Take Away Roll.

- 1 Reinstall the Retard Assembly on the Take Away Roll Shaft. Install the E-ring (Figure 4.2.7c).
- 2 Reinstall the Take Away Roll Assembly in the printer. Ensure that the front white bearing is to the front of the Take Away Sensor (Figure 4.2.7c).
- **3** Reinstall the front bearing and E-ring (Figure 4.2.7c).
- 4 Ensure that the slots in the tabs of the white bearings are mated with the tabs on the printer frame.
- 5 Reinstall the Gear Stopper and the screw (Figure 4.2.7c).
- 6 Ensure that the rear white bearing is properly inserted in the Retard Assembly Bracket.
- 7 Reinstall the E-ring between the center white bearing and the rubber roll (Figure 4.2.7c).
- 8 Reinstall the E-ring on the shaft next to the Gear Stopper (Figure 4.2.7c).
- 9 Reinstall the Gear and E-ring on the Take Away Roll Shaft (Figure 4.2.7c).
- **10** Reinstall the Take Away Roll Clutch Stop Bracket.
- **11** Reinstall the Retard Assembly Spring (Figure 4.2.7c).
- **12** Slightly lift the Retard shaft and reinstall the metal Feed In Chute. Install the chute slightly to the front and slide to the rear to engage the tabs. Install the screw to secure (Figure 4.2.7c).
- **13** Reinstall the plastic Feed Out Chute. Note that the front mounting on the chute is slotted. The collar on the front white bearing goes into the slot (Figure 4.2.7c).
- 14 Reinstall the Lower Left Cover Interlock Sensor.
- **15** Reinstall the remaining components.
- **16** Verify proper operation.




# REP 4.2.8 Tray 1 & 2 Lift Up Sensor

# Parts List on PL 3.1 / PL 3.4

## Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Tray 1 / Tray 2.
- **3** Hold the feed rolls down with your hand or use a folded sheet of paper to hold the feed rolls down.
- 4 Release the lock tabs on the back of the Lift Up Sensor (Figure 4.2.8a).
- 5 Disconnect the harness from the sensor.



### Figure 4.2.8a. Lift Up Sensor.

- 1 Assemble in reverse order.
- 2 Verify proper operation.

# REP 4.2.9 Tray 1 & 2 No Paper Sensor

# Parts List on PL 3.1 / PL 3.4

## Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Tray 1 / Tray 2.
- 3 Release the rear lock tab on the back of the No Paper Sensor (Figure 4.2.9a).
- 4 Disconnect the harness from the sensor.

#### Figure 4.2.9a. No Paper Sensor.



- **1** Assemble in reverse order.
- 2 Verify proper operation.

# REP 4.2.10 Tray 1 & 2 Size Switch Assembly

# Parts List on PL 3.1 / PL 3.4

# Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Paper Cassette.
- 3 Disconnect the Size Switch Harness from CN1 on the Size Switch PWB (Figure 4.2.10a).
- 4 Remove the screw that secures the Size Switch Assembly to the printer frame (Figure 4.2.10a).
- **5** Remove the assembly from the printer. Remove the two standoffs from the back of the Size Switch PWB.





- 1 Install the two standoffs on the Size Switch PWB.
- 2 Assemble the remaining components in reverse order.
- **3** Verify proper operation.

# REP 4.2.11 Tray 1 Feeder Assembly

# Parts List on PL 3.2

# Removal

- 1 Switch the printer power off and disconnect the AC power cord.
- 2 Remove the Duplex Unit, if installed.
- 3 Open Left Upper Cover Assembly.
- 4 Remove Tray 1.
- 5 Remove Lift Up Sensor (REP 4.2.8).
- 6 Remove the Upper Rear Cover (REP 4.1.3).
- 7 Remove Tray 1 Feed Clutch (REP 4.2.3) (Figure 4.2.11a).
- 8 Remove the E-ring that secures the Tray 1 Gear Assembly located behind the Tray 1 Feed Clutch. Remove the Tray 1 Gear Assembly (Figure 4.2.11a).
- 9 Remove Tray 1 One Way Clutch located behind the Tray 1 Gear Assembly (Figure 4.2.11a).

#### Figure 4.2.11a. Tray 1 Feed.



- 10 Remove the Tray 1 Retard Roll (REP 4.2.5) (Figure 4.2.11b).
- 11 Remove the Tray 1 Spacer and Clutch Assembly (Figure 4.2.11b).
- **12** Slide Feeder Assembly out of printer (Figure 4.2.11b).

#### Figure 4.2.11b. Tray 1 Retard Assembly.



- 1 Reinstall the Feeder Assembly into position. Ensure the Feed Shaft bearing is in the support bracket.
- 2 Reinstall the Tray 1 Retard Clutch, Spacer and Roll.
- **3** Reinstall the Tray 1 One Way Clutch.
- 4 Reinstall Tray 1 Gear Assembly and secure with the E-ring.
- **5** Reinstall the Tray 1 Feed Clutch.
- 6 Reinstall the Upper Rear Cover.
- 7 Reinstall the Lift Up Sensor.
- 8 Reinstall Tray 1.
- 9 Close the Upper Left Cover.
- **10** Replace Duplex Unit, if removed.
- **11** Verify proper operation.

# REP 4.2.12 Tray 2 Feeder Assembly

# Parts List on PL 3.5

## Removal

- 1 Switch the printer power off and disconnect the AC power cord.
- 2 Remove Tray 2.
- 3 Remove Lift Up Sensor (REP 4.2.8).
- 4 Remove the Upper Rear Cover (REP 4.1.3).
- 5 Remove the Lower Rear Cover (REP 4.1.4).
- 6 Remove Tray 2 Feed Clutch (REP 4.2.4) (Figure 4.2.12a).
- 7 Remove the E-ring that secures the Tray 2 Gear Assembly located behind the Tray 2 Feed Clutch. Remove the Tray 2 Gear Assembly (Figure 4.2.12a).
- 8 Remove Tray 2 One Way Clutch located behind the Tray 2 Gear Assembly (Figure 4.2.12a).

#### Figure 4.2.12a. Tray 2 Feed.



- 9 Remove the Tray 2 Retard Roll (REP 4.2.5) (Figure 4.2.12b).
- **10** Remove the Tray 2 Spacer and Clutch Assembly (Figure 4.2.12b).
- **11** Slide Feeder Assembly out of printer (Figure 4.2.11b).

#### Figure 4.2.12b. Tray 2 Retard Assembly.



- 1 Reinstall the Feeder Assembly into position. Ensure the Feed Shaft bearing is in the support bracket.
- 2 Reinstall the Tray 2 Retard Clutch, Spacer and Roll.
- **3** Reinstall the Tray 2 One Way Clutch.
- 4 Reinstall Tray 2 Gear Assembly and secure with the E-ring.
- **5** Reinstall the Tray 2 Feed Clutch.
- 6 Reinstall the Lower Rear Cover.
- 7 Reinstall the Upper Rear Cover.
- 8 Reinstall the Lift Up Sensor.
- 9 Reinstall Tray 2.
- **10** Verify proper operation.

# **REP 4.3 Multisheet Bypass Feeder (MBF) Assembly**

# **REP 4.3.1 MBF Assembly**

# Parts List on PL 4.1

# Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Duplex Unit, if one is installed.

NOTE: In the next step, do not grasp the MBF mounting bracket and edge covers

- **3** Grasp both sides of the MBF Assembly. Be sure to grasp the metal frame under the MBF and the MBF Top Cover (Figure 4.3.1a).
- 4 Use steady pressure and pull the MBF Assembly straight out from the printer (Figure 4.3.1a).



### Figure 4.3.1a. MBF Assembly.

- 1 Hold the MBF Assembly level with the MBF mounting bracket.
- 2 Slide the MBF Assembly into the mounting bracket until it locks into place.
- **3** Reinstall the Duplex Unit.
- 4 Verify proper operation.

# REP 4.3.2 MBF Tray Assembly

## Parts List on PL 4.1

## Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Duplex Unit, if one is installed.
- 3 Remove the MBF Assembly (REP 4.3.1).
- 4 Remove the two screws securing the MBF Top Cover to the MBF Assembly, and remove the Top Cover (Figure 4.3.2a).



#### Figure 4.3.2a. MBF Assembly Cover.

- 5 Disconnect P/J107 that runs to the Tray Assembly (Figure 4.3.2b).
- 6 Remove the Tray Harness from the cable clamp and pull the connector through the MBF frame.
- 7 Release the Tray Spring that is attached to the left side of the Tray (Figure 4.3.2b).
- 8 Push on the Front Support as you slightly bow the Tray, and release the pivot hole on the side of the Tray from the metal shaft on the Front Support (Figure 4.3.2b).
- 9 Remove the MBF Tray Assembly.



#### Figure 4.3.2b. MBF Tray Assembly.

- 1 Slide pivot hole on the left side of the Tray onto the metal shaft on the Rear Support.
- **2** Push out on the Front Support as you slightly bow the Tray, and slid the pivot hole on the right side of the Tray into the metal shaft on the Front Support.
- 3 Insert the free end of the Tray Spring into the slot at the left edge of the Tray.
- 4 Route harness, then reconnect P/J107 that runs to the Tray Assembly.
- 5 Reinstall the MBF Top Cover and use two screws to secure it to the MBF Assembly.
- 6 Reinstall the MBF Assembly.
- 7 Reinstall the Duplex Unit.
- 8 Verify proper operation.

# REP 4.3.3 MBF Feed Roll

## Parts List on PL 4.3

## Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Duplex Unit, if one is installed.
- 3 Remove the MBF Assembly (REP 4.3.1).
- **4** Remove the two screws securing the MBF Top Cover to the MBF Assembly, and remove the Top Cover (Figure 4.3.3a).



#### Figure 4.3.3a. MBF Assembly Cover.

- 5 Loosen the screw securing the MBF No-Paper Sensor Bracket to the Feeder Assembly, and lift the Sensor Bracket out of the way.
- 6 Remove the K-clip securing the MBF Feed Roll to the Feed Shaft, and slide the Feed Roll off of the shaft.





- 1 Position the Feed Roll so the metal end of the hole is facing the No-Paper Sensor.
- 2 Press down the Retard Pad and slide the MBF Feed Roll onto the Feed Shaft.
- **3** Use a K-clip to secure the Roll to the shaft.
- **4** Reinstall the No-Paper Sensor Bracket onto the Feeder Assembly, and use one screw to secure it to the Assembly.
- 5 Reinstall the MBF Top Cover.
- 6 Reinstall the MBF Assembly.
- 7 Reinstall the Duplex Module.
- 8 Verify proper operation.

# REP 4.3.4 MBF Nudger Roll

# Parts List on PL 4.3

## Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Duplex Unit, if one is installed.
- 3 Remove the MBF Assembly (REP 4.3.1).
- **4** Remove the two screws securing the MBF Top Cover to the MBF Assembly, and remove the Top Cover (Figure 4.3.4a).





- 5 Loosen the screw securing the MBF No-Paper Sensor Bracket to the Feeder Assembly, and lift the Sensor Bracket out of the way (Figure 4.3.4b).
- 6 Remove the E-ring securing the MBF Gate to the Nudger Shaft and remove the Gate (Figure 4.3.4b).
- 7 Remove the E-ring securing the Nudger Roll to the Nudger Shaft and slide the Nudger Roll off of the shaft (Figure 4.3.4b).

#### Figure 4.3.4b. Nudger Roll Removal.



- 1 Position the Nudger Roll so the forked end faces away from the No-Paper Sensor.
- 2 Slide the Nudger Roll onto the Nudger Shaft, making sure the forked end engages the pin at the end of the shaft.
- 3 Use an E-ring to secure the Nudger Roll to the Shaft.
- **4** Slide the MBF Gate onto the Shaft (see the illustration for correct positioning of the Gate) (Figure 4.3.4b).
- 5 Use an E-clip to secure the Gate to the Shaft.
- 6 Reinstall and secure the No-Paper Sensor Bracket onto the Feeder Assembly.
- 7 Reinstall the MBF Top Cover.
- 8 Reinstall the MBF Assembly.
- 9 Reinstall the Duplex Module.
- **10** Verify proper operation.

# REP 4.3.5 MBF Pad

# Parts List on PL 4.2

## Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Duplex Unit, if one is installed.
- 3 Remove the MBF Assembly (REP 4.3.1).
- 4 Remove the MBF Feed Roll (REP 4.3.3).
- 5 Remove the MBF Nudger Roll (REP 4.3.4).
- 6 Turn the MBF upside down.
- 7 Remove the K-clip securing the MBF Pad Pin to the Feeder, and slide the Pin out of the MBF Pad (Figure 4.3.5a).
- 8 Turn the MBF right side up.
- **9** Pull back the MBF Paper Guide and slide the MBF Pad to the right and out of the Feeder (Figure 4.3.5a).

#### Figure 4.3.5a. MBF Pad Removal.



- 1 Pull back the MBF Paper Guide and slide the MBF Pad between the Guide and the Pad Spring.
- **2** Turn the MBF upside down.
- **3** Slide the MBF Pad Pin into the hole in the Feeder, through the holes in the three legs of the MBF Pad, and out through the other hole in the Feeder.
- 4 Use a K-clip to secure the MBF Pad Pin to the Feeder.
- 5 Press down on the MBF Pad to make sure it moves smoothly and has a spring action return.
- 6 Reinstall the MBF Nudger Roll.
- 7 Reinstall the MBF Feed Roll.
- 8 Reinstall the MBF Assembly.
- 9 Reinstall the Duplex Module.
- **10** Verify proper operation.

# REP 4.3.6 MBF No Paper Sensor Assembly

## Parts List on PL 4.3

## Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Duplex Unit, if one is installed.
- 3 Remove the MBF Assembly (REP 4.3.1).
- **4** Remove the two screws securing the MBF Top Cover to the MBF Assembly, and remove the Top Cover (Figure 4.3.6a).

#### Figure 4.3.6a. MBF Assembly Cover.



- **5** Remove the screw securing the MBF No-Paper Sensor Bracket to the Feeder Assembly, and lift the Sensor Bracket off of the Feeder (Figure 4.3.6b).
- 6 Disconnect the P/J from the No-Paper Sensor (Figure 4.3.6b).
- 7 Squeeze the Sensor latches and remove the Sensor from the Bracket (Figure 4.3.6b).

Figure 4.3.6b. No Paper Sensor.



- 1 Position the Senor so the P/J connector faces the screw hole in the Sensor Bracket.
- 2 Insert the Sensor latches into the two opening in the Bracket.
- **3** Reconnect the P/J to the No-Paper Sensor.
- 4 Insert the Bracket prong through the opening in the back of the Feeder.
- 5 Slide the Bracket to the right so the screw hole in the Bracket lines up with the screw hole in the Feeder. Secure the Bracket to the Feeder.
- 6 Manually actuate the MBF Gate to make sure it moves freely between the arms of the Sensor.
- 7 Reinstall the MBF Assembly.
- 8 Verify proper operation.

# REP 4.3.7 MBF Feed Clutch

# Parts List on PL 4.3

## Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Duplex Unit, if one is installed.
- 3 Remove the MBF Assembly (REP 4.3.1).
- **4** Remove the two screws securing the MBF Top Cover to the MBF Assembly, and remove the Top Cover (Figure 4.3.7a).



#### Figure 4.3.7a. MBF Assembly Cover.

- **5** Remove the screw securing the MBF Rear Hook Bracket to the Feeder Assembly (Figure 4.3.7b).
- 6 Disconnect the P/J running to the MBF Feed Clutch.



#### Figure 4.3.7b. MBF Rear Hook.

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- 7 Unhook the Link Spring from the Rear Latch (Figure 4.3.7c).
- 8 Remove the E-ring securing the MBF Link Gear to the idler shaft, and slide the Gear, along with the MBF Drive Gear Assembly off of the shaft.



Figure 4.3.7c. MBF Link Gear.

- **9** To allow clearance, loosen the screw located under the notch in the clutch (Figure 4.3.7d)
- **10** Remove the E-ring securing the MBF Feed Clutch to the Feed Shaft and slide the Clutch off of the Feed Shaft (Figure 4.3.7d).

#### Figure 4.3.7d. MBF Feed Clutch.



- 1 Position the MBF Feed Clutch with the gear facing out, and slide the Clutch onto the Feed Shaft.
- 2 Rotate the Clutch so the notch in the Clutch fits into the key in the Assembly (Figure 4.3.7d).
- 3 Use and E-ring to secure the MBF Feed Clutch to the Feed Shaft.
- 4 Reinstall the Link Spring onto the Rear Latch.
- 5 Slide the MBF Link Gear, along with the MBF Drive Gear Assembly, onto the idler shaft.
- 6 Hook the free end of the Link Spring around the bottom of the MBF Drive Gear Assembly.
- 7 Reconnect the P/J running to the MBF Feed Clutch.
- 8 Reinstall the MBF Rear Hook Bracket.
- **9** Tighten the screw located under the clutch notch.
- 10 Reinstall the MBF Top Cover.
- **11** Reinstall the MBF Assembly.
- **12** Reinstall the Duplex Module.
- **13** Verify proper operation.

# **REP 4.4 Registration**

# **REP 4.4.1 Registration Clutch**

# Parts List on PL 6.1

# Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Upper Rear Cover Assembly (REP 4.1.3).
- 3 Disconnect connector (P/J 200) from the Registration Clutch (Figure 4.4.1a).
- 4 Remove the E-ring securing the Registration Clutch to the Registration Shaft (Figure 4.4.1a).
- 5 Push on the shaft latch as you slide the Clutch off of the shaft (Figure 4.4.1a).



# Figure 4.4.1a. Registration Clutch.

- **1** Slide the Registration Clutch onto the shaft.
- 2 Use the E-ring to secure the Registration Clutch to the Registration Shaft.
- 3 Reconnect P/J 200 from the Registration Clutch.
- 4 Reinstall the Rear Cover.
- **5** Verify proper operation.

# **REP 4.4.2 Registration Sensor**

## Parts List on PL 6.1

## Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- **2** Remove the Duplex Unit, if installed.
- 3 Open the Left Upper Cover Assembly.
- 4 Squeeze the locking tabs on each side of the Sensor and pull the sensor out (Figure 4.4.2a).
- 5 Disconnect the harness from the rear of the sensor (Figure 4.4.2a).

#### Figure 4.4.2a. Registration Sensor.



- 1 Assemble in reverse order.
- 2 Verify proper operation.

# **REP 4.4.3 Registration Roller Assembly**

# Parts List on PL 6.1

# Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Duplex Unit, if installed.
- 3 Open the Left Upper Cover Assembly.
- 4 Remove the EP Cartridge.
- **5** Remove the screws that secure the Cover Support Straps to the Upper Left Cover Assembly. Allow the Cover Assembly to lay on the MBF.
- 6 Remove the Registration Sensor (REP 4.4.2).
- 7 Remove the Upper Rear Cover Assembly (REP 4.1.3).
- 8 Remove the Registration Clutch (REP 4.4.1).
- 9 Remove the screw that secures the Cover Plate. Remove the plate (Figure 4.4.3a).
- **10** Remove the two screws that secure the front of the Registration Chute (Figure 4.4.3a).
- **11** Remove the two screws that secure the rear of the Registration Chute (Figure 4.4.3a).



# Figure 4.4.3a. Registration Chute.

- **12** Carefully remove the Registration Chute.
- 13 Remove the E-ring from the inside rear of the Registration Shaft.
- **14** Slide the rear bearing toward the front of the printer.
- **15** Slide the Registration Shaft toward the rear until the front of the shaft is free of the printer frame. Remove the Registration Shaft.

3/99

4-51

- 1 Reinstall the Registration Shaft in the printer.
- 2 Ensure the front and rear bearings are properly inserted in the printer frame.
- **3** Secure the shaft with the inside rear E-ring.
- 4 Reinstall the Registration Chute and secure with the four screws.
- 5 Reinstall the cover plate and screw.
- 6 Reinstall the Registration Sensor.
- 7 Reinstall the Registration Clutch.
- 8 Reattach the two Cover Support Straps to the Upper Left Cover Assembly.
- **9** Reinstall the remaining components and covers.
- **10** Verify proper operation.

# **REP 4.5 Xerographics**

# **REP 4.5.1 EP Cartridge**

# Parts List on PL 7.2

# Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Open the Duplex Unit, if installed.
- 3 Open the Left Upper Cover Assembly.



# CAUTION Do not attempt to remove the EP Cartridge without first opening the Left Upper Cover.

- 4 Open the Front Left Cover.
- 5 Pull up on the orange handle and slide the EP Cartridge half way out of the printer.
- 6 Hold on to the top handle and slide the EP Cartridge out of the printer.
- 7 If you are removing the EP Cartridge as part of another Repair Procedure, place the EP Cartridge in a dark box or cover it with a dark cloth to protect it from exposure to light.



Figure 4.5.1a. EP Cartridge Removal.

- **1** Open the Duplex Unit, if installed.
- **2** Open the Left Upper Cover Assembly.



# CAUTION Do not attempt to install the EP Cartridge without first opening the Left Upper Cover.

- 3 Open the Front Left Cover Assembly.
- 4 Hold the EP Cartridge by the top handle and carefully slide it into the printer.
- 5 Release the top handle and allow it to fold out of the way, the slide the EP Cartridge the rest of the way into the printer, until it stops.
- 6 Firmly press in on the end of EP Cartridge to make sure it is correctly seated in the printer.
- 7 Hold the edges of the EP Cartridge and pull out, to make sure it is latched in place.
- 8 Close the Front Left Cover.
- 9 Close the Left Upper Cover
- 10 Close the Duplex Unit.
- **11** Verify proper operation.

# REP 4.5.2 BTR (Bias Transfer Roll)

# Parts List on PL 7.2

## Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Open and remove the Duplex Unit (if one is installed).
- **3** Open the Left Upper Cover.

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CAUTION Do not touch the BTR. Grease and dirt on, or physical damage to the BTR will effect print quality.

- 4 Rotate the front and rear BTR bearings until the tabs are pointing up (Figure 4.5.2a).
- **5** Holding on to just the bearings, lift the bearings until the BTR comes free of the BTR Assembly (Figure 4.5.2a).



#### Figure 4.5.2a. Bias Transfer Roll.

- 1 Assemble in reverse order.
- 2 Verify proper operation.

# **REP 4.5.3 Charge Bias Assembly**

# Parts List on PL 7.2

NOTE: The bending of the Charge Bias Assembly is caused by the attempted removal of the EP Cartridge without opening the Area A Door. Review with the Customer the proper routine for removal and replacement of the EP Cartridge.

## Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Open and remove the Duplex Unit, if the unit is installed.
- 3 Open the Left Upper Cover.
- 4 Remove EP Cartridge (REP 4.5.1).
- 5 Remove Mailbox Assembly (PL 8.2.2.1, Item 1) or Finisher Docking Assembly (PL 8.5.2.22, Item 1, if either unit is installed.
- 6 Remove Fuser Assembly (REP 4.7).
- 7 Remove Fuser Full Cover (REP 4.1.1).
- 8 Remove Top Cover (REP 4.1.2).
- 9 Remove Duct Bottom (PL 1.2, Item 5).
- **10** Locate the Charge Bias Assembly (Figure 4.5.3a).
- 11 Remove screw securing and disconnect cable to Charge Bias Assembly (Figure 4.5.3b).
- **12** Remove Charge Bias Assembly (Figure 4.5.3c).

NOTE: Figure 4.5.3c shows the correct angle to provide proper alignment of the spring to contact the EP Cartridge when Door A is closed and during normal print operation.

#### Figure 4.5.3a. Charge Bias Assembly Location.



10

Figure 4.5.3b. Charge Bias Assembly Removal.



Figure 4.5.3c. Charge Bias Assembly.



- **1** Assemble in reverse order.
- 2 Verify proper operation.

# **REP 4.6 Laser**

# **REP 4.6.1 Laser Assembly**

# Parts List on PL 7.1

## Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the LVPS (REP 4.10.2).
- 3 Disconnect the three P/J connectors and the video cable from the Laser (Figure 4.6.1a).
- 4 Remove the four screws that secure the Laser to the printer frame (Figure 4.6.1a).



#### Figure 4.6.1a. Laser Assembly.

- 5 Lift the Laser Assembly off of the printer frame.
- 6 Place the Laser Assembly on a flat and stable surface.



CAUTION Do not remove covers or disassemble the Laser Assembly. There are no replaceable parts or field adjustable points located inside the Laser Assembly.

- 1 Reinstall the Laser Assembly onto the printer frame aligning the two locating pins.
- 2 Ensure you have not trapped any wire harnesses under the Laser Assembly.
- **3** Use four screws to secure the Laser Assembly to the printer frame.
- 4 Reconnect the three P/J connectors and the video cable to the Laser.
- 5 Reinstall the LVPS.
- 6 Reinstall the System Controller Housing Assembly.
- 7 Verify proper operation.

# **REP 4.7 Fuser Assembly**

# **REP 4.7.1 Fuser Assembly**

# Parts List on PL 8.1

## Removal

1 Switch off the printer power and disconnect the AC Power Cord.

# WARNING! The Fuser is extremely hot. Switch off printer main power and wait an hour for the Fuser to cool down before attempting to work with or remove the Fuser Assembly.

- 2 Open Duplex Unit, if installed.
- 3 Open the Upper Left Cover Assembly.
- 4 Open the Left Front Cover.
- 5 Loosen the two thumb screws that secure the Fuser Assembly to the printer frame.
- 6 Hold onto the Fuser Handles and slide the Fuser Assembly forward and out of the printer frame (Figure 4.7.1a).





3/99

4-60

- 1 Open Duplex Unit, if installed and the Upper Left Cover Assembly.
- **2** Position the Fuser Assembly with the plug on the left end of the Assembly aligned with the jack mounted on the printer frame.
- 3 Open the Left Front Cover.
- 4 Slide the Fuser Assembly into the printer frame until it stops.
- **5** Firmly push the Fuser Assembly to make sure the P/J is mated correctly and that the two thumb screw line up with the two screw holes in the printer frame.
- 6 Use two thumb screws to secure the Fuser Assembly to the printer frame.
- 7 Close the Upper Left Cover and the Duplex Unit, if installed.
- 8 Verify proper operation.

# **REP 4.7.2 Fuser Drive Assembly**

# Parts List on PL 10.2

## Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove EP Cartridge (REP 4.5.1).
- **3** Remove the Fuser Full Cover (REP 4.1.1).
- 4 Remove Top Cover Assembly (REP 4.1.2).
- 5 Remove the Fuser Assembly (REP 4.7.1).
- 6 Remove Duct Bottom (Figure 4.7.2a) (the Offset Assemblies have been removed for clarity in the illustration).
- 7 Release the two springs that are connected to the Fuser Drive Assembly.
- 8 Remove the E-ring that secures the Drive Assembly to the frame (Figure 4.7.2a).
- 9 Remove the Fuser Drive Assembly.

#### Figure 4.7.2a. Fuser Drive Assembly.



- 1 Reinstall the Fuser Drive Assembly onto the printer frame.
- 2 Reinstall the Duct Bottom.
- **3** Reinstall the Fuser Assembly.
- 4 Reinstall the Top Cover Assembly.
- 5 Reinstall the Fuser Full Cover.
- 6 Reinstall the EP Cartridge.
- **7** Verify proper operation.
# **REP 4.7.3 Fuser Exit Sensor**

## Parts List on PL 9.1

## Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Open the Duplex Unit, if installed.
- **3** Remove the EP Cartridge.
- 4 Remove the Fuser Full Cover (REP 4.1.1).
- 5 Remove the Offset / Exit Assembly (REP 4.8.1).
- 6 The Fuser Exit Sensor is attached to the bottom of the Offset / Exit Assembly (Figure 4.7.3a). Place the Offset / Exit Assembly up side down on a work surface.
- 7 Remove the Fuser Exit Sensor harness from the cable clamps.
- 8 Release the two locking tabs on each end of the Fuser Exit Sensor. Remove the sensor.

#### Figure 4.7.3a. Fuser Exit Sensor



- 1 Assemble in reverse order.
- 2 Verify proper operation.

# **REP 4.8 Offset / Exit Assembly**

# REP 4.8.1 Offset / Exit Assembly

# Parts List on PL 9.1

# Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Fuser Full Cover (REP 4.1.1).
- **3** Remove the Rear Cover Assembly (REP 4.1.3).
- 4 Open the Duplex Unit, if installed.
- **5** Open the Upper Left Cover.
- 6 Remove the four P/Js that are connected (at the rear) to the Offset / Exit Assembly (Figure 4.8.1a).
- 7 Remove the three screws (one screw at the front, next to the solenoid, and two screws at the rear) securing the Offset / Exit Assembly to the printer frame (Figure 4.8.1a).
- 8 Lift the Offset / Exit Assembly up and off of the printer frame.

### Figure 4.8.1a. Offset / Exit Assembly.



- **1** Open the Duplex Unit.
- **2** Open the Upper Left Cover.
- 3 Reinstall the Offset / Exit Assembly onto the printer frame.
- 4 Use three screws (one screw at the front, next to the solenoid, and two screws at the rear) to secure the Offset / Exit Assembly to the printer frame.
- 5 Reconnect the four P/Js to the Offset / Exit Assembly.
- 6 Reinstall the Rear Cover Assembly.
- 7 Reinstall the Fuser Full Cover.
- 8 Verify proper operation.

# **REP 4.8.2 Exit Drive Assembly**

# Parts List on PL 9.4

## Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Offset / Exit Assembly (REP 4.8.1).
- 3 Remove the three screws securing the Exit Drive Assembly to the Offset / Exit Assembly.
- 4 Pull the Exit Drive Assembly straight out and away from the Offset / Exit Assembly.

#### Figure 4.8.2a. Exit Drive Assembly.



- 1 Align the Exit Drive Assembly with the Offset / Exit Assembly so the gear and shaft fit through the corresponding opening in the Exit Drive Assembly.
- 2 Press the Exit Drive Assembly onto the Offset / Exit Assembly, slightly repositioning the Assembly so the positioning pins on the Offset / Exit Assembly fits through the hole in the Exit Drive Assembly.
- **3** Check to make sure you do not trap any wire harnesses between the Exit Drive Assembly and the Offset / Exit Assembly.
- 4 Use three screws to secure the Exit Drive Assembly to the Offset / Exit Assembly.
- **5** Reinstall the Offset / Exit Assembly.
- 6 Verify proper operation.

# **REP 4.8.3 Face Up Exit Sensor**

# Parts List on PL 9.3

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- **2** Open the Duplex Unit if one is installed.
- **3** Remove the Fuser Full Cover (REP 4.1.1).
- 4 Disconnect the Face Up Exit Sensor in-line connector (P/J 109) (Figure 4.8.3a).
- **5** Release the locking tabs on each end of the Face Up Exit Sensor (Figure 4.8.3a). Remove the sensor.



#### Figure 4.8.3a. Face Up Exit Sensor.

- 1 Assemble in reverse order.
- 2 Verify proper operation.

# REP 4.8.4 Exit Gate Solenoid

# Parts List on PL 9.1

## Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Open the Duplex Unit if one is installed.
- 3 Remove the Fuser Full Cover (REP 4.1.1).
- 4 Disconnect the Exit Gate Solenoid inline connector (P/J 210) (Figure 4.8.4a).
- **5** Remove the two screws that secure the solenoid to the front of the Offset / Exit Assembly (Figure 4.8.4a). Remove the solenoid.



#### Figure 4.8.4a. Exit Gate Solenoid.

- 1 Assemble in reverse order.
- 2 Verify proper operation.

# **REP 4.8.5 Stack Full Sensor**

## Parts List on PL 9.1

## Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- **2** Open the Duplex Unit if one is installed.
- 3 Remove the Fuser Full Cover (REP 4.1.1).
- 4 Disconnect the Stack Full Sensor inline connector (P/J133) (Figure 4.8.5a).
- **5** Remove the two screws that secure the Sensor Bracket to the Offset / Exit Assembly (Figure 4.8.5a). Remove the Sensor Bracket and Actuator.

#### Figure 4.8.5a. Stack Full Sensor.



- 1 Assemble in reverse order.
- 2 Verify proper operation.

# **REP 4.8.6 Offset Motor**

# Parts List on PL 9.1

## Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Open the Duplex Unit if one is installed.
- 3 Remove the Fuser Full Cover (REP 4.1.1).
- **4** Carefully rotate the motor shaft fully clockwise (Figure 4.8.6a) (the Offset Rollers are moved toward the front of the printer).
- **5** Remove the two screws that secure the Motor Mounting Bracket to the Offset / Exit Assembly (Figure 4.8.6a).
- 6 Lift the Offset Rollers as you lift the Offset Motor to disengage the motor cam.
- 7 Disconnect the harness from the Offset Motor.
- 8 Remove the two screws that secure the Offset Motor to the mounting bracket.



#### Figure 4.8.6a. Offset Motor.

- 1 Assemble in reverse order.
- 2 Verify proper operation.

# **REP 4.9 Main Drive**

# **REP 4.9.1 Main Drive Assembly**

# Parts List on PL 10.1

## Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Open the Left Upper Cover Assembly.
- **3** Remove the EP Cartridge (REP 4.5.1).

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# CAUTION Do not attempt to remove the Main Drive Assembly without first removing the EP Cartridge (CRU).

- 4 Remove the Fuser Full Cover (REP 4.1.1).
- **5** Remove the Rear Cover (REP 4.1.3).
- 6 Remove the Left Cover Interlock Switch Assembly (REP 4.10.5).
- 7 Remove the screw securing the Inner Cover LH (PL 1.3) to the printer frame. Close the Left Upper Cover Assembly half-way to free the Inner Cover from the interlock actuator. Remove the Inner Cover.
- 8 From the rear of the Offset / Exit Assembly, disconnect the two connectors (P/J 104 and P/J 602) (Figure 4.9.1a).
- **9** From the rear of the Offset / Exit Assembly, disconnect the three lower connectors (P/J 209, 600, and 601) (Figure 4.9.1a).



### Figure 4.9.1a. Offset / Exit Assembly Connectors.

- **10** Open the cable clamp and disconnect the Registration Clutch in line connector (P/J 200) (Figure 4.9.1b).
- **11** Remove the three screws that secure the Harness Support to the Main Drive Assembly (Figure 4.9.1b).
- **12** Remove the Harness Support and allow the support to hang down (Figure 4.9.1b).
- **13** Disconnect the harness from CN1 on the Main Motor PWB (Figure 4.9.1b).
- 14 Release the wire harness (located just above the Main Motor PWB) from the wire clip and move the harness out of the way (Figure 4.9.1b).
- **15** Remove the screw securing the green ground wire to the Main Drive Assembly, and move the wire out of the way (Figure 4.9.1b).



#### Figure 4.9.1b. Main Drive Assembly.

- **16** Remove the five screws securing the Main Drive Assembly to the printer frame. The bottom right screw also secures a ground wire (with attached resistor) to the printer frame (Figure 4.9.1c).
- **17** Lift the Exit Gear out of the way, and pull the Main Drive Assembly straight back and out of the printer frame (Figure 4.9.1c).
- NOTE: If you are having difficulty removing the Main Drive Assembly, check to make sure there are no wire harnesses in the way, the Registration Clutch location notch in not in the way, and that the drive pin on the Drive Assembly is in the center of the cutout in the printer frame.



Figure 4.9.1c. Main Drive Assembly.

- 1 Lift the Exit Gear out of the way, and slide the drive pin at the back of the Main Drive Assembly into the large opening in the printer frame.
- **2** Make sure there are no wire harnesses trapped between the Drive Assembly and the printer frame.
- **3** Reach around through the open Left Upper Cover and take hold of the drive pin. Center the pin in the printer frame opening while you push the Drive Assembly against the frame.
- **4** Use the four self-tapping screws to secure the Main Drive Assembly to the printer frame. Use the machine screw to secure the ground strap at the lower left of the Main Drive Assembly.
- **5** Reinstall the green ground wire to the screw hole at the top of the Main Drive Assembly, and use one screw to secure the wire to the Assembly.
- 6 Secure the wire harness at the top of the Main Drive Assembly to the wire clip that is located just above the Main Motor.
- 7 Reconnect CN1 to the Main Motor PWB.

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- 8 Position the Harness Support against the Main Drive Assembly (ensure the bearing is in place).
- **9** Rotate the Registration Clutch and in the Feed Clutch so the slots in the Clutches line up with the key on the Harness Support, then press the Support against the Main Drive Assembly.
- 10 Use the three screws to secure the Harness Support to the Main Drive Assembly.
- **11** Reconnect Registration Clutch inline connector (P/J 200).
- **12** Reconnect P/Js 104, 602, 209, 600, and 601.
- **13** Insert the wiring harnesses into the upper right cable clamp and close the clamp.
- 14 Reinstall the Left Cover Interlock Switch.
- **15** Reinstall the Inner Cover LH, and use one screw to secure the Cover to the printer frame.
- 16 Reinstall the Rear Cover.
- **17** Reinstall the EP Cartridge.
- 18 Reinstall the Fuser Full Cover
- **19** Close the Left Upper Cover Assembly.

# **REP 4.10 Electronics**

# **REP 4.10.1 Main Switch**

# Parts List on PL 11.1

# Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- **2** Remove the Top Cover Assembly (REP 4.1.2).
- **3** Remove the screw securing the Main Switch Bracket to the Power Supply Assembly (Figure 4.10.1a).
- 4 Pull the Bracket and Switch up and out of the Power Supply.
- 5 Disconnect the four wires from the Switch.
- 6 Squeeze the two clips on the underside of the Switch while you slide the Switch out the top of the Bracket.

Figure 4.10.1a. Main Switch.





FS2

FS4

SER1010X

- 1 Slide the Main Switch into the opening in the top of the Main Switch Bracket until it snaps into place.
- 2 Reconnect the four wires to the Switch. Connect the black wires to FS1 and FS2 and the white wires to FS3 and FS4 (Figure 4.10.1a). The illustration represents the underside of the Main Switch Bracket and Main Switch.
- 3 Reinstall the Main Switch Bracket onto the Power Supply Assembly.
- 4 Make sure you align the screw hole in the Bracket with the screw hole in the Power Supply.
- 5 Use one screw to secure the Bracket to the Power Supply Assembly.
- 6 Reinstall the Top Cover Assembly.
- 7 Verify proper operation.

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# REP 4.10.2 LVPS Assembly

# Parts List on PL 11.1

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Top Cover Assembly (REP 4.1.2).
- **3** Remove the Right Cover (REP 4.1.5).
- 4 Remove four screws securing the System Controller Housing Assembly to the LVPS, and tilt the System Controller Assembly out of the way (Figure 4.10.2a).



#### Figure 4.10.2a. System Controller Assembly.

- **5** Remove the screw that secures Main Switch Bracket to the printer frame (REP 4.10.1). It is not necessary to disconnect the wires.
- 6 Squeeze the two locking tabs and disconnect the AC Harness (P1) from the side of the LVPS (Figure 4.10.2b).
- 7 Open the three cable clamps and remove the AC harness from the clamps.
- 8 Press the locking tab and disconnect the two P/Js (P501 and P502) that are located at the rear of the LVPS (Figure 4.10.2b).
- **9** Remove the two harnesses from the harness clip at the rear of the LVPS.
- **10** Disconnect the LVPS Fan inline connector and remove harness from the harness clamp (Figure 4.10.2b).
- 11 Remove the five screws securing the LVPS to the printer frame (Figure 4.10.2b).
- **12** Remove the LVPS Assembly.

Figure 4.10.2b. LVPS Assembly.

- 1 Slide the LVPS into place in the printer frame.
- 2 Make sure you do not trap the Main Switch wires between the LVPS and the printer frame.
- **3** Secure the LVPS with the five screws.
- 4 Reinstall the Main Switch.
- 5 Reconnect the three P/Js to the LVPS.
- 6 Reconnect the Fan inline connector.
- 7 Reinstall the wire harness into the harness clips
- 8 Reinstall the System Controller Housing Assembly and use four screws to secure it to the top of the LVPS.
- 9 Reinstall the Right Cover.
- **10** Reinstall the Top Cover Assembly.
- **11** Verify proper operation.

# REP 4.10.3 AC Driver PWB

# Parts List on PL 11.2

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Top Cover Assembly (REP 4.1.2).
- **3** Remove the Rear Cover Assembly (REP 4.1.3).
- **4** Remove the four screws securing the System Controller Housing Assembly to the LVPS, and tilt the Assembly out of the way (REP 4.10.2).
- 5 Remove the two screws securing the Bracket and AC Driver PWB to the frame (Figure 4.10.3a).

NOTE: The Bracket will fall off when you remove the two screws.

- 6 Disconnect all P/Js that are attached to the AC Driver PWB (Figure 4.10.3a).
- **7** Release the four latches securing the PWB to the printer frame and remove the PWB (Figure 4.10.3a).

#### Figure 4.10.3a. AC Driver PWB.





#### CAUTION

These components are susceptible to electrostatic discharge. Observe all ESD procedures to avoid damage.

- 1 Align the four holes in AC Driver PWB to the four latches on the frame and press the PWB into place.
- 2 Reconnect all the P/Js to the AC Driver PWB.
- **3** Reinstall the Bracket under the frame so it sandwiches SSR1 and SSR2 between it and the frame.
- 4 Use two screws to secure the Bracket and SSR1 and SSR2 to the frame.
- 5 Reinstall the System Controller Assembly and use four screws to secure it to the LVPS.
- 6 Reinstall the Rear Cover Assembly.
- 7 Reinstall the Top Cover Assembly.
- 8 Verify proper operation.

3/99

4-80

# REP 4.10.4 HVPS Assembly

# Parts List on PL 11.2

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Printer Engine Controller PWB (REP 4.10.6)

# -(!)

# CAUTION The PWB is easily broken. Use care when removing the P/Js from the HVPS PWB. Use your fingers to hold down the PWB while you carefully disconnect each P/J.

- 3 Disconnect the five P/Js that are connected to the HVPS PWB (Figure 4.10.4a).
- **4** Remove the two screws, one on the left side and one on the right side, that secure the HVPS Assembly to the printer frame (Figure 4.10.4a).
- **5** Pull out on the HVPS Assembly while your release the two clips, one at the top and one on the right side, that secure the HVPS to the printer frame (Figure 4.10.4a).
- 6 Remove the HVPS Assembly from the frame.



#### Figure 4.10.4a. HVPS Assembly.

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#### CAUTION

These components are susceptible to electrostatic discharge. Observe all ESD procedures to avoid damage.

- 1 Reinstall the HVPS Assembly onto the printer frame.
- 2 Align the two positioning holes on the HVPS with the two tabs on the frame.
- **3** Make sure you do not trap any wire harnesses between the HVPS Assembly and the printer frame.
- 4 Push the HVPS against the frame until the two clips snap into place.
- **5** Use two screws to secure the HVPS Assembly into place on the printer frame.
- 6 Reconnect the five P/Js to the HVPS PWB.
- Blue to BTR
- White to DTS
- White to FB
- Black to CB
- P500
- 7 Reinstall the Printer Engine Controller PWB.
- 8 Verify proper operation.

3/99

4-82

# **REP 4.10.5 Upper Left Cover Interlock Switch Assembly**

# Parts List on PL 11.2

# Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Open the Duplex Unit, if installed, and the Left Upper Cover.
- **3** Remove the Upper Rear Cover Assembly (REP 4.1.3).
- 4 Disconnect the two wires that are connected to the Interlock Switch (Figure 4.10.5a).
- **5** Remove the screw that secures the Interlock Switch Bracket to the printer frame (Figure 4.10.5a).
- 6 Move the switch assembly down and out of the printer.
- 7 Rotate the Switch Actuator Lever so it is straight up, and slide it off of the Bracket.
- 8 Press the two clips securing the Switch to the Bracket and push the Switch out of the Bracket.



Figure 4.10.5a. Upper Left Cover Interlock Switch.

- 1 Position the Switch against the opening in the Bracket so the two wire terminals are on the outside of the Bracket, away from the screw hole.
- 2 Press the Switch into the Bracket.
- **3** Position the Switch Lever against the Switch, with the foot of the Lever facing out.
- 4 Rotate the Switch Lever so it is straight up, and slide it onto the Bracket.
- 5 Press and release the Lever to make sure it is functioning correctly.
- 6 Open the Duplex Unit and the Left Upper Cover.
- 7 Position the Switch Bracket against the printer frame, slightly below the screw hole in the printer frame.
- 8 Raise the Bracket so the aligning key at the bottom of the Switch Assembly matches with the slot in the printer frame.
- **9** Use one screw to secure the Interlock Switch Assembly to the printer frame.
- **10** Open and close the Left Upper Cover to make sure the Switch functions correctly.
- 11 Reconnect the two wires to the Interlock Switch.
- 12 Reinstall the Rear Cover Assembly.
- **13** Verify proper operation.

# REP 4.10.6 Printer Engine Controller PWB

# Parts List on PL 11.2

# Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Upper Rear Cover Assembly (REP 4.1.3).
- **3** Disconnect the 17 P/Js that are connected to the Printer Engine Controller PWB (Figure 4.10.6a).
- 4 Remove the four screws securing the Printer Engine Controller Bracket to the printer frame, and remove the Bracket and Printer Engine Controller PWB (Figure 4.10.6a).

CAUTION These components are susceptible to electrostatic discharge. Observe

all ESD procedures to avoid damage.



### Figure 4.10.6a. Printer Engine Controller.

# Replacement

- 1 Reinstall the Printer Engine Controller PWB Bracket onto the printer frame.
- 2 Make sure you do not trap any wire harnesses between the Bracket and the frame.
- **3** Use four screws to secure the Bracket to the printer frame.
- 4 Reconnect the 17 P/Js to the Printer Engine Controller PWB.

NOTE: Power On Printer and verify operation. If Control Panel displays "Ready", go to step 6 and complete replacement procedures. If the Control Panel displays an error messagem call for assistance before implementing step 5!

- 5 Perform initialization of the Printer Engine Controller PWB:
  - a. Remove the Control Panel (REP 4.1.7).
  - b. Remove the Control Panel Harness from the System Controller Interface PWB (P421) (REP 4.10.9) and connect one end of the harness to P410 on the Printer Engine Controller PWB and the other end to the Control Panel J417.
  - c. Switch the printer power on while pressing the [1] & [3] keys and hold until "Ch-00 Fun-00" is displayed.
  - d. Press the [4] key until "Ch-20 Fun-00" is displayed, then press the [1] key.
  - e. With the 1st digit "0" blinking on "Fun" press the [4] key until "Ch-20 Fun-60" is displayed, then press the [5] key.
  - f. With the 2nd digit "0" blinking on "Fun" press the [4] key until "Ch-20 Fun-67" is displayed, then press the [1] key.
  - g. With the 1st digit "6" blinking on "Fun" press the [5] key.
  - h. With the 2nd digit "7" blinking on "Fun" press the [4] key until "Ch-20 Fun-63" is displayed, then press the [1] key.
  - i. Switch the printer power off when the 1st digit "6" starts blinking on "Fun".

NOTE: If this is a 110 volt printer, skip to step (p). If this is a 220 volt printer, perform all steps.

- j. Switch the printer power on while pressing the [1] & [3] keys and hold until "Ch-00 Fun-00" is displayed.
- k. Press the [4] key until "Ch-20 Fun-00" is displayed, then press the [1] key.
- I. With the 1st digit "0" blinking on "Fun" press the [4] key until "Ch-20 Fun-60" is displayed, then press the [5] key.
- m. With the 2nd digit "0" blinking on "Fun" press the [4] key until "Ch-20 Fun-61" is displayed, then press the [1] key.
- n. Press the [2] key until the 1st digit "2" ON "Ch" is blinking.
- o. Press the [4] key until "Ch-50 Fun-61" is displayed, then press the [1] key.
- p. With the 1st digit "6" blinking on "Fun" press the [4] key until "Ch-50 Fun-21" is displayed, then press the [5] key.
- q. With the 2nd digit "1" blinking on "Fun" press the [4] key until "Ch-50 Fun-22"is displayed, then press the [1] key. The NVM value will be displayed.
- r. Press the [5] key. With the 2nd digit blinking, press the [4] key until NVM "01" is displayed, then press the [1] key.
- s. Press the [0] key twice. Enter "Chn-20 Fun-08" press the [1] key. Change the NVM setting to "NVM 46" and press the [1] key.
- t. Switch the printer power off, remove the Control Panel and harness from the Printer Engine Controller PWB (P410) and reinstall the harness onto the System Controller Interface PWB (P421).
- u. Reinstall the Control Panel.
- v. Reinstall the Top Cover.
- 6 Reinstall the Upper Rear Cover Assembly.
- 7 Switch the printer power on and enter Diagnostics. Perform Adjustment Procedure (5.4.8).
- 8 Perform Overall Lead Edge Registration Adjustment (ADJ 4.1).
- **9** Verify proper operation.

# REP 4.10.7 System Controller PWB

# Parts List on PL 11.3

#### Removal

1 Switch off the printer power and disconnect the AC Power Cord.

NOTE: Inform the customer before disconnecting and network cables from the printer.

- 2 Disconnect any interface cables connected to the System Controller PWB.
- **3** Loosen the two knurled screws that secure the System Controller PWB to the printer (Figure 4.10.7a).
- 4 Slide the System Controller PWB out of the printer.
- 5 Place the System Controller PWB on a flat, non-conductive surface.
- 6 Remove the two screws that secures the Network Interface PWB (if installed) to the panel (Figure 4.10.7a).
- 7 Disconnect the Network Interface PWB (if installed) from J1 on the System Controller PWB.

### Figure 4.10.7a. System Controller.



### Replacement

- 1 Place the System Controller PWB on a flat, non-conductive surface.
- 2 Reinstall the Network Interface PWB (if necessary).
- **3** Slide the System Controller PWB into the printer.
- 4 Tighten the two thumbscrews that secure the System Controller PWB to the printer.
- 5 Reconnect the interface cables to the connectors on the System Controller PWB.
- 6 Verify proper operation.



#### CAUTION

These components are susceptible to electrostatic discharge. Observe all ESD procedures to avoid damage.

# **REP 4.10.8 System Controller PWB Cover**

# Parts List on PL 11.3

# Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Fuser Full Cover (REP 4.1.1).
- **3** Remove the Top Cover Assembly (REP 4.1.2).
- 4 Remove the fourteen screws that secure the System Controller PWB Cover to the System Controller PWB Box.
- 5 Lift the System Controller PWB Cover off of the System Controller PWB Box.



### Figure 4.10.8a. System Controller PWB Cover.

- 1 Reinstall the System Controller PWB Cover onto the top of the System Controller PWB Box.
- 2 Use fourteen screws to secure the System Controller PWB Cover to the System Controller PWB Box.
- 3 Reinstall the Top Cover Assembly.
- 4 Reinstall the Fuser Full Cover.
- **5** Verify proper operation.

# **REP 4.10.9 System Controller Interface PWB**

Parts List on PL 11.3

# Removal



#### CAUTION

These components are susceptible to electrostatic discharge. Observe all ESD procedures to avoid damage.

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Fuser Full Cover (REP 4.1.1).
- 3 Remove the Top Cover Assembly (REP 4.1.2).
- 4 Remove the System Controller PWB (REP 4.10.7)
- 5 Remove the System Controller PWB Cover (REP 4.10.8).
- 6 Disconnect the four connectors from the System Controller Interface PWB (Figure 4.10.9a).
- 7 Disconnect the video cable from the System Controller Interface PWB (Figure 4.10.9a).
- 8 Remove the two 7mm nuts from J423 (Figure 4.10.9a).
- **9** Remove the four screws securing the System Controller Interface PWB to the System Controller PWB Box (Figure 4.10.9a).
- **10** Lift the System Controller Interface PWB out of the System Controller PWB Box.

#### Figure 4.10.9a. System Controller Interface PWB.



- 1 Reinstall the System Controller Interface PWB into the System Controller PWB Box.
- 2 Align the PWB so J423 faces the System Controller PWB location.
- 3 Use two 7mm nuts to secure J423 (do not fully tighten).
- **4** Use four screws to secure the System Controller Interface PWB to the System Controller PWB Box (do not fully tighten).
- 5 Slide the System Controller PWB into the System Controller PWB Box until J11 on the System Controller PWB mates with J423 on the System Controller Interface PWB.

# CAUTION In the next step, do not overtighten the four screws. You might crack the PWB.

6 Tighten the six screws securing the System Controller Interface PWB to the System Controller PWB Box.

3/99

4-90

- 7 Reconnect the four connectors to the System Controller Interface PWB.
- 8 Reconnect the video cable.
- 9 Reinstall the System Controller PWB Cover.
- **10** Reinstall the Top Cover.
- **11** Reinstall the Fuser Full cover.
- **12** Verify proper operation.

# **REP 4.10.10 Toner Sensor**

# Parts List on PL 7.2

## Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Open the Upper Left Cover Assembly.
- **3** Remove the EP Cartridge.
- 4 Remove the Fuser Full Cover (REP 4.1.1).
- 5 Remove the Upper Rear Cover Assembly (REP 4.1.3).
- 6 Remove the Left Cover Interlock Switch Assembly (REP 4.10.5).
- 7 Remove the Main Drive Assembly (REP 4.9.1).
- 8 Disconnect P 127 from the Printer Engine Controller PWB.
- **9** The Toner Sensor is held in place by lock tabs on the front and rear of the sensor body. Use a small screwdriver to pry the front of the Toner Sensor up.
- **10** Remove the Toner Sensor Harness from the harness channel. Remove the Toner Sensor.

#### Figure 4.10.10a. Toner Sensor



- 1 Install the Toner Sensor and press the harness into the harness channel.
- 2 Reconnect the sensor harness to P127 on the Printer Engine Controller PWB.
- **3** Reinstall the Main Drive Assembly.
- 4 Reinstall the Left Cover Interlock Switch Assembly.
- 5 Reinstall the Upper Rear Cover Assembly.
- 6 Reinstall the Fuser Full Cover.
- 7 Reinstall the EP Cartridge and close the Left Upper Cover Assembly.
- 8 Verify proper operation.

# **REP 4.10.11 EP Cartridge Interlock Switch**

# Parts List on PL 7.2

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Open the Upper Left Cover Assembly.
- **3** Remove the EP Cartridge.
- 4 Remove the Upper Rear Cover Assembly (REP 4.1.3).
- **5** Remove the screw that secures the EP Cartridge Interlock Switch to the printer frame (Figure 4.10.11a).
- 6 Disconnect the Interlock Switch inline connector (Figure 4.10.11a).
- 7 Disconnect the two orange wires connected to the Interlock Switch (Figure 4.10.11a).

Figure 4.10.11a. EP Cartridge Interlock Switch.



- 1 Assemble in reverse order.
- 2 Verify proper operation.

# REP 4.10.12 Noise Filter PWB

### Parts List on PL 11.1

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Upper Rear Cover Assembly (REP 4.1.3).
- 3 Disconnect the two wire plug (P19) from the top of the Noise Filter PWB (Figure 4.10.12a).
- **4** Disconnect the white wire from connector FS6 (Figure 4.10.12a).
- **5** Disconnect the black wire from connector FS5 (Figure 4.10.12a).
- 6 Remove the two screws that secure the Noise Filter PWB to the printer frame (Figure 4.10.12a).
- **7** Squeeze the tips of the two locking standoffs and remove the Noise Filter PWB (Figure 4.10.12a).

#### Figure 4.10.12a. Noise Filter.



3/99

4-94

#### Replacement

- 1 Assemble in reverse order.
- 2 Verify proper operation.



#### CAUTION

These components are susceptible to electrostatic discharge. Observe all ESD procedures to avoid damage.

# ADJ 4.1 Overall Lead Edge Registration - Simplex

NOTE: If multiple test prints are desired, enter the system menu and change "COPIES" value from 1 to the desired number. Remember to reset the copies value back to 1 after checking/adjusting registration.

# **Checking Overall Lead Edge Registration - Simplex**

- 1 While in the menu mode, press the [1] key until "TEST MENU" is displayed.
- 2 Press [2] until "TEST PRINT" is displayed.
- 3 Press [4] and the System Controller Test Print will be printed.
- 4 Fold the printed page in half and observe the crease relative to the Vertical Zero Reference Line, Figure 4.1a
- 5 If the crease is within +/- 2.0mm from the Vertical Reference Line, the printer is within specification. If greater than 2.0mm, proceed to *Adjusting Overall Lead Edge Registration*.

# Adjusting Overall Lead Edge Registration - Simplex

- Power printer on while pressing the [2] and [6] keys and hold keys until "\*IOT\*" is displayed.
- 2 Simultaneously press the [4] and [7] keys and after one second release the [7] key only.
- 3 Allow the UI to count from "1" to "3" and when "3" is displayed release the [4] key.
- 4 Press the [1] or [5] key until the UI displays "LASER LEAD REGI ADJUSTMENT".
- 5 Press the [4] key to enter this diagnostic procedure {UI changes to display "LEAD REGI ADJUST SELECT ALL TRAYS"}
- 6 Press the [4] key again to display the current value of all tray Lead Edge Registration. The UI displays, LEAD EDGE REGI ADJUST,NVM Value, and the current value.

NOTE: Value range is from 10 to 50 with 35 being nominal. the larger the value, the closer the Vertical Zero Reference Line will move toward the lead edge. Two increment changes of the NVM value is equivalent to



one reference tick line when adjusting the lead edge registration.

- 7 Press the [3] or [7] keys to change the value of the lead edge registration NVM value.
- 8 Press the [4] key to write the new value into memory
- 9 Wait 10 seconds, then power OFF/ON the printer and generate a System Controller Test Print.
- **10** Check the new lead edge registration. If registration is still out of specification, go to *ADJ 4.2 Individual Lead Edge Registration Simplex.*

### Figure 4.1a. Lead Edge Registration

# ADJ 4.2 Individual Lead Edge Registration - Simplex

NOTE: If multiple test prints are desired, enter the system menu and change "COPIES" value from 1 to the desired number. Remember to reset the copies value back to 1 after checking/adjusting registration.

NOTE: Verify all trays being tested/adjusted contain either A4 paper or 8.5" x 11" paper and that the tray being tested is the only tray installed when generating the test print.

# **Checking Individual Lead Edge Registration - Simplex**

- 1 While in the menu mode, press the [1] key until "TEST MENU" is displayed.
- 2 Press [2] until "TEST PRINT" is displayed.
- 3 Press [4] and the System Controller Test Print will be printed.
- 4 Label printed sheet stating which tray supplied the Test Print.
- **5** Fold the printed page in half and observe the crease relative to the Vertical Zero Reference Line, Figure 4.2a.
- 6 If the crease is within +/- 2.0mm from the Vertical Reference Line, the printer is within specification. If greater than 2.0mm, proceed to *Adjusting Individual Lead Edge Registration Simplex.*

# **Adjusting Individual Lead Edge Registration - Simplex**

- 1 Power printer on while pressing the [2] and [6] keys and hold keys until "\*IOT\*" is displayed.
- 2 Simultaneously press the [4] and [7] keys and after one second release the [7] key only.
- 3 Allow the UI to count from "1" to "3" and when "3" is displayed release the [4] key.
- 4 Press the [1] or [5] key until the UI displays "LASER LEAD REGI ADJUSTMENT".
- 5 Press the [4] key to enter this diagnostic procedure {UI changes to display "LEAD REGI ADJUST SELECT ALL TRAYS"}
- 6 Press the [1] or [5] key to highlight the tray that is out of specification. {Select Tray 1, Select Tray 2-5, Select Tray MBF, or Select Tray ENV}.
- 7 Press the [4] key again to display the current value of the desired tray's Lead Edge Registration. The UI displays, LEAD EDGE REGI ADJUST, NVM Value, and the current value.
- NOTE: Value range is from 0 to 16 with 8 being nominal. the larger the value, the closer the Vertical Zero Reference Line will move toward the lead edge. Two increment changes of the NVM value is equivalent to one reference tick line when adjusting the lead edge registration.
- 8 Press the [3] or [7] keys to change the value of the lead edge registration NVM value.
- 9 Press the [4] key to write the new value into memory
- **10** Wait 10 seconds, then power OFF/ON the printer and generate a System Controller Test Print.
- 11 Check the new lead edge registration. If registration is still out of specification, repeat steps 1-10. Repeat check/adjustment for each input tray. If registration is within specification and the duplex option is installed, go to *ADJ 4.3 Overall Lead Edge Registration - Duplex*. If a duplex option is not installed, go to ADJ 4.4 *Overall Side Edge Registration - Simplex*.



Figure 4.2a. Lead Edge Registration

# ADJ 4.3 Overall Lead Edge Registration - Duplex

NOTE: If multiple test prints are desired, enter the system menu and change "COPIES" value from 1 to the desired number. Remember to reset the copies value back to 1 after checking/adjusting registration.

# **Checking Overall Lead Edge Registration - Duplex**

- 1 While in the menu mode, press the [1] key until "SYSTEM MENU" is displayed.
- 2 Press [2] key until "DUPLEX" is displayed.
- 3 Press the [3] or [7] key to highlight "LONG EDGE".
- 4 Press [4] and the Duplex Option will be selected.
- 5 Press the [1] key until "TEST MENU" is displayed
- 6 Press [2] until "TEST PRINT" is displayed.
- 7 Press [4] and the System Controller Test Print will be printed.

**NOTE:** Use the second imaged side, delivered face down to the face-down bin, as the side for duplex checking/adjustment.

- 8 Fold the printed page in half and observe the crease relative to the Vertical Zero Reference Line, Figure 4.3a.
- **9** If the crease is within +/- 2.0mm from the Vertical Reference Line, the printer is within specification. If greater than 2.0mm, proceed to *Adjusting Overall Lead Edge Registration Duplex.*

# **Adjusting Overall Lead Edge Registration - Duplex**

- 1 Power printer on while pressing the [2] and [6] keys and hold keys until "\*IOT\*" is displayed.
- 2 Simultaneously press the [4] and [7] keys and after one second release the [7] key only.
- 3 Allow the UI to count from "1" to "3" and when "3" is displayed release the [4] key.
- 4 Press the [1] or [5] key until the UI displays "LASER LEAD REGI ADJUSTMENT".
- 5 Press the [4] key to enter this diagnostic procedure {UI changes to display "LEAD REGI ADJUST SELECT ALL TRAYS"}
- 6 Press the [1] or [5] key until the UI displays "LEAD REGI ADJUST SELECT TRAY DUP".
- 7 Press the [4] key again to display the current value of all tray duplex Lead Edge Registration. The UI displays, LEAD EDGE REGI ADJUST, NVM Value, and the current value.
- NOTE: Value range is from 0 to 16 with 8 being nominal. the larger the value, the closer the Vertical Zero Reference Line will move toward the lead edge. Two increment changes of the NVM value is equivalent to one reference tick line when adjusting the lead edge registration. There is no Duplex Lead Edge Registration Adjustment for each tray.
- 8 Press the [3] or [7] keys to change the value of the lead edge registration NVM value.
- 9 Press the [4] key to write the new value into memory
- **10** Wait 10 seconds, then power OFF/ON the printer and generate a System Controller Test Print.
- **11** Check the new lead edge registration. If registration is still out of specification, repeat steps 1-10. If registration is within specification, go to ADJ 4.4 *Overall Side Edge Registration Simplex.*



Figure 4.3a. Lead Edge Registration
### ADJ 4.4 Overall Side Edge Registration - Simplex

NOTE: If multiple test prints are desired, enter the system menu and change "COPIES" value from 1 to the desired number. Remember to reset the copies value back to 1 after checking/adjusting registration.

#### **Checking Overall Side Edge Registration - Simplex**

- 1 While in the menu mode, press the [1] key until "TEST MENU" is displayed.
- 2 Press [2] until "TEST PRINT" is displayed.
- 3 Press [4] and the System Controller Test Print will be printed.
- **4** Fold the printed page in half and observe the crease relative to the Horizontal Zero Reference Line, Figure 4.4a.
- 5 If the crease is within +/- 2.0mm from the Horizontal Reference Line, the printer is within specification. If greater than 2.0mm, proceed to *Adjusting Overall Side Edge Registration Simplex.*

#### Adjusting Overall Side Edge Registration -Simplex

- 1 Power printer on while pressing the [2] and [6] keys and hold keys until "\*IOT\*" is displayed.
- 2 Simultaneously press the [4] and [7] keys and after one second release the [7] key only.
- 3 Allow the UI to count from "1" to "3" and when "3" is displayed release the [4] key.
- 4 Press the [1] or [5] key until the UI displays "LASER SIDE REGI ADJUSTMENT".
- 5 Press the [4] key to enter this diagnostic procedure {UI changes to display "LASER SIDE REGI SELECT ALL TRAYS"}
- 6 Press the [4] key again to display the current value of all tray Side Edge Registration. The UI displays, LASER SIDE REGI, NVM Value, and the current value.

NOTE: Value range is from 1 to 99 with 50 being nominal. the larger the value, the closer the Horizontal Zero Reference Line will move toward the top edge of the page. Two increment changes of the NVM value is equivalent to one reference tick line when adjusting the side edge registration.

- 7 Press the [3] or [7] keys to change the value of the side edge registration NVM value.
- 8 Press the [4] key to write the new value into memory
- 9 Wait 10 seconds, then power OFF/ON the printer and generate a System Controller Test Print.
- **10** Check the new side edge registration. If registration is still out of specification, repeat steps 1- 10. If registration is within specification, go to ADJ 4.5 *Individual Side Edge Registration Simplex.*



Figure 4.4a. Side Edge Registration

### ADJ 4.5 Individual Side Edge Registration - Simplex

NOTE: If multiple test prints are desired, enter the system menu and change "COPIES" value from 1 to the desired number. Remember to reset the copies value back to 1 after checking/adjusting registration.

NOTE: Verify all trays being tested/adjusted contain either A4 paper or 8.5" x 11" paper and that the tray being tested is the only tray installed when generating the test print.

#### Checking Individual Side Edge Registration - Simplex

- 1 While in the menu mode, press the [1] key until "TEST MENU" is displayed.
- 2 Press [2] until "TEST PRINT" is displayed.
- **3** Press **[4]** and the System Controller Test Print will be printed.
- **4** Fold the printed page in half and observe the crease relative to the Horizontal Zero Reference Line, Figure 4.5a.
- 5 If the crease is within +/- 2.0mm from the Horizontal Zero Reference Line, the printer is within specification. If greater than 2.0mm, proceed to *Adjusting Individual Side Edge Registration Simplex.*

#### Adjusting Individual Side Edge Registration - Simplex

- 1 Power printer on while pressing the [2] and [6] keys and hold keys until "\*IOT\*" is displayed.
- 2 Simultaneously press the [4] and [7] keys and after one second release the [7] key only.
- 3 Allow the UI to count from "1" to "3" and when "3" is displayed release the [4] key.
- 4 Press the [1] or [5] key until the UI displays "LASER SIDE REGI ADJUSTMENT".
- 5 Press the [4] key to enter this diagnostic procedure {UI changes to display "LASER SIDE REGI SELECT ALL TRAYS"}
- 6 Press the [1] or [5] key to highlight the tray that is out of specification. {Select Tray 1, Select Tray 2-5, Select Tray MBF, or Select Tray ENV}.
- 7 Press the [4] key again to display the current value of all tray Side Edge Registration. The UI displays, LASER SIDE REGI, NVM Value, and the current value.
- NOTE: Value range is from 1 to 99 with 50 being nominal. the larger the value, the closer the Horizontal Zero Reference Line will move toward the top edge of the page. Two increment changes of the NVM value is equivalent to one reference tick line when adjusting the side edge registration.
- 8 Press the [3] or [7] keys to change the value of the side edge registration NVM value.
- 9 Press the [4] key to write the new value into memory
- **10** Wait 10 seconds, then power OFF/ON the printer and generate a System Controller Test Print.
- 11 Check the new side edge registration. If registration is still out of specification, repeat steps 1- 10. Repeat check/adjustment for each input tray. If registration is within specification and the duplex option is installed, go to *ADJ 4.6 Overall Side Edge Registration - Duplex*. If a duplex option is not installed, go to Final Actions.



Figure 4.5a. Side Edge Registration

### ADJ 4.6 Overall Side Edge Registration - Duplex

NOTE: If multiple test prints are desired, enter the system menu and change "COPIES" value from 1 to the desired number. Remember to reset the copies value back to 1 after checking/adjusting registration.

#### **Checking Overall Side Edge Registration - Duplex**

- 1 While in the menu mode, press the [1] key until "SYSTEM MENU" is displayed.
- 2 Press [2] key until "DUPLEX" is displayed.
- 3 Press the [3] or [7] key to highlight "LONG EDGE".
- 4 Press [4] and the Duplex Option will be selected.
- 5 Press the [1] key until "TEST MENU" is displayed
- 6 Press [2] until "TEST PRINT" is displayed.
- 7 Press [4] and the System Controller Test Print will be printed.

NOTE: Use the second imaged side, delivered face down to the face-down bin, as the side for Duplex checking/adjustment.

- 8 Fold the printed page in half and observe the crease relative to the Horizontal Zero Reference Line, Figure 4.6a.
- **9** If the crease is within +/- 2.0mm from the Horizontal Zero Reference Line, the printer is within specification. If greater than 2.0mm, proceed to *Adjusting Overall Side Edge Registration Duplex.*

#### Adjusting Overall Side Edge Registration - Duplex

- 1 Power printer on while pressing the [2] and [6] keys and hold keys until "\*IOT\*" is displayed.
- 2 Simultaneously press the [4] and [7] keys and after one second release the [7] key only.
- 3 Allow the UI to count from "1" to "3" and when "3" is displayed release the [4] key.
- 4 Press the [1] or [5] key until the UI displays "LASER SIDE REGI DUPLEX ADJUSTMENT".
- 5 Press the [4] key to enter this diagnostic procedure {UI changes to display "DUP SIDE REGI ADJ SELECT ALL TRAYS"}
- 6 Press the [4] key again to display the current value of the desired tray's Side Edge Registration. The UI displays, LASER SIDE REGI, NVM Value, and the current value.

NOTE: Value range is from 1 to 99 with 50 being nominal. the larger the value, the closer the Horizontal Zero Reference Line will move toward the top edge of the page. Two increment changes of the NVM value is equivalent to one reference tick line when adjusting the Side Edge Registration.

- 7 Press the [3] or [7] keys to change the value of the side edge registration NVM value.
- 8 Press the [4] key to write the new value into memory
- 9 Wait 10 seconds, then power OFF/ON the printer and generate a System Controller Test Print.
- **10** Check the new side edge registration. If registration is still out of specification, repeat steps 1-10. Repeat check/adjustment for each input tray. If registration is within specification, go to *ADJ 4.3*

3/99

4-104

Overall Lead Edge Registration - Duplex. If a duplex option is not installed, go to ADJ 4.7 Individual Side Edge Registration - Duplex.



Figure 4.6a. Side Edge Registration

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### ADJ 4.7 Individual Side Edge Registration - Duplex

- NOTE: If multiple test prints are desired, enter the system menu and change "COPIES" value from 1 to the desired number. Remember to reset the copies value back to 1 after checking/adjusting registration.
- NOTE: Verify all trays being tested/adjusted contain either A4 paper or 8.5" x 11" paper and that the tray being tested is the only tray installed when generating the test print.

#### **Checking Individual Side Edge Registration - Duplex**

- 1 While in the menu mode, press the [1] key until "SYSTEM MENU" is displayed.
- 2 Press [2] key until "DUPLEX" is displayed.
- 3 Press the [3] or [7] key to highlight "LONG EDGE".
- 4 Press [4] and the Duplex Option will be selected.
- 5 Press the [1] key until "TEST MENU" is displayed
- 6 Press [2] until "TEST PRINT" is displayed.
- 7 Press [4] and the System Controller Test Print will be printed.

NOTE: Use the second imaged side, delivered face down to the face-down bin, as the side for duplex checking/adjustment.

- 8 Fold the printed page in half and observe the crease relative to the Horizontal Zero Reference Line, Figure 4.7a.
- **9** If the crease is within +/- 2.0mm from the Horizontal Zero Reference Line, the printer is within specification. If greater than 2.0mm, proceed to *Adjusting Individual Side Edge Registration Duplex.*

#### Adjusting Individual Side Edge Registration - Duplex

- 1 Power printer on while pressing the [2] and [6] keys and hold keys until "\*IOT\*" is displayed.
- 2 Simultaneously press the [4] and [7] keys and after one second release the [7] key only.
- 3 Allow the UI to count from "1" to "3" and when "3" is displayed release the [4] key.
- 4 Press the [1] or [5] key until the UI displays "LASER SIDE REGI DUPLEX ADJUST".
- 5 Press the [4] key to enter this diagnostic procedure {UI changes to display "DUP SIDE REGI ADJ SELECT ALL TRAYS"}
- 6 Press the [1] or [5] key to highlight the tray that is out of specification. {Select Tray 1, Select Tray 2-5, Select Tray MBF, or Select Tray ENV}.
- 7 Press the [4] key again to display the current value of the desired tray's Duplex Side Edge Registration. The UI displays, DUP SIDE REGI ADJ, NVM Value, and the current value.
  - **NOTE:** Value range is from 1 to 99 with 50 being nominal. the larger the value, the closer the Horizontal Zero Reference Line will move toward the top edge of the page. Two increment changes of the NVM value is equivalent to one reference tick line when adjusting the Side Edge Registration.
- 8 Press the [3] or [7] keys to change the value of the duplex side edge registration NVM value.
- 9 Press the [4] key to write the new value into memory

- **10** Wait 10 seconds, then power OFF/ON the printer and generate a System Controller Test Print.
- **11** Check the new side edge registration. If registration is still out of specification, repeat steps 1-10. Repeat check/adjustment for each input tray. If registration is within specification, go to *Final Actions*



#### Figure 4.7a. Side Edge Registration

### **ADJ 4.8 Finisher Leveling Procedure**

# Alignment Front

Using a 100 mm scale measure the distance from the lower edge of the transport to the top cover of the printer. Fig 1 area A + B

A = 128 mm (+2mm / -3mm)

B = 128 mm (+2mm / -3mm)



# Alignment Rear

Using a 100 mm scale measure the distance between the lower edge of the transport cover to the (left and right side) the top cover of the printer. Fig 2 area A + B

A = 20 mm (+2mm / -3mm)

B = 20 mm (+2mm / -3mm)



# Adjustment

Loosen the 4 caster jam nuts on the finisher.

Adjust the the Finisher alignment front and rear.

Turn caster studs conterclockwise to lower finisher

Turn caster studs clockwise to raise finisher.

Recheck aligment front and rear.

Tighten caster jam nuts once adjusted.

## Notes

3/99

4-108

The HCF casters are not adjustable.

If finisher and printer are moved realignment of the finisher may be required. This Page Intentionally Left Blank.

Notes:

## **Section 5**

## **General Procedures**

5.1 Precautions	5-5
5.1.1 General Safety Precautions	5-5
5.1.2 Service Precautions	5-5
5.1.3 ESD Precautions	5-6
5.1.4 Laser Safety	5-6
5.2 Printer Control Panel	5-7
5.2.1 Key Panel	5-7
5.3 Printer Modes (Overview)	
5.3.1 On Line	5-10
5.3.2 Power Saver	5-10
5.3.3 Diagnostics	5-11
5.3.4 Menu	5-11
5.4 Diagnostics Mode	
5.4.1 Diagnostic Mode Routines and Subroutines	
5.4.2 Control Panel Functions	
5.4.3 How to Enter Diagnostic Mode	5-13
5.4.4 Running a Printer Engine Controller Test Print	5-14
5.4.5 Running a Service Output Test	5-15
5.4.6 Running a Service Sensor (H/L) Input Test	5-19
5.4.7 Running a Service Sensor (A/D) Input Test	5-24
5.4.8 Adjustment Procedures	5-27

I

5.5 Menu Mode - Version 1.7X and Below	5-33
5.5.1 Menu Tree	
5.5.2 Accessing a Major Menu	5-35
5.5.2.1 Job Menu	5-36
5.5.2.2 Test Menu	5-36
5.5.2.2.1 Running a Configuration Sheet	5-36
5.5.2.2.2 Running a Test Print	5-37
5.5.2.2.3 Running a Demo Page	
5.5.2.2.4 Running a Menu Map	5-37
5.5.2.2.5 Running a Disk Directory	5-37
5.5.2.3 Novell Menu	5-38
5.5.2.4 Ethernet Menu	5-38
5.5.2.5 Parallel Menu	
5.5.2.6 System Menu	5-40
5.5.2.7 PostScript Menu	
5.5.2.8 PCL Menu	
5.5.2.9 Tray Menu	5-43
5.5.2.10 Reset Menu	5-44
5.5.2.11 Password Menu	
5.5.2.12 Token Ring Menu	
5.5.2.13 Serial Menu	5-46
5.6 Menu Mode - Version 1.8X	5-47
5.6.1 Menu Tree	
5.6.2 Accessing a Major Menu	5-49
5.6.2.1 Job Menu	5-50
5.6.2.2 Print Menu	5-50
5.6.2.2.1 Running a Configuration Sheet	5-50
5.6.2.2.2 Running a Test Print	5-51
5.6.2.2.3 Running a PCL Demo	5-51
5.6.2.2.4 Running a Menu Map	5-51
5.6.2.2.5 Running a Disk Directory	5-51
5.6.2.3 Novell Menu	5-52
5.6.2.4 Ethernet Menu	5-52
5.6.2.5 Parallel Menu	5-54
5.6.2.6 System Menu	
5.6.2.7 PCL Menu	
5.6.2.8 Tray Menu	
5.6.2.9 Token Ring Menu	5-58

I

5.6.2.11 Password Menu	5-59
5.6.2.12 Serial Menu	5-60
5.7 Space Requirements	5-61
5.8 Tools and Supplies	5-62
5.8.1 Tools 5.8.2 Supplies	5-62 5-62
5.9 Product Codes	5-63
5.9.1 Printers Product Codes 5.9.2 Options Product Codes	5-63 5-64
5.10 Maintenance Reset Procedure	5-65
5.10.1 Maintenance Kit Counter Reset Procedure	5-65
5.11 System Boot Code / Software Download Procedures	5-66
5.11.1 System Boot Code Download Procedure 5.11.2 System Software Download Procedure	5-66 5-67
5.12 Tag Matrix	5-68
5.13 Technical Bulletins	5-74
5.14 Glossary of Terms, Acronyms, and Abbreviations	5-76

I

> 3/99 5-3

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## 5.1 Precautions

The four subsections below focus on the four kinds of precautions important to service persons:

- General safety precautions needed by everyone using or handling the printer.
- Precautions needed by anyone servicing the printer.
- Additional service precautions specifically related to Electrostatically Sensitive Devices (ESDs).
- Laser Safety

Read each of these precautions carefully.

### 5.1.1 General Safety Precautions

- 1 Do not use this printer near water, or where any kind of liquid can spill on it, and do not expose it to inclement weather.
- 2 Make sure the printer is on a stable surface, and that the surface is large enough (table, desktop, workbench, etc...) to keep the printer from being accidentally knocked to the floor.
- **3** The printer's ventilation slots are designed to prevent overheating. Make sure these slots are not covered or blocked. Don't put the printer in any enclosure that doesn't permit full ventilation.
- 4 Never insert objects of any kind into the printer through the ventilation slots. Such objects may touch dangerous high voltage points, causing electric shock, a short circuit, or a fire.
- **5** Use only a grounded power source. If you are not sure of the type of power available, consult your dealer or the local power company.
- 6 Make sure no one can trip on the power cord or communication cable, and that no weight is placed on them.
- 7 Avoid touching the surface of the photo-sensitive drum. The surface is easily marked, and any scratch or mark can affect print quality.
- 8 Don't expose the print cartridge to direct light for long periods.
- 9 Follow the directions in Section 2, "Paper Specifications," on the proper choice of paper.
- **10** Before cleaning, disconnect the AC power. Use only a damp cloth for cleaning. Do not use liquid cleaners or aerosol sprays.

### 5.1.2 Service Precautions

- 1 Before disassembly, disconnect the AC power.
- 2 Replace parts only with the correct Xerox parts.
- 3 Pay attention to the proper orientation of parts when mounting or inserting them.
- **4** Pay particular attention to the Electrostatically Sensitive Device (ESD) precautions, since failure to follow them can seriously damage the unit.

### 5.1.3 ESD Precautions



CAUTION These components are susceptible to electrostatic discharge. Observe all ESD procedures to avoid damage.

Semiconductor (solid state) devices that are easily damaged by static electricity are called Electrostatically Sensitive Devices. Examples are integrated circuits (ICs), large-scale integrated circuits (LSIs), semiconductor chip components, and some field-effect transistors.

The following techniques are designed to reduce the danger of damage to printer components as a result of static electricity.

- 1 Check and observe all the safety and servicing precautions.
- 2 Before handling any circuit board or wiring assembly, perform the ESD procedures.
- NOTE: To avoid the danger of shock, be sure to remove the wrist strap before powering up the unit under test.
  - **3** Place any sensitive assemblies on a conductive surface. This will prevent accumulation of static electricity.
  - **4** Do not use freon-propelled chemicals. These can generate enough static charge to damage sensitive components.
  - **5** Do not remove a replacement component from its protective package until you are ready to install it. Most replacement components are packaged with leads that are electrically shorted together by conductive foam, aluminum foil, or other conductive material.
  - 6 Immediately before removing the protective material from the component, touch the protective material to the printer chassis or the circuit assembly in which the device will be installed.
  - 7 Minimize body motions when handling unpackaged replacement components. Even such simple motions as clothes brushing together or a foot being lifted from a carpet can generate enough static electricity to cause damage.

#### 5.1.4 Laser Safety

The DocuPrint N24/N32/N40 printer contains a Class I Laser. All laser safety information is contained on pages iii and iv in the front of this manual.

## **5.2 Printer Control Panel**

### 5.2.1 Key Panel

The Key Panel (Figure 5.2.1a) includes four indicator LEDs, a 2x16-character LCD display, and 8 function keys.

The four Indicator LEDs, three green (On Line, Form Feed, and Data), one red (Fault) indicate the printer status.

○ ← On Line Form Feed Fault Data	Ready	On Line $\blacksquare$ Menu $\rightarrow$ Item $\Rightarrow$ Value $\swarrow 0$ $\land 1$ $\land 2$ $+ 3$ $\swarrow 4$ $\checkmark 5$ $\checkmark 6$ $- 7$ Enter
Data 🔛		Enter
		SER774Y

Figure 5.2.1a. Key Panel.

The table below (5.2.1a) shows the relationship between printer mode, printer status, and LED signals

LED	Description
l← On Line	Glows when the printer is Ready to receive print data from the computer. It flashes when the printer is receiving and/or processing data.
On Line	
(Green)	
Form Feed	The LED is turned On when the printer experiences a for feed timeout. A Form Feed timeout is when PCL job has formatted a partial page, the printer is waiting for more data in order to continue processing the job, and a 15 second timeout period has expired with no new data arriving in the input buffer. The timeout applies to all ports.
Form Feed (Green)	The Form Feed light is turned off when either an actual Form Feed character is received or the Form Feed function is invoked by pressing [4] on the control panel when in the Job Menu and the Form Feed is displayed.

#### Table 5.2.1a. Control Panel LEDs

#### Table 5.2.1a. Control Panel LEDs

LED	Description	
Fault	Glows to show that an Error/Fault has occurred and operator intervention is required in order to allow printing to continue.	
Fault		
(Red)		
olion dollon dollon Data	When On Line, this LED flashes to indicate that data are being processed by either Postscript, PCL, PJL, or is being spooled to the disk. If data are not being processed, or either Postscript or PCL is processing a job but waiting for data (input buffer empty), this LED is Off.	
Data (Green)	When the LED flashes, data are being received by one of the emulation (i.e., Postscript, PCL, or PJL). When a secure or proof job is sent to the printer, this LED flashes while the job is being received, even though data are not being processed or printed.	
	This LED also flashes during processing of spooled jobs when one of the emulations processes a job and the input is filled from the disk rather than from one of the host interfaces.	

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There are eight keys on the control panel. Their functions are as shown in the table below.

Кеу	Description
	Sets the printer On Line and Off Line.
On Line	When On Line, the printer is ready to receive, or has already accepted, data for printing.
On Line (0)	You must take the printer Off Line to set menus, perform Off Line print tests, and do other manual tasks.
	Cycles the display forward through the major menus.
<b>∃</b> Menu	
Menu Up (1)	
	Cycles the display forward through the items in each submenu.
$\rightarrow_{Item}$	
Item Up (2)	
	Cycles the display forward through the values for each submenu item.
Value	The current setting is indicated by an asterisk (*) at the right edge of the display.
Value Up (3)	
Enter	Sets the displayed value of the currently displayed menu item, or exe- cutes the currently displayed Off Line print test.
Enter (4)	
(No Label Indication) <b>Menu Down (5)</b>	Cycles the display backward through the major menus.
(No Label Indication) Item Down (6)	Cycles the display backward through the items in each submenu.
(No Label Indication)	Cycles the display backward through the values for each submenu item.
value Down (7)	The current setting is indicated by an asterisk (*) at the right edge of the display.

Table 5.2.1b Control Panel Keys

A 2x16-character liquid crystal display is used to indicate:

- Status Messages
- Menu Settings
- Fault Conditions

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• Service Messages

DocuPrint N24, N32 and N40 Service Manual

## 5.3 Printer Modes (Overview)

The DocuPrint N24/N32/N40 printer has four modes of operation, each with its own set of options.

- On Line Mode
- Power Saver Mode
- Diagnostic Mode
- Menu Mode

### 5.3.1 On Line

On Line is the printer's normal operating mode. In this mode, the printer is On Line, under the control of the System Controller, and ready to generate output. On Line Mode occurs automatically when the printer is connected to AC power and the power ON/OFF switch is switched ON.

If the printer goes out of the On Line Mode during operation, On Line may be restored by pressing the On Line key on the Key Panel.

When the printer is in On Line Mode, the "On Line" LED on the Key Panel is lit. When the "On Line" LED is blinking, the printer is receiving or processing data, or printing. When the "On Line" LED is on steady, it indicates data reception, transmission, analysis, and printing are allowed.

### 5.3.2 Power Saver

The printer has the Power Saver Mode has a default setting to reduce power consumption by reducing the temperature of the fusing unit. If no data is supplied from the computer or no key operation is performed, the printer enters the power saver state.

The Power Saver Mode can be set by the operator from the System Menu (5.5.2.6) for Software 1.7X and lower or (5.6.2.6) for Software 1.8X. The Power Saver Mode can be preset in either Off, 15, 30, 60, 90, 120, or 180 minutes.

3/99

5-10

However when the printer is in the power saver state, it takes longer to start printing the first page because it takes some time to raise the temperature of the fusing unit.

### 5.3.3 Diagnostics

Diagnostics are built into the Printer Engine Controller PWB. You use the printer Control Panel to access Diagnostic Mode (5.4) so you can run the various diagnostic routines that are available. Diagnostics allow you to test various components and subsystems within the printer.

You can use Diagnostic Mode to:

- ٠ Check the operation of switches and sensors
- Test various motors, solenoids, and clutches •
- Generate test patterns to check printer operation and xerographic functions •
- Change registration settings

#### 5.3.4 Menu

Menu Mode utilizes the Key Panel to set various printer operations, print configuration sheets, print test prints, and print demo prints.

The Menu Mode also allows you to set, change, or adjust the various features/options available in the DocuPrint N24/N32/N40 printer. If an option is not installed, the menu items for that option will not be displayed.

The selections for the Menu Mode and the instructions for each of the selections is contained in Menu Mode Procedures (5.5) for Software 1.7X and lower or (5.6) for Software 1.8X.

## 5.4 Diagnostics Mode

### 5.4.1 Diagnostic Mode Routines and Subroutines

While in this Diagnostic Mode you have access to a variety of test functions:

- Test Print Generate a built-in Test Pattern.
- Service Output Test Switch on and off a specific component, such as a motor or solenoid.
- Service Sensor (H/L) Input Test) Check the signal level (on/off) coming from a specific sensor.
- Service Value (A/D) Input Test) Check the value of a signal coming from a specific sensor.
- Adjustment Procedures
   Checks the NVM value of a specific component.

### **5.4.2 Control Panel Functions**

The following figure displays the functions of the Control Panel when the Control Panel is connected to the System Controller PWB.



3/99

5-12

### 5.4.3 How to Enter Diagnostic Mode

#### 5.4.3.1 Entering Diagnostics

- 1 Press and hold [2] and [6] while you switch the printer power on.
- 2 When the Control Panel (Figure 5.4.3.a) displays IOT, release [2] and [6]
- **3** Within 5 seconds press either of the following keys depending on the test to be run:

NOTE: [4] will allow you to enter the "IOT Test Print Diagnostics". [7] will allow you to enter

> Service Value (A/D) Input Test Service Sensor (H/L) Input Test Service Output Test

4 The printer is now in Diagnostic Mode



Figure 5.4.3.a. Control Panel

### 5.4.3.2 How to exit Diagnostics from the System Controller Interface PWB

1 If you are finished with Diagnostics, Switch off the printer power

3/99

NOTE: [4] and [7] together, then release [7], while holding [4] until the UI counts to "3", then release [4] will allow you to enter the NVM diagnostics.

### 5.4.4 Running a Printer Engine Controller Test Print

Use this routine to run a Printer Engine Controller Test Print.

1 Enter Diagnostic Mode (5.4.3.1).

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- 2 The printer is in Diagnostic Mode. (UI displays "\*IOT\*")
- 3 Within 5 seconds press [4] and display will change to "Please Wait/Test Print(s) 00"
- NOTE: It will change to "Ready to Print/Test Print(s) 00" when the Fuser warms up. If a hard problem fault message is displayed during power up, the printer will display the fault code at the bottom of the display.
  - **4** Press [4] and the printer will print a Grid Pattern Test Print from Tray 1 to the Face Down Output Bin.
  - 5 When you have finished with this test, switch off the printer power to exit Diagnostic Mode.

### 5.4.5 Running a Service Output Test

Use this Diagnostic routine to actuate printer components such as motors, solenoids, and clutches. You can run multiple output tests simultaneously.

- 1 Enter Diagnostic Mode using [7].
- 2 The printer is in Diagnostic Mode.
- 3 Press [1] to scroll to the "Service Output Test".
- 4 Press [4] to display the 1st test from the Main Menu selection in the table (Table 5.4.5a).
- **5** Press [1] to scroll up or [5] to scroll down through the menu selection to find the desired Output Test.
- 6 Press [4] when the desired Output Test is displayed. The test will automatically stop after 2 minutes.
- 7 If the desired test has a sub test then press [1] to scroll up or [5] to scroll down through the sub test items.

Press [4] again when the desired sub test is displayed. The test will automatically stop after 2 minutes.

- 8 Press [2] to return to the Output Test.
- **9** Repeat steps 5 7 until all desired Output Tests are complete.
- **10** When you have finished running the Service Output Test, Press [2] to exit to the top of the Diagnostic Mode, or switch off the printer power to exit Diagnostic Mode.

Main Menu Selection	Sub Menu Selection	Comment
MAIN MOTOR ON/OFF		Energizes the main motor for 5 seconds
FANS MOTOR HIGH SPEED		
	FUSER FAN	Fuser Fan changes from mid to high rota- tion for 2 minutes
	LVPS FAN	LVPS Fan changes from mid to high rota- tion for 2 minutes
ROS MOTOR SPEED		
	600 dpi	Rotates Laser Motor at speed for 600 dpi resolution for 2 minutes
	480 dpi	Rotates Laser Motor at speed for 480 dpi resolution (power off to stop motor)
	STANDBY	Put Laser Motor into standby (power off to stop motor)
LIFT UP MOTOR OPERATION		NOTE: Open and close the appropriate tray to ensure it is in the down position.
	SELECT TRAY 1	When tray level sensor shows down, turn lift up motor for 2 seconds
	SELECT TRAY 2	When tray level sensor shows down, turn lift up motor for 2 seconds

Table 5.4.5a. Output Test Table

Table 5.4.5a. Output Test Table

Main Menu Selection	Sub Menu Selection	Comment
	SELECT TRAY 3	When tray level sensor shows down, turn lift up motor for 2 seconds
	SELECT TRAY 4	When tray level sensor shows down, turn lift up motor for 2 seconds
	SELECT TRAY 5	When tray level sensor shows down, turn lift up motor for 2 seconds
HCF FEED MOTOR OPERATION		Energizes HCF feed motor operation for 2 minutes
ENV FEED MOTOR OPERATION		Energizes envelope feed motor operation
CLUTCH OPERATION		
	REGI	Energizes Clutch Power off to deenergize
	INVERT CW	Energizes clutch for 2 seconds
	INVERT CCW	Energizes clutch for 2 seconds
FEED CLUTCH OPERATIONS		Energizes the clutch for a given tray
	SELECT TRAY 1	Power off to deenergize
	SELECT TRAY 2	Power off to deenergize
	SELECT TRAY 3	Power off to deenergize
	SELECT TRAY 4	Power off to deenergize
	SELECT TRAY 5	Power off to deenergize
	SELECT MBF/ENV	Power off to deenergize
DUPLEX OPERATION SELECTIONS		
	EXIT GATE SOLENO	Energizes solenoid for 2 seconds
	WAIT CLUTCH	Energizes clutch for 2 second
	MOTOR (SLOW)	Motor runs for 2 minutes
	MOTOR (FAST)	Power off to stop motor
DEVE BIAS		
BCR		
	AC	
	DC	
BTR		
	SEL	
	RMT	
DTS		

3/99

5-16

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#### Table 5.4.5a. Output Test Table

Main Menu Selection	Sub Menu Selection	Comment
OFFSET MOTOR ROTATIONS		<b>NOTE:</b> Each test will run for 2 minutes if entered into directly from power on diagnostics. If a second test is selected after the 2 minute timer runs out without powering off and on, the second test will not stop until power off is pressed.
	NORMAL ROTATION	
	REVERSE ROTATION	
EXIT GATE SOLENOID		Switches gate to face-up bin Power off to deenergize
INVERT CLUTCH CONTROL		
	Invert clutch Invert CCW	Toggle between CCW and CW to energize clutch
	Invert clutch Invert CW	Power off to deenergize
MBX MOTOR ON/OFF		Energizes Mailbox Motor
MBX SOLENOID GATES		Energizes Mailbox Gates
	GATE IN PULL	Gate is opened, MBX bin is ready for output
	GATE IN PUSH	Gate closes
	2 BIN GATE	Gate 2 solenoid energizes
	3 BIN GATE	Gate 3 solenoid energizes
	4 BIN GATE	Gate 4 solenoid energizes
	5 BIN GATE	Gate 5 solenoid energizes
	6 BIN GATE	Gate 6 solenoid energizes
	7 BIN GATE	Gate 7 solenoid energizes
	8 BIN GATE	Gate 8 solenoid energizes
	9 BIN GATE	Gate 9 solenoid energizes
	10 BIN GATE	Gate 10 solenoid energizes
FINISHER OPERATIONS		
	GATE IN SO PULL	Toggle between push and pull to
	GATE IN SO PUSH	Open and close gate
	FINISHER TRANSP. MOTOR	Power off to stop motor
	TAMPER FRONT	Toggle between front and rear to observe
	TAMPER REAR	tamper operation
	COMPILER U/D SO.	Power off to deenergize
	END WALL FORWARD	Toggle between forward and reverse to
	END WALL REVERSE	observe end wall operation

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#### Table 5.4.5a. Output Test Table

Main Menu Selection	Sub Menu Selection	Comment
	STAPLER FRONT	Toggle between front and rear to observe stapler movement.
	STAPLER REAR	<b>NOTE:</b> If stapler is in home position press enter twice to move it to the rear position. If stapler is in the rear position, press enter once to move it to front position or press enter twice to move it to home position.
	STAPLE MOTOR	
	EJECT CL/OFF CW	Eject motor comes on Power off to stop motor
	EJECT CL/OFF CCW	Toggle enter button to cycle clutch. Ensure the stack height sensor is in the down posi- tion before powering off to exit diagnostics.
	EJECT FWD, LOW	Motor cycles for 2 seconds
	EJECT FWD, HIGH	Motor cycles for 2 seconds
	EJECT REVERSE	Motor cycles for 2 seconds
	SET CLAMP	Toggle enter button to observe rotation
	FINISHER ELVR CW	Elevator goes up
		<b>NOTE:</b> Elevator will not move if the stack height sensor assembly is not in the down position.
	FINISHER ELVR CCW	Elevator goes down
	FINISHER T. 1 CW	Finisher Bin one goes down
	FINISHER T. 1 CCW	Finisher Bin one goes up
	FINISHER T. 2 CW	Finisher Bin two goes down
	FINISHER T. 2 CCW	Finisher Bin two goes up
	FINISHER T. 3 CW	Finisher Bin three goes down
	FINISHER T. 3 CCW	Finisher Bin three goes up
	FINISHER UNLOAD WHILE RUN	Observe the LED on top of the finisher unload button to verify it comes on. Power off to turn off light.

3/99 5-18

### 5.4.6 Running a Service Sensor (H/L) Input Test

- 1 Enter Diagnostic Mode (5.4.3).
- 2 The printer is in Diagnostic Mode.
- 3 Press[1] to display "Service Sensor (H/L) Input Test".
- 4 Press [4] to display the 1st test from the Main Menu selection in the table (Table 5.4.6a).
- **5** Press [1] to scroll up or [5] to scroll down through the menu selection to find the desired Output Test.
- **6** Press [4] when the desired Input Test is displayed. The test will automatically stop after 5 seconds.
- 7 If the desired test has a sub test then press [5] to scroll through the sub test items. Press [4] again when the desired sub test is displayed. The test will automatically stop after 5 seconds.
- 8 Press [2] to return to the Input Test.
- 9 Repeat steps 5 7 until all desired Input Tests are complete.
- **10** When you have finished running the Service Sensor (H/L)Input test, Press [2] to exit to the top of the Diagnostic Mode or switch off the printer power to exit Diagnostic Mode.

Main Menu Selection	Menu Selection	Comment
L/H INTERLOCK		H = Cover is OPEN L = Cover is CLOSED
CABINET TRAY INTERLOCK		(HCF Door C) H = Cover is OPEN L = Cover is CLOSED
DOOR B INTERLOCK		H = Cover is OPEN L = Cover is CLOSED
ROS MOTOR READY		H = Is READY L = Not READY
NO PAPER SENSOR DETECT		
	SELECT TRAY 1	H = Is WITHOUT paper L = Is WITH paper
	SELECT TRAY 2	H =Is WITHOUT paper L = Is WITH paper
	SELECT TRAY 3	H =Is WITHOUT paper L = Is WITH paper
	SELECT TRAY 4	H = Is WITHOUT paper L = Is WITH paper
	SELECT TRAY 5	H = Is WITHOUT paper L = Is WITH paper
	SELECT MBF/ENV	H = Is WITHOUT paper L = Is WITH paper
LEVEL SENSOR DETECT		

 Table 5.4.6a. Service Sensor (H/L) Input Test Table

3/99 5-19

Main Menu Selection	Menu Selection	Comment
	SELECT TRAY 1	H = Lifted UP L = Is Lifted DOWN
	SELECT TRAY 2	H = Is Lifted UP L = Is Lifted DOWN
	SELECT TRAY 3	H = Is Lifted UP L = Lifted DOWN
	SELECT TRAY 3	H = Is Lifted UP L = Is Lifted DOWN
	SELECT TRAY 5	H = Is Lifted UP L =Is Lifted DOWN
FULL STACK SENSOR DETECT		H = Is WITH Paper L = Is WITHOUT Paper
REGI SENSOR DETECT		H = Is WITH Paper L = Is WITHOUT Paper
T/A ROLL SENSOR DETECT		
	SELECT ROLL2	H = Is WITH Paper L = Is WITHOUT Paper
	SELECT ROLL 3	H = Is WITH Paper L = Is WITHOUT Paper
	SELECT ROLL 4	H = Is WITH Paper L = Is WITHOUT Paper
	SELECT ROLL 5	H = Is WITH Paper L = Is WITHOUT Paper
ENV FEED OUT SENSOR DETECT		H = Is WITH Paper L = Is WITHOUT Paper
DUPLEX SENSOR DETECT		H = Is WITH Paper L = Is WITHOUT Paper
	EXIT	H = Is WITH Paper L = Is WITHOUT Paper
	WAIT	H = Is WITH Paper L = Is WITHOUT Paper
	REGI	H = Is WITH Paper L = Is WITHOUT Paper
	INTERLOCK	H = Cover is OPEN L = Cover is CLOSED
	FUSER EXIT	H = Is WITH Paper L = Is WITHOUT Paper
DRUM DETECT		H = Cartridge GOOD L = Cartridge BAD
TONER EMPTY SENSOR DETECT		H =Toner IS Empty L = Toner NOT Empty
FUSER EXIT SENSOR DETECT		H = Is WITH Paper L = Is WITHOUT Paper
FACE UP EXIT SENSOR DETECT		H = Is WITH Paper L = Is WITHOUT Paper
FUSER FAN FAIL MONITOR SIGNAL		H = Monitoring FAIL L = State is NORMAL

3/99

5-20

Table 5.4.6a. Service Sensor (H/L) Input Test Table

Main Menu Selection	Menu Selection	Comment
L/H DOOR INTERLOCK SW		H = Cover Is OPEN L = Cover Is CLOSED
BIN NO PAPER SENSOR DETECT		Mailbox No Paper Sensor Detectors
	1 BIN	H = Is WITH Paper L = Is WITHOUT Paper
	2 BIN	H = Is WITH Paper L = Is WITHOUT Paper
	3 BIN	H = Is WITH Paper L = Is WITHOUT Paper
	4 BIN	H = Is WITH Paper L = Is WITHOUT Paper
	5 BIN	H = Is WITH Paper L = Is WITHOUT Paper
	6 BIN	H = Is WITH Paper L = Is WITHOUT Paper
	7 BIN	H = Is WITH Paper L = Is WITHOUT Paper
	8 BIN	H = Is WITH Paper L = Is WITHOUT Paper
	9 BIN	H = Is WITH Paper L = Is WITHOUT Paper
	10 BIN	H = Is WITH Paper L = Is WITHOUT Paper
VERTICAL SENSOR DETECT		H = Is WITH Paper L = Is WITHOUT Paper
1 BIN JAM SENSOR DETECT		H = Is WITH Paper L = Is WITHOUT Paper
IN SENSOR DETECT		H = Is WITH Paper L = Is WITHOUT Paper
TRANSPORT DETECT SENSOR/SWITCH		
	ENTER SENSOR	H = State Is NORMAL L = State Is Not NORMAL
	EXIT SENSOR	H = State Is NORMAL L = State Is Not NORMAL
	INTERLOCK SWITCH	H = State Is NORMAL L = State Is Not NORMAL
COMPILER DETECT SENSOR/SWITCH		
	TRAY EXIT SENSOR	H = State Is NORMAL L = State Is Not NORMAL
	PAPER SENSOR	H = State Is NORMAL L = State Is Not NORMAL
	COVER SAFETY SW	H = State Is NORMAL L = State Is Not NORMAL
	COVER INTERLK SW	H = State Is NORMAL L = State Is Not NORMAL

#### Table 5.4.6a. Service Sensor (H/L) Input Test Table

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3/99 5-21

Main Menu Selection	Menu Selection	Comment
TAMPER HOME DETECT		H = State Is NORMAL L = State Is Not NORMAL
TOP COVER INTERLOCK SW		H = State Is NORMAL L = State Is Not NORMAL
END WALL OPEN SENSOR		H = State Is NORMAL L = State Is Not NORMAL
STAPLER DETECT SENSOR/SWITCH		H = State Is NORMAL L = State Is Not NORMAL
	FRONT CORNER SR	H = State Is NORMAL L = State Is Not NORMAL
	FRONT STRAIGHT SENSOR	H = State Is NORMAL L = State Is Not NORMAL
	FRONT STRAIGHT	H = State Is NORMAL L = State Is Not NORMAL
	REAR STRAIGHT SR	H = State Is NORMAL L = State Is Not NORMAL
	HEAD HOME SENSOR	H = State Is NORMAL L = State Is Not NORMAL
	READY SENSOR	H = State Is NORMAL L = State Is Not NORMAL
	LOW STAPLE SWITCH	H = State Is NORMAL L = State Is Not NORMAL
CARTRIDGE SET SWITCH		H = State Is NORMAL L = State Is Not NORMAL
CLAMP SENSOR DETECT		
	EJECT	H = State Is NORMAL L = State Is Not NORMAL
	SET CLAMP HOME	H = State Is NORMAL L = State Is Not NORMAL
FINISHER DETECT SENSOR/SWITCH		
	OFFSET HOME SR	H = State Is NORMAL L = State Is Not NORMAL
	BIN 1 PAPER SR	H = State Is NORMAL L = State Is Not NORMAL
	BIN 2 PAPER SR	H = State Is NORMAL L = State Is Not NORMAL
	BIN 3 PAPER SR	H = State Is NORMAL L = State Is Not NORMAL
	BIN 1 HALF SR	H = State Is NORMAL L = State Is Not NORMAL
	BIN 2 HALF SR	H = State Is NORMAL L = State Is Not NORMAL
	BIN 3 HALF SR	H = State Is NORMAL L = State Is Not NORMAL
	BIN 1 FULL SR	H = State Is NORMAL L = State Is Not NORMAL

Table 5.4.6a. Service Sensor (H/L) Input Test Table

Main Menu Selection	Menu Selection	Comment
	BIN 2 FULL SR	H = State Is NORMAL L = State Is Not NORMAL
	BIN 3 FULL SR	H = State Is NORMAL L = State Is Not NORMAL
	BIN ID SENSOR	H = State Is NORMAL L = State Is Not NORMAL
	UPPER LIMIT SW	H = State Is NORMAL L = State Is Not NORMAL
	LOWER LIMIT SW	H = State Is NORMAL L = State Is Not NORMAL
	LOWER SAFETY SW	H = State Is NORMAL L = State Is Not NORMAL
	BIN 1 UP LIMIT SW	H = State Is NORMAL L = State Is Not NORMAL
	BIN 2 UP LIMIT SW	H = State Is NORMAL L = State Is Not NORMAL
	BIN 3 UP LIMIT SW	H = State Is NORMAL L = State Is Not NORMAL
	BIN 1 LO LIMIT SW	H = State Is NORMAL L = State Is Not NORMAL
	BIN 2 LO LIMIT SW	H = State Is NORMAL L = State Is Not NORMAL
	BIN 3 LO LIMIT SW	H = State Is NORMAL L = State Is Not NORMAL
	HIGHT SENSOR	H = State Is NORMAL L = State Is Not NORMAL
UNLOAD WHILE RUNNING SWITCH		H = State Is NORMAL L = State Is Not NORMAL
FRONT COVER INTERLOCK SW		H = State Is NORMAL L = State Is Not NORMAL
GATE IN INTERLOCK SW		H = State Is NORMAL L = State Is Not NORMAL
FINISHER INTERLOCK SW		H = State Is NORMAL L = State Is Not NORMAL
IOT FULL PAPER SENSOR		H = State Is NORMAL L = State Is Not NORMAL

#### Table 5.4.6a. Service Sensor (H/L) Input Test Table

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3/99 5-23

### 5.4.7 Running a Service Sensor (A/D) Input Test

- **1** Enter Diagnostic Mode (5.4.3).
- **2** The printer is in Diagnostic Mode.
- 3 Press [1] to display "Service Sensor (A/D) Input Test".
- 4 Press [4] to display the 1st test from the Main Menu selection in the table (Table 5.4.7a).
- **5** Press [1] to scroll up or [5] to scroll down through the menu selection to find the desired Output Test.
- **6** Press [4] when the desired Input Test is displayed. The test will automatically stop after 5 seconds.
- 7 If the desired test has a sub test then press [5] to scroll through the sub test items. Press [4] again when the desired sub test is displayed. The test will automatically stop after 5 seconds.
- 8 Press [2] to return to the start of the Service Sensor (A/D) Input Test.
- 9 Repeat steps 5 7 until all desired Input Tests are complete.
- **10** When you have finished running the Service Sensor (A/D)Input test, Press [2] to exit to the top of the Diagnostic Mode or switch off the printer power to exit Diagnostic Mode.

Main Menu Selection	Sub Menu Selection	Comment
PAPER SIZE SENSOR		
	SELECT TRAY 1	TRAY NOT INSTALLED = No cassette tray
		WITH PAPER = Size of tray
		A3S (SEF)
		11x17S (SEF)
		8.5X14S (SEF)
		8.5X13S (SEF)
		8.5X11L (LEF)
		A4L (LEF)
		7.25X10.5 (LEF)
		A5L (LEF)
		5.5X8.5L (LEF)

3/99

5-24

#### Table 5.4.7a. Service Value (A/D) Input Test Table

Main Menu Selection	Sub Menu Selection	Comment
	SELECT TRAY 2	TRAY NOT INSTALLED = No cassette tray
		WITH PAPER = Size of tray
		A3S (SEF)
		11x17S (SEF)
		8.5X14S (SEF)
		8.5X13S (SEF)
		8.5X11L (LEF)
		A4L (LEF)
		7.25X10.5 (LEF)
	SELECT TRAY 3	TRAY NOT INSTALLED = No cassette tray
		WITH PAPER = Size of tray
		A3S (SEF)
		11x17S (SEF)
		8.5X14S (SEF)
		8.5X13S (SEF)
		8.5X11L (LEF)
		A4L (LEF)
		7.25X10.5 (LEF)
	SELECT TRAY 4	TRAY NOT INSTALLED = No cassette tray
		WITH PAPER = Size of tray
		8.5X11L (LEF)
		A4L (LEF)
		7.25X10.5 (LEF)
	SELECT TRAY 5	TRAY NOT INSTALLED = No cassette tray
		WITH PAPER = Size of tray
		8.5X11L (LEF)
		A4L (LEF)
		7.25X10.5 (LEF)
HCF/DOOR B DETECT		IS WITH HCF/DOOR B = INSTALLED
		WITHOUT HCF = NOT INSTALLED

Table 5.4.7a. Service Value (A/D) Input Test Table

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3/99 5-25
Main Menu Selection	Sub Menu Selection	Comment
MBF SIDE GUIDE		LARGEST = 0300
PAPER WDH DETECT		A4 = 0300
		11" = 0282
		10.5" = 0269
		A5 = 0153
		5.5" = 0144
		A6 = 0109
		8.5"
		SMALLEST = 98
ENV SIDE GUIDE		MAX = 0244
PAPER WDH DETECT		COM10 = 0244
		C5 = 0233
		DL = 0225
		MONARCH = 0195
FUSER CONTROL SENSOR		CHANGING HEX NUMBER EX. 0179 - 0174
		(VARIABLE DEPENDANT ON FUSER SETTING AND LINE VOLTAGE

Table 5.4.7a. Service Value (A/D) Input Test Table

# 5.4.8 Adjustment Procedures

Use this diagnostic procedure to control parameters of the mechanical and electromagnetic components of the printer.

NOTE: Even though there are other routines displayed on the Control Panel when in the Adjustment Procedures section of Diagnostics, only those routines that can be adjusted by the Service Representative are listed in this manual.

- **1** Enter Diagnostic Mode (5.4).
- 2 Press [4] and [7] together, then release [7], while holding [4] until the UI counts to "3", then release [4]. will allow you to enter the NVM diagnostics.
- **3** The printer is in NVM Diagnostics Mode.
- 4 Select an Adjustment Procedure from the table (Table 5.4.8a).
- **5** When you are finished, switch off the printer power to exit Diagnostic Mode.

Menu Selection	Sub Menu	Min	Nominal	Max	Step	Comment
PAPER TRAIL EDGE FORCED ERASE ADJ		0	12	71	1	Trail Edge Deletion Gap for all Trays
						step = 0.34 mm
PAPER LEAD EDGE IMG ROS ADJ MBF		35	50	99	1	Lead Edge ROS Turn On for MBF Tray
						step = 0.254 mm 35 = -3.81mm 50 = +/- 0.0mm 99 = +12.45mm
LASER SIDE REGI ADJUSTMENT						Side Edge Registra- tion Adjustment - Simplex Only
	SELECT ALL TRAYS	01	50	99	1	step =.258 mm 01 min = -12.64mm 50 nom = +/-0.0mm 99 max = +12.64mm
	SELECT TRAY 1	01	50	99	1	01 min = -12.64mm 50 nom = +/-0.0mm 99 max = +12.64mm
	SELECT TRAY 2	01	50	99	1	Same as Tray 1
	SELECT TRAY 3	01	50	99	1	Same as Tray 1
	SELECT TRAY 4	01	50	99	1	Same as Tray 1
	SELECT TRAY 5	01	50	99	1	Same as Tray 1
	SELECT TRAY MBF	01	50	99	1	Same as Tray 1
	SELECT TRAY ENV	01	50	99	1	Same as Tray 1

Table 5.4.8a. Adjustment Procedures

Menu Selection	Sub Menu	Min	Nominal	Max	Step	Comment
LASER SIDE REGI DUPLEX ADJUST.						Side Edge Registra- tion Adjustment - <b>Duplex</b>
	SELECT ALL TRAYS	01	50	99	1	step =.258 mm 01 min = -12.64mm 50 nom = +/- 0.0mm 99 max = +12.64mm
	SELECT TRAY 1	01	50	99	1	Same as All Trays
	SELECT TRAY 2	01	50	99	1	Same as All Trays
	SELECT TRAY 3	01	50	99	1	Same as All Trays
	SELECT TRAY 4	01	50	99	1	Same as All Trays
	SELECT TRAY 5	01	50	99	1	Same as All Trays
	SELECT TRAY MBF	01	50	99	1	Same as All Trays
FUSER TEMPERATURE ADJUSTMENT						Fuser Setting Adjust- ments
	FUSER TEMP. ADJ. READY TEMP.	17	38	62	1	step = 0.87°C 17 = 140°C 38 = 160°C 89 = 180°C
	FUSER TEMP. ADJ. STANDBY TEMP.	19	42	68	1	step = 0.82°C 19 = 150°C 42 = 170°C 68 = 190°C
	FUSER TEMP. ADJ. STANDBY2 TEMP.	21	46	72	1	step = $0.78^{\circ}C$ $21 = 160^{\circ}C$ $46 = 180^{\circ}C$ $78 = 200^{\circ}C$
F C (\$	FUSER TEMP. ADJ. OHP PAPER OP. (SEE FUSER NOTE)	00	50	99	1	step = $0.82^{\circ}C$ 00 = INHIBIT $50 = 180^{\circ}C$ $99 = 230^{\circ}C$
FUSER TEMP. ADJ. 11 TRAY OP. GP 1-5 (SEE FUSER NOTE)		49	86	1	step =(115V=0.80°C) step =[220V=0.81°C] 11 = (160°C) [170°C] 49 = (190°C) [200°C] 86 = (220°C) [230°C]	
	FUSER TEMP. ADJ. TRAY OP. GP 6 (SEE FUSER NOTE)	11	49	86	1	step =(115V=0.80°C) step =[220V=0.80°C] 11 = (160°C) [165°C] 49 = (190°C) [195°C] 86 = (220°C) [225°C]
	FUSER TEMP. ADJ. MBF OP. GP 1-5 (SEE FUSER NOTE)	11	49	86	1	step =(115V=0.80°C) step =[220V=0.81°C] 11 = (160°C) [170°C] 49 = (190°C) [200°C] 86 = (220°C) [230°C]
	FUSER TEMP. ADJ. MBF OP. GP 6-8 (SEE FUSER NOTE)	11	49	86	1	step =(115V=0.80°C) step =[220V=0.80°C] 11 = (160°C) [165°C] 49 = (190°C) [195°C] 86 = (220°C) [225°C]

Menu Selection	Sub Menu	Min	Nominal	Max	Step	Comment
	FUSER TEMP. ADJ. ENV OP. GP 9,10	12	50	87	1	step =(115V=0.80°C) step =[220V=0.80°C] 12 = (165°C) [165°C]
						50 = (195°C) [195°C] 87 = (225°C) [225°C]
FUSER NOTE:	Adjustment Fixed					
GP == STOCK SIZE 1 ==== A4 & A3	and not adjustable for GP 1, 2, 6, 7, 8, 9 & 10.					
<b>2</b> ==== 8.5x11 & 11x17 <b>3</b> ==== 7.25x10.5	Adjustment Only Available for GP 3,					
<b>4</b> ==== A5 & 5.5x8.5 <b>5</b> ==== 8.5x13&8.5x14	4 & 5.					
6 ==== N/A 7 ==== N/A						
8 ==== Post Card-A6						
<b>10</b> === Monarch, DL & C5						
READ SIDE GUIDE PAPER WIDTH (Read Only Value)						MBF/ENV Paper Width Values
	SIDE GUIDE PAPER MBF MIN. WIDTH	08	44	55		NVM Value 44
	SIDE GUIDE PAPER MBF MAX. WIDTH	00	14	47		NVM Value 14
	SIDE GUIDE PAPER ENV MIN. WIDTH	08	43	55		NVM Value 43
	SIDE GUIDE PAPER ENV MAX. WIDTH	00	13	47		NVM Value 13
MBF SIZE DETECT OFFSET VALUE (Read Only Value)		00	15	30	1	MBF Size Value step = 1 mm 0 = 0 mm
						15=15 mm 30=30 mm
SYSTEM DATA SET UP CHECK		00		99	1	When system data setting is completed,
(Read Only Value)						the Printer Engine Controller will write into this area.
HCF LIFT UP TIME ADJUSTMENT		08	14	20	1	step = 10 msec
FACE DOWN BIN FULL DETECT TIME		00	00	30	1	step = 1 sec.
FACE DOWN BIN FULL RESET TIME		00	00	30	1	step = 1 sec.
LASER LEAD REGI ADJUSTMENT						Lead Edge Registra- tion Adjustment - (Simplex & Duplex)

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Menu Selection	Sub Menu	Min	Nominal	Max	Step	Comment
	LEAD REGI ADJUST. SELECT ALL TRAYS	10	36	50	1	step = 0.346 mm 10 = -6.92 mm 36 = +2.08 mm 50 = +6.92 mm
	LEAD REGI ADJUST. SELECT TRAY 1	00	08	16	1	step = 0.346 mm
	LEAD REGI ADJUST. SELECT TRAY 2-5	00	08	16	1	step = 0.346 mm
	LEAD REGI ADJUST. SELECT TRAY MBF	00	07	16	1	step = 0.346 mm
	LEAD REGI ADJUST. SELECT TRAY ENV	00	10	16	1	step = 0.346 mm
	LEAD REGI ADJUST. SELECT TRAY DUP	00	09	16	1	step = 0.346 mm
ENV SIZE DETECT OFFSET VALUE		00	15	30	1	step = 1 mm 00 = 0.0mm 15 = 15 mm 30 = 30 mm
TOTAL PRINT COUNTER		000 000		1.5 mil- lion	1	NVM VALUE = (Tracks total Prints generated on Printer)
TRAY FEED CAPACITY						NVM VALUE = Total Prints fed from tray
	TRAY FEED CAPAC. SELECT TRAY 1	000 000		999 999		NVM VALUE =
	TRAY FEED CAPAC. SELECT TRAY 2	000 000		999 999		NVM VALUE =
	TRAY FEED CAPAC. SELECT TRAY 3	000 000		999 999		NVM VALUE =
	TRAY FEED CAPAC. SELECT TRAY 4	000 000		999 999		NVM VALUE =
	TRAY FEED CAPAC. SELECT TRAY 5	000 000		999 999		NVM VALUE =
BIAS TRANSFER ROLL SHEET # REACHING		000 000		999 999		NVM VALUE =Total Sheets crossing BTR
DRUM ROTATION TIME (CYCLE CNT)						NVM VALUE = Total rotations of Drum
(Read Only Value)						
CARTRIDGE CRU PRINT COUNT						NVM VALUE =Total Number of prints on
(Read Only Value)						EP Cartridge
CRUM SUB ID (Read Only Value)						NVM VALUE = CRU Monitor ID of EP Car- tridge
FACE UP BIN INSTALL		00	01	01		00 = not installed 01 = installed
OCT INSTALL		00	01	01		00 = not installed 01 = installed

Menu Selection	Sub Menu	Min	Nominal	Max	Step	Comment
MAILBOX/SORT MODE SELECT		00	00	01		00 = Mailbox Mode 01=Sorter Mode
MAIN MOTOR SPEED FINE TUNING		00	33	66	1	step =.1% 0=1281 33=1248 66=1215
MBX 1 BIN STORAGE CAPACITY		00	01	99	1	step = 1 sheet 0=100 sheets 1=101 sheets 199=199 sheets
MBX BIN SENSOR TYPE		00	00	01		Mailbox Bin Sensor 00=full sensor 01=no paper sensor
PAPER TRAY SELECTION						00 = Xerox Only 01 = Non-Xerox Only
	PAPER TRAY SELE. 8.5x14/B4 SEF	00	00	01		00 = 8.5x14" SEF 01 = B4 SEF
	PAPER TRAY SELE. 7.25x10.5 /B5 LEF	00	00	01		00 = 7.25x10.5" LEF 01 = B5 LEF
	PAPER TRAY SELE. A4 LEF/A5 SEF	00	00	01		00 = A4 LEF 01 = A5 SEF
SYSTEM VERSION/ RELEASES						
SYSTEM NUMBER MCU VERSION		00	01 or 02	02		00 = Initial Release 01 = Second Release 02 = Third Release
	SYSTEM NUMBER MCU ROM VERSION	00		99		NVM VALUE = Digits before decimal desig- nating the installed Printer Engine Con- troller Firmware Ver- sion. For example, 05.70 where the 05 is the Firmware Version.
	SYSTEM NUMBER MCU ROM RELEASE	00		99		NVM VALUE = Digits after decimal desig- nating the installed Printer Engine Con- troller Firmware Release. For exam- ple, 05.70 where the 70 is the Firmware Release.
	SYSTEM NUMBER	00		99		NVM VALUE = Digits before decimal desig- nating the installed Duplex Module Firm- ware Version. For example, 10.02 where the 10 is the Firmware Version.

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Menu Selection	Sub Menu	Min	Nominal	Max	Step	Comment
	SYSTEM NUMBER DM ROM RELEASE	00		99		NVM VALUE = Digits after decimal desig- nating the installed Duplex Module Firm- ware Release. For example, 10.02 where the 02 is the Firmware Release.
	SYSTEM NUMBER MBX ROM VERSION	00		99		NVM VALUE = Digits before decimal desig- nating the installed Mailbox Firmware Version. For example, 10.70 where the 10 is the Firmware Version.
	SYSTEM NUMBER MBX ROM RELEASE	00		99		NVM VALUE = Digits after decimal desig- nating the installed Mailbox Firmware Release. For exam- ple, 10.70 where the 70 is the Firmware Release.
	SYSTEM NUMBER FINISHER ROM VER	00		99		NVM VALUE = Digits before decimal desig- nating the installed Finisher Firmware Version. For example, 11.79 where the 11 is the Firmware Version.
	SYSTEM NUMBER FINISHER ROM REL	00		99		NVM VALUE = Digits after decimal desig- nating the installed Finisher Firmware Release. For exam- ple, 11.79 where the 79 is the Firmware Release.

# 5.5 Menu Mode - Version 1.7X and Below

Menu Mode utilizes the Key Panel to set various printer operations, print Configuration Sheets, System Controller Test Prints, PS Font lists, PCL Font Lists, Menu Maps, Disk Directories, and Demo Pages.

The Menu Mode also allows you to set, change, or adjust the various features/options available in the DocuPrint N24/N32/N40 printer. If an option is not installed, the menu items for that option will not be displayed.

# 5.5.1 Menu Tree

The major menus are listed in the table (Table 5.5.1a). This table also contains the submenus contained in each of the major menus.

Job	Test	Novell	Ethernet	Parallel	System	Pass word #3	Post Script	PCL	Tray	Serial	Token Ring #2	Reset #1
Can- cel	Con- fig	Novell PDL	Novell Enable	Port Enable	Paper Size	Enter Pass-	Printer Errors	Font Num-	MBF Size	Port Enable	Novell Enable	Lan- guage
Form Feed	Demo Page	Novell Mode Frame	LPR Enable LPR Ban-	Port Tim- eout Parallel	Paper Type Page	Print Delete	Binary PS	Pitch	MBF Type Tray 1	Port Time- out	LPR Enable	Factory Defaults Net-
	PCL Font List	Type Polling Interval	ner LPR PDL	PDL Bi-Direc- tional	Policy Page Timeout			Size Form Length	Type Tray 2 Type	Serial PDL Hand-	Banner LPR PDL	work Defaults Demo
	PS Font List	PServer Name	DLC/LLC Enable DLC PDL		Copies Orienta-			Sym- bol Set	Tray 3 Type <b>#5</b>	shake Baud Rate	DLC/ LLC Enable	Mode
	Map Test Print	Server NDS Tree	NetBEUI Enable NetBEUI		Duplex #6			Termi- nation	Tray 4 Type <b>#5</b>		DLC PDL Net-	
	Hex Mode	NDS Context	PDL App- Socket		Draft Mode Edge-To-				Tray 5 Type <b>#5</b>		BEUI Enable Net-	
	Disk Direc- tory <b>#3</b>		Enabl App- Socket		Edge Output Timeout				Tray Seque- nce		BEUI PDL App-	
	Re- start Printer		PDL Etalk Enable		<b>#7</b> , <b>#8</b> Output Offset						Socket Enabl App-	
			HTTP Enable IP		Output Dest Staple						PDL Etalk Enable	
			Address Res.		Mode <b>#7</b> Power Saver						HTTP Enable	
			Address Subnet Mask		Defaults						IP Address Res.	
			Default Gateway								IP Address	
			Port Time- out								Mask	
			Speed #4								Gate- way Port	
											Timeout Source	
											Speed	

3/99

5-34

NOTE: #1 Only Available through Special Front Panel Key Press routine.

NOTE: **#2** Only Available when Token Ring Option PWB is installed.

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NOTE: #3 Only Available when the Hard Drive Option is installed.

NOTE: #4 Only Available when the 100MHz Ethernet Card PWB is installed.

NOTE: **#5** Only Available when the High Capacity Feeder Option is installed.

NOTE: #6 Only Available when the Duplex Option is installed.

NOTE: #7 Only Available when the Finisher Option is installed.

NOTE: #8 Only Available when the Mailbox Option is installed.

# 5.5.2 Accessing a Major Menu

- 1 From the Ready condition, press [1] once (Figure 5.5.2a).
- **2** Press[1] or [5] to scroll through the major menus.
- 3 Press [1] or [5] until the desired major menu is displayed.Each of the major menus has a number of submenus listed under them.Press the [2] or [6] to scroll through the submenus.
- Press the [2] or [6] until the desired submenu is displayed.
  In some cases you will have selections from the submenus.
  You will now be at the lowest level of the menu. At this level you set, change, or adjust the feature or option you selected.
- **5** If a selection exists, press [3] or [7] to scroll through the selections.
- 6 If you need to go back to the submenu press either [2] or [6].
- 7 If you need to go back to one of the major menus, press either [1] or [5].
- 8 When the desired setting is displayed, press [4] to "save" your setting.
- 9 When you have completed all settings, press [0] to return the printer to the "Ready" condition.

#### Figure 5.5.2a. Control Panel.



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The following tables list all the possible menu paths for each major menu.

### 5.5.2.1 Job Menu

Job Menu Submenu	Job Menu Function
Cancel Job	Yes
	No (default)
Form Feed	Yes
	No (default)

### 5.5.2.2 Test Menu

Test Menu Submenu	Test Menu Function
Config Sheet	
Demo Page	
PCL Font List	
PS Font List	
Menu Map	
Test Print	
Disk Directory *	
Hex Mode	On
	Off (default)
Restart Printer	No (default)
	Yes

NOTE: \* Only Available when Hard Drive is installed.

### 5.5.2.2.1 Running a Configuration Sheet

- 1 From the Test Menu, press [2] or [6] until the Configuration Sheet submenu is displayed.
- 2 Press [4] to run a Configuration Sheet.
- NOTE: A printed sheet containing the information defining how the printer is configured/set-up. Also located on the top of this sheet is the Printer Serial Number. Presently, the Printer Serial Number can only be entered via Centreware, which is a printer information package loaded on network's server.

### 5.5.2.2.2 Running a Test Print

- 1 From the Test Menu, press the [2] or [6] until the Test Print submenu is displayed.
- **2** Press [4] to run a Test Print.
- NOTE: The Test Print is known as the "System Controller Test Print. Also, for each print desired two sheets will be printed one sheet if duplexed.
- NOTE: If more than one print is desired, change Copies in the System Menu for desired quantity.

#### 5.5.2.2.3 Running a Demo Page

- 1 From the Test Menu, press the [2] or [6] until the Demo Page submenu is displayed.
- **2** Press [4] to print a Demo Page.

NOTE: If more than one print is desired, change Copies in the System Menu for desired quantity.

### 5.5.2.2.4 Running a Menu Map

- 1 From the Test Menu, press [2] or [6] until the Menu Map submenu is displayed.
- **2** Press [4] to print a Menu Map.

NOTE: Defines each Item and their respective choices which is located within each Menu.

### 5.5.2.2.5 Running a Disk Directory

- 1 From the Test Menu, press [2] or [6] until the Disk Directory submenu is displayed.
- **2** Press [4] to print a Disk Directory.
- NOTE: Provides a print out of all information (jobs, fonts, forms, & etc.) that is on the respective Hard Drive.

## 5.5.2.3 Novell Menu

Novell Menu Submenu	Novel Menu Function
Novell PDL	Auto (default) Postscript PCL
Novell Mode	NDS BEM NDS/BEM (default)
Frame Type	Auto (default) 802.2 802.3 SNAP Ethernet II
Polling Interval	Blank 1 - 29 (2 is default)
PServer Name	Blank 0 - 47 alphanumeric characters
Primary Server	Blank (default) 0 - 47 alphanumeric characters
NDS Tree	Blank (default) 0 - 63 alphanumeric characters
NDS Context	Blank (default) 0 - 255 alphanumeric characters

## 5.5.2.4 Ethernet Menu

Ethernet Menu Submenu	Ethernet Menu Function
Novell Enable	On (default) Off
Port Timeout	5-300 (30 is the default)
Default Gateway	000.000.000.000 to 255.255.255.255
Sub Net Mask	000.000.000.000 to 255.255.255.255
IP Address	000.000.000.000 to 255.255.255.255
IP Address Res	Control Panel (default) DHCP BOOTP/RARP
HTTP Enable	On (default) Off
Etalk Enable	On (default) Off
AppSocket PDL	Auto (default) PostScript PCL

3/99

5-38

Ethernet Menu Submenu	Ethernet Menu Function
AppSocket Enabl	On (default) Off
NetBEUI PDL	Auto (default) PostScript PCL
NetBEUI Enable	On (default) Off
DLC PDL	Auto (default) PostScript PCL
DLC/LLC Enable	On (default) Off
LPR PDL	Auto (default) PostScript PCL
LPR Banner	On (default) Off
LPR Enable	On (default) Off
Speed *	Auto (default) 10/Half 10/Full 100/Half 100/Full

NOTE: \* Only Available/Shown when the 100MHz Ethernet Card PWB is installed.

### 5.5.2.5 Parallel Menu

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Parallel Menu Submenu	Parallel Menu Function
Port Enable	On (default) Off
Bidirectional	On (default) Off
Parallel PDL	Auto (default) PostScript PCL
Port Timeout	5 - 300 (30 is the default)

## 5.5.2.6 System Menu

System Menu Submenu	System Menu Function
Paper Size	Letter (8.5 x 11) (default = USA) Monarc (3.8 x 7.5) DL (110 x 220) C5 (162 x 229) Com10 (4.1 x 9.5) A6 (105 x 148) A5 (148 x 210) A4 (210 x 297) (default = Europe) A3 (297x 420) Ledger (11 x 17) Exec (7.25 x 10.5) Statemt (5.5 x 8.5) Folio (8.5 x 13) Legal (8.5 x 14)
Defaults	USA Europe
Power Saver	Off 15 30 60 (default) 90 120 180
Output Dest	Face Down Bin (default) **Sorter **Mailbox 10 **Mailbox 9 **Mailbox 8 **Mailbox 7 **Mailbox 6 **Mailbox 5 **Mailbox 4 **Mailbox 4 **Mailbox 3 **Mailbox 2 **Mailbox 1 *Finisher Bin 1 *Finisher Bin 2 *Finisher Bin 3 Face Up Bin
*Staple Mode	Off (default) Position 1 Position 2 Dual
Output Offset	Off On (default)
***Output Timeout	Off 0 30 (default) 60 120 180 300
Edge-To-Edge	On Off (default)
Draft Mode	On Off (default)

3/99

5-40

System Menu Submenu	System Menu Function
****Duplex	Off (default) Short Edge Longe Edge
Orientation	Portrait (default) Landscape
Copies	1 - 999 (1 = default)
Page Timeout	0 30 (default) 60 120 180 300
Page Policy	Off (default) Ignore Size/Typ Ignore Type Ignore Size
Paper Type	Plain (default) Cardstock Color Recycled Bond Labels Prepunched Transparency Letterhead Preprinted

NOTE: \*Shown only if Finisher Option is installed.

NOTE: \*\* Shown only if Mailbox Option is installed.

NOTE: \*\*\* Shown only if either Mailbox Option or Finisher Option is installed.

NOTE: \*\*\*\* Shown only if Duplex Module Option is installed.

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## 5.5.2.7 PostScript Menu

PostScript Menu Submenu	PostScript Menu Function
Printer Errors	Off (default) On
Binary PS	Off (default) On

## 5.5.2.8 PCL Menu

PCL Menu Submenu	PCL Menu Function
Font Number	0 - 50 (0 = default)
Line Termination	Off (default) On
Symbol Set	PC-8 (default) Ms Publ Math-8 Legal ISO-69 ISO-60 ISO-21 ISO-17 ISO-15 ISO-11 ISO-6 ISO-4 ISO-25 ISO-L2 ISO-L1 Desktop Win L5 Win L2 Win L1 Win 3.0 Vn US Vn Math Vn Int'l. Roman-8 PS-Text PS Math Pi Font PC-852 PC-850 PC-8 DN ISO Latin Cyr PC Cyrillic
Form Length	5 - 128 (default is 60 if Letter or 66 if A4)
Point Size	4.00 - 999.75 (default is 10.00)
Pitch	0.44 - 99.99 (default is 10.00)

3/99

5-42

## 5.5.2.9 Tray Menu

Tray Menu Submenu	Tray Menu Function
MBF Size	Letter (8.5 x 11) (default if USA) Exec (7.25 X 10.5) Statemt (5.5 x 8.5) Monarc (3.8 x 7.5) DL (110 x 220) C5 (162 x 229) Com10 (4.1 x 9.5) A3 (297 x 420) A4 (210 x 297) (default if Europe A5 (148 x 210) A6 (105 x 148) Ledger (11 x 17) Folio (8.5 x 13) Legal (8.5 x 14)
Tray Sequence	MBF-4-5-1-2-3 (default w/HCF installed) MBF-4-5-1-2 MBF-4-5-1 MBF-4-5 MBF-1-2 (default for Base Configuration) MBF-1 4-1-2-3 4-1-2 4-5-1-2-3 4-5-1-2 4-5-1 1-2-3 1-2 Off
Tray 5 Type (Only when HCF installed)	Plain (default) Cardstock Color Recycled Bond Labels Prepunched Transparency Letterhead Preprinted
Tray 4 Type (Only when HCF installed)	See Tray 5 Functions
Tray 3 Type (Only when HCF installed)	See Tray 5 Functions
Тray 2 Туре	See Tray 5 Functions
Тгау 1 Туре	See Tray 5 Functions
МВҒ Туре	See Tray 5 Functions

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## 5.5.2.10 Reset Menu

NOTE: Only Accessible/Shown when [0] and [4] keys are pressed during Power On of Printer.

Reset Menu Submenu	Reset Menu Function
Language	Deutsch English Espanol Francais Italiano Portugues (BRA) Pyccknn
Factory Defaults	Yes No (default)
Network Defaults	Yes No(default)
Demo Mode	Yes No (default)
Disk Init*	Yes No (default)
Disk Format*	Yes No (default)

NOTE: \* Only Accessible/Shown when Hard Drive Option is installed

### 5.5.2.11 Password Menu

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NOTE: Only Accessible/Shown when Hard Drive Option is installed.

Password Menu Submenu	Password Menu Function
Enter Password	0000 to 7777
Print	Yes No (default)
Delete	Yes No (default)

3/99

5-44

## 5.5.2.12 Token Ring Menu

NOTE: Only Accessible/Shown when Token Ring Option PWB is installed.

Token Ring Menu Submenu	Token Ring Menu Function
Novell Enable	On (default) Off
LPR Enable	On (default) Off
LPR Banner	On (default) Off
LPR PDL	Auto (default) PCL PostScript
DLC/LLC Enable	On (default) Off
DLC PDL	Auto (default) PCL PostScript
NetBEUI Enable	On (default) Off
NetBEUI PDL	Auto (default) PCL PostScript
AppSocket Enabl	On (default) Off
AppSocket PDL	Auto (default) PCL PostScript
Ttalk Enable	On (default) Off
HTTP Enable	On (default) Off
IP Address Res.	Control Panel (default) BOOTP/RARP DHCP
IP Address	000.000.000.000 to 255.255.255.255
Subnet Mask	000.000.000.000 to 255.255.255
Default Gateway	000.000.000.000 to 255.255.255
Port Timeout	5 - 300 Seconds (default is 30)
Source Routing	On (default) Off
Speed	4 (default) 16
LAA	400000000000 to 7FFFFFFFFFF

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## 5.5.2.13 Serial Menu.

Serial Menu Submenu	Serial Menu Function
Port Enable	On (default) Off
Port Timeout	5 - 300 Seconds (30 is default)
Serial PDL	Auto (default) PCL PostScript
Handshake	XON/XOFF Robust XON/XOFF Hardware (default)
Baud Rate	115200 57600 38400 28800 19200 9600 (default) 4800 2400 1200 600

3/99

5-46

# 5.6 Menu Mode - Version 1.8X

Menu Mode utilizes the Key Panel to set various printer operations, print Configuration Sheets, System Controller Test Prints, PS Font lists, PCL Font Lists, Menu Maps, Disk Directories, and Demo Pages.

The Menu Mode also allows you to set, change, or adjust the various features/options available in the DocuPrint N24/N32/N40 printer. If an option is not installed, the menu items for that option will not be displayed.

# 5.6.1 Menu Tree

The major menus are listed in the table (Table 5.6.1a). This table also contains the submenus contained in each of the major menus.

Table 5.6.1a. I	Menu Tree.
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Job	Print	Novell	Ethernet	Parallel	System	Pass word #3	PCL	Tray	Serial	Token Ring #2	Reset #1
Can- cel Job Form Feed Restart Printer	Con- fig Sheet PCL Demo PCL Font List PS Font List Menu Map Test Print Hex Mode Disk Direc- tory #3 Re- start Printer	Novell Enable Novell PDL Novell Binary PS Novell Mode Frame Type Polling Interval PServer NDS Tree NDS Context	LPR Enable LPR Ban- ner LPR PDL LPR Binary PS DLC/LLC Enable DLC/LLC Bin PS NetBEUI PDL NetBEUI PDL NetBEUI Bin PS App- Socket Enabl App- Socket Enabl App- Socket Bin PS Etalk Enable HTTP Enable IP Address Res. IP Address Subnet Mask Default Gateway Port Time- out Speed #4	Port Enable Port Tim- eout Parallel PDL Binary PS Bi-Direc- tional	Lan-guage Paper Size Paper Type Page Policy Policy Timeout Print PS Errors Duplex #6 Draft Mode Edge-To- Edge Output Timeout #7, #8 Output Dest Staple Mode #7 Defaults Power Saver	Enter Pass- word Print Delete	Font Number Pitch Point Size Symbol Set Ori- enta- tion Form Length Line Termi- nation	MBF Size MBF Type Tray 1 Type Tray 2 Type Tray 3 <b>#5</b> Tray 4 <b>#5</b> Tray 5 Type <b>#5</b> Tray 5 Type Tray 5 Sequence	Port Enable Port Time- out Serial PDL Binary PS Baud Rate Flow Control	LPR Enable LPR Banner LPR PDL LPR PDL LPR Binary PS DLC/ LLC PDL DLC/ LLC Bin PS Net- BEU PDL DLC/ LLC Bin PS Net- BEU PDL Net- Socket PDL App- Socket PDL App- Socket PDL App- Socket PDL Address Subnet Subnet Source Ross Subnet Source Ross Subnet Net- Source PDL App- Socket PDL Address Subnet Source Ross Subnet PA Address Subnet Source Ross Subnet PA Address Subnet Source Ross Subnet Source Ross Subnet Source Ross Subnet Source Ross Subnet Source Ross Subnet Source Ross Subnet Source Ross Subnet Source Ross Subnet Source Ross Subnet Source Ross Subnet Source Ross Subnet Source Ross Subnet Source Ross Subnet Source Source Ross Subnet Source Source Ross Subnet Source Ross Subnet Source Ross Subnet Source Ross Subnet Source Ross Subnet Source Ross Subnet Source Ross Subnet Source Ross Subnet Source Ross Subnet Source Ross Subnet Source Sourc	Factory Defaults Net- Work Defaults Demo Mode Delete All Jobs Disk ini- tialize Disk Format

3/99

5-48

NOTE: #1 Only Available through Special Front Panel Key Press routine.

NOTE: **#2** Only Available when Token Ring Option PWB is installed.

NOTE: #3 Only Available when the Hard Drive Option is installed.

NOTE: #4 Only Available when the 100MHz Ethernet Card PWB is installed.

NOTE: **#5** Only Available when the High Capacity Feeder Option is installed.

NOTE: #6 Only Available when the Duplex Option is installed.

NOTE: #7 Only Available when the Finisher Option is installed.

NOTE: #8 Only Available when the Mailbox Option is installed.

# 5.6.2 Accessing a Major Menu

- 1 From the Ready condition, press [1] once (Figure 5.6.2a).
- **2** Press[1] or [5] to scroll through the major menus.
- 3 Press [1] or [5] until the desired major menu is displayed.Each of the major menus has a number of submenus listed under them.Press the [2] or [6] to scroll through the submenus.
- Press the [2] or [6] until the desired submenu is displayed.
  In some cases you will have selections from the submenus.
  You will now be at the lowest level of the menu. At this level you set, change, or adjust the feature or option you selected.
- **5** If a selection exists, press [3] or [7] to scroll through the selections.
- 6 If you need to go back to the submenu press either [2] or [6].
- 7 If you need to go back to one of the major menus, press either [1] or [5].
- 8 When the desired setting is displayed, press [4] to "save" your setting.
- **9** When you have completed all settings, press [0] to return the printer to the "Ready" condition.

### Figure 5.6.2a. Control Panel.



The following tables list all the possible menu paths for each major menu.

## 5.6.2.1Job Menu

Job Menu Submenu	Job Menu Function
Cancel Job	Yes
	No (default)
Form Feed	Yes
	No (default)
Restart Printer	Yes
	No (default)

### 5.6.2.2 Print Menu

Test Menu Submenu	Test Menu Function
Config Sheet	
PCL Demo	
PCL Font List	
PS Font List	
Menu Map	
Test Print	
Disk Directory *	
Hex Mode	On
	Off (default)
Restart Printer	No (default)
	Yes

NOTE: \* Only Available when Hard Drive is installed.

### 5.6.2.2.1 Running a Configuration Sheet

- 1 From the Test Menu, press [2] or [6] until the Configuration Sheet submenu is displayed.
- **2** Press [4] to run a Configuration Sheet.
- NOTE: A printed sheet containing the information defining how the printer is configured/set-up. Also located on the top of this sheet is the Printer Serial Number. Presently, the Printer Serial Number can only be entered via Centreware, which is a printer information package loaded on network's server.

### 5.6.2.2.2 Running a Test Print

- 1 From the Test Menu, press the [2] or [6] until the Test Print submenu is displayed.
- **2** Press [4] to run a Test Print.
- NOTE: The Test Print is known as the "System Controller Test Print. Also, for each print desired two sheets will be printed one sheet if duplexed.

NOTE: If more than one print is desired, change Copies in the System Menu for desired quantity.

### 5.6.2.2.3 Running a PCL Demo

- 1 From the Test Menu, press the [2] or [6] until the PCL Demo submenu is displayed.
- **2** Press [4] to print a PCL Demo.

NOTE: If more than one print is desired, change Copies in the System Menu for desired quantity.

#### 5.6.2.2.4 Running a Menu Map

- 1 From the Test Menu, press [2] or [6] until the Menu Map submenu is displayed.
- 2 Press [4] to print a Menu Map.

NOTE: Defines each Item and their respective choices which is located within each Menu.

### 5.6.2.2.5 Running a Disk Directory

- 1 From the Test Menu, press [2] or [6] until the Disk Directory submenu is displayed.
- **2** Press [4] to print a Disk Directory.
- NOTE: Provides a print out of all information (jobs, fonts, forms, & etc.) that is on the respective Hard Drive.

## 5.6.2.3 Novell Menu

Novell Menu Submenu	Novel Menu Function
Novell Enable	On (default) Off
Novell PDL	Auto (default) Postscript PCL
Novell Binary PS	On Off (default)
Novell Mode	NDS BEM NDS/BEM (default)
Frame Type	Auto (default) 802.2 802.3 SNAP Ethernet II
Polling Interval	Blank 1 - 29 (2 is default)
PServer Name	Blank (default) 0 - 47 alphanumeric characters
Primary Server	Blank (default) 0 - 47 alphanumeric characters
NDS Tree	Blank (default) 0 - 63 alphanumeric characters
NDS Context	Blank (default) 0 - 255 alphanumeric characters

## 5.6.2.4 Ethernet Menu

Ethernet Menu Submenu	Ethernet Menu Function
LPR Enable	On (default) Off
LPR Banner	On (default) Off
LPR PDL	Auto (default) PostScript PCL
LPR Binary PS	On Off (default)
DLC/LLC Enable	On (default) Off
DLC/LLC PDL	Auto (default) PostScript PCL

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Ethernet Menu Submenu	Ethernet Menu Function
DLC/LLC Bin PS	On Off (default)
NetBEUI Enable	On (default) Off
NetBEUI PDL	Auto (default) PostScript PCL
NetBEUI Bin PS	On Off (default)
AppSocket Enabl	On (default) Off
AppSocket PDL	Auto (default) PostScript PCL
AppSocket Bin PS	On Off (default)
Etalk Enable	On (default) Off
HTTP Enable	On (default) Off
IP Address Res	Control Panel (default) DHCP BOOTP/RARP
IP Address	000.000.000.000 to 255.255.255.255
Sub Net Mask	000.000.000.000 to 255.255.255.255
Default Gateway	000.000.000.000 to 255.255.255.255
Port Timeout	5-300 (30 is the default)
Speed *	Auto (default) 10/Half 10/Full 100/Half 100/Full

NOTE: \* Only Available/Shown when the 100MHz Ethernet Card PWB is installed.

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## 5.6.2.5 Parallel Menu

Parallel Menu Submenu	Parallel Menu Function
Port Enable	On (default) Off
Port Timeout	5 - 300 (30 is the default)
Parallel PDL	Auto (default) PostScript PCL
Binary PS	On Off (default)
Bidirectional	On (default) Off

# 5.6.2.6 System Menu

System Menu Submenu	System Menu Function
Language	Deutsch English Espanol Francais Italiano Portugues (BRA) Pyccknn
Paper Size	Letter (8.5 x 11) (default = USA) Monarc (3.8 x 7.5) DL (110 x 220) C5 (162 x 229) Com10 (4.1 x 9.5) A6 (105 x 148) A5 (148 x 210) A4 (210 x 297) (default = Europe) A3 (297x 420) Ledger (11 x 17) Exec (7.25 x 10.5) Statemt (5.5 x 8.5) Folio (8.5 x 13) Legal (8.5 x 14)
Paper Type	Plain (default) Cardstock Color Recycled Bond Labels Prepunched Transparency Letterhead Preprinted
Page Policy	Off (default) Ignore Size/Typ Ignore Type Ignore Size

3/99

5-54

System Menu Submenu	System Menu Function
Policy Timeout (Seconds)	0 30 (default) 60 120 180 300
Print Quantity	1 - 999 (1 = default)
Print PS Errors	On Off (default)
****Duplex	Off (default) Short Edge Longe Edge
Draft Mode	On Off (default)
Edge-To-Edge	On Off (default)
***Output Timeout	Off On (default)
Output Offset	Off On (default)
Output Dest	Face Down Bin (default) **Sorter **Mailbox 10 **Mailbox 9 **Mailbox 8 **Mailbox 7 **Mailbox 7 **Mailbox 6 **Mailbox 4 **Mailbox 4 **Mailbox 4 **Mailbox 3 **Mailbox 2 **Mailbox 1 *Finisher Bin 1 *Finisher Bin 2 *Finisher Bin 3 Face Up Bin
*Staple Mode	Off (default) Position 1 Position 2 Dual
Defaults	Inches Millimeters
Power Saver (Minutes)	Off 15 30 60 (default) 90 120 180

NOTE: \* Shown only if Finisher Option is installed.

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NOTE: \*\* Shown only if Mailbox Option is installed.

NOTE: \*\*\* Shown only if either Mailbox Option or Finisher Option is installed.

NOTE: \*\*\*\* Shown only if Duplex Module Option is installed.

# 5.6.2.7 PCL Menu

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PCL Menu Submenu	PCL Menu Function
Font Number	0 - 45 (0 = default)
Pitch	0.44 - 99.99 (default is 10.00)
Point Size	4.00 - 999.75 (default is 10.00)
Symbol Set	PC-8 (default) Ms Publ Math-8 Legal ISO-69 ISO-60 ISO-21 ISO-17 ISO-15 ISO-15 ISO-14 ISO-6 ISO-4 ISO-22 ISO-L2 ISO-L2 ISO-L1 Desktop Win L5 Win L2 Win L1 Win 3.0 Vn US Vn Math Vn Int'l. Roman-8 PS-Text PS Math Pi Font PC-852 PC-850 PC-8 Tk PC-8 DN ISO Latin Cyr PC Cyrillic
Orientation	Portrait (default) Landscape
Form Length	5 - 128 (default is 60 if Letter or 66 if A4)
Line Termination	Off (default) On

## 5.6.2.8 Tray Menu

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Tray Menu Submenu	Tray Menu Function
MBF Size	Letter (8.5 x 11) (default if USA) Exec (7.25 X 10.5) Statemt (5.5 x 8.5) Monarc (3.8 x 7.5) DL (110 x 220) C5 (162 x 229) Com10 (4.1 x 9.5) A3 (297 x 420) A4 (210 x 297) (default if Europe A5 (148 x 210) A6 (105 x 148) Ledger (11 x 17) Folio (8.5 x 13) Legal (8.5 x 14)
MBF Type Tray 1 Type	Plain (default)      Cardstock      Color      Recycled      Bond      Labels      Prepunched      Transparency      Letterhead      Preprinted      Plain (default)      Cardstock      Color      Recycled      Bond      Labels      Preprinted
Tray 2 Type	See Tray 1 Functions
Tray 3 Type (Only when HCF installed)	See Tray 1 Functions
Tray 4 Type (Only when HCF installed)	See Tray 1 Functions
Tray 5 Type (Only when HCF installed)	See Tray 1 Functions
Tray Sequence	MBF-4-5-1-2-3 (default w/HCF installed) MBF-4-5-1-2 MBF-4-5-1 MBF-4-5 MBF-1-2 (default for Base Configuration) MBF-1 4-1-2-3 4-1-2 4-1 4-5-1-2-3 4-5-1-2 4-5-1 1-2-3 1-2 Off

## 5.6.2.9 Token Ring Menu

NOTE: Only Accessible/Shown when Token Ring Option PWB is installed.

Token Ring Menu Submenu	Token Ring Menu Function
LPR Enable	On (default) Off
LPR Banner	On (default) Off
LPR PDL	Auto (default) PCL PostScript
LPR Binary PS	On Off (default)
DLC/LLC Enable	On (default) Off
DLC/LLC PDL	Auto (default) PCL PostScript
DLC/LLC Bin PS	On Off (default)
NetBEUI Enable	On (default) Off
NetBEUI PDL	Auto (default) PCL PostScript
NetBEUI Bin PS	On Off (default)
AppSocket Enabl	On (default) Off
AppSocket PDL	Auto (default) PostScript PCL
AppSocket Bin PS	On Off (default)
Ttalk Enable	On (default) Off
HTTP Enable	On (default) Off
IP Address Res.	Control Panel (default) BOOTP/RARP DHCP
IP Address	000.000.000.000 to 255.255.255
Subnet Mask	000.000.000.000 to 255.255.255
Default Gateway	000.000.000.000 to 255.255.255
Port Timeout	5 - 300 Seconds (default is 30)

3/99

5-58

Token Ring Menu Submenu	Token Ring Menu Function
Source Routing	On (default) Off
Speed	4 (default) 16
LAA	4000000000000 to 7FFFFFFFFFF

## 5.6.2.10 Reset Menu

NOTE: Only Accessible/Shown when [0] and [4] keys are pressed during Power On of Printer.

Reset Menu Submenu	Reset Menu Function
Factory Defaults	Yes No (default)
Network Defaults	Yes No(default)
PCL Demo	Yes No (default)
Delete All Jobs	Yes No (default)
Disk Init	Yes No (default)
Disk Format	Yes No (default)

## 5.6.2.11 Password Menu

NOTE: Only Accessible/Shown when Hard Drive Option is installed.

Password Menu Submenu	Password Menu Function
Enter Password	0000 to 7777
Print	Yes No (default)
Delete	Yes No (default)

## 5.6.2.12 Serial Menu.

Serial Menu Submenu	Serial Menu Function
Port Enable	On (default) Off
Port Timeout	5 - 300 Seconds (30 is default)
Serial PDL	Auto (default) PCL PostScript
Binary PS	On Off (default)
Baud Rate	57600 38400 28800 19200 9600 (default) 4800 2400 1200 600
Flow Control	XON/XOFF Robust XON/XOFF Hardware (default)

3/99

5-60

# 5.7 Space Requirements

For easy operation, maintenance, and replacing of consumables, the following space requirements are the minimum clearances allowed. (Figure 5.7a) illustrates the requirements for the base configuration of the printer. (Figure 5.7b) illustrates the requirements options installed on the printer.

#### Figure 5.7a Base Configuration

- **1** 60.5 inches (1537mm).
- 2 36 inches (914mm)
- **3** 4 inches (102mm)
- 4 12 inches (305mm)
- 5 36.5 inches (927mm)
- 6 72 inches (1829mm)

Minimum of 30 inches (762mm) above the top of the printer.



#### Figure 5.7b Printer With Options.

- 1 60 inches (1524mm).
- 2 32 inches (813mm)
- **3** 4 inches (102mm)
- 4 12 inches (305mm)
- **5** 36 inches (914mm)
- 6 72 inches (1829mm)

Minimum of 30 inches (762mm) above the top of the mailbox.


# 5.8 Tools and Supplies

## 5.8.1 Tools

- 1 Basic Tool Kit
- 2 5.5 mm Magnetic Socket Driver 1499T142

# 5.8.2 Supplies

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US Item	US Part Number
Cleaning Cloth (treated)	35P1538
Cleaning Pads	600S4372
Cotton Swabs	35P2162
Customer Maintenance Kit (115V)	109R46
Customer Maintenance Kit (220V)	109R47
Disposable Gloves	99P3082
Disposable Plastic Bags	99P3023
Drop Cloth	5P1737
Film Remover	43P45
Formula A Cleaner	43P48
Glue Capsule	63P560
Polyurethane Pads	600S4653
Towel (heavy duty)	35P3191

#### Table 5.8.2a. US Supplies

#### Table 5.8.2a. Xerox Europe Supplies.

Rank Item	Rank Part Number
Cleaner	8R90175
Cleaning Pad Kit	600S4372
Cloth	8R90019
Fuser Cleaning Solvent Pads	43P83
General Cleaning Solvent	8R90176
Lens Cleaner	8R90177
Customer Maintenance Kit (220V)	109R47

# **5.9 Product Codes**

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# 5.9.1 Printers Product Codes

Item	Product Code
N24 Printer - Base (110v - US/XCI)	Y1U
N24 Printer - Hard Drive (110v - US/XCI)	Y4U
N24 Printer (110v - AO XBRA)	CG5
N24 Printer (110v - AO Spanish)	CG6
N24 Printer (220v - AO Spanish)	CG7
N24 Printer (220v - Xerox Europe)	R0F
N32 Printer - Base (110v - US/XCI)	Y3U
N32 Printer - Hard Drive (110v - US/XCI)	Y2U
N32 Printer (110v - AO XBRA)	CG2
N32 Printer (110v - AO Spanish)	CG3
N32 Printer (220v - AO Spanish)	CG4
N32 Printer - Base (220v - Xerox Europe)	P9P
N32 Printer - Hard Drive (220v - Xerox Europe)	P1R
N40 Printer - Base (110v - US/XCI)	W8F
N40 Printer - Hard Drive (110v - US/XCI)	W7F
N40 Printer (110v - AO XBRA)	W9F
N40 Printer (110v - AO Spanish)	W0G
N40 Printer (220v - AO Spanish)	W1G
N40 Printer - Base (220v - Xerox Europe)	W2G
N40 Printer - Hard Drive (220v - Xerox Europe)	W3G

Table 5.9.1 Printers Product Codes

# **5.9.2 Options Product Codes**

ltem	Sales Kit Part Numbers	Product Codes
8 MB SIMM (Flash)	97S02348	KT4
8 MB Memory SIMM (50ns - N40 Unique)	97S02240	DV5
16 MB Memory SIMM (50ns - N40 Unique)	97S02241	DV6
32 MB Memory SIMM (50ns - N40 Unique)	97S02242	DV7
8 MB Memory SIMM (N24/N32 Only)	N/A	M1N
16 MB Memory SIMM (N24/N32 Only)	N/A	8FG
32 MB Memory SIMM (N24/N32 Only)	N/A	4WL
High Capacity Hard Disk Drive	97S02217	CC8
10/100 Base-T Ethernet	97S02189	W3M
Token Ring	97S02035	M4N
2500 Sheet Feeder	97K24860	K9U
Duplex	97K24880	K0V
CN Retail Kit (HCF & Duplex)	450S02048	T8T
10 Bin Mailbox/Collator	97K29430	L2M
Console Bracket, Mailbox	98K57180	NOT
Tabletop Bracket, Mailbox	98K57190	N1T
Finisher/Stapler (110V)	97K24890	K7U
Finisher/Stapler (220V)	97K26870	K8U
100 Envelope Feeder	97K24870	K1V

3/99

5-64

 Table 5.9.2
 Options Product Codes

# 5.10 Maintenance Reset Procedure

# 5.10.1 Maintenance Kit Counter Reset Procedure

NOTE: The following procedure must be performed to reset the Maintenance Counter after a Kit is installed.

NOTE: The Maintenance Kit counter should only be reset when a complete kit has been installed.

#### Maintenance Kit Counter Reset Procedure

- A Power off the printer.
- **B** Hold down keys [2] <Item Up> and [6] <Item Down> at the same time and power on the printer.
- C Continue holding down keys [2] and [6] until the message "\*IOT?\*" appears.
- D Within 5 seconds after the "\*IOT?\*" message appears, hold down the [0] <On Line> and [5] <Menu Down> keys at the same time until the message "Reset Complete Please Reboot" appears. This message confirms the counter has been reset.
- **E** Reboot Printer by powering off then on.

**NOTE:** The Maintenance Kit is a customer purchased / Customer installed CRU. The interval for replacement is 300K prints.

Kit contents - (1) Fuser Assembly, (1) BTR Assembly, (15) Feed Rollers, (1) Cleaning cloth, & Install Instructions.

Maintenance Kit Part #

110V - 109R00046 220V - 109R00047

# 5.11 System Boot Code / Software Download Procedures

## 5.11.1 System Boot Code Download Procedure

- NOTE: The following procedure should be performed **ONLY** when directed by 2nd Level Support.
- NOTE: Follow all procedures as defined to prevent unrecoverable damage to the System Controller PWB.
  - **1** Power off the printer.
  - 2 Remove the Token Ring Option PWB, if installed.
  - 3 Connect to Parallel Port a Parallel Cable which is attached to a designated Laptop Computer.
  - 4 Power On Computer and locate System Boot Code BAT File, i.e.: Boot-127.Bat.
  - **5** Hold down keys **[1]** <Menu Up> and **[5]** <Menu Down> at the same time and power on the printer.
  - 6 Continue holding down keys [1] and [5] until the Control Panel displays the message "Entering. . . Download Mode".
  - 7 Enter DOS Mode on the Computer and locate on the Hard Drive the Boot Code Bat File. Once located type the Bat Filename (i.e., in DOS Mode the file was located in the directory *SOFTWARE*, you would enter the specific directory and then type the Bat Filename on the keypad, then with the Computer Display stating [C:\Software>Boot-127], press the *<ENTER>* key on the Computer Keypad.
  - 8 The Printer Control Panel will change to display "Downloading ... Please Wait".
- NOTE: After the message "Downloading . . . Please Wait" is displayed, <u>DO NOT</u> attempt to STOP the download or interrupt the Computer during the download process, doing so will cause the Boot Code to crash/fail and inhibit the System Controller PWB from operating, requiring the replacement of the System Controller PWB.
  - 9 Allow computer to send Boot Code to printer and watch printer Control Panel. When Message on Control Panel changes to display "**Download Passed Please Reboot**", power printer off.
- NOTE: If Control Panel displays the message "**Download Failed**", notify 2nd level support. The System Controller PWB is no longer usable and must be replaced.
  - **10** Disconnect Parallel Cable from Parallel Port on Printer and reinstall Token Ring Option PWB, if removed in step 2.
  - **11** Power On Printer, watching the Control Panel to verify the Boot Code has changed.
  - **12** Allow printer to come to "Ready", then generate a Configuration Sheet.

# 5.11.2 System Software Download Procedure

NOTE: Follow all procedures as defined to prevent failure of the System Software download.

- 1 Generate a Configuration Sheet, then power off the printer.
- 2 Remove the Token Ring Option PWB, if installed.
- **3** Connect to Parallel Port a Parallel Cable which is attached to a designated Laptop Computer.
- 4 Power On Computer and locate System Software BAT File, i.e.: N40-170.Bat.
- 5 Hold down keys [1] <Menu Up> and [5] <Menu Down> at the same time and power on the printer.
- 6 Continue holding down keys [1] and [5] until the Control Panel displays the message "Entering . . . Download Mode".
- 7 Enter DOS Mode on the Computer and locate on the Hard Drive the System Software Bat File. Once located, type the Bat Filename (i.e., in DOS Mode the file was located in the directory SOFTWARE, you would enter the specific directory and then type the Bat Filename on the keypad, then with the Computer Display stating [C:\Software>N40-170], press the <ENTER> key on the Computer Keypad.
- 8 The Printer Control Panel will change to display "Downloading ... Please Wait".
- 9 Allow computer to send System Software to printer and watch printer Control Panel. When Message on Control Panel changes to display "Download Passed Please Reboot", power printer off and proceed to Software Download Procedure.

NOTE: If Control Panel displays the message "Download Failed", repeat steps 1 through 9.

- **10** Disconnect Parallel Cable from Parallel Port on Printer and reinstall Token Ring Option PWB, if removed in step 2.
- 11 Power On Printer and allow printer to come to "Ready", then generate a Configuration Sheet.
- **12** Verify the Configuration Sheet states the System Software has changed by comparing to the Configuration Sheet printed in Step 1.

# 5.12 Tag Matrix

All important modifications are identified by a number on the Tag Matrix on the inside of the left front cover. This section describes all of the tags as well as multinational applicability, classification codes, and permanent or temporary modification information.

#### **Classification Codes**

A tag number may be required to identify differences between parts that cannot be interchanged, or differences in diagnostic, repair, installation, or adjustment procedures. A Tag number may also be required to identify the presence of optional hardware, special nonvolatile memory programming, or if mandatory modifications have been installed. Each Tag number is given a classification code to identify the type of change the Tag has made.

- M Mandatory
- N Not installed in the field
- O Optional
- R Repair
- S Situational

#### **Change Tag Index**

- Tag:001Class:NMfg. Serial No.AllName:Lift-Up Motor Change
- Purpose: Improvement to Lift-Up Motor for Trays 1 through 5 to prevent Collar on Motor Shaft from falling off.
- Kit Number: N/A
- Reference:

Tag: 002

Class: N

Mfg. Serial No.: All Printers

Name: New IOT Firmware for N24/N32 Printer Family. Version/Release = 05.50

Purpose: To add more features and correct firmware bugs.

Kit Number: N/A

Reference:

#### **Change Tag Index**

Tag:	003		
Class:	Ν		
Mfg. Serial No	.:All		
Name:	New IOT Firmware for N24/N32 Printer Family. Version/Release = 05.60		
Purpose:	To correct Firmware bugs.		
Kit Number:	N/A		
Reference:	Supersedes Tag 2.		

#### **Change Tag Index**

Tag: 004

Class: N

Mfg. Serial No.:All

Name: New Lift-Up Motors and Trays 1 through 3 improvement.

Purpose: Improvement to Lift-Up Motor for Trays 1 through 5 to prevent Collar on Motor Shaft from falling off and Improvement of insertion for Trays 1 through 3.

Kit Number: 600K67460

Reference: Supersedes Tag 1.

Tag:	005		
Class:	Ν		
Mfg. Serial No	.:All		
Name:	New IOT Firmware for N24/N32 Printer Family. Version/Release = 05.70		
Purpose:	To correct Firmware bugs.		
Kit Number:	600K67460		
Reference:	Supersedes Tag 3.		

#### **Change Tag Index**

Tag:	006
Class:	Ν
Mfg. Serial No	.:N/A
Name:	Dark Spots
Purpose:	Eliminate Dark Spots (Toner Particles) on Printed Pages. New Fuser Cut-In.
Kit Number:	126K07891 (110V) / 126K07901 (220V)
Reference:	See Parts List for new part numbers.

#### **Change Tag Index**

Tag: 007

Class: N

Mfg. Serial No.:N/A

- Name: Toner Scatter "Hashika" Improvement
- Purpose: Improve/eliminate the possible scatter of toner particles, which visually seen only under Eye Loop, on printed originals. New HVPS Cut-In.

Kit Number: 600K67000

Reference: N/A

Tag: 008

Class: N

Mfg. Serial No.:N/A

Name: Flicker Transformer (220V Printers Only)

- Purpose: Eliminate use of Flicker Transformer in all 220V Printers. Part must be removed when a failure of the AC Driver PWB occurs. New AC Driver PWB does not support Flicker Transformer. Mark off TAG when new AC Driver PWB is installed.
- Kit Number: N/A (See Parts List)

Reference:

#### **Change Tag Index**

Tag:	009		
Class:	Ν		
Mfg. Serial No	.:N/A - Never released.		
Name:	New IOT Firmware for N24/N32 Printer Family. Version/Release = 05.80		
Purpose:	To correct Firmware bugs.		
Kit Number:	N/A		
Reference:	Supersedes Tag 5.		

#### **Change Tag Index**

Tag: 010

Class:

Mfg. Serial No.:

Name:

Purpose:

Kit Number:

Reference:

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Tag:	011		
Class:	Ν		
Mfg. Serial No	.:N/A		
Name:	New IOT Firmware for N24/N32 Printer Family. Version/Release = 05.90		
Purpose:	To correct Firmware bugs.		
Kit Number:	N/A		
Reference:	Supersedes Tag 9.		

#### **Change Tag Index**

Tag: 012

Class:

Mfg. Serial No.:

Name:

Purpose:

Kit Number:

Reference:

#### **Change Tag Index**

Tag: 013

Class:

Mfg. Serial No.:

Name:

Purpose:

Kit Number:

Reference:

Tag: 100

Class: R

Mfg. Serial No.:

Name: New N24/N32 System Controller PWB w/ V1.7

Purpose: Issue new System Controller PWB which includes PostScript 3 and provides enablement support for Token Ring and Fast Ethernet. System Controller requires 24MBytes of minimal RAM being installed to operate!

Kit Number: N/A

Reference: See Parts List for new Part Number.

#### **Change Tag Index**

Tag: 101

Class:

Mfg. Serial No.:

Name:

Purpose:

Kit Number:

Reference:

#### **Change Tag Index**

Tag: 102

Class:

Mfg. Serial No.:

Name:

Purpose:

Kit Number:

Reference:

# 5.13 Technical Bulletins

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The following tables represent the hardware technical bulletins issued as of the publication date of this manual. **Table 5.13.1** defines bulletins common to the N24, N32 and N40 Printers. **Table 5.13.2** defines bulletins unique to the N40 Printer only.

Bulletin #	Date	Description
001 Rev II	11/18/97	Changes to the key press routine procedures for scrolling through the diagnostic routines for power on version 1.25 and greater. The revisions are included in this manual.
002	11/20/97	Revised part numbers. The revisions are included in this manual.
003	11/19/97	Procedure for resetting the Maintenance Kit Counter. Procedure included in section 5 of this manual.
004	12/8/97	New production packaging to eliminate bottom plate lift wires for Tray 4 falling off the idler pulleys during shipment.
005	12/8/97	Revised procedures for replacing feed, nudger, and retard rolls. New instructions included in this printing.
006	2/11/98	Finisher Diagnostics - Notification of Finisher Diagnostics in Boot Code 1.26 and higher.
007 Rev II	2/17/98	Revised procedure for replacing the Printer Engine Controller PWB. The revised procedure is included in this manual.
008	2/11/98	New Adjustment Procedure for aligning the Finisher Option. Procedure included in section 4 of this manual.
009	2/15/98	Revised RAP procedure for RAP 7.1 and RAP 7.2. New procedures included in this printing.
010	2/15/98	Revised Fault Message changes to Section 7. Changes included in this printing.
011	2/15/98	Revised part numbers. The revisions are included in this manual.
012	2/15/98	New RAP procedure for message "Processing". New RAP is 7.69 and is included in this printing.
013	2/15/98	Revised Table of Contents for Section 7. The revisions are included in this manual.
014	2/17/98	New Specification included in Section 2 regarding Print Alignment. New specification included in this printing.

Bulletin #	Date	Description
015	2/17/98	Revised Table of Contents for Section 2. The revisions are included in this manual.
016	2/17/98	Revised registration procedure instructions. The revisions are included in this manual.
017	2/17/98	Revised Table of Contents for Section 4. The revisions are included in this manual.
018	8/14/98	N24/N32 Boot Code Downloading Capability
019	8/18/98	N24/N32/N40 1.7X System Controller PWB Overall Requirement
020	9/9/98	N24/N32 1.7X System Controller PWB Memory Requirement
021	9/9/98	N24/N32 1.7X System Controller PWB Options Requirement
022	1/13/99	Use of DC220/DC230 Printer Family Spare Parts on the N24/N32/N40 Printer Family
023	2/17/99	Area F Paper Jams - Announcement of Finisher Transport Repair Kit
024		
025		
026		
027		
028		
029		
030		

#### Table 5.13.1 N24/N32/N40 Technical Bulletins

#### Table 5.13.2 N40 Only Technical Bulletins

Bulletin #	Date	Description
001	8/3/98	Announcement of DocuPrint N40 Launch
002		
003		
004		
005		

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# 5.14 Glossary of Terms, Acronyms, and Abbreviations

A- AC Aux	Alternating Current Auxiliary
<b>B-</b> BCR BTR	Bias Charge Roll Bias Transfer Roll
<b>C-</b>	Degrees Celsius
°C	Counterclockwise
CCW	The uniform negative voltage that the High Voltage Power Supply applies to the surface of the
Charge	drum
Continuity	A resistance reading of approximately 0 ohms
Controller PWB	The electrical interface between the printer Printer Engine Controller and the host computer
CR	Signal name for the Charge voltage
CRU	Customer Replaceable Unit, such as the EP Cartridge
CW	Clockwise
D-	Direct Current
DC	Signal name for the Developer Bias voltage
DB	The process when toner adheres to the latent image on the drum
Develop	The visible image on the drum after going through the development stage
Developed image	The mode of operation that lets you check various components, such as sensors, solenoids,
Diagnostic Mode	and motors
DPI	Dots Per Inch
Drum	The Xerographic photoreceptor
DTS	Signal name for the Detack Saw voltage
DUP	Duplex
Duplex	Printing on both sides of a single sheet of paper
E- Earth Earth Plate EP Cartridge Error Code ESS Exposure	Electrical ground Electrical ground plate or ground strap Electro-Photography Cartridge; sometimes referred to as the Print Cartridge or as the EP Car- tridge A unique set of letters and numbers that the printer displays to indicate that a problem exists in a specific area of the printer Electronic Subsystem; synonym for the System Controller PWB The action of the laser beam striking and discharging select areas of the electrically charged

F-			
°F	Degrees Fahrenheit		
Factory default	An adjustment value that is set at the time of equipment manufacture		
FG	Frame Ground		
FIP	Fault Isolation Procedure. Step by step procedures that you use to troubleshoot printer prob- lems		
Fuser	The printer subsystem that uses heat and pressure to permanently adhere, or fuse, a trans- ferred toner image to a sheet of paper		
G-			
Ground	Electrical ground		
H-			
Harness	A bundle of wires that form a single unit and are generally terminated with connectors at both ends		
High <i>(signal)</i>	A signal voltage that is equal to or almost equal to the base voltage; such as +5VDC or +24VDC. <i>(see Low)</i>		
H/R	Heat Rod. A component of the Fuser Assembly		
HS	High Speed		
HVPS	High Voltage Power Supply		
I-			
Input test	Diagnostic test used to test switches and sensors		
Image density	The relative darkness of the toner image on a sheet of paper		
Image developme	entToner turning the latent image into a visible image. (see Develop)		
Image fusing	Using heat and pressure to permanently adhere the toner image to a sheet of paper		
Image transfer	Moving the developed image from the surface of the drum to the surface of a sheet of paper		
Interlock	Interlock Switch. Used as a safety measure to remove voltage from circuits whenever the printer covers are open		
ΙΟΤ	Image Output Terminal. Acronym that is sometimes used in schematic diagrams to describe print engine		
J-			
J	Jack. A female electrical connector		
L-			
Laser Diode	Generates the laser beam that is used in the Laser		
L	Left		
Latent image	The invisible, electrical image remaining on the surface of the drum after exposure		
L/H	Left hand		
Laser	Refers to the Laser Diode or to the laser beam		
Laser beam path	The path the laser beam takes, through lenses and mirrors, from the Laser Diode to the surface of the drum		
LCD	Liquid Crystal Diode		
LD	Laser Diode. (see Laser Diode)		
LED	Light Emitting Diode		
Low (signal)	A signal voltage that is significantly lower than the base voltage (see High)		
LVPS	Low Voltage Power Supply		
15	Low Speed		

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M- MCU MBF MID MOT	Machine Control Unit. The PWB that controls the operation of the IOT Multi Bypass Feeder Middle Motor
N- NC NVRAM	No Connection Non-Volatile Random Access Memory
<b>O-</b> Output test	Diagnostic tests used to switch on motors, solenoids, and the HVPS
P- Paper jam Paper path P/H PL PLL PLL P/J PPM Pre-Regi Print surface Primary FIP	A sheet of paper stops at a point along the paper path The path a sheet of paper takes from the paper feeder to the output bin Paper Handling Parts List Phase Locked Loop Plug. A male electrical connector Plug and Jack. Electrical connectors as a unit Pages Per Minute or Prints Per Minute Pre-Registration The side of a sheet of paper that receives the printed image The first level of troubleshooting. Primary FIPS ask you to make component checks, replace parts, or proceed to a specific Secondary FIP Power Supply Printed Wiring Board. Synonym for PCB (Printed Circuit Board)
R- Reg, or Regi R R/H RTN S- Sensor SG Signal name Simplex SNR SOL SOS STA STS SW	Registration Right Right Hand Return A device used to monitor a function or operation, such as paper travel along the paper path Signal Ground A name given to a wire indicating the purpose of the wire and/or the voltage carried by that wire Generally means printing on one side of a single sheet of paper. <i>(see Duplex)</i> Sensor Solenoid Start Of Scan Status Soft Touch Sensor Switch

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Т-			
Temp	Temperature		
Test Print Mode	lode The mode of operation that lets you generate a test pattern		
Test Pattern	A grid that is generated by the Printer Engine Controller		
Toggle	To switch between two states, such as on and off or up and down		
Toner	The dry ink that is used to create the visible image. Toner is stored in the EP Cartridge		
TR	Signal name for Transfer current		
Transfer	Moving the toner image from the surface of the drum to the surface of a sheet of paper		
TTL	Transistor Transistor Logic		
V-			
V	Volts		
W-			
Warm-up	The time it takes the printer to go from main power ON to Ready to Print		
Wire Harness	A bundle of wires that form a single unit and are generally terminated with connectors at both ends.		

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Notes:

# **Section 6**

# Wiring Data

6.1 Master Connection and Wiring Diagram	6-3
6.2 Plug / Jack Locator	6-5
6.2.1 Laser Assembly Area	
6.2.2 Multisheet Bypass Feeder Area	6-6
6.2.3 Offset / Exit Area	6-7
6.2.4 Printer Engine Controller PWB Area	6-8
6.2.5 Low Voltage Power Supply	6-10
6.2.6 System Controller Interface PWB	6-11
6.2.7 AC Driver PWB and Noise Filter	6-12
6.3 Wiring Harnesses	6-13
6.3 Wiring Harnesses 6.3.1 AC Input	<b>6-13</b> 6-13
<ul> <li>6.3 Wiring Harnesses</li> <li>6.3.1 AC Input</li> <li>6.3.2 AC Driver PWB / Fuser</li> </ul>	<b>6-13</b> 6-13 6-14
<ul> <li>6.3 Wiring Harnesses</li> <li>6.3.1 AC Input</li> <li>6.3.2 AC Driver PWB / Fuser</li> <li>6.3.3 Low Voltage Power Supply</li> </ul>	6-13 6-13 6-14 6-15
<ul> <li>6.3 Wiring Harnesses</li> <li>6.3.1 AC Input</li> <li>6.3.2 AC Driver PWB / Fuser</li> <li>6.3.3 Low Voltage Power Supply</li> <li>6.3.4 Control Panel</li> </ul>	6-13 6-13 6-14 6-15 6-15
<ul> <li>6.3 Wiring Harnesses</li> <li>6.3.1 AC Input</li> <li>6.3.2 AC Driver PWB / Fuser</li> <li>6.3.3 Low Voltage Power Supply</li> <li>6.3.4 Control Panel</li> <li>6.3.5 System Controller Interface PWB</li> </ul>	6-13 6-13 6-14 6-15 6-15 6-16
<ul> <li>6.3 Wiring Harnesses</li> <li>6.3.1 AC Input</li> <li>6.3.2 AC Driver PWB / Fuser</li> <li>6.3.3 Low Voltage Power Supply</li> <li>6.3.4 Control Panel</li> <li>6.3.5 System Controller Interface PWB</li> <li>6.3.6 Laser Assembly</li> </ul>	6-13 6-13 6-14 6-15 6-15 6-16 6-17
<ul> <li>6.3 Wiring Harnesses</li> <li>6.3.1 AC Input</li> <li>6.3.2 AC Driver PWB / Fuser</li> <li>6.3.3 Low Voltage Power Supply</li> <li>6.3.4 Control Panel</li> <li>6.3.5 System Controller Interface PWB</li> <li>6.3.6 Laser Assembly</li> <li>6.3.7 Toner Sensor / EP Cartridge</li> </ul>	<b>6-13</b> 6-13 6-14 6-15 6-15 6-16 6-17 6-17

3/99 6-1

6.3.9 Main Motor and Fuser Fan6-1	18
6.3.10 EP Cartridge and Upper Left Cover Interlock	19
6.3.11 Tray 1 Lift Up Motor and Take Away Roll Sensor	19
6.3.12 Tray 2 Sensors, Lift up Motor, and Feed Clutch	20
6.3.13 Multisheet Bypass Feeder6-2	21
6.3.14 Tray 1 Sensors	22
6.3.15 Tray 1 Clutches	22
6.3.16 Offset / Exit Assembly	23
6.3.17 Mailbox	24
6.3.18 Finisher	24

# 6.1 Master Connection and Wiring Diagram





# 6.2 Plug / Jack Locator

### 6.2.1 Laser Assembly Area



- 1 P/J106 Start Of Scan Sensor from Printer Engine Controller PWB.
- 2 P/J407 Laser Diode from Printer Engine Controller PWB. The EP Cartridge Interlock Switches are inline between P/J407 and the Printer Engine Controller PWB.
- 3 P/J430 Video Data from the System Controller Interface PWB.
- **4** P499 Manufacturing Test Connector from the AC Driver PWB.
- **5** J13 AC supply connector for the Finisher.
- 6 P/J207 Laser Motor from Printer Engine Controller PWB.

### 6.2.2 Multisheet Bypass Feeder Area



- 1 P/J107 MBF Size Sensor, to P/J604/603, to Printer Engine Controller PWB.
- 2 P/J208 MBF Feed Clutch, to P/J604/603, to Printer Engine Controller PWB.
- 3 P/J604 MBF Connector to Printer Engine Controller PWB.
- 4 P/J103 Tray 1 Lift Up Sensor from Printer Engine Controller PWB.
- 5 P/J100 Registration Sensor from Printer Engine Controller PWB.
- 6 P/J102 Tray 1 No paper Sensor from Printer Engine Controller PWB.
- 7 P/J101 Tray 1 Take Away Sensor from Printer Engine Controller PWB.
- 8 P/J108 MBF No Paper Sensor, to P/J604/603, to Printer Engine Controller PWB.

# 6.2.3 Offset / Exit Area



- 1 P/J133 Stack Full Sensor to Printer Engine Controller PWB.
- 2 P/J210 Exit Gate Solenoid to Printer Engine Controller PWB.
- **3** P/J109 Face Up Exit Sensor to Printer Engine Controller PWB.
- 4 P/J204 Fuser Fan to Printer Engine Controller PWB.
- 5 P/J12 Fuser Heat Rods to AC Driver PWB.
- 6 P/J104 Fuser Exit Sensor from Printer Engine Controller PWB.
- 7 P/J218 Inverter Clutch to Printer Engine Controller PWB.
- 8 P/J219 Inverter Clutch to Printer Engine Controller PWB.
- 9 P/J601 Inline connector between the sensors and the Printer Engine Controller PWB.
- **10** P/J600 Inline connector between Fuser Connector and the Printer Engine Controller PWB.
- **11** P/J209 Offset Motor to Printer Engine Controller PWB.
- **12** P/J602 Inline connector between the clutches and the Printer Engine Controller PWB.

# 6.2.4 Printer Engine Controller PWB Area



- 1 P/J500 High Voltage Power Supply to the Printer Engine Controller PWB.
- 2 P/J456 Printer Engine Controller PWB to EP Cartridge Switches, Start of Scan .
- 3 P/J400 Printer Engine Controller PWB to P/J501/502 on the LVPS.
- 4 P/J458 Printer Engine Controller PWB to EP Cartridge and Upper Left Cover Interlock Switches.
- 5 P/J457 Printer Engine Controller PWB to High Voltage Power Supply.
- 6 P/J234 Inline connector between the Laser Diode and the Printer Engine Controller PWB.
- 7 P/J454 Printer Engine Controller PWB to EP Cartridge.
- 8 P/J606 EP Cartridge to the Printer Engine Controller PWB.
- 9 P/J460 Printer Engine Controller PWB to the Fuser Fan and Main Motor.
- **10** P/J205 Main Motor to Printer Engine Controller PWB.
- 11 P/J127 Toner Empty Sensor to Printer Engine Controller PWB.
- 12 P/J462 Printer Engine Controller PWB to all sensors, clutches, and motors on the Offset Unit, and to the Tray 1 Feed and Take Away clutches. Also to the Registration Clutch.
- **13** P/J200 Registration Clutch to Printer Engine Controller PWB.
- 14 P/J231 Upper Left Cover Interlock Switch to EP Cartridge Interlock Switch.
- 15 P/J230 Upper Left Cover Interlock Switch to Printer Engine Controller PWB.
- **16** P/J401 Printer Engine Controller PWB to AC Driver PWB and Fuser Fan.
- 17 P/J202 Tray 1 Feed Clutch to Printer Engine Controller PWB.
- 18 P/J201 An inline connector (not used) to Printer Engine Controller PWB.
- **19** P/J203 Tray 1 Lift Up Motor to Printer Engine Controller PWB.
- 20 P/J603 Inline connector between P/J403 (Printer Engine Controller PWB) and P/J604 (MBF).
- 21 P/J461 Printer Engine Controller PWB to Tray 1 Size Sensors.
- **22** P/J459 Printer Engine Controller PWB to the Registration Sensor and Tray 1 No Paper and Lift Up Sensors.
- **23** P/J403 Printer Engine Controller PWB to Tray 1 Take Away Sensor, Tray 1 Lift Up Motor, and to the MBF.
- 24 P/J405 Printer Engine Controller PWB to the Mailbox or Finisher.
- **25** P/J406 Printer Engine Controller PWB to the High Capacity Feeder.
- **26** P/J404 Printer Engine Controller PWB to the Duplex Module.
- 27 P/J408 Printer Engine Controller PWB to Tray 2 sensors (4), Lower Left Side Interlock Switch, Tray 2 Feed Clutch and Lift Up Motor.
- 28 P/J402 Printer Engine Controller PWB to System Controller Interface PWB.
- **29** P/J410 Used to run diagnostics from the Printer Engine Controller PWB.
- **30** P/J105 Tray 1 Size Sensor to Printer Engine Controller PWB.

## 6.2.5 Low Voltage Power Supply



- **1** P/J1 AC input from the main Switch.
- 2 P/J502 24VDC from the LVPS to the System Controller Interface PWB and to the Printer Engine Controller PWB.
- 3 P/J235 Inline connector between the LVPS Fan and the Printer Engine Controller PWB.
- 4 P/J501 5VDC from the LVPS to the System Controller Interface PWB and to the Printer Engine Controller PWB.

## 6.2.6 System Controller Interface PWB



- 1 P/J424 System Controller PWB Fan.
- 2 P/J422 Connection to P/J402 on the Printer Engine Controller PWB.
- 3 P/J421 Connection to P/J417 on the Control Panel.
- 4 P/J420 Connection to P/J501 and P/J502 on the LVPS.
- **5** P/J425 Not Used.
- 6 P/J423 Connection to System Controller PWB.
- 7 P/J416 Video Data to P/J430 on the Laser Assembly.

### 6.2.7 AC Driver PWB and Noise Filter



- 1 P/J477 Fuser control from the Printer Engine Controller PWB.
- 2 P/J23 AC output to J/P12 Fuser Connector.
- **3** P/J20 AC input from Main Switch.
- 4 P/J478 Connection to Manufacturing Test Connector.
- 5 P/J19 AC Line from Noise Filter PWB to Main Switch.
- 6 F55 AC Line from Input to Noise Filter PWB.
- 7 F56 AC Neutral from input to Noise Filter PWB (US), AC Line from Input to Noise Filter PWB (RX).
- 8 P/J21 AC line to Flicker Transformer (220V only).

# 6.3 Wiring Harnesses

# 6.3.1 AC Input



# 6.3.2 AC Driver PWB / Fuser



## 6.3.3 Low Voltage Power Supply



# 6.3.4 Control Panel



SER602F

# 6.3.5 System Controller Interface PWB



### 6.3.6 Laser Assembly



SER604F

### 6.3.7 Toner Sensor / EP Cartridge




#### 6.3.8 High Voltage Power Supply (HVPS)

#### 6.3.9 Main Motor and Fuser Fan



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#### 6.3.10 EP Cartridge and Upper Left Cover Interlock



#### 6.3.11 Tray 1 Lift Up Motor and Take Away Roll Sensor



3/99 DocuPrint N24, N32 and N40 Service Manual 6-19



#### 6.3.12 Tray 2 Sensors, Lift up Motor, and Feed Clutch

#### 6.3.13 Multisheet Bypass Feeder





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#### 6.3.14 Tray 1 Sensors



#### 6.3.15 Tray 1 Clutches



3/99

6-22

#### 6.3.16 Offset / Exit Assembly



#### 6.3.17 Mailbox



#### 6.3.18 Finisher



# **Section 7**

# **Repair Analysis Procedures**

Using RAPs	7-3
RAP 7.1 Entry Level	7-6
RAP 7.2 Paper Jam/Clear Area A Entry	7-8
RAP 7.3 Clear Area A / Reset Tray 1 (C1-3)	7-9
RAP 7.4 Jam Area B / Reset Tray 2 (C2-2)	7-10
RAP 7.5 Paper Jam / Clear Area A (C2-3)	7-11
RAP 7.6 Jam Area A, B / Reset Tray 2 (C8-2)	7-12
RAP 7.7 Clear Area A / Reset Env/Bypass (C9-3)	7-13
RAP 7.8 Paper Jam / Clear Area A (E1-1, E1-2, E1-3, E1-6)	7-15
RAP 7.9 Paper Jam / Clear Area A (E3-1)	7-17
RAP 7.10 Paper Jam / Close Area A (E4-1, E4-3, E4-5, E4-6)	7-18
RAP 7.11 Close Door A (E5-1)	7-19
RAP 7.12 Close Door B (E5-2)	7-20
RAP 7.13 Tray 1 Problem (H1-1)	7-21
RAP 7.14 Tray 2 Problem (H1-2)	7-22
RAP 7.15 Duplex Unit Fail / Service Required (H2-7)	7-23
RAP 7.16 Replace Toner Cartridge (J1-2/J6-1)	7-24
RAP 7.17 Toner Cartridge / OEM ID Mismatch (J8-1)	7-25
RAP 7.18 CRUM Failure (J8-3/J8-4)	7-26
RAP 7.19 Motor Failure (U1-1)	7-27
RAP 7.20 Fan Failure (U1-3)	7-29
RAP 7.21 Laser Failure (U3-2, U3-3, U3-4, & U3-5)	7-30
RAP 7.22 Fuser Failure (U4-1, U4-2, & U4-3)	7-31
RAP 7.23 Fuser Fan Fail (U4-9)	7-32
RAP 7.24 MCU Failure (U6-1)	7-33
RAP 7.25 IOT MEM Failure (U6-2)	7-34

RAP 7.26 IOT NVM Fail (U6-3, U6-4)	7-35
RAP 7.27 Inoperative Printer	7-36
RAP 7.28 Erratic Operation	7-37
RAP 7.29 Replace Toner Cartridge (J1-2)	7-39
RAP 7.30 Inoperative Interlock Switch	7-40
RAP 7.31 Inoperative Offset	7-41
RAP 7.32 Electrical Noise	7-42
RAP 7.33 Image Quality Problems	7-44
RAP 7.34 Light (Undertoned) Prints	7-55
RAP 7.35 Blank Prints	7-56
RAP 7.36 Black Prints	7-57
RAP 7.37 Vertical Band Deletions	7-58
RAP 7.38 Horizontal Band Deletions	7-60
RAP 7.39 Vertical Streaks	7-61
RAP 7.40 Horizontal Streaks	7-62
RAP 7.41 Spot Deletions	7-63
RAP 7.42 Spots	7-64
RAP 7.43 Residual Image or Ghosting	7-65
RAP 7.44 Background	7-66
RAP 7.45 Skewed Image	7-67
RAP 7.46 Damaged Prints	7-68
RAP 7.47 Unfused Image or Image Easily Rubbed Off	7-69
RAP 7.48 Image Not Registered Correctly	7-70
RAP 7.49 Memory Mismatch	7-71
RAP 7.50 0001 - ESS	. 7-73
RAP 7.51 0001 - BASE ROM	. 1-14
RAP 7.52 0001 - ROM BOARD	7-75
RAP 7.53 0001 - BASE RAM	7-76
RAP 7.54 0001 - ASIC	7 70
RAP 7.55 0001 - DIMA	7-78
RAP 7.56 0001 - COMM	7-79
RAP 7.57 0002 - ESS FAN	7-80
RAP 7.50 0010 - DISK	7 01
RAP 7.59 0101 - SININI	7 02
RAP 7.00 0102 - SININIZ	7 01
RAP 7.01 0103 - SIMMA	7-85
PAD 7 63 0105 - SIMM5	7-86
RAP 7.65 0103 - SIMMS	7-87
RAP 7 65 2000 - XIF RAM	7-97
RAP 7 66 3000 - Token Ring	7-80
RAP 7 67 4000 - NIC	7-09
RAP 7 68 5000 - MEMORY	7-91
RAP 7 69 Printer hangs with "Processing" Message	7-92
RAP 7 70 "IM****" Message Faults	7-02
	1 30

## Using RAPs

In each of the following Repair Analysis Procedures (RAPs) you are instructed to perform certain actions and make observations. The instruction is followed by a statement. If your response to the statement is yes, perform the action following the "Y". If your response to the statement is no, perform the action following the "N."

In addition, keep the following points in mind while performing any RAP:

- 1 RAPs use the following notation when referring to printer connections:
  - P/J XX indicates Plug/Jack XX is connected to a component.
  - CN XX indicates connector XX is connected to a component.
  - P XX refers to the plug of P/J XX (except for connectors soldered directly to the board).
  - J XX refers to the jack of P/J XX (except for connectors soldered directly to the board).
- 2 When you take a voltage reading at a P/J location, the notation "P/J3-5 and P/J 2-6" indicates that you should place the red probe (+) of the voltmeter on pin 5 of P/J 3, and place the black probe (-) of the voltmeter on pin 6 of P/J 2. In most cases the second P/J pin in the notation is a Return (RTN), Frame Ground (FG), or Signal Ground (SG).
- **3** When a RAP tells you to take a reading between P/J X and P/J Y, with no pin numbers given, refer to the Wiring and Connection Diagrams in Section 6 and take readings on ALL pins.
- 4 Voltage values stated in RAPs are approximate. Actual voltages you get may differ slightly. A small difference in voltage is acceptable.
- 5 Refer to the appropriate Repair Procedures if you must remove, replace or reinstall a component.
- 6 The term *replace* means the named part or parts could be the cause of the initial problem. Example: the phrase "replace the Fuser Assembly" means to remove the current Fuser Assembly and replace with a new Fuser Assembly.
- 7 Throughout these procedures, the term "vertical" refers to the process direction (the direction paper travels through the printer); the term "horizontal" refers to the scanning direction (the direction the laser beam scans across the page).

#### **Image Quality Problems**

Use letter-size paper or A4 paper when troubleshooting an image quality problem. Use the System Controller Test Prints to determine whether an image quality problem is being caused by the printer or by the host. If the test prints are normal, but in the Online mode the prints have an image quality problem, the problem may be in the System Controller PWB, Serial or Network Option PWB, Interface Cable, or with the Host Computer.

#### ESD

The following symbol will be displayed when the components in an area are susceptible to electrostatic discharge. Use all appropriate ESD procedures.



#### The use of System Controller Test Print

Image Quality RAPs may ask you to run a specific Diagnostic Test Print subroutine to help isolate the cause of an image quality problem. For each subroutine the printer circuity generates a test print that serves a single, diagnostic purpose. Follow the instructions in each RAP to evaluate the test print. The test patterns are built into the printer circuity, so Test Print is an excellent tool for isolating and diagnosing print quality problems.

#### Defaults

Unless you specify otherwise, the printer generates a test print using the default values;

- Simplex mode
- Feed from Tray 1
- Print the current selected image area
- Deliver to the Face Down Output Tray, with no sheet offset

#### To generate a System Controller Test Print (Figure 7.1).

- **1** With Ready displayed, press the "0" key to put the printer in the Off-line Mode.
- 2 Press the "1" key twice to display "Menus/Test Menu" on the LCD.
- 3 Press the "2" key three times to display "Test Print" on the bottom line of the LCD.
- 4 Press the "4" key to initiate the printing of the System Controller Test Print



#### Figure 7.1. System Controller Test Print

#### Before entering the RAPs, check to ensure:

- 1 The printer plugged into a recommended AC wall outlet.
- 2 The AC power provided at the wall outlet within recommended specifications.
- **3** The AC power cord connected to the printer.
- **4** The AC power cord in good condition; not frayed or broken.
- 5 The printer properly grounded through the AC wall outlet.
- 6 The printer located in an area where the temperature and humidity are moderate and stable.
- 7 The printer located in an area that is free of excessive dust.
- 8 The printer located in an area away from water outlets, steamers, electric heaters, volatile gases, or open flames.
- **9** The printer shielded from the direct rays of the sun.
- **10** The printer has recommended space around all sides for proper ventilation.
- **11** The printer sitting on a level and stable surface.
- 12 The recommended paper stock is being used in the printer.
- **13** The customer uses the printer as instructed in the User Manual.
- 14 Consumables, such as the Print Cartridge (EP Cartridge), replaced at recommended intervals.

## **RAP 7.1 Entry Level**

If the display indicates a Error Message/Error Code, or there is an obvious failure or fault, go immediately to the appropriate Error Message/Error Code, Repair Procedure, or Repair Analysis Procedure. If you are not sure where to begin, continue troubleshooting using the following steps. If the printer exhibits intermittent operation and/or inconsistent failure symptoms, the problem may be due to electrical noise.

- **1** Perform the following:
- Disconnect the AC power.
- Disconnect the Duplex Module, if installed.
- Disconnect the High Capacity Feeder, if installed.
- Disconnect the Mailbox Assembly, if installed.
- Disconnect the Finisher, if installed.
- Check the printer paper path for jammed paper or other obstacles
- Ensure that the paper trays have a good supply of fresh paper and are fully inserted in the printer.
- Ensure the EP Cartridge is properly installed.
- Ensure that all covers are properly closed.
- **2** Reconnect the AC power cord and switch the AC power on. The Fuser Fan runs after two seconds.
  - Y N

- **3** The fuser fan cycles three times during initialization.
  - Y N
  - Go to RAP 7.23.
- 4 Pull all paper trays except tray 1. Run a Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X. Paper is delivered to the output tray.
  - Y N
  - Go to RAP 7.2.
- **5** The test print meets/surpasses the Image Quality Specifications established in RAP 7.43.
  - Y

Ν

- Go to RAP 7.33.
- 6 Pull tray 1 and insert tray 2. Run a Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X. Paper is delivered to the output tray.
  - Y N

Go to RAP 7.4.

- 7 Pull tray 2. Run a Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X. from the MBF. Paper is delivered to the output tray.
  - Go to RAP 7.7.

Go to RAP 7.27.

8 Insert all trays. Print a Configuration Sheet (5.5.2.2.1) for Version 1.7X and below or (5.6.2.2.1) for Version 1.8X. The amount of memory listed on the Config Sheet matches the actual memory in the printer.

Y N

Go to RAP 7.49.

**9** Ask the customer to print a document from an application program at the host. The document prints successfully.

Y N

L

- Have the customer validate the application and printer setup.
- **10** The basic printer appears to be functioning properly. The printer has options.

Y N

- Entry Level is complete.
- **11** Perform the following tasks in order as related to the option installed:
  - Generate 20 System Controller Test Prints (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X from Trays 3, 4, & 5, if HCF Option is installed.
  - Generate 10 System Controller Duplexed Test Prints (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X (Long Edge) from any input tray to all output bins, if Duplex Option is installed.
  - Generate 5 System Controller Test Prints (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X from any input tray and output to each Mailbox Bin, if the Mailbox Option is installed.
  - Generate 20 System Controller Test Prints (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X from Trays 3, 4, & 5, and output to each output bin with Dual Stapled enabled, if the Finisher Option is installed.

All options tested above function properly.

- Y N
- Refer to the appropriate option check out procedure in Section (8).
- **12** Go to 1.4 Final Actions.

### RAP 7.2 Paper Jam/Clear Area A Entry

Use the following procedure to determine the RAP required to troubleshoot the appropriate paper jam.

NOTE: Verify that all paper trays have paper and all trays are in the feed position.

- 1 Switch the printer power off, then on. Generate a Configuration Sheet (5.5.2.2.1) for Version 1.7X and below or (5.6.2.2.1) for Version 1.8X from all Trays and outputted to the face down bin and face up bin. The message "**Paper Jam/Clear Area A**" is displayed on the Control Panel and paper is jammed at or before the Registration Sensor.
  - Y N
  - Go to step 3.
- 2 Go to RAP 7.8.
- 3 The paper is jammed between the Registration Sensor and the Fuser Exit Sensor.
  - Y N
  - Go to step 5.
- 4 Go to RAP 7.9.
- 5 The paper is jammed when the face up bin is selected.
  - Y N
  - Go to step 7.
- 6 Go to RAP 7.10.
- 7 The Duplex Option is installed and the jam occurs when the Duplex option is used.
  - Y N
  - Go to step 9.
- 8 Go to RAP 8.1.7.1.
- 9 The Envelope Feeder is installed and the jam occurs when the Envelope Feeder Option is used.

- The jam occurs when the HCF Option is used. Go to RAP 8.4.7.4.
- **10** Go to RAP 8.3.7.2.

## RAP 7.3 Clear Area A / Reset Tray 1 (C1-3)

1 Inspect the paper that is loaded in the paper tray. The paper loaded in the tray is smooth (not wrinkled) and undamaged.

Y N

- Replace the paper with new paper.
- 2 Inspect the paper path for paper scraps or foreign objects that could cause a paper jam. The paper path is clear.

Y N

- Clear the paper path.
- 3 Enter Diagnostic Mode 5.4.5 Running a Service Output Test, Feed Clutch Operation (Select Tray 1) to check the Tray 1 Feed Clutch function. The Tray 1 Feed Clutch energizes when Output Test starts.

Y N

- Replace the Tray 1 Feed Clutch (REP 4.2.3).
- 4 Enter Diagnostic Mode and generate a Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X. After generating a print, open the left upper cover and verify a sheet of paper was fed into the registration area.

Y N

- Replace the Tray 1 Feed Rolls (REP 4.2.5).
- **5** Enter Diagnostic Mode 5.4.6 Running a Service Sensor (H/L) Input Test, Regi Sensor Detect. Insert a sheet of paper into the Registration Sensor and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays H when paper is inserted into the Registration Sensor, and displays L when the paper is removed.

- Replace the Registration Sensor (REP 4.4.2).
- 6 Replace the Printer Engine Controller PWB (REP 4.10.6).

## RAP 7.4 Jam Area B / Reset Tray 2 (C2-2)

1 Inspect the paper that is loaded in the paper tray. The paper loaded in the tray is smooth (not wrinkled) and undamaged.

Y N

- Replace the paper with new paper.
- 2 Inspect the paper path for paper scraps or foreign objects that could cause a paper jam. The paper path is clear.

Y N

Clear the paper path.

**3** Enter Diagnostic Mode - 5.4.5 Running a Service Output Test, Lift Up Motor Operation to test the Tray 2 Lift Up Motor function. The Motor runs when the Output Test starts.

Y N

- Check wiring between P/J 408 to P/J 241 (6.3.12). If OK, replace Tray 2 Lift Up Motor (REP 4.2.2).
- 4 Enter Diagnostic Mode 5.4.5 Running a Service Output Test, Feed Clutch Operation (Select Tray 2) to check the Tray 2 Feed Clutch function. The Tray 2 Feed Clutch energizes when the Output Test starts.

Y N

- Check wiring between P/J 408 to P/J 240 (6.3.12). If OK, replace the Tray 2 Feed Clutch (REP 4.2.4).
- 5 Generate a System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X to check the Tray 2 Feed function. A sheet of paper was fed out of paper Tray 2 and into the Take Away Roll area.

Y N

- Replace Tray 2 Feed Rolls (REP 4.2.5).
- 6 Enter Diagnostic Mode 5.4.5 Running a Service Output Test, Main Motor On/Off to start the Main Motor. Open the Tray 2 Transport Cover. The Take Away Rolls rotate when you run the Main Motor.

Y N

- Replace Tray 2 Take Away Rollers (REP 4.2.7)
- 7 Enter Diagnostic Mode 5.4.6 Running a Service Sensor (H/L) Input Test, T/A Roll Sensor Detect (Select Roll 2). Insert a sheet of paper into the Tray 2 Take Away Sensor and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays L when paper is inserted into the Tray 2 Take Away Sensor and displays H when the paper is removed.

- Check wiring between P/J 408 and P/J 143 (6.3.12). If OK, replace the Tray 2 Take Away Sensor (PL 5.2).
- 8 Replace the Printer Engine Controller PWB (REP 4.10.6).

## RAP 7.5 Paper Jam / Clear Area A (C2-3)

1 Inspect the paper that is loaded in the paper tray. The paper loaded in the tray is smooth (not wrinkled) and undamaged.

- Replace the paper with new paper.
- 2 Inspect the paper path for paper scraps or foreign objects that could cause a paper jam. The paper path is clear.

Y N

- Clear the paper path.
- **3** Enter Diagnostic Mode 5.4.5 Running a Service Output Test, Main Motor On/Off to start the Main Motor. Open the Tray 2 Transport Cover. The Take Away Rolls rotate when you run the Main Motor.

Y N

- Replace Tray 2 Take Away Rolls (REP 4.2.7).
- 4 Enter Diagnostic Mode 5.4.6 Running a Service Sensor (H/L) Input Test, Regi Sensor Detect (Select Roll 2). Insert a sheet of paper into the Registration Sensor and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays H when paper is inserted into the Registration Sensor, and displays L when the paper is removed.

Y N

- Check wiring between P/J 459 and P/J 100 (6.3.14). If OK, replace the Registration Sensor (REP 4.4.2).
- 5 Replace the Printer Engine Controller PWB (REP 4.10.6).

3/99 7-11

Y N

## RAP 7.6 Jam Area A, B / Reset Tray 2 (C8-2)

1 Inspect the Tray 2 Take Away Sensor for contamination or paper scraps that may have actuated the sensor. The Sensor is clean and free of paper scraps.

- Clean or clear paper scraps from the Sensor.
- 2 Enter Diagnostic Mode 5.4.6 Running a Service Sensor (H/L) Input Test, T/A Roll Sensor Detect (Select Roll 2). Open the Left Upper Cover. Insert a sheet of paper into the Tray 2 Take Away Sensor and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays "IS WITH PAPER" when paper is inserted into the Tray 2 Take Away Sensor, and displays "IS WITHOUT PAPER" when the paper is removed.

- Check wiring between P/J 143 and P/J 408 (6.3.12). If OK, replace the Tray 2 Take Away Sensor (PL 5.2).
- **3** Replace the Printer Engine Controller PWB (REP 4.10.6).

Y N

## RAP 7.7 Clear Area A / Reset Env/Bypass (C9-3)

1 Inspect the paper that is loaded in the MBF. The paper loaded in the MBF is smooth (not wrinkled) and undamaged.

Y N

- Replace the paper with new paper.
- 2 Inspect the paper path for paper scraps or foreign objects that could cause a paper jam. The paper path is clear.

Y N

- Clear the paper path.
- **3** Run System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X, feeding from the MBF. Observe the paper in the MBF Tray. The paper is partially fed out of the MBF Tray.

Y N

- Go to step 5.
- 4 Replace the MBF Feed Roll (REP 4.3.3), Nudger Roll (REP 4.3.4), and Pad (REP 4.3.5).
- 5 Remove the Upper Rear Cover Assembly (REP 4.1.3) so you can observe the Main Drive Assembly and the MBF Drive Gear Assembly. Enter Diagnostic Mode, 5.4.5 Running a Service Output Test, Main Motor On/Off to check the MBF Drive Assembly. The Main Drive Assembly rotates the MBF Drive Gear Assembly.

Y N

- Replace the MBF Feeder Assembly (REP 4.3.1).
- 6 Run Diagnostic Mode, 5.4.5 Running a Service Output Test, Feed Clutch Operation (Select MBF/ ENV). The ENV/MBF Feed Clutch energizes.
  - Y N
  - Check wiring between P/J 403 and P/J 208 (6.3.13) or between P/J 703 and P/J 221 (WIR 8.3.5.1). If OK for MBF, then go to step 7. If OK for ENV, then go to step 8. Replace the MBF Feed Clutch (REP 4.3.7) or ENV Feed Clutch (PL 8.3.2.3).
- 7 Enter Diagnostic Mode 5.4.6 Running a Service Sensor (H/L) Input Test, Regi Sensor Detect. Insert a sheet of paper into the Registration Sensor and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays H when paper is inserted into the Registration Sensor, and displays L when the paper is removed.

Y N

- Replace the Registration Sensor (REP 4.4.2).
- 8 Measure across P/J 604-7 and FG to verify that +24VDC is present. Voltage measured

Y N

- Check wiring from P/J 403 to P/J 604 (6.3.13). If OK, replace the Printer Engine Controller PWB (REP 4.10.6).
- **9** Measure across P/J 703-2 to FG and verify +24VDC is present. Voltage is measured.

Y N

Check wiring between P/J 604 and PJ 700 (WIR 8.3.5.1). If OK, replace Envelope Feed Clutch (PL 8.3.2.3).

10 Run Diagnostic Mode, 5.4.5 Running a Service Output Test, Feed Clutch Operation (Select MBF/ ENV). Using the DMM verify voltage at P/J 604-6 and FG (6.3.13) goes from +24VDC to 0VDC when [4] is pressed. Voltage changes.

Y N

- Go to step 12.
- 11 Check wiring from P/J 403 to P/J 604 (6.3.13). If OK, replace the Printer Engine Controller PWB (REP 4.10.6).
- 12 Run Diagnostic Mode, 5.4.5 Running a Service Output Test, Feed Clutch Operation (Select MBF/ ENV). Use the DMM and verify P/J 703-1 and FG goes from +24VDC to 0VDC when [4] is pressed. Voltage drops from +24VDC to 0VDC on P/J 703-1 when [4] is pressed.

- Check wiring between P/J 703 and P/J 221 (WIR 8.3.5.1). If OK, replace Envelope Feed Clutch (PL 8.3.2.3).
- **13** Check wiring between P/J 604 and P/J 700 (WIR 8.3.5.1). If OK, replace Envelope Feeder PWB (REP 8.3.3.7).

## RAP 7.8 Paper Jam / Clear Area A (E1-1, E1-2, E1-3, E1-6)

- 1 Inspect the paper path for paper scraps that may cause a paper jam. The paper path free of paper scraps.
  - Y N
  - Clear the paper path.
- 2 Inspect the paper that is loaded in the paper tray. The paper loaded in the tray is smooth (not wrinkled) and undamaged.
  - Y N
  - Replace with new paper.
- 3 Inspect the paper tray guides. The guides are set to the size of paper loaded in the tray.
  - Y N
  - Adjust the guides.
- 4 Open the Left Upper Cover and observe the position of the jammed paper. The sheet of paper is straight.
  - Y N
  - Replace the Feed, Nudger, and Retard Rolls (REP 4.2.5).
- **5** Enter Diagnostic Mode 5.4.5 Running a Service Output Test, Clutch Operation (REGI) to check the Registration Clutch function. The Registration Roll energizes when the Output Test starts.
  - Y N
  - Check wiring between P/J 462 and P/J 200 (6.3.15). If OK, replace the Registration Clutch (REP 4.4.1).
- 6 Clean the Registration Rollers or replace the Left Upper Cover Assembly (REP 4.1.6).
- 7 Enter Diagnostic Mode 5.4.6 Running a Service Sensor (H/L) Input Test, REGI Sensor Detect. Open the Left Upper Cover. Insert a sheet of paper into the Registration Sensor and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays H when paper is inserted into the Registration Sensor, and displays L when paper is removed.

- Check wiring between P/J 459 and P/J 100 (6.3.14). If OK, replace the Registration Sensor (REP 4.4.2).
- 8 Open the Left Upper Cover and observe the position of the jammed paper. The sheet of paper stopped on the Drum.
  - Y N
  - Go to step 10.
- **9** Check the Charge Bias Assembly (REP 4.5.3) for damage, if OK; open the Drum Shutter on the EP Cartridge. The stripper fingers are undamaged and there is no paper stuck under the fingers or stuck between the Drum and EP Cartridge frame.

- Replace the EP Cartridge (PL 7.2).
- **10** Open the Drum Shutter. Hand rotate (counterclockwise) the Main Drive Motor. The Drum rotates smoothly and without binding.
  - Y N
  - Replace the EP Cartridge (PL 7.2).

Y N

- **11** Open the Left Upper Cover, and observe the position of the jammed paper. The sheet of paper stopped before entering the Fuser Assembly and the image is misregistered.
  - Y N

Go to step 13.

- 12 Replace the Resistor/Capacitor Assembly (PL 6.1). If problem still exists, replace the Registration Sensor (REP 4.4.2).
- **13** Open the Left Upper Cover, and observe the position of the jammed paper. The sheet of paper stopped while exiting the Fuser.

Y N

Go to step 15.

14 Remove the three screws securing the Fuser Left Cover and remove the Cover so you can observe the Fuser Rolls. Hand rotate (counterclockwise) the Main Drive Motor. The Pressure Roll rotates smoothly and the Fuser Stripper Fingers are undamaged.

Y N

- Replace the Fuser Assembly (REP 4.7.1)
- **15** Remove the Fuser Full Cover (REP 4.1.1) and observe the position of the jammed paper. The sheet of paper stopped in the Offset Unit Assembly.

Y N

Go to step 17.

**16** Check the Offset Unit Assembly for lodged scraps paper or damage. The Offset Unit Assembly clean and undamaged

Y N

- Clean or replace the Offset Unit Assembly (REP 4.8.1).
- **17** Enter Diagnostic Mode 5.4.5 Running a Service Output Test, Clutch Operation (Invert CCW) to check the Face Up Clutch function. With clutch energized, hand rotate (counterclockwise) the Main Motor. The Offset Rollers rotate.

Y N

- Replace the Offset Exit Unit Assembly (REP 4.8.1).
- 18 Enter Diagnostic Mode 5.4.6 Running a Service Sensor (H/L) Input Test, Face Up Exit Sensor Detect. Insert, then remove, a sheet of paper into the Face Up Exit Sensor actuator. The Control Panel LCD displays "IS WITH PAPER" when paper is inserted into the Face Up Exit Sensor, and displays "IS WITHOUT PAPER" when the paper is removed.

Y N

- Check the wiring between P/J 109 and P/J 462 (6.3.15) and between P/J 104 and P/J 462 (6.3.16). If OK, replace the Fuser Exit Sensor (REP 4.7.3).
- **19** Enter Diagnostic Mode 5.4.5 Running a Service Output Test, Gate Solenoid Operation (Exit Gate) to test the Exit Gate Solenoid function. The Exit Gate Solenoid energizes when Output Test runs.

- Check the wiring between P/J 210 and P/J 462 (6.3.16). If OK, replace the Exit Gate Solenoid (REP 4.8.4).
- **20** Replace the Printer Engine Controller PWB (REP 4.10.6).

### RAP 7.9 Paper Jam / Clear Area A (E3-1)

- 1 Inspect the Fuser Exit Sensor for paper scraps that may have actuated the Sensor or may have caused it to stick. The Fuser Exit Sensor is free of paper scraps.
  - Y N
  - Clear paper from the Sensor.
- 2 Remove the Fuser Full Cover (REP 4.1.1). Observe the position of the sheet of paper. The sheet of paper stopped on the Fuser Exit Switch.
  - Y N
  - Go to step 4.
- 3 Enter Diagnostic Mode 5.4.6 Running a Service Sensor (H/L) Input Test, Fuser Exit Sensor Detect. Insert a sheet of paper into the Fuser Exit Switch and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays H when paper is inserted into the Fuser Exit Switch, and displays L when the paper is removed.

Y N

- Check wiring between P/J 462 and P/J 104 (6.3.16). If OK, replace the Fuser Exit Sensor (REP 4.7.3).
- 4 Observe the position of the sheet of paper. The trail edge of the paper is still in the Fuser.

Y N

- Go to step 6.
- 5 Remove the three screws securing the Fuser Left Cover and remove the Cover so you can observe the Fuser Rolls. Hand rotate (counterclockwise) the Main Drive Motor. The Pressure Roll rotates smoothly and the Fuser Stripper Fingers are undamaged.
  - Y N
  - Replace the Fuser Assembly (REP 4.7.1).
- 6 Enter Diagnostic Mode 5.4.5 Running a Service Output Test, Clutch Operation (Invert CCW) to check the Face Up Clutch function. With Output Test functioning, hand rotate (counterclockwise) the Main Motor. The Offset Rollers rotate.

Y N

- Check wiring between P/J 462 and P/J 219 (6.3.16). If OK, replace the Inverter CCW Clutch (PL 9.4). If problem still exists; replace Offset/Exit Unit Assembly (REP 4.8).
- 7 Replace the Printer Engine Controller PWB (REP 4.10.6).

3/99 7-17

### RAP 7.10 Paper Jam / Close Area A (E4-1, E4-3, E4-5, E4-6)

- 1 Examine the Duplex Unit operation. The Duplex Unit is functioning correctly, and the rollers are feeding paper from the Offset Unit Assembly into the Duplex Unit.
  - Y N
    - Go to 8.1 Duplex Module and troubleshoot the Duplex Module problem.
- 2 Remove the Fuser Full Cover (REP 4.1.1). Inspect the Face Up Exit Sensor for paper scraps that may be actuating the sensor. The Face Up Exit Sensor actuator is free of paper scraps.
  - Y N
  - Clear paper from the Sensor.
- 3 Inspect the Face Up Exit Sensor for damage. The sensor is undamaged.

- Replace the Face Up Exit Sensor (REP 4.8.3).
- 4 Enter Diagnostic Mode 5.4.6 Running a Service Sensor (H/L) Input Test, Face Up Exit Sensor Detect. Insert, then remove, a sheet of paper into the Face Up Exit Sensor. The Control Panel LCD displays "IS WITH PAPER" when paper is inserted into the Face Up Exit Sensor, and displays "IS WITHOUT PAPER" when the paper is removed.
  - Y N
  - Check the wiring between P/J 109 and P/J 462 (6.3.16). If OK, replace the Face Up Exit Sensor (REP 4.8.3).
- 5 Enter Diagnostic Mode 5.4.5 Running a Service Output Test, Clutch Operation (Invert CCW) to check the Inverter CCW Clutch function. Hand rotate (counterclockwise) the Main Motor. The Offset Rollers rotate.
  - Y N
  - Check wiring between P/J 462 and P/J 219 (6.3.16). If OK, replace the Inverter CCW Clutch (PL 9.4).
- 6 Replace the Printer Engine Controller PWB (REP 4.10.6).

## RAP 7.11 Close Door A (E5-1)

- 1 Open the Upper Left Cover. Remove, then reinstall the EP Cartridge. The error message still appears.
  - Y N
  - Problem solved.
- 2 Enter Diagnostic Mode 5.4.6 Running a Service Sensor (H/L) Input Test, L/H Interlock. Open the Upper Left Cover. Install, then remove, the EP Cartridge. The Control Panel LCD displays "Closed" when the EP Cartridge is installed in the printer and [4] is pressed, and displays "Open" when the EP Cartridge is removed.

Y N

- Go to step 4.
- 3 Replace the Printer Engine Controller PWB (REP 4.10.6).
- 4 Remove the Upper Rear Cover (REP 4.1.3). Inspect the EP Cartridge Interlock Switch for damage. The switch is free of damage.

Y N

- Replace EP Cartridge Interlock Switch (REP 4.10.11).
- **5** Switch the printer power off. Verify actuation and deactuation of EP Cartridge Interlock Switch by testing continuity across P 233-1 and P 233-2 (6.3.10). Continuity is measured.

Y N

- Replace EP Cartridge Interlock Switch (REP 4.10.11).
- 6 Verify continuity of wiring P/J 458-1 to P/J 232-1 (6.3.10) and P/J 234-1 to P/J 234-2 (6.3.6). Continuity is measured.

Y N

- Replace open wiring.
- 7 Inspect the Left Cover Interlock Switch for damage, such as a broken or missing spring or a broken switch button. The switch is undamaged.

Y N

- Replace the Upper Left Cover Interlock Switch (REP 4.10.5).
- 8 Open and close the Left Upper Cover while observing the action of the Left Upper Cover Actuator against the Interlock Switch Spring. The Left Cover Interlock Actuator is pressing against the Interlock Switch Spring.

Y N

- Replace the Left Upper Cover (REP 4.1.6).
- **9** Verify actuation and deactuation of the Upper Left Cover Interlock Switch by testing continuity across the switch. Continuity is measured.

- Replace the Upper Left Cover Interlock Switch (REP 4.10.5).
- **10** Replace the Printer Engine Controller PWB (REP 4.10.6).

## RAP 7.12 Close Door B (E5-2)

- 1 Open and close the Left Lower Cover. The error message still appears.
  - Y N
    - Problem solved.
- 2 Inspect the Left Lower Cover Interlock Switch for damage. The switch is OK (undamaged).
  - Y N
  - Replace the Left Lower Cover Interlock Switch (PL 5.2).
- **3** Inspect the Left Lower Cover Interlock Actuator for damage that may prevent the Cover from actuating the Interlock when the Cover is closed. The Interlock Actuator is undamaged.

- Replace the Left Lower Cover (PL 5.2).
- 4 Enter Diagnostic Mode 5.4.6 Running a Service Sensor (H/L) Input Test, Door B Interlock. Actuate and deactuate the Left Lower Cover Interlock Switch by pressing [4]. The LCD displays "Closed" when actuated and "Open" when deactuated.
  - Go to step 6.
- 5 Replace the Printer Engine Controller PWB (REP 4.10.6).
- 6 Check the wiring between P/J 408 and P/J 144 (6.3.12). If OK, replace the Left Lower Cover Interlock Switch (PL 5.2).

## RAP 7.13 Tray 1 Problem (H1-1)

- 1 Remove the Upper Rear Cover Assembly (REP 4.1.3). Load paper into Tray 1 and install Tray 1 into Feeder 1. Enter Diagnostic Mode 5.4.5 Running a Service Output Test, Lift Up Motor Operation (Select Tray 1) to check the Tray 1 Lift Up Motor. The Tray 1 Lift Up Motor runs when the Diagnostic Mode starts.
  - Y N
  - Check the wiring between P/J 403 and P/J 203 (6.3.11). If OK, replace Tray 1 Lift Up Motor (REP 4.2.1).
- 2 Slowly side Tray 1 out of Feeder 1. You hear the Tray 1 bottom plate drop as you slide the Tray out of the Feeder.
  - Y N
  - Replace Tray 1 (PL 2.1).
- 3 Enter Diagnostic Mode 5.4.6 Running a Service Sensor (H/L) Input Test, Level Sensor Detect (Select Tray 1) to check the Tray 1 Lift Up Sensor. Remove Tray 1 from the printer. The Control Panel LCD displays H before you pull down the Nudger Roll. Pull down on the Nudger Roll so it clears the Tray 1 Level Sensor and press [4]. The Control Panel LCD displays L when you pull down the Nudger Roll and press [4].

Y N

- Check wiring between P/J 459 and P/J 103 (6.3.14). If OK, replace the Tray 1 Lift Up Sensor (REP 4.2.8).
- 4 Replace the Printer Engine Controller PWB (REP 4.10.6).

3/99 7-21

## RAP 7.14 Tray 2 Problem (H1-2)

 Remove the Lower Rear Cover (REP 4.1.4). Load paper into Tray 2 and install Tray 2 into Feeder 2. Enter Diagnostic Mode 5.4.5 Running a Service Output Test, Lift Up Motor Operation (Select Tray 2) to check the Tray 2 Lift Up Motor. The Tray 2 Lift Up Motor runs when the Diagnostic Mode starts.

Y N

- Check wiring between P/J 408 and P/J 241 (6.3.12). If OK, replace Tray 2 Lift Up Motor (REP 4.2.1).
- 2 Slowly side Tray 2 out of Feeder 2. You hear the Tray 2 bottom plate drop as you slide the Tray out of the Feeder.

Y N

Replace Tray 2 (PL 2.1).

3 Enter Diagnostic Mode - 5.4.6 Running a Service Sensor (H/L) Input Test, Level Sensor Detect (Select tray 2) to check the Tray 2 Lift Up Sensor. Remove Tray 2 from the printer. Pull down on the Nudger Roll so it clears the Tray 2 Level Sensor. The Control Panel LCD displays H before you pull down the Nudger Roll. Pull down on the Nudger Roll so it clears the Tray 2 Level Sensor and press [4]. The Control Panel LCD displays L when you pull down the Nudger Roll.

- Check wiring between P/J 408 and P/J 141 (6.3.12). If OK, replace the Tray 2 Lift Up Sensor (REP 4.2.8).
- 4 Replace the Printer Engine Controller PWB (REP 4.10.6).

## RAP 7.15 Duplex Unit Fail / Service Required (H2-7)

- 1 Measure the voltage between P/J 404-6 and FG (WIR 8.1.5.1) on the Printer Engine Controller PWB. There is +5VDC between P/J 404-6 and FG.
  - Y N
  - Replace the Printer Engine Controller PWB (REP 4.10.6).
- 2 Check Duplex Harness from the Printer Engine Controller to the Duplex Module PWB (WIR 8.1.5.1). Check for proper connection and for broken or damaged connectors or harnesses. All harnesses are properly connected and undamaged.

Y N

- Repair or replace harnesses as necessary.
- **3** Replace the Duplex Module PWB (PL 8.1.2.2).The error message reappears.
  - Y N
  - Problem solved.
- 4 Replace the Printer Engine Controller PWB (REP 4.10.6).

3/99 7-23

### RAP 7.16 Replace Toner Cartridge (J1-2/J6-1)

- 1 Replace the EP Cartridge (PL 7.2). The error message reappears.
  - Y N
  - Problem solved.
- 2 Enter Diagnostic Mode 5.4.6 Running a Service Sensor (H/L) Input Test, Toner Empty Sensor Detect. Open the Upper Left Cover. Install, then remove, a new EP Cartridge. The Control Panel LCD displays L when the EP Cartridge is installed into the printer and [4] is pressed, and displays H when the EP Cartridge is removed and [4] is pressed.
  - Y N
  - Replace the Toner Sensor (REP 4.10.10).
- 3 Replace the Printer Engine Controller PWB (REP 4.10.6).

#### RAP 7.17 Toner Cartridge / OEM ID Mismatch (J8-1)

- 1 Replace the EP Cartridge (PL 7.2). The error message reappears.
  - Y N
  - Problem solved.
- 2 Inspect wiring between P/J 454 and P/J 606 (6.3.7). If OK, replace the Printer Engine Controller (REP 4.10.6).

## RAP 7.18 CRUM Failure (J8-3/J8-4)

- 1 Measure the voltage between P/J 454-2 and FG (6.3.7) on the Printer Engine Controller PWB. There is +5VDC between P/J 454-2 and FG.
  - Y N
  - Replace the Printer Engine Controller PWB. (REP 4.10.6).
- 2 Inspect the wiring between P/J 454 and P/J 606 (6.3.7). If OK, replace the EP Cartridge (PL 7.2).

## RAP 7.19 Motor Failure (U1-1)

- 1 Power off the printer and remove the Upper Rear Cover Assembly (REP 4.1.3) so you can observe the Main Motor and Drive Assembly. Hand rotate (counterclockwise) the Main Motor. The Main Motor and all of the gears on the Main Drive Assembly rotate freely and without binding.
  - Y N
  - Go to step 4.
- 2 Power on the printer and enter Diagnostic 5.4.5 Running a Service Output Test, Main Motor On/ Off to check the Main Motor function. The Main Motor runs when you start the Output Test.

Y N

- Replace the Main Drive Assembly (REP 4.9.1).
- **3** Replace the Printer Engine Controller PWB (REP 4.10.6).
- 4 Remove the EP Cartridge. Hand rotate (counterclockwise) the Main Motor. The Main Motor and all of the gears on the Main Drive Assembly rotate freely and without binding.

Y N

Go to step 6.

- **5** Replace the EP Cartridge (PL 7.2).
- 6 Open the Left Upper Cover. Touching only the drive gear at the end of the Roll, hand rotate the BTR. The BTR rotates easily.

Y N

- Replace the BTR Roll (REP 4.5.2) and/or the Left Upper Cover Assembly (REP 4.1.6).
- 7 Remove the Fuser Assembly (REP 4.7.1). Hand rotate (counterclockwise) the Main Motor. The Main Motor and all of the gears on the Main Drive Assembly rotate freely and without binding.

Y N

Go to step 9.

- 8 Replace the Fuser Assembly (PL 8.1)
- **9** Remove the Offset Unit Assembly (REP 4.8.1). Hand rotate (counterclockwise) the Main Motor. The Main Motor and all of the gears on the Main Drive Assembly rotate freely without binding.

Y N

Go to step 11.

- **10** Replace the Offset Unit Assembly (REP 4.8.1).
- **11** Remove the Tray 1 Feed Clutch (REP 4.2.3). Hand rotate (counterclockwise) the Main Motor. The Main Motor and all of the gears on the Main Drive Assembly rotate freely and without binding.

Y N

Go to step 13.

- **12** Replace the Tray 1 Feed Clutch (REP 4.2.3).
- **13** Remove the MBF Feed Clutch (REP 4.3.7). Hand rotate (counterclockwise) the Main Motor. The Main Motor and all of the gears on the Main Drive Assembly rotate freely and without binding.
  - Y N

Go to step 15.

- **14** Replace the MBF Feed Clutch (REP 4.3.7). If the problem still exists replace LVPS Assembly (REP 4.10.2).
- **15** Lift the Exit Drive Assembly spring-loaded drive gear off of the Main Drive Assembly drive gear. Hand rotate (counterclockwise) the Main Motor. You can rotate the Main Motor and the gears of the Drive Assembly rotate easily and without binding.

Y N

Go to step 17.

- 16 Replace the Exit Drive Assembly (REP 4.8.2).
- **17** Lift the Tray 2 spring-loaded drive gear off of the Main Drive Assembly drive gear. Hand rotate (counterclockwise) the Main Motor. You can rotate the Main Motor and the gears of the Drive Assembly rotate easily and without binding.

Y N

Go to step 19.

- **18** Replace Tray 2 Drive Assembly (PL 3.5) & (PL 3.7).
- **19** Remove the Registration Clutch (REP 4.4.1). Hand rotate (counterclockwise) the Main Motor. You can rotate the Main Motor and the gears of the Drive Assembly rotate easily and without binding.
  - Y N
  - Go to step 21.
- **20** Replace the Registration Clutch (REP 4.4.1).
- **21** Replace the Feed Clutch (REP 4.2.3) (REP 4.2.4).

## RAP 7.20 Fan Failure (U1-3)

1 Check harness from the LVPS Fan to the Printer Engine Controller (6.3.3). Check for proper connection and for broken or damaged connectors or harnesses. All harnesses are properly connected and undamaged.

Y N

- Repair or replace harnesses as necessary.
- 2 Enter Diagnostic Mode 5.4.5 Running a Service Output Test, Fan Motor High Speed (LVPS FAN) to check the LVPS Fan function. The Fan rotates when the Output Test starts.

- Replace the LVPS Assembly (REP 4.10.2).
- 3 Replace the Printer Engine Controller PWB (REP 4.10.6).
# RAP 7.21 Laser Failure (U3-2, U3-3, U3-4, & U3-5)

- 1 The Printer experiencing this Laser Failure message is a modified XEROX DocuPrint N24/N32/ N40 MICR Enhanced Printer developed by ACOM Computer, Inc.
  - Y N
  - Go to step 3.
- **2** Go to Section (8.6) ACOM Printer to troubleshoot the ACOM MICR Printer.
- **3** Switch off printer main power. Wait one minute. Switch on printer main power. The error message reappears.
  - Y N
  - Suspect a possible intermittent problem with the Printer Engine Controller PWB (REP 4.10.6), the Laser Assembly (REP 4.6.1), or the connectors and wiring linking these components.
- 4 Enter Diagnostic Mode 5.4.5 Running a Service Output Test, ROS Motor Speed (600 dpi) to check the Laser Motor function. The Laser Motor runs when you start the Output Test.
  - Y N
  - Go to step 8.
- **5** Measure the voltage between P/J 456-A10 and FG (6.3.6) on the Printer Engine Controller PWB. There is +5VDC between P/J 456-A10 and FG.

Y N

- Replace the Printer Engine Controller (REP 4.10.6).
- 6 Measure the voltage between P/J 456-B4 and FG (6.3.6) on the Printer Engine Controller PWB as the printer powers up. The voltage should go from 5.1V to 1.2V every time the AC Driver Relay cycles and then stay at 1.2V when the Console displays "Ready".

Y N

- Replace the Printer Engine Controller PWB (REP 4.10.6).
- 7 Check the wiring between P/J 456 and P/J 407 (6.3.6). If OK, replace the Laser Assembly (REP 4.6).
- 8 Measure the voltage between P/J 456-A7 and FG (6.3.6) on the Printer Engine Controller PWB. There is +24VDC between P/J456-A7 and FG.

- Replace the Printer Engine Controller PWB (REP 4.10.6).
- 9 Check wiring between P/J 456 and P/J 240 (6.3.6). If OK, replace the Laser Assembly (REP 4.6).

# RAP 7.22 Fuser Failure (U4-1, U4-2, & U4-3)

- 1 Switch off printer main power. Remove the Fuser Full Cover (REP 4.1.1) so you can observe the Heat Rods. Switch on printer main power and observe the ends of the Fuser Assembly. The Heat Rods glow.
  - Y N
  - Go to step 5.
- 2 Replace the Printer Engine Controller PWB (REP 4.10.6). The error message reappears.
  - Y N
  - Problem solved.
- **3** Replace the Fuser Assembly (REP 4.7.1). The error message reappears.
  - Y N
  - Problem solved.
- 4 Refer to the wiring diagrams Section 6 and check for a broken wire or a loose connection between components
- **5** Measure the AC voltage between J23-2 and J23-6 (PL 11.2) on the AC Driver PWB. There is 110VAC (or 220VAC if the printer is the 220VAC model) between J23-2 and J23-6.

Y N

- Go to step 7.
- 6 Replace the Fuser Assembly (REP 4.7.1). If the problem persists, replace the Printer Engine Controller PWB (REP 4.10.6).
- 7 The Fuser cycles up and down.

Y N

- Replace the Printer Engine Controller PWB (REP 4.10.6).
- 8 Measure the voltage between P401-1 and P 401-4 (6.3.2) when the Fuser Fan cycles up and down. There is 24VDC between P401-1 and P401-4 when the fan is rotating and 0VDC when the fan is off.

Y N

- Replace the Printer Engine Controller PWB (REP 4.10.6).
- 9 Replace the AC Driver PWB (REP 4.10.3).

3/99

# RAP 7.23 Fuser Fan Fail (U4-9)

- 1 Enter Diagnostic Mode 5.4.5 Running a Service Output Test, Fan Motor High Speed (Fuser Fan) to check the Fuser Fan function. The Fuser Fan runs when the Output Test starts.
  - Y N
  - Go to step 3.
- 2 Replace the Printer Engine Controller PWB (REP 4.10.6).
- **3** Measure the voltage between J460-1 and FG (6.3.9), and between J460-3 and FG (6.3.9) on the Printer Engine Controller PWB. The voltage cycles On/Off reading +24VDC between J460-3 and FG, and +5VDC between J400-6 and FG.

- Check wiring between P/J 400 and P/J 502 (6.3.3). If OK, replace the LVPS Assembly (REP 4.10.2).
- 4 Replace the Fuser Fan (PL 1.1).

# RAP 7.24 MCU Failure (U6-1)

- 1 Switch off printer main power. Wait one minute. Switch on printer main power. The error message reappears.
  - Y N
  - Suspect a possible intermittent problem with the Printer Engine Controller PWB (REP 4.10.6), the LVPS (REP 4.10.2), or the connectors and wiring linking these components.
- 2 Measure the voltage between J400-7 and FG (6.3.3), and between J400-8 and FG on the Printer Engine Controller PWB. There is a steady +5VDC between J400-7 and FG, and a steady +5VDC between J400-8 and FG.

- Check wiring between P/J 400 and P/J 501 (6.3.3). If OK, replace the LVPS Assembly (REP 4.10.2).
- 3 Replace the Printer Engine Controller PWB (REP 4.10.6).

# RAP 7.25 IOT MEM Failure (U6-2)

- 1 Switch off printer main power. Wait one minute. Switch on printer main power. The error message reappears.
  - Υ Ν
  - Suspect a possible intermittent problem with the Printer Engine Controller PWB (REP L 4.10.6), the LVPS (REP 4.10.2), or the connectors and wiring linking these components.
- 2 Measure the voltage between J400-7 and FG (6.3.3), and between J400-8 and FG on the Printer Engine Controller PWB. There is a steady +5VDC between J400-7 and FG, and a steady +5VDC between J400-8 and FG.

Υ Ν

- Check wiring between P/J 400 and P/J 501 (6.3.3). If OK, replace the LVPS Assembly L (REP 4.10.2).
- **3** Replace the Printer Engine Controller PWB (REP 4.10.6).

3/99

7-34

# RAP 7.26 IOT NVM Fail (U6-3, U6-4)

- NOTE: If the Printer Engine Controller PWB was just replaced and this error message appeared, verify the PWB is initialized by performing the Printer Engine Controller PWB replacement procedures in (REP 4.10.6).
  - 1 Switch off printer main power. Wait one minute. Switch on printer main power. The error message reappears.
    - Y N
    - Suspect a possible intermittent problem with the Printer Engine Controller PWB (REP 4.10.6), the LVPS (REP 4.10.2), or the connectors and wiring linking these components.
  - 2 Measure the voltage between J400-7 and FG (6.3.3), and between J400-8 and FG on the Printer Engine Controller PWB. There is a steady +5VDC between J400-7 and FG, and a steady +5VDC between J400-8 and FG.

- Check wiring between P/J 400 and P/J 501 (6.3.3). If OK, replace the LVPS Assembly (REP 4.10.2).
- **3** Replace the Printer Engine Controller PWB (REP 4.10.6).

# **RAP 7.27 Inoperative Printer**

- 1 Inspect the AC Power Cord. The AC Power Cord plugged into the back of the printer, the other end plugged into an AC wall outlet, and the GFI is in the ON (operational) state.
  - Y N
  - Plug the AC Power Cord into the printer, into the AC wall outlet, or reset the GFI.
- 2 Check the voltage at the AC wall outlet. There is approximately 110VAC (or 220VAC if the printer is the 220VAC model) at the AC wall outlet.
  - Y N
  - Notify the customer of the power problem.
- **3** Switch the main power off. Remove the Upper Rear Cover Assembly (REP 4.1.3). Switch the main power on and measure the voltage between J400-7 and FG, and between J400-8 and FG on the Printer Engine Controller PWB. There is +5VDC between J400-7 and FG, and +5VDC between J400-8 and FG.
  - Y N
  - Go to step 6.
- 4 Measure the voltage between J400-5 and FG (6.3.3), and between J400-6 and FG on the Printer Engine Controller PWB (REP 4.10.6). There is +24VDC between J400-5 and FG, and +24VDC between J400-6 and FG.
  - Y N
  - Replace the LVPS (REP 4.10.2).
- 5 Go to RAP 7.23.
- 6 Measure the voltage between J19-1 and J19-3 (PL 11.2)on the Noise Filter PWB. There is 110VAC (or 220VAC if the printer is the 220VAC model) between J19-1 and J19-3.
  - Y N
  - Go to step 10.
- 7 Measure the voltage between J20-1 and J20-3 (6.3.1)on the AC Driver PWB. There is 110VAC (or 220VAC if the printer is the 220VAC model) between J20-1 and J20-3.
  - Y N
  - Replace the Main Switch (REP 4.10.1).
- 8 Replace the LVPS Assembly (REP 4.10.2).
- **9** Switch the printer power off. Disconnect the AC Power Cord from both the wall outlet and the rear of the printer. Measure continuity between the ends of the Power Cord. Continuity is measured on all terminals respectively.
  - Y N
  - Replace the Power Cord (PL 11.1).
- **10** There is continuity between the power inlet connector and F55 and F56 respectively.
  - Y N
  - Repair the Power Inlet Connector and wiring.
- **11** Replace the Noise Filter (REP 4.10.12).

## **RAP 7.28 Erratic Operation**

- 1 Power the printer off and remove the Host Interface cable(s) from the System Controller PWB. Power on the printer and generate 50 System Controller Test Prints (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X. The printer stops and resets and/or the test patterns are blank, black or partially printed.
  - Y N
  - Go to step 4.
- 2 Verify the Host Interface Cable is free of damage. The cable is free of damage.

Y N

- Request customer to replace/repair interface cable.
- **3** Problem is in customer application, host system, or print job.
- 4 The printer frequently fails to enter printer warm-up or the Control Panel is frequently inoperative.
  - Y N

Go to step 6.

- **5** Go to RAP 7.27.
- 6 Remove the Upper Rear Cover Assembly (REP 4.1.3). Generate 50 System Controller Test Patterns (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X. While the printing is generating the Test Patterns, measure the voltage between J400-7 and FG on the Printer Engine Controller PWB. The +5VDC measured between J400-7 and FG remains relatively constant throughout the print run, and does not deviate more than one volt during the print run.

Y N

- Check the wiring between P/J 400 and P/J 501 (6.3.3). If OK, replace the LVPS Assembly (REP 4.10.2).
- 7 Generate 50 System Controller Test Patterns (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X. While the printing is generating the Test Patterns, measure the voltage between J400-5 and FG (6.3.3) on the Printer Engine Controller PWB. The +24VDC measured between J400-5 and FG remains relatively constant throughout the print run, and does not deviate more than a few volts during the print run.

- Check the wiring between P/J 400 and P/J 502 (6.3.3). If OK, replace the LVPS Assembly (REP 4.10.2).
- 8 The printer is able to generate all of the Test Prints requested in above steps.

Y N

- Replace the Printer Engine Controller PWB (REP 4.10.6).
- 9 The printer stops and resets while making test prints.

- Go to step 12.
- **10** Go to the Electrical Noise RAP (RAP 7.32).

Y N

- **11** Remove all options, such as the Duplex Unit or the High Capacity Feeder, from the base printer. The printer still exhibits erratic operation.
  - Y N
  - Go to step 13.
- **12** Replace the System Controller PWB (REP 4.10.7).
- **13** Reinstall each option removed in step 12 on by one until the problem reappears. Go to Section 8 Options and troubleshoot the option that exhibits the problem.

# **RAP 7.29 Replace Toner Cartridge (J1-2)**

- 1 Use Diagnostic Mode 5.4.6 Running a Service Sensor (H/L) Input Test, Toner Empty Sensor Detect to check the Toner Sensor. Insert and remove a new EP Cartridge into the printer. The Control Panel LCD displays L when the EP Cartridge is in place and [4] is pressed, and displays H when the Cartridge is removed and [4] is pressed.
  - Y N
  - Replace the No Toner Sensor (PL 7.2).
- 2 Replace the Printer Engine Controller PWB (REP 4.10.6). If the problem persists, go to step 3.
- 3 Replace the System Controller PWB (REP 4.10.7)

### **RAP 7.30** Inoperative Interlock Switch

- 1 Use Diagnostic Mode 5.4.6 Running a Service Sensor (H/L) Input Test, Interlock (for Left Upper Cover Interlock Switch and EP Cartridge Interlock Switch) and 1TM Interlock (for Left Lower Cover Interlock Switch) to check the interlock switch of the Door/Cover in question. Open/Close the Cover/Door or Insert/Remove the EP Cartridge while pressing [4] to change the display from "Cover is Open" to Cover is Closed". The display changes from "Cover is Closed" when the door is closed and EP Cartridge is installed to "Cover is Open" when door is open and EP Cartridge is removed.
  - Y N
  - If the EP Cartridge is being tested then go to step 3. If the Left Upper Cover is being tested then go to step 4. If the Lower Left Cover is being tested then go to step 5.
- 2 Replace the Printer Engine Controller PWB (REP 4.10.6).
- **3** Check the wiring for EP Cartridge Interlock Switch (6.3.10). If OK, replace the EP Cartridge Interlock Switch (REP 4.10.11).
- 4 Check the wiring for the Left Upper Cover Interlock Switch (6.3.10). If OK, replace the Left Upper Cover Interlock Switch. (REP 4.10.5).
- 5 Check the wiring for the Left Lower Cover Interlock Switch (6.3.12). If OK, replace the Left Lower Cover Interlock Switch (PL 5.2).

# **RAP 7.31 Inoperative Offset**

1 Remove the Upper Rear Cover Assembly (REP 4.1.3). Use Diagnostic Mode - 5.4.5 Running a Service Output Test, Main Motor On/Off to check the Main Motor and Main Drive Assembly. The Main Motor runs and the gears of the Drive Assembly rotate normally.

Ν

Go to RAP 7.26.

2 Remove the Fuser Full Cover (REP 4.1.1). Use Diagnostic Mode - 5.4.5 Running a Service Output Test, Offset Motor (Normal Rotation) to check the Exit Motor in the forward mode. Use Diagnostic Mode - Output, Offset Motor (Reverse Rotation) to check the Exit Motor in the reverse mode. The Exit Motor runs forward during, Normal Rotation and reverse during Reverse Rotation.

Y N

- Check the wiring between P/J462 and P/J209 (6.3.16). If OK, replace the Exit Drive Assembly (REP 4.8.2).
- **3** Use Diagnostic Mode 5.4.5 Running a Service Output Test, Offset Motor (Normal Rotation) and Offset Motor (Reverse Rotation) to check the movement of the Offset Roll. The Offset Roll shift away from the Exit Motor during Normal Rotation and toward the Motor during Reverse Rotation.

- Check the wiring between P/J462 and P/J209 (6.3.16). If OK, replace the Offset Unit Assembly (REP 4.8.1).
- 4 Replace the Printer Engine Controller PWB (REP 4.10.6).

Y

# **RAP 7.32 Electrical Noise**

- 1 Check if there is other electrical equipment, such as electrical generators, radio transmitters, or devices using electrical motors, within ten feet of the printer. Shut off the other electrical equipment or relocate the printer at least twenty feet away from the other devices. The Electrical Noise problem is still present.
  - Y N
    - Permanently relocate either the printer or the problem device.
- 2 Check the AC wall outlet. The AC wall outlet is correctly wired and grounded

- Have the customer correct the wiring problem.
- **3** If the printer has options installed, such as Duplex Unit or the High Capacity Feeder, remove each option one at a time, and see how the printer operates without that option installed. The Electrical Noise problem is still present.
  - Y N
  - Go the Section 8 Options and troubleshoot the option that is having the problem.
- NOTE: Steps 4 through 11 attempt to find a faulty printer component that may be generating electrical noise. If replacing a component does not solve the problem, reinstall the old component before moving on to the next step.
  - 4 Replace the EP Cartridge (PL 7.2). The Electrical Noise problem is still present.
    - Y N
    - Problem solved.
  - 5 Replace the Main Switch (REP 4.10.1). The Electrical Noise problem is still present.
    - Y N
    - Problem solved.
  - 6 Replace the HVPS Assembly (REP 4.10.4). The Electrical Noise problem is still present.
    - Y N
    - Problem solved.
  - 7 Replace the AC Driver PWB (REP 4.10.3). The Electrical Noise problem is still present.
    - Y N
    - Problem solved.
  - 8 Replace the LVPS Assembly (REP 4.10.2). The Electrical Noise problem is still present.
    - Y N
    - Problem solved.
  - **9** Replace the Fuser Assembly (REP 4.7.1). The Electrical Noise problem is still present.
    - Y N
    - Problem solved.
  - **10** Replace the Printer Engine Controller PWB (REP 4.10.6). The Electrical Noise problem is still present.
    - Y N
    - Problem solved.

- **11** Replace the Main Drive Assembly (REP 4.9.1). The Electrical Noise problem is still present.
  - Y N
  - Problem solved.
- 12 Replace the Noise Filter PWB (REP 4.10.12). The Electrical Noise problem is still present.
  - Y N
  - Problem Solved
- Replace each component listed below, one at a time, until the problem disappears. Lift Up Motors (REP 4.2.1) / (REP 4.2.2) Feed Clutches (REP 4.2.3) / (REP 4.2.4) Laser Assembly (REP 4.6.1) Offset Unit Assembly (REP 4.8.1) System Controller PWB (REP 4.10.7)

# **RAP 7.33 Image Quality Problems**

This section contains image quality repair procedures to assist in correcting image quality defects. These procedures provide defect samples, definitions and specifications to help identify the type of defect that exists, the **System Controller Test Print to use (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X**, and actions required to correct the defects.

Throughout these procedures, the term "vertical" refers to the process direction (the direction paper travels through the printer); the term "horizontal" refers to the scanning direction (the direction the laser beam scans across the page).

Refer to (Table 7.52a) for a list of the Image Quality Defect procedures.

Start the Image Quality Defect procedures with checkout on the next page.

#### Table 7.52a. Image Quality Defect Definitions

Defect Definitions	Go to
<b>LIGHT (UNDERTONED) PRINTS:</b> The overall image density is too light. The image may also be unfused due to insufficient image density.	(RAP 7.34)
BLANK PRINTS: The entire print is blank.	(RAP 7.35)
BLACK PRINTS: The entire print is black.	(RAP 7.36)
<b>VERTICAL BAND DELETIONS</b> : There are areas of the image that are extremely light or missing entirely. These missing areas form wide bands that run vertically along the page in the direction of paper movement.	(RAP 7.37)
<b>HORIZONTAL BAND DELETIONS</b> : There are areas of the image that are extremely light or missing entirely. These missing areas form wide bands that run horizontally across the page, parallel with the direction of paper travel.	(RAP 7.38)
VERTICAL STREAKS: There are black lines running vertically along the page.	(RAP 7.39)
HORIZONTAL STREAKS: There are black lines running horizontally across the page.	(RAP 7.40)
<b>SPOT DELETIONS</b> : There are areas of the image that are extremely light or missing entirely. These missing areas form spots that are localized to small areas of the page.	(RAP 7.41)
SPOTS: There are spots of toner randomly scattered across the page.	(RAP 7.42)
<b>RESIDUAL IMAGES OR GHOSTING:</b> There are faint, ghost images appearing randomly on the page. The images may be either from a previous page or from the page currently being printed.	(RAP 7.43)
<b>BACKGROUND</b> : There is toner contamination on all or part of the page. The contamination appears as a very light gray dusting.	(RAP 7.44)
SKEWED IMAGE: The printed image is not parallel with the sides of the page.	(RAP 7.45)
DAMAGED PRINTS: The printed page comes out of the printer either wrinkled, creased, or torn.	(RAP 7.46)
<b>UNFUSED IMAGE OR IMAGE EASILY RUBBED OFF</b> : The printed image is not fully fused to the paper. The image easily rubs off.	(RAP 7.47)
<b>MISREGISTERED IMAGE (lead edge to trail edge):</b> The printed image is not centered on the page or is bleeding off of the page.	(RAP 7.48)

- 1 Compare the solid areas on the System Controller Test Prints (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X with the Output Reference document 82P520 (Figure 7.33a). There are no solid areas on any print lighter than the 1.20 density square on the scale, and there are no two solid areas on any print that differ in density of more than one density square.
  - Y N
  - Go to step 3.
- 2 The Solid Area Density is within specifications. Go to the checkout on the next page.
- 3 The solid area density is uniform.
  - Y N
  - Replace in the following order: EP Cartridge (PL 7.2), HVPS (REP 4.10.4).
- 4 The prints are too faint.
  - Y N
  - Go to step 6.
- 5 Go to RAP 7.34.
- 6 The prints are black.
  - Y N
  - Replace in the following order: EP Cartridge (PL 7.2), HVPS (REP 4.10.4).
- 7 Go to RAP 7.35.

#### Figure 7.33a. Output Reference Document



Compare the Test Prints with the Visual Scale (82P284). The highest Background area on any print should be at, or below, area 3 on the rating guide, (Figure 7.33b).

1 The pattern is free from background.

Y N

- Go to step 3.
- 2 The printed test patterns meet the Background specification. Go to the **Deletions (Line, Band, Spot)** checkout on the next page.
- 3 The background is uniform.
  - Y N
  - Replace in the following order: EP Cartridge (PL 7.2), HVPS (REP 4.10.4).
- 4 Go to RAP 7.44.





3/99 7-46

### **Deletions (Line, Band, Spot)**

Inspect Test Prints for the presence of deletions (missing image). There should be no deletions with a diameter larger than 0.5 mm visible on test prints, (Figure 7.33c).

- 1 There are deletions on the test prints.
  - Y N

L

- Go to the **Fusing** on the following page.
- 2 There are Vertical (in direction of paper movement) Line/Band deletions present.
  - Y N

```
Go to step 4.
```

- **3** Go to RAP 7.37.
- 4 There are Horizontal (in direction of scanning) Line/Band Deletions present.
  - Y N
  - Go to step 6.
- **5** Go to RAP 7.38.
- 6 There are Spot Deletions present.
  - Y N
  - The defect apparently isn't manifesting as a deletion, continue to the **Fusing** checkout on the next page
- 7 Go to RAP 7.41.

#### Figure 7.33c. Test Prints



DocuPrint N24, N32 and N40 Service Manual

3/99 7-47

### Fusing

NOTE: The operating environment of the paper is from 5 celsius at 15% relative humidity, to 30 Celsius at 85% relative humidity. The fusing performance of the printer will vary according to the environment.

- A cold environment will affect the warm-up time.
- The weight (lb / gsm) of the paper or transparency will affect the fusing of prints
- High humidity will have an adverse affect on the fusing of prints.

Check the fusing quality of the image of a System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X. Rub the image three times with a soft cloth or tissue (Figure 7.33d). The image should not lift off of the surface of the print.

1 The fusing quality of the image meets the specification.

```
Y N
```

- Go to RAP 7.47.
- 2 The printed test patterns meet the Fusing specification. Go to the **Resolution** checkout on the next page.



3/99

7-48

Figure 7.33d. System Controller Test Print (fusing quality)

SR1503R

### Resolution

Refer to (Figure 7.33e). Observe the three image areas on several System Controller Test Prints (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X. Check the resolution of the images in each of the areas:

### Area 1:

The two pixel vertical, horizontal and diagonal lines should be clear and continuous. The diagonal lines may appear to be narrower than the others.

### Area 2:

The text paragraphs should be roughly equal in density.

### Area 3:

The 50% half tone patches adjacent to the solid blocks in the corners should measure .70 or greater on the Output Reference document (82P520).

- 1 The resolution of the image meets the specification.
  - Y N
    - Replace the following components in order EP Cartridge (PL 7.2), HVPS (REP 4.10.4).
- 2 Go to the Registration (Lead Edge to Trail Edge) checkout on the next page.

Figure 7.33e. System Controller Test Print (resolution)



3/99 7-49

### **Registration (Lead Edge to Trail Edge)**

Measure the registration on two consecutive System Controller Test Prints (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X. Fold the lead edge to trail edge and crease the paper. Observe the fold at the zero reference line, (Figure 7.33f).

- 1 The fold is within +/- 2.5 mm from the zero reference line.
  - Y N
  - Go to ADJ 4.1.
- 2 The test prints meet the registration specification. Go to the **Registration (Inboard to Outboard)** checkout on the next page.



#### Figure 7.33f. System Controller Test Print (lead edge to trail edge)

3/99 7-50

### **Registration (Inboard to Outboard)**

Measure the registration on two consecutive System Controller Test Prints (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X. Fold the outboard edge to the inboard edge and crease the paper. Observe the fold at the zero reference line, (Figure 7.33g).

- 1 The fold is within +/- 2.0 mm from the zero reference line.
  - Y N
  - Go to ADJ 4.4.
- 2 The printed test patterns meet the Inboard to Outboard registration specification. Go to the **Skew** checkout on the next page.



#### Figure 7.33g. System Controller Test Print (inboard to outboard)

### Skew

Observe the System Controller Test Pattern, Measure the dimensions 'A' and 'B' on two consecutive test patterns and check the following: (Figure 7.33h).

- With a distance of 180mm between points 'A' and 'B', the difference in the measurements between these two points should be less than +/- 1.54mm in Simplex and less than +/- 2.0mm in Duplex.
- 1 The skew on the test patterns meets the specification.
  - Y N
  - Go to RAP 7.45.
- 2 The printed test patterns meet the Skew specification. Go to the **Skips/Smears** checkout on the next page.



Figure 7.33h. Printer Engine Controller Test Pattern

3/99 7-52

### Skips/Smears

Inspect the 2 on / 2 off ladder chart test patterns. The patterns should be free from skips and smears and lines should exist in the lead edge to trail edge (process) direction.

1 The test prints are free from skips and smears.

Y N

- Go to step 4.
- 2 Refer to (Figure 7.33c), Test Prints and perform the following in sequence:
  - There should be no spots larger than or equal to 0.5 mm visible on the prints.
  - There should be no more than 1 spot measuring between 0.4 and 0.5 mm visible on the print.
  - There should be no more than 16 spots measuring between 0.25 and 0.4 mm visible on the print.
  - Any spot measuring less than 0.25 mm is acceptable.

The prints are free of spots or the spots that are visible fall within the acceptable range.

Y N

- Go to RAP 7.42.
- 3 Go to Other Print Defects checkout on the next page.
- 4 Perform the following in sequence to resolve a Skips or Smears problem:
  - Inspect the Drive Assembly for damaged and worn gears. Replace (REP 4.9), if necessary.
  - Inspect Main Drive Motor for smooth operation and wear of drive gear. Replace (REP 4.9), if necessary.
  - Replace EP Cartridge (PL 7.2), if problem still exists.

#### Figure 7.33i. 2on/2off ladder chart test pattern



### **Other Print Defects**

Inspect the Test Patterns for other Print Defects. There should be no other Print Defects.

- 1 There are dark streaks present on the Test Prints.
  - Υ Ν
  - L Go to step 3.
- 2 Go to Vertical Streaks (RAP 7.39), or Horizontal Streaks (RAP 7.40).
- **3** There is a residual image (ghosts) on the Test Prints.
  - Υ Ν
  - Go to step 5. L
- **4** Go to Residual Image (RAP 7.43).
- **5** There is print damage: wrinkles, creases, tears, etc.
  - Υ Ν
  - There are no print defects. Return to Entry Level (RAP 7.1). L
- 6 Go to Damaged Print (RAP 7.46).

3/99

7-54

# RAP 7.34 Light (Undertoned) Prints



### PROBLEM

The overall image density is too light. The image may also be unfused due to insufficient image density.

- 1 The paper is smooth (not wrinkled) and undamaged.
  - Y N
  - Load fresh, dry paper.
- 2 Install a new EP Cartridge (PL 7.2). The problem is still present.
  - Y N
  - Problem solved.
- 3 Remove the Upper Rear Cover Assembly (REP 4.1.3). Generate a Printer Engine Controller Test Print (5.4.4) and switch OFF printer power halfway through the print cycle. Open the Left Upper Cover. Open the Drum Shutter. Hand rotate (counterclockwise) the Main Drive Motor to advance the Drum far enough so you can see the developed image area on the Drum before it reached Transfer. The image on the drum is completely developed; with sharp, black, easily to read areas.
  - Y N
  - Replace the HVPS Assembly (REP 4.10.4).
- 4 Carefully remove the Test Print generated in step 3. Inspect the print. The toner image on the drum transferred completely to the paper. And the grid lines are black and unbroken.

- Replace the BTR Assembly (REP 4.5.2). If the problem persists, replace the HVPS Assembly (REP 4.10.4).
- 5 Generate another Printer Engine Controller Test Print (5.4.4) and switch OFF printer power when the print is halfway through the Fuser. Open the Left Upper Cover. Examine the paper areas before the image enters the Fuser and after the image exits the Fuser. The image is normal before it enters the Fuser, but light when it exits the Fuser.
  - Y N
  - Replace each component listed below, one at a time, until the problem disappears. Laser Assembly (REP 4.6.1). Printer Engine Controller PWB (REP 4.10.6).
- 6 Replace the Fuser Assembly (REP 4.7.1).

# **RAP 7.35 Blank Prints**

### PROBLEM

The entire print is blank.



- 1 Remove the EP Cartridge. Inspect the Laser Window for a sheet of paper that may have lodged in front of it and could be blocking the laser beam from reaching the Drum. The Laser Window is free of paper.
  - Y N
    - Remove the paper.
- 2 Generate a Printer Engine Controller Test Print (5.4.4). The problem is still present.
  - Y N
  - Troubleshoot or replace the System Controller PWB (REP 4.10.7) or reload the Host Driver Software.
- 3 Install a new EP Cartridge (PL 7.2). The problem is still present.
  - Y N
  - Problem solved.
- 4 Replace the Laser Assembly (REP 4.6.1). The problem is still present.
  - Y N
  - Problem solved.
- 5 Remove the Upper Rear Cover Assembly (REP 4.1.3). Generate a System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X and switch OFF printer power halfway through the print cycle. Open the Left Upper Cover. Open the Drum Shutter. Hand rotate (counterclockwise) the Main Drive Motor to advance the Drum far enough so you can see the developed image area on the Drum before it reached Transfer. The image on the drum completely developed; with sharp, black, easily read areas.
  - Y N
  - Replace the HVPS Assembly (REP 4.10.4).
- 6 Carefully remove the Test Print generated in step 5. Inspect the print. The toner image on the drum transferred completely to the paper. And the grid lines are black and unbroken.
  - Y N
  - Replace the BTR Assembly (REP 4.5.2). If the problem persists, replace the HVPS Assembly (REP 4.10.4), Printer Engine Controller PWB (REP 4.10.6). Check the EP Cartridge Connector and Contact Springs (PL 7.2).
- 7 Problem Solved.

# **RAP 7.36 Black Prints**

### PROBLEM



The entire print is black.

- 1 Generate a Printer Engine Controller Test Print (5.4.4). The problem is still present.
  - Y N
  - Replace the System Controller PWB (REP 4.10.7) or reload the Host Software
- 2 Install a new EP Cartridge (PL 7.2). The problem is still present.
  - Y N
  - | Problem solved
- 3 Remove the Upper Rear Cover Assembly (REP 4.1.3). Generate a System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X and switch OFF printer power halfway through the print cycle. Open the Left Upper Cover. Open the Drum Shutter. Hand rotate (counterclockwise) the Main Drive Motor to advance the Drum far enough so you can see the developed image area on the Drum before it reached Transfer. The image on the drum is completely developed; with sharp, black, easily read areas and clear, white areas.
  - Y N
  - Go to step 5.
- 4 Replace the BTR Assembly (REP 4.5.2).
- **5** Replace the System Controller PWB (REP 4.10.7). Generate a System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X. The problem is still present.
  - Y N
  - Problem solved.
- 6 Replace the Printer Engine Controller PWB (REP 4.10.6). Generate a System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X. The problem is still present.
  - Y N
  - Problem solved.
- 7 Replace the Laser Assembly (REP 4.6.1). Generate a System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X. The problem is still present.
  - Y N
  - Problem solved.
- 8 Replace the LVPS (REP 4.10.2). If the problem is still present, refer to the wiring diagrams Section (6) and check for a broken wire or loose connection between components in the Xerographic sections of the printer.

# **RAP 7.37 Vertical Band Deletions**



### PROBLEM

There are areas of the image that are extremely light or missing entirely. These missing areas form wide bands that run vertically along the page, in the direction of paper travel.

1 Remove the EP Cartridge. Inspect the Laser Window for a scrap of paper or other contamination that may have lodged in front of it and could be blocking part of the laser beam from reaching the Drum. The Laser Window free of paper or other contamination.

```
Y
```

Ν

- Remove the paper scrap or clean the Laser window.
- 2 Inspect the paper loaded into the trays. The paper is smooth (not wrinkled) and undamaged.
  - Y N
  - Load fresh, dry paper.
- 3 Install a new EP Cartridge (PL 7.2). The problem is still present.
  - Y N
  - Problem solved.
- 4 Remove the Upper Rear Cover Assembly (REP 4.1.3). Generate a System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X and switch OFF printer power halfway through the print cycle. Open the Left Upper Cover. Open the Drum Shutter. Hand rotate (counterclockwise) the Main Drive Motor to advance the Drum far enough so you can see the developed image area on the Drum before it reached Transfer. Before Transfer the toner image on the drum was normal and without vertical band deletions.
  - Y N
  - Look for something blocking the Laser beam or replace the Laser Assembly (REP 4.6.1).
- **5** Generate another System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X and switch OFF printer power when the print is halfway through the Fuser. Open the Left Upper Cover. Examine the paper areas before the image enters the Fuser. The image on the paper is normal before it enters the Fuser (no vertical band deletions).
  - Y N
  - Replace the BTR assembly (REP 4.5.2).

- 6 Generate another System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8Xt and switch OFF printer power when the print is halfway through the Fuser. Open the Left Upper Cover. Examine the paper areas after the image exits the Fuser. There are vertical band deletions visible when it exits the Fuser.
  - Y N
  - Problem solved.
- 7 Replace the Fuser Assembly (REP 4.7.1).

# **RAP 7.38 Horizontal Band Deletions**



### PROBLEM

There are areas of the image that are extremely light or missing entirely. These missing areas form wide bands that run horizontally across the page, parallel with the direction of paper travel.

- **1** The paper is smooth (not wrinkled) and undamaged.
  - Y N
  - Replace with fresh, dry paper.
- 2 Install a new EP Cartridge (PL 7.2). The problem is still present.
  - Y N
  - Problem solved.
- 3 Remove the Upper Rear Cover Assembly (REP 4.1.3). Generate a System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X and switch OFF printer power halfway through the print cycle. Open the Left Upper Cover. Open the Drum Shutter. Hand rotate (counterclockwise) the Main Drive Motor to advance the Drum far enough so you can see the developed image area on the Drum before it reached Transfer. Before Transfer, the toner image on the drum was normal and without horizontal band deletions.
  - Y N
  - Replace the HVPS Assembly (REP 4.10.4). If the problem is still present, refer to the wiring diagrams Section (6) and check for a broken wire or loose connection between components in the Xerographic sections of the printer.
- 4 Generate another System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X and switch OFF printer power when the print is halfway through the Fuser. Open the Left Upper Cover. Examine the paper areas before the image enters the Fuser. The image on the paper is normal before it enters the Fuser (no horizontal band deletions).
  - Y N
  - Replace each component listed below, one at a time, until the problem disappears. Replace the BTR assembly (REP 4.5.2).
     EP Cartridge Connector and Contact Springs (PL 7.2) Printer Engine Controller PWB (REP 4.10.6).
- 5 Generate another System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X and switch OFF printer power when the print is halfway through the Fuser. Open the Left Upper Cover. Examine the paper areas after the image exits the Fuser. There are horizontal band deletions visible when it exits the Fuser.
  - Y N
  - Problem solved.
- 6 Replace the Fuser Assembly (REP 4.7.1).

# **RAP 7.39 Vertical Streaks**



### PROBLEM

There are black lines running vertically along the page.

1 Inspect the paper path, between feed and exit, for contamination or obstructions. The paper path is free of contamination and obstructions.

Y N

- Remove contamination and obstructions from the paper path.
- 2 Remove the EP Cartridge. Inspect the Laser Window for contamination that could be blocking part of the laser beam from reach the Drum. The Laser Window is clean.
  - Y N
  - Clean Laser window.
- 3 Install a new EP Cartridge (PL 7.2). The problem is still present.
  - Y
  - Problem solved.

Ν

4 Remove the Upper Rear Cover Assembly (REP 4.1.3). Generate a System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X and switch OFF printer power halfway through the print cycle. Open the Left Upper Cover. Open the Drum Shutter. Hand rotate (counterclockwise) the Main Drive Motor to advance the Drum far enough so you can see the developed image area on the Drum before it reached Transfer. Before Transfer, the toner image on the drum was normal and without vertical streaks, but there are vertical streaks on the paper after Transfer.

- Go to step 6.
- **5** Replace the BTR Assembly (REP 4.5.2).
- 6 Generate another System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X and switch OFF printer power when the print is halfway through the Fuser. Open the Left Upper Cover. Examine the paper areas before the image enters the Fuser and after the image exits the Fuser. The image on the paper normal before it enters the Fuser, but there are vertical streaks visible when it exits the Fuser.
  - Y N
  - Inspect the paper path, between feed and exit, for contamination or obstructions.
- 7 Replace the Fuser Assembly (REP 4.7.1).

## **RAP 7.40 Horizontal Streaks**



### PROBLEM

There are black lines running horizontally across the page.

- 1 Install a new EP Cartridge (PL 7.2). The problem is still present.
  - Y N
  - Problem solved.
- 2 Remove the Upper Rear Cover (REP 4.1.3). Generate a System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X and switch OFF printer power halfway through the print cycle. Open the Left Upper Cover. Open the Drum Shutter. Hand rotate (counterclockwise) the Main Drive Motor to advance the Drum far enough so you can see the developed image area on the Drum before it reached Transfer. The image on the drum is completely white; without any horizontal streaks visible.
  - Y N
  - Replace the Laser Assembly (REP 4.6.1).
- **3** Inspect the System Controller Test Print you generated in step 2 after transfer. The paper is blank (no horizontal streaks are visible).
  - Y N
  - Replace the BTR Assembly (REP 4.5.2).
- 4 Generate another System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X and switch OFF printer power when the print is halfway through the Fuser. Open the Left Upper Cover. Examine the paper areas after the image exits the Fuser. The paper is blank (no horizontal streaks are visible).
  - Y N
  - Replace the Fuser Assembly (REP 4.7.1).
- 5 Replace the System Controller PWB (REP 4.10.7). The problem is still present.
  - Y N
  - Problem solved.
- 6 Replace the HVPS Assembly (REP 4.10.4). The problem is still present.
  - Y N
  - Problem solved.
- Replace each component listed below, one at a time, until the problem disappears.
  Printer Engine Controller PWB (REP 4.10.6)
  EP Cartridge Connector and Contact Springs (PL 7.2)

# **RAP 7.41 Spot Deletions**



### PROBLEM

There are areas of the image that are extremely light or missing entirely. These missing areas form spots that are localized to small areas of the page.

1 The paper is smooth (not wrinkled) and undamaged.

Y N

- Replace with fresh, dry paper.
- 2 Install a new EP Cartridge (PL 7.2). The problem is still present.
  - Y N
  - Problem solved.
- **3** Generate a System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X and switch OFF printer power halfway through the print cycle. Open the Left Upper Cover. Inspect the image on the paper. The image is good (no spot deletions).

Y N

- Replace the BTR Assembly (REP 4.5.2).
- 4 Generate another System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X and switch OFF printer power when the print is halfway through the Fuser. Open the Left Upper Cover. Examine the paper after the image exits the Fuser. Is the image on the paper is good (no spot deletions).

- Replace the Fuser Assembly (REP 4.7.1).
- 5 Problem solved.

### RAP 7.42 Spots



### PROBLEM

There are spots of toner randomly scattered across the page.

1 Remove the EP Cartridge. Inspect the outside of the Cartridge. Open the Shutter and inspect the Drum. The EP Cartridge and drum are clean and is not leaking toner.

Y N

- Replace the EP Cartridge (PL 7.2).
- 2 With the EP Cartridge removed, inspect the interior of the printer for toner contamination. Vacuum or wipe all interior surfaces, including Feed Rolls. Place an obstruction across the Laser window and generate 30 System Controller Test Prints (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X to clean out the printer. Examine the last print out. The problem is still present.

Y N

- Problem solved.
- **3** Reinstall the EP Cartridge. Generate a System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X and switch OFF printer power halfway through the print cycle. Open the Left Upper Cover. Inspect the paper. The paper clean after Transfer (no spots).

- Replace the BTR Assembly (REP 4.5.2).
- 4 Generate another System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X and switch OFF printer power when the print is halfway through the Fuser. Open the Left Upper Cover. Examine the paper after the image exits the Fuser. The paper is clean when it exits the Fuser (no spots).
  - Y N
  - Replace the Fuser Assembly (REP 4.7.1).
- 5 Problem solved.

# **RAP 7.43 Residual Image or Ghosting**



### PROBLEM

There are faint, ghost images appearing randomly on the page. The images may be either from a previous page or from the page currently being printed.

- 1 Inspect the residual images. The customer was printing numerous copies of the same image.
  - Y N
  - Go to step 3.
- 2 Generate a print run of 30 pages of varying images. Residual images still appear.
  - Y N
  - Problem solved. Avoid printing numerous copies of the same image.
- 3 Install a new EP Cartridge (PL 7.2). The problem is still present.
  - Y N
  - Problem solved.
- 4 Generate ten System Controller Test Prints (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X and switch OFF printer power when the last print is halfway through the Fuser. Carefully remove the EP Cartridge and inspect the toner image on the print before it enters the Fuser and immediately after it exits the Fuser. The image on the paper is normal before it enters the Fuser, but there are ghost images on the paper when it exits the Fuser.
  - Y N
  - Replace the BTR Assembly (REP 4.5.2).
- **5** Replace the Fuser Assembly (REP 4.7.1).

3/99 7-65
#### RAP 7.44 Background



#### PROBLEM

There is toner contamination on all or part of the page. The contamination appears as a very light gray dusting.

- 1 Install a new EP Cartridge (PL 7.2). The problem is still present.
  - Y N
    - Problem solved.
- 2 Remove the Upper Rear Cover Assembly (REP 4.1.3). Generate a System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X and switch OFF printer power halfway through the print cycle. Open the Left Upper Cover. Open the Drum Shutter. Hand rotate (counterclockwise) the Main Drive Motor to advance the Drum far enough so you can see the developed image area on the Drum before it reached Transfer. The image on the drum is completely clean; without any noticeable background toner.
  - Y N
  - Replace the Laser Assembly (REP 4.6.1).
- **3** Generate a System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X and switch OFF printer power halfway through the print cycle. Open the Left Upper Cover. Inspect the image on the paper. The image on the paper is completely clean; without any noticeable background toner.

- Replace the BTR Assembly (REP 4.5.2).
- 4 Generate another System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X and switch OFF printer power when the print is halfway through the Fuser. Open the Left Upper Cover. Examine the paper areas before the image enters the Fuser and after the image exits the Fuser. The paper is clean before it enters the Fuser, but there is background on the paper when it exits the Fuser.
  - Y N
  - Replace each component listed below, one at a time, until the problem disappears. HVPS Assembly (REP 4.10.4)
     Printer Engine Controller PWB (REP 4.10.6)
     System Controller PWB (REP 4.10.7)
- **5** Replace the Fuser Assembly (REP 4.7.1).

### RAP 7.45 Skewed Image

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#### PROBLEM

The printed image is not parallel with the sides of the page.

- 1 The paper trays are installed correctly, and the paper is correctly loaded into each tray.
  - Y N
    - Reload the paper and reinstall the paper trays.
- 2 Inspect the paper path, between the feed tray and the exit tray, for contamination or obstructions. The paper path is free of obstructions.
  - Y N
  - Remove obstructions or contamination from the paper path.
- **3** Replace the Feed Roll, Nudger Roll, and Retard Roll (REP 4.2.5) and (REP 4.3.3) for the MBF or the Feeder having the skew problem. The image is still skewed.
  - Y N
    - Problem solved.
- 4 Replace the Registration Roll (PL 6.2). The image is still skewed.
  - Y N
  - Problem solved.
- 5 Replace the EP Cartridge (PL 7.2). The image is still skewed.
  - Y N
  - Problem solved.
- 6 Replace the Laser Assembly (REP 4.6.1).

### **RAP 7.46 Damaged Prints**



#### PROBLEM

The printed page comes out of the printer either wrinkled, creased, or torn.

- 1 Inspect the paper that is loaded in the Feeder that is having the damage problem. The paper is in good condition (not wrinkled, creased, or torn).
  - Y N
  - Replace with fresh, dry paper.
- 2 Inspect the paper path, between the feed tray and the exit tray, for paper scrap, obstructions, or broken printer components. The paper path is clear and there are no broken components.

Y N

- Clear the paper path or replace the broken component.
- **3** Run a System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X and switch OFF printer power halfway through the print cycle. Open the Left Upper Cover. The paper was fed straight.

Y N

Go to RAP 7.45.

- 4 Inspect all of the rolls along the paper path, between the feed tray and the exit tray, for contamination, wear, or damage. The paper path rolls are free of contamination, wear, or damage.
  - Y N
  - Replace any damaged or worn rolls.
- **5** Run a System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X and switch OFF printer power before the sheet of paper reaches the Fuser. Open the Left Upper Cover. The paper is undamaged.

Y N

- Replace the EP Cartridge (PL 7.2) and/or the BTR Assembly (REP 4.5.2).
- 6 Run another System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X and switch OFF printer power when the print is halfway through the Fuser. Open the Left Upper Cover. Examine the paper as it exits the Fuser. The paper is undamaged as it exits the Fuser.

- Replace the Fuser Assembly (REP 4.7.1).
- 7 Inspect the exit transport area for obstructions or defective rolls. Repair or replace as necessary.

### RAP 7.47 Unfused Image or Image Easily Rubbed Off



#### PROBLEM

The printed image is not fully fused to the paper. The image easily rubs off.

- 1 The paper is smooth (not wrinkled) and undamaged.
  - Y N
  - Replace with fresh, dry paper.
- 2 Run a System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X . The Black boxes on the Test Print a rich, dark gray/black.
  - Y

Ν

- Go to RAP 7.34.
- Replace the Fuser Assembly (REP 4.7.1). If the problem persists, replace each component listed below, one at a time, until the problem disappears.
  Printer Engine Controller PWB (REP 4.10.6).
  AC Driver PWB (REP 4.10.3).

#### **RAP 7.48 Image Not Registered Correctly**



#### PROBLEM

The printed image is not centered on the page or is bleeding off of the page.

1 Generate a System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X from each Tray. The Test Prints are registered correctly.

```
Y N
```

- Go to step 3.
- **2** Generate ten System Controller Test Prints (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X from each tray. All of the Test Prints are out of registration by the same amount, with no variation in offset.

- **3** Perform Registration Adjustments (ADJ 4.1), then return to step 4.
- 4 Switch OFF printer power. Wait one minute, then switch ON printer power. Generate a System Controller Test Print (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X. The Test Print is still registered incorrectly.

Y N

Problem solved.

5 Replace the Printer Engine Controller PWB (REP 4.10.6). If the problem persists, replace each component listed below, one at a time, until the problem disappears. Laser Assembly (REP 4.6.1)

System Controller PWB (REP 4.10.7)

RAP 7.45.

### **RAP 7.49 Memory Mismatch**

#### PROBLEM

The amount of memory listed on the Config Sheet does not match the actual memory in the printer.

- 1 Disconnect the AC power and remove all SIMMS from the System Controller PWB and place on a flat, non-conductive surface. The board is free from obvious damage.
  - Y N
  - Replace the System Controller PWB (REP 4.10.7).
- 2 Inspect the SIMMS removed in step 1 for obvious damage. The SIMMS are free from obvious damage.

Y N

- Replace defective SIMM(s) (PL 11.3).
- **3** Reinstall the System Controller PWB. Connect AC Power and switch the printer power on. Print a Configuration Sheet (5.5.2.2.1) for Version 1.7X and below or (5.6.2.2.1) for Version 1.8X. The amount of memory listed on the Config Sheet is 8 MB.

Y N

- Replace the System Controller PWB (REP 4.10.7).
- 4 Switch the AC power off, remove the System Controller PWB, and install one SIMM into slot 1. Reinstall the System Controller PWB, switch the printer power on, and print a Configuration Sheet (5.5.2.2.1) for Version 1.7X and below or (5.6.2.2.1) for Version 1.8X. The amount of memory listed on the Configuration Sheet is 8 MB plus the value of the SIMM.

Y N

- Go to step 18.
- 5 Switch the AC power off, remove the System Controller PWB, and move the SIMM from slot 1 to slot 2. Reinstall the System Controller PWB, switch the printer power on, and print a Configuration Sheet (5.5.2.2.1) for Version 1.7X and below or (5.6.2.2.1) for Version 1.8X. The amount of memory listed on the Configuration Sheet is 8 MB plus the value of the SIMM.

Y N

- Replace the System Controller PWB (REP 4.10.7).
- **6** Repeat step 5 until all slots on the System Controller PWB have been tested. Then proceed to step 7.
- 7 The printer contains additional SIMMs.

- The System Controller PWB and installed SIMM appear to be functioning properly. Problem solved.
- 8 Switch the AC power off, remove the System Controller PWB. Move the SIMM from slot 5 to slot 1. Install one additional SIMM into slot 2. Reinstall the System Controller PWB, switch the printer power on, and print a Configuration Sheet (5.5.2.2.1) for Version 1.7X and below or (5.6.2.2.1) for Version 1.8X. The amount of memory listed on the Configuration Sheet is 8 MB plus the value of the two SIMMs.
  - Y N
  - Replace the last SIMM installed (PL 11.3).

- **9** The printer contains additional SIMMs.
  - Y N
  - The System Controller PWB and installed SIMM appear to be functioning properly. Problem solved.
- **10** Switch the AC power off, remove the System Controller PWB. Install one additional SIMM into slot 3. Reinstall the System Controller PWB, switch the printer power on, and print a Configuration Sheet (5.5.2.2.1) for Version 1.7X and below or (5.6.2.2.1) for Version 1.8X. The amount of memory listed on the Configuration Sheet is 8 MB plus the value of the three SIMMs.

Y N

- Replace the last SIMM installed (PL 11.3).
- **11** The printer contains additional SIMMs.

Y N

- The System Controller PWB and installed SIMM appear to be functioning properly. Problem solved.
- 12 Switch the AC power off, remove the System Controller PWB. Install one additional SIMM into slot 4. Reinstall the System Controller PWB, switch the printer power on, and print a Configuration Sheet (5.5.2.2.1) for Version 1.7X and below or (5.6.2.2.1) for Version 1.8X. The amount of memory listed on the Configuration Sheet is 8 MB plus the value of the four SIMMs.

Y N

- Replace the last SIMM installed (PL 11.3).
- **13** The printer contains additional SIMMs.

Y N

- The System Controller PWB and installed SIMM appear to be functioning properly. Problem solved.
- 14 Switch the AC power off, remove the System Controller PWB. Install one additional SIMM into slot 5. Reinstall the System Controller PWB, switch the printer power on, and print a Configuration Sheet (5.5.2.2.1) for Version 1.7X and below or (5.6.2.2.1) for Version 1.8X. The amount of memory listed on the Configuration Sheet is 8 MB plus the value of the four SIMMs.

Y N

- Replace the last SIMM installed (PL 11.3).
- **15** The System Controller PWB and installed SIMM appear to be functioning properly. Problem solved.
- 16 Switch the AC power off. Remove System Controller PWB and move SIMM in slot to slot 2. Reinstall the System Controller and switch on the printer power. Print a configuration sheet (5.5.2.2.1) for Version 1.7X and below or (5.6.2.2.1) for Version 1.8X. The amount of memory listed on the Configuration Sheet is 8 MB plus the value of the SIMM.

- Replace the SIMM.
- **17** Replace the System Controller PWB (REP 4.10.7).

### RAP 7.50 0001 - ESS

- 1 Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Remove all options (SIMMs, Hard Disk, etc.) from the System Controller PWB. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.
  - Y N
  - Go to Step 3.
- 2 Replace the System Controller PWB (REP 4.10.7).
- 3 Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Install one of the options removed in step 1. Reinstall System Controller PWB into its chassis and switch the printer power on. The error message reappears.
  - Y N
  - Repeat Step 3 until the faulty option is found. If problem fails to reoccur, attribute problem to a poor connection of option to System Controller PWB and go to 1.4 Final Actions.
- 4 Replace the last installed option.

### RAP 7.51 0001 - BASE ROM

- 1 Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Remove all options (SIMMs, Hard Disk, etc.) from the System Controller PWB. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.
  - Y N
  - Go to Step 3.
- 2 Replace the System Controller PWB (REP 4.10.7).
- 3 Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Install one of the options removed in step 1. Reinstall System Controller PWB into its chassis and switch the printer power on. The error message reappears.
  - Y N
  - Repeat Step 3 until the faulty option is found. If problem fails to reoccur, attribute problem to a poor connection of option to System Controller PWB and go to 1.4 Final Actions.
- 4 Replace the last installed option.

### RAP 7.52 0001 - ROM BOARD

1 Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Remove the Flash Memory SIMM installed on System Controller PWB. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.

Y N

Go to Step 3.

- 2 Replace the System Controller PWB (REP 4.10.7).
- 3 Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Install the Flash Memory SIMM removed in step 1 into a different SIMM slot from the original location. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.

Y N

L

Go to Step 5.

- 4 Replace the Flash Memory SIMM (PL 11.3).
- 5 Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Reinstall the Flash Memory SIMM removed in step 1 into the SIMM Slot the Flash Memory occupied in step 1. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.

Y N

- Attribute problem to a poor connection of the SIMM on the System Controller PWB and go to 1.4 Final Actions.
- 6 Replace the System Controller PWB (REP 4.10.7).

#### RAP 7.53 0001 - BASE RAM

- 1 Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Remove all options (SIMMs, Hard Disk, etc.) from the System Controller PWB. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.
  - Y N
  - Go to Step 3.
- 2 Replace the System Controller PWB (REP 4.10.7).
- **3** Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Install one of the options removed in step 1. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.
  - Y N
  - Repeat Step 3 until the faulty option is found. If problem fails to reoccur, attribute problem to a poor connection of option to System Controller PWB and go to 1.4 Final Actions.
- 4 Replace the last installed option.

### RAP 7.54 0001 - ASIC

- 1 Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Remove all options (SIMMs, Hard Disk, etc.) from the System Controller PWB. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.
  - Y N
  - Go to Step 3.
- 2 Replace the System Controller PWB (REP 4.10.7).
- **3** Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Install one of the options removed in step 1. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.
  - Y N
  - Repeat Step 3 until the faulty option is found. If problem fails to reoccur, attribute problem to a poor connection of option to System Controller PWB and go to 1.4 Final Actions.
- 4 Replace the last installed option.

#### RAP 7.55 0001 - DMA

- 1 Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Remove all options (SIMMs, Hard Disk, etc.) from the System Controller PWB. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.
  - Y N
  - Go to Step 3.
- 2 Replace the System Controller PWB (REP 4.10.7).
- **3** Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Install one of the options removed in step 1. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.
  - Y N
  - Repeat Step 3 until the faulty option is found. If problem fails to reoccur, attribute problem to a poor connection of option to System Controller PWB and go to 1.4 Final Actions.
- 4 Replace the last installed option.

### RAP 7.56 0001 - COMM

- 1 Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Remove all options (SIMMs, Hard Disk, etc.) from the System Controller PWB. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.
  - Y N
  - Go to Step 3.
- 2 Replace the System Controller PWB (REP 4.10.7).
- **3** Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Install one of the options removed in step 1. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.
  - Y N
  - Repeat Step 3 until the faulty option is found. If problem fails to reoccur, attribute problem to a poor connection of option to System Controller PWB and go to 1.4 Final Actions.
- 4 Replace the newly installed option.

#### RAP 7.57 0002 - ESS FAN

- 1 Switch the printer power off. Remove the Top Cover and the System Controller Chassis Cover (REP 4.10.8). Remove then reinstall the System Controller PWB. Switch the printer power on. Locate the System Controller Fan and observe the fan rotation during power up. The fan rotates.
  - Y N
  - Replace the following in order:
    - System Controller Fan (PL 11.3)
    - System Controller Interface PWB (REP 4.10.9)
    - System Controller PWB (REP 4.10.7)
    - System Controller Chassis (REP 4.10.8)
- **2** Go to 1.4 Final Actions.

### RAP 7.58 0010 - DISK

1 Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Remove and reinstall the Hard Disk on the System Controller PWB. Reinstall System Controller PWB into its chassis and switch the printer power on. The error message reappears.

- Go to 1.4 Final Actions.
- 2 Replace the Hard Disk (PL 11.3). If problem still exists, replace the System Controller PWB (REP 4.10.7).

#### RAP 7.59 0101 - SIMM1

1 Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Remove the SIMM installed in Slot 1. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.

Y N

Go to Step 3.

- 2 Replace the System Controller PWB (REP 4.10.7).
- **3** Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Install the SIMM removed in step 1 into Slot 2. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.

Y N

Go to Step 5.

- 4 Replace the SIMM (PL 11.3).
- **5** Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Reinstall the SIMM removed in step 1 into Slot 1. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.

- Attribute problem to a poor connection of the SIMM on the System Controller PWB and go to 1.4 Final Actions.
- 6 Replace the System Controller PWB (REP 4.10.7).

### RAP 7.60 0102 - SIMM2

1 Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Remove the SIMM installed in Slot 2. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.

Y N

Go to Step 3.

- 2 Replace the System Controller PWB (REP 4.10.7).
- **3** Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Install the SIMM removed in step 1 into Slot 1. Reinstall System Controller PWB into its chassis and switch the printer power on. The error message reappears.

Y N

Go to Step 5.

- 4 Replace the SIMM (PL 11.3).
- **5** Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Reinstall the SIMM removed in step 1 into Slot 2. Reinstall System Controller PWB into its chassis and switch the printer power on. The error message reappears.

Y N

- Attribute problem to a poor connection of the SIMM on the System Controller PWB and go to 1.4 Final Actions.
- 6 Replace the System Controller PWB (REP 4.10.7).

### RAP 7.61 0103 - SIMM3

1 Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Remove the SIMM installed in Slot 3. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.

Y N

Go to Step 3.

- 2 Replace the System Controller PWB (REP 4.10.7).
- **3** Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Install the SIMM removed in step 1 into Slot 1. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.

Y N

Go to Step 5.

- 4 Replace the SIMM (PL 11.3).
- **5** Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Reinstall the SIMM removed in step 1 into Slot 3. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.

- Attribute problem to a poor connection of the SIMM on the System Controller PWB and go to 1.4 Final Actions.
- 6 Replace the System Controller PWB (REP 4.10.7).

#### RAP 7.62 0104 - SIMM4

1 Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Remove the SIMM installed in Slot 4. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.

Y N

Go to Step 3.

- 2 Replace the System Controller PWB (REP 4.10.7).
- **3** Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Install the SIMM removed in step 1 into Slot 1. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.

Y N

Go to Step 5.

- 4 Replace the SIMM (PL 11.3).
- **5** Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Reinstall the SIMM removed in step 1 into Slot 4. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.

Y N

- Attribute problem to a poor connection of the SIMM on the System Controller PWB and go to 1.4 Final Actions.
- 6 Replace the System Controller PWB (REP 4.10.7).

#### RAP 7.63 0105 - SIMM5

1 Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Remove the SIMM installed in Slot 5. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.

Y N

Go to Step 3.

- 2 Replace the System Controller PWB (REP 4.10.7).
- **3** Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Install the SIMM removed in step 1 into Slot 1. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.

Y N

Go to Step 5.

- 4 Replace the SIMM (PL 11.3).
- **5** Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Reinstall the SIMM removed in step 1 into Slot 5. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.

- Attribute problem to a poor connection of the SIMM on the System Controller PWB and go to 1.4 Final Actions.
- 6 Replace the System Controller PWB (REP 4.10.7).

### RAP 7.64 1000 - IOT

1 Switch the printer power off. Remove System Controller PWB from System Controller Chassis and inspect connector which plugs into System Controller Interface PWB. The connector is damaged.

Y N

Go to Step 3.

- 2 Replace the System Controller PWB (REP 4.10.7).
- **3** Remove rear cover on Printer and verify P/J 402 is properly installed and free of damage. P/J 402 is properly installed and free of damage.

Y N

Repair or replace harness.

**4** Remove printer top cover and System Controller Chassis Cover. Verify P/J 422 is properly installed and free of damage. P/J 422 is properly installed and free of damage.

Y N

- Repair or replace harness.
- 5 Replace following components one at a time until problem is resolved:
  - Printer Engine Controller PWB (REP 4.10.6).
  - System Controller Interface PWB (REP 4.10.9).
  - System Controller PWB (REP 4.10.7).

#### RAP 7.65 2000 - XIE RAM

- 1 Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Remove all options (SIMMs, Hard Disk, etc.) from the System Controller PWB. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.
  - Y N
  - Go to Step 3.
- 2 Replace the System Controller PWB (REP 4.10.7).
- **3** Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Install one of the options removed in step 1. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.
  - Y N
  - Repeat Step 2 until the faulty option is found. If problem fails to reoccur, attribute problem to a poor connection of option to System Controller PWB and go to 1.4 Final Actions.
- 4 Replace the last installed option.

#### RAP 7.66 3000 - Token Ring

1 Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Remove the Token Ring PWB installed on System Controller PWB. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.

Y N

Go to Step 3.

- 2 Replace the System Controller PWB (REP 4.10.7).
- 3 Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Reinstall the Token Ring PWB. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.

- Attribute problem to a poor connection of the Token Ring PWB onto the System Controller PWB and go to 1.4 Final Actions.
- 4 Replace the Token Ring PWB (PL 11.3).

### RAP 7.67 4000 - NIC

1 Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Remove the NIC PWB installed on System Controller PWB. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.

Y N

Go to Step 3.

- 2 Replace the System Controller PWB (REP 4.10.7).
- **3** Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Reinstall the NIC PWB. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.

- Attribute problem to a poor connection of the NIC PWB onto the System Controller PWB and go to 1.4 Final Actions.
- 4 Replace the NIC PWB (PL 11.3).

### RAP 7.68 5000 - MEMORY

This fault message is displayed when the System Controller PWB does not detect the presence of a optional SIMM of at least 4M Bytes or greater.

1 Switch the printer power off. Remove System Controller PWB from System Controller Chassis. There is a SIMM installed on the System Controller PWB and it is at least 4M Bytes or greater.

Y N

- Install a SIMM in any of the SIMM slots on the System Controller PWB.
- 2 Relocate the SIMM installed to another slot on the System Controller PWB. Reinstall the System Controller PWB into its chassis and switch the printer power on. The error message reappears.

Y N

- Replace the System Controller PWB (REP 4.10.7).
- **3** Replace the SIMM (PL 11.3). If problem still exists, replace the System Controller PWB (REP 4.10.7).

#### RAP 7.69 Printer hangs with "Processing..." Message

This fault message is displayed when the System Controller PWB is unable to print a job.

1 The Finisher Option is installed on the printer.

```
Y N
```

- Go to step 8.
- 2 Switch the printer power off and disconnect the Finisher. Switch the printer power on and generate a Configuration Sheet (5.5.2.2.1) for Version 1.7X and below or (5.6.2.2.1) for Version 1.8X outputted to the face down bin. The printer hangs with "**Processing...**" on the top line of the Control Panel.

```
Y N
```

- Go to step 4.
- **3** Replace the System Controller PWB (REP 4.10.7).
- 4 Switch the printer power off and reconnect the Finisher. Switch the printer power on and generate 10 copies of the System Controller Test Pattern (5.5.2.2.2) for Version 1.7X and below or (5.6.2.2.2) for Version 1.8X, dual stapled, and outputted to Bin 2 on the Finisher.
  - Y N
  - Go to step 6.
- **5** Go to (RAP 8.5.7.22) and (RAP 8.5.7.23).
- 6 Ask customer to send the print job which originally caused the printer to display the message "Processing...". The printer hangs with "Processing..." on the top line of the Control Panel.
  - Y N
  - Re-seat System Controller PWB (REP 4.10.7) and check Host cable(s) for intermittent connection.
- **7** Have customer validate the application and printer setup. Replace the System Controller PWB (REP 4.10.7).
- 8 Generate a Configuration Sheet (5.5.2.2.1) for Version 1.7X and below or (5.6.2.2.1) for Version 1.8X. The printer hangs with "**Processing...**" on the top line of the Control Panel.
  - Y N
  - Re-seat System Controller PWB (REP 4.10.7) and check Host cable(s) for intermittent connection, then go to step 10.
- **9** Replace the System Controller PWB (REP 4.10.7).
- **10** Ask customer to send the print job which originally caused the printer to display the message "**Processing...**". The printer hangs with "**Processing...**" on the top line of the Control Panel.

- Attribute problem to an intermittent connection.
- **11** Have customer validate the application and printer setup. Replace the System Controller PWB (REP 4.10.7).

### RAP 7.70 "IM\*\*\*\*" Message Faults

This fault message is displayed because of a failure of the Imager Hardware/Software on the System Controller.

1 Switch the printer power off. Remove System Controller PWB from System Controller Chassis. Verify all SIMM PWBs on the System Controller PWB are properly installed. All SIMMs are properly installed.

Y N

I

- Properly install all SIMMs in their respective SIMM slot on the System Controller PWB.
- 2 Upgrade System Controller Software to latest level (5.11). The error message reappears.

Y N

- Problem is fixed.
- **3** Replace the System Controller PWB (REP 4.10.7). The error message reappears.
  - Y N
  - Problem is fixed.
- 4 Call for assistance.

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## **Section 8**

# **Options**

8.1 Duplex Module	. 8-13
8.1.1 Duplex Module Specifications	. 8-13
GEN 8.1.1.1 General Specifications	. 8-13
GEN 8.1.1.2 Available Duplex Printing Modes	. 8-13
GEN 8.1.1.3 Continuous Printing Speed	. 8-14
GEN 8.1.1.4 Duplex Module Recommended Paper Sizes	.8-14
GEN 8.1.1.5 Duplex Space Requirements	8-15
8.1.2 Duplex Module Parts List	. 8-16
PL 8.1.2.1 Cover and Duplex Assembly	. 8-16
PL 8.1.2.2 Drives	. 8-18
PL 8.1.2.3 Upper Chute	. 8-20
PL 8.1.2.4 Paper Transport	. 8-22
PL 8.1.2.5 Inner Chute	. 8-24
8.1.3 Repair Procedures	. 8-27
REP 8.1.3.1 Duplex Module Assembly	. 8-27
REP 8.1.3.2 Duplex Cover	. 8-28
REP 8.1.3.3 Duplex Rear Cover	. 8-29
REP 8.1.3.4 Duplex Front Cover	. 8-30

3/99 8-1

	REP 8.1.3.5 Duplex PWB and Bracket	8-31
	REP 8.1.3.6 Duplex Wait Clutch	8-32
	REP 8.1.3.7 Duplex Drive Assembly	8-33
	REP 8.1.3.8 Duplex Exit Sensor	8-34
	REP 8.1.3.9 Duplex Exit Gate Solenoid	8-35
	REP 8.1.3.10 Exit Roll	8-37
	REP 8.1.3.11 Duplex Wait Sensor	8-39
	REP 8.1.3.12 Duplex Interlock Switch	8-41
	REP 8.1.3.13 Exit Roll Belt	8-42
	8.1.4 Running Duplex Module Diagnostics	8-45
	8.1.5 Wiring Data	8-47
	WIR 8.1.5.1 Master Connection and Wiring Diagrams	8-47
	WIR 8.1.5.2 Plug / Jack Locator	8-48
	8.1.6 Duplex Module Principles of Operation	8-49
	8.1.6.1 Duplex Module Control	8-49
	8.1.6.2 Mechanical Drive	8-50
	8.1.6.3 Duplex Module Paper Path	8-51
	8.1.7 Repair Analysis Procedures	8-55
	RAP 8.1.7.1 Error Code "Paper Jam Clear Duplex Unit" and Jam / Clear Area A"	"Paper 8-55
	RAP 8.1.7.2 Error Code "Close Duplex Unit"	8-57
	RAP 8.1.7.3 Error Code "Paper Jam/Clear Area A"	8-58
	RAP 8.1.7.4 Error Code "Paper Jam/Clear Duplx Unit"	8-60
	RAP 8.1.7.5 Duplex Unit Fail / Service Required	8-61
8.2	2 Mailbox	8-63
	8.2.1 Mailbox Specifications.	8-63
	GEN 8.2.1.1 General Specifications	8-63
	GEN 8.2.1.2 Available Mailbox Modes	8-63
	GEN 8.2.1.3 Printing Speeds While Using the Mailbox	8-64
	GEN 8.2.1.4 Mailbox Recommended Paper Sizes	8-64
	GEN 8.2.1.5 Components that Need Periodic Replacement	t8-65
	GEN 8.2.1.6 Mailbox Space Requirements	8-65
	8.2.2 Mailbox Parts List	8-66

3/99 8-2

	PL 8.2.2.1 Console Bracket Frame and Rack	8-66
	PL 8.2.2.2 Cover and Frame	8-68
	PL 8.2.2.3 Actuator Cover and Left Chute	8-70
	PL 8.2.2.4 Bin 1 Assembly	8-72
	PL 8.2.2.5 Bin Assembly	8-74
	PL 8.2.2.6 Solenoid and Sensor	8-76
	PL 8.2.2.7 Control PWB and Drive Motor	8-78
	PL 8.2.2.8 Desktop Bracket Assembly	8-80
8.2	2.3 Repair Procedures	8-83
	REP 8.2.3.1 Mailbox Left Cover Assembly	8-83
	REP 8.2.3.2 Mailbox Front Cover	8-84
	REP 8.2.3.3 Mailbox Rear Cover	8-85
	REP 8.2.3.4 Mailbox Top Cover	8-86
	REP 8.2.3.5 Actuator (ACT) Cover Assembly	8-87
	REP 8.2.3.6 BIN 1 Jam Sensor	8-88
	REP 8.2.3.7 Bin 1 Assembly	8-89
	REP 8.2.3.8 Mailbox Drive Belt	8-91
	REP 8.2.3.9 BINs 2 through 10	8-93
	REP 8.2.3.10 Gate Solenoids	8-95
	REP 8.2.3.11 Mailbox Exit Roll	8-97
	REP 8.2.3.12 IN Gate Solenoid	8-99
	REP 8.2.3.13 Vertical LED / Sensor	8-101
	REP 8.2.3.14 Mailbox Control PWB	8-103
	REP 8.2.3.15 Mailbox Drive Motor	8-105
	REP 8.2.3.16 Mailbox IN Sensor	8-107
8.2	2.4 Running Mailbox Diagnostics	8-109
8.2	2.5 Wiring Data	8-111
	WIR 8.2.5.1 Master Connection and Wiring Diagrams	8-111
	WIR 8.2.5.2 Plug / Jack Locator	8-114
8.2	2.6 Mailbox Principles of Operation	8-117
	8.2.6.1 Mailbox Control	8-117
	8.2.6.2 Mechanical Drive	8-119
	8.2.6.3 Mailbox Paper Path	8-120

8.2.7 Repair Analysis Procedures	. 8-125
RAP 8.2.7.1 Error Code "Paper Jam Clear Area D"	. 8-125
RAP 8.2.7.2 Mailbox Failure Service Required	.8-128
8.3 Envelope Feeder	. 8-129
8.3.1 Envelope Feeder Specifications	.8-129
GEN 8.3.1.1 General Specifications	.8-129
GEN 8.3.1.2 Recommended Envelope Sizes	. 8-129
GEN 8.3.1.3 Components that Need Periodic Replacement.	. 8-129
8.3.2 Envelope Feeder Parts List	.8-130
PL 8.3.2.1 Covers	.8-130
PL 8.3.2.2 Drives	.8-132
PL 8.3.2.3 Feed	.8-134
8.3.3 Repair Procedures	.8-137
REP 8.3.3.1 Envelope Feeder Bottom Cover	. 8-137
REP 8.3.3.2 Envelope Feeder Top Cover	.8-138
REP 8.3.3.3 Envelope Feeder Front Cover	.8-139
REP 8.3.3.4 Envelope Feeder Rear Cover	. 8-140
REP 8.3.3.5 Envelope Feeder Center Bracket Assembly	. 8-141
REP 8.3.3.6 Envelope Feeder Motor	.8-142
REP 8.3.3.7 Envelope Feeder PWB	.8-143
REP 8.3.3.8 Envelope Feeder Belt	. 8-144
REP 8.3.3.9 Envelope Feeder Retard Roll Assembly	. 8-146
8.3.4 Running Envelope Feeder Diagnostics	. 8-149
8.3.5 Wiring Data	.8-151
WIR 8.3.5.1 Master Connection and Wiring Diagrams	. 8-151
WIR 8.3.5.2 Plug / Jack Locator	. 8-152
8.3.6 Envelope Feeder Principles of Operation	.8-153
8.3.6.1 Envelope Feeder Power	.8-153
8.3.6.2 Envelope Feeder Control	. 8-154
8.3.6.3 Mechanical Drive	. 8-155
8.3.6.4 The Envelope Feeder Paper Path	. 8-156
8.3.7 Repair Analysis Procedures	. 8-157
RAP 8.3.7.1 Error Code "Clear Area A / Reset ENV/PASS"	. 8-157

#### 3/99

8-4

RAP 8.3.7.2 Error Code "Paper Jam / Clear Area A"	8-159
RAP 8.3.7.3 Error Code "Install MBF/ENV"	8-161
8.4 High Capacity Feeder	8-163
8.4.1 High Capacity Feeder Specifications	8-163
GEN 8.4.1.1 General Specifications	8-163
GEN 8.4.1.2 High Capacity Feeder Space Requirements	8-163
8.4.2 High Capacity Feeder Parts List	8-164
PL 8.4.2.1 Cover and Frame	8-164
PL 8.4.2.2 Drive, HCF PWB, and Harness	8-166
PL 8.4.2.3 Tray Interface (1 of 2)	8-168
PL 8.4.2.4 Tray Interface (2 of 2)	8-170
PL 8.4.2.5 Paper Pick Up - Tray 3	8-172
PL 8.4.2.6 Retard and Take Away Roll - Tray 3	8-174
PL 8.4.2.7 Paper Pick Up - Tray 4	8-176
PL 8.4.2.8 Retard and Take Away Roll - Tray 4	8-178
PL 8.4.2.9 Paper Pick Up - Tray 5	8-180
PL 8.4.2.10 Retard and Take Away Drive - Tray 5	8-182
PL 8.4.2.11 Left Cover Assembly	8-184
PL 8.4.2.12 Tray 4	8-186
PL 8.4.2.13 Tray 5	8-188
PL 8.4.2.14 Tray 5 - Paper Feed	8-190
8.4.3 Repair Procedures	8-193
REP 8.4.3.1 HCF Rear Cover	8-193
REP 8.4.3.2 HCF Left Cover	8-194
REP 8.4.3.3 HCF Feed Motor	8-195
REP 8.4.3.4 HCF Drive Belt	8-197
REP 8.4.3.5 HCF PWB	8-199
REP 8.4.3.6 Lift Up Motor	8-200
REP 8.4.3.7 Tray 3 Paper Size Sensor PWB	8-201
REP 8.4.3.8 Tray 4 or Tray 5 Paper Size Sensor PWBs .	8-202
REP 8.4.3.9 Trays 3, 4, and 5 Feed Clutches	8-203
REP 8.4.3.10 Trays 3, 4, and 5 Paper Level Sensors	8-204
REP 8.4.3.11 Feed, Nudger, and Retard Rolls - Trays 3~	58-205

REP 8.4.3.12 Tray 3 Feeder Assembly8-207
REP 8.4.3.13 Tray 3 Take Away Roll and Retard Assembly8-209
REP 8.4.3.14 Left Cover Assembly 8-211
REP 8.4.3.15 Tray 4 Removal8-212
REP 8.4.3.16 Tray 4 Bottom Plate Lift Wires8-213
REP 8.4.3.17 Tray 4 Retard Assembly8-215
REP 8.4.3.18 HCF Drive Roll Assembly8-217
REP 8.4.3.19 Tray 4 and 5 Feeder Assembly8-219
REP 8.4.3.20 Tray 5 Removal8-221
REP 8.4.3.21 Tray 5 Bottom Plate Lift Wire8-222
REP 8.4.3.22 Tray 5 Retard Assembly8-224
8.4.4 Running HCF Diagnostics8-227
8.4.5 Wiring Data
WIR 8.4.5.1 Connection and Wiring Diagrams8-229
WIR 8.4.5.2 Plug / Jack Locator8-232
8.4.6 HCF Principles of Operation8-235
8.4.6.1 High Capacity Feeder Power8-235
8.4.6.2 HCF Control8-236
8.4.6.3 Mechanical Drive8-237
8.4.6.4 The HCF Paper Path8-243
8.4.7 Repair Analysis Procedures8-249
RAP 8.4.7.1 Error Code "Clear Areas B,C Reset Trays 2,3" 8-249
RAP 8.4.7.2 Error Code "Paper Jam Clear Area B"8-250
RAP 8.4.7.3 Error Code "Paper Jam Clear Area C"
RAP 8.4.7.4 Error Code "Paper Jam Clear Area A"8-252
RAP 8.4.7.5 Error Code "Clear Area C Reset Tray 5"
RAP 8.4.7.6 Error Code "Paper Jam/Clear Areas B,C" 8-254
RAP 8.4.7.7 Error Code "Close Door C"8-255
RAP 8.4.7.8 Error Code "Tray 3 Problem Service Required" .8-256
RAP 8.4.7.9 Error Code "Tray 4 Problem Service Required" .8-257
RAP 8.4.7.10 Error Code "Tray 5 Problem Service Required" 8-258
RAP 8.4.7.11 Inoperative HCF (HFC not detected on Configuration Sheet)

8.5 Finisher	8-261
8.5.1 Finisher Specifications	8-261
GEN 8.5.1.1 General Specifications	8-261
GEN 8.5.1.2 Stapler Specifications	8-261
GEN 8.5.1.3 Compiler Specifications	8-261
GEN 8.5.1.4 Finisher Specifications	8-262
GEN 8.5.1.5 Offset Specifications	8-262
GEN 8.5.1.6 Finisher Recommended Paper Sizes	8-262
GEN 8.5.1.7 Finisher Space Requirements	8-263
8.5.2 Finisher Parts List	8-264
PL 8.5.2.1 Front and Left Covers	8-264
PL 8.5.2.2 Rear Covers	8-266
PL 8.5.2.3 Rack	8-268
PL 8.5.2.4 Rails and Bins	8-270
PL 8.5.2.5 Bottom Bin	8-272
PL 8.5.2.6 Bottom Bin Frame	8-274
PL 8.5.2.7 Middle Bin	8-276
PL 8.5.2.8 Middle Bin Frame	8-278
PL 8.5.2.9 Top Bin	8-280
PL 8.5.2.10 Top Bin Frame	8-282
PL 8.5.2.11 Bin Eject	8-284
PL 8.5.2.12 Exit	8-286
PL 8.5.2.13 Offset and Eject	8-288
PL 8.5.2.14 Stapler	8-290
PL 8.5.2.15 Transport	8-292
PL 8.5.2.16 Front Frame	8-294
PL 8.5.2.17 Rear Frame 1	8-296
PL 8.5.2.18 Rear Frame 2	8-298
PL 8.5.2.19 Rear Frame 3	8-300
PL 8.5.2.20 Electrical Module	8-302
PL 8.5.2.21 Harness	8-304
PL 8.5.2.22 Docking Assembly	8-306
PL 8.5.2.23 Transport Frame, Rear	8-308
PL 8.5.2.24 Transport Frame	8-310
8.5.3 Repair Procedures	8-313

3/99

8-7
REP 8.5.3.1 Finisher	8-314
REP 8.5.3.2 Stapler Door Cover	8-316
REP 8.5.3.3 Stapler Door Inner Cover Assembly	8-317
REP 8.5.3.4 Lower Front Cover	8-318
REP 8.5.3.5 Upper Rear Cover	8-319
REP 8.5.3.6 Lower Left Cover	8-320
REP 8.5.3.7 Eject Cover	8-321
REP 8.5.3.8 Harness Cover	8-322
REP 8.5.3.9 Add Cover	8-323
REP 8.5.3.10 Finisher PWB Cover	8-324
REP 8.5.3.11 Transport Assembly	8-326
REP 8.5.3.12 Upper Left Cover	8-328
REP 8.5.3.13 Lower Limit Switch	8-329
REP 8.5.3.14 Upper Limit Switch	8-330
REP 8.5.3.15 Interlock Sensor and Actuator	. 8-332
REP 8.5.3.16 Bin ID Sensor	8-334
REP 8.5.3.17 Elevator Motor	8-336
REP 8.5.3.18 Bottom Bin Assembly	8-338
REP 8.5.3.19 Bottom Bin Rear Cover	. 8-340
REP 8.5.3.20 Bottom Bin Half and Full Sensors	8-342
REP 8.5.3.21 Bottom Bin Lower & Upper Limit Sensors	8-344
REP 8.5.3.22 Bottom Bin Paper Sensor	. 8-346
REP 8.5.3.23 Bottom Bin Safety Sensor	8-347
REP 8.5.3.24 Bottom Bin Motor	8-348
REP 8.5.3.25 Bottom Bin Front Cover	8-349
REP 8.5.3.26 Bottom Bin Drive Belts	8-350
REP 8.5.3.27 Bottom Bin	8-352
REP 8.5.3.28 Middle Bin Assembly	8-354
REP 8.5.3.29 Middle Bin Rear Cover	8-356
REP 8.5.3.30 Middle Bin Half and Full Sensors	. 8-358
REP 8.5.3.31 Middle Bin Lower & Upper Limit Sensors	8-360
REP 8.5.3.32 Middle Bin Paper Sensor	8-362
REP 8.5.3.33 Middle Bin Safety Switch	8-363
REP 8.5.3.34 Middle Bin Motor	8-364
REP 8.5.3.35 Middle Bin Front Cover	8-365
REP 8.5.3.36 Middle Bin Drive Belts	8-366
REP 8.5.3.37 Middle Bin	8-368

3/99 8-8

REP 8.5.3.3	8 Top Bin Assembly	. 8-370
REP 8.5.3.3	9 Top Bin Rear Cover	.8-372
REP 8.5.3.4	0 Top Bin Half and Full Sensors	. 8-374
REP 8.5.3.4	1 Top Bin Lower & Upper Limit Sensors	8-376
REP 8.5.3.42	2 Top Bin Paper Sensor	.8-378
REP 8.5.3.4	3 Top Bin Front Cover	.8-379
REP 8.5.3.4	4 Top Bin Safety Switch	. 8-380
REP 8.5.3.4	5 Top Bin Motor	. 8-381
REP 8.5.3.4	6 Top Bin Drive Belts	. 8-382
REP 8.5.3.4	7 Top Bin	. 8-384
REP 8.5.3.4	8 Right Rack Cover Assembly	. 8-386
REP 8.5.3.4	9 Tamper Motor	. 8-388
REP 8.5.3.5	0 Tamper Home Sensor	. 8-390
REP 8.5.3.5	1 Compiler Paper Sensor	.8-392
REP 8.5.3.5	2 End Wall Open Sensor	. 8-394
REP 8.5.3.5	3 Tamper Motor Drive Belt	.8-396
REP 8.5.3.5	4 Unload While Run Switch	.8-398
REP 8.5.3.5	5 Compiler Bin Solenoid Assembly	8-399
REP 8.5.3.5	6 End Wall Motor	. 8-400
REP 8.5.3.5	7 Eject Clamp Sensor	. 8-402
REP 8.5.3.5	8 Offset Home Sensor	. 8-404
REP 8.5.3.5	9 Eject Bracket Assembly	. 8-406
REP 8.5.3.6	0 Set Clamp Motor and Drive Belt	. 8-408
REP 8.5.3.6	1 Eject Shaft Assemblies	. 8-410
REP 8.5.3.6	2 Eject Chute Assembly	. 8-412
REP 8.5.3.6	3 Eject Pinch Roll Shaft Assembly	.8-414
REP 8.5.3.6	4 Upper Exit Chute Assembly	. 8-416
REP 8.5.3.6	5 Exit Shaft Assembly	. 8-418
REP 8.5.3.6	6 Paddle Shaft Assembly	. 8-420
REP 8.5.3.6	7 Paddle Drive Belt	. 8-422
REP 8.5.3.6	8 Stack Height Sensor	. 8-424
REP 8.5.3.6	9 Stapler Assembly	. 8-425
REP 8.5.3.7	0 Stapler Position Sensors	. 8-426
REP 8.5.3.7	1 Stapler Rail Belt	. 8-428
REP 8.5.3.7	2 Top Cover Assembly	. 8-430
REP 8.5.3.7	3 Compiler Bin Exit Sensor	. 8-431
REP 8.5.3.7	4 Transport Motor	.8-432

REP 8.5.3.75 Top & Front Cover Interlock Switches	8-433
REP 8.5.3.76 Transport Motor Drive Belt	8-434
REP 8.5.3.77 Upper Transport Chute Assembly	8-436
REP 8.5.3.78 Compiler Cover & Safety Interlock Switches.	8-438
REP 8.5.3.79 Set Clamp Home Sensor	8-440
REP 8.5.3.80 Stapler Transport Motor	8-441
REP 8.5.3.81 Eject Motor	8-442
REP 8.5.3.82 Eject Clamp Offset Motor	8-444
REP 8.5.3.83 Finisher PWB Assembly	8-446
REP 8.5.3.84 Low Voltage Power Supply	8-448
REP 8.5.3.85 In Gate Support Assembly	8-450
REP 8.5.3.86 In Gate Actuator	8-451
REP 8.5.3.87 In Gate Interlock Switch	8-452
REP 8.5.3.88 Roller Unit	8-453
REP 8.5.3.89 Transport Assembly Drive Belt	8-454
REP 8.5.3.90 In Gate Solenoid Assembly	8-456
REP 8.5.3.91 Transport Cover Assembly	8-458
REP 8.5.3.92 Transport Interlock Sensor	8-459
REP 8.5.3.93 Transport Roll	8-460
REP 8.5.3.94 Transport Entrance Sensor	8-462
REP 8.5.3.95 Face Down Bin Full Sensor	8-463
REP 8.5.3.96 Transport Exit Sensor	8-464
8.5.4 Running Finisher Diagnostics	8-465
8.5.5 Wiring Data	8-467
WIR 8.5.5.1 Connection and Wiring Diagrams	8-467
WIR 8.5.5.2 Plug / Jack Locator	8-479
8.5.6 Finisher Principles of Operation	8-497
8.5.6.1 Finisher Power	8-497
8.5.6.2 Finisher Control	8-498
8.5.6.4 Finisher Components	8-516
8.5.6.5 Mechanical Drive	8-522
8.5.6.3 The Finisher Paper Path	8-500
8.5.7 Repair Analysis procedures	8-535
RAP 8.5.7.1 Error Code "Paper Jam Clear Area E"	8-535
RAP 8.5.7.2 Error Code "Paper Jam Clear Area F"	8-537

3/99 8-10

	RAP 8.5.7.3 Error Code "Paper Jam Clear Area G, H"	8-539
	RAP 8.5.7.4 Error Code "Paper Jam Clear Area H"	8-541
	RAP 8.5.7.5 Error Code "Close Cover E"	8-542
	RAP 8.5.7.6 Error Code "Close Door F"	8-543
	RAP 8.5.7.7 Error Code "Close Stapler Door"	8-544
	RAP 8.5.7.8 Error Code "Close Cover G"	8-545
	RAP 8.5.7.9 Error Code "Clear Area H"	8-546
	RAP 8.5.7.10 Error Code "Close Cover H"	8-547
	RAP 8.5.7.11 Error Code "Slide In Finisher"	8-548
	RAP 8.5.7.12 Error Code "Finisher Fail Power Off/On"	8-549
	RAP 8.5.7.13 Error Code "Fin Fail H5-81 Power Off/On"	8-551
	RAP 8.5.7.14 Error Code "Fin Fail H5-82 Power Off/On"	8-552
	RAP 8.5.7.15 Error Code "Fin Fail H5-83 Power Off/On"	8-553
	RAP 8.5.7.16 Error Code "Fin Fail H5-84 Power Off/On"	8-554
	RAP 8.5.7.17 Error Code "Fin Fail H5-85 Power Off/On"	8-555
	RAP 8.5.7.18 Error Code "Fin Fail H5-86 Power Off/on"	8-556
	RAP 8.5.7.19 Error Code "Staple Fail H5-91 Power Off/Or	າ" 8-557
	RAP 8.5.7.20 Error Code "Stapler Fail H5-92 Power Off/O	n".8-558
	RAP 8.5.7.21 Error Code "Stapler Fail H5-93 Power Off/O	n".8-559
	RAP 8.5.7.22 Error Code "Staple Fail H5-94 Power Off/Or	າ" 8-560
	RAP 8.5.7.23 Error Code "Stapler Fail H5-95 Power Off/O	n".8-561
	RAP 8.5.7.24 Error Code "Stapler Fail H5-96 Power Off/O	n".8-562
	RAP 8.5.7.25 Error Code "Stapler Fail H5-97 Power Off/O	n".8-563
	RAP 8.5.7.26 Inoperative Finisher	8-564
	RAP 8.5.7.27 Printer Does Not See The Finisher	8-566
	RAP 8.5.7.28 Loss of +5.0 VDC	8-567
	RAP 8.5.7.29 Loss of +24.0 VDC	8-568
	RAP 8.5.7.30 Error Code "Clear Underneath Finisher Bins "Clear Underneath Finisher Elevatr"	s" or 8-569
8.6	ACOM MICR Enhancement Printer Supplemental Manual	8-571
	8.6.1 ACOM MICR Printer Specifications	8-571
	GEN 8.6.1.1 Model Types	8-571
	8.6.2 ACOM Parts List	8-572
	8.6.3 Repair Procedures	8-573
	8.6.4 ACOM MICR Unique Wiring Data	8-575

3/99 8-11

WIR 8.6.4.1 Plug / Jack Locator	. 8-575
WIR 8.6.4.2 ACOM Wiring Change Diagrams	8-576
WIR 8.6.4.2.1 Model 1 Laser Assembly Wiring	. 8-576
WIR 8.6.4.2.2 Model 2 Laser Assembly Wiring	. 8-577
8.6.5 ACOM MICR Enhanced User's Guide	8-579
8.6.5.1 Introduction	. 8-579
8.6.5.2 Technical Support	8-579
8.6.5.3 Printer Installation	. 8-580
8.6.5.4 Operating Instructions	. 8-581
8.6.5.4.1 Model 1 - Dedicated MICR Printer	. 8-581
8.6.5.4.2 Model 2 – Dual Mode MICR/Non-MICR Printer	. 8-581
8.6.5.5 MICR Keylock- MODEL 2 Only	8-583
8.6.5.6 Secure-A-Font Module	. 8-584
8.6.5.6.1 Unpacking	. 8-584
8.6.5.6.2 PCMCIA Cards	. 8-584
8.6.5.6.3 Installation	. 8-584
8.6.6 ACOM MICR Guide	. 8-585
8.6.6.1 Introduction	. 8-585
8.6.6.2 ACOM Printer Models	8-585
8.6.6.3 MICR Enhancements	. 8-586
8.6.6.3.1 Fuser Temperature Adjustment	. 8-586
8.6.6.3.2 Magnetic MICR Toner Sensor	. 8-586
8.6.6.4 Magnetic Non-MICR Toner Sensor	8-589
8.6.6.5 MICR Mode Keylock	. 8-589
8.6.6.6 Secure-A-Font Module	8-590
8.6.7 Repair Analysis Procedures	8-591
8.6.7.1 Laser Failure (U3-2, U3-3, U3-4, & U3-5)	. 8-591

# 8.1 Duplex Module

# 8.1.1 Duplex Module Specifications.

## **GEN 8.1.1.1 General Specifications**

Category	Specification
Configuration	Customer installed option. Attaches to the left side of the printer, above the MBF. The optional Face Up Bin can be used with the Duplex Module.
Paper feed	The Duplex Module can duplex print paper fed from all available paper feeders, except the MBF.
Power requirements	The Printer provides all of the Duplex Module power requirements; +5VDC and +24VDC
Size and weight	Height: 14.5" (369mm) Width: 3.6" (92mm) Depth: 19" (484mm) Weight: 17 lbs. (7.7kg)

## **GEN 8.1.1.2** Available Duplex Printing Modes

Mode	Specification
One Sheet Batch	The printer prints on one side of a sheet of paper. The Duplex Module returns the printed sheet to the printer. The printer prints on the other side of the sheet of paper. The printer transports the duplex printed sheet to the Output Bin.
Two Sheet Batch	The printer prints on one side of a sheet of paper. The Duplex Module holds that sheet, while the printer prints on one side of a second sheet of paper. The Duplex Module returns the first sheet to the printer. The printer prints on the second side of the first sheet. The Duplex Module then returns the second sheet to the printer. The printer transports the duplex printed first sheet to the Output Bin. The printer prints on the second side of the second sheet. The printer transports the duplex printed second sheet to the Output Bin. This process repeats for additional prints.

3/99

## **GEN 8.1.1.3 Continuous Printing Speed**

Paper Type	Tray 1 and 2 (prints per minute)	Tray 3 (prints per minute)	HCF 4 & 5 (prints per minute)	MBF (prints per minute)
A4 (LEF*)	31	28	23	19
LETTER (LEF*) 31		28	23	19
Executive (LEF)	31	28	23	19
Legal 13" (SEF*)	15	15		
Legal 14" (SEF*)	15	15		
A3 (SEF*)	14	13		
Ledger (SEF*) 14		13		

After The First Sheet Out in Duplex Mode

\* LEF = Long Edge Feed, SEF = Short Edge Feed

### **GEN 8.1.1.4 Duplex Module Recommended Paper Sizes**

16 ~ 24 lbs (64 ~ 90gsm) paper fed from Trays 1 through 5. The minimum paper size recommended for Duplex feed is Executive. The maximum paper size recommended for Duplex feed is A3 SEF or Ledger SEF.

Paper Type	Use with Simplex Face Up output using the Duplex Module	Use with Duplex printing using One Sheet Batch method	Use with Duplex printing using Two Sheet Batch method
Ledger (SEF*)	Y	Y	Ν
A3 (SEF*)	Y	Y	Ν
Legal 14" (SEF*) 8.5x14"	Y	Y	Ν
Legal 13" (SEF*) 8.5x13"	Y	Y	Ν
Letter (LEF*) 11x8.5"	Y	Y	Y
A4 (LEF*) 297x210mm	Y	Y	Y
Executive (LEF*) 267x184mm	Y	Y	Ν
A5 (LEF*) 210x148mm	Y	Ν	Ν
Statement (LEF*)	Y	Ν	Ν

Paper Type	Use with Simplex Face Up output using the Duplex Module	Use with Duplex printing using One Sheet Batch method	Use with Duplex printing using Two Sheet Batch method
COM#10 (LEF*) Envelopes 105x241mm	Y	Ν	Ν
C5 (LEF*) Envelopes 162x229mm	Y	Ν	Ν
DL (LEF*) Envelopes 110x229mm	Y	Ν	Ν
Monarch (LEF*) Envelopes 98x191mm	Y	Ν	Ν

\* LEF = Long Edge Feed, SEF = Short Edge Feed

### **GEN 8.1.1.5 Duplex Space Requirements**

For easy operation, maintenance, and replacing of consumables, the following space requirements are the minimum clearances allowed. Figure 8.1.1.5a illustrates the space requirements when only the Duplex Option is installed on the printer.

#### Figure 8.1.1.5aDuplex Configuration

- 1 60.5 inches (1537mm)
- **2** 32 inches (914mm)
- **3** 4 inches (102mm)
- 4 12 inches (305mm)
- 5 36.5 inches (927mm)
- **6** 72 inches (1829mm)

Minimum of 30 inches (762mm) above the top of the printer.



# 8.1.2 Duplex Module Parts List

## PL 8.1.2.1 Cover and Duplex Assembly

ltem	Part	Description
1)	48K79620	Cover
2)	48E36010	Rear Cover
3)	48K59840	Front Cover {Includes Item 4}
4)		Label {P/O Item 3}
5)	50K29690	Face Up Bin
6)		Bin Cover {P/O Item 10}
7)		Bin Cover Knurled Screw {P/O Item 10}
8)	31K92370	Bin Link Assembly
9)	600K61630	Duplex Assembly {Includes All Items in (PL 8.1.2.2), (PL 8.1.2.3), and (PL 8.1.2.4)}
10)	600K61021	Bin Cover Kit {Includes Item 6 & 7}
A)	600K65640	Screw Kit
	Item 1) 2) 3) 4) 5) 6) 7) 8) 9) 10) A)	ItemPart1)48K796202)48E360103)48K598404)5)50K296906)7)8)31K923709)600K6163010)600K61021A)600K65640



### PL 8.1.2.2 Drives

	ltem	Part	Description
	1)	160K34454	Duplex PWB
-	2)		PWB Bracket
	3)	121K84001	Wait Clutch (J224)
	4)	127K19090	Drive Assembly {Includes Items 5 Through 9}
	5)		Motor {J223} {P/O Item 4}
	6)		Damper {P/O Item 4}
	7)		Gear (24T/30T/22T) {P/O Item 4}
	8)		Belt {P/O Item 4}
	9)		Bracket {P/O Item 4}
	10)		Wire Cover
-	11)	162K30660	Base Engine Connector Harness (J473)
	12)		Wait Sensor Harness (J475)
	13)		Interlock & Exit Sensor Harness (J474)
	14)		Cable Clamp
	15)	49E74600	Support Wire
_	A)	600K65640	Screw Kit



# PL 8.1.2.3 Upper Chute

ltem	Part	Description
1)		Saddle
2)	3K81881	Latch Assembly
3)	9E53302	Latch Spring
4)		Handle
5)		Front Pinch Roller Spring Assembly (Rear)
6)		Front Pinch Roller Spring Assembly (Front)
7)		Front Pinch Roller
8)		Rear Pinch Roller
9)	130K83340	Exit Sensor
10)		Exit Gate Solenoid Bracket
11)	121K82870	Exit Gate Solenoid (J222)
12)		Exit Gate Link
13)		Rear Pinch Roller Spring Assembly (Rear)
14)		Rear Pinch Roller Spring Assembly (Front)
15)		Upper Chute
16)		Static Eliminator
A)	600K65640	Screw Kit



3/99

8-21

## PL 8.1.2.4 Paper Transport

ltem	Part	Description
1)	13E80030	Bearing
2)	22K46650	Exit Roller
3)		Exit Roller Gear
4)	5K81820	Friction Clutch Assembly
5)		Exit Roller Pulley
6)	423W00453	Exit Roller Belt
7)	22K33940	Transport Roller
8)		Transport Roller Gear
9)		Wait/Transport Roller Pulley
10)	423W12553	Transport Roller Belt
11)	22K33950	Wait Roller
12)	5K81090	Wait Roller Bearing (One Way Clutch)
13)		Wait Sensor Bracket
14)	130K83340	Wait Sensor
15)	110E93440	Interlock Switch
A)	600K65640	Screw Kit



## PL 8.1.2.5 Inner Chute

ltem	Part	Description
1)	54K08671	Inner Chute Assembly {Includes Items 2 Through 9}
2)		Exit Gate {P/O Item 1}
3)		Exit Gate Spring {P/O Item 1}
4)		Pinch Roll {P/O Item 1}
5)		Lower Pinch Roll Spring {P/O Item 1}
6)		Holder {P/O Item 1}
7)		Holder Spring {P/O Item 1}
8)		Inner Chute {P/O Item 1}
9)		Handle Labe Handle {P/O Item 1}
A)	600K65640	Screw Kit



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# 8.1.3 Repair Procedures

### **REP 8.1.3.1 Duplex Module Assembly**

#### Parts List on PL 8.1.2.1

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Disconnect the Duplex Module interface cable from the rear of the printer.
- 3 Remove the screw securing the Front MBF Support Cover and remove the Cover.
- 4 Open the Duplex Module.
- 5 Unhook the Support Cable from the printer frame.
- 6 Support the Duplex Module with your left hand.
- 7 Close the Unit just enough so you can release the metal arm that runs from the Unit to the metal stud on the Front MBF Support.
- 8 Open the Duplex Module all the way and lift it up to remove it from the printer.



#### Figure 8.1.3.1a. Duplex Module Assembly

#### Replacement

- 1 Hold the Duplex Module so the front of the Unit is facing down and the metal hinges facing the printer.
- 2 Slip both the front and rear hinges onto the metal studs on the Front and Rear MBF Supports.
- **3** Support the Duplex Module with your left hand.
- 4 Close the Unit just enough so you can hook the metal arm that runs from the Unit to the metal stud on the Front MBF Support.

3/99

8-27

- 5 Hook the Support Cable to the printer frame.
- 6 Close the Duplex Module.
- 7 Reconnect the Duplex Module interface cable to the rear of the printer.

### REP 8.1.3.2 Duplex Cover

#### Parts List on PL 8.1.2.1

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Duplex Module Assembly (REP 8.1.3.1).
- **3** Place the Assembly on a flat and stable surface.
- 4 If a Face Up Bin in installed, remove the two knurled screws securing the Bin to the Cover, and remove the Bin (Figure 8.1.3.2a).
- **5** Remove the four screws securing the Duplex Cover to the Assembly, and remove the Cover (Figure 8.1.3.2a).



#### Figure 8.1.3.2a. Duplex Cover.

- 1 Place the Assembly, feed wheels up, on a flat and stable surface.
- **2** Reinstall the Duplex Cover over the Duplex Module Assembly, and use four screws to it to the Assembly.
- 3 Reinstall the Bin onto the Cover, and use two knurled screws to secure it to the Cover.
- 4 Reinstall the Duplex Module Assembly onto the printer.

### **REP 8.1.3.3 Duplex Rear Cover**

#### Parts List on PL 8.1.2.1

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- **2** Remove the Duplex Cover (REP 8.1.3.2).
- 3 Position the Duplex Assembly so the Inner Chute faces up.
- 4 Remove the two screws securing the Rear Cover to the Duplex Assembly, and remove the Cover (Figure 8.1.3.3a).



#### Figure 8.1.3.3a. Duplex Rear Cover

#### Replacement

- 1 Position the Rear Cover over the Duplex Assembly.
- 2 Route the Support Cable through the small, rectangular opening in the Rear Cover.
- 3 Seat the Cover on the Duplex Assembly, and use two screws to secure the Cover.
- 4 Reinstall the Duplex Cover.

3/99

8-29

### **REP 8.1.3.4 Duplex Front Cover**

#### Parts List on PL 8.1.2.1

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Duplex Cover (REP 8.1.3.2).
- **3** Position the Duplex Assembly so the Inner Chute faces up (Figure 8.1.3.4a).
- **4** Remove the two screws securing the Front Cover to the Duplex Assembly, and remove the Cover (Figure 8.1.3.4a).



#### Figure 8.1.3.4a. Duplex Front Cover

- 1 Seat the Front Cover on the Duplex Assembly, and use two screws to secure the Cover.
- 2 Reinstall the Duplex Cover.

### **REP 8.1.3.5 Duplex PWB and Bracket**

#### Parts List on PL 8.1.2.2

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Duplex Rear Cover (REP 8.1.3.3).
- 3 Disconnect the six P/Js that are connected to the Duplex PWB (Figure 8.1.3.5a).
- **4** Remove the four screws securing the Duplex PWB to the Duplex PWB Bracket, and remove the PWB.
- 5 Remove the two screws securing the bracket.





3/99

8-31

#### Replacement

- 1 Use two screws to secure the PWB Bracket.
- 2 Reinstall the Duplex PWB onto the PWB Bracket.
- **3** Use four screws to secure the PWB to the Bracket.
- 4 Reconnect the six P/Js to the Duplex PWB.
- 5 Reinstall the Duplex Rear Cover.



#### CAUTION

These components are susceptible to electrostatic discharge. Observe all ESD procedures to avoid damage.

### **REP 8.1.3.6 Duplex Wait Clutch**

#### Parts List on PL 8.1.2.2

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Duplex Rear Cover (REP 8.1.3.3).
- **3** Disconnect P/J224 (Wait Clutch) from the Duplex PWB (Figure 8.1.3.6a).
- 4 Remove the E-ring from the end of the Wait Clutch shaft (Figure 8.1.3.6a).
- 5 Push up on the shaft latch as you slide the Clutch off the shaft.

#### Figure 8.1.3.6a. Duplex Wait Clutch



- 1 Position the Wait Clutch so the notch in the Clutch lines up with the tab on the Duplex frame.
- 2 Slide the Clutch onto the shaft. The shaft latch snaps the Clutch into place on the shaft.
- **3** Use an E-ring to secure the Clutch to the shaft.
- 4 Reconnect P/J224 to the Duplex PWB.
- 5 Reinstall the Duplex Rear Cover.

### **REP 8.1.3.7 Duplex Drive Assembly**

#### Parts List on PL 8.1.2.2

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Duplex Rear Cover (REP 8.1.3.3).
- 3 Remove the Duplex PWB and Bracket (REP 8.1.3.5).
- **4** Remove the four screws securing the Duplex Drive Assembly to the Duplex frame, and remove the Assembly (Figure 8.1.3.7a).



#### Figure 8.1.3.7a. Duplex Drive Assembly

#### Replacement

- 1 Position the Duplex Drive Assembly so the open end is to the left of the Duplex Wait Clutch.
- 2 Loop the end of the Exit Roll Belt over the small gear on the Drive Assembly.
- **3** Rotate the Duplex Wait Clutch so the tab on the Drive Assembly fits through the notch on the Clutch.

3/99

8-33

- **4** Use four screws to secure the Drive Assembly to the Duplex frame.
- 5 Reinstall the Duplex PWB and Bracket.
- 6 Reinstall the Duplex Rear Cover.

### **REP 8.1.3.8 Duplex Exit Sensor**

#### Parts List on PL 8.1.2.3

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Duplex Cover (REP 8.1.3.2).
- **3** Squeeze the four latches securing the Sensor to the bracket on the Upper Chute and remove the Duplex Exit Sensor (Figure 8.1.3.8a).
- 4 Disconnect the P/J from the Sensor (Figure 8.1.3.8a).



#### Figure 8.1.3.8a. Duplex Exit Sensor

- 1 Position the Duplex Exit Sensor so the P/J is facing the wire harness.
- 2 Insert the Sensor actuator through the opening in the Upper Chute.
- **3** Press the four latches on the bottom of the Sensor into the four openings in the bracket on the Upper Chute.The Sensor snaps into place.
- 4 Reconnect the P/J to the Sensor.

### **REP 8.1.3.9 Duplex Exit Gate Solenoid**

#### Parts List on PL 8.1.2.3

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Duplex Cover (REP 8.1.3.2).
- 3 Remove the Duplex Rear Cover (REP 8.1.3.3).
- 4 Disconnect P/J 222 from the Duplex PWB (Figure 8.1.3.9a).
- **5** Remove the wire harnesses from the two wire clips that are mounted on the Solenoid Bracket (Figure 8.1.3.9a).
- 6 Remove the two screws securing the Duplex Exit Gate Solenoid Bracket to the Duplex frame, and remove the Bracket and attached Solenoid (Figure 8.1.3.9a).
- 7 Remove the two screws securing the Duplex Exit Gate Solenoid from the Bracket, and remove the Solenoid (Figure 8.1.3.9a).



3/99

8-35

#### Figure 8.1.3.9a. Duplex Exit Gate Solenoid

- 1 Reinstall the Duplex Exit Gate Solenoid onto the Bracket.
- 2 Line up the two screw holes in the Bracket with the two screw holes in the Solenoid, and use two short screws to secure the Solenoid to the Bracket.
- 3 Make sure the Exit Gate Link is in place.
- 4 Rotate the Solenoid plunger so the fork in the Link will slip through the slot in the plunger.
- 5 Press the Solenoid Bracket against the Duplex frame.
- 6 Use two screws to secure the Bracket to the frame.
- 7 Lift and release the Solenoid plunger to make sure it opens the Link correctly.
- 8 Reconnect P/J222 to the Duplex PWB.
- **9** Reroute the wire harnesses through the two wire clips in the Solenoid Bracket.
- **10** Reinstall the Duplex Rear Cover.
- **11** Reinstall the Duplex Cover.

### REP 8.1.3.10 Exit Roll

#### Parts List on PL 8.1.2.4

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Duplex Cover (REP 8.1.3.2).
- **3** Remove the E-ring securing the Rear end of the Exit Roll shaft to the Duplex frame (Figure 8.1.3.10a).
- **4** Remove the E-ring securing the Front end of the Exit Roll shaft to the Duplex frame (Figure 8.1.3.10a).
- **5** Slide both bearings toward the center of the shaft, and lift the Exit Roll shaft out of the Duplex frame (Figure 8.1.3.10a).
- 6 Remove the E-ring securing the Exit Roll Gear to the shaft, and remove the Gear (Figure 8.1.3.10a).
- 7 Remove the two bearings from the shaft (Figure 8.1.3.10a).



Figure 8.1.3.10a. Exit Roll

- 1 Slide the two bearings, lip facing to the center of the shaft, onto the Exit Roll shaft.
- 2 Reinstall the Exit Roll Gear to the end of the shaft, and use an E-ring to secure it.
- **3** Reinstall the Exit Roll shaft, the Gear at the Rear of the Duplex Assembly, into the slot in the Duplex frame.
- 4 Slide the shaft so the rubber rollers drop into the cutouts in the Duplex Assembly.
- 5 Slide the bearings along the shaft and into the cutouts in the Assembly.
- 6 Rotate the bearings so they fit into the cutouts.
- 7 Use E-rings at the Front and Rear ends of the Exit Roll shaft to secure the bearings.
- 8 Reinstall the Duplex Cover.

### REP 8.1.3.11 Duplex Wait Sensor

#### Parts List on PL 8.1.2.4

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Duplex Cover (REP 8.1.3.2).
- 3 Set the Duplex Module on end so you can access the Wait Sensor.
- 4 Remove the screw securing the Wait Sensor Bracket to the Duplex frame (Figure 8.1.3.11a).
- 5 Remove the Bracket and the attached Wait Sensor (Figure 8.1.3.11a).
- **6** Squeeze the four latches securing the Sensor to the bracket and remove the Sensor (Figure 8.1.3.11a).
- 7 Disconnect the P/J from the Sensor.

#### Figure 8.1.3.11a. Duplex Wait Sensor



- 1 Position the Sensor on the Bracket so the P/J on the Sensor is to the left.
- **2** Press the four latches on the bottom of the Sensor into the four openings in the Bracket. The Sensor snaps into place.
- **3** Reconnect the P/J to the Sensor.
- 4 Slide the Sensor actuator through the slot in the Duplex Module, and slide the two arms of the Sensor Bracket under the tabs next to the actuator slot.
- **5** Use one screw to secure the Bracket to the Duplex Module.
- 6 Reinstall the Duplex Cover.

### **REP 8.1.3.12 Duplex Interlock Switch**

#### Parts List on PL 8.1.2.4

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- **2** Remove the Duplex Cover (REP 8.1.3.2).
- **3** Remove the Duplex Front Cover (REP 8.1.3.4).
- 4 Disconnect the P/J from the Interlock Switch (Figure 8.1.3.12a).
- **5** Squeeze the two latches securing the Duplex Interlock Switch to the Duplex frame, and remove the Switch.





#### Replacement

- 1 Insert the two latches and one locating tab of the Duplex Interlock Switch into the two rectangular and one round opening in the side of the Duplex frame. The Switch snaps into place.
- 2 Reinstall the Outer Chute into the Duplex frame, and use four screws to secure the Chute to the frame.

3/99

- **3** Route the wire harnesses into the wire clips that are located under the Outer Chute.
- 4 Reconnect the P/J to the Interlock Switch.

### REP 8.1.3.13 Exit Roll Belt

#### Parts List on PL 8.1.2.4

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Duplex PWB (REP 8.1.3.5).
- 3 Remove the Duplex Drive Assembly (REP 8.1.3.7).
- 4 Remove the Exit Gate Solenoid Assembly (REP 8.1.3.9).
- **5** Remove the E-Ring that secures the Friction Clutch (Figure 8.1.3.13a).
- 6 Slide the Friction Clutch off of the shaft (Figure 8.1.3.13a).
- 7 Remove the E-Ring that secures the Transport Roller Gear (Figure 8.1.3.13a).
- 8 Slide the Transport Roller Gear off of the shaft (Figure 8.1.3.13a).
- 9 Slide the Exit Roller Pulley off of the shaft (Figure 8.1.3.13a).
- **10** Remove the Exit Roll Belt (Figure 8.1.3.13a).

#### Figure 8.1.3.13a. Exit Roll Belt



- 1 Reinstall one end of the Exit Roll Belt over the small end of the Exit Roller Pulley.
- 2 Slide the Exit Roller Pulley and attached Belt over the shaft, with the Belt against the Duplex frame.
- 3 Reinstall the Transport Roller Gear and E-Ring.
- 4 Reinstall the Friction Clutch and E-Ring.
- 5 Reinstall the Exit Gate Solenoid Assembly.
- 6 Reinstall the Duplex Drive Assembly and making sure you reinstall the other end of the Exit Roll Belt over the small gear on the Drive Assembly.
- 7 Reinstall the Duplex PWB.
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# 8.1.4 Running Duplex Module Diagnostics

See Section 5 for all diagnostic Routines and Subroutines

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# 8.1.5 Wiring Data



3/99

8-47

#### WIR 8.1.5.1 Master Connection and Wiring Diagrams

### WIR 8.1.5.2 Plug / Jack Locator



- 1 P/J125 from Duplex Interlock Switch to P/J474 Duplex PWB.
- 2 P/J124 from Exit Sensor to P/J474 Duplex PWB.
- **3** P/J222 Duplex PWB to Exit Gate Solenoid.
- 4 P/J474 Duplex PWB to Duplex Interlock Switch and Exit Sensor.
- 5 P/J223 Duplex PWB to Duplex Motor.
- 6 P/J473 Duplex PWB to Duplex Interface Cable.
- 7 P/J611 Duplex Interface Cable to P/J473 Duplex PWB.
- 8 P/J475 Duplex PWB to P/J123 Wait Sensor.
- 9 P/J224 Duplex PWB to Wait Sensor.
- 10 P/J123 from Wait Sensor to P/J475 Duplex PWB

# 8.1.6 Duplex Module Principles of Operation

### 8.1.6.1 Duplex Module Control

Duplex Module Control is a broad term that is used to describe the printer resources that monitor and control the actions and operations of the printer and the Duplex Module; from paper feed to Duplex error detection. The center of Duplex control is the Duplex PWB. The Printer Engine Controller PWB provides the logic and information processing that is necessary for the printer to function, and the Duplex PWB provides the logic and information processing that is necessary for the Duplex Module to function. Every electrical component within the Duplex Module is connected to the Duplex PWB. Sensors in the Duplex Module send Duplex status information to the Duplex PWB. The Duplex PWB processes that information, shares it with the Printer Engine Controller PWB, and compares it to timing tables stored in ROM. Acting on the results of the processing, the Duplex PWB sends commands to the various Duplex components; switching on the Motor or switching off a clutch.

### 8.1.6.2 Mechanical Drive

Mechanical Drive is a term that is used to describe both the rotation of the Duplex Motor and the action of the gears, belts, and clutches that are used to transmit and control motor rotation to the various components throughout the Duplex Module. The primary purpose of Mechanical Drive within the Duplex Module is to provide the mechanical energy to drive a sheet through the Duplex Module and back into the printer registration area.

The Duplex PWB switches on the Duplex Motor. The Motor Belt drives Gear (24T/30T/22T). One end of the Exit Roll Belt is attached to Gear (24T/30T/22T) and the other end of the belt is attached to the Exit Roller Pulley. Teeth on the Exit Roller Pulley drive the Friction Clutch, which in turn drives the Exit Roller Gear and the #1 Transport Roller Gear. Teeth on the Gear (24T/30T/22T) drive the Wait Clutch. One end of the #2 Transport Roller Belt is attached to the Wait Roller Pulley that is attached to the Wait Clutch. The other end of the belt is attached to another Transport Roller Pulley located about half way up the Duplex Module paper path. When the Duplex PWB switches on the Wait Clutch, the Clutch transmits drive from the Duplex Motor to the Wait Roller Pulley, which drives the Roller Belt, which in turn drives the Transport Roller Pulley.



#### **Mechanical Drive**

- 1 Friction Clutch
- 2 Exit Roller Pulley
- 3 Duplex Motor
- 4 Gear (24T/30T/22T)
- 5 Exit Roller Gear
- 6 #1 Transport Roller Gear
- 7 Transport Roller Pulley
- 8 Wait Roller Pulley
- 9 Wait Clutch

### 8.1.6.3 Duplex Module Paper Path

The Duplex Module Paper Path is the physical route that a sheet of paper takes through the Duplex Module during a Duplex Mode print cycle. Rubber rollers and solenoid activated gates drive and direct the paper along the Paper Path. The primary purpose of the Duplex Module Paper Path is to accept a printed sheet of paper from the Fuser exit area, drive that sheet down through the Duplex Module, effectively flipping over the sheet, and refeed the sheet back into the printer registration area so the printer can begin to transfer an image onto the second side.

#### Step 1

The Drum and BTR place an image on side one of a sheet of paper. The Drum/BTR drive the paper into the Heat and Pressure Rolls. The Heat and Pressure Rolls drive the sheet into the Exit Unit. The Exit Gate Solenoid toggles the Exit Gate so the paper path runs to the Offset Roll. The Offset Roll drives the sheet partially into the Output Bin, then stops.



#### The Duplex Module Paper Path: Printing side 1

- 1 Pressure Roll
- 2 Exit Gate (up)
- 3 Offset Roll
- 4 Paper partially fed into Output Bin
- 5 Heat Roll
- 6 Drum
- 7 BTR
- 8 Registration Roll

#### Step 2

The Inverter CCW Clutch switches on and rotates the Offset Roll backwards, driving the sheet of paper back into the Exit Unit. The Exit Gate Solenoid toggles the Exit Gate so the paper path runs to the Exit Roll. The Exit Roll drives the sheet of paper into the Duplex Module. The Duplex Exit Solenoid toggles the Duplex Exit Gate so the paper path runs to the Duplex Transport Roll. Two sets of Transport Rolls drive the paper down to the Wait Roll. The paper stops momentarily at the Wait Roll. When it is time to send the sheet of paper back into the printer for printing on the second side, the Wait Clutch switches on and the Wait Roll drives the paper out of the Duplex Module and into the printer Registration Roll. The paper stops at the Registration Roll so the image on the Drum can align with the leading edge of the paper. When registration is complete, the Registration Roll drives the paper into the Drum and BTR where the second side is printed.





- 1 Wait Roll
- 2 Transport Roll
- 3 Transport Roll
- 4 Duplex Exit Gate (up)
- 5 Exit Roll
- 6 Exit Gate (down)
- 7 Offset Roll (reverse)
- 8 Drum
- 9 BTR
- 10 Registration Roll

#### Step 3

The Drum and BTR place an image onto the second side of the sheet of paper. The Drum/BTR drive the paper into the Heat and Pressure Rolls. The Heat and Pressure Rolls drive the sheet into the Exit Unit. Depending on the output location the user selected, the Exit Gate Solenoid toggles the Exit Gate so the paper path runs to either the Face Down Output Bin or back through the Duplex Module and into the Face Up Output Bin. If the user selected the Face Down Output Bin the Exit Gate Solenoid toggles the Exit Gate so the paper path runs to the Offset Roll, which drives the sheet into the Face Down Output Bin. If the user selected the Face Up Output Bin, the Exit Gate Solenoid toggles the Exit Gate so the paper path runs to the Offset Roll, which drives the sheet into the Face Down Output Bin. If the user selected the Face Up Output Bin, the Exit Gate Solenoid toggles the Exit Gate so the paper path runs to the Exit Rolls, which drive the sheet into the Duplex Module. Inside the Duplex Module the Duplex Exit Gate Solenoid toggles the Duplex Exit Gate so the paper path runs to the Duplex Exit Gate Solenoid toggles the Dupl

#### The Duplex Module Paper Path: Two sided sheet feed



3/99

8-53

- 1 Heat Roll
- 2 Pressure Roll
- 3 Two sided sheet fed to the Face Up Bin
- 4 Exit Roll
- 5 Duplex Exit Gate (down)
- 6 Exit Roll
- 7 Exit Gate (up for Output Bin) (down for Face Up Bin)
- 8 Offset Roll (forward)
- 9 Two sided sheet fed to the Face Down Output Bin

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# 8.1.7 Repair Analysis Procedures

# RAP 8.1.7.1 Error Code "Paper Jam Clear Duplex Unit" and "Paper Jam / Clear Area A"

1 Inspect the paper that is loaded in the paper tray. The paper loaded in the tray is smooth (not wrinkled) and not damaged.

Y N

- Replace the paper with new paper.
- 2 Open the Duplex Module and inspect the paper path between the Fuser and the Duplex for paper scraps or foreign objects that could cause a paper jam. The paper path is clear.

Y N

- Clear the paper path.
- 3 Enter Diagnostic Mode Input H/L, Face Up Exit Sensor Detect. Insert a sheet of paper into the Face Up Exit Sensor actuator and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays "IS WITH PAPER" when you insert the paper into the Face Up Exit Sensor and [4] is pressed, and the LCD displays "IS WITHOUT PAPER" when you remove the paper and [4] is pressed.

Y N

- Check wiring between P/J 109 and P/J 462 (6.3.16). If OK, replace the Face Up Exit Sensor (REP 4.8.3).
- 4 Enter Diagnostic Mode Input H/L, Duplex Sensor Detect (Exit). Insert a sheet of paper into the Duplex Module Exit Sensor and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays "IS WITH PAPER" when you insert the paper into the Exit Sensor, and the LCD displays "IS WITHOUT PAPER" when you remove the paper.

Y N

- Check wiring between P/J 124 and P/J474 and between Duplex Module PWB and P/J 404 (WIR 8.1.5.1). If OK, replace the Duplex Exit Sensor (REP 8.1.3.8).
- 5 Enter Diagnostic Mode Output Test, Clutch Operation (INVERT CCW) to check the Inverter Clutch function. With the clutch on, hand rotate (counterclockwise) the Main Motor. The Exit Rollers rotate.

Y N

- Check wiring between P/J 219 and P/J 462 (6.3.16). If OK, replace the Inverter Clutch CCW (PL 9.4).
- 6 Enter Diagnostic Mode Output Test Duplex Operation (Exit Gate Solenoid) to check the Duplex Exit Gate Solenoid function. The Duplex Exit Gate Solenoid energizes when you start the Output Test.

Y N

Check wiring between P/J 222 and P/J 404 (WIR 8.1.5.1). If OK, replace the Duplex Exit Gate Solenoid (REP 8.1.3.9).

7 Open the Inner Chute. Check the Duplex Exit Gate and Gate Spring. The Duplex Exit Gate is in place on the Inner Chute, the Gate is unbroken, it pivots freely on the Inner Chute, and it has a spring-action return.

Y N

- Reinstall the Exit Gate and Spring or replace the Duplex Inner Chute (PL 8.1.2.5).
- 8 Enter Diagnostic Mode Output Test, Duplex Operation (Exit Gate Solenoid to check the Duplex Exit Gate function. The Duplex Exit Gate Solenoid toggles the Exit Gate when you start the Output Test, and it toggles the Exit Gate in the other direction when the Output Test stops.

Y N

- Realign the Exit Gate Solenoid plunger with the fork at the end of the Gate, or replace the Inner Chute Assembly (PL 8.1.2.5).
- 9 Replace the Duplex PWB (REP 8.1.3.5). The problem still exists.

Y N

Problem resolved.

**10** Go to RAP 8.1.7.3.

### RAP 8.1.7.2 Error Code "Close Duplex Unit"

- 1 Open and close the Duplex Cover. The E7-3 still exists.
  - Y N
  - Problem is solved.
- 2 Enter Diagnostic Mode Input H/L, Duplex Sensor Detect (INTERLOCK). Open and close the Duplex Module. The Control Panel LCD displays "Cover is OPEN" when you close the Duplex Module and the LCD displays "Cover is CLOSED" when you open the Duplex Module.
  - Y N
  - Check the wiring between P/J 125 and P/J 404 (WIR 8.1.5.1). If OK, replace the Duplex Interlock Switch (REP 8.1.3.12).
- **3** Replace the Duplex PWB (REP 8.1.3.5). The E7-3 error code reappears.
  - Y N
  - Problem is resolved.
- 4 Replace the Printer Engine Controller PWB (REP 4.10.6).

### RAP 8.1.7.3 Error Code "Paper Jam/Clear Area A"

1 Inspect the paper that is loaded in the paper cassette. The paper loaded in the cassette is smooth (not wrinkled) and is not damaged.

Y N

- Replace the paper with new paper.
- 2 Observe the location of the last sheet of paper out of the Duplex Module. The paper exits the Duplex Module.

Y N

Go to step 5.

3 Enter Diagnostic Mode - Input H/L, Duplex Sensor Detect (EXIT). Insert a sheet of paper into the Duplex Module Exit Sensor and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays "IS WITH PAPER" when you insert the paper into the Duplex Module Exit Sensor, and the LCD displays "IS WITHOUT PAPER" when you remove the paper.

Y N

- Check the wiring between P/J 124 and P/J 404 (WIR 8.1.5.1). If OK, replace the Duplex Exit Sensor (REP 8.1.3.8).
- 4 Replace the Duplex PWB (REP 8.1.3.5).
- **5** Open the Inner Chute and observe the location of the jammed sheet of paper. The paper actuates the Wait Sensor.

Y N

- Go to step 11.
- 6 Enter Diagnostic Mode Input H/L, Duplex Sensor Detect (WAIT). Insert a sheet of paper into the Duplex Module Wait Sensor and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays "IS WITH PAPER" when you insert the paper into the Duplex Module Wait Sensor, and the LCD displays "IS WITHOUT PAPER" when you remove the paper.

Y N

- Check the wiring between P/J 123 and P/J 404 (WIR 8.1.5.1). If OK, replace the Duplex Wait Sensor (REP 8.1.3.11).
- 7 Enter Diagnostic Mode Output Test, Duplex Operation (Motor Slow) to check the Duplex Drive Motor. The Duplex Drive Motor runs and the gears on the Drive Assembly rotate.

Y N

- Check the wiring between P/J 223 and P/J 404 (WIR 8.1.5.1). If OK, replace the Duplex Drive Assembly (REP 8.1.3.7).
- 8 While running Diagnostic Mode Output Test, Duplex Operation (Motor Slow) observe the Exit and Transport Rolls. The Exit Roll and Transport Roll rotates when you run the test.

Y N

- Replace the Exit Roll Belt (REP 8.1.3.13).
- **9** Replace the Exit Roll (REP 8.1.3.10). The problem still exists.

Y N

- Problem is resolved.
- **10** Replace the Duplex PWB (REP 8.1.3.5).

- 11 Verify the voltage from P/J 224-2 and FG (WIR 8.1.5.1) goes from +24VDC to 0VDC when Diagnostic Mode-Output Test, Duplex Operation (Wait Clutch) is entered. Voltage changes from +24VDC to 0VDC.
  - Y N
  - Replace the Duplex Wait Clutch (REP 8.1.3.6).
- **12** Replace the Exit Roll (REP 8.1.3.10).

### RAP 8.1.7.4 Error Code "Paper Jam/Clear Duplx Unit"

- 1 The error message is displayed at power on.
  - Y N
  - Go to step 7.
- 2 Inspect the Duplex Wait Sensor for contamination or paper scraps that may be actuating the sensor. The Duplex Wait Sensor is clean and free of paper scraps.

Y N

- Clean or clear paper scraps from the Sensor.
- **3** Inspect the Duplex Wait Sensor for damage, such as a broken spring or actuator, that may have locked the Sensor in the on position. The sensor is undamaged.

Y N

- Replace the Duplex Wait Sensor (REP 8.1.3.11).
- 4 Enter Diagnostic Mode Input H/L, Duplex Sensor Detect (WAIT). Insert a sheet of paper into the Duplex Wait Sensor and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays "IS WITH PAPER" when you insert the paper into the Duplex Wait Sensor, and the LCD displays "IS WITHOUT PAPER" when you remove the paper.

Y N

- Check wiring between P/J 123 and P/J 474 and between Duplex Module PWB and P/J 404 (WIR 8.1.5.1). If OK, replace the Duplex Wait Sensor (REP 8.1.3.11).
- **5** Replace the Duplex PWB (REP 8.1.3.5). The error message reappears.
  - Y N
  - Problem is solved.
- 6 Replace the Printer Engine Controller PWB (REP 4.10.6).
- 7 Inspect the paper that is loaded in the paper tray. The paper loaded in the tray is smooth (not wrinkled) and is not damaged.

Y N

- Replace the paper with new paper.
- 8 Open the Duplex Module and observe the location of the jammed sheet of paper. The paper is sticking a few inches out of the bottom of the Duplex Module.

Y N

Go to step 10.

- **9** Check the wiring for obstructions between Duplex Module and Registration Roll. If OK, replace Inner Chute Assembly (PL 8.1.2.5).
- **10** Enter Diagnostics Mode Output Test, Duplex Operation (WAIT CLUTCH). Verify the voltage at P/J 224-2 (WIR 8.1.5.1) goes from +24VDC to 0VDC when the test is run. Voltage changes.

Y N

- Replace Duplex Wait Clutch (REP 8.1.3.6). If problem still exists, replace the Duplex PWB (REP 8.1.3.5).
- **11** Replace Exit Roll (REP 8.1.3.10).

### RAP 8.1.7.5 Duplex Unit Fail / Service Required

1 Check the Duplex Interface Cable. The Cable is firmly connected to the P/J at the rear of the printer.

Y N

- Reconnect the Duplex Interface Cable.
- 2 Remove the Duplex Covers and verify the voltage between P/J 473-13 and FG (WIR 8.1.5.1) is +5VDC. Verify the voltage between P/J 473-2 and FG (WIR 8.1.5.1) is +24VDC. Voltages are present.

Y N

- Go to step 4.
- **3** Replace the Duplex PWB (REP 8.1.3.5).
- **4** Verify the voltage between P/J 404-6 and FG is +5VDC (WIR 8.1.5.1). Verify the voltage between P/J 404-10 and FG (WIR 8.1.5.1) is +24VDC. Voltages are present.

Y N

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- Replace the Printer Engine Controller PWB (REP 4.10.6).
- 5 Repair or replace faulty wiring between P/J 404 and P/J 473 (WIR 8.1.5.1).

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# 8.2 Mailbox

# 8.2.1 Mailbox Specifications.

## **GEN 8.2.1.1 General Specifications**

Category	Specification
Configuration	Customer installed option. Attaches on top of the base printer. The Mailbox cannot be installed if the Finisher is already installed. The basic Mailbox can sort printer output into 10 individual bins, with a maximum capacity of 100 sheets of standard 20lb paper per bin.
Duty cycle	Maximum 150,000 sheets of paper per month, with an average of 25,000 sheets of paper per month.
Mailbox life expectancy	450,000 sheets of paper handled or 5 years, whichever comes first.
Mailbox noise levels	Maximum of 71.8db while running
Power requirements	The Printer provides all of the Mailbox power requirements; +5VDC and +24VDC.
Size and weight	Mailbox Height: 18 in. (465mm) Mailbox Width: 21 in. (539mm) Mailbox Depth: 23 in. (590mm) Mailbox Only Weight: 55 lbs. (25kg) Console Mailbox Height: 52.6 in. (1349mm) Console Mailbox Width: 28 in. (717mm) Console Mailbox Depth: 24 in. (612mm) Console Brackets Weight: 13.2 lbs. (6.0kg) DeskTop Mailbox Height: 37.2 in. (955mm) DeskTop Mailbox Width: 22 in. (561mm) DeskTop Mailbox Depth: 23.4 in. (600mm) DeskTop Brackets Weight: 14.3 lbs. (6.5kg)

### GEN 8.2.1.2 Available Mailbox Modes

Category	Specification
Sorter Mode	A maximum of 10 sets of 100 sheets per set, with one set delivered to each of the ten bins. Delivered 1st Page printed side face down in either the Simplex or Duplex Mode.
Stack (Mailbox) Mode	A maximum of 100 sheets delivered to a designated bin. Delivered 1st Page Face Down in either Simplex or Duplex Mode.

Paper Type	Trays 1 & 2	Tray 3	Trays 4 & 5	MBF
	(prints per	(prints per	(prints per	(prints per
	minute)	minute)	minute)	minute)
A4 LEF	Simplex = 32	Simplex = 32	Simplex = 32	Simplex = 26
	Duplex = 31	Duplex = 28	Duplex = 23	Duplex = 19
LETTER LEF	Simplex = 32	Simplex = 32	Simplex = 32	Simplex = 26
	Duplex = 31	Duplex = 28	Duplex = 23	Duplex = 19

\* LEF = Long Edge Feed, SEF = Short Edge Feed

## GEN 8.2.1.4 Mailbox Recommended Paper Sizes

64gsm ~ 90gsm paper for Duplex prints. 64gsm ~ 105gsm paper for Simplex prints.

Paper Type	Use with Simplex runs	Use with Duplex runs (one sheet batch)
Ledger (SEF)	Y	Y
A3 (SEF)	Y	Y
Legal 14" (SEF)	Y	Y
Legal 13" (SEF)	Y	Y
Letter (LEF)	Y	Y
A4 (LEF)	Y	Y
Executive (LEF)	Y	Y

\* LEF = Long Edge Feed, SEF = Short Edge Feed

### **GEN 8.2.1.5** Components that Need Periodic Replacement

Component	Replace at
Exit Roll (Complete Assembly)	As needed
Mailbox Drive Belt (Complete Assembly)	As needed

### **GEN 8.2.1.6 Mailbox Space Requirements**

For easy operation, maintenance, and replacing of consumables, the following space requirements are the minimum clearances allowed. Figure 8.2.1.6a illustrates the space requirements when the Console Mailbox Option is installed on the printer. Figure 8.2.1.6b illustrates the space requirements when the Desktop Mailbox Option is installed on the printer.

#### Figure 8.2.1.6aConsole Mailbox Configuration

- **1** 60 inches (1537mm)
- 2 32 inches (914mm)
- **3** 4 inches (102mm)
- 4 12 inches (305mm)
- 5 36 inches (927mm)
- 6 72 inches (1829mm)

Minimum of 30 inches (762mm) above the top of the Mailbox.



#### Figure 8.2.1.6bDeskTop Mailbox Configuration

3/99

8-65

- **1** 60 inches (1537mm)
- **2** 32 inches (914mm)
- **3** 4 inches (102mm)
- 4 12 inches (305mm)
- 5 36.5 inches (927mm)
- 6 72 inches (1829mm)

Minimum of 30 inches (762mm) above the top of the Mailbox.



# 8.2.2 Mailbox Parts List

### PL 8.2.2.1 Console Bracket Frame and Rack

ltem	Part	Description
1)		Mailbox Unit {Includes all items in PL 8.2.2.1 through PL 8.2.2.7}
2)	3E32140	Stopper
3)		Rack {P/O Item 1}
4)		Left Bracket {P/O Item10}
5)		Right Bracket {P/O Item10}
6)	3K91881	Bracket Screw {P/O Item10}
7)		Left Stand {P/O Item10}
8)		Left Stand Connection {P/O Item10}
9)		Right Stand {P/O Item10}
10)	98K57180	Console Bracket Assembly (Includes Items 4 through 9)
A)	600K65640	Screw Kit



### PL 8.2.2.2 Cover and Frame

ltem	Part	Description
1)	48E16271	Panel
2)	96E64410	Label
3)	48E16262	Front Cover
4)	48E16252	Top Cover
5)	48K30563	Left Cover Assembly {Includes Items 6 through 12}
6)	48E16291	Left Front Cover {P/O Item 5}
7)	48E16302	Left Cover {P/O Item 5}
8)	48E16311	Left Rear Cover {P/O Item 5}
9)		Left Cover Handle {P/O Item 5}
10)		Frame Cover {P/O Item 5}
11)		Support Cover {P/O Item 5}
12)		Cover Plate Spring {P/O Item 5}
13)	48E37560	Rear Cover
14)	3K83860	Handle
15)		Left Cover Hook
16)	74E91242	Left Cover Strap
17)		Frame Assembly
18)		Handle Support
A)	600K65640	Screw Kit



## PL 8.2.2.3 Actuator Cover and Left Chute

ltem	Part	Description
1)	48K71600	Actuator Cover Assembly {Includes Items 2 through 11}
2)		Actuator Cover {P/O Item 1} {P/O Item 1}
3)		Upper Paper Guide {P/O Item 1}
4)		Lower Paper Guide {P/O Item 1}
5)		Pinch Roller Spring {P/O Item 1}
6)		Pinch Roller {P/O Item 1}
7)	130E81860	Bin 1 Jam Sensor {P/O Item 1}
8)		Eliminator {P/O Item 1}
9)	120E13130	Full Stack Actuator 1 {P/O Item 1}
10)	120E09580	Full Stack Actuator 2 {P/O Item 1}
11)	54K08201	Left Chute Assembly {P/O Item 1} {Includes Items 12, 13, and 14}
12)		Left Chute {P/O Item 11}
13)		Left Chute Pinch Roller Spring {P/O Item 11}
14)		Left Chute Pinch Roller {P/O Item 11}
A)	600K65640	Screw Kit



# PL 8.2.2.4 Bin 1 Assembly

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Item	Part	Description
1)	50K35941	Bin 1 Assembly {Includes Items 2 through 12}
2)		Bin {P/O Item 1}
3)		Lower Paper Guide {P/O Item 1}
4)		Eliminator {P/O Item 1}
5)	120E13130	Full Stack Actuator 1 {P/O Item 1}
6)	120E09580	Full Stack Actuator 2 {P/O Item 1}
7)		Bin Support {P/O Item 1}
8)		Front Bearing {P/O Item 1}
9)	22E83451	Exit Roller {P/O Item 1}
10)		Rear Bearing {P/O Item 1}
11)		Collar {P/O Item 1}
12)		Pulley {P/O Item 1}
13)	423W91952	Drive Belt
14)		LED Cover
A)	600K65640	Screw Kit



3/99 8-73

# PL 8.2.2.5 Bin Assembly

ltem	Part	Description
1)	50K33241	Even Bin Assembly {Includes Items 4 through 14 and 16}
2)	50K33260	Bin 10 Assembly {Includes Items 4 and 9 through 16)
3)	50K33251	Odd Bin Assembly {Includes Items 4 through 14 and 16, 17, and 18)
4)		Bin {P/O Item 1} {P/O Item 2} {P/O Item 3}
5)		Lower Paper Guide {P/O Item 1} {P/O Item 3}
6)		Eliminator {P/O Item 1} {P/O Item 3}
7)	120E13130	Full Stack Actuator 1 {P/O Item 1} {P/O Item 3}
8)	120E09580	Full Stack Actuator 2 {P/O Item 1} {P/O Item 3}
9)		Bin Support {P/O Item 1} {P/O Item 2} {P/O Item 3}
10)	121E83120	Gates 2 to 10 Solenoid (J803 To J811) {P/O Item 1} {P/O Item 2} {P/O Item 3}
11)		Gate {P/O Item 1} {P/O Item 2} {P/O Item 3}
12)		Front Bearing {P/O Item 1} {P/O Item 2} {P/O Item 3}
13)	22E83451	Exit Roller {P/O Item 1} {P/O Item 2} {P/O Item 3}
14)		Rear Bearing {P/O Item 1} {P/O Item 2} {P/O Item 3}
15)		Collar {P/O Item 2}
16)		Pulley {P/O Item 1} {P/O Item 2} {P/O Item 3}
17)		Tension Roller {P/O Item 3}
18)		Tension Roller Bracket {P/O Item 3}
A)	600K65640	Screw Kit



### PL 8.2.2.6 Solenoid and Sensor

ltem	Part	Description
1)	48E37580	Rear Lower Cover
2)		IN Gate Solenoid (J812) {P/O Item 22}
3)		IN Gate Solenoid Spring {P/O Item 22}
4)		IN Gate Link {P/O Item 22}
5)		IN Gate Spring {P/O Item 22}
6)		IN Gate Arm {P/O Item 21}
7)		IN Gate Arm Spring {P/O Item 21}
8)		Front Left Chute
9)	130E81850	IN Gate Sensor
10)		IN Gate Support
11)	50K29000	IN Gate
12)	48E37570	Lower Chute
13)	140E76190	Vertical LED / Sensor PWB
14)		Upper Chute
15)		Upper Chute Pinch Roller Spring {P/O Item 23}
16)		Upper Chute Pinch Roller {P/O Item 23}
17)	110E94000	Interlock Switch
18)		Harness Clamp
19)		IN Gate Arm Bracket
20)		Tie Plate
21)	600K61660	IN Gate Arm Kit {Includes Items 6 and 7}
22)	600K61670	IN Gate Solenoid Kit {Includes Items 2 through 5}
A)	600K65640	Screw Kit



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### PL 8.2.2.7 Control PWB and Drive Motor

ltem	Part	Description
1)	140E79130	Control PWB
2)	162K20691	Interface Harness (J800 to P612)
3)	162K10630	Sensor Harness (J801 to J815/J820/J822/J823))
4)	162K21950	Drive Motor Harness (J802 to J813)
5)		Drive Bracket
6)		Drive Cover
7)	127E81410	Drive Motor
8)		Drive Gear
9)		Drive Collar
10)		Drive Tension Bracket
11)		Drive Tension Roller
12)		Drive Tension Spring
13)		Harness Clamp
A)	600K65640	Screw Kit



3/99 8-79
# PL 8.2.2.8 Desktop Bracket Assembly

	ltem	Part	Description
	1)	98K57190	Desktop Bracket Frame Assembly {Includes Items 2 through 5}
	2)		Frame Assembly {P/O Item 1}
I I	3)	49E79200	Bracket-docking, Right {P/O Item 1}
	4)	49E30790	Bracket-docking, Left {P/O Item 1}
I I	5)	26P62716	Lock Down Screw
	A)	600K65640	Screw Kit



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# 8.2.3 Repair Procedures

# **REP 8.2.3.1 Mailbox Left Cover Assembly**

### Parts List on PL 8.2.2.2

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the screw securing the Left Cover Strap to the Mailbox Top Cover (Figure 8.2.3.1a).
- **3** Unhook the Left Cover Hook from the Mailbox Frame Assembly (Figure 8.2.3.1a).
- 4 Remove the K-clip from the Mailbox Left Cover Assembly (Figure 8.2.3.1a).
- 5 Lift the Cover up and off of the Mailbox (Figure 8.2.3.1a).





- 1 Position the Left Cover Assembly approximately half way open, and reinstall it onto the Mailbox.
- 2 Use a K-clip to secure the Left Cover to the Mailbox.
- 3 Rehook the Left Cover Hook onto the Mailbox Frame Assembly.
- 4 Reinstall the Left Cover Strap to the Mailbox Top Cover, and use screw to secure the Strap.
- 5 Verify proper operation.

# **REP 8.2.3.2 Mailbox Front Cover**

### Parts List on PL 8.2.2.2

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Open the Mailbox Left Cover Assembly.
- **3** Remove the two screws securing the Mailbox Front Cover to the Mailbox, and remove the Front Cover.



### Figure 8.2.3.2a. Front Cover.

- 1 Reinstall the Front Cover onto the Mailbox frame.
- 2 Use two screws to secure the Front Cover to the frame.
- 3 Close the Mailbox Left Cover Assembly.
- 4 Verify proper operation.

# REP 8.2.3.3 Mailbox Rear Cover

### Parts List on PL 8.2.2.2

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove handle from storage bracket.
- 3 Remove the screw securing the Rear Cover to the Mailbox frame (Figure 8.2.3.3a).
- 4 Remove the Rear Cover from the Mailbox frame (Figure 8.2.3.3a).



### Figure 8.2.3.3a. Rear Cover.

- 1 Reinstall the Rear Cover onto the Mailbox frame.
- 2 Use screw to secure the Rear Cover to the Mailbox frame.

# REP 8.2.3.4 Mailbox Top Cover

### Parts List on PL 8.2.2.2

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove Mailbox Left Cover Assembly (REP 8.2.3.1).
- **3** Remove the Mailbox Front Cover Assembly (REP 8.2.3.2).
- 4 Remove the Mailbox Rear Cover Assembly (REP 8.2.3.3).
- 5 Loosen the three screws securing the Top Cover to the Mailbox frame, and remove the Top Cover (Figure 8.2.3.4a).



### Figure 8.2.3.4a. Top Cover.

- 1 Reinstall the Mailbox Top Cover to the Mailbox frame, making sure you line up the screw holes in the Cover with the screw holes in the frame. Use screws to secure the Top Cover to the frame.
- 2 Reinstall the Mailbox Rear Cover Assembly.
- 3 Reinstall the Mailbox Front Cover Assembly.
- 4 Reinstall the Mailbox Left Cover Assembly.
- 5 Verify proper operation.

# REP 8.2.3.5 Actuator (ACT) Cover Assembly

### Parts List on PL 8.2.2.3

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove Mailbox Left Cover Assembly (REP 8.2.3.1).
- **3** Remove the Mailbox Front Cover Assembly (REP 8.2.3.2).
- 4 Remove the Mailbox Rear Cover Assembly (REP 8.2.3.3).
- 5 Remove the Mailbox Top Cover Assembly (REP 8.2.3.4).
- 6 Disconnect the P/J from the BIN 1 Jam Sensor, and pull the wire harness free of the ACT Cover (Figure 8.2.3.5a).
- 7 Remove the three screws securing the ACT Cover Assembly to the Mailbox, and remove the ACT Cover (Figure 8.2.3.5a).





- 1 Position the ACT Cover Assembly over the top of the Mailbox.
- 2 Reinstall The ACT Cover Assembly onto the Mailbox.
- **3** Reinstall the wire harness under the wire clips located on the side of the ACT Cover and reconnect the BIN 1 Jam Sensor.
- 4 Reinstall the ACT Cover Assembly.
- 5 Reinstall the Top Cover.
- 6 Reinstall the Rear Cover.
- 7 Reinstall the Front Cover.

# REP 8.2.3.6 BIN 1 Jam Sensor

### Parts List on PL 8.2.2.3

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Mailbox Top Cover Assembly (REP 8.2.3.4).
- **3** Disconnect the BIN 1 Jam Sensor connector.
- 4 Remove the screw securing the BIN 1 Jam Sensor to the ACT Cover.
- 5 Remove BIN 1 Jam Sensor from the ACT Cover.

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### Figure 8.2.3.6a. BIN 1 Jam Sensor.

### Replacement

1 Reinstall BIN 1 Jam Sensor to the ACT Cover. Make sure you insert the Sensor actuator through the rectangular slot.

3/99

8-88

- 2 Use screw to secure the Sensor to the Cover.
- 3 Reconnect the BIN 1 Jam Sensor connector.
- 4 Reinstall the Mailbox Top Cover Assembly.
- 5 Verify proper operation.

# REP 8.2.3.7 Bin 1 Assembly

### Parts List on PL 8.2.2.4

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove stopper wire.
- 3 Remove Mailbox Left Cover Assembly (REP 8.2.3.1).
- 4 Remove the Mailbox Front Cover Assembly (REP 8.2.3.2).
- 5 Remove the Mailbox Rear Cover Assembly (REP 8.2.3.3).
- 6 Remove the Mailbox Top Cover Assembly (REP 8.2.3.4).
- 7 Remove the ACT Cover Assembly (REP 8.2.3.5).
- 8 Remove the screw securing the LED and LED Cover to the Bin 1 Assembly, and remove the LED and LED Cover (Inset 1) (Figure 8.2.3.7a).
- 9 Slip the Drive Belt off of Bin 1 Drive Pulley (Figure 8.2.3.7a).
- 10 Remove the three screws securing Bin 1 to the Mailbox frame (Figure 8.2.3.7a).
- **11** Pull out on latch arms to release the latch that is securing Bin 1 Assembly to Bin 2 Gate (inset 2) and remove Bin 1 Assembly (Figure 8.2.3.7a).



### Figure 8.2.3.7a. Bin 1 Assembly.

- 1 Reinstall BIN 1 onto the Mailbox frame. Make sure the tabs on the Bin line up with the slots in the frame.
- 2 Open the Mailbox Chute so you can access BIN 2 Gate.
- **3** Hold on to BIN 2 Gate while you press down on the Bin Assembly so the latch arms on the Bin Assembly latch onto BIN 2 Gate.
- 4 Use three screws to secure BIN 1 to the Mailbox frame.
- 5 Slip the Drive Belt onto BIN 1 Drive Pulley.
- 6 Reinstall the LED and LED Cover, and use screw to secure them to the BIN 1 Assembly.
- 7 Reinstall the ACT Cover Assembly.
- 8 Reinstall the Top Cover.
- 9 Reinstall the Rear Cover.
- **10** Reinstall the Front Cover.
- **11** Verify proper operation.

# **REP 8.2.3.8 Mailbox Drive Belt**

### Parts List on PL 8.2.2.4

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove Mailbox Left Cover Assembly (REP 8.2.3.1).
- **3** Remove the Mailbox Front Cover Assembly (REP 8.2.3.2).
- 4 Remove the Mailbox Rear Cover Assembly (REP 8.2.3.3).
- 5 Remove the Mailbox Drive Motor Assembly (REP 8.2.3.15).
- 6 Slide the Mailbox Drive Gear off of the shaft (Figure 8.2.3.8a).
- 7 Slip the Mailbox Drive Belt off of the Drive Pulleys (Figure 8.2.3.8a).

### Figure 8.2.3.8a. Mailbox Drive Belt.



- 1 Position the Mailbox Belt as shown in the illustration, and reinstall the Belt onto the Drive Pulleys. Make sure you reinstall the Belt over the four Tension Pulleys, as shown by the arrows in the illustration.
- 2 Reinstall the Mailbox Drive Gear.
- **3** Push up on the Mailbox Drive Transport Bracket while you reinstall the Belt onto the Mailbox Drive Gear.
- 4 Reinstall the Mailbox Drive Motor Assembly.
- 5 Reinstall the Mailbox Rear Cover Assembly.
- 6 Reinstall the Mailbox Front Cover Assembly.
- 7 Reinstall the Mailbox Left Cover Assembly.
- 8 Verify proper operation.

# REP 8.2.3.9 BINs 2 through 10

### Parts List on PL 8.2.2.4

### Removal

- NOTE: This procedure covers the removal and replacement of a single BIN. When removing BINs start with BIN 1 (REP 8.2.3.7) then proceed to step 1 in this procedure. Remove the BINs sequentially by repeating the steps in this procedure for each Bin in the Mailbox.
  - 1 Switch off the printer power and disconnect the AC Power Cord.
  - 2 Remove wire stopper.
  - 3 Remove Mailbox Left Cover Assembly (REP 8.2.3.1).
  - 4 Remove the Mailbox Front Cover Assembly (REP 8.2.3.2).
  - 5 Remove the Mailbox Rear Cover Assembly (REP 8.2.3.3).
  - 6 Remove the Mailbox Top Cover Assembly (REP 8.2.3.4).
  - 7 Remove the ACT Cover Assembly (REP 8.2.3.5).
  - 8 Remove BIN 1 Assembly (REP 8.2.3.7).
  - 9 Remove Gate 2 Solenoid (REP 8.2.3.10).
  - 10 Remove the three screws securing BIN 2 to the Mailbox frame (Figure 8.2.3.9a).
  - **11** Slide Bin 2 Drive Pulley out of the Drive Belt (Figure 8.2.3.9a)
  - **12** Pull out on latch arms to release the latch that is securing BIN 2 Assembly to BIN 3 Gate (Figure 8.2.3.9a) and remove BIN 2 Assembly.





- 1 Reinstall BIN 2 onto the Mailbox frame. Make sure the tabs on the Bin line up with the slots in the frame.
- 2 Open the Mailbox Chute so you can access BIN 3 Gate.
- **3** Hold on to BIN 3 Gate while you press down on the Bin Assembly so the latch arms on the Bin Assembly latch onto BIN 3 Gate.
- 4 Use screws to secure BIN 2 to the Mailbox frame.
- 5 Slip the Drive Belt onto BIN 2 Drive Pulley.
- 6 Reinstall BIN 1 Assembly.
- 7 Reinstall the ACT Cover Assembly.
- 8 Reinstall the Top Cover.
- 9 Reinstall the Rear Cover.
- **10** Reinstall the Front Cover.
- **11** Verify proper operation.

# REP 8.2.3.10 Gate Solenoids

### Parts List on PL 8.2.2.5

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove Mailbox Left Cover Assembly (REP 8.2.3.1).
- **3** Remove the Mailbox Front Cover Assembly (REP 8.2.3.2).
- 4 Remove the Mailbox Rear Cover Assembly (REP 8.2.3.3).
- 5 Remove the Mailbox Top Cover Assembly (REP 8.2.3.4).
- 6 Remove all of the BINs above the BIN of the Solenoid you want to remove. For example: If you want to remove Gate Solenoid 5, first remove BIN 1 (REP 8.2.3.7) and BINs 2 through 4 (REP 8.2.3.9).
- 7 Disconnect the P/J for the solenoid from the Mailbox Control PWB (Figure 8.2.3.10a).
- 8 Loosen, do not remove, the screw securing the Solenoid to the Mailbox (Figure 8.2.3.10a).
- **9** Release the Solenoid plunger from the end of the Gate, and remove the Solenoid (Figure 8.2.3.10a).

### Figure 8.2.3.10a. Gate Solenoids.



3/99

8-95

- 1 Reinstall the Solenoid onto the Mailbox frame.
- 2 Insert the Solenoid plunger into the end of the Gate (insert in illustration).
- **3** Tighten the screw to secure the Solenoid to the frame.
- 4 Reconnect P/J to the Mailbox Control PWB.
- 5 Reinstall all the of BINs you removed in order to reach the specific Solenoid.
- 6 Reinstall the Mailbox Top Cover Assembly.
- 7 Reinstall the Mailbox Rear Cover Assembly.
- 8 Reinstall the Mailbox Front Cover Assembly.
- 9 Reinstall the Mailbox Left Cover Assembly.

# REP 8.2.3.11 Mailbox Exit Roll

### Parts List on PL 8.2.2.4

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the ACT Cover Assembly (REP 8.2.3.5).
- 3 Remove the Bin Assembly of the Exit Roll you want to remove (REP 8.2.3.7)(REP 8.2.3.9).
- 4 Rotate the Gate 90° and remove it from the Bin Assembly (Bins 2 through 10).
- 5 Remove the two E-rings from the Pulley end of the Mailbox Exit Roll (Figure 8.1.3.11a).
- 6 Slide the Drive Pulley, Collar off of the Roll (Figure 8.1.3.11a).
- 7 Push the Bearing out of the hole and along the Roll (Figure 8.1.3.11a).
- 8 Slide the Roll out of the holes in the Bin, and remove the Roll (Figure 8.1.3.11a).

### Figure 8.2.3.11a. Exit Roll.



3/99

8-97

- 1 Slide the Front Bearing onto the Roll.
- 2 Slide the Rear Bearing onto the Roll.
- 3 Align the Mailbox Exit Roll so the keyed end of the Roll is positioned on the drive side of the Bin.
- 4 Slide the ends of the Exit Roll into the holes in the Bin.
- 5 Rotate the Rear Bearing until it slides into the hole in the Bin.
- **6** Use an E-ring, behind the Rear Bearing, to secure the Roll to the Bin.
- 7 Slide the Collar and Drive Pulley onto the end of the Roll.
- 8 Use an E-ring to secure the Pulley to the Roll.
- 9 Reinstall the Gate onto the Bin Assembly.
- 10 Reinstall the ACT Cover Assembly.

# REP 8.2.3.12 IN Gate Solenoid

### Parts List on PL 8.2.2.6

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Mailbox Rear Cover Assembly (REP 8.2.3.3).
- 3 Remove Mailbox from mounting frame and position it so it rests on the Front Cover.
- 4 Disconnect P/J 812 (In Solenoid) from the Mailbox Control PWB (Figure 8.2.3.12a).

NOTE: Use care not to lose the IN Gate Solenoid Spring or the two small brass screws.

- **5** Remove the two screws securing the Bracket to the frame, and remove the Bracket (Figure 8.2.3.12a).
- 6 Remove the two screws securing the IN Gate Solenoid to the Rear Lower Cover (Figure 8.2.3.12a).
- 7 Slide the Solenoid plunger out of the IN Gate Link and remove the IN Gate Solenoid from the Mailbox frame (Figure 8.2.3.12a).



3/99

8-99

Figure 8.2.3.12a. IN Gate Solenoid

- 1 Reinstall the IN Gate Solenoid Spring onto the Solenoid plunger.
- 2 Slide the end of the Solenoid plunger into the slot in the IN Gate Link.
- **3** Reinstall the Solenoid and attached IN Gate Link onto the frame, making sure the tab on the Link fits into the slot in the frame.
- 4 Use two small brass screws to secure the Solenoid to the frame.
- 5 Reinstall the Bracket to the frame, and use the screws to secure the Bracket.
- 6 Reconnect P/J 812 to the Mailbox Control PWB.
- 7 Reinstall the Mailbox Rear Cover Assembly.

# REP 8.2.3.13 Vertical LED / Sensor

### Parts List on PL 8.2.2.6

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the ACT Cover Assembly (REP 8.2.3.5).
- **3** Remove the screw securing the LED Cover and LED to the Bin 1 Assembly, and remove the LED Cover and LED (inset in illustration).
- 4 Disconnect P/J 823 located near the LED.
- 5 Remove the two screws securing the Lower Chute to the frame, and remove the Lower Chute.
- 6 Remove the screw securing the Vertical Sensor to the Lower Chute and remove the Sensor, wire harness, and LED.

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3/99

Figure 8.2.3.13a. Vertical LED / Sensor.

- 1 Reinstall the Vertical Sensor to the Lower Chute, and use screw to secure it to the Chute.
- 2 Reinstall the Lower Chute, and use two screws to secure it to the frame.
- **3** Reroute the wire harness up the front of the Mailbox frame.
- **4** Reinstall the LED Cover and LED to the Bin 1 Assembly, and use screw to secure it to the Assembly.
- 5 Reconnect P/J 823 located near the LED.
- 6 Reinstall the ACT Cover Assembly.
- 7 Verify proper operation.

# REP 8.2.3.14 Mailbox Control PWB

### Parts List on PL 8.2.2.7

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove Mailbox Left Cover Assembly (REP 8.2.3.1).
- 3 Remove the Mailbox Rear Cover Assembly (REP 8.2.3.3).
- 4 Disconnect the thirteen P/Js from the Mailbox Control PWB.
- **5** Remove the four screws securing the Mailbox Control PWB to the Mailbox frame, and remove the PWB (Figure 8.2.3.14a).

### Figure 8.2.3.14a. Mailbox Control PWB.



3/99

8-103



### CAUTION

These components are susceptible to electrostatic discharge. Observe all ESD procedures to avoid damage.

- 1 Reinstall the Mailbox Control PWB to the Mailbox frame, and use the four screws to secure it to the frame.
- 2 Reconnect the thirteen P/Js (P/J 800 ~ P/J 812) to the Mailbox Control PWB.
- 3 Reinstall the Mailbox Rear Cover Assembly.
- 4 Reinstall the Mailbox Left Cover Assembly.

# REP 8.2.3.15 Mailbox Drive Motor

### Parts List on PL 8.2.2.7

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove Mailbox Left Cover Assembly (REP 8.2.3.1).
- 3 Remove the Mailbox Rear Cover Assembly (REP 8.2.3.3).
- 4 Disconnect P/J 802 (Drive Motor) from the Mailbox Control PWB (Figure 8.2.3.15a).
- **5** Remove the two screws securing the Mailbox Drive Motor Assembly to the frame, and remove the Motor Assembly (Figure 8.2.3.15a).

### Figure 8.2.3.15a. Mailbox Drive Motor Assembly.



- 6 Remove the screw securing the Mailbox Drive Cover to the Mailbox Drive Bracket, and remove the Cover (Figure 8.2.3.15b).
- 7 Disconnect the P/J from the Drive Motor PWB (Figure 8.2.3.15b).
- 8 Remove the two screws securing the Mailbox Drive Motor to the Mailbox Drive Bracket, and remove the Motor (Figure 8.2.3.15b).

Figure 8.2.3.15b. Mailbox Drive Motor.



- 1 Reinstall the Mailbox Drive Motor to the Mailbox Drive Bracket, and use two screws to secure the Motor to the Bracket.
- 2 Reconnect the P/J to the Drive Motor PWB.
- **3** Reinstall the Mailbox Drive Cover to the Mailbox Drive Bracket, and use screw to secure the Cover to the Bracket.
- **4** Reinstall the Mailbox Drive Motor Assembly to the frame, and use the screws to secure the Assembly to the frame.
- 5 Reconnect P/J 802 to the Mailbox Control PWB.
- 6 Reinstall the Mailbox Rear Cover Assembly.
- 7 Reinstall the Mailbox Left Cover Assembly.

# REP 8.2.3.16 Mailbox IN Sensor

### Parts List on PL 8.2.2.6

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Open the Left Cover Assembly.
- **3** Remove the screw securing the Mailbox IN Sensor to the Mailbox frame, and remove the Sensor (Figure 8.2.3.16a).
- **4** Disconnect the P/J from the Mailbox IN Sensor (Figure 8.2.3.16a).



### Figure 8.2.3.16a. Mailbox IN Sensor.

- 1 Reconnect the Mailbox IN Sensor P/J.
- 2 Reinstall the Mailbox IN Sensor, and use one screw to secure it to the Mailbox frame. Make sure you insert the Sensor actuator through the rectangular slot.
- **3** Close the Left Cover Assembly.
- 4 Verify proper operation.

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# 8.2.4 Running Mailbox Diagnostics

See Section 5 for all Diagnostic Routines and Subroutines

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# 8.2.5 Wiring Data





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- 1 P/J802 Mailbox Control PWB to Mailbox Drive Motor.
- 2 P/J801 Mailbox Control PWB to IN Sensor, Vertical Jam Sensor, BIN 1 Jam Sensor, and Interlock Switch.
- 3 P/J820 BIN 1 Jam Sensor to Mailbox Control PWB.
- 4 P/J823 Inline connector between P/J801 Mailbox Control PWB and The Vertical Jam Sensor.
- 5 P/J822 Interlock Switch to Mailbox Control PWB.
- 6 P/J815 IN Sensor to Mailbox Control PWB.
- 7 P/J813 Mailbox Drive Motor to Mailbox Control PWB.
- 8 P/J800 Mailbox Control PWB to Printer Engine Controller PWB.
- **9** P/J812 Mailbox Control PWB to IN Gate Solenoid.
- **10** P/J811 Mailbox Control PWB to BIN 10 Gate Solenoid.
- **11** P/J810 Mailbox Control PWB to BIN 9 Gate Solenoid.
- 12 P/J809 Mailbox Control PWB to BIN 8 Gate Solenoid.
- 13 P/J808 Mailbox Control PWB to BIN 7 Gate Solenoid.
- 14 P/J807 Mailbox Control PWB to BIN 6 Gate Solenoid.
- 15 P/J806 Mailbox Control PWB to BIN 5 Gate Solenoid.
- 16 P/J805 Mailbox Control PWB to BIN 4 Gate Solenoid.
- 17 P/J804 Mailbox Control PWB to BIN 3 Gate Solenoid.
- 18 P/J803 Mailbox Control PWB to BIN 2 Gate Solenoid.
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# 8.2.6 Mailbox Principles of Operation

### 8.2.6.1 Mailbox Control

The base engine Printer Engine Controller PWB provides the +5VDC and +24VDC that the Mailbox requires for operation.

The printer AC power cord plugs into a grounded AC wall outlet. The cord transmits AC line voltage to the Noise Filter PWB. The Noise Filter smooths the AC voltage and sends it to the Main Power Switch. Switching on the Main Power Switch applies AC voltage to the Low Voltage Power Supply (LVPS) PWB. The LVPS converts the 110VAC to regulated +5VDC and +24VDC voltages. The LVPS sends these voltages to the Printer Engine Controller PWB. The MCU sends these two DC voltages to the Sorter Control PWB. The Sorter Control PWB uses these voltages to run internal logic, sensors, solenoids, and the motor within the Mailbox.



Mailbox Control is a broad term that is used to describe the printer resources that monitor and control the actions and operations of the printer and the Mailbox; from bin output to error detection.

The center of Mailbox control is the Mailbox Control PWB. The Printer Engine Control PWB provides the logic and information processing that is necessary for the printer to function, and the Mailbox Control PWB provides the logic and information processing that is necessary for the Mailbox to function. Every electrical component within the Mailbox is connected to the Mailbox Control PWB. Sensors in the Mailbox send paper travel status information to the Mailbox Control PWB. The Mailbox Control PWB processes that information and shares it with the Printer Engine Control PWB. Acting on the results of the processing, the Mailbox Control PWB sends commands to the various Mailbox components; switching on the motor or switching off a bin solenoid.



### 8.2.6.2 Mechanical Drive

Mechanical Drive is a term that is used to describe both the rotation of the Sorter Drive Motor and the action of the gear, belt, pulleys, and rollers that are used to transmit motor rotation to the ten Sorter Rolls within the Mailbox. The purpose of Mechanical Drive within the Mailbox is to provide the mechanical energy needed to drive a sheet from the printer paper exit and into a Mailbox bin.

The Sorter Control PWB controls the Sorter Motor. The Motor rotates the Drive Gear. The Drive Belt wraps around the Drive Gear and the ten Drive Pulleys. Six Tension Rollers along the path press the Drive Belt against the Drive Pulleys. When the Sorter Control PWB switches on the Sorter Motor, the Motor rotates the Drive Gear, the Drive Gear drives the Belt which in turn rotates the ten Drive Pulleys. The ten Drive Pulleys rotate the ten Sorter Exit Rolls.



#### **Mechanical Drive**

- 1 Tension Roller Six rollers that press the Drive Belt against the Drive Pulleys.
- 2 Drive Gear A two part gear. One side of the gear rides on the Motor gear. The other side of the gear drives the Sorter Drive Belt.
- **3** Sorter Drive Motor Provides the mechanical drive for the Mailbox.
- 4 Drive Pulley 10 pulleys.
- **5** Drive Belt Transmits Sorter Motor drive to the ten Drive Pulleys.

### 8.2.6.3 Mailbox Paper Path

The Mailbox Paper Path is the physical route that a sheet of paper takes from the printer exit area to a specific Mailbox bin. Rubber rollers drive the paper along the Paper Path.

#### Bypass the Mailbox; Feed Paper to the Output Bin

If the Controller signals the Printer Engine Controller PWB not to use the Mailbox mode, the Printer Engine Controller PWB does not actuate the In Gate Solenoid, the Solenoid does not drop the In Gate, and the paper path continues into the Output Bin.



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- 1 IN Gate up.
- 2 Paper is delivered to the Output Bin.

### **Mailbox Paper Path Components**

The Mailbox paper path when the Mailbox is bypassed is made up of two components.

1 IN Gate Solenoid and Linkage

Toggles the IN Gate. In this case, the Gate Solenoid does not actuate.

2 In Gate

Switches the paper path from the Output Bin to the Mailbox. In this case, the IN Gate remains up, and the paper is delivered to the printer Output Bin.



#### Feed Paper to Bin 1

If the Controller signals the Printer Engine Controller PWB to send the output to Bin 1, the Mailbox PWB actuates the In Gate Solenoid, the Solenoid drops the In Gate, and the paper path switches to the Mailbox. The IN Sensor monitors paper arrival at the Mailbox entrance. The Exit and Pinch Rolls drive the sheet of paper to the top of the Mailbox. All of the Bin Gates remain closed, so the paper path moves past Bins 10 through 2. Bin 1, located at the top of the Mailbox, is unique. Bin 1 has neither a Bin Gate Solenoid nor a Bin Gate. In the event of a Solenoid or Gate malfunction in any or all of the Bins, the paper is driven to Bin 1. There is a jam sensor in Bin 1 that detects when a sheet of paper arrives at Bin 1.



- 1 IN Gate down The IN Gate Solenoid energizes moving the IN Gate to the down position, switching the paper path from the Output Bin to the Mailbox.
- 2 IN Sensor Monitors the paper arriving at the Mailbox.
- 3 Bins Rolls and Pinch Rolls Drives the sheet of paper up the Mailbox paper path.
- 4 Bin 1 Roller Drives the paper into Bin 1.
- 5 Vertical Sensor LED Monitors to paper travel into Bins 2 through 10.
- 6 Bin 1 Jam Sensor Monitors paper arriving at Bin 1.
- 7 Paper delivered to Bin 1 Any paper not delivered to Bins 2 through 10, will be delivered to Bin 1.
- 8 Vertical Sensor Monitors to paper travel into Bins 2 through 10.
- 9 Gate 2 Solenoid Opens and closes Bin 2 Gate.
- **10** Bin Gates 2 through 10 Shown in the closed position.

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#### Feed Paper to Bins 2 through 10

If the Controller signals the Printer Engine Controller PWB to send the output to another Mailbox Bin, the Printer Engine Controller PWB actuates the In Gate Solenoid, the Solenoid drops the In Gate, and the paper path continues into the Mailbox. The IN Sensor, located at the input of the Mailbox paper path, monitors paper arrival into the Mailbox. The Exit Rolls and the Pinch Rolls drive the sheet of paper to the top of the Mailbox. Along the way, all of the Bin Gates remain closed except the BIn Gate of the designated Bin. (In the example below, the output is destined for Bin 6.) The paper path moves past Bins 10 through 5. Bin 6 Gate Solenoid opens Bin 6 Gate and Bin 6 Roller drives the paper into Bin 6. The Vertical Sensor monitors paper travel into Bins 2 through 10. An LED located at the top of the Bin Gates shines light down through cutouts in each Gate and onto the Vertical Sensor that is located at the bottom of the Bin Gates. When a sheet of paper enters any Bin, 2 through 10, the sheet breaks the light beam and the Sensor signals the Mailbox PWB that a sheet of paper has entered a Bin. All Bins have a Full Stack Sensor. The Full Stack Sensors monitors the paper level in each Bin and signals the Mailbox PWB when the Bin is full.



3/99

8-123

- 1 Gate Solenoid (9 total).
- 2 Mailbox Control PWB.
- 3 Full Stack Sensor (10 on PWB).
- 4 Full Stack Actuator (1 per Bin).

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# 8.2.7 Repair Analysis Procedures

### RAP 8.2.7.1 Error Code "Paper Jam Clear Area D"

1 Inspect the paper that is loaded in the paper cassette. The paper loaded in the cassette smooth (not wrinkled) and undamaged.

Y N

- Replace the paper with new paper.
- 2 Open the Mailbox Left Cover and observe if a sheet of paper entered or started to enter a Bin. There a sheet of paper inside a Bin or at the entrance to a Bin.

Y N

Go to step 7.

3 Enter Diagnostic Mode - Input H/L, Vertical Sensor Detect. Insert a sheet of paper into the Vertical Sensor path and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays "IS WITH PAPER" when you insert the paper into the Vertical Sensor and displays "IS WITHOUT PAPER" when the paper is removed.

Y N

- Replace the Vertical Sensor (PL 8.2.2.6).
- 4 Enter Diagnostic Mode Input H/L, 1 Bin Jam Sensor Detect. Insert a sheet of paper into the BIN 1 Jam Sensor and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays "IS WITH PAPER" when you insert the paper into the BIN 1 Jam Sensor and displays "IS WITHOUT PAPER" when the paper is removed.

Y N

- Replace the BIN 1 Jam Sensor (PL 8.2.2.3).
- 5 Replace the Mailbox Control PWB (PL 8.2.2.7). The error message reappears.
  - Y N
  - Problem solved.
- 6 Replace the Printer Engine Controller PWB (REP 4.10.6).
- 7 The paper passed the IN Sensor actuator.

Y N

- Go to step 10.
- 8 Enter Diagnostic Mode Input H/L, IN Sensor Detect. Insert a sheet of paper into the IN Sensor and press [4], then remove the sheet of paper and press[4]. The Control Panel LCD displays "IS WITH PAPER" when you insert the paper into the Mailbox IN Sensor, and displays "IS WITHOUT PAPER" when the paper is removed.

Y N

Check wiring between P/J 815 and P/J 801 (WIR 8.2.5.1). If OK, replace the IN Sensor (PL 8.2.2.6).

3/99

**9** Replace the Mailbox Control PWB.

**10** The paper is jammed at the IN Sensor Actuator.

Y N

- Go to step 18.
- **11** Enter Diagnostic Mode Output Test, Mailbox Motor On/Off to check the Mailbox Drive Motor. The Mailbox Motor runs.

Y N

- Check the wiring between P/J 813 and P/J 802 (WIR 8.2.5.1). If OK, replace the Mailbox Drive Motor (PL 8.2.2.7).
- **12** While the Drive Motor is running, inspect the Drive Belt. The Drive Belt runs smoothly, without stalling or slipping.

Y N

- Replace the Mailbox Drive Belt (PL 8.2.2.4).
- **13** While the Drive Motor is running, inspect the Mailbox Exit Rolls. The Exit Rolls run smoothly, without stalling or slipping, and they are clean and free of wear.

Y N

- Replace the problem Exit Rollers (PL 8.2.2.5).
- 14 Open the Mailbox Chute and inspect, rotate, push down and release each individual Pinch Roll. The Pinch Rolls are clean and free from wear, they rotate freely, and have a spring-action return.

Y N

- Replace the Mailbox Left Chute (PL 8.2.2.3).
- **15** Open the Mailbox Chute and inspect each Bin Gate; checking to make sure they are laying flat and that none are broken or chipped. The Bin Gates are undamaged and all are laying flat.

Y N

- Replace the problem Bin Gate (PL 8.2.2.5).
- **16** Enter Diagnostic Mode. One at a time run Output Tests, Gate Solenoid (2 Bin through 10 Bin Gate) to check Bin Gate Solenoids 2 through 10. Each of the Solenoids function correctly, they open the associated Bin Gate, and when deactuated, the Bin Gates lay flat.

Y N

- Replace the problem Bin Solenoid (PL 8.2.2.5).
- 17 Replace the Mailbox Control PWB (PL 8.2.2.7). The error message reappears.

Y N

Problem solved.

- **18** Replace the Printer Engine Controller PWB (REP 4.10.6).
- **19** There is a sheet of paper at the IN Sensor actuator.

Y N

Go to step 23.

- 20 Remove the sheet of paper from the Mailbox. Enter Diagnostic Mode Output Test, Gate Solenoid Operation (Gate In Pull) IN Gate Solenoid. Observe the IN Gate when you actuate and deactuate the Solenoid. The Solenoid drops the IN Gate when actuated, and raises the IN Gate when deactuated.
  - Y N
  - Replace the IN Gate Solenoid (PL 8.2.2.6).

- **21** Inspect the IN Sensor for damage, such as a broken spring or actuator, that may have locked the Sensor in the on position. The sensor is undamaged.
  - Y N
  - Replace the IN Sensor (PL 8.2.2.6).
- 22 Enter Diagnostic Mode Input H/L, IN Sensor Detect. Insert, then remove, a sheet of paper into the IN Sensor. The Control Panel LCD displays "IS WITH PAPER" when you insert the paper and displays "IS WITHOUT PAPER" when you remove the paper.

Y N

- Replace the IN Sensor (PL 8.2.2.6).
- **23** Replace the Mailbox Control PWB (PL 8.2.2.7).
- 24 Enter Diagnostic Mode Input H/L, IN Sensor Detect. Insert a sheet of paper into the IN Sensor and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays "IS WITH PAPER" when you insert the paper into the Mailbox IN Sensor, and displays "IS WITHOUT PAPER" when the paper is removed.

Y N

- Check the wiring between P/J 815 and P/J 801 (WIR 8.2.5.1). If OK, replace the IN Sensor (PL 8.2.2.6).
- **25** Replace the Mailbox Control PWB (PL 8.2.2.7). The Error message reappears.

Y N

- Problem solved.
- **26** Check the wiring between P/J 800 and P/J 405 WIR 8.3.5.1. If OK, replace the Printer Engine Controller PWB (REP 4.10.6).

### RAP 8.2.7.2 Mailbox Failure Service Required

1 Check the Mailbox Interface Harness. The Harness is firmly connected to P/J 612 at the rear of the Printer.

Y N

- Reconnect the Mailbox Interface Harness
- 2 Remove the Mailbox Rear Cover and verify the voltages between P/J 800-10 and FG (WIR 8.2.5.1) and P/J 800-8 and FG (WIR 8.2.5.1) are +5VDC and +24VDC, respectively. Voltages are present.

Y N

- Go to step 4.
- **3** Replace the Mailbox Control PWB (REP 8.2.3.14).
- 4 Verify the voltages between P/J 405-8 and FG (6.3.17) and P/J 405-4 and FG (6.3.17) are +5VDC and +24VDC, respectively. Voltages are present.

Y N

- Replace the Printer Engine Controller PWB (REP 4.10.6).
- 5 Repair or replace any faulty wiring between P/J 405 (6.3.17) and P/J 800 (WIR 8.2.5.1).

# 8.3 Envelope Feeder

# 8.3.1 Envelope Feeder Specifications

### **GEN 8.3.1.1 General Specifications**

Category	Specification
Configuration	Customer installed option. Replaces the MBF. The Envelope Feeder uses the MBF Support for attachment to the printer base engine.
Envelope stack capacity	Maximum 100 envelopes. Envelope Feeder is equipped with a No-Paper Sensor.
Power requirements	The Printer provides all of the Envelope Feeder power requirements; +5VDC and +24VDC
Size and weight	Height: 5in. (133mm) Width: 11in. (278mm) Depth: 17.4in. (444mm) Weight: 9.5lbs. (4.3kg)

### **GEN 8.3.1.2 Recommended Envelope Sizes**

Brand and size
COM #10 - 4in. x 9.5in. (104.8mm x 241.3mm)
Monarch - 3.9in. x 7.5in. (98.4mm x 190.5mm)
C5 - 6.4in. x 8.7in. (162mm x 220mm)
DL -4.3in. x 8.7in. (110mm x 220mm)

### **GEN 8.3.1.3 Components that Need Periodic Replacement**

Component	Replace at
Retard Roll	As needed
Feed Belt	As needed

# 8.3.2 Envelope Feeder Parts List

## PL 8.3.2.1 Covers

ltem	Part	Description
1)	48E54590	Top Cover
2)	162K37420	Interface Harness
3)		Rear Bracket
4)		Rear Latch Assembly
5)	809E16860	Latch Spring
6)	3E35350	Rear Latch
7)		Center Bracket
8)		Front Bracket
9)		Front Latch Assembly
10)	3E35360	Front Latch
11)	48K74530	Rear Cover
12)	38K83930	Side Guide
13)	48K74540	Front Cover
14)	31E92970	Weight Arm
15)	36K91380	Paper Weight
16)	130K83360	Size Sensor Assembly
17)	48E54571	Bottom Cover
A)	600K65640	Screw Kit



3/99

8-131

### PL 8.3.2.2 Drives

ltem	Part	Description
1)		DC Motor Harness
2)	127K21850	Feeder Motor
3)		Clamp 1
4)		Clamp 2
5)		Motor Bracket
6)		47T Gear
7)		56/18T Gear
8)		19T Idler Gear
9)	13E82680	Feeder Bearing
10)		Clutch Harness
11)	121K87190	Electromagnetic Clutch
12)		17T Gear
13)	121K16450	Spring Clutch
14)		25T Gear
15)		25T Gear Stopper
16)		Idler Gear
17)	160K46160	Envelope Feeder PWB
18)	120E12900	No Paper Actuator
19)	130E82530	No Paper Sensor
20)		No Paper Sensor Harness
21)	22E19170	Core Belt
22)		Feed Shaft
23)	23E15580	Feed Belt
24)	22K49870	Bottom Roll
25)		Bottom Shaft
26)	22K48570	Takeaway Roll Assembly
27)	22K49860	Transport Roll Assembly
28)		Clamp 3
A)	600K65640	Screw Kit



3/99

### PL 8.3.2.3 Feed

ltem	Part	Description
1)	48K74520	Upper Cover
2)		Paper Guide
3)		Main Frame
4)		Sensor Harness
5)	130E83280	Sensor
6)		Bearing Feeder
7)	59E90750	Pinch Roll (2 Sets)
8)		Spring Plate
9)		Spring Plate
10)		Retard Holder
11)	809E07920	Retard Spring
12)	22K49880	Retard Roll Assembly {Includes Items 13 and 14}
13)		Retard Shaft {P/O Item 12}
14)		Retard Roll Assembly {P/O Item 12} {Includes Items 15 and 16}
15)		Retard Core {P/O Item 14}
16)		Retard Roll {P/O Item 14}
17)	121K16460	Friction Clutch Assembly {Includes Item 18}
18)		Stopper - Clutch {P/O Item 17}
A)	600K65640	Screw Kit



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# 8.3.3 Repair Procedures

### **REP 8.3.3.1 Envelope Feeder Bottom Cover**

### Parts List on PL 8.3.2.1

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Envelope Feeder from the base engine.
- 3 Turn the Feeder over so you can access the bottom.
- 4 Remove the two screws securing the Bottom Cover to the Feeder frame, and remove the Cover (Figure 8.2.3.1a).



#### Figure 8.3.3.1a. Bottom Cover.

- 1 Turn the Feeder upside down.
- 2 Reinstall the Bottom Cover onto the Feeder frame.
- 3 Use screws to secure the Bottom Cover to the Feeder frame.
- 4 Reinstall the Envelope Feeder to the base printer.
- 5 Verify proper operation.

### REP 8.3.3.2 Envelope Feeder Top Cover

### Parts List on PL 8.3.2.1

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Envelope Feeder from the base engine.
- 3 Remove the Envelope Feeder Bottom Cover (REP 8.3.3.1).

NOTE: The two Retard Holder Springs may fall out when the cover is removed.

**4** Remove the three screws securing the Top Cover to the Feeder frame, and remove the Top Cover (Figure 8.3.3.2a).



#### Figure 8.3.3.2a. Top Cover.

- 1 Reinstall the Top Cover onto the Feeder frame.
- 2 Use screws to secure the Top Cover to the Feeder frame.
- 3 Reinstall the Envelope Feeder Bottom Cover.
- 4 Reinstall the Envelope Feeder to the base printer.
- 5 Verify proper operation.

### **REP 8.3.3.3 Envelope Feeder Front Cover**

### Parts List on PL 8.3.2.1

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Envelope Feeder from the base engine.
- **3** Remove the Bottom Cover (REP 8.3.3.1).
- 4 Remove the screw securing the Front Cover to the Feeder frame (Figure 8.2.3.3a).
- **5** Release the locking tab and remove the Cover (Figure 8.2.3.3a).



### Figure 8.3.3.3a. Front Cover

- 1 Reinstall the Front Cover onto the Feeder frame.
- 2 Align the positioning tabs on the Cover with the tabs on the frame.
- 3 Use screw to secure the Cover to the frame.
- 4 Reinstall the Bottom Cover.
- 5 Verify proper operation.

### REP 8.3.3.4 Envelope Feeder Rear Cover

### Parts List on PL 8.3.2.1

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Envelope Feeder from the base engine.
- **3** Remove the Bottom Cover (REP 8.3.3.1).
- 4 Remove the Top Cover (REP 8.3.3.2).
- 5 Remove the screw securing the Rear Cover to the Feeder frame (Figure 8.3.3.4a).
- 6 Release the latch and remove the Cover (Figure 8.3.3.4a).



### Figure 8.3.3.4a. Rear Cover.

- 1 Reinstall the Rear Cover onto the Feeder frame.
- 2 Press in to make sure the Cover latches into place.
- **3** Use a screw to secure the Cover to the frame.
- 4 Reinstall the Top Cover.
- 5 Reinstall the Bottom Cover.
- 6 Verify proper operation.

### **REP 8.3.3.5 Envelope Feeder Center Bracket Assembly**

### Parts List on PL 8.3.2.1

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Envelope Feeder from the base engine.
- **3** Remove the Bottom Cover (REP 8.3.3.1).
- 4 Remove the Top Cover (REP 8.3.3.2).
- **5** Remove the three screws securing the Center Bracket Assembly to the frame, and remove the Center Bracket (Figure 8.2.3.5a).
- 6 Remove the two screws securing the I/F Harness to the Center Bracket, and remove the I/F Harness (Figure 8.2.3.5a).





### Replacement

- 1 Reinstall the I/F Harness to the Center Bracket, and use the screws to secure the Harness to the Bracket.
- 2 Reinstall the Center Bracket to the Feeder frame, and use the screws to secure the Bracket to the frame.

3/99

- 3 Reinstall the Top Cover.
- 4 Reinstall the Bottom Cover.

### **REP 8.3.3.6 Envelope Feeder Motor**

### Parts List on PL 8.3.2.2

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Envelope Feeder from the base engine.
- **3** Remove the Bottom Cover (REP 8.3.3.1).
- 4 Remove the Top Cover (REP 8.3.3.2).
- 5 Remove the Rear Cover (REP 8.3.3.4).
- 6 Disconnect the P/J from the Envelope Feeder Motor (Figure 8.3.3.6a).
- 7 Remove four screws securing the Motor to the Motor Bracket, and remove the Motor (Figure 8.3.3.6a).

Figure 8.3.3.6a. Envelope Feeder Motor.



- 1 Reinstall the Motor onto the Motor Bracket, and use four screws to secure the Motor to the Bracket.
- 2 Reconnect the P/J to the Envelope Feeder Motor.
- 3 Reinstall the Rear Cover.
- 4 Reinstall the Top Cover.
- 5 Reinstall the Bottom Cover.
- 6 Verify proper operation.

### REP 8.3.3.7 Envelope Feeder PWB

### Parts List on PL 8.3.2.2

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Envelope Feeder from the base engine.
- **3** Remove the Bottom Cover (REP 8.3.3.1).
- 4 Remove the Top Cover (REP 8.3.3.2).
- 5 Remove the Rear Cover (REP 8.3.3.4).
- 6 Disconnect the six P/Js from the Envelope Feeder PWB (Figure 8.3.3.7a).
- 7 Remove the two screws securing the PWB to the frame, and remove the PWB (Figure 8.3.3.7a).

#### Figure 8.3.3.7a. Envelope Feeder PWB.

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### Replacement

- 1 Reinstall the Envelope Feeder PWB onto the Envelope Feeder frame.
- **2** Use two screws to secure the PWB to the frame.
- **3** Reconnect the six P/Js to the PWB.
- 4 Reinstall the Rear Cover.
- 5 Reinstall the Top Cover.
- 6 Reinstall the Bottom Cover.
- 7 Verify proper operation.



#### CAUTION

These components are susceptible to electrostatic discharge. Observe all ESD procedures to avoid damage.

### REP 8.3.3.8 Envelope Feeder Belt

### Parts List on PL 8.3.2.2

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Envelope Feeder from the base engine.
- **3** Remove the Bottom Cover (REP 8.3.3.1).
- 4 Remove the Top Cover (REP 8.3.3.2).
- 5 Remove the Rear Cover (REP 8.3.3.4).
- 6 Remove the Center Bracket Assembly (REP 8.3.3.5).
- 7 Remove the Motor Assembly (REP 8.3.3.6).
- 8 Remove the Motor Bracket (REP 8.3.3.6).
- **9** Remove the four K clips from the Feed Shaft and from the Bottom Shaft (Figure 8.3.3.8a).
- **10** Slide two Feed Shaft bearings toward center of the Shaft, lift the Shaft out of the Feeder (Figure 8.3.3.8a).



- **11** Slide the two Bottom Shaft bearings toward the center of the Shaft, and slide the Shaft to the side.
- 12 Remove the Feed Belt from the Feeder (Figure 8.3.3.8b).

#### Figure 8.3.3.8b. Feed Belt Removal.



#### Replacement

1 Position the Feed Belt so the tooth of the Belt is pointing in the direction as shown in the illustration (Figure 8.3.3.8c).

Figure 8.3.3.8c. Feed Belt.



- 2 Slide the Feed Belt over the Bottom Shaft.
- **3** Reinstall the Bottom Shaft into the slot in the Feeder, and slide the Bearings out to the ends of the Shaft.
- 4 Use two K clips to secure both ends of the Bottom Shaft to the Feeder.
- 5 Slide the Feed Shaft through the free end of the Belt, and reinstall the Feed Shaft into the slot in the Feeder.
- 6 Slide the Bearings out to the ends of the Shaft.
- 7 Use two K clips to secure both ends of the Feed Shaft to the Feeder.
- 8 Reinstall the Motor Assembly.
- 9 Reinstall the Center Bracket Assembly.
- **10** Reinstall the Rear Cover.
- **11** Reinstall the Top Cover.
- 12 Reinstall the Bottom Cover.

### **REP 8.3.3.9 Envelope Feeder Retard Roll Assembly**

### Parts List on PL 8.3.2.3

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Envelope Feeder from the base engine.
- **3** Remove the Bottom Cover (REP 8.3.3.1).
- 4 Remove the Top Cover (REP 8.3.3.2).
- 5 Remove the Front Cover (REP 8.3.3.3).
- 6 Remove the Weight Arm from the Feeder Assembly.
- 7 Remove the two screws that secure the Paper Guide to the Upper Cover (Figure 8.3.3.9a).



#### Figure 8.3.3.9a. Paper Guide.

- 8 Remove the two K clips from the Retard Shaft (Figure 8.3.3.9b).
- **9** Remove the E-ring from the Retard Shaft (Figure 8.3.3.9b).
- **10** Slide the Friction Clutch and Clutch Stopper off of the Retard Shaft.
- **11** Slide the Feeder Bearing off of the Retard Shaft.
- **12** Slide the Retard Roll off of the Retard Shaft.

Figure 8.3.3.9b. Retard Shaft.



- 1 Slide the Retard Roll onto the Retard Shaft.
- 2 Slide the Feeder Bearing onto the Retard Shaft (Figure 3).
- 3 Slide the Clutch Stopper and Friction Clutch onto the Retard Shaft.
- 4 Reinstall an E-ring onto the end of the Retard Shaft.
- 5 Reinstall two K clips onto the Retard Shaft.
- 6 Align the Paper Guide with the positioning tabs on the Upper Cover.
- 7 Reinstall the screws and secure the Paper Guides.
- 8 Reinstall the Weight Arm onto the Feeder Assembly.
- 9 Reinstall the Front Cover.
- **10** Reinstall the Top Cover.
- **11** Reinstall the Bottom Cover.

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## 8.3.4 Running Envelope Feeder Diagnostics

See Section 5 for all Diagnostic Routines and Subroutines

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# 8.3.5 Wiring Data



### WIR 8.3.5.1 Master Connection and Wiring Diagrams


- 1 P/J703 Envelope Feeder PWB to Feed Clutch P/J221.
- 2 P/J131 Envelope Feeder PWB to Size Sensor.
- **3** P/J701 Envelope Feeder PWB to No Paper Sensor P/J130.
- 4 P/J700 Envelope Feeder PWB to Printer Engine PWB Interconnect P/J604.
- 5 P/J702 Envelope Feeder PWB to Feed Sensor P/J132.
- 6 P/J704 Envelope Feeder PWB to Envelope Feeder Motor P/J217.
- 7 P/J604 Interconnect from Printer Engine Controller PWB to Envelope Feeder PWB P/J700.
- 8 P/J221 Feed Clutch to Envelope Feeder PWB P/J703.
- 9 P/J132 Feed Sensor to Envelope Feeder PWB P/J702.
- **10** P/J130 No Paper Sensor to Envelope Feeder PWB P/J701.

### 8.3.6 Envelope Feeder Principles of Operation

### 8.3.6.1 Envelope Feeder Power

The base engine Printer Engine Controller PWB provides the +5VDC and +24VDC that the Envelope Feeder requires for operation.

The printer AC power cord plugs into a grounded AC wall outlet. The cord transmits AC line voltage to the Noise Filter PWB. The Noise Filter smooths the AC voltage and sends it to the Main Power Switch. Switching on the Main Power Switch applies AC voltage to the Low Voltage Power Supply (LVPS) PWB. The LVPS converts the 110VAC to regulated +5VDC and +24VDC voltages. The LVPS sends these voltages to the Printer Engine Controller PWB. The Printer Engine Controller PWB sends these two DC voltages to the Envelope Feeder PWB. The Envelope Feeder PWB uses these voltages to run internal logic, sensors, clutches, and the Envelope Feeder Motor.



### 8.3.6.2 Envelope Feeder Control

Envelope Feeder Control is a broad term that is used to describe the printer resources that monitor and control the actions and operations of the printer and the Envelope Feeder; from envelope feed to Envelope Feeder error detection.

The center of Envelope Feeder control is the Envelope Feeder PWB. The Envelope Feeder PWB provides the logic and information processing that is necessary for the Envelope Feeder to function. Every electrical component within the Envelope Feeder is connected to the Envelope Feeder PWB. Sensors in the Envelope Feeder send status information to the Envelope Feeder PWB. The Envelope Feeder PWB processes that information, shares it with the Printer Engine Controller PWB, and compares it to timing tables stored in ROM. Acting on the results of the processing, the Envelope Feeder PWB sends commands to the various Envelope Feeder components; switching on the Motor or switching off the clutch.



#### **Envelope Feeder Control Components**

1 Envelope Feeder PWB

The Envelope Feeder PWB controls all Envelope Feeder functions, executes commands sent by the Printer Engine Controller PWB, and sends information back to the Printer Engine Controller PWB.

2 No Paper Sensor

Monitors the envelope level in the Envelope Tray.

3 Size Sensor

Monitors the envelope size loaded in the Envelope Tray.

4 Feed Sensor

Monitors envelope travel out of the Envelope Feeder.

### 8.3.6.3 Mechanical Drive

Mechanical Drive is a term that is used to describe both the rotation of the Envelope Feeder Motor and the action of the gears, belts, and clutches that are used to transmit and control motor rotation to the various components throughout the Envelope. The primary purpose of Mechanical Drive within the Envelope Feeder is to provide the mechanical energy to drive a single envelope out of the Envelope Tray and into the printer registration area.

The Envelope Feeder PWB switches on the Envelope Feeder Motor. The gears transmit motor drive to the Feed Clutch. When the Envelope Feeder PWB actuates the Feed Clutch, the Clutch transmit motor drive to all of the envelope feed and transport assemblies. A friction clutch transmits motor drive to the Retard Roll.



#### **Envelope Feeder Mechanical Drive Components**

1 Envelope Feeder Motor

A 24VDC motor.

2 Feed Clutch

An electric clutch that is controlled by the Envelope Feeder PWB. When actuated, the Feed Clutch transmit Envelope Feeder Motor drive to the Envelope Feeder feed and transport assemblies.

3/99

3 Retard Roll Friction Clutch

Transmits motor drive to the Retard Roll.

### 8.3.6.4 The Envelope Feeder Paper Path

The Envelope Feeder Paper Path is the physical route that an envelope takes through the Envelope Feeder during a print cycle. The Feed Belt and Retard Roll feed a single envelope out of the stack and into the Take Away Roll. The Take Away Roll drives the envelope into the Transport Roll. The Transport Roll drives the envelope out of the Envelope Feeder and into the printer Registration Roll.



#### **Envelope Feeder Paper Path Components**

1 Retard Roll.

Prevents multiple envelope feed.

2 Feed Belt.

Feeds an envelope off of the stack and into the Take Away Roll.

3 Take Away Roll & Pinch Roll.

Continues to drive the envelope out of the feed area and into the Transport Roll.

- 4 Transport Roll & Pinch Roll.Drives the envelope out of the Envelope Feeder and into the printer Registration Roll.
- **5** Weight Arm (not shown).

Presses the stack of envelopes against the Feed Belt.

## 8.3.7 Repair Analysis Procedures

### RAP 8.3.7.1 Error Code "Clear Area A / Reset ENV/PASS"

- 1 Error message "Clear Sheets Reset ENV/PASS" was displayed
  - Y N
  - Go to step 6.
- 2 Inspect the Envelope Feed Sensor for paper scraps that may be actuating the sensor. The Sensor is free of paper scraps.

Y N

- Remove the paper scraps.
- 3 Enter Diagnostic Mode Input H/L, ENV Feedout Sensor Detect. Insert a sheet of paper into the Envelope Feed Sensor and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays "IS WITH PAPER" when you insert the paper into the Feed Sensor and "IS WITHOUT PAPER" when the paper is removed.
  - Y N
  - Check the wiring between P/J 132 and P/J 702 (WIR 8.3.5.1). If OK, replace the Envelope Feed Sensor (PL 8.3.2.3).
- 4 Replace the Envelope Feeder PWB (REP 8.3.3.7). The error message reappears.
  - Y N
  - Problem solved.
- 5 Check the wiring between P/J 700 and P/J 403 (WIR 8.3.5.1). If OK, replace the Printer Engine Controller PWB (REP 4.10.6).
- 6 Inspect the paper path for paper scraps that may cause a paper jam. The paper path is free of paper scraps.
  - Y N
  - Clean the paper path.
- 7 Inspect the envelopes that are loaded in the Envelope Tray. The envelopes that are loaded in the Envelope Tray are smooth (not wrinkled) and undamaged.

- Replace the envelopes with new envelopes.
- 8 Enter Diagnostic Mode Input H/L, ENV Feedout Sensor Detect. Insert a sheet of paper into the Envelope Feed Sensor and press [4], then remove the paper and press [4]. The Control Panel LCD displays "IS WITH PAPER" when you insert the paper into the Feed Sensor and "IS WITHOUT PAPER" when the paper is removed.

Y N

- Check the wiring between P/J 132 and P/J 702 (WIR 8.3.5.1). If OK, replace the Envelope Feed Sensor (PL 8.3.2.3).
- **9** Enter Diagnostic Mode Output Test, ENV Feed Motor Operation to start the Envelope Feeder Motor. The Envelope Feeder Motor runs when the Output Test starts.

3/99

Y N

Go to step 12.

Y N

- **10** Enter Output Test, Feed Clutch Operation (Select SMH/ENV) to actuate the Envelope Feed Clutch. The Envelope Feed Clutch energizes when Output Test starts.
  - Y N
  - Replace the Envelope Feed Clutch (PL 8.3.2.2).
- 11 Replace the Envelope Feeder Belt (REP 8.3.3.8).
- 12 Measure the voltage between P/J700-7 and P/J700-12 (WIR 8.3.5.1) on the Envelope Feeder PWB. There is +24VDC between P/J700-7 and P/J700-12 (WIR 8.3.5.1).

Y N

- Check the wiring between P/J 700 and P/J 403 (WIR 8.3.5.1). If OK, replace the Printer Engine Controller PWB (REP 4.10.6).
- **13** Replace the Envelope Feeder Motor (REP 8.3.3.6). If the problem still exists, replace the Envelope Feeder PWB (REP 8.3.3.7).

### RAP 8.3.7.2 Error Code "Paper Jam / Clear Area A"

1 Inspect the paper path for paper scraps that may cause a paper jam. The paper path is free of paper scraps.

Y N

- Clean the paper path.
- 2 Inspect the envelopes that are loaded in the Envelope Tray. The envelopes are smooth (not wrinkled) and undamaged.

Y N

- Replace the envelopes with new envelopes.
- 3 Enter Diagnostic Mode Input H/L, REGI Sensor Detect. Insert a sheet of paper into the Registration Sensor and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays "IS WITH PAPER" when you insert the paper into the Registration Sensor and "IS WITHOUT PAPER" when the paper is removed.

Y N

- Check the wiring between P/J 100 and P/J459 (6.3.14). If OK, replace the Registration Sensor (REP 4.4.2).
- 4 Enter Diagnostic Mode Input H/L, T/A Roll Sensor Detect (Select Roll 2). Insert a sheet of paper into the Tray 2 Take Away Sensor and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays "IS WITH PAPER" when you insert the paper into the Tray 2 Take Away Sensor and "IS WITHOUT PAPER" when the paper is removed.

Y N

- Check the wiring between P/J 143 and P/J 408 (6.3.12). If OK, replace the Tray 2 Take Away Sensor (PL 5.2).
- 5 Enter Diagnostic Mode Input H/L, ENV Feedout Sensor Detect. Insert a sheet of paper into the Envelope Feed Sensor and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays "IS WITH PAPER" when you insert the paper into the Feed Sensor and "IS WITHOUT PAPER" when the paper is removed.
  - Y I
  - Check the wiring between P/J 132 and P/J 702 (WIR 8.3.5.1). If OK, replace the Envelope Feed Sensor (PL 8.3.2.3).
- 6 Enter Diagnostic Mode Output Test, ENV Feed Motor Operation to start the Envelope Feeder Motor. The Envelope Feeder Motor runs when the Output Test starts.

Y N

Go to step 10.

7 With Output Test, ENV Feed Motor Operation, enter Output Test, Feed Clutch Operation (Select (SMH/ENV) to actuate the Envelope Feed Clutch. The Envelope Feed Clutch energizes when Output Test starts.

3/99

Y N

Replace the Envelope Feed Clutch (PL 8.3.2.2).

- 8 With Output Tests, ENV Feed Motor Operation and Feed Clutch Operation (Select (SMH/ENV) running, observe the Transport Rolls. The Transport Rolls rotate smoothly without stalling or slipping.
  - Y N
  - Replace the Envelope Feeder Motor (REP 8.3.3.6) and the Envelope Feed Clutch (PL 8.3.2.2).
- 9 Clean or replace the Transport Rolls.
- 10 Measure the voltage between P/J700-7 and P/J700-12 (WIR 8.3.5.1) on the Envelope Feeder PWB. There is +24VDC between P/J700-7 and P/J700-12 (WIR 8.3.5.1).

Y N

- Check the wiring between P/J 700 and P/J 403 (WIR 8.3.5.1). If OK, replace the Printer Engine Controller PWB (REP 4.10.6).
- **11** Replace the Envelope Feeder Motor (REP 8.3.3.6).

### RAP 8.3.7.3 Error Code "Install MBF/ENV"

- 1 Error message is displayed with the MBF installed.
  - Y N
  - Go to step 5.
- **2** Remove MBF from the Printer. Inspect P/J 604 for damage, loose wires, or missing pins (connects Feeder to Printer). The P/J is free of damage, loose wires, or missing pins.

Y N

- Replace or repair wiring (6.3.13).
- 3 Check the wiring between P/J 604 and P/J 403 (6.3.13). Wiring is OK.

Y N

- Replace or repair wiring (6.3.13).
- **4** Replace the Printer Engine Controller PWB (REP 4.10.6). If problem still exists, replace the MBF Assembly (REP 4.3).
- **5** Remove the Envelope Feeder from the Base Engine. Inspect the P/J that connects the Feeder to the Base Engine. The P/J is free of damage, loose wires, and missing pins.

Y N

- Replace or repair the connector.
- 6 Remove the Envelope Bottom Cover. Remove the Envelope Top Cover. Remove the Envelope Rear Cover. Reinstall the coverless Envelope Feeder onto the printer. Switch on the printer power. Measure the voltage between J700-1 and J700-5 (WIR 8.3.5.1), and the voltage between J700-7 and J700-12 (WIR 8.3.5.1) on the Envelope Feeder PWB. There is +5VDC between J700-1 and J700-5 (WIR 8.3.5.1) and +24VDC between J700-7 and J700-12 (WIR 8.3.5.1).

Y N

- Go to step 8.
- 7 Check the wiring between P/J 700 and P/J 403 (WIR 8.3.5.1). If OK, replace the Envelope Feeder PWB (REP 8.3.3.7).
- 8 Remove the printer Rear Cover. Measure the voltage between J403-3 and FG (6.3.13), and the voltage between J403-1 and FG (6.3.13) on the Printer Engine Controller PWB. There is +5VDC between J403-3 and FG (6.3.13), and +24VDC between J404-12 and FG (WIR 8.1.5.1).

3/99

Y N

- Repair or replace wiring between P/J 403 and P/J 400 (6.3.13).
- 9 Replace the Printer Engine Controller PWB (REP 4.10.6).

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# 8.4 High Capacity Feeder

## 8.4.1 High Capacity Feeder Specifications.

### **GEN 8.4.1.1 General Specifications**

Category	Specification
Configuration	Customer installed option. Attaches under the base printer. The High Capacity Feeder (HCF) has three trays; Tray 3, Tray 4 and Tray 5.
Paper feed	The HCF Tray 3 is the same as Trays 1 and 2 and supports the same paper handling capabilities as Tray 2. Trays 4 and 5 each hold 1000 sheets of Letter, A4 or Executive Paper. Trays 4 and 5 use long edge feed only.
Power requirements	The Printer provides all of the HCF power requirements; +5VDC and +24VDC
Size and weight	Height: 16.8in. (426mm) Width: 20.5in. (520mm) Depth: 19.3in. (490mm) Weight: 89.5lbs. (40.7kg)

### **GEN 8.4.1.2 High Capacity Feeder Space Requirements**

For easy operation, maintenance, and replacing of consumables, the following space requirements are the minimum clearances allowed. Figure 8.4.1.2a illustrates the space requirements when the High Capacity Feeder Option is installed below the printer.

#### Figure 8.4.1.2aHCF Configuration

3/99

- **1** 60.5 inches (1537mm)
- **2** 36 inches (914mm)
- 3 4 inches (102mm)
- 4 12 inches (305mm)
- 5 36.5 inches (927mm)
- **6** 72 inches (1829mm)

Minimum of 30 inches (762mm) above the top of the printer.



# 8.4.2 High Capacity Feeder Parts List

## PL 8.4.2.1 Cover and Frame

ltem	Part	Description
1)	48E37272	Left Cover
2)	2E68570	Bottom Front Cover
3)		Ground Spring
4)	48E37281	Right Cover
5)	48E37260	Rear Cover
6)		Frame Assembly {Includes 7 and 8}
7)	17E91970	Lockable Caster {P/O Item 6}
8)	17E91980	Caster {P/O Item 6}
9)	49E30790	Left docking Bracket
10)	49E30781	Right Docking Bracket
11)	26P62716	Lock Down Screw
12)		Spring Cushion
13)	17K91951	Stabilizer Leg (Left)
14)	17K91861	Stabilizer Leg (Right)
A)	600K65640	Screw Kit

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### PL 8.4.2.2 Drive, HCF PWB, and Harness

ltem	Part	Description
1)	127K19260	Feed Motor (Includes 11 ~ 13)
2)	423W47353	Drive Belt
3)		Drive Pulley {P/O Item 17}
4)		Drive Transmission Gear 1 {P/O Item 17}
5)		Drive Transmission Gear 2 {P/O Item 17}
6)		Tray 3 Drive Gear {P/O Item 17}
7)		Tray 4 Drive Gear 1 {P/O Item 17}
8)		Tray 4 Drive Gear 2 {P/O Item 17}
9)	160K34391	HCF Control PWB
10)		Hook
11)		Motor Assembly Feed {P/O Item 1}
12)		Damper {P/O Item 1}
13)		Bracket Motor {P/O Item 1}
14)		Interface Harness
15)		Tray 5 Harness
16)		Trays 3 & 4 Harness
17)	600K60990	Drive Gear Kit {Includes Items 3 through 8}
A)	600K65640	Screw Kit



## PL 8.4.2.3 Tray Interface (1 of 2)

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Item	Part	Description
1)	127K20662	Tray 3 Lift Up Motor
2)		Trays 3 & 4 No Paper Actuator {P/O Item 15}
3)		Trays 3 & 4 No Paper Actuator Bracket {P/O Item 15}
4)	107E94941	Trays 3 & 4 No Paper Sensor
5)	107E94941	Trays 3 & 4 Paper Level Sensor
6)		Upper Chute
7)	110K07040	Tray 3 Paper Size Sensor PWB
8)	110K98760	Trays 4 & 5 Paper Size Sensor PWB
9)	127K19080	Trays 4 & 5 Lift Up Motor
10)	3E23671	Tray 3 Stopper Front
11)	3E23690	Tray 3 Stopper Rear
12)		Tray 3 Slide Pad Left
13)		Tray 3 Slide Pad Right
14)		Trays 4 & 5 End Guide
15)	600K56730	Actuator Sensor Kit (Includes 2 and 3)
A)	600K65640	Screw Kit



## PL 8.4.2.4 Tray Interface (2 of 2)

ltem	Part	Description
1)		Tray 5 No Paper Actuator {P/O Item 15}
2)		Tray 5 No Paper Actuator Bracket {P/O Item 15}
3)	107E94941	Tray 5 No Paper Sensor
4)	107E94941	Tray 5 Paper Level Sensor
5)		Tray 4 Stopper Link
6)		Stopper Link Spring
7)	130E81311	Tray 5 Take Away Sensor
8)		Bracket - Stopper
9)		Harness Clamp 1
10)		Harness Clamp 2
11)		Harness Clamp 3
12)		Trays 3 & 5 Stopper Link
13)		Tray 5 Upper Chute
14)		Connector
15)	600K56730	Actuator Sensor Kit (Includes 1 and 2)
A)	600K65640	Screw Kit



# PL 8.4.2.5 Paper Pick Up - Tray 3

ltem	Part	Description
1)	121K82820	Feed Clutch (Includes Harness)
2)		Bearing
3)		Feed Gear
4)	13E86260	Feeder Bearing
5)	50K29923	Feeder Assembly (Includes 6 ~ 13)
6)		Feed/Nudger Roller {P/O Item 5} {P/O Item 14}
7)		One Way Clutch {P/O Item 5}
8)		Feed Clutch Gear {P/O Item 5}
9)		Feed Bearing {P/O Item 5}
10)		Feed Shaft {P/O Item 5}
11)		Feed Idler Gear {P/O Item 5}
12)		Nudger Gear {P/O Item 5}
13)		Nudger Shaft Assembly {P/O Item 5}
14)	600K61600	Feed Roll Kit {Includes 6 of Item 6}
A)	600K65640	Screw Kit



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## PL 8.4.2.6 Retard and Take Away Roll - Tray 3

ltem	Part	Description
1)		Drive Transmission Gear
2)		Retard Gear
3)	9E53230	Retard Spring
4)	50K29933	Retard Assembly (Includes 5 ~ 8, 17, and 18)
5)		Retard Roller {P/O Item 4} {P/O Item 19}
6)		Retard Spacer {P/O Item 4}
7)		Friction Clutch {P/O Item 4}
8)		Retard Shaft Assembly {P/O Item 4}
9)		Take Away Gear
10)		Fixed Gear
11)		Rear Take Away Bearing
12)		Collared Bearing
13)	22K45900	Take Away Roller
14)		Front Take Away Bearing
15)		Upper Take Away Chute
16)		Feed In Chute
17)		Retard Shaft Assembly {P/O Item 4}
18)		Retard Bearing {P/O Item 4}
19)	600K61600	Feed Roll Kit {Includes 6 of Item 5}
20)	600K65540	Retard/Take Away Kit {Includes Items 1 through 4 and Items 9 through 16}
A)	600K65640	Screw Kit



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## PL 8.4.2.7 Paper Pick Up - Tray 4

ltem	Part	Description
1)	121K82820	Feed Clutch (Includes Harness)
2)		Feed Clutch Bearing
3)	50K29943	Feeder Assembly (Includes 4 ~ 12)
4)		Bearing {P/O Item 3}
5)		Feed/Nudger Roller {P/O Item 3} {P/O Item 13}
6)		One Way Clutch {P/O Item 3}
7)		Feed Clutch Gear {P/O Item 3}
8)		Feed Bearing {P/O Item 3}
9)		Feed Shaft {P/O Item 3}
10)		Feed Idler Gear {P/O Item 3}
11)		Nudger Gear {P/O Item 3}
12)		Nudger Shaft Assembly {P/O Item 3}
13)	600K61600	Feed Roll Kit {Includes 6 of Item 5}
A)	600K65640	Screw Kit



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## PL 8.4.2.8 Retard and Take Away Roll - Tray 4

ltem	Part	Description
1)		Retard Gear
2)		Retard Spring
3)	50K29955	Retard Assembly (Includes 4 ~ 9)
4)		Retard Roller {P/O Item 3} {P/O Item 16}
5)		Retard Spacer {P/O Item 3}
6)		Friction Clutch {P/O Item 3}
7)		Retard Bearing {P/O Item 3}
8)		Retard Shaft Assembly {P/O Item 3}
9)		Retard Assembly Bracket {P/O Item 3}
10)		Support Retard
11)		Gear Stopper
12)		22T Gear
13)	59K06190	Roll Assembly Drive
14)		Bearing
15)		Bearing
16)	600K61600	Feed Roll Kit {Includes 6 of Item 4}
17)	600K65560	Retard/Take Away Kit {Includes Items 1 through 3 and Items 10 through 15}
A)	600K65640	Screw Kit



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8-179

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## PL 8.4.2.9 Paper Pick Up - Tray 5

ltem	Part	Description
1)	121K82820	Feed Clutch (Includes Harness)
2)		Feed Clutch Bearing
3)	50K29943	Feeder Assembly (Includes 4 ~ 12)
4)		Bearing {P/O Item 3}
5)		Feed/Nudger Roller {P/O Item 3} {P/O Item 13}
6)		One Way Clutch {P/O Item 3}
7)		Feed Clutch Gear {P/O Item 3}
8)		Feed Bearing {P/O Item 3}
9)		Feed Shaft {P/O Item 3}
10)		Feed Idler Gear {P/O Item 3}
11)		Nudger Gear {P/O Item 3}
12)		Nudger Shaft Assembly {P/O Item 3}
13)	600K61600	Feed Roll Kit {Includes 6 of Item 5}
14)	600K69040	HCF Guide Repair Kit (Includes Instructions & 1-Plastic Self-Adhesive Guide)
A)	600K65640	Screw Kit

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## PL 8.4.2.10 Retard and Take Away Drive - Tray 5

Item	Part	Description
1)		Retard Gear
2)		Retard Spring
3)	50K29955	Retard Assembly (Includes 4 ~ 9)
4)		Retard Roller {P/O Item 3} {P/O Item 21}
5)		Retard Spacer {P/O Item 3}
6)		Friction Clutch {P/O Item 3}
7)		Retard Bearing {P/O Item 3}
8)		Retard Shaft {P/O Item 3}
9)		Retard Shaft Assembly {P/O Item 3}
10)		Retard Support Shaft
11)		Fixed Gear
12)		Take Away Link
13)		Take Away Spring
14)		Take Away Spring Collar
15)		Take Away Drive Shaft
16)		Take Away Gear
17)		Take Away Bearing
18)		Take Away Bracket
19)		Take Away Tray Support
20)		Drive Gear
21)	600K61600	Feed Roll Kit {Includes 6 of Item 4}
22)	600K65580	Retard/Take Away Kit {Includes Items 1 through 3, 10 through 17, and 20}
A)	600K65640	Screw Kit

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3/99

8-183

## PL 8.4.2.11 Left Cover Assembly

ltem	Part	Description
1)	48K69971	Left Cover Assembly (Includes 2 ~ 6, and 12)
2)		Left Cover {P/O Item 1}
3)		Pinch Roller Assembly {P/O Item 1}
4)		Left Cover Handle Assembly {P/O Item 1}
5)		Left Cover Frame {P/O Item 1}
6)		Pinch Roller Cover {P/O Item 1}
7)		Left Cover Strap
8)		Inner Chute
9)	110E93440	Left Cover Interlock Switch
10)	130E81311	Tray 4 Take Away Sensor
11)		Left Cover Chute
12)		Take Away Sensor Shield {P/O Item 1}
A)	600K65640	Screw Kit



### PL 8.4.2.12 Tray 4

ltem	Part	Description
1)	50K33802	Tray 4 (Includes 2 ~ 27)
2)		Bottom Plate {P/O Item 1}
3)		Bottom Plate Lift Gear {P/O Item 1}
4)		Bottom Plate Lift Pulley {P/O Item 1}
5)		Bottom Plate Lift Bearing {P/O Item 1}
6)		Bottom Plate Lift Wire {P/O Item 1} {P/O Item 28}
7)		Bottom Plate Lift Idle Pulley {P/O Item 1}
8)		Idle Pulley Cover {P/O Item 1}
9)		Retard Gear Assembly (Includes 10 ~ 13) {P/O Item 1}
10)		Retard Gear 1 {P/O Item 1} {P/O Item 9}
11)		Retard Gear 2 {P/O Item 1} {P/O Item 9}
12)		Retard Gear 3 {P/O Item 1} {P/O Item 9}
13)		Retard Gear Support {P/O Item 1}
14)		Retard Gear Bracket {P/O Item 1}
15)		Stopper Bracket {P/O Item 1}
16)		Stopper {P/O Item 1}
17)		Paper End Guide {P/O Item 1}
18)		End Position Indication Sheet {P/O Item 1}
19)		End Guide Slide {P/O Item 1}
20)		Main Frame {P/O Item 1}
21)		Shaft Cover {P/O Item 1}
22)		Front Cover {P/O Item 1}
23)		Slide Knob {P/O Item 1}
24)		End Guide Spring {P/O Item 1}
25)		End Guide Stopper Rod {P/O Item 1}
26)		End Guide Stopper Lever {P/O Item 1}
27)		Bottom Plate Lift Shaft {P/O Item 1}
28)	600K61010	Tray 4 Cables Kit (Quantity 4 of Item 6)
A)	600K65640	Screw Kit



3/99

8-187
# PL 8.4.2.13 Tray 5

ltem	Part	Description
1)	50K33812	Tray 5 (Includes Items 2 through 22)
2)		Bottom Plate {P/O Item 1}
3)		Bottom Plate Lift Gear {P/O Item 1}
4)		Bottom Plate Lift Pulley {P/O Item 1}
5)		Bottom Plate Lift Shaft Assembly {P/O Item 1}
6)		Bottom Plate Lift Wire {P/O Item 1} {P/O Item 23}
7)		Bottom Plate Lift Idle Pulley {P/O Item 1}
8)		Lift Idle Pulley Cover {P/O Item 1}
9)		Bottom Plate Lift Retard Gear Assembly (Includes 10 ~ 13) {P/O Item 1}
10)		Retard Gear 1 {P/O Item 1} {P/O Item 9}
11)		Retard Gear 2 {P/O Item 1} {P/O Item 9}
12)		Retard Gear 3 {P/O Item 1} {P/O Item 9}
13)		Retard Gear Support {P/O Item 1}
14)		Retard Gear Bracket {P/O Item 1}
15)		Stopper Bracket {P/O Item 1}
16)		Stopper {P/O Item 1}
17)		Paper End Guide {P/O Item 1}
18)		Paper End Guide Slide {P/O Item 1}
19)		End Position Indication Sheet {P/O Item 1}
20)		End Guide Stopper Rod {P/O Item 1}
21)		End Guide Stopper Lever {P/O Item 1}
22)		End Guide Spring {P/O Item 1}
23)	600K60950	Tray 5 Cables Kit (Quantity 4 of Item 6)
A)	600K65640	Screw Kit

Options



3/99

8-189

# PL 8.4.2.14 Tray 5 - Paper Feed

ltem	Part	Description
1)		Upper Chute {P/O Item 2}
2)	59K06172	Lower Chute Assembly (Includes Items 1, 3 through 11 and 15 through 17)
3)		Lower Chute {P/O Item 2}
4)		Take Away Bearing Front {P/O Item 2}
5)		Take Away Bearing Rear {P/O Item 2}
6)		Take Away Roll {P/O Item 2}
7)		Pinch Roll Bearing {P/O Item 2}
8)		Pinch Roll Collar {P/O Item 2}
9)		Pinch Roll Center Bearing {P/O Item 2}
10)		Pinch Roll Spring {P/O Item 2}
11)		Pinch Roll {P/O Item 2}
12)		Chute Screw
13)		Main Frame
14)	48K69980	Front Cover
15)		Slide Pad {P/O Item 2}
16)		Slide Bar {P/O Item 2}
17)		Slide Pad {P/O Item 2}
A)	600K65640	Screw Kit



2 {Includes Items 1, 3 through 11 and 15 through 17}

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# 8.4.3 Repair Procedures

# REP 8.4.3.1 HCF Rear Cover

### Parts List on PL 8.4.2.1

### Removal

- 1 Switch the printer power off and disconnect the AC power cord.
- 2 Remove the two screws securing the Rear Cover to the HCF frame (Figure 8.4.3.1a).
- 3 Lift up on the Rear Cover and remove it from the frame.



### Figure 8.4.3.1a. Rear Cover

- 1 Slip the two tabs that are located at the bottom of the Rear Cover into the openings at the bottom of the HCF frame.
- 2 Slide the edges the Rear Cover into the groves in the Left and Right Covers.
- **3** Use two screws to secure the Rear Cover to the HCF frame.

# REP 8.4.3.2 HCF Left Cover

### Parts List on PL 8.4.2.1

### Removal

- 1 Switch the printer power off and disconnect the AC power cord.
- 2 Slide Trays 3, 4, and 5 a few inches out of the HCF.
- 3 Open the Left Cover door.
- 4 Remove two screws securing the Left Cover onto the HCF frame (Figure 8.4.3.2a).
- 5 Lift up on the Left Cover to free the four latching tabs from the HCF frame, and remove the Cover.



### Figure 8.4.3.2a. HCF Left Cover

- 1 Slide Trays 3, 4, and 5 a few inches out of the HCF.
- **2** Open the Left Cover door.
- **3** Align the Left Cover so the four latches tabs on the back of the Cover are opposite the four openings in the HCF Frame.
- 4 Press the Cover into the frame, then push down on the Cover to lock the tabs in place.
- 5 Use two screws to secure the Left Cover to the HCF frame.

# REP 8.4.3.3 HCF Feed Motor

### Parts List on PL 8.4.2.2

### Removal

- 1 Switch the printer power off and disconnect the AC power cord.
- 2 Remove the HCF Rear Cover (REP 8.4.3.1).
- 3 Disconnect P/J217 from the HCF PWB.
- 4 Remove the two screws securing the Motor Bracket to the frame (Figure 8.4.3.3a).
- 5 Slide the Feed Motor out of the HCF Drive Belt and remove the Motor from the frame.



### Figure 8.4.3.3a. HFC Motor

### Replacement

- 1 Position the Feed Motor so the wire harness is on the left side of the Motor.
- 2 Slip the Drive Belt over the Feed Motor Gear.
- **3** Press the Motor against the HCF frame and align the Motor Bracket with the frame positioning tabs.
- 4 Use two screws to secure the Motor Bracket to the frame, but do not tighten fully.
- **5** Remove the slack from the Drive Belt by pushing the Motor Bracket in the direction of the arrow (Figure 8.4.3.3b) and tightening the two screws securing the Bracket to the frame.



### Figure 8.4.3.3b. HFC Motor and Belt

- 6 Reconnect P/J217 to the HCF PWB.
- 7 Reinstall the Rear Cover.

# REP 8.4.3.4 HCF Drive Belt

### Parts List on PL 8.4.2.2

### Removal

- 1 Switch the printer power off and disconnect the AC power cord.
- 2 Remove the HCF Rear Cover (REP 8.4.3.1).
- **3** Remove the HCF Feed Motor (REP 8.4.3.3).
- **4** Remove two screws securing the Take Away Bracket to the frame and remove the Bracket (Figure 8.4.3.4a).



### Figure 8.4.3.4a. HFC Drive Belt

- 5 Remove the E-ring securing HCF Drive Gear 1 and slide Gear off the shaft (Figure 8.4.3.4b).
- 6 Remove the E-ring securing Tray 4 Drive Gear 1 and slide Gears off the shaft (Figure 8.4.3.4b).
- 7 Remove the Drive Belt from the HCF Drive Pulley.

# SER355A

### Figure 8.4.3.4b. Drive Gears and HCF Drive Belt

- 1 Reinstall the Drive Belt over the HCF Drive Pulley.
- 2 Reinstall the HCF Drive Gear 1 and the Tray 4 Drive Gear 1 onto the respective shafts, and use one E-ring to secure each gear.
- **3** Reinstall the Take Away Bracket to the frame, making sure the bearing is still in place on the end of the Feed Clutch, and use two screws to secure the Bracket.
- **4** Reinstall the HCF Feed Motor.
- 5 Reinstall the Rear Cover.

# REP 8.4.3.5 HCF PWB

### Parts List on PL 8.4.2.2

### Removal

- 1 Switch the printer power off and disconnect the AC power cord.
- 2 Remove the HCF Rear Cover (REP 8.4.3.1).
- 3 Disconnect all eight P/Js from the HCF PWB (Figure 8.4.3.5a).
- **4** Press in and release the latches on the four plastic standoffs securing the PWB to the HCF frame (Figure 8.4.3.5a). Remove the PWB.



### Figure 8.4.3.5a. HCF PWB

### Replacement

1 Reinstall the HCF PWB onto the HCF frame, and align the four holes in the PWB with the four standoffs on the frame.

3/99

- 2 Press the PWB onto the four standoffs until they latch into place.
- 3 Reconnect the eight P/Js to the HCF PWB.
- 4 Reinstall the HCF Rear Cover.

# REP 8.4.3.6 Lift Up Motor

### Parts List on PL 8.4.2.3

Use this procedure for removal of Tray 3, Tray 4, and Tray 5 Lift Up Motor.

### Removal

- 1 Switch the printer power off and disconnect the AC power cord.
- **2** Open the Paper Tray  $(3 \sim 5)$  from the Paper Feeder.
- 3 Remove the HCF Rear Cover (REP 8.4.3.1).
- 4 Disconnect the P/J that is attached to the Lift Up Motor (Figure 8.4.3.6a).
- 5 Remove the three long screws securing the Motor to the HCF frame (Figure 8.4.3.6a).
- 6 Slide the Motor out to remove it.

### Figure 8.4.3.6a. Lift Up Motor



- 1 Reinstall the Lift Up Motor onto the printer frame.
- 2 Be careful not to trap any wires between the Motor and the frame.
- **3** Use three long screws to secure the Motor to the frame.
- 4 Use one screw on the lower left and two screws on the right side of the Motor.
- 5 Reconnect the P/J to the Motor.
- 6 Close the HCF Rear Cover.
- 7 Reinstall the Paper Tray.

# REP 8.4.3.7 Tray 3 Paper Size Sensor PWB

### Parts List on PL 8.4.2.3

### Removal

- 1 Switch the printer power off and disconnect the AC power cord.
- 2 Slide Paper Tray 3 out of the HCF.
- **3** Disconnect the P/J from the Size Sensor PWB (Figure 8.4.3.7a).
- **4** Remove the screw securing the Tray 3 Paper Size Sensor PWB to the HCF frame and remove the Sensor (Figure 8.4.3.6a).



SER358F

### Figure 8.4.3.7a. Tray 3 Paper Size Sensor PWB

- 1 Reinstall the Tray 3 Paper Size Sensor PWB onto the HCF frame.
- **2** Align the positioning tabs.
- 3 Use one screw to secure the PWB to the frame.
- 4 Reconnect the P/J to the Size Sensor PWB.
- 5 Reinstall Paper Tray 3.

# REP 8.4.3.8 Tray 4 or Tray 5 Paper Size Sensor PWBs

### Parts List on PL 8.4.2.3

### Removal

- 1 Switch the printer power off and disconnect the AC power cord.
- 2 Remove Tray 4 (REP 8.4.3.15) or Tray 5 (REP 8.4.3.20).
- 3 Disconnect the P/J from the appropriate Size Sensor PWB (Figure 8.4.3.8a).
- **4** Remove the screw securing the appropriate Paper Size Sensor PWB to the frame, pull the PWB straight out and remove it from the HCF frame (Figure 8.4.3.8a).

### Figure 8.4.3.8a. Tray 4 or Tray 5 Paper Size Sensor PWBs



- 1 Reinstall the Paper Size Sensor PWB onto the HCF frame.
- 2 Align the positioning tabs and screw holes.
- 3 Use one screw to secure the PWB to the frame.
- 4 Reconnect the P/J to the Size Sensor PWB.
- 5 Reinstall Tray 4 or Tray 5.

# REP 8.4.3.9 Trays 3, 4, and 5 Feed Clutches

### Parts List on PL 8.4.2.5

Removal and replacement of the three Feed Clutches are very similar. Differences are noted in the text.

### Removal

- 1 Switch the printer power off and disconnect the AC power cord.
- 2 Remove the Rear Cover (REP 8.4.3.1).
- **3** Open the Paper Tray associated with the Feeder Assembly you are going to remove.
- 4 Disconnect the Feed Clutch P/J (Figure 8.4.3.9a).
- NOTE: For Tray 3 Feed Clutch, you may have to remove the E-ring of the gear immediately to the right of the Feed Clutch, and slide that gear forward so you can remove the Feed Clutch.
  - **5** Remove the E-ring securing the Feed Clutch to the Feed Shaft and slide the Clutch off of the Shaft (Figure 8.4.3.9a).



### Figure 8.4.3.9a. Trays 3, 4, and 5 Feed Clutches

### Replacement

- 1 Position the Feed Clutch on the Feed Shaft so the notch on the Clutch lines up with the tab on the frame. Slide the Feed Clutch onto the Feed Shaft and use an E-ring to secure Clutch to the Shaft.
- 2 If you removed the E-Ring of the gear immediately to the right of the Feed Clutch, reinstall the gear and secure it with an E-ring

3/99

8-203

- **3** Reconnect the Feed Clutch P/J.
- 4 Close the Paper Tray.
- **5** Reinstall the HCF Rear Cover.

# REP 8.4.3.10 Trays 3, 4, and 5 Paper Level Sensors

### Parts List on PL 8.4.2.3

### Removal

- 1 Switch the printer power off and disconnect the AC power cord.
- 2 Remove the Paper Tray associated with the Paper Level Sensor you are going to remove.
- **3** Squeeze the Sensor latches and remove the Paper Level Sensor from the frame (Figure 8.4.3.10a).
- 4 Disconnect the Paper Level Sensor P/J (Figure 8.4.3.10a).

### Figure 8.4.3.10a. Trays 3, 4, and 5 Paper Level Sensors



- 1 Reconnect the Paper Level Sensor P/J.
- 2 Reinstall the Paper Lever Sensor into the slot in the frame, and press in on the Sensor until the latches snap into place.
- **3** Reinstall the Paper Tray.

# REP 8.4.3.11 Feed, Nudger, and Retard Rolls - Trays 3~5

### Parts List on PL 8.4.2.5

Replace the Feeder, Nudger, and Retard Rolls as a unit.

### Removal

- 1 Switch the printer power off and disconnect the AC power cord.
- 2 Remove the paper tray from the appropriate feeder.
- **3** Use a small screwdriver to gently pull out on the tab on the front of the Chute, and remove the Chute (Figure 8.4.3.11a).
- 4 Pull out on the Roll latch and slide the Roll off of the shaft (Figure 8.4.3.11a).
- 5 Repeat step 4 for the remaining two Rolls.

### Figure 8.4.3.11a. Feed, Nudger, and Retard Rolls - Trays 3~5



3/99

8-205

SER170F

### Replacement

- 1 Position the Roll with the latch end facing out, and slide the Roll onto the shaft.
- 2 Rotate and push the Roll down the shaft until the latch locks the Roll into place.
- 3 Repeat steps 1 and 2 for the remaining two Rolls.
- 4 Reinstall the Chute by sliding the opening in the rear of the Chute into the tab on the frame, then slightly squeezing the Chute and hooking the tab at the front of the Chute into the opening on the frame.
- 5 Reinstall the paper tray.
- 6 Verify proper operation and check registration using ADJ 4.1.

NOTE: Repeat steps 1 through 6 for each tray if its respective rolls are changed.

# REP 8.4.3.12 Tray 3 Feeder Assembly

### Parts List on PL 8.4.2.5

### Removal

- 1 Switch the printer power off and disconnect the AC power cord.
- 2 Remove Tray 3.
- 3 Remove Paper Level Sensor (REP 8.4.3.10).
- 4 Remove the HCF Rear Cover (REP 8.4.3.1).
- 5 Remove Tray 3 Feed Clutch (REP 8.4.3.9) (Figure 8.4.3.12a).
- 6 Remove the E-ring that secures the Tray 3 Gear Assembly located behind the Tray 3 Feed Clutch. Remove the Tray 3 Gear Assembly (Figure 8.4.3.12a).
- 7 Remove Tray 3 One Way Clutch located behind the Tray 3 Gear Assembly (Figure 8.4.3.12a).

### Figure 8.4.3.12a. Tray 3 Feed.



3/99

8-207

- 8 Remove the Tray 3 Retard Roll (Figure 8.4.3.12b).
- **9** Remove the Tray 3 Spacer and Clutch Assembly (Figure 8.4.3.12b).
- **10** Slide Feeder Assembly out of printer.

### Figure 8.4.3.12b. Tray 3 Retard Assembly.



- 1 Reinstall the Feeder Assembly into position. Ensure the Feed Shaft bearing is in the support bracket.
- 2 Reinstall the Tray 3 Retard Clutch, Spacer and Roll.
- **3** Reinstall the Tray 3 One Way Clutch.
- 4 Reinstall Tray 3 Gear Assembly and secure with the E-ring.
- **5** Reinstall the Tray 3 Feed Clutch.
- 6 Reinstall the HCF Rear Cover.
- 7 Reinstall the Paper Level Sensor.
- 8 Reinstall Tray 3.
- 9 Verify proper operation.

# REP 8.4.3.13 Tray 3 Take Away Roll and Retard Assembly

### Parts List on PL 8.4.2.6

### Removal

- 1 Switch the printer power off and disconnect the AC power.
- **2** Remove Tray 3.
- **3** Remove the HCF Rear Cover (REP 8.4.3.1).
- 4 Open the HCF Left Cover.
- **5** Pry up both ends of the plastic Upper Take Away Chute covering the Take Away Roll. Allow the chute to rotate down and remove the Chute (Figure 8.4.3.13a).
- 6 Remove the Retard Assembly Spring (Figure 8.4.3.13a).
- 7 Remove the two screws that secure the Inner Chute (Figure 8.4.3.13a). Remove the Inner Chute.
- 8 Remove the screw that secures the metal Feed In Chute (Figure 8.4.3.13a).
- **9** Grasp the Chute Assembly from the paper tray side. Slide the chute toward the front of the printer, then pull away from the Take Away Assembly (Figure 8.4.3.13a).
- **10** Remove the two screws that secure the Stopper Bracket. Remove the bracket (Figure 8.4.3.13a).
- 11 Remove the Tray 3 Feed Clutch (REP 8.4.3.9).
- **12** Remove the E-ring that secures the Take Away Gear to the Take Away Shaft (Figure 8.4.3.13a). Remove the Take Away Gear.
- **13** Remove the E-ring that secures the Drive Transmission Gear (Figure 8.4.3.13a). Remove the Transmission Gear.
- **14** Remove the E-ring that secures the Fixed Gear to the shaft (Figure 8.4.3.13a). Remove the Fixed Gear.
- **15** Remove the Retard Gear (Figure 8.4.3.13a).
- **16** Remove the Bearing (Figure 8.4.3.13a).
- **17** Remove the E-ring and bearing from the front end of the Take Away Roll Shaft (Figure 8.4.3.13a).
- **18** Slide the Take Away Roll Shaft and the Retard Assembly toward the rear of the printer until the front of the shaft is free of the front printer frame (Figure 8.4.3.13a).

3/99

8-209

**19** Carefully remove the assembly out the front of the printer.

- 1 Reinstall the Take Away Roll Shaft and the Retard Assembly in the printer.
- 2 Reinstall the Bearing and E-ring on the front of the Take Away Roll Shaft.
- 3 Reinstall the bearing on the rear of the Take Away Roll Shaft.
- 4 Reinstall the Retard Gear.
- 5 Reinstall the Fixed gear and E-ring.
- 6 Reinstall the Drive Transmission Gear and E-ring.

- 7 Reinstall the Take Away Gear and the E-ring.
- 8 Reinstall the Tray 3 Feed Clutch and E-ring.
- 9 Reinstall the Stopper Bracket and secure with the screws.
- 10 Reinstall the Feed In Chute and secure with the screw.
- **11** Reinstall the Inner Chute and secure with the screws.
- **12** Reinstall the Retard Spring.
- **13** Reinstall the plastic Upper Take Away Chute on the front and rear white plastic bearings.
- **14** Close the HCF Left Cover.
- **15** Reinstall the HCF Rear Cover.
- **16** Reinstall Tray 3.
- **17** Verify proper operation.



Figure 8.4.3.13a. Tray 3 Take Away Roll.

# REP 8.4.3.14 Left Cover Assembly

### Parts List on PL 8.4.2.11

### Removal

- 1 Switch the printer power off and disconnect the AC power cord.
- 2 Remove the HCF Left Cover (REP 8.4.3.2).
- 3 Open the Left Cover Assembly.
- **4** Remove the two screws securing the Left Cover Straps to the Left Cover Assembly (Figure 8.4.3.14a).
- **5** Remove the E-ring that is located on the left end of the shaft, and slide the Left Cover Assembly off of the shaft (Figure 8.4.3.14a).



Figure 8.4.3.14a. Left Cover Assembly

- 1 Reinstall the Left Cover Assembly onto the shaft.
- 2 Reinstall an E-ring to the left end of the shaft to secure the Assembly to the shaft.
- **3** Reinstall the Left Cover Straps and use two screws to secure them.
- 4 Reinstall the HCF Left Cover.

# REP 8.4.3.15 Tray 4 Removal

### Parts List on PL 8.4.2.12

### Removal

- 1 Pull Tray 4 out to the Stopper position.
- **2** Push the release tab located on the rear of the left rail and pull Tray 4 out of the HCF (Figure 8.4.3.15a).



Figure 8.4.3.15a. Tray 4.

### Replacement

1 Align the Tray with the two guide rails and slide the Tray into the HCF.

# REP 8.4.3.16 Tray 4 Bottom Plate Lift Wires

### Parts List on PL 8.4.2.12

### Removal

- 1 Switch the printer power off and disconnect the AC power cord.
- 2 Remove Tray 4 (REP 8.4.3.15).
- 3 Remove screw that secures the Tray 4 Front Cover (Figure 8.4.3.16a). Remove the Front Cover.
- **4** Remove the five screws from Tray 4 Shaft Cover, and remove the Shaft Cover by sliding it to the rear (Figure 8.4.3.16a).
- **5** Remove the screw that secures the Tray 4 Retard Gear Bracket (Figure 8.4.3.16a). Remove the bracket.
- 6 Remove the E-ring securing the Bottom Plate Lift Gear (Figure 8.4.3.16a). Remove the Lift Gear.
- 7 Slide the front Bottom Plate Lift Pulley away from cables to release the front cable anchors (Figure 8.4.3.16a).
- 8 Slide the Bottom Plate Lift Shaft toward the rear.
- **9** Slide the rear Bottom Plate Lift Pulley away from cables to release the rear cable anchors (Figure 8.4.3.16a).



Figure 8.4.3.16a. Tray 4 Lift Wires.

### Replacement

NOTE: There are two sizes of cables, the longer cable goes furthest from pulley.

- 1 Install the new cables through the Bottom Lift Plate and over the Idler Pulleys.
- 2 Place the cable anchors in the holes in the Bottom Plate Lift Shaft and slide Bottom Plate Idle Lift Pulley over the cables to engage the cable anchors.
- **3** Reinstall the Bottom Plate Lift Gear and E-ring.
- **4** Reinstall the Tray 4 Retard Gear Bracket.
- 5 Reinstall the Tray 4 shaft cover.
- 6 Reinstall the Tray 4 Front Cover.
- 7 Reinstall Tray 4.

# REP 8.4.3.17 Tray 4 Retard Assembly

### Parts List on PL 8.4.2.8

### Removal

- 1 Switch the printer power off and disconnect the AC power cord.
- 2 Remove HCF Rear Cover (REP 8.4.3.1).
- 3 Remove the two screws that secure the Stopper Bracket. Remove the bracket (Figure 8.4.3.17a).
- 4 Remove Tray 4 Feed Clutch (REP 8.4.3.9) (Figure 8.4.3.17a).
- **5** Remove the screw that secures the Tray 4 Gear stopper (Figure 8.4.3.17a). Remove the Gear Stopper.
- 6 Remove the Tray 4 Retard Gear (Figure 8.4.3.17a).
- 7 Open Tray 4.
- 8 Lower the HCF Left Cover Assembly.
- **9** Release the Tray 4 Retard Spring (Figure 8.4.3.17a).
- **10** Remove the screw that secures the Retard Support (Figure 8.4.3.17a). Remove the support.
- **11** Remove Tray 4 Retard Assembly (Figure 8.4.3.17a).

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3/99

8-215

### Figure 8.4.3.17a. Tray 4 Retard Assembly.

- 1 Reinstall the Retard Assembly.
- 2 Reattach the Tray 4 Retard Spring.
- 3 Reinstall the Retard Support and secure with the screw.
- 4 Reinstall Retard Gear.
- 5 Reinstall Tray 4 Gear stopper.
- 6 Reinstall Tray 4 Feed Clutch.
- 7 Reinstall the bracket stopper.
- 8 Reinstall the Rear Cover.
- 9 Close Tray 4.

# REP 8.4.3.18 HCF Drive Roll Assembly

### Parts List on PL 8.4.2.8

### Removal

- 1 Switch the printer power off and disconnect the AC power.
- 2 Remove Tray 3.
- 3 Open Tray 5.
- 4 Remove the HCF Rear Cover (REP 8.4.3.1).
- 5 Open the HCF Left Cover.
- 6 Remove the Retard Assembly Spring (Figure 8.4.3.18a).
- 7 Remove the two screws that secure the Inner Chute (Figure 8.4.3.18a). Remove the Inner Chute.
- 8 Remove the two screws that secure the Stopper Bracket. Remove the bracket (Figure 8.4.3.18a).
- 9 Remove the E-ring that secures the Tray 4 Drive Gear #2 (Figure 8.4.3.18a) Remove the Gear.
- **10** Remove the E-ring that secures the Gear to the HCF Drive Roll Shaft (Figure 8.4.3.18a). Remove the Gear.
- **11** Remove the Bearing (Figure 8.4.3.18a).
- **12** Remove the E-ring and bearing from the front end of the HCF Drive Roll Shaft (Figure 8.4.3.18a).
- **13** Slide the HCF Drive Roll Shaft toward the rear of the printer until the front of the shaft is free of the front printer frame (Figure 8.4.3.18a).
- 14 Carefully remove the assembly out the left side of the printer.

### Figure 8.4.3.18a. HCF Drive Roll Shaft.



3/99

8-217

- 1 Reinstall the HCF Drive Roll Shaft into the printer.
- 2 Reinstall the Bearing and E-ring on the front of the HCF Drive Roll Shaft.
- 3 Reinstall the Bearing on the rear of the shaft.
- 4 Reinstall the Gear and E-ring on the rear of the shaft.
- 5 Reinstall the Tray 4 Drive Gear #2 and E-ring.
- 6 Reinstall the Stopper Bracket and secure with the screws.
- 7 Reinstall the Inner Chute and secure with the screws.
- 8 Reinstall the Retard Assembly Spring.
- 9 Close the HCF Left Cover.
- **10** Reinstall the HCF Rear Cover.
- **11** Close Tray 5 and reinstall Tray 3.
- **12** Verify Proper Operation.

# REP 8.4.3.19 Tray 4 and 5 Feeder Assembly

### Parts List on PL 8.4.2.7/PL 8.4.2.9

### Removal

- 1 Switch the printer power off and disconnect the AC power cord.
- 2 Remove Tray 4/5.
- 3 Remove Paper Level Sensor (REP 8.4.3.10).
- 4 Remove the HCF Rear Cover (REP 8.4.3.1).
- 5 Remove Tray 4/5 Feed Clutch (REP 8.4.3.9) (Figure 8.4.3.19a).
- 6 Remove the E-ring that secures the One Way Clutch located behind the Tray 4/5 Feed Clutch.
- 7 Remove Tray 4/5 Gear Assembly (Figure 8.4.3.19a).



Figure 8.4.3.19a. Tray 4/5 Feed.

- 8 Remove the Tray 4/5 Retard Roll (Figure 8.4.3.19b).
- 9 Remove the Tray 4/5 Spacer and Clutch Assembly (Figure 8.4.3.19b).
- 10 Slide Feeder Assembly out of printer.

### Figure 8.4.3.19b. Tray 4/5 Retard Assembly.



- 1 Reinstall the Feeder Assembly into position. Ensure the Feed Shaft bearing is in the support bracket.
- 2 Reinstall the Tray 4/5 Retard Clutch, Spacer and Roll.
- **3** Reinstall the Tray 4/5 One Way Clutch.
- 4 Reinstall the Tray 4/5 Feed Clutch.
- 5 Reinstall the HCF Rear Cover.
- 6 Reinstall the Paper Level Sensor.
- 7 Reinstall Tray 4/5.
- 8 Verify proper operation.

# REP 8.4.3.20 Tray 5 Removal

### Parts List on PL 8.4.2.13

### Removal

NOTE: The removal of Tray 5 is technique sensitive.

- 1 Remove Tray 3.
- 2 Pull Tray 5 out to the Stopper position.
- **3** Reach down through the Tray 3 opening to the rear of Tray 5. Push the release tabs located on the two rails and pull the Tray out approximately 1 inch (25mm) (Figure 8.4.3.20a).
- 4 Push the Left Rail extension to the left (Figure 8.4.3.20a).
- 5 Press until the rail stop clears the brass stopper (Figure 8.4.3.20a). Remove the Tray Assembly.



3/99

8-221

Figure 8.4.3.20a. Tray 5.

### Replacement

1 Align the Tray with the three guide rails and slide the Tray into the HCF.

# REP 8.4.3.21 Tray 5 Bottom Plate Lift Wire

### Parts List on PL 8.4.2.13

### Removal

- 1 Switch the printer power off and disconnect the AC power cord.
- 2 Remove Tray 5 (REP 8.4.3.20)
- **3** Remove the two screws that secure the Tray 5 Front Cover. Remove the Front Cover (Figure 8.4.3.21a).
- **4** Remove the two screws that secure the Tray 5 Retard Gear Bracket (Figure 8.4.3.21a). Remove the bracket (Figure 8.4.3.21a).
- **5** Remove the E-ring that secures the Bottom Plate Lift Gear to the front of Tray 5. Remove the Lift Gear (Figure 8.4.3.21a).
- 6 Remove the E-ring that secures the Front Bottom Plate Pulley and side the pulley forward to release cable anchors (Figure 8.4.3.21a).
- **7** Slide the Bottom Plate Pulley Shaft forward to remove the bushing and shaft from the bushing support (Figure 8.4.3.21a).
- 8 Slide the Bottom Plate Pulley Shaft toward the rear.
- **9** Slide the Rear Bottom Plate Lift Pulley away from cables to release the rear cable anchors (Figure 8.4.3.21a).



3/99

8-222

### Figure 8.4.3.21a. Tray 5 Lift Wires

- 1 Install the new rear cables through the Bottom Lift Plate and over the Idler Pulleys.
- 2 Place the cable anchors in the holes in the Bottom Plate Lift Shaft and slide the Rear Bottom Plate Lift Pulley over the cables to engage the cable anchors.
- 3 Reinstall the Bottom Plate Lift Shaft.
- 4 Install the new front cables through the Bottom Lift Plate and over the Idler Pulleys.
- 5 Place the cable anchors in the holes in the Bottom Plate Lift Shaft and slide the Front Bottom Plate Lift Pulley over the cables to engage the cable anchors.
- 6 Secure the Front Bottom Plate Lift Pulley with the E-ring.
- 7 Reinstall the Bottom Plate Lift Gear and E-ring.
- 8 Reinstall the Tray 5 Retard Gear Bracket.
- **9** Reinstall the Tray 5 Front Cover.
### REP 8.4.3.22 Tray 5 Retard Assembly

### Parts List on PL 8.4.2.10

#### Removal

- 1 Switch the printer power off and disconnect the AC power cord.
- 2 Remove HCF Rear Cover (REP 8.4.3.1).
- 3 Remove the Tray 5 Feed Clutch (REP 8.4.3.9) (Figure 8.4.3.22a).
- 4 Remove the screw that secures the Gear Stopper. Remove the Gear Stopper (Figure 8.4.3.22a).
- **5** Remove the Retard Gear (Figure 8.4.3.22a).
- 6 Remove Tray 5.
- 7 Release the Tray 5 Retard Spring (Figure 8.4.3.22a).
- 8 Push the Retard Assembly to the rear to release the pivot pin, then remove the assembly toward front of machine.



#### Figure 8.4.3.22a. Tray 5 Retard Assembly.

### Replacement

- 1 Reinstall the Retard Assembly. Ensure the pivot pin is inserted into the Tray 5 Feed Assembly.
- 2 Reinstall the Retard Spring on the tab on the frame.
- 3 Reinstall the Retard Gear on the Retard Shaft.
- 4 Replace the Gear Stopper.
- **5** Reinstall the Tray 5 Feed Clutch and secure with the E-ring.
- 6 Reinstall Rear Cover.
- 7 Reinstall Tray 5.

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# 8.4.4 Running HCF Diagnostics

See Section 5 for all Diagnostic Routines and Subroutines

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# 8.4.5 Wiring Data

WIR 8.4.5.1 Connection and Wiring Diagrams



#### Master Connection and Wiring Diagrams

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3/99



# WIR 8.4.5.2 Plug / Jack Locator

### **HCF Control and Drives**



- 1 P/J110 Size 3 Sensor to P483 HCF Drive PWB.
- **2** P/J484 HCF Drive PWB to P116, P119, and P120.
- **3** P/J211 Feed Clutch 3 to P482 HCF Drive PWB.
- 4 P/J212 Lift Up Motor 3 to P482 HCF Drive PWB.
- 5 P/J480 HCF Drive PWB to Printer Engine Controller PWB.
- 6 P/J481 HCF Drive PWB to Printer Engine Controller PWB.
- 7 P/J213 Feed Clutch 4 to P482 HCF Drive PWB.
- **8** P/J217 Feed Motor to P217 HCF Drive PWB.
- 9 P/J214 Lift Up Motor 4 to P482 HCF Drive PWB.
- **10** P/J115 Size 4 Sensor to P483 HCF Drive PWB.
- 11 P/J486 HCF Drive PWB to P126 Take Away Sensor 4.
- **12** P/J482 HCF Drive PWB to P114, P121, P211, P212, P213, and P214.
- **13** P/J483 HCF Drive PWB to P110, P111, P112, P115, P117, and P118.
- 14 P/J485 HCF Drive PWB to P215 and P216.
- **15** P/J216 Lift Up Motor 5 to P485 HCF Drive PWB.
- 16 P/J120 Size 5 Sensor to P482 HCF Drive PWB.
- 17 P/J215 Feed Clutch 5 to P485 HCF Drive PWB.



- 1 P/J119 Level 5 Sensor to P484 HCF Drive PWB.
- 2 P/J116 No Paper 5 Sensor to P484 HCF Drive PWB.
- 3 P/J112 Level 3 Sensor to P483 HCF Drive PWB.
- 4 P/J111 No Paper 3 Sensor to P483 HCF Drive PWB.
- 5 P/J126 Take Away Roll 5 Sensor to P486 HCF Drive PWB.
- 6 P/J121 Take Away Roll 3 Sensor to P482 HCF Drive PWB.
- 7 P/J117 No Paper 4 Sensor to P483 HCF Drive PWB.
- 8 P/J118 Level 4 Sensor to P483 HCF Drive PWB.
- 9 P/J114 Left Side Interlock Switch to P482 HCF Drive PWB.

# 8.4.6 HCF Principles of Operation

### 8.4.6.1 High Capacity Feeder Power

The base engine Printer Engine Controller PWB provides the +5VDC and +24VDC that the High Capacity Feeder requires for operation.

The printer AC power cord plugs into a grounded AC wall outlet. The cord transmits AC line voltage to the Noise Filter PWB. The Noise Filter smooths the AC voltage and sends it to the Main Power Switch. Switching on the Main Power Switch applies AC voltage to the Low Voltage Power Supply (LVPS) PWB. The LVPS converts the line voltage to regulated +5VDC and +24VDC voltages. The LVPS sends these voltages to the Printer Engine Controller PWB. The Printer Engine Controller PWB sends these two DC voltages to the **HCF Drive PWB**. The HCF Drive PWB uses these voltages to run internal logic, sensors, clutches, and motors within the HCF.



# 8.4.6.2 HCF Control

High Capacity Feeder Control is a broad term that is used to describe the printer resources that monitor and control the actions and operations of the printer and the HCF; from paper feed to error detection.

The center of HCF control is the HCF Drive PWB. The Printer Engine Controller PWB provides the logic and information processing that is necessary for the printer to function, and the HCF Drive PWB provides the logic and information processing that is necessary for the HCF to function. Every electrical component within the HCF is connected to the HCF Drive PWB. Sensors in the HCF send paper feed status information to the HCF Drive PWB. The HCF Drive PWB processes that information, shares it with the Printer Engine Controller PWB, and compares it to timing tables stored in ROM. Acting on the results of the processing, the HCF Drive PWB sends commands to the various HCF components; switching on a motor or switching off a feed clutch.

#### **HFC Control Components**

The HCF Control is made up of several major components.

1 HCF Drive PWB

The HCF Drive PWB controls all HCF functions, executes commands sent from the Printer Engine Controller PWB, and sends information back to the Printer Engine Controller PWB. All HCF components are connected directly to the HCF Drive PWB.

2 L/H Interlock Switch

Monitors the Left Cover position.

3 Feed Motor

Provides most of the mechanical drive for the HCF.

4 Lift Up Motor 3

Raises the paper tray in Feeder 3.

5 Lift Up Motor 4

Raises the paper tray in Feeder 4.

6 Lift Up Motor 5

Raises the paper tray in Feeder 5.

7 Feed Clutch 3

Transmits Feed Motor drive to the Tray 3 Feed Rolls.

8 Feed Clutch 4

Transmits Feed Motor drive to the Tray 4 Feed Rolls.

9 Feed Clutch 5

Transmits Feed Motor drive to the Tray 5 Feed Rolls.

- 10 Tray 3 Take Away Sensor Monitors paper travel from the HCF arriving at the Take Away Rolls in Feeder 3.
- **11** Tray 4 Take Away Sensor Monitors paper travel from the HCF arriving at the Take Away Rolls in Feeder 4.

### 8.4.6.3 Mechanical Drive

Mechanical Drive is a term that is used to describe both the rotation of the High Capacity Feed Motor and the action of the gears, belts, and clutches that are used to transmit and control motor rotation to the various components throughout the HCF. The primary purpose of Mechanical Drive within the HCF is to provide the mechanical energy needed to drive a sheet out of a paper tray and into the printer registration area.

### Drive for Tray 3

The HCF Drive PWB switches on the Feed Motor. The HCF Drive Belt transmits the drive energy from the Feed Motor to HCF Drive Transmission Gear 1. Gear 1 transmits drive to Tray 3 Drive Gear, which in turn transmits drive to Tray 3 Feed Clutch. When the HCF Drive PWB actuates Tray 3 Feed Clutch, the Clutch transmits drive to the Tray 3 Feed Rolls, to the Retard Rolls, and to the Tray 3 Take Away Rolls.



#### **Mechanical Drive Tray 3 Components**

The Mechanical Drive for Tray 3 of the HCF is made up of two motors along with associated gears that transmit the motor drive to the various Tray 3 paper transport rolls.

1 Feed Motor

Provides most the mechanical drive for Tray 3 paper feed.

2 HCF Drive Belt

Transmits Feed Motor drive to the HCF Drive Pulley.

3 HCF Drive Pulley

Transmits Feed Motor drive to the HCF Drive Gear 1.

4 HCF Drive Gear 1

Transmits Feed Motor drive to Tray 3 Drive Gear

5 Tray 3 Feed Clutch

When actuated by the HCF Drive PWB, the Clutch transmits drive to the Tray 3 Feed Roll, to the Tray 3 Retard Gear, and to the Drive Transmission Gear.

6 Tray 3 Retard Gear

Rotates the Tray 3 Retard Roll.

7 Drive Transmission Gear

Transmits drive to the Tray 3 Take Away Gear.

- 8 Tray 3 Take Away Gear Rotates the Tray 3 Take Away Roll.
- 9 Lift Up Motor 3

Raises the paper tray in Feeder 3.



#### Drive for Tray 4

The HCF Drive PWB switches on the Feed Motor. The HCF Drive Belt transmits the drive energy from the Feed Motor to Tray 4 Drive Gear 1. Gear 1 transmits drive to Tray 4 Drive Gear 2, which in turn transmits drive to Tray 4 Take Away Gear and Tray 4 Feed Clutch. When the HCF Drive PWB actuates Tray 4 Feed Clutch, the Clutch transmits drive to the Tray 4 Feed Roll and to the Retard Roll.



#### Lift Motor Operation for Tray 4

The Tray 4 Lift Motor rotates the Bottom Plate Lift Pulley. Two cables are attached to each end of the Pulley. The other ends of the cables are attached to the four corners of the bottom plate. When the Motor rotates the Pulley, the cables wrap around the Pulley and raise the bottom plate.



#### **Mechanical Drive Tray 4 Components**

The Mechanical Drive for Tray 4 of the HCF is made up of two motors along with associated gears that transmit the motor drive to the various Tray 4 paper transport rolls.

1 Feed Motor

Provides most the mechanical drive for Tray 4 paper feed.

2 HCF Drive Belt

Transmits Feed Motor drive to the HCF Drive Pulley.

3 HCF Drive Pulley

Transmits Feed Motor drive to the Tray 4 Drive Gear 1.

- 4 Tray 4 Drive Gear 1 Transmits Feed Motor drive to the Tray 4 Drive Gear 2
- **5** Tray 4 Drive Gear 2

Transmits Feed Motor drive to the Tray 4 Take Away Gear and to the Tray 4 Feed Clutch.

6 Tray 4 Feed Clutch

When actuated by the HCF Drive PWB, the Clutch transmits drive to the Tray 4 Feed Roll and to the Tray 4 Retard Gear.

7 Tray 4 Retard Gear

Rotates the Tray 4 Retard Roll.

- 8 Tray 4 Take Away GearRotates the Tray 4 Take Away Roll.
- 9 Lift Up Motor 4

Raises the paper tray in Feeder 4.



### Drive for Tray 5

The HCF Drive PWB switches on the Feed Motor. The HCF Drive Belt transmits the drive energy from the Feed Motor to HCF Drive Transmission Gear 1. Gear 1 transmits drive to HCF Drive Transmission Gear 2. HCF Drive Transmission Gear 1 also transmits drive to Tray 5 Drive Gear, which transmits drive to Tray 5 Take Away Gear. HCF Drive Transmission Gear 2 transmits drive to Tray 5 Feed Clutch. When the HCF Drive PWB actuates Tray 5 Feed Clutch, the Clutch transmits drive to the Tray 5 Feed Roll and to the Retard Roll.



### Lift Motor Operation for Tray 5

The Tray 5 Lift Motor rotates the Bottom Plate Lift Pulley. Two cables are attached to each end of the Pulley. The other ends of the cables are attached to the four corners of the bottom plate. When the Motor rotates the Pulley, the cables wrap around the Pulley and raise the bottom plate.



#### **Mechanical Drive Tray 5 Components**

The Mechanical Drive for Tray 5 of the HCF is made up of two motors along with associated gears that transmit the motor drive to the various Tray 5 paper transport rolls.

1 Feed Motor

Provides most the mechanical drive for Tray 5 paper feed.

2 HCF Drive Belt

Transmits Feed Motor drive to the HCF Drive Pulley.

3 HCF Drive Pulley

Transmits Feed Motor drive to the HCF Drive Transmission Gear 1.

- 4 HCF Drive Transmission Gear 1
  Transmits Feed Motor drive to the HCF Drive Transmission Gear 2 and to the Tray 5 Drive Gear.
- 5 Tray 5 Drive Gear

Transmits Feed Motor drive to the Tray 5 Take Away Gear.

- 6 HCF Drive Transmission Gear 2 Transmits Feed Motor drive to the Tray 5 Feed Clutch.
- 7 Tray 5 Feed Clutch

When actuated by the HCF Drive PWB, the Clutch transmits drive to the Tray 5 Feed Roll and to the Tray 5 Retard Gear.

8 Tray 5 Retard Gear

Rotates the Tray 5 Retard Roll.

9 Tray 5 Take Away Gear

Rotates the Tray 5 Take Away Roll.

10 Lift Up Motor 5

Raises the paper tray in Feeder 5.



### 8.4.6.4 The HCF Paper Path

The High Capacity Feeder Paper Path is the physical route that a sheet of paper takes from an HCF paper tray to the printer during a single print cycle. Rubber rollers drive the paper along the Paper Path.

#### Feed from Tray 3

At the start of a print cycle the Tray 3 Nudger Roll moves a sheet of paper into Tray 3 Feed Roll. The Feed Roll moves a single sheet of paper out of Tray 3 and toward the Tray 2 Take Away Roll in the base engine. The Tray 3 Retard Roll makes sure that only one sheet of paper is fed. As the sheet of paper is driven to the Tray 2 Take Away Roll it actuates the Tray 2 Take Away Sensor, notifying the Printer Engine Controller PWB logic that the paper has arrived. The Tray 2 Take Away Roll drives the sheet of paper into the Registration Roll. After that the sheet continues along the printer paper path until the sheet of paper, complete with fused image, is driven into an Output Bin.



3/99

8-243

#### **Tray 3 Paper Path Components**

The HCF Tray 3 Paper Path is made up of a number of transport rolls and paper sensors.

1 Tray 3 Assembly

Holds plain paper of various sizes. Slides into the top feeder, Feeder 3, of the High Capacity Feeder.

2 Tray 3 Lift Up Motor

Raises the tray bottom plate so the paper contacts the Feed Roll.

- Tray 3 No Paper Sensor
  Monitors the level of paper in Tray 3.
- 4 Tray 3 Paper Size Sensor Monitors the size of paper that is loaded into Tray 3.
- 5 Tray 3 Feed Clutch

Transmits HCF Motor drive to the Tray 3 Feed Roll and Nudger Roll

6 Tray 3 Nudger Roll

Drives the top sheet of paper into the Feed Roll.

7 Tray 3 Feed Roll

Drives the top sheet of paper out of Tray 3 and into the Tray 2 Take Away Roll area of the base engine.

8 Tray 2 Take Away Sensor

Monitors paper travel from the HCF into the base engine.

9 Tray 2 Take Away Roll

Drives the sheet of paper into the printer Registration Rolls.

#### Feed from Tray 4

At the start of a print cycle the Tray 4 Nudger Roll moves a sheet of paper into Tray 4 Feed Roll. The Feed Roll moves a single sheet of paper out of Tray 4 and toward the Tray 4 Take Away Roll. The Tray 4 Retard Roll makes sure that only one sheet of paper is fed. Tray 4 Take Away Roll drives the paper into Tray 3 Take Away Roll. As the sheet of paper is driven to the Tray 3 Take Away Roll it actuates the Tray 3 Take Away Sensor, notifying the Printer Engine Controller PWB logic that the paper has arrived. The Tray 3 Take Away Roll drives the sheet of paper to the Tray 2 Take Away Roll. As the sheet of paper is driven into the Take 2 Take Away Roll it actuates the Tray 2 Take Away Roll. As the sheet of paper is driven into the Take 2 Take Away Roll it actuates the Tray 2 Take Away Sensor, notifying the Printer Engine Controller PWB logic that the paper into the Registration Roll. After that the sheet continues along the printer paper path until the sheet of paper, complete with fused image, is driven into an Output Bin.



3/99

8-245

Options

#### Tray 4 Paper Path Components

The HCF Tray 4 Paper Path is made up of a number of transport rolls and paper sensors.

1 Tray 4 Assembly

Holds plain paper of various sizes. Slides into the bottom left feeder, Feeder 4, of the High Capacity Feeder.

2 Tray 4 Lift Up Motor

Raises the tray bottom plate so the paper contacts the Feed Roll.

- Tray 4 No Paper Sensor
  Monitors the level of paper in Tray 4.
- 4 Tray 4 Paper Size SensorMonitors the size of paper that is loaded into Tray 4.
- 5 Tray 4 Feed Clutch

Transmits HCF Motor drive to the Tray 4 Feed Roll and Nudger Roll

6 Tray 4 Nudger Roll

Drives the top sheet of paper into the Feed Roll.

7 Tray 4 Feed Roll

Drives the top sheet of paper out of Tray 4 and into the Tray 4 Take Away Roll.

8 Tray 4 Take Away Roll

Drives the sheet of paper out of Feeder 4 and into Tray 3 Take Away Roll.

- 9 Tray 3 Take Away SensorMonitors paper travel from the Tray 4 to Tray 3 Take Away Roll.
- 10 Tray 3 Take Away Roll

Drives the sheet of paper into the Tray 2 Take Away Roll area of the base engine.

- 11 Tray 2 Take Away SensorMonitors paper travel from the HCF into the base engine.
- **12** Tray 2 Take Away Roll

Drives the sheet of paper into the printer Registration Rolls.

#### Feed from Tray 5

At the start of a print cycle the Tray 5 Nudger Roll moves a sheet of paper into Tray 5 Feed Roll. The Feed Roll moves a single sheet of paper out of Tray 5 and toward the Tray 5 Take Away Roll. The Tray 5 Retard Roll makes sure that only one sheet of paper is fed. Tray 5 Take Away Roll drives the paper into Tray 4 Take Away Roll. As the sheet of paper is driven to the Tray 4 Take Away Roll it actuates the Tray 4 Take Away Sensor, notifying the Printer Engine Controller PWB logic that the paper has left Take Away Roll 5. Tray 4 Take Away Roll drives the paper into Tray 3 Take Away Roll. As the sheet of paper is driven to the Tray 3 Take Away Roll. As the sheet of paper is driven to the Tray 3 Take Away Roll drives the paper has arrived. The Tray 3 Take Away Roll drives the sheet of paper to the Tray 2 Take Away Roll. As the sheet of paper is driven into the Take 2 Take Away Roll it actuates the Tray 2 Take Away Roll drives the paper into the Registration Roll. After that the sheet continues along the printer paper path until the sheet of paper, complete with fused image, is driven into an Output Bin.



3/99

#### Tray 5 Paper Path Components

The HCF Tray 5 Paper Path is made up of a number of transport rolls and paper sensors.

1 Tray 5 Assembly

Holds plain paper of various sizes. Slides into the bottom right feeder, Feeder 5, of the High Capacity Feeder.

2 Tray 5 Lift Up Motor

Raises the tray bottom plate so the paper contacts the Feed Roll.

- Tray 5 No Paper Sensor
  Monitors the level of paper in Tray 5.
- 4 Tray 5 Paper Size SensorMonitors the size of paper that is loaded into Tray 5.
- 5 Tray 5 Feed ClutchTransmits HCF Motor drive to the Tray 5 Feed Roll and Nudger Roll
- 6 Tray 5 Nudger Roll

Drives the top sheet of paper into the Feed Roll.

7 Tray 5 Feed Roll

Drives the top sheet of paper out of Tray 5 and into the Tray 5 Take Away Roll.

8 Tray 4 Take Away Sensor

Monitors paper travel from the Tray 5 Take Away Roll to Tray 3 Take Away Roll.

- 9 Tray 4 Take Away RollDrives the sheet of paper out of Feeder 4 and into Tray 3 Take Away Roll.
- **10** Tray 3 Take Away Sensor Monitors paper travel from the Tray 4 Take Away Roll to Tray 3 Take Away Roll.
- 11 Tray 3 Take Away RollDrives the sheet of paper into the Tray 2 Take Away Roll area of the base engine.
- 12 Tray 2 Take Away SensorMonitors paper travel from the HCF into the base engine.
- 13 Tray 2 Take Away Roll

Drives the sheet of paper into the printer Registration Rolls.

# 8.4.7 Repair Analysis Procedures

### RAP 8.4.7.1 Error Code "Clear Areas B,C Reset Trays 2,3"

1 Inspect the paper that is loaded in the paper tray. The paper loaded in the tray is smooth (not wrinkled) and not damaged.

Y N

- Replace the paper with new paper.
- 2 Inspect the paper path for paper scraps or foreign objects that could cause a paper jam. The paper path is clear.

Y N

Clear the paper path.

3 Enter Diagnostic Mode - Output Test, Lift Up Motor Operation (Select Tray 3) to test the Tray 3 Lift Up Motor function. The Motor switches on when the Output Test starts.

Y N

- Check the wiring between P/J 212 and P/J 406 (WIR 8.4.5.1). If OK, replace Tray 3 Lift Up Motor (REP 8.4.3.6).
- 4 Enter Diagnostic Mode Output Test, Lift Up Motor (Select Tray 3) to transition Tray 3 to engage with Feed Rolls (run test until paper engages Feed Rolls) Output Test Feed Clutch (Select Tray 3) to energize Tray 3 Feed clutch, and Output Test TTM Feed Motor Operation to start HCF Motor. When Output Test TTM Feed Motor Operation is started, the Feed Rolls turn and feed paper.

Y N.

- Check the wiring between P/J 211 and P/J 406 (WIR 8.4.5.1). If OK, replace the Tray 3 Feed Clutch (8.1.3.9) (REP 8.4.3.6).
- **5** After performing step 4, open the Left Upper Cover of the HCF. A sheet of paper was fed out of the tray.

Y N

- Replace Tray 3 Feeder Assembly (PL 8.4.2.5).
- 6 Enter Diagnostic Mode Input H/L, T/A Roll Sensor Detect (Select Roll2). Insert a sheet of paper into the Tray 2 Take Away Sensor and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays "IS WITH PAPER" when you insert the paper into the Tray 2 Take Away Sensor and displays "IS WITHOUT PAPER" when the paper is removed.

- Check the wiring between P/J 143 and P/J408 (6.3.12). If OK, replace the Tray 2 Take Away Sensor (PL 5.2).
- 7 Replace the HCF PWB (REP 8.4.3.5). The error message reappears.
  - Y N
  - Problem solved.
- 8 Replace the Printer Engine Controller PWB (REP 4.10.6).

### RAP 8.4.7.2 Error Code "Paper Jam Clear Area B"

1 Inspect the paper that is loaded in the paper cassette. The paper loaded in the cassette is smooth (not wrinkled) and not damaged.

Y N

- Replace the paper with new paper.
- 2 Inspect the paper path for paper scraps or foreign objects that could cause a paper jam. The paper path is clear.

Y N

- Clear the paper path.
- 3 Enter Diagnostic Mode Input H/L, REGI Sensor Detect. Insert a sheet of paper into the Registration Sensor and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays "IS WITH PAPER" when paper in inserted into the Registration Sensor and "IS WITHOUT PAPER" when the paper is removed.

Y N

- Check the wiring between P/J 100 and P/J 459 (6.3.14). If OK, replace the Registration Sensor (4.42).
- 4 Enter Diagnostic Mode Output Test, main Motor On/Off to start the Main Motor. Open the Tray 2 Transport Cover. The Take Away rolls rotate when Main Motor runs.

Y N

- Problem with the Tray 2 Feeder Drives. Replace the Feed Drive repair kit. (PL 3.7).
- 5 Enter Diagnostic Mode Input H/L, T/A Roll Sensor Detect (Select Tray 2). Insert a sheet of paper into the Tray 2 Take Away Sensor and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays "IS WITH PAPER" when paper is inserted into the Tray 2 Take Away Sensor "IS WITHOUT PAPER" when the paper is removed.

Y N

- Check the wiring between P/J 143 AND P/J 408 (6.3.12). If OK, replace the Tray 2 Take Away Sensor (PL 5.2).
- 6 Replace the HCF PWB (REP 8.4.3.5). The error message reappears.

- Problem solved.
- 7 Replace the Printer Engine Controller PWB (REP 4.10.6).

### RAP 8.4.7.3 Error Code "Paper Jam Clear Area C"

1 Inspect the paper that is loaded in the paper tray. The paper loaded in the tray is smooth (not wrinkled) and not damaged.

Y N

- Replace the paper with new paper.
- 2 Inspect the paper path for paper scraps or foreign objects that could cause a paper jam. The paper path is clear.

Y N

Clear the paper path.

**3** Enter Diagnostic Mode - Output Test, Tray 4 Lift Motor to test the Tray 4 Lift Up Motor function. The Motor switches on when the Output Test starts.

Y N

- Check the wiring between P/J 212 and P/J 406 (WIR 8.4.5.1). If OK, replace Tray 3 Lift Up Motor (REP 8.4.3.6).
- 4 Enter Diagnostic Mode Output Test, Feed Clutch operation (Select Tray 4 to energize clutch and TTM Feed Motor Operation to start HCF Motor to check the Tray 4 Feed Clutch function. The Tray 4 Feed Clutch energizes and the Feed Rolls rotated when the Output Test starts.

Y N

- Check the wiring between P/J 211 and P/J 406 (WIR 8.4.5.1). If OK, replace the Tray 3 Feed Clutch (REP 8.4.3.9).
- **5** After performing step 4, open the Left Upper Cover of the HCF. A sheet of paper was fed out of the tray.

Y N

- Replace Tray 4 Feeder Assembly.
- 6 Enter Diagnostic Mode Input H/L, T/A Roll Sensor Detect (Select Roll 3). Insert a sheet of paper into the Tray 3 Take Away Sensor and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays "IS WITH PAPER" when paper is inserted into the Tray 3 Take Away Sensor and "IS WITHOUT PAPER" when the paper is removed.

Y N

Check the wiring between P/J 121 AND P/J 406 (WIR 8.4.5.1). If OK, replace the Tray 3 Take Away Sensor (PL 8.4.2.11).

3/99

8-251

7 Replace the HCF PWB (REP 8.4.3.5). The error message reappears.

Y N

Problem solved.

8 Replace the Printer Engine Controller PWB (REP 4.10.6).

### RAP 8.4.7.4 Error Code "Paper Jam Clear Area A"

1 Inspect the paper that is loaded in the paper cassette. The paper is loaded in the cassette smooth (not wrinkled) and not damaged.

Y N

- Replace the paper with new paper.
- 2 Inspect the paper path for paper scraps or foreign objects that could cause a paper jam. The paper path is clear.

Y N

- Clear the paper path.
- 3 Enter Diagnostic Mode Input H/L, T/A Roll Sensor Detect (Select Roll 2). Insert a sheet of paper into the Tray 2 Take Away Sensor and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays "IS WITH PAPER" when paper is inserted into the Tray 2 Take Away Sensor and "IS WITHOUT PAPER" when the paper is removed.

Y N

- Check wiring between P/J 143 and P/J 408 (6.3.12). If OK, replace the Tray 2 Take Away Sensor (PL 5.2).
- 4 Enter Diagnostic Mode Input H/L, REGI Sensor Detect. Insert a sheet of paper into the Registration Sensor and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays "IS WITH PAPER" when paper is inserted into the Registration Sensor and "IS WITHOUT PAPER" when the paper is removed.

Y N

- Check the wiring between P/J 100 and P/J 459 (6.3.14). If OK, replace the Registration Sensor (PL 6.1).
- 5 Enter Diagnostic Mode Output Test, Main Motor On/Off to start the Main Motor. Open the Tray 2 Transport Cover. The Take Away rolls rotate when the Main Motor runs.

- Replace Tray 2 Retard Assembly (PL 3.6).
- 6 Replace the Printer Engine Controller PWB (REP 4.10.6).

### RAP 8.4.7.5 Error Code "Clear Area C Reset Tray 5"

1 Inspect the paper that is loaded in the paper tray. The paper loaded in the tray is smooth (not wrinkled) and not damaged.

Y N

- Replace the paper with new paper.
- 2 Inspect the paper path for paper scraps or foreign objects that could cause a paper jam. The paper path is clear.

Y N

- Clear the paper path.
- **3** Enter Diagnostic Mode Output Test, Tray 5 Lift Motor to test the Tray 5 Lift Up Motor function. The Motor switches on when the Output Test starts.

Y N

- Replace Tray 5 Lift Up Motor (REP 8.4.3.6)
- 4 Enter Diagnostic Mode Output Test, Feed Clutch Operation (Select Tray 5) to energize the clutch, and TTM Feed Motor Operation to check the Tray 5 Feed Clutch function. The Tray 5 Feed Clutch energizes and the Feed Rolls rotated when the Output Test starts.

Y N

- Check the wiring between P/J 406 and P/J 215 (WIR 8.4.5.1). If OK, replace the Tray 5 Feed Clutch.
- **5** After performing step 4, carefully open Tray 5. A sheet of paper was fed out of Tray 5.

Y N

- Replace Tray 5 Feeder Assembly.
- 6 Enter Diagnostic Mode Input H/L, T/A Roll Sensor Detect (Select Roll 4). Insert a sheet of paper into the Tray 4 Take Away Sensor and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays "IS WITH PAPER" when paper is inserted into the Tray 4 Take Away Sensor and "IS WITHOUT PAPER" when the paper is removed.

Y N

Check the wiring between P/J 406 and P/J 126 (WIR 8.4.5.1). If OK, replace the Tray 4 Take Away Sensor (PL 8.4.2.8).

3/99

- 7 Replace the HCF PWB (REP 8.4.3.5). The error message reappears.
  - Y N

Problem solved.

8 Replace the Printer Engine Controller PWB.

### RAP 8.4.7.6 Error Code "Paper Jam/Clear Areas B,C"

1 Inspect the paper that is loaded in the paper cassette. The paper loaded in the cassette is smooth (not wrinkled) and not damaged.

Y N

- Replace the paper with new paper.
- 2 Inspect the paper path for paper scraps or foreign objects that could cause a paper jam. The paper path is clear.

Y N

- Clear the paper path.
- 3 Enter Diagnostic Mode Input H/L, T/A Roll Sensor Detect (Select Roll 2). Insert a sheet of paper into the Tray 2 Take Away Sensor and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays "IS WITH PAPER" when paper is inserted into the Tray 2 Take Away Sensor and "IS WITHOUT PAPER" when the paper is removed.

Y N

- Check the wiring between P/J 408 and P/J 143 (6.3.12). If OK, replace the Tray 2 Take Away Sensor (PL 5.2).
- 4 Enter Diagnostic Mode Input H/L, T/A Roll Sensor Detect (Select Roll 3). Insert a sheet of paper into the Tray 3 Take Away Sensor and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays "IS WITH PAPER" when paper is inserted into the Tray 3 Take Away Sensor and "IS WITHOUT PAPER" when the paper is removed.

Y N

- Check the wiring between P/J 121 and P/J 406 (WIR 8.4.5.1). If OK, Replace the Tray 3 Take Away Sensor (PL 8.4.2.11).
- 5 Enter Diagnostic Mode Input H/L, T/A Roll Sensor Detect (Select Roll 4). Insert a sheet of paper into the Tray 4 Take Away Sensor and press [4], then remove the sheet of paper and press [4]. The Control Panel LCD displays "IS WITH PAPER" when paper is inserted into the Tray 4 Take Away Sensor and "IS WITHOUT PAPER" when the paper is removed.
  - Y N
  - Check the wiring between P/J 126 and P/J 406 (WIR 8.4.5.1). If OK, Replace the Tray 5 Take Away Sensor (PL 8.4.2.4).
- 6 Enter Diagnostic Mode Output Test, TTM Feed Motor Operations to start the HCF Motor. Open the HCF Left Cover. The Take Away Rolls rotate when the HCF Motor runs.

Y N

- Troubleshoot the drive transmission from the HCF Motor to Tray 3, Tray 4, Tray 5, Take Away Gears. Replace if necessary (PL 8.4.2.2).
- 7 Replace the HCF PWB (REP 8.4.3.5). The error message reappears.

- Problem solved.
- 8 Replace the Printer Engine Controller PWB (REP 4.10.6).

### RAP 8.4.7.7 Error Code "Close Door C"

- 1 Open and close the Left Cover. The error message reappears.
  - Y N
  - Problem solved.
- 2 Inspect the HCF Left Cover Interlock Switch for damage that may have locked the Switch in the off position. The switch is undamaged.

Y N

- Replace the HCF Left Cover Interlock Switch (PL 8.4.2.11).
- **3** Inspect the Left Cover Interlock Actuator tab for damage that may prevent the Cover from actuating the Interlock when the Cover is closed. The Interlock Actuator tab is undamaged.

Y N

- Replace the Left Cover Assembly (REP 8.4.3.2).
- 4 Enter Diagnostic Mode. Actuate and deactuate the HCF Left Cover Interlock Switch. The LCD displays "Cover Closed" when activated and "Cover is Open" when deactuated.
  - Y N
  - Check the wiring between P/J 114 and P/J 406 (WIR 8.4.5.1). If OK, replace the HCF Left Cover Interlock Switch (PL 8.4.2.11).
- **5** Replace the HCF PWB (REP 8.4.3.5). The error message reappears.

- Problem solved.
- 6 Replace the Printer Engine Controller PWB (REP 4.10.6). The error message reappears.
  - Y N
  - Problem solved.
- 7 Refer to the wiring diagrams and check for a broken wire or loose connection between components

### RAP 8.4.7.8 Error Code "Tray 3 Problem Service Required"

1 Remove the HCF Rear Cover. Load paper into Tray 3 and slide Tray 3 into Feeder 3. Enter Diagnostic Mode Output Test, Lift Up Motor Operation (Select Tray 3)to check the Tray 3 Lift Up Motor. The Tray 3 Lift Up Motor runs when the test starts.

- Replace Tray 3 Lift Up Motor (REP 8.4.3.6).
- 2 Slowly side Tray 3 out of Feeder 3. You can hear the Tray 3 bottom plate drop as you slide the Tray out of the Feeder.

Y N

- Replace Tray 3.
- 3 Enter Diagnostic Mode Input H/L, Level Sensor Detect (Select Tray 3) to check the Tray 3 Paper Level Sensor. Remove Tray 3 from the HCF. Push up on the Nudger Roll so it clears the Tray 3 Paper Level Sensor. The Control Panel LCD displays L before you push up on the Nudger Roll and [4] is pressed and H when the Nudger Roll is lifted and [4] is pressed.

Y N

- Check the wiring between P/J406 and P/J 112 (WIR 8.4.5.1). If OK, replace the Tray 3 Paper Level Sensor (PL 8.4.2.3).
- **4** Replace the HCF PWB (REP 8.4.3.5). The error message reappears.

- | Problem solved
- 5 Replace the Printer Engine Controller PWB (REP 4.10.6).

Y N

### RAP 8.4.7.9 Error Code "Tray 4 Problem Service Required"

1 Remove Tray 3 from the HCF so you can observe Tray 4. Enter Diagnostic Mode Output Test, Output Test Lift Up Motor (Select Tray 4) to check the Tray 4 Lift Up Motor. The Tray 4 Lift Up Motor runs when the test starts.

Y N

- Check the wiring between P/J 406 and P/J 214 (WIR 8.4.5.1). If OK, replace Tray 4 Lift Up Motor (REP 8.4.3.6).
- 2 Slowly slide Tray 4 out of Feeder 4. The Tray 4 bottom plate drops as you slide the Tray out of the Feeder.

Y N

- Verify Tray Lift Cables are free of damage. If OK, replace Tray 4.
- 3 Enter Diagnostic Mode Input H/L, Level Sensor Detect (Select Tray 4) to check the Tray 4 Paper Level Sensor. Remove Tray 4 from the HCF. Push up on the Nudger Roll so it clears the Tray 4 Paper Level Sensor. The Control Panel LCD displays L before you push up on the Nudger Roll and press [4] and H when lifted and press [4].

Y N

- Check the wiring between P/J 406 and P/J 118 (WIR 8.4.5.1). If OK replace the Tray 4 Paper Level Sensor (PL 8.4.2.3).
- **4** Replace the HCF PWB (REP 8.4.3.5). The error message reappears.

- Problem solved.
- 5 Replace the Printer Engine Controller PWB (REP 4.10.6).

### RAP 8.4.7.10 Error Code "Tray 5 Problem Service Required"

1 Remove Tray 3 from the HCF so you can observe Tray 5. Enter Diagnostic Mode Output Test, Lift Up Motor Operation (Select Tray 5) to check the Tray 5 Lift Up Motor. The Tray 5 Lift Up Motor runs and the Tray 5 bottom plate raises when the test starts.

- Check wiring between P/J 406 and P/J 216 (WIR 8.4.5.1). If OK, replace Tray 5 Lift Up Motor (REP 8.4.3.6).
- 2 Slowly slide Tray 5 out of Feeder 5. The Tray 5 bottom plate drops as you slide the Tray out of the Feeder.

Y N

- Verify Tray 5 Lift Cables are free of damage. If OK replace Tray 5.
- 3 Enter Diagnostic Mode Input H/L, Level Sensor Detect (Select Tray 5) to check the Tray 5 Paper Level Sensor. Remove Tray 5 from the HCF. Push up on the Nudger Roll so it clears the Tray 5 Paper Level Sensor. The Control Panel LCD displays L before you push up on the Nudger Roll and press [4] and H when lifted and press [4].

Y N

- Check wiring between P/J 119 and P/J 406 (WIR 8.4.5.1). If OK, replace the Tray 5 Paper Level Sensor (PL 8.4.2.4).
- **4** Replace the HCF PWB (REP 8.4.3.5). The error message reappears.

- Problem solved.
- 5 Replace the Printer Engine Controller PWB (REP 4.10.6).

Y N

### RAP 8.4.7.11 Inoperative HCF (HFC not detected on Configuration Sheet)

1 Check the HCF Interface Harness. The Harness is firmly connected to P/J 613 at the rear of the Printer.

Y N

- Reconnect the HCF Interface Harness.
- 2 Remove the HCF Rear Cover (REP 8.4.3.1). Measure the voltage between J481-1 and FG, between J481-2 and FG, and between J480-3 and FG on the HCF PWB (WIR 8.4.5.1). There is +5VDC between J481-1 and FG, between J481-2 and FG, and between J481-5 and FG.

Y N

- Check the wiring between P/J 480 and P/J 481 to P/J 406 (WIR 8.4.5.1). If OK, replace the Printer Engine Controller PWB (REP 4.10.6).
- **3** Measure the voltage between J481-7 and FG and between J481-8 and FG on the HCF Drive PWB (WIR 8.4.5.1). There is +24VDC between J481-7 and FG and between J481-8 and FG.

Y N

I

- Check the wiring between P/J 481 and P/J 406 (WIR 8.4.5.1). If OK, replace the Printer Engine Controller PWB (REP 4.10.6).
- 4 Replace the HCF PWB (REP 8.4.3.5).
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# 8.5 Finisher

## 8.5.1 Finisher Specifications

#### **GEN 8.5.1.1 General Specifications**

Category	Specification	
Configuration	Customer installed option. Attaches to the right side of the printer, with part of the Finisher extending over the printer output Bin. The Finisher cannot be installed if the Mailbox option is installed. The Finisher has two modes: 1- Sort and 2- Staple and Sort.	
Power requirements	The Printer provides all of the Finisher power requirements; +5VDC and +24VDC. The Printer also provides filtered 110 or 220 VAC, which the Finisher converts into +5VDC and an interlock controlled +24VDC.	
Power consumption	The Finisher consumes 55W (110VAC) or 55W (220VAC) during operation.	
Finisher noise levels	els 71.8 db while running	
Size and weight	Height: 44.6 inches (1,133mm) Width: 22.9 inches (582mm) Depth: 25.9 inches (658mm) Weight: 127.9 Lbs (58kg)	

#### **GEN 8.5.1.2 Stapler Specifications**

Category	Specification
Stapler Specifications	The Finisher Stapler can staple a maximum stack size of 50 sheets of 20lb (80 GSM) paper. The user can specify front staple, rear staple, or dual staples.
Staple Cartridge Capacity	Contains 5,000 staples

### **GEN 8.5.1.3 Compiler Specifications**

Category	Specification
Compiler specifications	The Complier aligns the sides of the paper stack before delivering it to the Output Bin.
Maximum quantity of paper per set	50 sheets
Minimum size of paper	182mm / 7.2 in. wide

3/99

8-261

#### **GEN 8.5.1.4 Finisher Specifications**

Category	Specification
Finisher specifications	The Finisher has 3 output bins; upper. middle, and lower.
Maximum amount of unstapled paper/bin	667 sheets of unstapled standard paper
Maximum amount of stapled paper/bin	100 sets of stapled A4/Letter per bin

## **GEN 8.5.1.5 Offset Specifications**

Category	Specification
Offset specifications	The Finisher delivers paper to the output bins with 20mm offset job to job

## **GEN 8.5.1.6 Finisher Recommended Paper Sizes**

Туре	Size
Ledger (SEF)	11" x 17"
A3 (SEF)	297mm x 420mm
Legal 14" (SEF)	8.5" x 14"
Legal 13" (SEF)	8.5" x 13"
A4 (LEF)	210mm x 297mm
Letter (LEF)	8.5" x 11"
Executive (LEF)	7.25" x 10.5"

#### **GEN 8.5.1.7 Finisher Space Requirements**

For easy operation, maintenance, and replacing of consumables, the following space requirements are the minimum clearances allowed. Figure 8.5.1.7a illustrates the requirements for the Finisher Option installed on the printer.

#### Figure 8.5.1.7aFinisher Configuration

- **1** 60 inches (1524mm).
- **2** 32 inches (813mm)
- **3** 4 inches (102mm)
- 4 12 inches (305mm)
- 5 36 inches (914mm)
- **6** 72 inches (1829mm)

Minimum of 30 inches (762mm) above the top of the Finisher when the Finisher is set to output to Bin 3.



## 8.5.2 Finisher Parts List

#### PL 8.5.2.1 Front and Left Covers

	ltem	Part	Description
I	1)	48K59862	Stapler Door Inner Cover Assembly
	2)	48K58610	Stapler Door Cover
	3)	3K91881	Knob Assembly
	4)	48E45940	Lower Front Cover
	5)	1K55720	Docking Rail Assembly
	6)	48E45960	Lower Left Cover
	7)	48E45281	Upper Left Cover
	8)	15K28710	EMI Bracket Assembly
	A)	600K65640	Screw Kit
	B)	600K65630	E-ring Kit



#### PL 8.5.2.2 Rear Covers

1)	48K59390	PWB Cover Assembly
2)	48K59870	Upper Rear Cover
3)	48E45930	Eject Cover
4)	48E45950	Add Cover
5)	48K62420	Connector Cover
6)	48E45921	Harness Cover
7)		Clamp {P/O Item 5}
8)		Rear (Right) Stabilizer Leg
9)		Right & Left Stabilizer Arms
A)	600K65640	Screw Kit
B)	600K65630	E-ring Kit



Options

#### PL 8.5.2.3 Rack

1)	48K58551	Right Rack Cover Assembly
2)		Slit Plate
3)	110E94510	Upper & Lower Limit Switches
4)	17K92040	Caster
5)	17K92050	Locking Caster
6)	162K31720	Bin ID Harness Assembly
7)	49E78540	Docking Support
8)	130E82540	Front Interlock and Bin ID Sensors
9)	162K31610	Front Interlock Sensor Harness Assembly
10)	120E12390	Interlock Sensor Actuator
11)	49E78540	Docking Support
12)		Sensor Bracket
13)	162K31730	Bin Limit Harness Assembly
14)	162K16270	DC Main Harness Assembly Com-2
A)	600K65640	Screw Kit
B)	600K65630	E-ring Kit



#### PL 8.5.2.4 Rails and Bins

1)		Front Rail Assembly
2)		Rail Cover {P/O Item 1} {P/O Item 5}
3)		Rear Bin Bracket {P/O Item 5}
4)		Rail Assembly {P/O Item 1} {P/O Item 5}
5)		Rear Rail Assembly {Includes Items 2, 3, & 4}
6)		Front Bin Bracket {P/O Item 1}
7)		Up Harness Guide
8)		Locking Clamp
9)		Bottom Harness Guide
10)		Elevator Hinge Bracket
11)		Lower Elevator Tie Plate
12)	127K20851	Bin Elevator Motor Assembly {Includes Items 13, 15, 16, 17, 19, & 20}
13)		Belt {P/O Item 12}
14)	7E45750	Gear Drive 37Z
15)		Gear 50Z/34T {P/O Item 12}
16)		Gear 24Z/42Z {P/O Item 12}
17)		Elevator Motor Bracket Assembly {P/O Item 12}
18)	413W08950	Bearing
19)		Motor Change Plate {P/O Item 12}
20)		DC Motor Assembly {P/O Item 12}
21)	27E91800	Nut Lift
22)		Elevator Drive Bracket
23)		Drive Shaft
24)	13E93460	Bearing
25)		Cover Guide Bin
26)		Elevator Up Tie Plate
A)	600K65640	Screw Kit
B)	600K65630	E-ring Kit



3/99

8-271

Options

#### PL 8.5.2.5 Bottom Bin

1)		Bottom Bin {P/O Item 23}
2)	162K18930	Low Paper Harness Assembly {P/O Item 23}
3)	120E12360	No Paper Actuator {P/O Item 23}
4)	809E02941	Torsion Spring {P/O Item 23}
5)	130E82530	Bottom Bin No Paper, Upper Limit, and Lower Limit Sensors {P/O Item 23} {P/O Item 25}
6)		No Paper Bracket {P/O Item 23}
7)	130E82540	Bottom Bin Half, Full, and Safety Sensors {P/O Item 23} {P/O Item 25}
8)		Carriage Assembly {Includes Items 9 & 10}
9)		Elevator Roll {P/O Item 8} {P/O Item 23} {P/O Item 27}
10)		Carriage {P/O Item 8} {P/O Item 23}
11)	19E31680	Clamp {P/O Item 23}
12)		Limit Actuator {P/O Item 23}
13)	48E46560	Elevator Front Cover {P/O Item 23}
14)	7E54830	Gear 20Z {P/O Item 23} {P/O Item 24}
15)		Elevator Motor Bracket {P/O Item 23} {P/O Item 24}
16)		DC Motor Assembly {P/O Item 23} {P/O Item 24}
17)	162K18870	Low Sensor Harness Assembly
18)		Actuator Guide {P/O Item 23} {P/O Item 25}
19)		Elevator Sensor Bracket {P/O Item 23} {P/O Item 25}
20)		Rear Elevator Cover {P/O Item 23} {P/O Item 26}
21)		Rear Harness Cover {P/O Item 23} {P/O Item 26}
22)	162K31750	Bin Unit Move Harness Assembly
23)	50K30221	Bottom Bin Assembly {Includes Items 1 - 7 & 9 - 21}
24)	127K20861	Bin Motor Assembly {Includes Items 14, 15, & 16}
25)	130K56300	Sensor Assembly {Includes Items 5, 7, 18, & 19}
26)	600K61870	Kit, Rear Elevator Cover {Includes Items 20 & 21}
27)	600K61860	Kit, Elevator Roller (Includes Four Of Item 9)
A)	600K65640	Screw Kit
B)	600K65630	E-ring Kit



#### PL 8.5.2.6 Bottom Bin Frame

1)	38K83320	Guide Assembly Bin Low {Includes Items 2 - 5}
2)		Bin Guide {P/O Item 1}
3)		Paper Stopper Assembly {P/O Item 1}
4)		Torsion Spring {P/O Item 1}
5)		Bearing {P/O Item 1}
6)		FL Elevator Frame Assembly
7)		Idler Pulley 20T
8)		Tension Plate
9)	809E02950	Exit Spring
10)	423W57354	Belt
11)		Drive Pulley 18T
12)		Bearing
13)		Elevator Shaft
14)		Spur Gear 32Z
15)		Gear Pulley 14Z/18T
16)		Spur Gear 20Z
17)		Rear Elevator Frame Assembly
A)	600K65640	Screw Kit
B)	600K65630	E-ring Kit



#### PL 8.5.2.7 Middle Bin

	1)		Middle Bin {P/O Item 21}
	2)	162K18920	Middle Paper Harness Assembly Com
	3)	120E12360	No Paper Actuator {P/O Item 21}
L	4)	809E02941	Torsion Spring {P/O Item 21}
_	5)	130E82530	Middle Bin No Paper, Upper Limit, and Lower Limit Sensors {P/O Item 21} {P/O Item 24}
	6)		No Paper Bracket {P/O Item 21}
	7)		Elevator Roll {P/O Item 21} {P/O Item 22} {P/O Item 26}
	8)		Carriage {P/O Item 21} {P/O Item 22}
	9)	19E31680	Clamp {P/O Item 21}
	10)	48E46560	Elevator Front Cover {P/O Item 21}
L	11)	7E54830	Gear 20z {P/O Item 21} {P/O Item 23}
	12)		Elevator Motor Bracket {P/O Item 21} {P/O Item 23}
	13)		DC Motor Assembly {P/O Item 21} {P/O Item 23}
	14)	130E82540	Middle Bin Half and Full Sensors {P/O Item 21} {P/O Item 24}
	15)	162K33900	Middle Harness Sensor Assembly {P/O Item 21}
	16)		Actuator Guide {P/O Item 21} {P/O Item 24}
	17)		Elevator Sensor Bracket {P/O Item 21} {P/O Item 24}
	18)		Rear Elevator Cover {P/O Item 21} {P/O Item 25}
	19)		Rear Harness Cover {P/O Item 21} {P/O Item 25}
	20)		Limit Actuator {P/O Item 21}
L	21)	50K30231	Middle Bin Assembly (Includes Items 1 - 20 & 22 - 24}
	22)		Carriage Assembly {Includes Items 7 & 8} {P/O Item 21}
I	23)	127K20861	Bin Motor Assembly {Includes Items 11 - 13} {P/O Item 21}
	24)	130K56300	Elevator Sensor Assembly {Includes Items 5, 14, 16, & 17} {P/O Item 21}
	25)	600K61870	Kit, Rear Elevator Cover {Includes Items 18 & 19}
	26)	600K61860	Kit, Elevator Roller {Includes Four Of Item 7}
	A)	600K65640	Screw Kit
	B)	600K65630	E-ring Kit



Options

3/99 8-277

### PL 8.5.2.8 Middle Bin Frame

	1)	38K83320	Middle Bin Guide Assembly {Includes Items 2 - 5}
	2)		Bin Guide {P/O Item 1}
	3)		Paper Stopper Assembly {P/O Item 1}
	4)		Torsion Spring {P/O Item 1}
	5)		Bearing {P/O Item 1}
	6)		FL Elevator Frame Assembly
	7)		Idler Pulley 20T
	8)		Tension Plate
	9)	809E02950	Exit Spring
1	10)	423W57354	Belt
	11)		Drive Pulley 18T
	12)		Bearing
	13)		Elevator Shaft
	14)		Push Link
	15)		Idler Link
	16)	110E94980	Middle Bin Safety Switch
	17)		Screw
	18)	809E02970	Exit Spring
	19)		Shaft Plate
	20)		Spur Gear 32Z
	21)		Pulley Gear 14Z/18T
	22)		Spur Gear 20Z
	23)		Rear Elevator Frame Assembly
	A)	600K65640	Screw Kit
	B)	600K65630	E-ring Kit



3/99 8-279

## PL 8.5.2.9 Top Bin

	1)		Top Bin {P/O Item 21}
	2)	162K31690	Top Paper Sensor Harness Assembly
	3)	120E12360	No Paper Actuator {P/O Item 21}
	4)	809E02941	Torsion Spring {P/O Item 21}
	5)	130E82530	Top Bin No Paper, Upper Limit, and Lower Limit Sensors {P/O Item 21} {P/O Item 24}
	6)		No Paper Bracket {P/O Item 21}
	7)		Elevator Roller {P/O Item 21} {P/O Item 22} {P/O Item 26}
	8)		Carriage {P/O Item 21} {P/O Item 22}
	9)	19E31680	Clamp {P/O Item 21}
	10)	48E46560	Elevator Front Cover {P/O Item 21}
	11)	7E54830	Gear 20Z {P/O Item 21} {P/O Item 23}
	12)		Elevator Motor Bracket {P/O Item 21} {P/O Item 23}
	13)		DC Motor Assembly {P/O Item 21} {P/O Item 23}
	14)	162K31700	Top Sensor Harness Assembly {P/O Item 21}
	15)	130E82540	Top Bin Half and Full Sensors {P/O Item 21} {P/O Item 24}
	16)		Actuator Guide {P/O Item 21} {P/O Item 24}
	17)		Elevator Sensor Bracket {P/O Item 21} {P/O Item 24}
	18)		Rear Elevator Cover {P/O Item 21} {P/O Item 25}
	19)		Rear Harness Cover {P/O Item 21} {P/O Item 25}
	20)		Limit Actuator {P/O Item 21}
	21)	50K30241	Top Bin Assembly {Includes Items 1 - 20 & 22 - 24}
	22)		Carriage Assembly {Includes Items 7 & 8} {P/O Item 21}
I	23)	127K20861	Bin Motor Assembly {Includes Items 11 - 13} {P/O Item 21}
	24)	130K56300	Sensor Assembly {Includes Items 5, 15, 16, & 17} {P/O Item 21}
	25)	600K61870	Kit, Rear Elevator Cover {Includes Items 18 & 19}
	26)	600K61860	Kit, Elevator Roller {Includes Four Of Item 7}
	A)	600K65640	Screw Kit
	B)	600K65630	E-ring Kit



3/99 8-281

## PL 8.5.2.10 Top Bin Frame

1)	38K83330	Top Bin Guide Assembly {Includes Items 2~5}
2)		Bin Guide {P/O Item 1}
3)		Paper Stopper Assembly {P/O Item 1}
4)		Torsion Spring {P/O Item 1}
5)		Bearing {P/O Item 1}
6)		FL Elevator Frame Assembly
7)		Idler Pulley 20T
8)		Tension Plate
9)	809E02950	Exit Spring
10)	423W57354	Belt
11)		Drive Pulley 18T
12)		Bearing
13)		Elevator Shaft
14)		Push Link
15)		Idler Link
16)	110E94980	Top Bin Safety Switch
17)		Screw
18)	809E02970	Exit Spring
19)		Shaft Plate
20)		Spur Gear 32Z
21)		Pulley Gear 14Z/18T
22)		Spur Gear 20Z
23)		Rear Elevator Frame Assembly
A)	600K65640	Screw Kit
B)	600K65630	E-ring Kit



## PL 8.5.2.11 Bin Eject

	1)		Tamper Support
	2)		Tamper Guide
	3)		Tamper Base
	4)		Tamper Spring
	5)		Bin Spring
	6)	130E82530	Tamper Home Sensor
	7)		Compiler Bin Assembly
	8)		Compiler Cover
	9)		Bearing
	10)	120E99480	Actuator
	11)	130E82540	Endwall Open and Compiler Paper Sensors
	12)		Tamper Holder
	13)	9E72520	Tension Spring
	14)		Endwall Link
	15)		Bracket Assembly
	16)	38K83030	End Guide Assembly
	17)		Eject Chute Roll
	18)	6K83652	Eject 1 Shaft Assembly
	19)	121K13070	Compiler Bin Up/Down Solenoid Assembly
	20)		Bearing
	21)		Bearing
I	22)	6K83661	Eject 2 Shaft Assembly
	23)		Registration Guide
	24)		Pulley
	25)		Set Clamp Actuator
	26)		Eject Gear (Z-20)
	27)		Offset Lever Assembly
	28)		Belt Holder
	29)	423W21053	Synchronous Belt
	30)	127K20871	Tamper Motor Assembly
	31)	162K18940	Compiler Harness Assembly Com
	A)	600K65640	Screw Kit
	B)	600K65630	E-ring Kit



3/99

8-285

SER575XC

#### PL 8.5.2.12 Exit

1)	105E07050	Eliminator {P/O Item 15}
2)		Exit Chute {P/O Item 15}
3)		Guide Spring {P/O Item 15}
4)	6K83590	Exit Shaft Assembly
5)		Drive Paddle Shaft Assembly {P/O Item 16}
6)		Exit Pulley {P/O Item 16}
7)		Exit Chute Assembly {P/O Item 16}
8)		Bearing
9)		Roller Assembly {P/O Item 16}
10)		Pinch Spring {P/O Item 16}
11)	6K83790	Paddle Shaft Assembly {P/O Item 16}
12)		Paddle Bearing {P/O Item 16}
13)	423W23354	Synchronous Belt {P/O Item 16}
14)		Tie Plate
15)	54K09370	Upper Exit Chute Assembly {Includes Items 1, 2, & 3}
16)	54K09360	Lower Exit Chute Assembly {Includes Items 5 - 7 & 9 - 13}
A)	600K65640	Screw Kit
B)	600K65630	E-ring Kit



## PL 8.5.2.13 Offset and Eject

1)	54K09381	Eject Chute Assembly
2)		Bracket Assembly {P/O Item 25} {P/O Item 26}
3)	130E82530	Stack Height Sensor {P/O Item 25} {P/O Item 26}
4)		Actuator Assembly {P/O Item 25} {P/O Item 26}
5)		Spring {P/O Item 25} {P/O Item 26}
6)		Pinch Roll Cover {P/O Item 25}
7)		Shaft {P/O Item 25}
8)		Rev Paddle Cover {P/O Item 25}
9)		Pinch Roll Spring {P/O Item 25}
10)		Pinch Roll {P/O Item 25}
11)		Pinch Roll Shaft {P/O Item 25}
12)		Eject Shaft Assembly
13)		Bearing
14)		Bearing
15)		Tie Plate Common
16)		Magnet
17)		Pulley 21T
18)		Lever
19)		Stud
20)		Roll
21)	423W09853	Synchronous Belt {P/O Item 25}
22)		Gear {P/O Item 25}
23)		Paddle Assembly {P/O Item 25}
24)		Lever {P/O Item 25}
25)	6K83630	Eject Pinch Shaft Assembly {Includes Items 2 - 11, 21 - 24, & 26}
26)	130K87330	Stack Height Sensor Assembly {Includes Items 2 - 5} {P/O Item 25}
A)	600K65640	Screw Kit
B)	600K65630	E-ring Kit



25 {Includes Items 2 - 11, 21 - 24, & 26} 26 {Includes Items 2 - 5}

SER577FB

## PL 8.5.2.14 Stapler

	1)		Locking Clamp
	2)		Tension Cover {P/O Item 20}
	3)	162K18900	Stapler Sensor Harness Assembly Com
	4)		Sensor Bracket {P/O Item 20}
L	5)	130E82530	Stapler Front Corner, Front Straight, and Rear Straight Sensors {P/O Item 20}
-	6)		Pulley (16T) {P/O Item 20}
	7)		Stopper {P/O Item 20}
	8)		Lower Bracket Assembly {P/O Item 20}
L	9)	29K91702	Stapler Head Assembly {Includes Item 21}
-	10)	162K18850	Stapler Head Harness Assembly Com
	11)		Slider Bracket Assembly
	12)		Belt Clamp
	13)		Pulley (16T, 32T) {P/O Item 20}
	14)		Pulley Flange 8 {P/O Item 20}
	15)	23E15560	Synchronous Belt {P/O Item 20}
	16)		Tension Bracket Assembly {P/O Item 20}
	17)		Upper Bracket Assembly {P/O Item 20}
	18)	9E72130	Staple Spring 1 {P/O Item 20}
	19)		Staple Spring 1 {P/O Item 20}
L	20)	15K29131	Rail Bracket Assembly {Includes Items 2, 4 - 8, & 13 - 19}
	21)	50K30281	Stapler Cartridge Assembly (Includes Stapler Refill) {P/O Item 9}
	22)	108R00158	Stapler Cartridge Staples Refill (Contains 3 Refills)
	A)	600K65640	Screw Kit
	B)	600K65630	E-ring Kit



## PL 8.5.2.15 Transport

1)	48K58590	Top Cover Assembly
2)	130K93360	Compiler Bin Exit Sensor {P/O Item 18}
3)		Bracket
4)		Screw SL Del M3x2x6
5)		Tension Link
6)		Pinch Roll {P/O Item 18}
7)	162K31590	Exit Sensor Harness Assembly
8)		Lower Chute Assembly
9)		Tie Plate
10)		Transport Shaft Assembly
11)		Hinge Bracket
12)		Rear Frame Assembly
13)		Bearing
14)		Front Frame Assembly
15)		Transport Chute Assembly {P/O Item 18}
16)		Catch Magnet {P/O Item 18}
17)		Pinch Transport Spring {P/O Item 18}
18)	54K09340	Upper Transport Chute Assembly - {Includes Items 2, 6, 15, 16, & 17}
A)	600K65640	Screw Kit
B)	600K65630	E-ring Kit



SER579FB

#### PL 8.5.2.16 Front Frame

1)	110E97990	Stapler Door and Top Cover Interlock Switches
2)	162K31650	Interlock Harness Assembly
3)	162K31670	LED Switch Harness Assembly
4)	110K08140	Unload While Run Switch
5)	110E94510	Compiler Cover Interlock Switches and Compiler Cover Safety Switch
6)	120E99661	Interlock Actuator
7)		Bracket Assembly
8)		Bracket
9)	127K23500	End Wall Motor Assembly
10)		Damper
11)	9E72550	Endwall Spring
12)		Harness Holder
A)	600K65640	Screw Kit
B)	600K65630	E-ring Kit


## PL 8.5.2.17 Rear Frame 1

127K19350	Transport Motor Assembly
	Clamp
	Bracket
127K19360	Set Clamp Motor Assembly
	Motor Bracket
423W25953	Synchronous Belt
20E24810	Pulley (23T)
423W46753	Synchronous Belt
20E24820	Eject Pulley (20T, Z-22)
130E82540	Set Clamp Sensor
127K20900	Eject Motor Assembly
	Motor Bracket
127K16600	Stapler Move Motor Assembly
423W46753	Synchronous Belt
	Stapler Motor Bracket
600K65640	Screw Kit
600K65630	E-ring Kit
	127K19350  127K19360  423W25953 20E24810 423W46753 20E24820 130E82540 127K20900  127K16600 423W46753  600K65640 600K65630



SER581FA

## PL 8.5.2.18 Rear Frame 2

1)		Flange
2)		Gear (Z-50, T34)
3)		Motor Bracket
4)	809E03060	Tension Spring
5)		Tension Bracket Assembly
6)		Idler Roller
7)	423W38053	Synchronous Belt
8)		Gear Z17, T21
9)		Idler Roller
10)		Screw
11)		Gear Z20, T21
12)		Gear 24Z
13)		Gear 20Z
14)		Idler Gear Support Fin
15)		Idler Gear L
16)		Clamp
17)		Hinge Bracket
A)	600K65640	Screw Kit
B)	600K65630	E-ring Kit



## PL 8.5.2.19 Rear Frame 3

2)        Clamp Sensor Bracket {P/O Item 26}         3)       130E82530       Eject Clamp Sensor {P/O Item 26}         4)        Clamp {P/O Item 26}         5)        Bearing {P/O Item 26}         6)        Bracket Assembly {P/O Item 26}         8)        Bracket Assembly {P/O Item 26}         8)        Eject Cam Clamp {P/O Item 26}         9)        Eject Cam Clamp {P/O Item 26}         10)        Eject Cam Clamp {P/O Item 26}         11)        Offset Shaft Assembly {P/O Item 26}         12)        Offset Cam / Actuator {P/O Item 26}         13)        Offset Cam / Actuator {P/O Item 26}         14)        Clamp Up Spring {P/O Item 26}         15)        Clamp Up Shaft {P/O Item 26}         16)        Clamp Up Shaft {P/O Item 26}         17)        Clamp Up Shaft {P/O Item 26}         18)        Clamp Up Shaft {P/O Item 26}         20)        Clamp Up Shaft {P/O Item 26}         21)        Clamp Up Shaft {P/O Item 26}         22)	1)	162K18910	Rear Harness Assembly Com {P/O Item 26}
3)       130E82530       Eject Clamp Sensor {P/O Item 26}         4)        Clamp {P/O Item 26}         5)        Bearing {P/O Item 26}         6)        Bracket Assembly {P/O Item 26}         8)        Bracket Assembly {P/O Item 26}         8)        Eject Camp Shaft Assembly {P/O Item 26}         9)        Eject Clamp Actuator {P/O Item 26}         10)        Eject Clamp Actuator {P/O Item 26}         11)        Offset Shaft Assembly {P/O Item 26}         12)        Offset Cam / Actuator {P/O Item 26}         13)        Spring {P/O Item 26}         14)        Clamp Up Spring {P/O Item 26}         15)        Clamp Up Shaft {P/O Item 26}         16)        Clamp Up Shaft {P/O Item 26}         17)        Clamp Up Shaft {P/O Item 26}         18)        Clamp Up Shaft {P/O Item 26}         20)        Clamp Up Shaft {P/O Item 26}         21)        Clamp Up Shaft {P/O Item 26}         22)        Clamp Up Shaft {P/O Item 26}         23)	2)		Clamp Sensor Bracket {P/O Item 26}
4)Clamp $\{P/O \text{ Item } 26\}$ 5)Cam Clamp Spring $\{P/O \text{ Item } 26\}$ 6)Bearing $\{P/O \text{ Item } 26\}$ 7)Bracket Assembly $\{P/O \text{ Item } 26\}$ 8)Clamp Shaft Assembly $\{P/O \text{ Item } 26\}$ 9)Eject Cam Clamp $\{P/O \text{ Item } 26\}$ 10)Eject Clamp Actuator $\{P/O \text{ Item } 26\}$ 11)Offset Shaft Assembly $\{P/O \text{ Item } 26\}$ 12)Offset Cam / Actuator $\{P/O \text{ Item } 26\}$ 13)Spring $\{P/O \text{ Item } 26\}$ 14)Clamp Up Spring $\{P/O \text{ Item } 26\}$ 15)Clamp Up Spring $\{P/O \text{ Item } 26\}$ 16)Clamp Up Spring $\{P/O \text{ Item } 26\}$ 17)Clamp Up Shaft $\{P/O \text{ Item } 26\}$ 18)Clamp Up Shaft $\{P/O \text{ Item } 26\}$ 20)Gear $\{P/O \text{ Item } 26\}$ 21)Gear $\{P/O \text{ Item } 26\}$ 22)Gear $\{P/O \text{ Item } 26\}$ 23)Gear $\{P/O \text{ Item } 26\}$ 24)130E82540Offset Sensor Bracket $\{P/O \text{ Item } 26\}$ 25)127K16360Eject Camp Offset Motor Assembly $\{P/O \text{ Item } 26\}$ 26)15K89062Eject Bracket Assembly $\{\text{Includes Items } 1 - 16 \& 20 - 25 A)600K65640Screw Kit$	3)	130E82530	Eject Clamp Sensor {P/O Item 26}
5)Cam Clamp Spring {P/O Item 26}6)Bearing {P/O Item 26}7)Bracket Assembly {P/O Item 26}8)Clamp Shaft Assembly {P/O Item 26}9)Eject Cam Clamp {P/O Item 26}10)Eject Clamp Actuator {P/O Item 26}11)Offset Shaft Assembly {P/O Item 26}12)Offset Cam / Actuator {P/O Item 26}13)Spring {P/O Item 26}14)Clamp Up Spring {P/O Item 26}15)Clamp Up Spring {P/O Item 26}16)Clamp Up Shaft {P/O Item 26}17)Clamp Up Shaft {P/O Item 26}18)Clamp Up Shaft {P/O Item 26}19)Edge Saddle20)One way Gear Assembly {P/O Item 26}21)Gear {P/O Item 26}23)Gear Z56(H), Z12 {P/O Item 26}23)Offset Sensor Bracket {P/O Item 26}24)130E82540Offset Home Sensor {P/O Item 26}25)127K16360Eject Camp Offset Motor Assembly {P/O Item 26}26)15K89062Eject Bracket Assembly {Includes Items 1 - 16 & 20 - 25A)600K65640Screw Kit	4)		Clamp {P/O Item 26}
6)        Bearing {P/O Item 26}         7)        Bracket Assembly {P/O Item 26}         8)        Eject Cam Clamp Shaft Assembly {P/O Item 26}         9)        Eject Clamp Actuator {P/O Item 26}         10)        Eject Clamp Actuator {P/O Item 26}         11)        Offset Shaft Assembly {P/O Item 26}         12)        Offset Cam / Actuator {P/O Item 26}         13)        Spring {P/O Item 26}         14)        Clamp Up Spring {P/O Item 26}         15)        Clamp Up Shaft {P/O Item 26}         16)        Clamp Up Shaft {P/O Item 26}         17)        Clamp Up Shaft {P/O Item 26}         18)        Clamp Up Shaft {P/O Item 26}         19)        Edge Saddle         20)        Gear {P/O Item 26}         21)        Gear Z56(H), Z12 {P/O Item 26}         22)        Gear Z56(H), Z12 {P/O Item 26}         23)        Gear Z56(H), Z12 {P/O Item 26}         24)       130E82540       Offset Home Sensor {P/O Item 26}         25)       127K16360       E	5)		Cam Clamp Spring {P/O Item 26}
7)Bracket Assembly $\{P/O \text{ Item 26}\}$ 8)Clamp Shaft Assembly $\{P/O \text{ Item 26}\}$ 9)Eject Cam Clamp $\{P/O \text{ Item 26}\}$ 10)Eject Clamp Actuator $\{P/O \text{ Item 26}\}$ 11)Offset Shaft Assembly $\{P/O \text{ Item 26}\}$ 12)Offset Cam / Actuator $\{P/O \text{ Item 26}\}$ 13)Spring $\{P/O \text{ Item 26}\}$ 14)Clamp Up Spring $\{P/O \text{ Item 26}\}$ 15)Clamp Up Lever $\{P/O \text{ Item 26}\}$ 16)Clamp Up Shaft $\{P/O \text{ Item 26}\}$ 17)Clamp Up Shaft $\{P/O \text{ Item 26}\}$ 18)Bracket Harness19)Edge Saddle20)Gear $\{P/O \text{ Item 26}\}$ 21)Gear $Z56(H), Z12 \{P/O \text{ Item 26}\}$ 23)Offset Sensor Bracket $\{P/O \text{ Item 26}\}$ 24)130E82540Offset Home Sensor $\{P/O \text{ Item 26}\}$ 25)127K16360Eject Camp Offset Motor Assembly $\{P/O \text{ Item 26}\}$ 26)15K89062Eject Bracket Assembly $\{Includes Items 1 - 16 \& 20 - 25 + 25 + 26 + 26 + 26 + 26 + 26 + 26 +$	6)		Bearing {P/O Item 26}
8)        Clamp Shaft Assembly {P/O Item 26}         9)        Eject Cam Clamp {P/O Item 26}         10)        Eject Clamp Actuator {P/O Item 26}         11)        Offset Shaft Assembly {P/O Item 26}         12)        Offset Cam / Actuator {P/O Item 26}         13)        Offset Cam / Actuator {P/O Item 26}         14)        Clamp Up Spring {P/O Item 26}         15)        Clamp Up Lever {P/O Item 26}         16)        Clamp Up Shaft {P/O Item 26}         17)        Clamp Up Lever {P/O Item 26}         18)        Clamp         18)        Edge Saddle         20)        Gear {P/O Item 26}         21)        Gear Z56(H), Z12 {P/O Item 26}         22)        Gear Z56(H), Z12 {P/O Item 26}         23)        Offset Sensor Bracket {P/O Item 26}         24)       130E82540       Offset Home Sensor {P/O Item 26}         25)       127K16360       Eject Camp Offset Motor Assembly {P/O Item 26}         26)       15K89062       Eject Bracket Assembly {Includes Items 1 - 16 & 20 - 25         A)<	7)		Bracket Assembly {P/O Item 26}
9)        Eject Cam Clamp {P/O Item 26}         10)        Eject Clamp Actuator {P/O Item 26}         11)        Offset Shaft Assembly {P/O Item 26}         12)        Offset Cam / Actuator {P/O Item 26}         13)        Spring {P/O Item 26}         14)        Clamp Up Spring {P/O Item 26}         15)        Clamp Up Spring {P/O Item 26}         16)        Clamp Up Shaft {P/O Item 26}         17)        Clamp Up Shaft {P/O Item 26}         18)        Clamp         18)        Edge Saddle         20)        Gear {P/O Item 26}         21)        Gear Z56(H), Z12 {P/O Item 26}         22)        Gear Z56(H), Z12 {P/O Item 26}         23)        Offset Sensor Bracket {P/O Item 26}         24)       130E82540       Offset Home Sensor {P/O Item 26}         25)       127K16360       Eject Camp Offset Motor Assembly {P/O Item 26}         26)       15K89062       Eject Bracket Assembly {Includes Items 1 - 16 & 20 - 25         A)       600K65640       Screw Kit	8)		Clamp Shaft Assembly {P/O Item 26}
10)        Eject Clamp Actuator {P/O Item 26}         11)        Offset Shaft Assembly {P/O Item 26}         12)        Offset Cam / Actuator {P/O Item 26}         13)        Spring {P/O Item 26}         14)        Clamp Up Spring {P/O Item 26}         15)        Clamp Up Lever {P/O Item 26}         16)        Clamp Up Shaft {P/O Item 26}         17)        Clamp Up Shaft {P/O Item 26}         18)        Clamp         18)        Edge Saddle         20)        Gear {P/O Item 26}         21)        Gear {P/O Item 26}         22)        Gear Z56(H), Z12 {P/O Item 26}         23)        Gear Z56(H), Z12 {P/O Item 26}         23)        Offset Sensor Bracket {P/O Item 26}         24)       130E82540       Offset Home Sensor {P/O Item 26}         25)       127K16360       Eject Camp Offset Motor Assembly {P/O Item 26}         26)       15K89062       Eject Bracket Assembly {Includes Items 1 - 16 & 20 - 25         A)       600K65640       Screw Kit	9)		Eject Cam Clamp {P/O Item 26}
11)        Offset Shaft Assembly {P/O Item 26}         12)        Offset Cam / Actuator {P/O Item 26}         13)        Spring {P/O Item 26}         14)        Clamp Up Spring {P/O Item 26}         15)        Clamp Up Lever {P/O Item 26}         16)        Clamp Up Shaft {P/O Item 26}         17)        Clamp Up Shaft {P/O Item 26}         18)        Clamp         18)        Bracket Harness         19)        Edge Saddle         20)        One way Gear Assembly {P/O Item 26}         21)        Gear {P/O Item 26}         22)        Gear Z56(H), Z12 {P/O Item 26}         23)        Offset Sensor Bracket {P/O Item 26}         24)       130E82540       Offset Home Sensor {P/O Item 26}         25)       127K16360       Eject Camp Offset Motor Assembly {P/O Item 26}         26)       15K89062       Eject Bracket Assembly {Includes Items 1 - 16 & 20 - 25         A)       600K65640       Screw Kit	10)		Eject Clamp Actuator {P/O Item 26}
12)        Offset Cam / Actuator {P/O Item 26}         13)        Spring {P/O Item 26}         14)        Clamp Up Spring {P/O Item 26}         15)        Clamp Up Lever {P/O Item 26}         16)        Clamp Up Shaft {P/O Item 26}         17)        Clamp Up Shaft {P/O Item 26}         18)        Clamp         18)        Edge Saddle         20)        Edge Saddle         20)        Gear {P/O Item 26}         21)        Gear {P/O Item 26}         22)        Gear Z56(H), Z12 {P/O Item 26}         23)        Gear Z56(H), Z12 {P/O Item 26}         24)       130E82540       Offset Home Sensor {P/O Item 26}         25)       127K16360       Eject Camp Offset Motor Assembly {P/O Item 26}         26)       15K89062       Eject Bracket Assembly {Includes Items 1 - 16 & 20 - 25         A)       600K65640       Screw Kit	11)		Offset Shaft Assembly {P/O Item 26}
13)        Spring {P/O Item 26}         14)        Clamp Up Spring {P/O Item 26}         15)        Clamp Up Lever {P/O Item 26}         16)        Clamp Up Shaft {P/O Item 26}         17)        Clamp         18)        Clamp         19)        Edge Saddle         20)        Edge Saddle         21)        Gear {P/O Item 26}         22)        Gear {P/O Item 26}         23)        Gear Z56(H), Z12 {P/O Item 26}         23)        Offset Sensor Bracket {P/O Item 26}         24)       130E82540       Offset Home Sensor {P/O Item 26}         25)       127K16360       Eject Camp Offset Motor Assembly {P/O Item 26}         26)       15K89062       Eject Bracket Assembly {Includes Items 1 - 16 & 20 - 25         A)       600K65640       Screw Kit	12)		Offset Cam / Actuator {P/O Item 26}
14)        Clamp Up Spring {P/O Item 26}         15)        Clamp Up Lever {P/O Item 26}         16)        Clamp Up Shaft {P/O Item 26}         17)        Clamp         18)        Bracket Harness         19)        Edge Saddle         20)        Dne way Gear Assembly {P/O Item 26}         21)        Gear {P/O Item 26}         22)        Gear Z56(H), Z12 {P/O Item 26}         23)        Offset Sensor Bracket {P/O Item 26}         23)        Offset Sensor Bracket {P/O Item 26}         24)       130E82540       Offset Home Sensor {P/O Item 26}         25)       127K16360       Eject Camp Offset Motor Assembly {P/O Item 26}         26)       15K89062       Eject Bracket Assembly {Includes Items 1 - 16 & 20 - 25         A)       600K65640       Screw Kit	13)		Spring {P/O Item 26}
15)        Clamp Up Lever {P/O Item 26}         16)        Clamp Up Shaft {P/O Item 26}         17)        Clamp         18)        Bracket Harness         19)        Edge Saddle         20)        Dne way Gear Assembly {P/O Item 26}         21)        Gear {P/O Item 26}         22)        Gear Z56(H), Z12 {P/O Item 26}         23)        Offset Sensor Bracket {P/O Item 26}         24)       130E82540       Offset Home Sensor {P/O Item 26}         25)       127K16360       Eject Camp Offset Motor Assembly {P/O Item 26}         26)       15K89062       Eject Bracket Assembly {Includes Items 1 - 16 & 20 - 25         A)       600K65640       Screw Kit	14)		Clamp Up Spring {P/O Item 26}
16)        Clamp Up Shaft {P/O Item 26}         17)        Clamp         18)        Bracket Harness         19)        Edge Saddle         20)        One way Gear Assembly {P/O Item 26}         21)        Gear {P/O Item 26}         22)        Gear Z56(H), Z12 {P/O Item 26}         23)        Offset Sensor Bracket {P/O Item 26}         24)       130E82540       Offset Home Sensor {P/O Item 26}         25)       127K16360       Eject Camp Offset Motor Assembly {P/O Item 26}         26)       15K89062       Eject Bracket Assembly {Includes Items 1 - 16 & 20 - 25         A)       600K65640       Screw Kit	15)		Clamp Up Lever {P/O Item 26}
17)        Clamp         18)        Bracket Harness         19)        Edge Saddle         20)        One way Gear Assembly {P/O Item 26}         21)        Gear {P/O Item 26}         22)        Gear Z56(H), Z12 {P/O Item 26}         23)        Offset Sensor Bracket {P/O Item 26}         24)       130E82540       Offset Home Sensor {P/O Item 26}         25)       127K16360       Eject Camp Offset Motor Assembly {P/O Item 26}         26)       15K89062       Eject Bracket Assembly {Includes Items 1 - 16 & 20 - 25         A)       600K65640       Screw Kit	16)		Clamp Up Shaft {P/O Item 26}
<ul> <li>18) Bracket Harness</li> <li>19) Edge Saddle</li> <li>20) One way Gear Assembly {P/O Item 26}</li> <li>21) Gear {P/O Item 26}</li> <li>22) Gear Z56(H), Z12 {P/O Item 26}</li> <li>23) Offset Sensor Bracket {P/O Item 26}</li> <li>24) 130E82540 Offset Home Sensor {P/O Item 26}</li> <li>25) 127K16360 Eject Camp Offset Motor Assembly {P/O Item 26}</li> <li>26) 15K89062 Eject Bracket Assembly {Includes Items 1 - 16 &amp; 20 - 25</li> <li>A) 600K65640 Screw Kit</li> </ul>	17)		Clamp
19)        Edge Saddle         20)        One way Gear Assembly {P/O Item 26}         21)        Gear {P/O Item 26}         22)        Gear Z56(H), Z12 {P/O Item 26}         23)        Offset Sensor Bracket {P/O Item 26}         24)       130E82540       Offset Home Sensor {P/O Item 26}         25)       127K16360       Eject Camp Offset Motor Assembly {P/O Item 26}         26)       15K89062       Eject Bracket Assembly {Includes Items 1 - 16 & 20 - 25         A)       600K65640       Screw Kit	18)		Bracket Harness
20)        One way Gear Assembly {P/O Item 26}         21)        Gear {P/O Item 26}         22)        Gear Z56(H), Z12 {P/O Item 26}         23)        Offset Sensor Bracket {P/O Item 26}         24)       130E82540       Offset Home Sensor {P/O Item 26}         25)       127K16360       Eject Camp Offset Motor Assembly {P/O Item 26}         26)       15K89062       Eject Bracket Assembly {Includes Items 1 - 16 & 20 - 25         A)       600K65640       Screw Kit	19)		Edge Saddle
21)        Gear {P/O Item 26}         22)        Gear Z56(H), Z12 {P/O Item 26}         23)        Offset Sensor Bracket {P/O Item 26}         24)       130E82540       Offset Home Sensor {P/O Item 26}         25)       127K16360       Eject Camp Offset Motor Assembly {P/O Item 26}         26)       15K89062       Eject Bracket Assembly {Includes Items 1 - 16 & 20 - 25         A)       600K65640       Screw Kit	20)		One way Gear Assembly {P/O Item 26}
22)        Gear Z56(H), Z12 {P/O Item 26}         23)        Offset Sensor Bracket {P/O Item 26}         24)       130E82540       Offset Home Sensor {P/O Item 26}         25)       127K16360       Eject Camp Offset Motor Assembly {P/O Item 26}         26)       15K89062       Eject Bracket Assembly {Includes Items 1 - 16 & 20 - 25         A)       600K65640       Screw Kit	21)		Gear {P/O Item 26}
<ul> <li>23) Offset Sensor Bracket {P/O Item 26}</li> <li>24) 130E82540 Offset Home Sensor {P/O Item 26}</li> <li>25) 127K16360 Eject Camp Offset Motor Assembly {P/O Item 26}</li> <li>26) 15K89062 Eject Bracket Assembly {Includes Items 1 - 16 &amp; 20 - 25</li> <li>A) 600K65640 Screw Kit</li> </ul>	22)		Gear Z56(H), Z12 {P/O Item 26}
<ul> <li>24) 130E82540 Offset Home Sensor {P/O Item 26}</li> <li>25) 127K16360 Eject Camp Offset Motor Assembly {P/O Item 26}</li> <li>26) 15K89062 Eject Bracket Assembly {Includes Items 1 - 16 &amp; 20 - 25</li> <li>A) 600K65640 Screw Kit</li> </ul>	23)		Offset Sensor Bracket {P/O Item 26}
<ul> <li>25) 127K16360 Eject Camp Offset Motor Assembly {P/O Item 26}</li> <li>26) 15K89062 Eject Bracket Assembly {Includes Items 1 - 16 &amp; 20 - 25</li> <li>A) 600K65640 Screw Kit</li> </ul>	24)	130E82540	Offset Home Sensor {P/O Item 26}
26)         15K89062         Eject Bracket Assembly {Includes Items 1 - 16 & 20 - 25           A)         600K65640         Screw Kit	25)	127K16360	Eject Camp Offset Motor Assembly {P/O Item 26}
A) 600K65640 Screw Kit	26)	15K89062	Eject Bracket Assembly {Includes Items 1 - 16 & 20 - 25}
	A)	600K65640	Screw Kit
B) 600K65630 E-ring Kit	B)	600K65630	E-ring Kit

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## PL 8.5.2.20 Electrical Module

1)		Top Cover
2)		Locking Clamp
3)		Clamp
4)		PWB Support
5)		Clamp
6)	162K31570	AC In-Out Harness Assembly - 120 VAC
	162K33920	AC In-Out Harness Assembly - 220 VAC
7)		Housing
8)	105K12530	Low Voltage Power Supply - 120 VAC
	105K12560	Low Voltage Power Supply - 220 VAC
9)	160K36067	Finisher PWB Assembly
10)		LVPS PWB Bracket
A)	600K65640	Screw Kit
B)	600K65630	E-ring Kit



## PL 8.5.2.21 Harness

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- 1) 162K16650 DC Main Harness COM-1 Assembly
- 2) 162K31660 Finisher/Printer Harness Assembly
- 3) 162K31640 Horizontal Transport Sensor Harness 2 Assembly
- 4) 162K31600 Eject Motor Harness Assembly
- 5) 162K16270 DC Main Harness COM-2 Assembly
- 6) 162K31750 Bin Unit Move Harness Assembly
- 7) 162K31680 LVPS Harness Assembly
- A) 600K65640 Screw Kit
- B) 600K65630 E-ring Kit



# PL 8.5.2.22 Docking Assembly

1)	48K58321	Docking Cover
2)		Upper Chute {P/O Item 10}
3)		In Gate {P/O Item 10}
4)		In Gate Support {P/O Item 10}
5)		Support 2 Damper {P/O Item 10}
6)	120E12381	In Gate Actuator {P/O Item 10}
7)		Support 1 Damper {P/O Item 10}
8)	809E03020	In Gate Spring {P/O Item 10}
9)		In Gate Lever {P/O Item 10}
10)	15K28221	In Gate Support Assembly {Includes Items 2 - 9}
A)	600K65640	Screw Kit
B)	600K65630	E-ring Kit



# PL 8.5.2.23 Transport Frame, Rear

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1)	162K31620	Horizontal Transport Sensor Harness 1 Assembly
2)		Clamp
3)		Drive Bracket Assembly
4)		Idler Gear R {P/O Item 25}
5)		Gear Idle HT Support Assembly {P/O Item 25}
6)		Idler Gear L {P/O Item 25}
7)		Gear 250 Spring {P/O Item 25}
8)		Gear Pulley 32/26 {P/O Item 25}
9)	23E13210	Synchronous Belt
10)		Idler Pulley
11)		Tension Bracket Assembly
12)		Pulley 2
13)	809E03000	Tension Spring 80
14)		Saddle Clamp
15)		Plate Spring
16)		Damper Bracket Assembly
17)		Bracket Assembly
18)		Solenoid Cover Assembly {P/O Item 26}
19)		Solenoid Assembly {P/O Item 26}
20)		Spring Solenoid {P/O Item 26}
21)		Damper Link Assembly {P/O Item 26}
22)	22E84460	Transport Roller
23)	130E82540	In Gate Interlock Sensor
24)	48E45900	Rear Cover
25)	600K61680	Kit, Transport Gear {Includes Items 4 - 8}
26)	600K61690	Kit, Gate Solenoid {Includes Items 18 - 21}
A)	600K65640	Screw Kit
B)	600K65630	E-ring Kit



# PL 8.5.2.24 Transport Frame

1)		Transport Cover {P/O Item 28}
2)		Magnet 1.5 {P/O Item 28}
3)		Pinch Spring {P/O Item 28}
4)		Pinch Roll {P/O Item 28}
5)		Pass Cover Sensor
6)		Transport Guide Roll
7)	22K47500	Transport Roll
8)	6E55160	Transport Shaft
9)	130K93360	Transport Exit Sensor Assembly
10)		Support Lever
11)		Transport Frame Assembly
12)		Magnet Bracket
13)		Bearing
14)	130E82970	Face Down Bin Paper Full Sensor
15)		Chute Cover
16)		One Way Pulley
17)		Pinch Roll
18)		Pinch Spring
19)		Bearing
20)		Full Cover Sensor
21)	130K93360	Transport Entrance Sensor Assembly
22)		Mini Clamp
23)		Pass Sensor Bracket
24)	49E08041	Left Hand Cover Support
25)		Photo Plate Sensor
26)	130E82540	Transport Interlock Sensor
27)	162K31620	Horizontal Transport Sensor Harness 1 Assembly
28)	48K58511	Cover Assembly {Includes Items 1 - 4}
29)	600K70020	Transport Repair Kit (Includes 3 Self-Adhesive Blocks)
A)	600K65640	Screw Kit
B)	600K65630	E-ring Kit

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# 8.5.3 Repair Procedures

Use care when performing the removal and replacement procedures. It is possible to cut yourself on the metal edges. Also, do not over tighten the screws.

Locations, such as Right, Left, Front, and Rear, given in the repair procedures assume you are facing the printer console panel. See the figure below.



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## REP 8.5.3.1 Finisher

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Move the Finisher away from the printer.
- **3** Remove the screw from the end of the Docking Rail, and remove the Docking Rail (Figure 8.5.3.1a).
- 4 Disconnect the Finisher interface cable from the rear of the printer (Figure 8.5.3.1a).
- **5** Disconnect the Finisher AC power cord from the right side of the printer (Figure 8.5.3.1a).
- 6 Roll the Finisher away from the printer.



#### Figure 8.5.3.1a. Finisher Removal

- **1** Move the Finisher to within 12 inches (304.8 mm) from the printer.
- 2 Reinstall the Docking Rail under the printer.
- **3** Secure the Docking Rail with thumb screw.
- 4 Reconnect the Finisher interface cable to the rear of the printer, and reconnect the Finisher AC power cord to the right side of the printer.
- **5** Push the Finisher against the printer, making sure the locating pin on the Transport lines up with the locating hole on the Docking Cover.

## REP 8.5.3.2 Stapler Door Cover

#### Parts List on PL 8.5.2.1

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Open the Front Cover.
- **3** Remove the E ring on the top hinge that secures the Front Cover to the Stapler Door Inner Cover Assembly (Figure 8.5.3.2a).
- 4 Lift and remove the Stapler Door Cover.



#### Figure 8.5.3.2a. Front Cover.

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- 1 Reinstall the Stapler Door Cover by sliding the two hinges that are located on the Inner Assembly, into the two holes in the Stapler Door Cover.
- **2** Use one E ring on the top hinge to secure the Stapler Door Cover to the Stapler Door Inner Cover Assembly.
- **3** Close the Front Cover.

## **REP 8.5.3.3 Stapler Door Inner Cover Assembly**

#### Parts List on PL 8.5.2.1

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Open the Top Cover.
- **3** Open the Stapler Door Cover (Figure 8.5.3.3a).
- **4** Remove the screw securing the Stapler Door Inner Cover Assembly to the Finisher frame (Figure 8.5.3.3a).
- **5** Press the *Unload While Run* button as you lift the Stapler Door Inner Cover Assembly up and off of the Finisher frame (Figure 8.5.3.3a).

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#### Figure 8.5.3.3a. Stapler Door Inner Cover Assembly.

- 1 Reinstall the Stapler Door Inner Cover Assembly by first inserting the two tabs that are located at the bottom of the Assembly into the cutouts in the Finisher frame.
- 2 Press the *Unload While Run* button as you press the top of the Inner Assembly against the Finisher frame.
- **3** Reposition the Inner Assembly so when you press and release the *Unload While Run* button, the button moves freely.
- 4 Use one screw to secure the Assembly to the Finisher frame.
- **5** Close the Front Cover and the Top Cover.

## REP 8.5.3.4 Lower Front Cover

#### Parts List on PL 8.5.2.1

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Roll the Finisher away from the printer until it stops.
- **3** Remove the three screws securing the Lower Front Cover to the Finisher frame (Figure 8.5.3.4a).
- 4 Pull the Cover to the left and remove it from the frame.



#### Figure 8.5.3.4a. Lower Front Cover.

- 1 Position the Cover as shown in figure 8.5.3.4a.
- 2 Slide the Cover onto the frame so the tabs on the frame fit into the rectangular cutouts in the Cover.
- 3 Press the Cover against the frame.
- 4 Use 3 screws to secure the Cover to the frame.
- **5** Reassemble the Finisher to the printer.

## REP 8.5.3.5 Upper Rear Cover

#### Parts List on PL 8.5.2.2

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Open the Top Cover.
- 3 Remove the screw securing the Upper Rear Cover to the Finisher frame (Figure 8.5.3.5a).
- 4 Lift the Cover and remove it from the frame.



#### Figure 8.5.3.5a. Upper Rear Cover.

- **1** Open the Top Cover.
- 2 Reinstall the Upper Rear Cover by first hooking the two tabs that are located at the top of the Cover, into the two cutouts in Finisher frame.
- **3** Use one screw to secure the Upper Rear Cover to the frame.
- 4 Close the Top Cover.

## REP 8.5.3.6 Lower Left Cover

#### Parts List on PL 8.5.2.1

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Roll the Finisher away from the printer until it stops.
- **3** Remove the six screws securing the Lower Left Cover from the Finisher frame, and remove the Cover (Figure 8.5.3.6a).



#### Figure 8.5.3.6a. Lower Left Cover.

- 1 Reinstall the Lower Left Cover onto the Finisher frame.
- **2** Use six screws to secure the Cover to the frame.
- **3** Reassemble the Finisher to the printer.

## REP 8.5.3.7 Eject Cover

#### Parts List on PL 8.5.2.2

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3).
- 3 Remove the Upper Rear Cover (REP 8.5.3.5).
- 4 Open the Top Cover.
- **5** Remove the four screws securing the Eject Cover to the Finisher frame, and remove the Cover (Figure 8.5.3.7a).



#### Figure 8.5.3.7a. Eject Cover.

- 1 Position the Eject Cover as shown in the figure, and reinstall the Cover onto the Finisher frame.
- 2 Align the four screw holes in the Cover with the four screw holes in the Finisher frame.
- **3** Use four screws to secure the Eject Cover to the frame.
- 4 Reinstall the Stapler Door Inner Cover Assembly.
- 5 Reinstall the Upper Rear Cover.

## REP 8.5.3.8 Harness Cover

#### Parts List on PL 8.5.2.2

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- **2** Remove the three screws securing the Harness Cover to the rear Finisher frame (Figure 8.5.3.8a).
- 3 Remove the Cover.





- 1 Reinstall the Harness Cover as shown in the figure.
- **2** Use three screws to secure the Cover to the Finisher frame.

## REP 8.5.3.9 Add Cover

#### Parts List on PL 8.5.2.2

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the screw that secures the Add Cover to the Finisher frame (Figure 8.5.3.9a).
- **3** Remove the Add Cover.



#### Figure 8.5.3.9a. Add Cover.

- 1 Slide the Cover onto the Finisher frame so the tab on the frame fits into the rectangular cutout in the Cover.
- 2 Use one screw to secure the Cover to the Finisher frame.

## REP 8.5.3.10 Finisher PWB Cover

#### Parts List on PL 8.5.2.2

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Roll the Finisher away from the printer until it stops.
- 3 Disconnect the Finisher AC Power Cable and Interface Cable from the printer (Figure 8.5.3.10a).
- 4 Remove the Harness Cover (REP 8.5.3.8).
- 5 Remove the screw securing the Connector Cover and remove the Cover (Figure 8.5.3.10a).
- 6 Remove the four screws securing the PWB Cover Assembly to the Finisher frame, and pull the Cover away from the frame approximately three inches (Figure 8.5.3.10a).
- 7 Reach inside the PWB Cover and free the wire harness clamp from the cover (Figure 8.5.3.10a).
- 8 Free the wire harness from the harness retainer (Figure 8.5.3.10a).
- 9 Remove the Finisher PWB Cover.





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- 1 Place the Finisher PWB Cover up to the Finisher frame.
- 2 Install the wire harness in the retainer and secure the harness clamp.
- 3 Route the Finisher Interface cable through the cutout near the top of the Cover.
- 4 Route the AC Power cable through the Connector Cover opening of the Cover.
- 5 Reinstall the Finisher PWB Cover against the Finisher frame.
- **6** Use four screws to secure the Cover to the frame.
- 7 Reinstall the Harness Cover.
- 8 Reinstall the Connector Cover, route the AC Power cable through the cutout in the Connector Cover. Slide the Cover onto the Finisher frame so the tab on the frame fits into the rectangular cutout in the Cover.
- 9 Use one screw to secure the Cover to the frame.

## **REP 8.5.3.11 Transport Assembly**

#### Parts List on PL 8.5.2.23 / PL 8.5.2.24

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Disconnect the Finisher from the Printer (REP 8.5.3.1).
- **3** Remove the two screws securing the Transport Rear Cover to the Transport Assembly, and remove the Cover (Figure 8.5.3.11a).
- **4** Disconnect J256M, J262A, J268A, and J279.
- **5** Fold up and lock the two Support Arms that are located under the Transport Assembly, and lower the Assembly (Figure 8.5.3.11a).
- 6 Remove the K Clip from the Transport Assembly front pivot shaft (Figure 8.5.3.11a).
- 7 Slide the Transport Assembly toward the rear to free the front pivot (Figure 8.5.3.11a).
- 8 Pull the front of the Transport Assembly away from the frame and slide the Assembly toward the front to free the rear pivot. Remove the Assembly (Figure 8.5.3.11a).

- 1 Hold the Transport Assembly vertically, and insert the Transport Assembly rear pivot into the hole in the rear Transport Bracket.
- 2 Insert the Transport Assembly front pivot into the hole in the front of the Assembly.
- **3** Use a K Clip to secure the front pivot shaft.
- **4** Raise the Transport Assembly into the horizontal position, and lower and lock the two Support Arms that are located under the Assembly.
- **5** Reconnect J256M, J262A, J268A, and J279.
- 6 Reinstall the Transport Rear Cover onto the Transport Assembly, and use two screws to secure the Cover.
- 7 Reconnect the Finisher to the Printer.

Figure 8.5.3.11a. Transport Assembly.





SER734XA

3/99 8-327

## REP 8.5.3.12 Upper Left Cover

#### Parts List on PL 8.5.2.1

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Upper Rear Cover (REP 8.5.3.5).
- 3 Remove the Transport Assembly (REP 8.5.3.11).
- 4 Remove the two screws securing the Upper Left Cover to the Finisher frame (Figure 8.5.3.12a).
- 5 Remove the Cover.



Figure 8.5.3.12a. Upper Left Cover.

#### Replacement

1 Reinstall the Upper Left Cover by first sliding the front lip of the Cover under the Front Cover.

3/99

8-328

- 2 Press the Cover against the Finisher frame, and reposition as necessary so the two screw holes in the Cover line up with the two screw holes in the frame.
- 3 Use two screws to secure the Cover to the Finisher frame.
- 4 Reinstall the Upper Rear Cover.
- 5 Reinstall the Transport Assembly.

## REP 8.5.3.13 Lower Limit Switch

#### Parts List on PL 8.5.2.3

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Disconnect the Finisher from the Printer (REP 8.5.3.1).
- **3** Remove the Lower Left Cover (REP 8.5.3.6).
- 4 Disconnect J274 from the Lower Limit Switch (Figure 8.5.3.13a).
- **5** Remove the two screws securing the Lower Limit Switch, and remove the Switch (Figure 8.5.3.13a).



#### Figure 8.5.3.13a. Lower Limit Switch.

#### Replacement

- 1 Position the Lower Limit Switch onto the Finisher frame.
- 2 Use two screws to secure the Switch to the frame.
- 3 Reconnect J274 to the Switch.
- 4 Reinstall the Lower Left Cover.
- **5** Reconnect the Finisher to the printer.

3/99 8-329

## REP 8.5.3.14 Upper Limit Switch

#### Parts List on PL 8.5.2.3

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Disconnect the Finisher from the Printer (REP 8.5.3.1).
- **3** Remove the Transport Assembly (REP 8.5.3.11).
- 4 Remove the Upper Left Cover (REP 8.5.3.12).
- **5** Remove the four screws securing the Tie Plate to the Finisher frame (Figure 8.5.3.14a). Remove the Tie Plate.
- 6 Remove the two screws securing the Upper Limit Switch Cover (Figure 8.5.3.14a). Remove the Cover.
- 7 Disconnect J273 from the Upper Limit Switch (Figure 8.5.3.14a).
- 8 Remove the two screws securing the Upper Limit Switch to the Finisher frame (Figure 8.5.3.14a), and remove the Switch.



#### Figure 8.5.3.14a. Upper Limit Switch.

- 1 Position the Upper Limit Switch onto the Finisher frame.
- **2** Use two screws to secure the Switch to the frame.
- **3** Reconnect J273 to the Switch.
- 4 Reinstall the Switch Cover, and use two screws to secure it to the frame.
- 5 Reinstall the Tie Plate, flat side facing out, onto the Finisher frame.
- **6** Use four screws to secure the Tie Plate to the frame.
- 7 Reinstall the Upper Left Cover.
- 8 Reinstall the Transport Assembly.
- 9 Reconnect the Finisher to the printer.
## **REP 8.5.3.15 Interlock Sensor and Actuator**

## Parts List on PL 8.5.2.3

## Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Roll the Finisher away from the printer until it stops.
- **3** Remove the Lower Left Cover (REP 8.5.3.6).
- 4 Release the latches securing the Finisher Interlock Sensor to the Docking Support, and remove the Sensor (Figure 8.5.3.15a).
- **5** Disconnect J855M from the Sensor (Figure 8.5.3.15a).
- **6** Use the flat blade of a screwdriver to spread the arms of the Actuator support, and remove the Actuator (Figure 8.5.3.15a).



#### Figure 8.5.3.15a. Interlock Sensor.

- 1 Insert the inside Actuator pivot into the hole in the Docking Support and press the outside pivot into the arms of the Actuator support.
- 2 Reconnect J855M to the Interlock Sensor.
- **3** Push the Actuator out of the way while you reinstall the Sensor.
- 4 Position the Sensor as shown in the figure, and press the latches on the rear of the Sensor into the four holes in the Docking Support.
- 5 Rock the Actuator back and forth to make sure it moves freely between the arms of the Sensor.
- 6 Reinstall the Lower Left Cover.
- 7 Reconnect the Finisher to the printer.

## REP 8.5.3.16 Bin ID Sensor

### Parts List on PL 8.5.2.3

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Roll the Finisher away from the printer until it stops.
- **3** Remove the Upper Rear Cover (REP 8.5.3.5).
- 4 Free the ID Sensor wire harness from the harness clip (Figure 8.5.3.16a).
- **5** Remove the screw securing the Bin ID Sensor Bracket to the frame, and remove the Bracket and attached Sensor (Figure 8.5.3.16a).
- 6 Disconnect J837 from the Sensor (Figure 8.5.3.16a).
- 7 Press in and release the Sensor latches that are securing the Sensor to the Bracket, and remove the Sensor (Figure 8.5.3.16a).



Figure 8.5.3.16a. Bin ID Sensor.

- 1 Insert the Stacker Bin ID Sensor into the Sensor cutouts in the Sensor Bracket.
- 2 Reconnect J837 to the Sensor.
- **3** Reinstall the Sensor Bracket onto the frame, making sure you align the positioning hole in the Bracket with the positioning tab on the frame.
- 4 Use one screw to secure the Bracket and Sensor to the frame.
- 5 Route the ID Sensor wire harness through the harness clip.
- 6 Reinstall the Upper Rear Cover.
- 7 Reconnect the Finisher to the printer.

## REP 8.5.3.17 Elevator Motor

## Parts List on PL 8.5.2.4

## Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- **2** Disconnect the Finisher from the Printer (REP 8.5.3.1).
- **3** Remove the Lower Left Cover (REP 8.5.3.6).
- 4 Remove the E-ring that secures the Drive Pulley to the motor shaft (Figure 8.5.3.17a).
- 5 Remove the Drive Pulley and the Drive Belt from the drive motor (Figure 8.5.3.17a).
- 6 Disconnect J865 (Figure 8.5.3.17a).
- 7 Remove the two screws securing the Elevator Motor to the Motor Bracket, and remove the Motor (Figure 8.5.3.17a).



Figure 8.5.3.17a. Elevator Motor.

- 1 Position the Elevator Motor against the Motor Bracket and use the two screws to secure the Motor to the Bracket.
- 2 Reinstall the Motor Pulley, with the lip of the Pulley away from the Motor, and the Drive Belt onto the end of the Motor shaft.
- **3** Use an E ring to secure the Pulley to the Motor shaft.
- 4 Reconnect J865.
- **5** Reinstall the Lower Left Cover.
- 6 Reconnect the Finisher to the printer.

# REP 8.5.3.18 Bottom Bin Assembly

## Parts List on PL 8.5.2.5

## Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Release the three locking tabs and remove the bottom Harness Guide Cover (Figure 8.5.3.18a).
- 4 Free the wire harnesses in the Harness Guide, from the harness clips.
- 5 Disconnect J830A, J871, J874A, and J875A (Figure 8.5.3.18a).
- 6 Remove the screw securing the bottom Harness Guide, and remove the Guide (Figure 8.5.3.18a).
- **7** Remove the two screws securing the bottom of the Bottom Bin Assembly to the Finisher frame (Figure 8.5.3.18a).
- 8 Loosen the two screws securing the top of the Assembly to the Finisher frame (Figure 8.5.3.18a).
- 9 Lift the Bottom Bin Assembly off of the top screws, and remove the Assembly from the frame.

- 1 Reinstall the Bottom Bin Assembly by hooking the keyhole screw holes at the top of the Assembly over the two screws on the frame.
- **2** Use two screws to secure the bottom of the Assembly to the frame.
- 3 Tighten the two top screws.
- 4 Route the Bottom Bin Assembly wire harness into the slot in the bottom Harness Guide.
- **5** Reinstall the bottom Harness Guide, and use one screw to secure it to the frame.
- 6 Reconnect J830A, J871A, J874A, and J875A.
- 7 Secure the wire harness into the harness clips.
- 8 Reinstall the bottom Harness Guide Cover.
- 9 Reinstall the Harness Cover.

## Figure 8.5.3.18a. Bottom Bin Assembly.



## REP 8.5.3.19 Bottom Bin Rear Cover

### Parts List on PL 8.5.2.5

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Remove the Bottom Bin Assembly (REP 8.5.3.18).
- **4** Turn the Bin Assembly upside down. Remove the three screws that secure the Back Cover to the bottom of the bin (Figure 8.5.3.19a).
- **5** Disconnect J888 (Figure 8.5.3.19a).
- 6 Remove the screw that secures the cable clamp to the bin (Figure 8.5.3.19a).
- 7 Turn the Bin Assembly right side up.



#### Figure 8.5.3.19a. Back Cover.

- 8 Slide the Rear Harness Cover off of the Bottom Bin Rear Cover (Figure 8.5.3.19b).
- **9** Remove the screw securing the Bottom Bin Rear Cover to the Bin frame (Figure 8.5.3.19b).
- **10** Release the latch at the top of the Rear Cover, and remove the Cover.



- 1 Reinstall the Rear Cover by first latching the top of the Cover, then by using one screw to secure Cover to the bin frame.
- **2** Route the wire harness through the opening at the rear of the Cover and slide the Rear Harness Cover into place.

3/99

8-341

- **3** Reconnect J888 on the bottom of the bin.
- 4 Secure the cable clamp with the screw.
- 5 Secure the Back Cover using the three screws.
- 6 Reinstall the Bottom Bin Assembly.
- 7 Reinstall the Harness Cover.

## **REP 8.5.3.20 Bottom Bin Half and Full Sensors**

### Parts List on PL 8.5.2.5

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Remove the Bottom Bin Assembly (REP 8.5.3.18).
- 4 Remove the Bottom Bin Rear Cover (REP 8.5.3.19).
- **5** Remove the screw securing the Sensor Bracket to the Bin Frame, and remove the Bracket (Figure 8.5.3.20a).
- 6 Disconnect P860 from the Half Sensor (Figure 8.5.3.20a).
- 7 Press in and release the Half Sensor latches that are securing the Sensor to the Bracket, and remove the Sensor (Figure 8.5.3.20a).
- 8 Disconnect P861 from the Full Sensor (Figure 8.5.3.20a).
- **9** Press in and release the Full Sensor latches that are securing the Sensor to the Bracket, and remove the Sensor (Figure 8.5.3.20a).

## Figure 8.5.3.20a. Bottom Bin Half and Full Sensors



- 1 Position the Full Sensor into the Sensor cutout in the Sensor Bracket.
- 2 Reconnect P861 to the Full Sensor.
- **3** Position the Half Sensor into the Sensor cutout in the Sensor Bracket.
- 4 Reconnect P860 to the Half Sensor.
- **5** Reinstall the Sensor Bracket on the Bin Frame, ensure the Limit Actuator tab is aligned properly in the Sensor Bracket. Use screw to secure the Bracket.
- 6 Reinstall the Rear Cover.
- 7 Reinstall the Bottom Bin Assembly.
- 8 Reinstall the Harness Cover.

## **REP 8.5.3.21 Bottom Bin Lower & Upper Limit Sensors**

### Parts List on PL 8.5.2.5

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Remove the Bottom Bin Assembly (REP 8.5.3.18).
- 4 Remove the Bottom Bin Rear Cover (REP 8.5.3.19).
- **5** Remove the screw securing the Sensor Bracket to the Bin Frame, and remove the Bracket (Figure 8.5.3.21a).
- 6 Disconnect P850 from the Upper Limit Sensor (Figure 8.5.3.21a).
- 7 Press in and release the Sensor latches that are securing the Sensor to the Bracket, and remove the Sensor.
- 8 Disconnect P851 from the Lower Limit Sensor (Figure 8.5.3.21a).
- **9** Press in and release the Sensor latches that are securing the Sensor to the Bracket, and remove the Sensor.



#### Figure 8.5.3.21a. Lower & Upper Limit Sensors.

- 1 Position the Lower Limit Sensor into the Sensor cutout in the Sensor Bracket.
- 2 Reconnect P851 to the Lower Limit Sensor.
- 3 Position the Upper Limit Sensor into the Sensor cutout in the Sensor Bracket.
- 4 Reconnect P850 to the Upper Limit Sensor.
- **5** Reinstall the Sensor Bracket on the Bin Frame, ensure the Limit Actuator tab is aligned properly in the Sensor Bracket. Use screw to secure the Bracket.
- 6 Reinstall the Rear Cover.
- 7 Reinstall the Bottom Bin Assembly.
- 8 Reinstall the Harness Cover.

## REP 8.5.3.22 Bottom Bin Paper Sensor

## Parts List on PL 8.5.2.5

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Remove the Bottom Bin Assembly (REP 8.5.3.18).
- **4** Turn the Bin Assembly upside down. Remove the three screws that secure the Back Cover to the bottom of the bin (Figure 8.5.3.22a).
- **5** Remove the screw securing the Paper Sensor Bracket to the bin, and remove the Bracket along with the attached Paper Sensor (Figure 8.5.3.22a).
- 6 Disconnect J859 from the Sensor (Figure 8.5.3.22a).
- 7 Press in and release the Sensor latches that are securing the Sensor to the Bracket, and remove the Sensor.



#### Figure 8.5.3.22a. Paper Sensor.

#### Replacement

- 1 Position the Bottom Bin Paper Sensor and insert it into the Sensor cutout in the Sensor Bracket.
- **2** Reconnect J859 to the Sensor.
- 3 Reinstall the Sensor Bracket making sure to align the position holes in the Bracket.
- 4 Use one screw to secure the Bracket to the Bin.
- 5 Reinstall the Back Cover to the Bin, and use three screws to secure the Cover.
- 6 Reinstall the Bottom Bin Assembly.
- 7 Reinstall the Harness Cover.

#### 3/99 8-346

## REP 8.5.3.23 Bottom Bin Safety Sensor

### Parts List on PL 8.5.2.5

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Remove the Bottom Bin Assembly (REP 8.5.3.18).
- 4 Turn the Bin Assembly upside down. Remove the three screws that secure the Back Cover to the bottom of the Bin (Figure 8.5.3.23a)
- **5** Remove the screw securing the Safety Sensor Bracket to the Bin, and remove the Bracket along with the attached Safety Sensor (Figure 8.5.3.23a).
- 6 Disconnect J831 from the Sensor (Figure 8.5.3.23a).
- 7 Press in and release the Sensor latches that are securing the Sensor to the Bracket, and remove the Sensor.



#### Figure 8.5.3.23a. Safety Sensor.

#### Replacement

- 1 Position the Bottom Bin Safety Sensor into the Sensor cutout in the Sensor Bracket.
- 2 Reconnect J831 to the Sensor.
- 3 Reinstall the Sensor Bracket making sure to align the position holes in the Bracket.

3/99

8-347

- 4 Use one screw to secure the Bracket to the Bin.
- 5 Reinstall the Back Cover.
- 6 Reinstall the Bottom Bin Assembly.
- 7 Reinstall the Harness Cover.

## REP 8.5.3.24 Bottom Bin Motor

### Parts List on PL 8.5.2.5

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Remove the Bottom Bin Assembly (REP 8.5.3.18).
- 4 Remove the Bottom Bin Rear Cover (REP 8.5.3.19).
- **5** Remove the four screws securing the Motor Bracket to the Bin, and remove the Bracket and attached Motor (Figure 8.5.3.24a).
- 6 Remove the E-ring securing the Gear to the Motor shaft, and remove the Gear (Figure 8.5.3.24a).
- **7** Remove the two screws securing the Motor to the Bracket, and remove the Motor (Figure 8.5.3.24a).



#### Figure 8.5.3.24a. Bin Motor.

- 1 Reinstall the Motor on the Motor Bracket, and use two screws to secure the Motor.
- 2 Reinstall the Gear onto the end of the Motor shaft and secure with the E-ring.
- 3 Reinstall the Motor Bracket. Use four screws to secure the Bracket.
- 4 Reinstall the Back Cover.
- 5 Reinstall the Bottom Bin Assembly.
- 6 Reinstall the Harness Cover.

# REP 8.5.3.25 Bottom Bin Front Cover

## Parts List on PL 8.5.2.5

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- **3** Remove the Bottom Bin Assembly (REP 8.5.3.18).
- **4** Release the locking tab on the Bottom of the Front Cover, and remove the Cover (Figure 8.5.3.25a).



#### Figure 8.5.3.25a. Bottom Bin Front Cover.

- 1 Reinstall the Front Cover onto the Bottom Bin.
- 2 Reinstall the Bottom Bin Assembly.
- 3 Reinstall the Harness Cover.

## REP 8.5.3.26 Bottom Bin Drive Belts

#### Parts List on PL 8.5.2.6

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Remove the Bottom Bin Assembly (REP 8.5.3.18).
- 4 Remove the Bottom Bin Rear Cover (REP 8.5.3.19).
- 5 Remove the Bottom Bin Motor (REP 8.5.3.24)
- 6 Remove the Bottom Bin Front Cover (REP 8.5.3.25).
- 7 Remove the screw securing the Sensor Bracket to the Bin Frame, and remove the Bracket (Figure 8.5.3.26a).
- 8 Unhook the Front and Rear Tension Springs from the Tension Plates (Figure 8.5.3.26a).
- **9** Loosen the screws (two each) securing the Front and Rear Tension Plates to the Bin Frame (Figure 8.5.3.26a).
- **10** Remove the two screws securing the Limit Actuator to the Bin Frame, and remove the Actuator (Figure 8.5.3.26a).
- **11** Remove the E ring that secures the Drive Gear to the shaft, and remove the Drive Gear (Figure 8.5.3.26a).
- 12 Remove the screws (two each) securing the Front and Rear Belt Clamps to the Bin, and remove the Clamps (Figure 8.5.3.26a).
- **13** Remove the Front and Rear Belts (Figure 8.5.3.26a).

- 1 Reinstall the Front and Rear Drive Belts and secure with the Belt Clamps and screws.
- 2 Reinstall the Tension Springs on the Tension Plates.
- 3 Ensure the Bottom Bin is level within the Bottom Bin Assembly. If necessary, skip the belt teeth over the pulley until the bin is level.
- 4 Tighten the Tension Plate screws.
- 5 Reinstall the Drive Gear on the shaft, and use an E-ring to secure the Gear.
- 6 Reinstall the Limit Actuator on the frame, and use two screws to secure the Actuator.
- 7 Reinstall the Sensor Bracket on the Bin Frame, ensure the Limit Actuator tab is aligned properly in the Sensor Bracket. Use screw to secure the Bracket.
- 8 Reinstall the Bottom Bin Motor and Bracket.
- 9 Reinstall the Bottom Bin Front Cover.
- **10** Reinstall the Bottom Bin Rear Cover.
- **11** Reinstall the Bottom Bin Assembly.
- **12** Reinstall the Harness Cover.

Figure 8.5.3.26a. Bottom Bin Drive Belts.



SER815XA

## REP 8.5.3.27 Bottom Bin

## Parts List on PL 8.5.2.5

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Remove the Bottom Bin Assembly (REP 8.5.3.18).
- 4 Remove the Bottom Bin Rear Cover (REP 8.5.3.19).
- 5 Remove the Bottom Bin Motor (REP 8.5.3.24)
- 6 Remove the Bottom Bin Front Cover (REP 8.5.3.25).
- 7 Remove both Bottom Bin Drive Belts (REP 8.5.3.26).
- 8 Remove the Bottom Bin Paper Sensor (REP 8.5.3.22) and Sensor Actuator.
- 9 Remove the Bottom Bin Safety Sensor (REP 8.5.3.23).
- **10** Slide the Bin out of the slots in the Front and Rear Bin Frames, and remove the Bin (Figure 8.5.3.27a).
- 11 Remove the four screws securing the Carriage to the Bin, and remove the Bin (Figure 8.5.3.27a).

- 1 Reinstall the Carriage onto the Bin, and use four screws to secure the Carriage.
- 2 Reinstall the Bin into the slots in the Front and Rear Bin Frames.
- 3 Reinstall the Bottom Bin Safety Sensor.
- 4 Reinstall the Bottom Bin Paper Sensor and Sensor Actuator.
- 5 Reinstall both Bottom Bin Drive Belts.
- 6 Reinstall the Bottom Bin Front Cover.
- 7 Reinstall the Bottom Bin Motor.
- 8 Reinstall the Bottom Bin Rear Cover.
- 9 Reinstall the Bottom Bin Assembly.
- **10** Reinstall the Harness Cover.

## Figure 8.5.3.27a. Bottom Bin.





# REP 8.5.3.28 Middle Bin Assembly

## Parts List on PL 8.5.2.7

## Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Release the three locking tabs and remove the bottom Harness Guide Cover (Figure 8.5.3.28a).
- 4 Free the wire harnesses in the Harness Guide, from the harness clips.
- 5 Disconnect J887A, J870, J872A, and J873A (Figure 8.5.3.28a).
- 6 Remove the screw securing the Bottom Harness Guide, and remove the Guide (Figure 8.5.3.28a).
- 7 Release the three locking tabs and remove the Top Harness Guide Cover (Figure 8.5.3.28a).
- 8 Remove the screw securing the top Harness Guide, and remove the Guide (Figure 8.5.3.28a).
- **9** Remove the two screws securing the bottom of the Middle Bin Assembly to the Finisher frame (Figure 8.5.3.28a).
- **10** Loosen the two screws securing the top of the Middle Bin Assembly to the Finisher frame (Figure 8.5.3.28a).
- **11** Lift the Middle Bin Assembly off of the top screws, and remove the Assembly from the frame.

- 1 Reinstall the Middle Bin Assembly by hooking the keyhole screw holes at the top of the Assembly over the two screws on the frame.
- **2** Use two screws to secure the bottom of the Assembly to the frame.
- 3 Tighten the two top screws.
- 4 Route the Middle Bin Assembly wire harness into the slot in the bottom Harness Guide.
- **5** Reinstall the top Harness Guide, and use one screw to secure it to the frame.
- 6 Reinstall the top Harness Guide Cover.
- 7 Reinstall the bottom Harness Guide, and use one screw to secure it to the frame.
- 8 Reconnect J887A, J870, J872A, and J873A.
- 9 Secure the wire harness into the harness clips.
- **10** Reinstall the bottom Harness Guide Cover.
- **11** Reinstall the Harness Cover.

Figure 8.5.3.28a. Bin Assembly.



## REP 8.5.3.29 Middle Bin Rear Cover

## Parts List on PL 8.5.2.7

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Remove the Middle Bin Assembly (REP 8.5.3.28).
- **4** Turn the Bin Assembly upside down. Remove the three screws that secure the Back Cover to the bottom of the bin (Figure 8.5.3.29a).
- **5** Disconnect J895A (Figure 8.5.3.29a).
- 6 Remove the screw that secures the cable clamp to the bin (Figure 8.5.3.29a).
- 7 Turn the Bin Assembly right side up.



Figure 8.5.3.29a. Back Cover.

- 8 Slide the Rear Harness Cover off of the Middle Bin Rear Cover (Figure 8.5.3.29b).
- 9 Remove the screw securing the Middle Bin Rear Cover to the Bin Frame (Figure 8.5.3.29b).
- **10** Release the latch at the top of the Rear Cover, and remove the Cover.





- 1 Reinstall the Rear Cover by first latching the top of the Cover, then by using one screw to secure Cover to the Bin Frame.
- **2** Route the wire harness through the opening at the rear of the Cover and slide the Rear Harness Cover into place.

3/99

- **3** Reconnect J895A on the bottom of the bin.
- 4 Secure the cable clamp with the screw.
- **5** Secure the Back Cover using the three screws.
- 6 Reinstall the Middle Bin Assembly.
- 7 Reinstall the Harness Cover.

## REP 8.5.3.30 Middle Bin Half and Full Sensors

## Parts List on PL 8.5.2.7

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Remove the Middle Bin Assembly (REP 8.5.3.28).
- 4 Remove the Middle Bin Rear Cover (REP 8.5.3.29).
- **5** Remove the screw securing the Sensor Bracket to the Bin Frame, and remove the Bracket (Figure 8.5.3.30a).
- 6 Disconnect P857 from the Half Sensor (Figure 8.5.3.30a).
- 7 Press in and release the Half Sensor latches that are securing the Sensor to the Bracket, and remove the Sensor (Figure 8.5.3.30a).
- 8 Disconnect P858 from the Full Sensor (Figure 8.5.3.30a).
- **9** Press in and release the Full Sensor latches that are securing the Sensor to the Bracket, and remove the Sensor (Figure 8.5.3.30a).

## Figure 8.5.3.30a. Middle Bin Half and Full Sensors



- 1 Position the Full Sensor into the Sensor cutout in the Sensor Bracket.
- 2 Reconnect P858 to the Full Sensor.
- **3** Position the Half Sensor into the Sensor cutout in the Sensor Bracket.
- 4 Reconnect P857 to the Half Sensor.
- 5 Reinstall the Sensor Bracket to the Bin Frame, and use one screw to secure it to the frame.
- 6 Reinstall the Rear Cover.
- 7 Reinstall the Middle Bin Assembly.
- 8 Reinstall the Harness Cover.

## REP 8.5.3.31 Middle Bin Lower & Upper Limit Sensors

## Parts List on PL 8.5.2.7

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Remove the Middle Bin Assembly (REP 8.5.3.28).
- 4 Remove the Middle Bin Rear Cover (REP 8.5.3.29).
- **5** Remove the screw securing the Sensor Bracket to the Bin Frame, and remove the Bracket (Figure 8.5.3.31a).
- 6 Disconnect P848 from the Upper Limit Sensor (Figure 8.5.3.31a).
- 7 Press in and release the Sensor latches that are securing the Sensor to the Bracket, and remove the Sensor.
- 8 Disconnect P849 from the Lower Limit Sensor (Figure 8.5.3.31a).
- **9** Press in and release the Sensor latches that are securing the Sensor to the Bracket, and remove the Sensor.



#### Figure 8.5.3.31a. Lower & Upper Limit Sensors.

- 1 Position the Lower Limit Sensor into the Sensor cutout in the Sensor Bracket.
- 2 Reconnect P849 to the Lower Limit Sensor.
- 3 Position the Upper Limit Sensor into the Sensor cutout in the Sensor Bracket.
- 4 Reconnect P848 to the Upper Limit Sensor.
- 5 Reinstall the Sensor Bracket to the Bin Frame, and use one screw to secure it to the frame.
- 6 Reinstall the Rear Cover.
- 7 Reinstall the Middle Bin Assembly.
- 8 Reinstall the Harness Cover.

## REP 8.5.3.32 Middle Bin Paper Sensor

### Parts List on PL 8.5.2.7

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Remove the Middle Bin Assembly (REP 8.5.3.28).
- 4 Turn the Bin Assembly upside down. Remove the three screws that secure the Back Cover to the bottom of the bin (Figure 8.5.3.32a).
- **5** Remove the screw securing the Paper Sensor Bracket to the Bin, and remove the Bracket along with the attached Paper Sensor (Figure 8.5.3.32a).
- 6 Disconnect J856 from the Sensor (Figure 8.5.3.32a).
- 7 Press in and release the Sensor latches that are securing the Sensor to the Bracket, and remove the Sensor.



Figure 8.5.3.32a. Paper Sensor.

#### Replacement

- 1 Position the Middle Bin Paper Sensor and insert it into the Sensor cutout in the Sensor Bracket.
- 2 Reconnect J856 to the Sensor.
- 3 Reinstall the Sensor Bracket making sure to align the position holes in the Bracket.
- 4 Use one screw to secure the Bracket to the Bin.
- 5 Reinstall the Back Cover to the Bin, and use three screws to secure the Cover.
- 6 Reinstall the Middle Bin Assembly.
- 7 Reinstall the Harness Cover.

3/99 8-362

## REP 8.5.3.33 Middle Bin Safety Switch

## Parts List on PL 8.5.2.8

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Remove the Middle Bin Assembly (REP 8.5.3.28).
- 4 Remove the Middle Bin Front Cover (REP 8.5.3.35).
- **5** Disconnect J285A from the Safety Switch (Figure 8.5.3.33a).
- 6 Remove the two screws that secure the switch to the Bin Frame (Figure 8.5.3.33a). Remove the switch.



3/99

8-363

## Figure 8.5.3.33a. Safety Switch.

- 1 Position the Middle Bin Safety Switch and secure with the two screws.
- 2 Make sure the Switch Actuator is under the plastic link.
- 3 Reconnect J285A to the switch.
- 4 Reinstall the Middle Bin Front Cover.
- 5 Reinstall the Middle Bin Assembly.
- 6 Reinstall the Harness Cover.

## REP 8.5.3.34 Middle Bin Motor

## Parts List on PL 8.5.2.7

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Remove the Middle Bin Assembly (REP 8.5.3.28).
- 4 Remove the Middle Bin Rear Cover (REP 8.5.3.29).
- **5** Remove the four screws securing the Motor Bracket to the Bin, and remove the Bracket and attached Motor (Figure 8.5.3.34a).
- 6 Remove the E ring securing the Gear to the Motor shaft, and remove the Gear (Figure 8.5.3.34a).
- **7** Remove the two screws securing the Motor to the Bracket, and remove the Motor (Figure 8.5.3.34a).



#### Figure 8.5.3.34a. Bin Motor.

- 1 Reinstall the Motor on the Motor Bracket, and use two screws to secure the Motor.
- 2 Reinstall the Gear onto the end of the Motor shaft and secure with the E-ring.
- 3 Reinstall the Motor Bracket. Use four screws to secure the Bracket.
- 4 Reinstall the Back Cover.
- 5 Reinstall the Middle Bin Assembly.
- 6 Reinstall the Harness Cover.

# REP 8.5.3.35 Middle Bin Front Cover

## Parts List on PL 8.5.2.7

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Remove the Middle Bin Assembly (REP 8.5.3.28).
- 4 Pry up the Bottom of the Front Cover, and remove the Cover (Figure 8.5.3.35a).



#### Figure 8.5.3.35a. Front Cover.

- 1 Reinstall the Front Cover onto the Middle Bin.
- 2 Reinstall the Middle Bin Assembly.
- 3 Reinstall the Harness Cover.

## REP 8.5.3.36 Middle Bin Drive Belts

#### Parts List on PL 8.5.2.8

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Remove the Middle Bin Assembly (REP 8.5.3.28).
- 4 Remove the Middle Bin Rear Cover (REP 8.5.3.29).
- 5 Remove the Middle Bin Motor (REP 8.5.3.34)
- 6 Remove the Middle Bin Front Cover (REP 8.5.3.35).
- 7 Remove the screw securing the Sensor Bracket to the Bin Frame, and remove the Bracket (Figure 8.5.3.36a).
- 8 Unhook the Front and Rear Tension Springs from the Tension Plates (Figure 8.5.3.36a).
- **9** Loosen the screws (two each) securing the Front and Rear Tension Plates to the Bin Frame (Figure 8.5.3.36a).
- **10** Remove the two screws securing the Limit Actuator to the Bin Frame, and remove the Actuator (Figure 8.5.3.36a).
- **11** Remove the E ring secure the Drive Gear to the shaft, and remove the Drive Gear (Figure 8.5.3.36a).
- **12** Remove the screws (two each) securing the Front and Rear Belt Clamps to the Bin, and remove the Clamps (Figure 8.5.3.36a).
- **13** Remove the Front and Rear Belts (Figure 8.5.3.36a).

- 1 Reinstall the Front and Rear Drive Belts and secure with the Belt Clamps and screws.
- 2 Reinstall the Tension Springs on the Tension Plates.
- **3** Ensure the Middle Bin is level within the Middle Bin Assembly. If necessary, skip the belt teeth over the pulley until the bin is level.
- 4 Tighten the Tension Plate screws.
- 5 Reinstall the Drive Gear on the shaft, and use an E-ring to secure the Gear.
- 6 Reinstall the Limit Actuator on the frame, and use two screws to secure the Actuator.
- 7 Reinstall the Sensor Bracket on the Bin Frame, ensure the Limit Actuator tab is aligned properly in the Sensor Bracket. Use screw to secure the Bracket.
- 8 Reinstall the Middle Bin Motor and Bracket.
- 9 Reinstall the Middle Bin Front Cover.
- **10** Reinstall the Middle Bin Rear Cover.
- **11** Reinstall the Middle Bin Assembly.
- **12** Reinstall the Harness Cover.

Figure 8.5.3.36a. Middle Bin Drive Belts.



SER815XA
## REP 8.5.3.37 Middle Bin

## Parts List on PL 8.5.2.7

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Remove the Middle Bin Assembly (REP 8.5.3.28).
- 4 Remove the Middle Bin Rear Cover (REP 8.5.3.29).
- 5 Remove the Middle Bin Motor (REP 8.5.3.34)
- 6 Remove the Middle Bin Front Cover (REP 8.5.3.35).
- 7 Remove both Middle Bin Drive Belts (REP 8.5.3.36).
- 8 Remove the Middle Bin Paper Sensor (REP 8.5.3.32) and Sensor Actuator.
- **9** Slide the Bin out of the slots in the Front and Rear Bin Frames, and remove the Bin (Figure 8.5.3.37a).
- **10** Remove the four screws securing the Carriage to the Bin, and remove the Bin (Figure 8.5.3.37a).

- 1 Reinstall the Carriage onto the Bin, and use four screws to secure the Carriage.
- 2 Reinstall the Bin into the slots in the Front and Rear Bin Frames.
- **3** Reinstall the Middle Bin Paper Sensor and Sensor Actuator.
- 4 Reinstall both Middle Bin Drive Belts.
- 5 Reinstall the Middle Bin Front Cover.
- 6 Reinstall the Middle Bin Motor.
- 7 Reinstall the Middle Bin Rear Cover.
- 8 Reinstall the Middle Bin Assembly.
- 9 Reinstall the Harness Cover.

#### Figure 8.5.3.37a. Middle Bin.





# REP 8.5.3.38 Top Bin Assembly

#### Parts List on PL 8.5.2.9

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Release the three locking tabs and remove the top Harness Guide Cover (Figure 8.5.3.38a).
- 4 Free the wire harnesses in the Harness Guide, from the harness clips (Figure 8.5.3.38a).
- **5** Disconnect J255, J292A, J294A, J295A, and J296A (Figure 8.5.3.38a).
- 6 Remove the screw securing the top Harness Guide, and remove the Guide (Figure 8.5.3.38a).
- 7 Remove the two screws securing the bottom of the Top Bin Assembly to the Finisher frame (Figure 8.5.3.38a).
- 8 Loosen the two screws securing the top of the Assembly to the Finisher frame (Figure 8.5.3.38a).
- 9 Lift the Top Bin Assembly off of the top screws, and remove the Assembly from the frame.

- 1 Reinstall the Top Bin Assembly by hooking the keyhole screw holes at the top of the Assembly over the two screws on the frame.
- 2 Use two screws to secure the bottom of the Assembly to the frame.
- 3 Tighten the two top screws.
- 4 Reinstall the top Harness Guide, and use one screw to secure it to the frame.
- 5 Route the Top Bin Assembly wire harness into the slot in the Harness Guide.
- 6 Reconnect J255, J292A, J294A, J295A, and J296A.
- 7 Secure the wire harness into the harness clips.
- 8 Reinstall the top Harness Guide Cover.
- 9 Reinstall the Harness Cover.

# Figure 8.5.3.38a. Bin Assembly.



## REP 8.5.3.39 Top Bin Rear Cover

#### Parts List on PL 8.5.2.9

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Remove the Top Bin Assembly (REP 8.5.3.38).
- **4** Turn the Bin Assembly upside down. Remove the three screws that secure the Back Cover to the bottom of the bin (Figure 8.5.3.39a).
- **5** Disconnect J293 (Figure 8.5.3.39a).
- 6 Remove the screw that secures the cable clamp to the bin (Figure 8.5.3.39a).
- 7 Turn the Bin Assembly right side up.



Figure 8.5.3.39a. Back Cover.

- 8 Slide the Rear Harness Cover off of the Top Bin Rear Cover (Figure 8.5.3.39a).
- 9 Remove the screw securing the Top Bin Rear Cover to the Bin Frame (Figure 8.5.3.39a).
- **10** Release the latch at the top of the Rear Cover, and remove the Cover.

Figure 8.5.3.39b. Top Bin Rear Cover.



#### Replacement

- 1 Reinstall the Rear Cover by first latching the top of the Cover, then by using one screw to secure Cover to the Bin Frame.
- **2** Route the wire harness through the opening at the rear of the Cover and slide the Rear Harness Cover into place.

3/99

- **3** Reconnect J293 on the bottom of the bin.
- 4 Secure the cable clamp with the screw.
- **5** Secure the Back Cover using the three screws.
- 6 Reinstall the Top Bin Assembly.
- 7 Reinstall the Harness Cover.

# REP 8.5.3.40 Top Bin Half and Full Sensors

#### Parts List on PL 8.5.2.9

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Remove the Top Bin Assembly (REP 8.5.3.38).
- 4 Remove the Top Bin Rear Cover (REP 8.5.3.39).
- **5** Remove the screw securing the Sensor Bracket to the Bin Frame, and remove the Bracket (Figure 8.5.3.40a).
- 6 Disconnect P251 from the Half Sensor (Figure 8.5.3.40a).
- 7 Press in and release the Half Sensor latches that are securing the Sensor to the Bracket, and remove the Sensor (Figure 8.5.3.40a).
- 8 Disconnect P252 from the Full Sensor (Figure 8.5.3.40a).
- **9** Press in and release the Full Sensor latches that are securing the Sensor to the Bracket, and remove the Sensor (Figure 8.5.3.40a).

#### Figure 8.5.3.40a. Top Bin Half and Full Sensors



- 1 Position the Full Sensor into the Sensor cutout in the Sensor Bracket.
- 2 Reconnect P252 to the Full Sensor.
- 3 Position the Half Sensor into the Sensor cutout in the Sensor Bracket.
- **4** Reconnect P251 to the Half Sensor.
- 5 Reinstall the Sensor Bracket to the Bin Frame, and use one screw to secure it to the frame.
- 6 Reinstall the Rear Cover.
- 7 Reinstall the Top Bin Assembly.
- 8 Reinstall the Harness Cover.

# REP 8.5.3.41 Top Bin Lower & Upper Limit Sensors

#### Parts List on PL 8.5.2.9

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Remove the Top Bin Assembly (REP 8.5.3.38).
- 4 Remove the Top Bin Rear Cover (REP 8.5.3.39).
- **5** Remove the screw securing the Sensor Bracket to the Bin Frame, and remove the Bracket (Figure 8.5.3.41a).
- 6 Disconnect P253 from the Upper Limit Sensor (Figure 8.5.3.41a).
- 7 Press in and release the Sensor latches that are securing the Sensor to the Bracket, and remove the Sensor.
- 8 Disconnect P254 from the Lower Limit Sensor (Figure 8.5.3.41a).
- **9** Press in and release the Sensor latches that are securing the Sensor to the Bracket, and remove the Sensor.



#### Figure 8.5.3.41a. Lower & Upper Limit Sensors.

- 1 Position the Lower Limit Sensor into the Sensor cutout in the Sensor Bracket.
- 2 Reconnect P254 to the Lower Limit Sensor.
- 3 Position the Upper Limit Sensor into the Sensor cutout in the Sensor Bracket.
- 4 Reconnect P253 to the Upper Limit Sensor.
- 5 Reinstall the Sensor Bracket to the Bin Frame, and use one screw to secure it to the frame.
- 6 Reinstall the Rear Cover.
- 7 Reinstall the Top Bin Assembly.
- 8 Reinstall the Harness Cover.

## REP 8.5.3.42 Top Bin Paper Sensor

#### Parts List on PL 8.5.2.9

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Remove the Top Bin Assembly (REP 8.5.3.38).
- **4** Turn the Bin Assembly upside down. Remove the three screws that secure the Back Cover to the bottom of the bin (Figure 8.5.3.42a).
- **5** Remove the screw securing the Paper Sensor Bracket to the Bin, and remove the Bracket along with the attached Paper Sensor (Figure 8.5.3.42a).
- 6 Disconnect J250 from the Sensor (Figure 8.5.3.42a).
- 7 Press in and release the Sensor latches that are securing the Sensor to the Bracket, and remove the Sensor.



#### Figure 8.5.3.42a. Paper Sensor.

#### Replacement

- 1 Position the Top Bin Paper Sensor and insert it into the Sensor cutout in the Sensor Bracket.
- **2** Reconnect J250 to the Sensor.
- 3 Reinstall the Sensor Bracket making sure to align the position holes in the Bracket.
- 4 Use one screw to secure the Bracket to the Bin.
- 5 Reinstall the Back Cover to the Bin, and use three screws to secure the Cover.
- 6 Reinstall the Top Bin Assembly.
- 7 Reinstall the Harness Cover.

#### 3/99 8-378

#### Options

# REP 8.5.3.43 Top Bin Front Cover

#### Parts List on PL 8.5.2.9

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Remove the Top Bin Assembly (REP 8.5.3.38).
- **4** Release the locking tab on the bottom of the Front Cover, and remove the Cover (Figure 8.5.3.43a).



#### Figure 8.5.3.43a. Top Bin Front Cover.

- 1 Reinstall the Front Cover onto the Top Bin.
- 2 Reinstall the Top Bin Assembly.
- **3** Reinstall the Harness Cover.

# REP 8.5.3.44 Top Bin Safety Switch

#### Parts List on PL 8.5.2.10

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Remove the Top Bin Assembly (REP 8.5.3.38).
- 4 Remove the Top Bin Front Cover (REP 8.5.3.43).
- 5 Disconnect J852 from the Safety Switch (Figure 8.5.3.44a).
- 6 Remove the two screws that secure the switch to the Bin Frame (Figure 8.5.3.44a). Remove the switch.



#### Figure 8.5.3.44a. Safety Switch.

- 1 Position the Top Bin Safety Switch and secure with the two screws.
- 2 Make sure the Switch Actuator is under the plastic link.
- 3 Reconnect J852 to the switch.
- 4 Reinstall the Top Bin Front Cover.
- **5** Reinstall the Top Bin Assembly.
- 6 Reinstall the Harness Cover.

## REP 8.5.3.45 Top Bin Motor

#### Parts List on PL 8.5.2.9

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Remove the Top Bin Assembly (REP 8.5.3.38).
- 4 Remove the Top Bin Rear Cover (REP 8.5.3.39).
- **5** Remove the four screws securing the Motor Bracket to the Bin, and remove the Bracket and attached Motor (Figure 8.5.3.45a).
- 6 Remove the E ring securing the Gear to the Motor shaft, and remove the Gear (Figure 8.5.3.45a).
- **7** Remove the two screws securing the Motor to the Bracket, and remove the Motor (Figure 8.5.3.45a).



#### Figure 8.5.3.45a. Bin Motor.

#### Replacement

1 Reinstall the Motor on the Motor Bracket, and use two screws to secure the Motor.

3/99

- 2 Reinstall the Gear onto the end of the Motor shaft and secure with the E-ring.
- 3 Reinstall the Motor Bracket. Use four screws to secure the Bracket.
- 4 Reinstall the Back Cover.
- 5 Reinstall the Top Bin Assembly.
- 6 Reinstall the Harness Cover.

## REP 8.5.3.46 Top Bin Drive Belts

#### Parts List on PL 8.5.2.10

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Remove the Top Bin Assembly (REP 8.5.3.38).
- 4 Remove the Top Bin Rear Cover (REP 8.5.3.39).
- 5 Remove the Top Bin Motor (REP 8.5.3.45)
- 6 Remove the Top Bin Front Cover (REP 8.5.3.43).
- 7 Remove the screw securing the Sensor Bracket to the Bin Frame, and remove the Bracket (Figure 8.5.3.46a).
- 8 Unhook the Front and Rear Tension Springs from the Tension Plates (Figure 8.5.3.46a).
- **9** Loosen the screws (two each) securing the Front and Rear Tension Plates to the Bin Frame (Figure 8.5.3.46a).
- **10** Remove the two screws securing the Limit Actuator to the Bin Frame, and remove the Actuator (Figure 8.5.3.46a).
- **11** Remove the E ring secure the Drive Gear to the shaft, and remove the Drive Gear (Figure 8.5.3.46a).
- 12 Remove the screws (two each) securing the Front and Rear Belt Clamps to the Bin, and remove the Clamps (Figure 8.5.3.46a).
- **13** Remove the Front and Rear Belts (Figure 8.5.3.46a).

- 1 Reinstall the Front and Rear Drive Belts and secure with the Belt Clamps and screws.
- 2 Reinstall the Tension Springs on the Tension Plates.
- **3** Ensure the Top Bin is level within the Top Bin Assembly. If necessary, skip the belt teeth over the pulley until the bin is level.
- **4** Tighten the Tension Plate screws.
- 5 Reinstall the Drive Gear on the shaft, and use an E-ring to secure the Gear.
- 6 Reinstall the Limit Actuator on the frame, and use two screws to secure the Actuator.
- 7 Reinstall the Sensor Bracket on the Bin Frame, ensure the Limit Actuator tab is aligned properly in the Sensor Bracket. Use screw to secure the Bracket.
- 8 Reinstall the Top Bin Motor and Bracket.
- 9 Reinstall the Top Bin Front Cover.
- 10 Reinstall the Top Bin Rear Cover.
- **11** Reinstall the Top Bin Assembly.
- **12** Reinstall the Harness Cover.

Figure 8.5.3.46a. Top Bin Drive Belts.



SER815XA

## REP 8.5.3.47 Top Bin

#### Parts List on PL 8.5.2.9

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Harness Cover (REP 8.5.3.8).
- 3 Remove the Top Bin Assembly (REP 8.5.3.38).
- 4 Remove the Top Bin Rear Cover (REP 8.5.3.39).
- 5 Remove the Top Bin Motor (REP 8.5.3.45)
- 6 Remove the Top Bin Front Cover (REP 8.5.3.43).
- 7 Remove both Top Bin Drive Belts (REP 8.5.3.46).
- 8 Remove the Top Bin Paper Sensor (REP 8.5.3.42) and Sensor Actuator.
- **9** Slide the Bin out of the slots in the Front and Rear Bin Frames, and remove the Bin (Figure 8.5.3.47a).
- **10** Remove the four screws securing the Carriage to the Bin, and remove the Bin (Figure 8.5.3.47a).

- 1 Reinstall the Carriage onto the Bin, and use four screws to secure the Carriage.
- 2 Reinstall the Bin into the slots in the Front and Rear Bin Frames.
- **3** Reinstall the Top Bin Paper Sensor and Sensor Actuator.
- 4 Reinstall both Top Bin Drive Belts.
- 5 Reinstall the Top Bin Front Cover.
- 6 Reinstall the Top Bin Motor.
- 7 Reinstall the Top Bin Rear Cover.
- 8 Reinstall the Top Bin Assembly.
- 9 Reinstall the Harness Cover.

Figure 8.5.3.47a. Top Bin.





# REP 8.5.3.48 Right Rack Cover Assembly

#### Parts List on PL 8.5.2.3

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Disconnect the Finisher from the Printer (REP 8.5.3.1).
- **3** Remove the Harness Cover (REP 8.5.3.8).
- 4 Remove the Bottom Bin Assembly (REP 8.5.3.18).
- 5 Remove the Middle Bin Assembly (REP 8.5.3.28).
- 6 Remove the Top Bin Assembly (REP 8.5.3.38).
- 7 Remove the Lower Left Cover (REP 8.5.3.6).
- 8 Remove the four screws securing the Elevator Drive Bracket to the Elevator Hinge Bracket (Figure 8.5.3.48a).
- **9** Remove the four screws securing the Elevator Hinge Bracket to the Right Rail Cover (Figure 8.5.3.48a). Remove the Hinge Bracket.
- **10** Remove the six screws securing the Rail to the two channels of the Finisher Frame (Figure 8.5.3.48a). Lift the Rail up and off of the frame.
- **11** Remove the seven screws securing the Right Rack Cover to the Finisher Frame (Figure 8.5.3.48a).
- **12** Pull the Cover away from the frame far enough to disconnect the limit switches.
- **13** Disconnect J273 (Upper Limit Switch) (Figure 8.5.3.48a).
- 14 Disconnect J274 (Lower Limit Switch) (Figure 8.5.3.48a).

#### Replacement

- 1 Position the Right Rack Cover up to the Finisher Frame.
- 2 Reconnect J274 (Lower Limit Switch).
- **3** Reconnect J273 (Upper Limit Switch).
- 4 Secure the Right Rack Cover with the seven screws.
- **5** Position the Rail into the two channels of the Finisher Frame. Use the six screws to secure the Rail to the channels.
- 6 Reinstall the Elevator Hinge Bracket to the R/H Rack Cover, and use four screws to secure the Bracket.

3/99

8-386

- 7 Use the four screws to secure the Elevator Drive Bracket to the Hinge Bracket.
- 8 Reinstall the Lower Left Cover.
- 9 Reinstall the Top Bin Assembly.
- **10** Reinstall the Middle Bin Assembly.
- **11** Reinstall the Bottom Bin Assembly.

- 12 Reinstall the Harness Cover.
- **13** Reconnect the Finisher to the Printer.



Figure 8.5.3.48a. Right Rack Cover Assembly.

## REP 8.5.3.49 Tamper Motor

### Parts List on PL 8.5.2.11

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Lower the Stacker Elevator so the Bottom Bin is at the lowest possible position.
- **3** Disconnect the Finisher from the Printer (REP 8.5.3.1).
- 4 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3)
- 5 Remove the Upper Rear Cover (REP 8.5.3.5).
- 6 Remove the Transport Assembly (REP 8.5.3.11).
- 7 Remove the Upper Left Cover (REP 8.5.3.12).
- 8 Remove the four screws securing the Tie Plate to the Finisher frame (Figure 8.5.3.49a). Remove the Tie Plate.
- 9 Remove the Top Bin Assembly (REP 8.5.3.38).
- **10** Remove the four screws securing the Eject Roll Chute to the Finisher frame (Figure 8.5.3.49a). Remove the Chute.



Figure 8.5.3.49a. Tie Plate and Eject Roll Chute.

- **11** Disconnect J867 and remove the Tamper Motor Wiring Harness from all cable clips (Figure 8.5.3.49b).
- **12** Accessing the rear of the Tamper Motor, remove the two screws that secure the Motor to the Compiler Bin (Figure 8.5.3.49b).
- **13** Slip the Tamper Motor Drive Belt off of the Motor Pulley (Figure 8.5.3.49b), and remove the Motor.

#### Figure 8.5.3.49b. Tamper Motor.



- 1 Reinstall the Tamper Motor onto the Compiler Bin and slip the Tamper Motor Drive Belt over the Motor Pulley.
- 2 Reposition the Motor so it presses firmly against the Compiler Bin and use the two screws to secure the Motor to the Compiler Bin.
- 3 Reinstall the Eject Roll Chute and use the four screws to secure it to the frame.
- 4 Reinstall the Tie Plate and use the four screws to secure it to the frame.
- **5** Reinstall the Top Bin Assembly.
- 6 Reinstall the Upper Left Cover.
- 7 Reinstall the Transport Assembly.
- 8 Reinstall the Upper Rear Cover.
- 9 Reinstall the Stapler Door Inner Cover Assembly.
- **10** Reconnect the Finisher to the printer.

## REP 8.5.3.50 Tamper Home Sensor

## Parts List on PL 8.5.2.11

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Disconnect the Finisher from the Printer (REP 8.5.3.1).
- 3 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3)
- 4 Remove the Upper Rear Cover (REP 8.5.3.5).
- 5 Remove the Transport Assembly (REP 8.5.3.11).
- 6 Remove the Upper Left Cover (REP 8.5.3.12).
- 7 Remove the four screws securing the Tie Plate to the Finisher frame (Figure 8.5.3.50a). Remove the Tie Plate.



Figure 8.5.3.50a. Tie Plate.

- 8 Loosen the screw securing the Tamper Home Sensor Bracket to the Compiler Bin, and remove the Bracket along with the Tamper Home Sensor (Figure 8.5.3.50b).
- 9 Disconnect P839 from the Sensor (Figure 8.5.3.50b).
- **10** Press in and release the Sensor latches that are securing the Sensor the Sensor to the Bracket, and remove the Sensor (Figure 8.5.3.50b).

#### Figure 8.5.3.50b. Home Sensor.



SR1563X

- 1 Position the Tamper Home Sensor into the Sensor cutout in the Sensor Bracket.
- 2 Reconnect P839 to the Sensor
- **3** Reinstall the Tamper Home Sensor Bracket onto the Compiler Bin, and use one screw to secure the Bracket.
- 4 Reinstall the Tie Plate and use the four screws to secure it to the frame.
- **5** Reinstall the Upper Left Cover.
- 6 Reinstall the Transport Assembly.
- 7 Reinstall the Upper Rear Cover.
- 8 Reinstall the Stapler Door Inner Cover Assembly.
- **9** Reconnect the Finisher to the printer.

# **REP 8.5.3.51 Compiler Paper Sensor**

## Parts List on PL 8.5.2.11

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Disconnect the Finisher from the Printer (REP 8.5.3.1).
- 3 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3)
- 4 Remove the Upper Rear Cover (REP 8.5.3.5).
- 5 Remove the Transport Assembly (REP 8.5.3.11).
- 6 Remove the Upper Left Cover (REP 8.5.3.12).
- 7 Remove the four screws securing the Tie Plate to the Finisher frame (Figure 8.5.3.51a). Remove the Tie Plate.





- 8 Remove the screw securing the Compiler Paper Sensor Bracket to the Compiler Bin (Figure 8.5.3.51b). Remove the Bracket along with the Compiler Paper Sensor.
- 9 Disconnect P843 from the Sensor (Figure 8.5.3.51b).
- **10** Press in and release the Sensor latches that are securing the Sensor the Sensor to the Bracket (Figure 8.5.3.51b). Remove the Sensor.

#### Figure 8.5.3.51b. Paper Sensor.



#### Replacement

- 1 Position the Compiler Paper Sensor into the Sensor cutout in the Sensor Bracket.
- 2 Reconnect P843 to the Sensor
- **3** Reinstall the Compiler Paper Sensor Bracket onto the Compiler Bin, and use one screw to secure the Bracket.

3/99

- 4 Reinstall the Tie Plate and use the four screws to secure it to the frame.
- 5 Reinstall the Upper Left Cover.
- 6 Reinstall the Transport Assembly.
- 7 Reinstall the Upper Rear Cover.
- 8 Reinstall the Stapler Door Inner Cover Assembly.
- 9 Reconnect the Finisher to the printer.

# REP 8.5.3.52 End Wall Open Sensor

## Parts List on PL 8.5.2.11

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- **2** Disconnect the Finisher from the Printer (REP 8.5.3.1).
- 3 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3)
- 4 Remove the Upper Rear Cover (REP 8.5.3.5).
- 5 Remove the Transport Assembly (REP 8.5.3.11).
- 6 Remove the Upper Left Cover (REP 8.5.3.12).
- 7 Remove the four screws securing the Tie Plate to the Finisher frame (Figure 8.5.3.52a). Remove the Tie Plate.



Figure 8.5.3.52a. Tie Plate.

- 8 Press in and release the Sensor latches that are securing the Sensor to the Bracket (Figure 8.5.3.52b). Remove the Sensor.
- 9 Disconnect P840 from the Sensor (Figure 8.5.3.52b).

#### Figure 8.5.3.52b. End Wall Open Sensor.



- 1 Reconnect P840 to the Sensor
- 2 Position the End Wall Open Sensor into the Sensor cutout in the Sensor Bracket.
- 3 Reinstall the Tie Plate and use the four screws to secure it to the frame.
- 4 Reinstall the Upper Left Cover.
- **5** Reinstall the Transport Assembly.
- 6 Reinstall the Upper Rear Cover.
- 7 Reinstall the Stapler Door Inner Cover Assembly.
- 8 Reconnect the Finisher to the printer.

# **REP 8.5.3.53 Tamper Motor Drive Belt**

## Parts List on PL 8.5.2.11

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Lower the Stacker Elevator so the Bottom Bin is at the lowest possible position.
- 3 Disconnect the Finisher from the Printer (REP 8.5.3.1).
- 4 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3)
- 5 Remove the Upper Rear Cover (REP 8.5.3.5).
- 6 Remove the Transport Assembly (REP 8.5.3.11).
- 7 Remove the Upper Left Cover (REP 8.5.3.12).
- 8 Remove the four screws securing the Tie Plate to the Finisher frame (Figure 8.5.3.53a). Remove the Tie Plate.
- 9 Remove the Top Bin Assembly (REP 8.5.3.38).
- **10** Remove the four screws securing the Eject Roll Chute to the Finisher frame (Figure 8.5.3.53a). Remove the Chute.



Figure 8.5.3.53a. Tie Plate and Eject Roll Chute.

- **11** Remove the Tamper Motor (REP 8.5.3.49).
- **12** Loosen, do not remove, the screw on the Belt Holder, and slip the Belt out of the holder (Figure 8.5.3.53b).
- **13** Loosen the screw that secures the Belt Tension Pulley (Figure 8.5.3.53b).
- 14 Slip the Belt off of the Tension Pulley, and remove the Belt (Figure 8.5.3.53b).

#### Figure 8.5.3.53b. Motor Drive Belt.



#### Replacement

- 1 Position the Tamper Motor Drive Belt so the ribs are on the inside of the Belt loop.
- 2 Slip the Belt over the Tension Pulley.
- **3** Insert the Belt between the Top and Bottom of the Belt Holder, and tighten the screw on the Belt Holder.

3/99

- 4 Reinstall the Tamper Motor.
- 5 Tighten the Belt Tension Screw.
- 6 Reinstall the Eject Roll Chute and use the four screws to secure it to the frame.
- 7 Reinstall the Tie Plate and use the four screws to secure it to the frame.
- 8 Reinstall the Top Bin Assembly.
- 9 Reinstall the Upper Left Cover.
- **10** Reinstall the Transport Assembly.
- **11** Reinstall the Upper Rear Cover.
- **12** Reinstall the Stapler Door Inner Cover Assembly.
- **13** Reconnect the Finisher to the printer.

# REP 8.5.3.54 Unload While Run Switch

## Parts List on PL 8.5.2.16

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3).
- **3** Remove the screw securing the Switch Bracket to the Finisher frame (Figure 8.5.3.54a), and remove the Bracket.
- 4 Disconnect J836 from the Switch (Figure 8.5.3.54a).
- 5 Remove the screw securing the Switch to the Bracket (Figure 8.5.3.54a), and remove the Switch.

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## Figure 8.5.3.54a. Unload While Run Switch.

- 1 Reinstall the Unload While Run Switch onto the Switch Bracket.
- 2 Use one screw to secure the Switch to the Bracket.
- **3** Reconnect J836 to the Switch.
- 4 Reinstall the Bracket to the Finisher frame, and use one screw to secure it to the frame.
- 5 Reinstall the Stapler Door Inner Cover Assembly.

# **REP 8.5.3.55 Compiler Bin Solenoid Assembly**

#### Parts List on PL 8.5.2.11

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3).
- 3 Remove the Unload While Run Switch (REP 8.5.3.54).
- 4 Remove the End Wall Motor (REP 8.5.3.56).
- **5** Remove the K Clip securing the End Wall Link to the End Wall Shaft, and slide the Link off of the Shaft (Figure 8.5.3.55a).
- 6 Remove the two screws securing the Compiler Bin Solenoid to the Finisher frame (Figure 8.5.3.55a).
- 7 Slide the Solenoid Link off of the End Wall Shaft, and remove the Solenoid (Figure 8.5.3.55a).
- 8 Disconnect P869 (Figure 8.5.3.55a).

#### Figure 8.5.3.55a. Compiler Bin Solenoid.



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## Replacement

- 1 Reconnect P869.
- 2 Slide the Solenoid Link onto the End Wall Shaft, and position the Compiler Bin Solenoid against the Finisher frame. Use two screws to secure the Solenoid to the frame.
- 3 Slide the End Wall Link onto the End Wall Shaft, and use a K Clip to secure the Link to the Shaft.

3/99

8-399

- 4 Reinstall the End Wall Motor.
- 5 Reinstall the Unload While Run Switch.
- 6 Reinstall the Stapler Door Inner Cover Assembly.

# REP 8.5.3.56 End Wall Motor

#### Parts List on PL 8.5.2.16

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3).
- 3 Remove the Unload While Run Switch (REP 8.5.3.54).
- **4** Remove the two screws securing the Harness Holder to the Finisher frame (Figure 8.5.3.56a). Push the Holder out of the way.
- 5 Remove the End Wall Spring (Figure 8.5.3.56a).
- 6 Remove the two screws securing the End Wall Motor Bracket to the Finisher frame (Figure 8.5.3.56a). Remove the Bracket along with the Attached End Wall Motor.
- 7 Release the End Wall Motor wire harness from the harness clips (Figure 8.5.3.56a).
- 8 Disconnect the End Wall Motor wire harness at the back of the motor or disconnect P868 (Figure 8.5.3.56a).
- **9** Remove the two screws securing the End Wall Motor to the Bracket, and remove the Motor (Figure 8.5.3.56a).

- 1 Reinstall the End Wall Motor onto the Motor Bracket.
- 2 Reconnect the End Wall Motor Wire Harness.
- **3** Reinstall the End Wall Motor Bracket onto the Finisher frame, making sure the End Wall Link is captured inside the End Wall Motor yoke.
- 4 Use two screws to secure the End Wall Motor Bracket to the Finisher frame.
- **5** Reinstall the End Wall Spring, with one end of the Spring attached to the End Wall Motor Bracket and the other end attached to the end of the End Wall Link.
- 6 Route the End Wall Motor wire harness through the harness clips.
- 7 Reinstall the Harness Holder and use two screws to secure the Holder to the Finisher frame.
- 8 Reinstall the Unload While Run Switch.
- 9 Reinstall the Stapler Door Inner Cover Assembly.

#### Figure 8.5.3.56a. End Wall Motor.



# REP 8.5.3.57 Eject Clamp Sensor

#### Parts List on PL 8.5.2.19

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Upper Rear Cover (REP 8.5.3.5).
- **3** Remove the wire harnesses from the wire clamps that are attached to the Eject Bracket (Figure 8.5.3.57a).
- 4 Remove the screw securing the Eject Clamp Sensor Bracket to the Eject Bracket, and remove the Sensor Bracket, along with Sensor (Figure 8.5.3.57a).
- **5** Disconnect P841 from the Sensor (Figure 8.5.3.57a).
- 6 Press in and release the Sensor latches that secure the Sensor to the Bracket, and remove the Sensor (Figure 8.5.3.57a).



#### Figure 8.5.3.57a. Eject Clamp Sensor.

- 1 Position the Eject Clamp Sensor into cutout in the Eject Clamp Sensor Bracket.
- **2** Reconnect P841 to the Sensor.
- **3** Reinstall the Eject Clamp Sensor Bracket onto the Eject Bracket. Use one screw to secure the Sensor Bracket.
- 4 Reinstall the wire harnesses to the wire clamps that are attached to the Eject Bracket.
- **5** Reinstall the Upper Rear Cover.
## REP 8.5.3.58 Offset Home Sensor

#### Parts List on PL 8.5.2.19

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Upper Rear Cover (REP 8.5.3.5).
- **3** Remove the two screws securing the Offset Home Sensor Bracket to the Finisher frame, and remove the Bracket (Figure 8.5.3.58a).
- 4 Free the two wire harnesses from the wire clamp that is attached to the Bracket.
- 5 Disconnect J844 from the Offset Home Sensor (Figure 8.5.3.58a).
- 6 Press in and release the Sensor latches that secure the Sensor to the Bracket, and remove the Sensor (Figure 8.5.3.58a).



Figure 8.5.3.58a. Offset Home Sensor.

- 1 Position the Offset Home Sensor into the cutout in the Sensor Bracket.
- 2 Reconnect J844 to the Offset Home Sensor.
- 3 Secure the two wire harnesses in the wire clamp that is attached to the Bracket.
- 4 Reinstall the Offset Home Sensor Bracket onto the Finisher frame. Use two screws to secure the Bracket to the frame.
- 5 Reinstall the Upper Rear Cover.

# REP 8.5.3.59 Eject Bracket Assembly

#### Parts List on PL 8.5.2.19

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Roll the Finisher away from the printer until it stops.
- **3** Remove the Upper Rear Cover (REP 8.5.3.5).
- 4 Remove the Eject Clamp Sensor (REP 8.5.3.57).
- 5 Remove the Offset Home Sensor (REP 8.5.3.58).
- 6 Disconnect P863 and free the harness from all cable clamps (Figure 8.5.3.59a).
- 7 Remove the three screws securing the Harness Bracket Assembly to the Finisher frame, and remove the Assembly (Figure 8.5.3.59a).
- 8 Unhook the Tension Spring from the Eject Bracket Assembly (Figure 8.5.3.59a).
- **9** Remove the four screws securing the Eject Bracket Assembly to the Finisher frame, and remove the Assembly (Figure 8.5.3.59a).



## Figure 8.5.3.59a. Eject Bracket Assembly.

- 1 Reinstall the Eject Bracket Assembly onto the Finisher frame. Ensure the cam follower pin on the Offset Lever is correctly positioned in the cam in the Exit Bracket Assembly.
- 2 Use four screws to secure the Assembly.
- **3** Hook the Tension Spring onto the Eject Bracket Assembly.
- 4 Reinstall the Harness Bracket Assembly to the Finisher frame, and use three screws to secure the Bracket.
- **5** Ensure that J842 to the Set Clamp Sensor did not accidentally become disconnected when the Harness Bracket Assembly was moved.
- 6 Reinstall the Offset Home Sensor.
- 7 Reconnect P863 and replace the harness in the harness clamps
- 8 Reinstall the Eject Clamp Sensor.
- **9** Reinstall the Upper Rear Cover.
- **10** Reconnect the Finisher to the printer.

## REP 8.5.3.60 Set Clamp Motor and Drive Belt

### Parts List on PL 8.5.2.17

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Roll the Finisher away from the printer until it stops.
- **3** Remove the Upper Rear Cover (REP 8.5.3.5).
- 4 Remove the Eject Clamp Sensor (REP 8.5.3.57).
- 5 Remove the Offset Home Sensor (REP 8.5.3.58).
- 6 Remove the Eject Bracket Assembly (REP 8.5.3.59).
- NOTE: It may be necessary to remove the Harness Cover (REP 8.5.3.8) and the Finisher PWB Cover (REP 8.5.3.10) to access P864.
  - 7 Disconnect P864(Figure 8.5.3.60a).
  - 8 Disconnect J842 (Figure 8.5.3.60a).
  - **9** Remove the two screws securing the Motor Bracket to the Finisher frame, and pull the Bracket away from the Finisher frame (Figure 8.5.3.60a).
  - **10** Free the Set Clamp Drive Belt from the Motor Pulley, and remove the Motor Bracket (Figure 8.5.3.60a).
  - **11** Remove the E ring securing the Shaft Pulley to the Motor Shaft, and remove the Pulley (Figure 8.5.3.60a).
  - **12** Remove the two screws securing the Set Clamp Motor to the Motor Bracket, and remove the Motor (Figure 8.5.3.60a).
  - 13 Remove the Set Clamp Motor Drive Belt from the Eject Pulley.

#### Figure 8.5.3.60a. Set Clamp Motor.



- 1 Reinstall the Set Clamp Motor onto the Motor Bracket, and use two screws to secure the Motor.
- 2 Slide the Shaft Pulley, with the lip facing away from the Motor, onto the Motor Shaft. Use the Ering to secure the Pulley to the Shaft.
- **3** Reinstall the Motor Bracket onto the Finisher frame, by first slipping the Set Clamp Drive Belt over the Shaft Pulley. Use two screws to secure the Motor Bracket to the Finisher frame.
- 4 Reconnect P864 and J842.
- 5 If removed, reinstall the Finisher PWB Cover and the Harness Cover.
- 6 Reinstall the Eject Bracket Assembly.
- 7 Reinstall the Offset Home Sensor.
- 8 Reinstall the Eject Clamp Sensor.
- 9 Reinstall the Upper Rear Cover.
- **10** Reconnect the Finisher to the printer.

# **REP 8.5.3.61 Eject Shaft Assemblies**

### Parts List on PL 8.5.2.11

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Roll the Finisher away from the printer until it stops.
- 3 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3).
- 4 Remove the Upper Rear Cover (REP 8.5.3.5).
- 5 Remove the Eject Cover (REP 8.5.3.7).
- 6 Remove the Harness Cover (REP 8.5.3.8).
- 7 Remove the Top Bin Assembly (REP 8.5.3.38).
- 8 Remove the four screws securing the Eject Roll Chute to the Finisher, and remove the Chute (Figure 8.5.3.61a).
- 9 Remove the Eject Clamp Sensor (REP 8.5.3.57).
- **10** Remove the Offset Home Sensor (REP 8.5.3.58).
- 11 Remove the Eject Bracket Assembly (REP 8.5.3.59).
- **12** Remove the Set Clamp Motor (REP 8.5.3.60).
- **13** Remove the E ring securing the Set Clamp Actuator to Shaft 1, and remove the Actuator, Pulley, and rear metal bearing (Figure 8.5.3.61a).
- **14** Remove the E ring securing the front metal bearing for Shaft 1, and remove the front bearing (Figure 8.5.3.61a).
- **15** Remove the E ring securing the Offset Lever to Shaft 2, and remove the Offset Lever (Figure 8.5.3.61a).
- **16** Remove the E ring securing the Eject Gear to Shaft 2, and remove the Eject Gear (Figure 8.5.3.61a).
- **17** Remove the screw securing the rear plastic bearing to Shaft 2, and slide the rear bearing off of the Shaft (Figure 8.5.3.61a).
- **18** Remove the screw securing the front plastic bearing to Shaft 2, and slide the front bearing off of the Shaft (Figure 8.5.3.61a).
- **19** Remove Shaft 1 and Shaft 2 (the Eject Shaft Assemblies) as a unit (Figure 8.5.3.61a).

- 1 Reinstall the Eject Shaft Assemblies into the Finisher frame.
- 2 Slide the front and the rear metal bearings over the ends of Shaft 1.
- **3** Position the Compiler Bin so the arms at the front and rear of the Bin line up with Shaft 1.
- 4 Slide the front and the rear metal bearings into the bearing cutouts in the Finisher frame, and through the arms of the Compiler Bin.
- 5 Use an E-ring to secure the front metal bearing to the front end of Shaft 1.

- 6 Slide the Pulley and the Set Clamp Actuator over the rear end of Shaft 1, and use an E-ring to secure them to the Shaft.
- 7 Slide the front plastic bearing onto the front end of Shaft 2, and use one screw to secure the bearing to the Finisher frame.
- 8 Slide the rear plastic bearing onto the rear end of Shaft 2, and use one screw to secure the bearing to the Finisher frame.
- **9** Slide the Eject Gear onto the rear end of Shaft 2, and use an E-ring to secure the Gear to the Shaft.
- **10** Slide the Offset Lever over the rear end of Shaft 2, and use an E-ring to secure the Offset Lever.
- 11 Reinstall the Set Clamp Motor.
- 12 Reinstall the Eject Bracket Assembly.
- 13 Reinstall the Offset Home Sensor.
- **14** Reinstall the Eject Clamp Sensor.
- **15** Reinstall the Eject Roll Chute, and use four screws to secure the Chute.
- **16** Reinstall the Top Bin Assembly.
- 17 Reinstall the Harness Cover.
- 18 Reinstall the Eject Cover.
- **19** Reinstall the Upper Rear Cover.
- 20 Reconnect the Finisher to the printer.

#### Figure 8.5.3.61a. Eject Shaft.



## REP 8.5.3.62 Eject Chute Assembly

## Parts List on PL 8.5.2.13

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3).
- 3 Remove the Upper Rear Cover (REP 8.5.3.5).
- 4 Remove the Eject Cover (REP 8.5.3.7).
- **5** Remove the E-ring securing the Offset Lever to the rear of the Eject Pinch Roll Shaft. Slide the Offset Lever off the Eject Pinch Roll Shaft (rotate the Offset Cam if necessary) (Figure 8.5.3.62a).
- 6 Remove the screw securing the Lever to the Eject Pinch Roll Shaft. Remove the Lever (Figure 8.5.3.62a).
- 7 Remove the screw securing the rear Pinch Roll Bearing to the Finisher frame, and slide the Bearing to the rear (Figure 8.5.3.62a).
- 8 Remove the screw securing the front Pinch Roll Bearing to the Finisher frame, and slide the Bearing to the front (Figure 8.5.3.62a).
- **9** Lift the Eject Chute Assembly and the Pinch Roll Assembly and remove the Eject Chute Assembly from the Finisher frame (Figure 8.5.3.62a).



#### Figure 8.5.3.62a. Eject Chute.

- 1 Reinstall the Eject Chute Assembly by first sliding the Stack Height Actuator and the Pinch Rolls through the cutout in the Assembly.
- 2 Hook the two arms of the Eject Chute Assembly over the Pinch Roll Shaft.
- **3** Slide the front Pinch Roll Bearing to the rear so the arms of the Eject Chute Assembly ride on the Bearing. Use one screw to secure the Bearing to the Finisher frame.
- 4 Slide the rear Pinch Roll Bearing to the front so the arms of the Eject Chute Assembly ride on the Bearing. Use one screw to secure the Bearing to the Finisher frame.
- 5 Insert the Lever on the shaft and secure with the one screw.
- 6 Insert the Offset Lever into the Offset Cam and onto the Eject Pinch Roll Shaft. Use the E-ring to secure the lever.
- 7 Raise and lower the Eject Chute Assembly to make sure it moves freely, and the Stack Height Actuator and Pinch Rolls also move freely.
- 8 Reinstall the Eject Cover.
- **9** Reinstall the Upper Rear Cover.
- **10** Reinstall the Stapler Door Inner Cover Assembly.

# **REP 8.5.3.63 Eject Pinch Roll Shaft Assembly**

### Parts List on PL 8.5.2.13

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3).
- 3 Remove the Upper Rear Cover (REP 8.5.3.5).
- 4 Remove the Eject Cover (REP 8.5.3.7).
- **5** Remove the Eject Chute Assembly (REP 8.5.3.62).
- 6 Remove the front and rear bearings from the Eject Pinch Roll Shaft (Figure 8.5.3.63a).
- 7 Disconnect J832 from the Stack Height Sensor (Figure 8.5.3.63a).
- 8 Slide the Eject Pinch Roll Shaft Assembly to the rear and remove it from the Finisher (Figure 8.5.3.63a).



Figure 8.5.3.63a. Eject Pinch Roll Shaft.

- 1 Insert the rear of the Eject Pinch Roll Shaft Assembly into the bearing hole at the rear of the Finisher.
- 2 Insert the front of the Eject Pinch Roll Shaft Assembly into the bearing hole at the front of the Finisher.
- **3** Reconnect J832 to the Stack Height Sensor.
- 4 Slide the front and rear bearings over the ends of the Eject Pinch Roll Shaft.
- **5** Reinstall the Eject Chute Assembly.
- 6 Raise and lower the Eject Chute Assembly to make sure it moves freely, and the Stack Height Actuator and Pinch Rolls also move freely.
- 7 Reinstall the Eject Cover.
- 8 Reinstall the Upper Rear Cover.
- 9 Reinstall the Stapler Door Inner Cover Assembly.

# REP 8.5.3.64 Upper Exit Chute Assembly

### Parts List on PL 8.5.2.12

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3).
- 3 Remove the Upper Rear Cover (REP 8.5.3.5).
- 4 Remove the Eject Cover (REP 8.5.3.7).
- 5 Remove the Eject Chute Assembly (REP 8.5.3.62).
- 6 Remove the Eject Pinch Roll Shaft Assembly (REP 8.5.3.63).
- 7 Remove the screw securing the Finisher Interlock Switch Bracket to the front of the Finisher frame, and remove the Bracket so you can access one of the Upper Exit Chute Assembly screws (Figure 8.5.3.64a).
- 8 Remove the two screws securing the Upper Exit Chute Assembly to the front Finisher frame (Figure 8.5.3.64a).
- **9** Remove the two screws securing the Upper Exit Chute Assembly to the rear Finisher frame (Figure 8.5.3.64a).
- **10** Rotate the Upper Exit Chute Assembly and remove the Assembly from the Finisher (Figure 8.5.3.64a).



#### Figure 8.5.3.64a. Upper Exit Chute.

- 1 Reinstall the Upper Exit Chute Assembly into the Finisher frame. Use four screws to secure the front and rear of the Upper Exit Chute Assembly.
- 2 Reinstall the Finisher Interlock Switch Bracket to the front of the Finisher frame, and use one screw to secure the Bracket.
- 3 Reinstall the Eject Pinch Roll Shaft Assembly.
- **4** Reinstall the Exit Chute Assembly.
- 5 Reinstall the Eject Cover.
- 6 Reinstall the Upper Rear Cover.
- 7 Reinstall the Stapler Door Inner Cover Assembly.

## REP 8.5.3.65 Exit Shaft Assembly

#### Parts List on PL 8.5.2.12

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3).
- 3 Remove the Upper Rear Cover (REP 8.5.3.5).
- 4 Remove the Eject Cover (REP 8.5.3.7).
- 5 Remove the Eject Chute Assembly (REP 8.5.3.62).
- 6 Remove the Eject Pinch Roll Shaft Assembly (REP 8.5.3.63).
- 7 Remove the Upper Exit Chute Assembly (REP 8.5.3.64).
- 8 Remove the E ring securing the Paddle Shaft Drive Gear, that is located just below the Exit Shaft Pulley, and remove the Drive Gear (Figure 8.5.3.65a).
- **9** Loosen the two screws that secure the Transport Motor Drive Belt Tension Assembly. Push the idler pulley up to release the tension. Tighten the screws (Figure 8.5.3.65a).
- **10** Remove the screw securing the Exit Shaft Pulley to the Shaft, and remove the Pulley (Figure 8.5.3.65a).
- **11** Remove the E rings securing the front and rear Exit Shaft bearings, and remove the bearings (Figure 8.5.3.65a).
- 12 Slide the Exit Shaft Assembly out of the Finisher frame (Figure 8.5.3.65a).

- 1 Reinstall the Exit Shaft Assembly.
- 2 Reinstall the Exit Shaft Assembly front and rear bearings into the bearing cutouts at the front and rear of the Finisher frame. Use an E-ring at both ends of the Shaft.
- **3** Reinstall the Exit Shaft Pulley onto the Exit Shaft, and use one screw to secure the Pulley to the Shaft.
- 4 Ensure the Transport Motor Drive Belt is properly installed on all pulleys.
- 5 Loosen the screws that secures the Belt Tension Assembly.
- 6 Allow the assembly to properly tension the belt, then tighten the two screws.
- 7 Reinstall the Paddle Shaft Drive Gear and use the E-ring to secure the Gear to the Shaft.
- 8 Reinstall the Upper Exit Chute Assembly.
- 9 Reinstall the Eject Pinch Roll Assembly.
- 10 Reinstall the Eject Chute Assembly
- 11 Reinstall the Eject Cover.
- **12** Reinstall the Upper Rear Cover.
- **13** Reinstall the Stapler Door Inner Cover Assembly.



## REP 8.5.3.66 Paddle Shaft Assembly

### Parts List on PL 8.5.2.12

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3).
- 3 Remove the Upper Rear Cover (REP 8.5.3.5).
- 4 Remove the Eject Cover (REP 8.5.3.7).
- 5 Remove the Eject Chute Assembly (REP 8.5.3.62).
- 6 Remove the Eject Pinch Roll Shaft Assembly (REP 8.5.3.63).
- 7 Remove the Upper Exit Chute Assembly (REP 8.5.3.64).
- 8 Remove the Exit Shaft Assembly (REP 8.5.3.65).
- **9** Remove the E ring securing the rear bearing to the Paddle Drive Shaft, and slide the bearing off of the Shaft (Figure 8.5.3.66a).
- **10** Remove the two screws securing the Exit Chute Assembly to the rear of the Finisher frame (Figure 8.5.3.66a).
- **11** Remove the two screws securing the Exit Chute Assembly to the front of the Finisher frame (Figure 8.5.3.66a).
- **12** Remove the Exit Chute Assembly and place it on a stable work surface (Figure 8.5.3.66a).
- 13 Remove the E rings from both ends of the Paddle Shaft (Figure 8.5.3.66a).
- 14 Slide the Paddle Drive Belt off of the Paddle Drive Pulley (Figure 8.5.3.66a).
- **15** Slide the Paddle Drive Pulley off of the Paddle Shaft (Figure 8.5.3.66a).
- **16** Remove the screw securing the front Paddle Bearing, and slide the bearing off of the Shaft (Figure 8.5.3.66a).
- **17** Remove the screw securing the rear Paddle Bearing, and remove the bearing, Drive Belt, Drive Shaft, and Paddle Shaft from the Exit Chute Assembly (Figure 8.5.3.66a).
- **18** Slide the Paddle Shaft out of the rear bearing (Figure 8.5.3.66a).

- 1 Reinstall the Drive Belt onto the Drive Pulley.
- 2 Slide the end of the Paddle Shaft into the rear bearing.
- 3 Install the Paddle Shaft Assembly, along with the attached rear Paddle Bearing, onto the Exit Chute Assembly. Use one screw to secure the rear bearing to the Exit Chute.
- 4 Reinstall the front Paddle Bearing by sliding the bearing over the front end of the Paddle Shaft. Use one screw to secure the front bearing to the Exit Chute.
- 5 Slide the Paddle Drive Pulley, with the lip facing in, onto the rear of the Paddle Shaft, and use an E ring to secure the Drive Pulley to the Shaft.
- 6 Slide the Drive Belt onto the Paddle Drive Pulley.

- 7 Use an E ring to secure the front of the Paddle Shaft to the front bearing.
- 8 Reinstall the Exit Chute Assembly onto the Finisher frame.
- **9** Use four screws to secure the Exit Chute Assembly to the Finisher frame.
- **10** Slide the metal bearing onto the rear of the Paddle Drive Shaft, and use an E ring to secure the bearing to the rear of the Finisher.
- **11** Reinstall the Exit Shaft Assembly.
- **12** Reinstall the Upper Exit Chute Assembly.
- **13** Reinstall the Eject Pinch Roll Assembly.
- 14 Reinstall the Eject Chute Assembly
- 15 Reinstall the Eject Cover.
- **16** Reinstall the Upper Rear Cover.
- 17 Reinstall the Stapler Door Inner Cover Assembly.

#### Figure 8.5.3.66a. Exit Chute.



## REP 8.5.3.67 Paddle Drive Belt

### Parts List on PL 8.5.2.13

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3).
- 3 Remove the Upper Rear Cover (REP 8.5.3.5).
- 4 Remove the Eject Cover (REP 8.5.3.7).
- 5 Remove the Eject Chute Assembly (REP 8.5.3.62).
- 6 Remove the Eject Pinch Roll Shaft Assembly (REP 8.5.3.63).
- 7 Remove the two screws securing the Front Pinch Roll Cover to the Eject Pinch Roll Shaft, and slide the Cover off of the Shaft (Figure 8.5.3.67a).
- 8 Remove the E ring securing the Paddle Cover Assembly to the Eject Pinch Roll Shaft, and slide the Cover Assembly off of the Shaft (Figure 8.5.3.67a).
- **9** Remove the screw securing the Sensor Bracket to the Paddle Cover Assembly, and remove the Bracket (Figure 8.5.3.67a).
- **10** Pry the Paddle out of the Paddle Cover Assembly (Figure 8.5.3.67a).
- **11** Remove the Paddle Drive Belt (Figure 8.5.3.67a).





- 1 Slip the Paddle Drive Belt over the Paddle Gear.
- 2 Press the Paddle onto the Paddle Cover Assembly.
- **3** Reinstall the Sensor Bracket Assembly onto the Paddle Cover Assembly, and use one screw to secure the Bracket.
- 4 Reinstall the Drive Gear onto the other end of the Belt, and position the Gear in the Paddle Cover Assembly.
- 5 Slide the Paddle Cover Assembly onto the Eject Pinch Roll Shaft. Use an E ring to secure the Paddle Cover Assembly to the Eject Pinch Roll Shaft.
- 6 Slide the Front Pinch Roll Cover onto the Eject Pinch Roll Shaft, and use two screws to secure the Cover to the Shaft.
- 7 Reinstall the Eject Pinch Roll Assembly.
- 8 Reinstall the Eject Chute Assembly.
- **9** Raise and lower the Eject Chute Assembly to make sure it moves freely, and the Stack Height Actuator and Pinch Rolls also move freely.
- 10 Reinstall the Eject Cover.
- **11** Reinstall the Upper Rear Cover.
- **12** Reinstall the Stapler Door Inner Cover Assembly.

## REP 8.5.3.68 Stack Height Sensor

### Parts List on PL 8.5.2.13

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3).
- 3 Remove the Upper Rear Cover (REP 8.5.3.5).
- 4 Remove the Eject Cover (REP 8.5.3.7).
- 5 Remove the Eject Chute Assembly (REP 8.5.3.62).
- 6 Remove the Eject Pinch Roll Shaft Assembly (REP 8.5.3.63).
- 7 Release the latches that are securing the Stack Height Sensor to the Sensor Bracket, and remove the Sensor (Figure 8.5.3.68a).



#### Figure 8.5.3.68a. Stack Height Sensor.

- 1 Position the Stack Height Sensor into the Sensor cutout in the Sensor Bracket.
- 2 Raise and lower the Stack Height Sensor Actuator to make sure the Actuator arm moves freely between the arms of the Stack Height Sensor.
- 3 Reinstall the Eject Pinch Roll Shaft Assembly.
- 4 Reinstall the Eject Chute Assembly.
- **5** Raise and lower the Eject Chute Assembly to make sure it moves freely, and the Stack Height Actuator and Pinch Rolls also move freely.
- 6 Reinstall the Eject Cover.
- 7 Reinstall the Upper Rear Cover.
- 8 Reinstall the Stapler Door Inner Cover Assembly.

## **REP 8.5.3.69 Stapler Assembly**

### Parts List on PL 8.5.2.14

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3).
- **3** Reach in front the side and pull the Stapler Assembly to the front of the Finisher.
- 4 Disconnect J862 from the Stapler Assembly.
- 5 Release the wire harness clip from the side of the Stapler Assembly.
- 6 Remove the two screws securing the Stapler Assembly to the Slider Bracket, and remove the Assembly.
- 7 Release the wire harness from the wire harness clip near the rear of the Stapler Assembly.

Figure 8.5.3.69a. Stapler Assembly.



#### Replacement

- 1 Position the Stapler Assembly near the Slider Bracket.
- 2 Route the wire harness through the wire clip near the rear of the Stapler Assembly.
- **3** Reinstall the Stapler Assembly onto the Slider Bracket, making sure you slide the rear tab of the Stapler into the cutout in the Slider Bracket.

3/99

8-425

- 4 Use two screws to secure the Assembly to the Rail.
- 5 Reinstall the wire harness clip to the side of the Stapler Assembly.
- 6 Reconnect J862 to the Stapler Assembly.
- 7 Reinstall the Stapler Door Inner Cover Assembly.

## **REP 8.5.3.70 Stapler Position Sensors**

### Parts List on PL 8.5.2.14

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- **2** Disconnect the Finisher from the Printer (REP 8.5.3.1).
- 3 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3).
- 4 Remove the Upper Rear Cover (REP 8.5.3.5).
- 5 Remove the Transport Assembly (REP 8.5.3.11).
- 6 Remove the Upper Left Cover (REP 8.5.3.12)
- 7 Remove the Stapler Assembly (REP 8.5.3.69).
- 8 Rotate the Stapler Transport Motor Drive Belt as you slip the Belt off of the Drive Pulley.
- **9** Disconnect P833, P834, and P835 from the Stapler Sensors, and free the wire harnesses from the harness clips that are located on the Stapler Rail (Figure 8.5.3.70a).
- **10** Remove the two screws at the rear of the Finisher and the two screws at the front of the Finisher that secure the Stapler Rail to the Finisher frame, and remove the Rail (Figure 8.5.3.70a).
- **11** Place the Stapler Rail on a flat work surface.
- **12** Remove the screw that secures the Sensor Bracket of the sensor you are changing. Remove the Bracket along with the attached Sensor (Figure 8.5.3.70a).
- **13** Press in and release the Sensor latches that is securing the Sensor to the Bracket, and remove the Sensor (Figure 8.5.3.70a).

- 1 Position the Sensor into the Sensor cutout in the Sensor Bracket.
- 2 Reinstall the Sensor Bracket onto the Stapler Rail, and use one screw to secure the Bracket to the Rail.
- 3 Reinstall the Stapler Rail into the Finisher frame. Use four screws to secure the Rail to the frame.
- 4 Reconnect P833 to the Front Corner Sensor, P834 to the Front Edge Sensor, and P835 to the Rear Edge Sensor.
- 5 Route the wire harness through the harness clips that are located on the Stapler Rail.
- 6 Rotate the Stapler Transport Motor Drive Belt as you slip the Belt onto the Drive Pulley.
- 7 Reinstall the Stapler Assembly.
- 8 Reinstall the Upper Left Cover.
- 9 Reinstall the Transport Assembly.
- **10** Reinstall the Upper Rear Cover.
- 11 Reinstall the Stapler Door Inner Cover Assembly.
- **12** Reconnect the Finisher to the Printer.



## REP 8.5.3.71 Stapler Rail Belt

#### Parts List on PL 8.5.2.14

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Disconnect the Finisher from the Printer (REP 8.5.3.1).
- 3 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3).
- 4 Remove the Upper Rear Cover (REP 8.5.3.5).
- **5** Remove the Transport Assembly (REP 8.5.3.11).
- 6 Remove the Upper Left Cover (REP 8.5.3.12)
- 7 Remove the Stapler Assembly (REP 8.5.3.69).
- 8 Rotate the Stapler Transport Motor Drive Belt as you slip the Belt off of the Drive Pulley.
- **9** Disconnect P833, P834, and P835 from the Stapler Sensors, and free the wire harnesses from the harness clips that are located on the Stapler Rail.
- **10** Remove the two screws at the rear of the Finisher and the two screws at the front of the Finisher that secure the Stapler Rail to the Finisher frame, and remove the Rail.
- 11 Place the Stapler Rail on a flat work surface.
- **12** Remove the two screws securing the Tension Cover to the Rail, and remove the Cover (Figure 8.5.3.71a).
- **13** Remove the ten screws securing the Upper Rail to the Lower Rail, and remove the Upper Rail (Figure 8.5.3.71a).
- 14 Remove the screw securing the Belt Clamp to the Slider Bracket (Figure 8.5.3.71a).
- **15** Remove the Belt from the Lower Rail (Figure 8.5.3.71a).
- **16** Remove the Belt from the Belt Clamp.

- 1 Reinstall the Belt Clamp onto the Belt.
- 2 Reinstall the Belt on the lower rail.
- 3 Reinstall the Belt Clamp onto the Slider Bracket, and use one screw to secure the Clamp.
- 4 Push out on the Tension Bracket so the springs are stretched, and reinstall the Upper Rail onto the Lower Rail.
- **5** Reach under the Lower Rail and position the Belt so the back (non-ribbed side) of the Belt rides against the Tension Roll.
- 6 Release the Tension Bracket.
- 7 Use ten screws to secure the Upper Rail to the Lower Rail.
- 8 Reinstall the Tension Cover over the Tension Bracket, and use two screws to secure the Cover to the Upper Rail.

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- **9** Rotate the Drive Pulley to make sure the Belt tracks correctly and the Slider Bracket moves smoothly along the Rail.
- **10** Reinstall the Stapler Rail into the Finisher frame. Use four screws to secure the Rail to the frame.
- **11** Reconnect P833 to the front Sensor, P834 to the middle Sensor, and P835 to the rear Sensor.
- **12** Route the wire harness through the harness clips that are located on the Stapler Rail.
- **13** Rotate the Stapler Transport Motor Drive Belt as you slip the Belt onto the Drive Pulley.
- **14** Reinstall the Stapler Assembly.
- 15 Reinstall the Upper Left Cover.
- 16 Reinstall the Transport Assembly.
- **17** Reinstall the Upper Rear Cover.
- 18 Reinstall the Stapler Door Inner Cover Assembly.
- **19** Reconnect the Finisher to the Printer.





# REP 8.5.3.72 Top Cover Assembly

## Parts List on PL 8.5.2.15

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Open the Top Cover.
- 3 Remove the screw securing the Cover Bracket to the Cover (Figure 8.5.3.72a).
- **4** Slide the Cover to the side so the pivot slides out of the pivot hole, and pull the Top Cover away from the Finisher (Figure 8.5.3.72a).



#### Figure 8.5.3.72a. Top Cover Assembly.

- 1 Insert the Top Cover pivot into the pivot hole in the Finisher.
- 2 Pull the Bracket up into position against the Top Cover, making sure you align the positioning hole in the Bracket with the positioning tab on the Cover.
- **3** Use one screw to secure the Bracket to the Top Cover.
- 4 Close the Top Cover.

## REP 8.5.3.73 Compiler Bin Exit Sensor

### Parts List on PL 8.5.2.15

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Open the Top Cover.
- **3** Release the latches on the Compiler Bin Exit Sensor, and remove the Sensor from the Transport Chute (Figure 8.5.3.73a).
- 4 Disconnect J838 from the Compiler Bin Exit Sensor (Figure 8.5.3.73a).



#### Figure 8.5.3.73a. Compiler Bin Exit Sensor.

#### Replacement

- 1 Open the Top Cover just enough so you can reach behind the Transport Chute.
- **2** Reconnect J838 to the Compiler Bin Exit Sensor.
- **3** Position the Compiler Bin Exit Sensor behind the Transport Chute. Make sure the Sensor Actuator fits through the actuator cutout in the Chute.

3/99

- 4 Press the latches on the back of the Sensor into the cutouts in the Chute.
- **5** Close the Top Cover.

# REP 8.5.3.74 Transport Motor

## Parts List on PL 8.5.2.17

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Roll the Finisher away from the printer until it stops.
- **3** Remove the Upper Rear Cover (REP 8.5.3.5).
- 4 Disconnect J257 from the Transport Motor (Figure 8.5.3.74a).
- **5** Remove the two screws securing the Transport Motor to the Motor Bracket, and remove the Motor (Figure 8.5.3.74a).



#### Figure 8.5.3.74a. Transport Motor.

- 1 Reinstall the Transport Motor onto the Motor Bracket. Use two screws to secure the Motor to the Bracket.
- 2 Reconnect J257 to the Transport Motor.
- 3 Reinstall the Upper Rear Cover.
- 4 Reconnect the Finisher to the printer.

# **REP 8.5.3.75 Top & Front Cover Interlock Switches**

## Parts List on PL 8.5.2.16

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3).
- 3 Open the Top Cover.
- 4 Disconnect J271 from the Top Cover Interlock Switch.
- **5** Use the flat blade of a screwdriver to push on the interlock switch locking tabs and remove it from the Finisher frame.
- 6 Disconnect J270 from the Front Cover Interlock Switch.
- 7 Use the flat blade of a screwdriver to push on the interlock switch locking tabs and remove it from the Finisher frame.



Figure 8.5.3.75a. Cover Interlock Switches.

- 1 Insert the Interlock Switch into the cutout in the Finisher frame.
- 2 Push in on the Switch until it snaps into place.
- **3** Reconnect J270 to the Front Cover Interlock Switch and J271 to the Top Cover Interlock Switch.
- 4 Reinstall the Stapler Door Inner Cover Assembly.

# **REP 8.5.3.76 Transport Motor Drive Belt**

### Parts List on PL 8.5.2.18

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Roll the Finisher away from the printer until it stops.
- **3** Remove the Upper Rear Cover (REP 8.5.3.5).
- 4 Remove the Transport Motor (REP 8.5.3.74).
- **5** Remove the Transport Motor Harness from the retaining clip on the Motor Bracket (Figure 8.5.3.76a).
- 6 Unhook the Tension Spring from the Transport Motor Bracket (Figure 8.5.3.76a).
- 7 Remove the five screws securing the Transport Motor Bracket to the Finisher frame, remove the belt from the idler gear, and remove the Bracket (Figure 8.5.3.76a).
- 8 Remove the E rings from the two Gears that are located at each end of the Belt, and remove the Gears (Figure 8.5.3.76a).
- 9 Remove the Transport Motor Drive Belt (Figure 8.5.3.76a).

#### Figure 8.5.3.76a. Transport Motor Drive Belt.



3/99

- 1 Reinstall the Transport Motor Drive Belt.
- 2 Reinstall the two Gears to each end of the Belt, and use E rings to secure the Gears.
- **3** Reinstall the Transport Motor Bracket to the Finisher frame, and use five screws to secure the Bracket.
- 4 Hook the Tension Spring onto the Transport Motor Bracket.
- **5** Reroute the Transport Motor Harness through the retaining clip.
- 6 Reinstall the Transport Motor.
- 7 Reinstall the Upper Rear Cover.
- 8 Reconnect the Finisher to the printer.

# **REP 8.5.3.77 Upper Transport Chute Assembly**

### Parts List on PL 8.5.2.15

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Roll the Finisher away from the printer until it stops.
- 3 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3).
- 4 Remove the Upper Rear Cover (REP 8.5.3.5).
- **5** Remove the Transport Motor (REP 8.5.3.74).
- 6 Perform steps 5, 6, and 7 in the Transport Motor Drive Belt procedure (REP 8.5.3.76).
- **7** Remove the screw that secures the Upper Transport Chute support arm to the Top Cover Assembly.
- 8 Disconnect J838 from the Compiler Bin Exit Sensor, and free the wire harness from the clips that are located on the Upper Transport Chute Assembly.
- 9 Remove the screw securing the front of the Upper Transport Chute to the front Finisher frame.
- **10** Remove the screw securing the rear of the Upper Transport Chute to the rear Finisher frame.
- 11 Remove the Upper Transport Chute Assembly from the Finisher.



#### Figure 8.5.3.77a. Upper Transport Chute.

- 1 Reinstall the Upper Transport Chute Assembly into the Finisher.
- **2** Use the two shoulder screws to secure the front and rear of the Upper Transport Chute to the Finisher frame.
- **3** Reconnect J838 to the Compiler Bin Exit Sensor.
- **4** Route the wire harness through the clips that are located on the Upper Transport Chute Assembly.
- **5** Position the support arm against the Top Cover Assembly, and use one screw to secure the support arm.
- 6 Reinstall the Transport Motor Bracket.
- 7 Reinstall the Transport Motor.
- 8 Reinstall the Upper Rear Cover.
- 9 Reinstall the Stapler Door Inner Cover Assembly.
- **10** Reconnect the Finisher to the Printer.

# **REP 8.5.3.78 Compiler Cover & Safety Interlock Switches**

### Parts List on PL 8.5.2.16

#### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3).
- 3 Remove the Unload While Run Switch (REP 8.5.3.54).
- 4 Remove the two screws securing the Harness Holder to the Finisher frame, and push the Holder out of the way (Figure 8.5.3.78a).
- 5 Disconnect J855 from the Compiler Cover Safety Switch (Figure 8.5.3.78a).
- 6 Remove the two screws securing the Safety Switch to the Finisher frame, and remove the Switch (Figure 8.5.3.78a).
- **7** Disconnect J272A and J272B from the two Compiler Cover Interlock Switches (Figure 8.5.3.78a).
- 8 Remove the two screws securing the Switches to the Finisher frame, and remove the Switches (Figure 8.5.3.78a).

- 1 Reinstall the two Compiler Cover Interlock Switches to the Finisher frame, making sure the Switch Actuators are under the Interlock Actuator. Use two screws to secure the switches.
- 2 Reconnect J272A to the Compiler Cover Interlock Switch that is against the frame.
- **3** Reconnect J272B to the other Compiler Cover Interlock Switch.
- 4 Reinstall the Compiler Cover Safety Switch to the Finisher frame, making sure the Switch Actuator is under the leg of the Eject Chute Assembly.
- **5** Use two screws to secure the Safety Switch to the Finisher frame.
- 6 Reconnect J855 to the Safety Switch.
- 7 Reinstall the Harness Holder, and use two screws to secure it to the Finisher frame.
- 8 Reinstall the Unload While Run Switch.
- 9 Reinstall the Stapler Door Inner Cover Assembly.



Figure 8.5.3.78a. Cover & Safety Interlock Switches.
# REP 8.5.3.79 Set Clamp Home Sensor

### Parts List on PL 8.5.2.17

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Roll the Finisher away from the printer until it stops.
- **3** Remove the Upper Rear Cover (REP 8.5.3.5).
- 4 Remove the Eject Clamp Sensor (REP 8.5.3.57).
- 5 Remove the Offset Home Sensor (REP 8.5.3.58).
- 6 Remove the Eject Bracket Assembly (REP 8.5.3.59).
- 7 Remove the Set Clamp Motor (REP 8.5.3.60). For this procedure, do not remove the Motor from the Bracket.
- 8 Press in and release the Sensor latches that secure the Sensor to the Bracket, and remove the Sensor.

### Figure 8.5.3.79a. Set Clamp Home Sensor.



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- 1 Position the Set Clamp Home Sensor into the cutout in the Motor Bracket.
- 2 Reinstall the Set Clamp Motor.
- 3 Reinstall the Eject Bracket Assembly.
- 4 Reinstall the Offset Home Sensor.
- 5 Reinstall the Eject Clamp Sensor.
- 6 Reinstall the Upper Rear Cover.
- 7 Reconnect the Finisher to the Printer.

# REP 8.5.3.80 Stapler Transport Motor

### Parts List on PL 8.5.2.17

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Roll the Finisher away from the printer until it stops.
- **3** Remove the Upper Rear Cover (REP 8.5.3.5).
- 4 Disconnect J886 (Figure 8.5.3.80a).
- **5** Remove the two screws securing the Stapler Transport Motor to the Motor Bracket, and remove the Motor (Figure 8.5.3.80a).
- 6 Remove the Stapler Transport Motor Drive Belt (Figure 8.5.3.80a).



### Figure 8.5.3.80a. Stapler Transport Motor.

- 1 Insert the Motor shaft through the cutout in the Motor Bracket.
- 2 Slip the Stapler Motor Drive Belt over the shaft gear. Use two screws to secure the Motor to the Bracket.
- **3** Reconnect J886.
- 4 Reinstall the Upper Rear Cover.
- 5 Reconnect the Finisher to the Printer.

# REP 8.5.3.81 Eject Motor

### Parts List on PL 8.5.2.17

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Roll the Finisher away from the printer until it stops.
- **3** Remove the Upper Rear Cover (REP 8.5.3.5).
- 4 Free the wire harnesses that run the length of the Harness Bracket (Figure 8.5.3.81a).
- **5** Remove the three screws securing the Harness Bracket to the Finisher frame, and remove the Bracket (Figure 8.5.3.81a).
- 6 Disconnect J258 (Figure 8.5.3.81a).
- **7** Remove the two screws securing the Eject Motor Bracket to the Finisher frame (Figure 8.5.3.81a).
- 8 Slip the Motor shaft pulley free of the Eject Motor Drive Belt, and remove the Bracket and Motor.
- **9** Remove the two screws securing the Eject Motor to the Motor Bracket, and remove the Motor (Figure 8.5.3.81a).

- 1 Position the Eject Motor against the Eject Motor Bracket. Use two screws to secure the Motor to the Bracket.
- 2 Reinstall the Motor Bracket onto the Finisher frame, making sure you loop the free end of the Eject Motor Drive Belt over the Motor shaft pulley. Use two screws to secure the Eject Motor Bracket to the Finisher frame, but do not tighten the screws at this time.
- **3** Push down slightly on the Eject Motor, to tension the Drive Belt, and hold the Motor down while you tighten the two screws securing the Bracket to the frame.
- 4 Reconnect J258.
- **5** Reinstall the Harness Bracket to the Finisher frame, and use three screws to secure it to the frame.
- 6 Route the wire harnesses through the clips that run the length of the Harness Bracket.
- 7 Reinstall the Upper Rear Cover.
- 8 Reconnect the Finisher to the printer.

### Figure 8.5.3.81a. Eject Motor



# REP 8.5.3.82 Eject Clamp Offset Motor

### Parts List on PL 8.5.2.19

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Roll the Finisher away from the printer until it stops.
- **3** Remove the Upper Rear Cover (REP 8.5.3.5).
- 4 Remove the Eject Clamp Sensor (REP 8.5.3.57).
- 5 Remove the Offset Home Sensor (REP 8.5.3.58).
- 6 Remove the Eject Bracket Assembly (REP 8.5.3.59).
- 7 Remove the E ring securing the One Way Gear to the Offset Cam Assembly, and remove the Gear (Figure 8.5.3.82a).
- 8 Remove the E ring securing the Rear Offset Cam Assembly Bearing, and remove the Bearing (Figure 8.5.3.82a).
- 9 Remove the Offset Cam Assembly from the Eject Bracket.
- 10 Remove the E ring securing the Drive Gear, and remove the Gear (Figure 8.5.3.82a).
- 11 Remove the two Idler Gears (Figure 8.5.3.82a).
- **12** Remove the three screws securing the Eject Clamp Offset Motor, and remove the Motor from the Eject Bracket Assembly (Figure 8.5.3.82a).



### Figure 8.5.3.82a. Eject Clamp Offset Motor.

- 1 Reinstall the Eject Clamp Offset Motor into the Eject Bracket Assembly, and use three screws to secure the Motor.
- 2 Reinstall the two Idler Gears.
- 3 Reinstall the Drive Gear, and use an E ring to secure the Gear.
- **4** Reinstall the Offset Cam Assembly, with the Actuator toward the inside wall of the Eject Bracket Assembly, into the Assembly.
- 5 Reinstall the bearings to both ends of the Offset Cam Assembly Shaft.
- 6 Reinstall an E ring to short end of the Offset Cam Assembly Shaft.
- 7 Reinstall the One Way Gear to the end of Offset Cam Assembly Shaft, and use an E ring to secure the Gear to the Shaft.
- 8 Reinstall the Eject Bracket Assembly.
- 9 Reinstall the Offset Home Sensor.
- **10** Reinstall the Eject Clamp Sensor.
- **11** Reinstall the Upper Rear Cover.
- **12** Reconnect the Finisher to the Printer.

# **REP 8.5.3.83 Finisher PWB Assembly**

### Parts List on PL 8.5.2.20

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Roll the Finisher away from the printer until it stops.
- 3 Disconnect the Finisher AC Power Cable and Interface Cable from the printer.
- 4 Remove the Harness Cover (REP 8.5.3.8).
- 5 Remove the Finisher PWB Cover (REP 8.5.3.10).
- 6 Loosen, but do not remove, the screw that is located at the top center of the PWB Top Cover (Figure 8.5.3.83a).
- 7 Remove the eleven screws securing the PWB Top Cover to the PWB Bracket (Figure 8.5.3.83a).
- 8 Lift the PWB Top Cover up and away from the Bracket.
- 9 Disconnect the twelve P/Js that are connected to the Finisher PWB (Figure 8.5.3.83a).
- **10** Remove the eight screws securing the Finisher PWB to the PWB Bracket, and remove the Finisher PWB from the Bracket (Figure 8.5.3.83a).

- 1 Position the Finisher PWB onto the PWB Bracket. Use eight screws to secure the Finisher PWB to the PWB Bracket.
- 2 Reconnect the twelve P/Js to the Finisher PWB.
- 3 Reinstall the PWB Top Cover by first slipping the keyed hole at the top of the Cover, over the loosened screw on the PWB Bracket. Use eleven screws to secure the PWB Top Cover to the PWB Bracket.
- 4 Tighten the loose screw that is located at the top center of the PWB Top Cover.
- 5 Reinstall the Finisher PWB Cover.
- 6 Reinstall the Harness Cover.
- 7 Reconnect the Finisher to the printer.

Figure 8.5.3.83a. Finisher PWB.



# REP 8.5.3.84 Low Voltage Power Supply

### Parts List on PL 8.5.2.20

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Roll the Finisher away from the printer until it stops.
- 3 Disconnect the Finisher AC Power Cable and Interface Cable from the printer.
- 4 Remove the Harness Cover (REP 8.5.3.8).
- 5 Remove the Finisher PWB Cover (REP 8.5.3.10).
- 6 Loosen, but do not remove, the screw that is located at the top center of the PWB Top Cover (Figure 8.5.3.84a).
- 7 Remove the eleven screws securing the PWB Top Cover to the PWB Bracket (Figure 8.5.3.84a).
- 8 Lift the PWB Top Cover up and away from the Bracket.
- **9** Disconnect J2, J502, and J505 from the LVPS PWB (Figure 8.5.3.84a).
- **10** Remove the two screws (one top, one bottom) securing the LVPS PWB to the PWB Bracket, and remove the LVPS PWB from the Bracket (Figure 8.5.3.84a).

- 1 Position the LVPS onto the PWB Bracket. Use two screws (one top, one bottom) to secure the LVPS PWB to the PWB Bracket.
- 2 Reconnect J2, J502, and J505 to the LVPS PWB.
- **3** Reinstall the PWB Top Cover by first slipping the keyed hole at the top of the Cover, over the loosened screw on the PWB Bracket. Use eleven screws to secure the PWB Top Cover to the PWB Bracket.
- 4 Tighten the loose screw that is located at the top center of the PWB Top Cover.
- 5 Reinstall the Finisher PWB Cover.
- 6 Reinstall the Harness Cover.
- 7 Reconnect the Finisher to the printer.





SER802XA

# REP 8.5.3.85 In Gate Support Assembly

### Parts List on PL 8.5.2.22

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Roll the Finisher away from the printer until it stops.
- 3 Lift the Docking Cover Assembly off of the Fuser.
- 4 Turn the Docking Cover Assembly upside down and place it on a stable work surface.
- **5** Remove the three screws securing the IN Gate Support to the Docking Cover Assembly, and lift the Support off of the Cover (Figure 8.5.3.85a).



### Figure 8.5.3.85a. Docking Cover.

- 1 Position the IN Gate Support on the Docking Cover. Use three screws to secure the IN Gate Support to the Docking Cover.
- 2 Reinstall the Docking Cover Assembly onto the Fuser.
- 3 Reconnect the Finisher to the printer.

# REP 8.5.3.86 In Gate Actuator

### Parts List on PL 8.5.2.22

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Roll the Finisher away from the printer until it stops.
- **3** Lift the Docking Cover Assembly off of the Fuser.
- 4 Remove the IN Gate Support Assembly (REP 8.5.3.85).
- 5 Spread the latch arms of the Actuator and slide it off of the shaft (Figure 8.5.3.86a).

# SER733XB

### Figure 8.5.3.86a. In Gate Actuator.

- 1 Position the IN Gate Actuator and press the IN Gate Actuator onto the shaft.
- 2 Reinstall the IN Gate Support Assembly.
- **3** Reinstall the Docking Cover Assembly onto the Fuser.
- 4 Reconnect the Finisher to the printer.

# **REP 8.5.3.87 In Gate Interlock Switch**

### Parts List on PL 8.5.2.23

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Roll the Finisher away from the printer until it stops.
- **3** Remove the two screws securing the Transport Rear Cover to the Transport Assembly, and remove the Cover (REP 8.5.3.1).
- 4 Disconnect P/J260 from the IN Gate Interlock Switch.
- **5** Squeeze the latches that are located at the rear of the Switch, and pull the Switch off of the Bracket Assembly.



### Figure 8.5.3.87a. In Gate Interlock Switch.

- **1** Position the IN Gate Interlock Switch and press the Switch latches into the cutouts in the Bracket Assembly.
- 2 Reconnect P/J260 to the Switch.
- 3 Reinstall the Transport Rear Cover.
- 4 Reconnect the Finisher to the Printer.

# REP 8.5.3.88 Roller Unit

### Parts List on PL 8.5.2.23

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Roll the Finisher away from the printer until it stops.
- **3** Remove the two screws securing the Transport Rear Cover to the Transport Assembly, and remove the Cover (REP 8.5.3.1).
- 4 Slide the Roller Unit off of the Bracket Assembly shaft.

### Figure 8.5.3.88a. Roller Unit.



- 1 Position the Roller Unit so the flat end of the Roller faces away from the Bracket.
- 2 Slide the Roller onto the Bracket Assembly shaft.
- 3 Reinstall the Transport Rear Cover.
- 4 Reconnect the Finisher to the Printer.

# **REP 8.5.3.89 Transport Assembly Drive Belt**

### Parts List on PL 8.5.2.23

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Disconnect the Finisher from the Printer (REP 8.5.3.1).
- **3** Remove the Transport Assembly (REP 8.5.3.11).
- 4 Unhook the Tension Spring (Figure 8.5.3.89a).
- 5 Disconnect J260 from the IN Gate Interlock Sensor (Figure 8.5.3.89a).
- 6 Remove the wire harness from the harness clips that are attached to the Bracket Assembly (Figure 8.5.3.89a).
- **7** Remove the two screws securing the IN Gate Solenoid Assembly to the Bracket Assembly, and remove the Solenoid Assembly (Figure 8.5.3.89a).
- 8 Remove the two screws securing the Bracket Assembly to the Transport frame, and pull the Bracket away from the frame (Figure 8.5.3.89a).
- **9** Remove the two screws securing the Tension Bracket to the Transport frame, and remove the Bracket (Figure 8.5.3.89a).
- **10** Unhook the Idler Gear Spring from the Transport frame (Figure 8.5.3.89a).
- **11** Remove the E Ring securing the Idler Gear Support to the frame, and remove the Support (Figure 8.5.3.89a).
- **12** Remove the Idler Gear (Figure 8.5.3.89a).
- **13** Remove the Transport Assembly Drive Belt (Figure 8.5.3.89a).

Figure 8.5.3.89a. Transport Assembly Drive Belt.



3/99

8-454

SER740XB

- 1 Align the Transport Assembly Drive Belt so the ribbed side of the belt is on the inside.
- 2 Reinstall one end of Transport Assembly Drive Belt over the Idler Gear shaft.
- 3 Reinstall the Idler Gear, making sure the Drive Belt loops around the rear teeth of the Idler Gear.
- 4 Route the Drive Belt with the ribbed side of the Belt always facing a Transport Gear.
- 5 Reinstall the Idler Gear Support, and use one E Ring to secure it to the frame.
- 6 Hook the Idler Gear Spring onto the Transport frame.
- 7 Reinstall the Tension Bracket onto the Transport frame, making sure the Tension Roll rides on the ribbed side of the belt. Use two screws to secure the Tension Bracket to the frame.
- 8 Reinstall the Bracket Assembly onto the Transport frame, and use two screws to secure the Bracket.
- **9** Reinstall the IN Gate Solenoid Assembly to the Bracket Assembly, and use two screws to secure the Solenoid to the Bracket.
- **10** Make sure that J261 is still connect to the Transport Interlock Sensor.
- **11** Reroute the wire harnesses through the clips that are attached to the Bracket Assembly.
- **12** Reconnect J260 to the IN Gate Interlock Sensor.
- **13** Hook the Tension Spring onto the Tension Bracket.
- 14 Reinstall the Transport Assembly.
- **15** Reconnect the Finisher to the Printer.

# **REP 8.5.3.90 In Gate Solenoid Assembly**

### Parts List on PL 8.5.2.23

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Disconnect the Finisher from the Printer (REP 8.5.3.1).
- **3** Remove the Transport Assembly (REP 8.5.3.11).
- 4 Remove the Solenoid wire harness (P256M) from the harness clips (Figure 8.5.3.90a).
- **5** Remove the two screws securing the Solenoid Assembly to the Bracket, and remove the Assembly (Figure 8.5.3.90a).
- 6 Pull the Damper Bracket out of the Solenoid Assembly (Figure 8.5.3.90a).
- 7 Remove the two screws securing the Solenoid Cover to the Solenoid, hold on to the Solenoid plunger and remove the Solenoid from the Cover (Figure 8.5.3.90a).

CAUTION The Solenoid plunger is under spring tension and may pop out of the Solenoid when you remove the Solenoid from the Solenoid Cover.



- 1 Make sure the Solenoid Spring and Link Assembly are in place on the Solenoid plunger.
- 2 Slide the IN Gate Solenoid into the Solenoid Cover, hooking the cutout in the Link Assembly over the tab in the Cover.
- 3 Use two screws to secure the Solenoid Cover to the Solenoid.
- 4 Slide the Damper Bracket, foam rubber against the Solenoid coil, into the Solenoid Cover.
- 5 Hook the tab on the Cover into the cutout in the Bracket, and slide the Solenoid Assembly forward to line up the two screw holes. Use two screws to secure the Solenoid Assembly to the Bracket.
- 6 Reroute the Solenoid wire harness through the harness clips on the Bracket.
- 7 Reinstall the Transport Assembly.
- 8 Reconnect the Finisher to the Printer.

# **REP 8.5.3.91 Transport Cover Assembly**

### Parts List on PL 8.5.2.24

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Open the Transport.
- 3 Remove the screw securing the Cover Support Strap to the Transport (Figure 8.5.3.91a).
- **4** Use the flat blade of a screwdriver to carefully pry the Cover rear pivot away from the Transport (Figure 8.5.3.91a).
- 5 Remove the Transport Cover Assembly (Figure 8.5.3.91a).

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### Figure 8.5.3.91a. Transport Cover Assembly.

### Replacement

- 1 Reinstall the Cover front pivot into the pivot hole at the front of the Transport.
- **2** Use the flat blade of a screwdriver to help insert the rear Transport pivot into the rear Cover pivot hole.
- **3** Reinstall the free end of the Cover Support strap onto the Transport, and use one screw to secure the strap.

3/99

8-458

4 Close the Transport Cover.

DocuPrint N24, N32 and N40 Service Manual

# **REP 8.5.3.92 Transport Interlock Sensor**

### Parts List on PL 8.5.2.24

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- **2** Open the Transport Cover.
- **3** Carefully lift up on the Transport Exit Sensor Cover while you release the two locking tabs securing the Cover to the Transport, and remove the Cover (Figure 8.5.3.92a).
- 4 Remove the wire that is attached to the wire clip on Transport Interlock Sensor Plate.
- **5** Remove the screw securing the Transport Interlock Sensor Plate to the Transport, and remove the Plate along with the attached Sensor (Figure 8.5.3.92a).
- 6 Disconnect J261 from the Sensor (Figure 8.5.3.92a).
- 7 Release the latches securing the Sensor to the Plate, and remove the Sensor.





### Replacement

- 1 Position the Transport Interlock Sensor against the Sensor Plate and press the latches that are located on the rear of the Sensor into the cutouts in the Plate.
- **2** Reconnect J261 to the Sensor.
- **3** Reinstall the Sensor Plate onto the Transport, making sure you align the positioning hole in the Plate with the positioning tab on the Transport. Use one screw to secure the Plate to the Transport.
- 4 Attach the wire to the wire clip on the Transport Interlock Sensor Plate.
- **5** Reinstall the Transport Exit Sensor Cover by first inserting the two latches into the latch openings in the Transport, then pressing the Cover into place.

3/99

8-459

6 Close the Transport Cover.

# REP 8.5.3.93 Transport Roll

### Parts List on PL 8.5.2.24

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- **2** Disconnect the Finisher from the Printer (REP 8.5.3.1).
- **3** Remove the Transport Assembly (REP 8.5.3.11).
- 4 Remove the IN Gate Solenoid Assembly (REP 8.5.3.90).
- 5 Remove the wire harness from the harness clips that are attached to the Bracket Assembly.
- 6 Unhook the Tension Spring from the Bracket Assembly.
- 7 Remove the two screws securing the Bracket Assembly to the Transport frame, and pull the Bracket far enough away from the frame so you can access the Transport Gears.
- 8 Remove the E-ring securing the Transport Gear to the Transport frame, and slide the Gear off of the shaft.
- 9 Open the Transport Cover.
- **10** Carefully lift up on the Transport Roll Guide while you release the three locking tabs securing the Guide to the Transport, and remove the Guide.
- **11** Remove the two E-rings securing each end of the Transport Roll, and remove the Roll and bearings.

### Figure 8.5.3.93a. Transport Roll.



- 1 Reinstall the bearings onto the ends of the Transport Roll.
- 2 Slide the rear of the Transport Roll shaft through the bearing hole in the rear of the Transport frame.
- **3** Slide the front of the Transport Roll shaft through the bearing hole in the front of the Transport frame.
- 4 Insert each bearing into the bearing holes. Use an E Ring at each end of the shaft to secure the bearings.
- **5** Reinstall the Transport Roll Guide by first inserting the three latches into the latch openings in the Transport, then pressing the Guide into place.
- 6 Reinstall the Transport Gear onto the Transport Roll shaft. Use an E Ring to secure the Gear to the shaft.
- 7 Make sure the Transport Drive Belt runs on top of the Gear.
- 8 Reinstall the Bracket Assembly to the Transport frame, and use two screws to secure the Assembly.
- 9 Reinstall the IN Gate Solenoid Assembly.
- **10** Hook the Tension Spring onto the Bracket Assembly.
- **11** Make sure that J261 is still connected to the Transport Interlock Sensor.
- 12 Reinstall the wire harnesses into the harness clips that are attached to the Bracket Assembly.
- **13** Reinstall the Transport Assembly.
- **14** Reconnect the Finisher to the Printer.

# **REP 8.5.3.94 Transport Entrance Sensor**

### Parts List on PL 8.5.2.24

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- **2** Open the Transport Cover.
- **3** Carefully lift up on the Transport Entrance Sensor Cover while you release the two latches securing the Cover to the Transport, and remove the Cover (Figure 8.5.3.94a).
- 4 Remove the screw securing the Transport Entrance Sensor Plate to the Transport, and remove the Plate along with the attached Sensor (Figure 8.5.3.94a).
- 5 Disconnect J275M from the Sensor (Figure 8.5.3.94a).
- 6 Release the latches securing the Sensor to the Plate, and remove the Sensor (Figure 8.5.3.94a).



### Figure 8.5.3.94a. Transport Entrance Sensor.

- 1 Position the Transport Entrance Sensor and press the latches into the cutouts in the Plate.
- 2 Reconnect J275M to the Sensor.
- **3** Reinstall the Sensor Plate onto the Transport, by slightly closing the Top Cover and sliding the Sensor, with the actuator pointing up, into position.
- 4 Make sure you do not break the Sensor actuator while you are reinstalling the Sensor. Use one screw to secure the Plate to the Transport.
- **5** Reinstall the Transport Entrance Sensor Cover by first inserting the two latches into the latch openings in the Transport, then pressing the Cover into place.
- 6 Close the Transport Cover.

# REP 8.5.3.95 Face Down Bin Full Sensor

### Parts List on PL 8.5.2.24

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Roll the Finisher away from the printer until it stops.
- **3** Open the Transport Cover.
- 4 Carefully lift up on the Transport Entrance Sensor Cover while you release the two latches securing the Cover to the Transport, and remove the Cover (Figure 8.5.3.95a).
- **5** Disconnect J259 from the Face Down Bin Full Sensor (Figure 8.5.3.95a).
- 6 Reach under the Transport Assembly and release the latches that are securing the Face Down Bin Full Sensor to the Transport, while you push down on the Sensor from the top and remove it from the Transport (Figure 8.5.3.95a).



### Figure 8.5.3.95a. Face Down Bin Full Sensor.

### Replacement

- 1 Position the Face Down Bin Full Sensor, and insert it, latches first, into the Sensor cutout in the bottom of the Transport Assembly.
  - 2 Reconnect J259 to the Sensor.
- **3** Reinstall the Face Down Bin Full Sensor Cover by first inserting the two latches into the latch openings in the Transport, then pressing the Cover into place.

3/99

8-463

- 4 Close the Transport Cover.
- 5 Reconnect the Finisher to the printer.

# REP 8.5.3.96 Transport Exit Sensor

### Parts List on PL 8.5.2.24

### Removal

- 1 Switch off the printer power and disconnect the AC Power Cord.
- 2 Roll the Finisher away from the printer until it stops.
- **3** Open the Transport Cover.
- 4 Carefully lift up on the Transport Exit Sensor Cover while you release the two latches securing the Cover to the Transport, and remove the Cover.
- **5** Disconnect J263 from the Transport Exit Sensor.
- 6 Reach under the Transport and release the latches securing the Sensor the Transport while you pull the Sensor away from the Transport.



Figure 8.5.3.96a. Transport Exit Sensor.

- 1 Open the Transport Cover.
- **2** Position the Transport Exit Sensor into the Sensor cutout in the bottom of the Transport Assembly.
- **3** Reconnect J263 to the Sensor.
- 4 Reinstall the Transport Exit Sensor Cover by first inserting the two latches into the latch openings in the Transport, then pressing the Cover into place.
- 5 Close the Transport Cover.
- 6 Reconnect the Finisher to the printer.

# 8.5.4 Running Finisher Diagnostics

See Section 5 for all diagnostic Routines and Subroutines

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# 8.5.5 Wiring Data





SER619XB

3/99

8-467



SER620XB







3/99

8-471



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- 1 P/J837 Bin ID Sensor to P/J893B Finisher PWB.
- 2 P/J253 Upper Limit Switch to P/J899 Finisher PWB.
- 3 P/J254 Lower Limit Switch to P/J899 Finisher PWB.
- 4 P/J865 Bin Elevator Motor to P/J899 Finisher PWB.
- 5 P/J855M Finisher Interlock Sensor to P/J893B Finisher PWB.
- 6 P/J869 Compiler Up/Down Solenoid to P/J897 Finisher PWB.
- 7 P/J299 Inline between P/J855M Finisher Interlock Sensor and P/J893B Finisher PWB.

8 P/J881 Inline between P/J893B Finisher PWB and P/J855M Interlock Sensor.



- 1 P/J835 Rear Straight Sensor to P/J895B Finisher PWB.
- 2 P/J834 Front Straight Sensor to P/J895B Finisher PWB.
- 3 P/J833 Front Corner Sensor to P/J895B Finisher PWB.
- 4 P/J862 Stapler to P/J897 Finisher PWB.
- 5 P/J892 Inline between P/J897 Finisher PWB and P/J862 Stapler Unit.



- 1 P/J271 Top Cover Interlock Switch P/J897 Finisher PWB.
- 2 P/J836 Unload While Run Switch and LED to P/J895B Finisher PWB.
- **3** P/J272A/B Compiler Cover Interlock Switch to P/J897 Finisher PWB.

- 4 P/J855 Compiler Cover Safety Switch to P/J899 Finisher PWB.
- 5 P/J868 End Wall Open/Close Motor to P/J897 Finisher PWB.
- 6 P/J270 Stapler Door Interlock Switch to P/J897 Finisher PWB.



- 1 P/J899 Finisher PWB to P/J253 Upper Limit Switch, P/J254 Lower Limit Switch, P/J855 Compiler Cover Safety Switch, and P/J865 Bin Elevator Motor.
- 2 P/J893 Finisher PWB to P/J837 Bin ID Sensor, P/J839 Tamper Home Sensor, P/J840 End Wall Open Sensor, P/J841 Eject Clamp Sensor, P/J842 Set Clamp Sensor, P/J843 Compiler Paper Sensor, P/J844 Offset Home Sensor, and P/J855 Finisher Interlock Sensor.
- 3 P/J897 Finisher PWB to P/J862 Stapler, P/J868 End Wall Open / Close Motor, P/J869 Compiler Bin Up / Down Solenoid, P/J886 Stapler Move Motor, and P/J887 Tamper Motor.
- 4 P/J896 Finisher PWB to P/J259 Face Down Bin Full Paper Sensor, P/J832 Stack High Sensor, P/J260 In Gate Interlock Sensor, P/J261 Transport Interlock Sensor, and P/J838 Compiler Bin Exit Sensor.
- 5 P/J265 Finisher PWB to J812 Printer Engine Controller PWB.

3/99	
8-482	DocuPrint N24, N32 and N40 Service Manual

- 6 P/J854 Finisher PWB to P/J263 Transport Exit Sensor and P/J275M Transport Entrance Sensor.
- 7 P/J502 Low Voltage Power Supply to P/J291 Finisher PWB and P/J846 Interlocks.
- 8 P/J505 Low Voltage Power Supply to P/J291 Finisher PWB.
- **9** P/J2 Low Voltage Power Supply to P/J13 AC power inlet.
- 10 P/J291 Finisher PWB to P/J502 and P/J505 on the Low Voltage Power Supply.
- 11 P/J266 Finisher PWB to P/J852 and P/J 285A Bin Safety Switches and P/J255 Top Bin Stacker Motor.
- 12 P/J264 Finisher PWB to P/J250 Top Paper Sensor, P/J251 Top Half Sensor, P/J252 Top Full Sensor, P/J253 Top Upper Limit Sensor, and P/J254 Top Lower Limit Sensor.
- 13 P/J894A/B Finisher PWB to P/J831 Bottom Safety Switch, P/J848 Middle Bin Upper Limit Sensor, P/J849 Middle Bin Lower Limit Sensor, P/J850 Bottom Bin Upper Limit Sensor, P/J851 Bottom Bin Lower Limit Sensor, P/J856 Middle Bin Paper Sensor, P/J857 Middle Bin Half Sensor, P/J858 Middle Bin Full Sensor, P/J859 Bottom Bin Paper Sensor, P/J860 Bottom Bin Half Sensor, and P/J861 Bottom Bin Full Sensor.
- 14 P/J898 Finisher PWB to P/J863 Eject Clamp Offset Motor, P/J864 Set Clamp Motor, P/J870 Middle Bin Motor, and P/J871 Bottom Bin Motor.
- **15** P/J267 Finisher PWB to P/J256 In Gate Solenoid, P/J257 Transport Motor, and P/J258 Eject Motor.



- 1 P/J830 Inline between P/J894B Finisher PWB and P/J850 Bottom Bin Upper Limit Sensor.
- 2 P/J875 Inline between P/J894B Finisher PWB and P/J860 Bottom Bin Half Sensor and P/J861 Bottom Bin Full Sensor.
- **3** P/J874 Inline between P/J894B Finisher PWB and P/J831 Bottom Bin Safety Sensor and P/J859 Bottom Bin Paper Sensor.

4 P/J871 Bottom Bin Motor to P/J898 Finisher PWB,

Options

2/33	
8-484	DocuPrint N24, N32 and N40 Service Manual

- **5** P/J887 Inline between P/J848 Middle Bin Upper Limit Switch and P/J849 Middle Bin Lower Limit Switch and P/J894A Finisher PWB.
- 6 P/J873 Inline between P/J894A Finisher PWB and P/J857 Middle Bin Half Sensor and P/J858 Middle Bin Full Sensor.
- 7 P/J872 Inline between P/J894 Finisher PWB and P/J856 Middle Bin Paper Sensor.
- 8 P/J870 Middle Bin Motor to P/J898 Finisher PWB.
- **9** P/J295 Inline between P/J264 Finisher PWB and P/J253 Top Bin Upper Limit Sensor and P/J254 Top Bin Lower Limit Sensor.
- **10** P/J294 Inline between P/J264 Finisher PWB and P/J251 Top Bin Half Sensor and P/J252 Top Bin Full Sensor.
- 11 P/J292 Inline between P/J264 Finisher PWB and P/J250 Top Bin Paper Sensor.
- 12 P/J255 Top Bin Motor to P/J266 Finisher PWB.
- 13 P/J296 Inline between P/J266 Finisher PWB and P/J852 Top Bin Safety Switch.
- 14 P/J864 Set Clamp Motor to P/J898 Finisher PWB.
- 15 P/J863 Eject Clamp Offset Motor to P/J898 Finisher PWB.
- 16 P/J898 Finisher PWB to P/J863 Eject Clamp Offset Motor, P/J864 Set Clamp Motor, P/J870 Middle Bin Motor, and P/J871 Bottom Bin Motor.
- 17 P/J894 Finisher PWB to P/J831 Bottom Safety Switch, P/J848 Middle Bin Upper Limit Sensor, P/ J849 Middle Bin Lower Limit Sensor, P/J850 Bottom Bin Upper Limit Sensor, P/J851 Bottom Bin Lower Limit Sensor, P/J856 Middle Bin Paper Sensor, P/J857 Middle Bin Half Sensor, P/J858 Middle Bin Full Sensor, P/J859 Bottom Bin Paper Sensor, P/J860 Bottom Bin Half Sensor, and P/ J861 Bottom Bin Full Sensor.
- 18 P/J264 Finisher PWB to P/J250 Top Paper Sensor, P/J251 Top Half Sensor, P/J252 Top Full Sensor, P/J253 Top Upper Limit Sensor, and P/J254 Top Lower Limit Sensor.
- **19** P/J266 Finisher PWB to P/J852 Top Bin Safety Switch and P/J255 Top Bin Stacker Motor.
- 20 P/J 285B Inline between P/J266 Finisher PWB and P/J285A Middle Bin Safety Switch



- 1 P/J896 Finisher PWB to P/J259 Face Down Bin Full Paper Sensor, P/J832 Stack High Sensor, P/J260 In Gate Interlock Sensor, P/J261 Transport Interlock Sensor, and P/J838 Compiler Bin Exit Sensor.
- 2 P/J897 Finisher PWB to P/J862 Stapler, P/J868 End Wall Open / Close Motor, P/J869 Compiler Bin Up / Down Solenoid, P/J886 Stapler Move Motor, and P/J867 Tamper Motor.
- **3** P/J880 Inline between P/J 896 Finisher PWB and P/J259 Face Down Bin Full Paper Sensor and P/J260 In Gate Interlock Sensor.

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- 4 P/J269 Inline between P/J896 Finisher PWB and P/J832 Stack High Sensor.
- 5 P/J866 Inline between P/J896 Finisher PWB and P/J838 Compiler Bin Exit Sensor.
- 6 P/J878 Inline between P/J895B Finisher PWB and P/J836 Unload While Run Switch & Unload While Run LED.
- 7 P/J890 Inline between P/J897 Finisher PWB and P/J868 End Wall Open/Close Motor and P/J869 Compiler Bin Up/Down Solenoid.
- 8 P/J892 Inline between P/J897 Finisher PWB and P/J862 Stapler.
- **9** P/J877 Inline between P/J895B Finisher PWB and P/J834 Stapler Front Straight Sensor and P/J835 Stapler Rear Straight Sensor.
- **10** P/J845 Inline between P/J897 Finisher PWB and P/J270 Front Cover Interlock Switch, P/J271 Top Cover Interlock Switch, and P/J272 Compiler Cover Interlock Switch.
- 11 P/J882 Inline between P/J896 Finisher PWB and P/J261 Transport Interlock Sensor.
- 12 P/J847 Inline between P/J895B Finisher PWB and P/J833 Stapler Front Corner Sensor.
- **13** P/J867 Tamper Motor to P/J897 Finisher PWB.
- 14 P/J886 Stapler Move Motor to P/J897 Finisher PWB.
- **15** P/J879 Inline between P/J854 Finisher PWB and P/J275M Transport Entrance Sensor and P/J263 Transport Exit Sensor.
- 16 P/J612 Inline between P/J265 Finisher PWB and Output Jack of the base printer.
- **17** P/J265 Finisher PWB to J612 Printer Engine Controller PWB.
- 18 P/J854 Finisher PWB to P/J263 Transport Exit Sensor and P/J275M Transport Entrance Sensor.



- 1 P/J893A/B Finisher PWB to P/J837 Bin ID Sensor, P/J839 Tamper Home Sensor, P/J840 End Wall Open Sensor, P/J841 Eject Clamp Sensor, P/J842 Set Clamp Sensor, P/J843 Compiler Paper Sensor, P/J844 Offset Home Sensor, and P/J855 Finisher Interlock Sensor.
- 2 P/J899 Finisher PWB to P/J253 Upper Limit Switch, P/J254 Lower Limit Switch, P/J855 Compiler Cover Safety Switch, and P/J865 Bin Elevator Motor.
- **3** P/J267 Finisher PWB to P/J256 In Gate Solenoid, P/J257 Transport Motor, and P/J258 Eject Motor.
- 4 P/J258 Eject Motor to P/J267 Finisher PWB.
- 5 P/J298 Inline between P/J267 Finisher PWB and P/J257 Transport Motor.
- 6 P/J297 Inline between P/J267 Finisher PWB and P/J256 In Gate Solenoid.
- 7 P/J881 Inline between P/J893B Finisher PWB and P/J855M Interlock Sensor.
- 8 P/J885 Inline between P/J893B Finisher PWB and P/J843 Compiler Paper Sensor and P/J844 Offset Home Sensor.
- 9 P/J869 Compiler Up/Down Solenoid to P/J897 Finisher PWB.
- **10** P/J891 Inline between P/J855 Compiler Cover Safety Switch and P/J899 Finisher PWB.
- 11 P/J884 Inline between P/J893A Finisher PWB and P/J841 Eject Clamp Sensor and P/J842 Set Clamp Sensor.
- 12 P/J883 Inline between P/J893A Finisher PWB and P/J839 Tamper Home Sensor and P/J840 End Wall Open Sensor.



- 1 P/J844 Offset Home Sensor P/J893B Finisher PWB.
- 2 P/J841 Eject Clamp Sensor to P/J893A Finisher PWB.
- 3 P/J257 Transport Motor to P/J267 Finisher PWB.
- 4 P/J886 Stapler Move Motor to P/J897 Finisher PWB.
- 5 P/J258 Eject Motor to P/J267 Finisher PWB.
- 6 P/J864 Set Clamp Motor to P/J898 Finisher PWB.
- 7 P/J842 Set Clamp Sensor to P/J893A Finisher PWB.
- 8 P/J863 Eject Clamp Offset Motor to P/J898 Finisher PWB.



- 1 P/J254 Top Bin Lower Limit Sensor to P/J264 Finisher PWB.
- 2 P/J255 Top Bin Stacker Motor to P/J266 Finisher PWB.
- 3 P/J252 Top Bin Full Sensor to P/J264 Finisher PWB.
- 4 P/J251 Top Bin Half Sensor to P/J264 Finisher PWB.
- 5 P/J253 Top Bin Upper Limit Sensor to P/J264 Finisher PWB.
- 6 P/J250 Top Bin Paper Sensor to P/J264 Finisher PWB.
- 7 P/J852 Top Bin Safety Sensor to P/J266 Finisher PWB.
- 8 P/J293 Inline between P/J250 Top Bin Paper Sensor and P/J264 Finisher PWB.



- 1 P/J849 Middle Bin Lower Limit Sensor to P/J894 Finisher PWB.
- 2 P/J870 Middle Bin Motor to P/J898 Finisher PWB.
- **3** P/J858 Middle Bin Full Sensor to P/J894 Finisher PWB.
- 4 P/J857 Middle Bin Half Sensor to P/J894 Finisher PWB.
- 5 P/J848 Middle Bin Upper Limit Sensor to P/J894 Finisher PWB.
- 6 P/J856 Middle Bin Paper Sensor to P/J894 Finisher PWB.
- 7 P/J895 Inline between P/J856 Middle Bin Paper Sensor and P/J894 Finisher PWB.
- 8 P/J285A Middle Bin Safety Switch to P/J266 Finisher PWB.



- 1 P/J851 Bottom Bin Lower Limit Sensor to P/J894B Finisher PWB.
- 2 P/J871 Bottom Bin Motor to P/J898 Finisher PWB.
- 3 P/J861 Bottom Bin Full Sensor to P/J894B Finisher PWB.
- 4 P/J860 Bottom Bin Half Sensor to P/J894B Finisher PWB.
- 5 P/J850 Bottom Bin Upper Limit Sensor to P/J894B Finisher PWB.
- 6 P/J859 Bottom Bin Paper Sensor to P/J894B Finisher PWB.
- 7 P/J831 Bottom Bin Safety Sensor to P/J894B Finisher PWB.
- 8 P/J888 Inline between P/J859 Bottom Bin Paper Sensor / P/J831 Bottom Bin Safety Sensor and P/J894 Finisher PWB.



- 1 P/J839 Tamper Home Sensor to P/J893A Finisher PWB.
- 2 P/J838 Compiler Bin Exit Sensor to P/J896 Finisher PWB.
- **3** P/J832 Stack High Sensor to P/J896 Finisher PWB.
- 4 P/J869 Compiler Bin Up / Down Solenoid to P/J897 Finisher PWB.
- 5 P/J843 Compiler Paper Sensor to P/J893B Finisher PWB.
- 6 P/J840 End Wall Open Sensor to P/J893A Finisher PWB.
- 7 P/J867 Tamper Motor to P/J897 Finisher PWB.
- 8 P/J876 Inline between P/J832 Stack Height Sensor and P/J896 Finisher PWB.
- **9** P/J280 Inline between P/J843 Compiler Paper Sensor and P/J893B Finisher PWB.
- **10** P/J883 Inline between P/J893A Finisher PWB and P/J839 Tamper Home Sensor and P/J840 End Wall Open Sensor.



- 1 P/J260 In Gate Interlock Sensor to P/J896 Finisher PWB.
- 2 P/J261 Transport Interlock Sensor to P/J896 Finisher PWB.
- 3 P/J256 In Gate Solenoid to P/J267 Finisher PWB.
- 4 P/J263 Transport Exit Sensor to P/J854 Finisher PWB.
- 5 P/J259 Face Down Bin Paper Full Sensor to P/J896 Finisher PWB.
- 6 P/J275M Transport Entrance Sensor to P/J854 Finisher PWB.
- 7 P/J268 Inline between P/J259 Face Down Bin Paper Full Sensor and P/J260 In Gate Interlock Sensor and P/J896 Finisher PWB.
- 8 P/J262 Inline between P/J275M Transport Entrance Sensor and P/J263 Transport Exit Sensor and P/J854 Finisher PWB.
- 9 P/J279 Inline between P/J261 Transport Interlock Sensor and P/J896 Finisher PWB.

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# 8.5.6 Finisher Principles of Operation

## 8.5.6.1 Finisher Power

The Finisher requires +5VDC and +24VDC for normal operation. The Finisher receives this voltage from the Printer Engine Controller PWB in the base engine.

The printer AC power cord plugs into a grounded AC wall outlet. The cord transmits AC line voltage to the Noise Filter PWB. The Noise Filter smooths the AC voltage and sends it to the Main Power Switch. Switching on the Main Power Switch applies AC voltage to the Low Voltage Power Supply (LVPS) PWB. The LVPS converts the Line Voltage to regulated +5VDC and +24VDC voltages. The LVPS sends these voltages to the Printer Engine Controller PWB. The Printer Engine Controller sends these two DC voltages to the **Finisher PWB**.

The Finisher PWB uses these voltages to run internal logic, sensors, solenoids, and the Finisher Motors. The Base Engine also sends filtered Line Voltage to the **Finisher - LVPS PWB**. The Finisher-LVPS converts this Line Voltage to regulated +5VDC and +24DC for additional Finisher uses. The Finisher - LVPS +24VDC output is controlled by the Front Cover Interlock, the Top Cover Interlock, and the Compiler Cover Interlock switches. The +24VDC out of the Finisher - LVPS is cut whenever any of the Finisher doors are opened.



## **Finisher Power Components**

1 Finisher PWB

Receives +5VDC and +24VDC from the Printer Engine Controller PWB and distributes the voltages to various Finisher components.

2 Finisher - LVPS

Receives Line Voltage from the base engine, converts it into +5VDC and +24VDC, and distributes the voltages to various Finisher components.

## 8.5.6.2 Finisher Control

Finisher Control is a term used to describe the resources that monitor and control the actions and operations of the Finisher; from paper entrance to paper stacking.

The Finisher PWB controls all Finisher functions, executes commands sent from the Printer Engine Controller PWB, and sends information back to the Printer Engine Controller PWB. All Finisher components are connected to the Finisher PWB. The Printer Engine Controller PWB provides the logic and information processing that is necessary for the printer to function, and the Finisher PWB provides the logic and information processing that is necessary for the Finisher to function.

Every electrical component within the Finisher is connected to the Finisher PWB. Sensors in the Finisher send status information to the Finisher PWB. The Finisher PWB processes this information, shares it with the Printer Engine Controller PWB, and compares it to timing tables stored in ROM. Acting on the results of the processing, the Finisher PWB sends commands to the various Finisher components; switching on a motor or switching off a solenoid.

Top Bin Paper Sensor		Transport Entrance Sensor
Top Bin Half Sensor		Transport Exit Sensor
Top Bin Full Sensor		Face Down Bin Full Paper Sensor
Top Bin Upper Limit Sensor	Finisher PWB	Gate In Interlock Sensor
Top Bin Lower Limit Sensor		Transport Interlock Sensor
Mid Bin Paper Sensor		Compiler Bin Exit Sensor
Mid Bin Half Sensor		Stack High Sensor
Mid Bin Full Sensor		Stapler Front Corner Sensor
Mid Bin Upper Limit Sensor		Stapler Front Straight Sensor
Mid Bin Lower Limit Sensor		Stapler Rear Straight Sensor
Lower Bin Paper Sensor		Unload While Run Switch
Lower Bin Safety Sensor		Unload While Run LED
Lower Bin Half Sensor		Low Staple Sensor
Lower Bin Full Sensor		Staple Ready Sensor
Lower Bin Upper Limit Sensor		Staple Head Home Sensor
Lower Bin Lower Limit Sensor		Set Clamp Sensor
Tamper Home Sensor		Compiler Paper Sensor
Endwall Open Sensor		Offset Home Sensor
Eject Clamp Sensor		Finisher Bin ID Sensor
Finisher Interlock Sensor		L

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## 8.5.6.3 The Finisher Paper Path

The Finisher paper path is the physical route that paper takes through the Finisher, from leaving the base engine to arriving at a Finisher Bin. Paper traveling through the Finisher moves through each of the four major sections; the Docking Cover, the Transport, the Compiler: Tamper/Stapler/Eject/Offset, and the Output Bins. The Finisher has two user selectable modes of operation; **Paper to be Stacked** and **Paper to be Stapled and Stacked**.



## 8.5.6.3.1 Paper Path for Paper to be Stacked

If the paper exiting the printer is destined for the Finisher, the **IN Gate** in the **Docking Cover** drops down and diverts the paper into the **Transport**. If the paper exiting the printer is not destined for the Finisher, the **IN Gate** remains up and the paper continues on into the Face Down Bin. The Transport carries the paper to the Compiler where Transport Rolls move the paper into the **Exit area**. The Exit area uses rolls and rubber paddles to move the paper into the **Eject** area. The **Eject Rolls** move the paper into the **Finisher**. The Finisher has three bins. An elevator moves the bins up and down, presenting the correct bin to the Eject Rolls.



## 1- Docking Cover

The Docking Cover sits on top of the printer Fuser Exit area. The Docking Cover contains the **IN Gate**. The IN Gate diverts the paper path from the Face Up Bin to the Finisher. When the Finisher is the designated output of a print run, the Finisher PWB actuates the **IN Gate Solenoid**, which is located in the Transport section of the Finisher. The IN Gate Solenoid lowers the IN Gate which diverts the paper path into the Finisher Transport Assembly.



## **Docking Cover Paper Path Components**

1 IN Gate

Normally up. The IN Gate Solenoid lowers the IN Gate to divert paper into the Finisher Transport.

2 Upper Chute

Helps direct the paper into the Transport Rolls.

3 IN Gate Solenoid

Controlled by the Finisher PWB, the IN Gate Solenoid raises and lowers the IN Gate. The IN Gate Solenoid is located in the Transport, and is attached to the IN Gate through the IN Gate Link.

## 2- Transport

After the IN Gate diverts paper into the Finisher Transport, three sets of **Transport Rolls** drive the paper through the Transport Assembly and into the **Compiler**. The **Transport Entrance Sensor** and **Transport Exit Sensor** monitor paper movement within the Transport Assembly.



#### **Transport Paper Path Components**

- 1 Transport Rolls and Pinch Rolls (3 sets) Drives paper into the Compiler.
- Transport Entrance Sensor
  Monitors paper entering the Transport.
- 3 Transport Exit SensorMonitors paper leaving the Transport.
- 4 IOT Full Paper Sensor

Monitors the paper level in the base engine Face Down Output Bin. When the Finisher is installed, this sensor replaces the function of the base engine Full Stack Sensor.

## 3- Exit/Eject

The **Transport Rolls** within the Compiler continue driving the paper out of the Transport Chute. The trail edge of the paper deactuates the **Transport Exit Sensor**. The Compiler Transport Rolls drive the paper further into the **Compiler** where the leading edge of the paper actuates the **Compiler Bin Exit Sensor**. The **Exit Rolls and Paddle Assembly** drive the paper to the **Eject Roll**. The Eject Roll and **Paddle Assembly** drive the paper out into a **Finisher Bin**.



#### **Exit/Eject Paper Path Components**

- 1 Transport Rolls and Pinch Rolls Drives paper through the Compiler.
- 2 Complier Bin Exit SensorMonitors paper entering and leaving the Compiler entrance.
- Exit Roll and Paddle Assembly
  Drives paper to the Offset/Eject Rolls.
- **4** Eject Roll and Paddle Assembly Drives paper into a Finisher Bin.
- 5 Offset Pinch Roll

Shifts an exiting set of sheets so each set of sheets entering the Finisher Bin is offset slightly from the previous set.

#### 4- Finisher Bins

The Eject Roll and **Paddle Assembly** drive the paper out into a **Finisher Bin**. The **Elevator** raises or lowers the Finisher so one of the three bins is opposite the Eject Rolls. An **ID Sensor** informs the Finisher PWB when the selected bin is in position. Sensors monitor the level of paper in each bin. Motors in each of the three bins lower each bin as that bin starts to fill with paper.



#### **Offset Paper Path Components**

- Top, Middle, and Lower Bins
  Raised or lowered as a unit. The selected bin stops in front of the Eject Rolls.
- 2 Finisher Motors for the Top, Middle, and Lower BinsRaises or lowers each Bin to accommodate the amount of paper ejected into the Bin.

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- **3** Finisher Paper Sensors for the Top, Middle, and Lower Bins Monitors the presence of paper in each Bin.
- 4 Finisher Full Sensors for the Top, Middle, and Lower Bins Monitors when each Bin is 100% full.
- **5** Finisher Half Full Sensors for the Top, Middle, and Lower Bins Monitors when each Bin is 50% full.

## 8.5.6.3.2 Paper Path for Paper to be Stapled and Stacked

Paper leaves the Fuser Exit area and enters the **Docking Cover**. If the paper exiting the printer is destined for the Finisher, the **IN Gate** drops down and diverts the paper into the **Transport**. If the paper exiting the printer is not destined for the Finisher, the **IN Gate** remains up and the paper continues on into the Face Down Bin.

The Transport carries the paper to the **Transport Chute** where Transport Rolls move the paper into the **Exit Chute**. The Exit Chute uses Rolls and rubber paddles to move the paper into the **Eject** area. If the paper is to be collected into sets and stapled, the Eject Rolls rotate in reverse and drive the paper back into the Compiler Bin. When the correct number of sheets has entered the Bin, the **Tamper** aligns the edges of the paper sheets to form a neat paper set. The **Stapler** then drives a staple through the set. The Eject Rolls drive the paper set out of the Stapler and into the **Offset Rolls**. The Offset Rolls shift each paper set slightly from the previous set as they are delivered into the Stacker Bin.



## 3- Exit/Eject

The **Transport Rolls** within the Compiler continue driving the paper out of Transport. The trail edge of the paper deactuates the **Transport Exit Sensor**. The Compiler Transport Rolls drive the paper further into the **Compiler** where the leading edge of the paper actuates the **Compiler Bin Exit Sensor**. The **Exit Rolls and Paddle Assembly** drive the paper to the **Eject Roll**. The Eject Motor begins rotating counter clockwise and reverses the Eject Roll direction. The sheet of paper is driven back into the Compiler Bin.



#### **Exit/Eject Paper Path Components**

- 1 Transport Rolls and Pinch Rolls Drives paper through the Compiler.
- 2 Complier Bin Exit Sensor Monitors paper entering and leaving the Compiler Bin.
- **3** Exit Roll and Paddle Assembly Drives paper to the Offset/Eject Rolls.
- 4 Eject Roll and Paddle Assembly

Drives paper into a Finisher Bin. When paper is to be collected into sets and stapled, the Eject Roll rotates in reverse and drives the sheet of paper into the Compiler Bin.

## 4- Compiler/Tamper

The Eject Roll reverses rotation and drives the sheet of paper back into the **Compiler Bin**. A motor raises the **End Wall** to block the end of the Compiler Bin. When a set of paper (maximum of 25 sheets) is transported to the Compiler Bin, the **Tamper** taps the side of the paper to square up the set.



A motor lowers the End Wall and the **Compiler Bin Solenoid** tilts the Bin, causing the paper set to move into the Stapler.



#### **Compiler /Tamper Paper Path Components**

1 Eject Roll

Dives paper into the Compiler Bin.

2 Compiler Bin

Staging area used to collect sheets of paper into sets for stapling.

3 End Wall

Closes the end of the Compiler Bin so paper can be collected into sets. Is moved out of the way when the set is ready to be sent to the Stapler.

3/99

4 End Wall Motor

Moves the End Wall into position or out of the way.

5 Tamper

Taps the sides of the paper set to square up the edges before stapling.

6 Compiler Bin Solenoid

Tilts the Compiler Bin so the paper set slides into the Stapler.

### 5- Stapler

The Stapler Motor slides the Stapler Unit along a fixed rail. Set locations along the rail place the Stapler in position to perform one of four possible staple configurations; front corner, front straight, rear corner, and rear straight. Sensors along the rail monitor the position of the Stapler Unit. One stapler is in position, it drives a single staple at a selected area of the set.



#### **Stapler Paper Path Components**

- Stapler Front Corner Sensor
  Monitors the position of the Stapler Head for stapling in the front corner of a paper set.
- 2 Stapler Front Straight SensorMonitors the position of the Stapler Head for stapling at the front edge of a paper set.
- 3 Stapler Rear Straight SensorMonitors the position of the Stapler Head for stapling at the rear edge of a paper set.
- 4 Stapler Assembly Contains the Stapler Head and Stapler Cartridge.
### 6- Eject/Offset

After the set is stapled, the Eject Roll rotates clockwise and drives the set out of the Compiler Bin and toward the Offset Rolls.



A cam and gear set shift the Offset Pinch Rolls and Paddle Assembly back and forth across the Eject paper path, shifting the exiting sheet of paper so each sheet of paper entering the Finisher Bin is offset slightly from the previous sheet.



#### **Eject/Offset Paper Path Components**

- 1 Offset Pinch Roll Assembly Shifts alternate paper sets back and forth so they are offset as they stack in the paper Bin.
- 2 Offset Pinch Roll Assembly

Helps drive paper out of the Compiler Bin and into the Bin.

#### 7- Finisher Bins

The Eject Roll and **Paddle Assembly** drive the paper out into a **Finisher Bin**. The **Elevator** raises or lowers the Finisher so one of the three Bins is opposite the Eject Rolls. An **ID Sensor** informs the Finisher PWB when the selected Bin is in position. Sensors monitor the level of paper in each bin. Motors in each of the three bins lower each bin as that bin starts to fill with paper.



#### **Offset Paper Path Components**

- Top, Middle, and Lower Bins
  Raised or lowered as a unit. The selected Bin stops in front of the Eject Rolls.
- 2 Finisher Motors for the Top, Middle, and Lower BinsRaises or lowers each Bin to accommodate the amount of paper ejected into the Bin.
- **3** Finisher Paper Sensors for the Top, Middle, and Lower Bins Monitors the presence of paper in each Bin.
- 4 Finisher Full Sensors for the Top, Middle, and Lower Bins Monitors when each Bin is 100% full.
- **5** Finisher Half Full Sensors for the Top, Middle, and Lower Bins Monitors when each Bin is 50% full.

### **Finisher Control Components**

1 Finisher PWB

The Finisher PWB controls all Finisher functions, executes commands sent from the Printer Engine Controller PWB, and sends information back to the Printer Engine Controller PWB. All Finisher components are connected to the Finisher PWB.

2 Finisher Low Voltage Power Supply

Takes Line Voltage from the base engine and converts it into regulated +5VDC and +24VDC for the Finisher.

3 Unload While Run Switch and LED

Switch that allows a user to interrupt the current stacking operation. The LED lights to indicate the interrupt state.

4 Finisher Interlock Sensor

Monitors the state of the Finisher door.

5 Front Cover Interlock Switch

Cuts +24VDC to the Finisher when the Front Cover is open.

6 Compiler Cover Safety Switch

Cuts +24VDC to the Finisher when the Compiler Cover is open.

7 Finisher Bin Safety Switch

Cuts +24VDC to the Finisher.

## 8.5.6.4 Finisher Components

### 8.5.6.4.1 Transport

The Transport moves paper from the Docking Cover to the Compiler.

- 1 IN Gate Solenoid Toggles the IN Gate.
- 2 IN Gate Interlock SensorMonitors the position of the IN Gate (up or down).
- 3 Transport Entrance SensorMonitors paper travel into the Transport Assembly.
- IOT Full Paper Sensor
  Monitors the paper level in the base engine Face Down Output Bin.
- 5 Transport Exit SensorMonitors paper travel out of the Transport Assembly.
- 6 Transport Interlock Sensor
  Monitors the condition of the Transport Cover (open or closed).
- 7 Transport MotorDrives the Transport Rolls.

### 8.5.6.4.2 Compiler

The Compiler arranges paper into sets.

1 Tamper Motor

Drives the paper stack Tamper.

2 Tamper Home Sensor

Monitors the position of the Tamper.



3 Compiler Bin Up/Down Solenoid

Tilts the Compiler Bin when the paper stack reaches 25 sheets.



4 End Wall Open/Close Motor

Controls the opening and closing of the End Wall.

5 End Wall Open Sensor

Monitors the position of the End Wall.

6 Compiler Bin Exit Sensor

Monitors paper leaving the entrance area of the Compiler. The signal from the Sensor is used by the Finisher logic to start and stop the Transport Motor and the Eject Motor.

3/99

8-517

- 7 Compiler Paper Sensor Monitors paper on the Compiler Bin.
- 8 Compiler Cover Interlock Switch Monitors the position of the Compiler Cover.

### 8.5.6.4.3 Stapler

The Stapler staples sets of paper.

- Stapler Front Corner Sensor
  Monitors the position of the Stapler Head for stapling in the front corner of a paper set.
- 2 Stapler Front Straight Sensor Monitors the position of the Stapler Head for stapling at the front edge of a paper set.
- Stapler Rear Straight Sensor
  Monitors the position of the Stapler Head for stapling at the rear edge of a paper set.
- 4 Stapler Move Motor

Moves the Stapler Head into position.



7 Low Staple Sensor

Monitors the level of staples in the Stapler.

8 Stapler Head Home Sensor

Monitors whether or not the Stapler Head is in the home position.

9 Set Clamp Home Sensor

Monitors whether or not the Set Clamp is in the home position.

10 Set Clamp Motor

Drives the Set Clamp paddles to clamp a paper set onto the Compiler Bin prior to stapling.

#### 8.5.6.4.4 Eject and Offset

The Eject and Offset transport and offset compiled sets of paper into the Finisher Bins.

- Eject Clamp and Offset Motor
  Raises and lowers the Eject Chute and Pinch Roll, and drives the Offset Actuator.
- 2 Eject Clamp SensorMonitors whether the Eject Roll is in the up or the down position.
- Offset Home Sensor
  Monitors whether or not the Eject Roll is in the home position.
- 4 Eject Motor

Drives the Eject Shaft Assembly.

#### 8.5.6.4.5 Elevator Unit

Provides the mechanism for raising and lowering the three Bins.

1 Finisher Bin Elevator Motor

Rotates the Drive shaft clockwise to raise the Bins and counter clockwise to lower the Bins.

2 Finisher Bin ID Sensor

Monitors the Finisher for correct Bin positions during initialization.

3 Finisher Upper Limit Switch

Safety switch in case the Elevator Motor raises the Bins too far. This switch cuts DC to the Elevator Motor.

4 Finisher Lower Limit Switch

Safety switch in case the Elevator Motor lowers the Bins too far. This switch cuts DC to the Elevator Motor.

3/99

- 5 Finisher Lower Safety Switch Monitors for any obstacles under the Bottom Bin.
- 6 Finisher Height Sensor Monitors the position of the Bins.

### 8.5.6.4.6 Top Bin

Provides the mechanism for raising and lowering the Top Bin.

1 Top Bin Motor

Raises the Top Bin up and down.

2 Top Bin Paper Sensor

Monitors the presence of paper in the Top Bin.

3 Top Bin Full Sensor

Monitors the Top Bin and detects when the Bin is full.

4 Top Bin Half Sensor

Monitors the Top Bin and detects when the Bin is 50% full.

5 Top Bin Upper Limit Sensor

Safety sensor that monitors the Top Bin upper movement. If the Top Bin raises too far, the signal from the sensor has the Finisher PWB cut DC to the Top Bin Motor.

6 Top Bin Lower Limit Sensor

Safety sensor that monitors the Top Bin lower movement. If the Top Bin lowers too far, the signal from the sensor has the Finisher PWB cut DC to the Top Bin Motor.

### 8.5.6.4.7 Middle Bin

Provides the mechanism for raising and lowering the Middle Bin.

1 Middle Bin Motor

Raises the Middle Bin up and down.

2 Middle Bin Paper Sensor

Monitors the presence of paper in the Middle Bin.

3 Middle Bin Full Sensor

Monitors the Middle Bin and detects when the Bin is full.

4 Middle Bin Half Sensor

Monitors the Middle Bin and detects when the Bin 50% full.

5 Middle Bin Upper Limit Sensor

Safety sensor that monitors the Middle Bin upper movement. If the Middle Bin raises too far, the signal from the sensor has the Finisher PWB cut DC to the Middle Bin Motor.

6 Middle Bin Lower Limit Sensor

Safety sensor that monitors the Middle Bin lower movement. If the Middle Bin lowers too far, the signal from the sensor has the Finisher PWB cut DC to the Middle Bin Motor.

### 8.5.6.4.8 Bottom Bin

Provides the mechanism for raising and lowering the Lower Bin.

**1** Bottom Bin Low Motor

Raises the Bottom Bin up and down.

- Bottom Bin Low Paper SensorMonitors the presence of paper in the Bottom Bin.
- Bottom Bin Low Full Sensor
  Monitors the Bottom Bin and detects when the Bin is full.
- 4 Bottom Bin Low Half Sensor

Monitors the Bottom Bin and detects when the Bin 50% full.

5 Bottom Bin Low Upper Limit Sensor

Safety sensor that monitors the Bottom Bin upper movement. If the Bottom Bin raises too far, the signal from the sensor has the Finisher PWB cut DC to the Bottom Bin Low Motor.

6 Bottom Bin Low Lower Limit Sensor

Safety sensor that monitors the Bottom Bin lower movement. If the Bottom Bin lowers too far, the signal from the sensor has the Finisher PWB cut DC to the Bottom Bin Low Motor.

## 8.5.6.5 Mechanical Drive

Mechanical Drive is the term used to describe the various motors, solenoids, gears, and belts that are used to generate, control, and transmit drive to the various paper path components within the Finisher.

#### 8.5.6.5.1 Transport Motor

The Transport Motor is located in the Compiler section of the Finisher. When the Finisher PWB switches on the Transport Motor, a set of gears transmit drive from the Transport Motor to Gear D. Gear D extends out of the Compiler and Gear H extends out of the Transport. When the Transport is in place, Gear D contacts Gear H and transmits drive to Transport Pulley J via gear I. One end of the Transport Drive Belt is attached to Pulley J, loops over Pulley K and Pulley L, and attaches to Pulley M at the other end. Tension Rolls along the way make sure the belt provides maximum drive transfer to each Pulley. Pulley K, Pulley L, and Pulley M drive the three Transport Rolls.

The Transport Motor also drives Gear B, which drives the Compiler Transport Rolls. The Compiler Drive Belt also drives the Eject Shaft and the Paddle Shaft.



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#### **Transport Mechanical Drive Components**

1 Transport Motor

A +24 VDC stepper motor. Provides drive for both the Transport Assembly and the Exit Assembly.

2 Transport Gears C, D H, and I

Transmits Motor drive to Transport Pulley J.

3 Transport Drive Belt

Transmits Motor drive from Transport Pulley J to Transport Pulley K, Pulley L, and Pulley M.

4 Transport Pulley K, Pulley L, and Pulley M

Each Pulley is attached to the end of the Transport Rolls. The Drive Belt rotates each Pulley and each Pulley in turn rotates a Transport Roll.

**5** Compiler Transport Drive Belt

Transmits Transport Motor drive to Gear B, the Eject Shaft, and the Paddle Shaft.

### 8.5.6.5.2 Eject Motor

The Finisher PWB switches the Eject Motor clockwise to Eject paper into a Finisher Bin. The Finisher PWB switches the Eject Motor counter clockwise to drive the paper back into the Complier Bin. The Eject Motor Drive Belt transmits drive from the Motor to Eject Gear B. Gear B drives Eject Shaft 2. Eject Shaft 2 drives Eject Shaft 1.



#### **Compiler Mechanical Drive Components**

1 Eject Motor

A +24 VDC stepper motor. Provides forward and reverse drive for the Eject Roll.

2 Eject Motor Drive Belt

Transmits Motor drive from the Eject Motor to Eject Gear B.

3 Eject Gear B

Transmits drive to Eject Shaft 2.

4 Eject Shaft 2

Transmits drive to Eject Shaft 1.

### 8.5.6.5.3 End Wall Motor

The End Wall Motor raises and lowers the Compiler Bin End Wall. When paper is sent to the Compiler Bin, the Finisher PWB switches on the End Wall Motor. The End Wall Motor raises the End Wall of the Compiler Bin. When a set of paper is collected in the Compiler Bin and the set is ready to be sent to the Stapler, the End Wall Motor lowers the End Wall to allow the paper set to move to the Stapler.



#### **End Wall Mechanical Drive Components**

1 End Wall Motor

A +24 VDC stepper motor. Raises and lowers the End Wall.

2 End Wall

Raised to close off the end of the Compiler Bin. Lowered to open the end of the Complier Bin and allow the paper set to move to the Stapler.

#### 8.5.6.5.4 Tamper Motor

The Finisher PWB switches on the Tamper Motor when a paper set in the Compiler Bin is ready to be sent to the Stapler. The Tamper is attached to the Tamper Drive Belt. When the Tamper Motor is switched on, it pulses, which in turn taps the Tamper against the side of the paper set. The Tamper Home Sensor monitors the position of the Tamper.



#### **Tamper Mechanical Drive Components**

1 Tamper Motor

A +24 VDC stepper motor. Drives the Tamper Drive Belt.

2 Tamper Drive Belt

Drives the Tamper.

3 Tamper

Attached to the Drive Belt. The side of the Tamper taps the edge of the paper set to align the set before stapling.

4 Tamper Home Sensor

Monitors the position of the Tamper when it is not actuated.

### 8.5.6.5.5 Set Clamp Motor

The Finisher PWB switches on the Set Clamp Motor. The Set Clamp Drive Belt transmits drive to the Paddle Shaft Assembly. Paddles on the Assembly drive a stapled set of paper into a Finisher Bin. The Set Clamp Home Sensor monitors the home position of the Paddle Assembly.



#### **Set Clamp Mechanical Drive Components**

1 Set Clamp Motor

A +24 VDC motor. Provides drive for the Paddle Shaft Assembly.

2 Set Clamp Motor Drive Belt

Transmits Set Clamp Motor drive to the Paddle Shaft Assembly.

**3** Set Clamp Home Position

Monitors the home position of the Paddle Assembly.



3/99

8-527

### 8.5.6.5.6 Offset Motor

The Eject Clamp Offset Motor drives the Offset Cam. As the Cam rotates, the high and low points of the Cam drive the Offset Rolls back and forth across the paper path. The Eject Clamp Offset Motor also drives the Eject Clamp Cam. As the Cam rotates, the high and low points of the Cam drive the Offset Pinch Rolls up and down.



#### **Offset Mechanical Drive Components**

1 Eject Clamp Offset Motor

A +24 VDC motor. Provides drive for both the Offset Pinch Rolls and the Offset Rolls.

2 Offset Cam

Driven by the Eject Clamp Offset Motor. As the cam rotates, the high and low points slide the Offset Rolls across the paper path.

3 Eject Clamp Cam

Driven by the Eject Clamp Offset Motor. As the cam rotates, the high and low points move the Offset Pinch Rolls up and down.

4 Eject Clamp Sensor

Monitors the position of the Eject Clamp Cam.



### 8.5.6.5.7 Finisher Elevator Motor

The Elevator Motor provides the drive needed to raise and lower the three Bins. The Elevator Drive Belt transmits drive to Gear/Pulley A, which in turn transmits drive to Gear/Pulley B. The threaded Elevator Drive Shaft is attached to the center of Gear/Pulley B. When the Finisher PWB switches on the Elevator Motor, the three Bins ride up and down on the Shaft.



#### **Finisher Elevator Mechanical Drive Components**

1 Finisher Elevator Motor

A +24 VDC motor. Provides drive to rotate the Elevator Drive Shaft.

2 Elevator Drive Belt

Transmits drive from the Motor to Gear/Pulley A.

3 Elevator Drive Shaft

A threaded, metal rod that is attached, at the bottom of the Shaft, to Gear/Pulley B. The three Bins are attached to the Shaft through threaded nuts that are attached to the rear of each Bin. As the Shaft rotates, the threads in the shaft drive the Bins up and down.



### 8.5.6.5.8 Bin Motors

Each Bin has a separate Motor that raises or lowers the Bin to accommodate the amount of paper sent to the Bin. The Bin is attached to a Drive Belt. As the Belt rotates, the Bin raises or lowers depending on the direction of Belt rotation. Sensors monitor the upper and lower limits of Bin height.



#### **Bin Motors Mechanical Drive Components**

1 Bin Motor

A +24 VDC motor. Provides drive for each Finisher Paper Bin.

2 Bin Motor Drive Belt

Rotates as the Motor rotates.

3 Lower Limit Sensor

Monitors when the Bin has reached the lowest point that it can safely travel.

4 Upper Limit Sensor

Monitors when the Bin has reached the highest point that it can safely travel.



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# 8.5.7 Repair Analysis procedures

### RAP 8.5.7.1 Error Code "Paper Jam Clear Area E"

1 Open the Transport Cover and inspect the paper path for paper scraps or obstructions that may cause a paper jam. The Transport area is free of paper scraps and obstructions.

Y N

- Remove the paper scraps or obstructions.
- 2 Open the Transport Cover and inspect the position of the jammed paper in the Transport. The leading edge of the paper reached the Transport Entrance Sensor.

Y N

- Go to step 12.
- **3** Inspect the position of the jammed paper in the Transport. The trailing edge of the paper traveled pass the Transport Entrance Sensor.

Y N

- Go to step 7.
- 4 Enter Diagnostic Mode Input H/L Finisher Transport Sensor/Switch Enter Sensor. Insert, then remove, a sheet of paper into the Entrance Sensor. The Control Panel LCD displays H when the paper is inserted into the Sensor and L when the paper is removed.

Y N

- Replace the Transport Entrance Sensor (REP 8.5.3.94).
- 5 Replace the Finisher PWB (REP 8.5.3.83). The error message reappears.
  - Y N
  - Problem solved.
- 6 Replace the Printer Engine Controller PWB (REP 4.10.6).
- 7 Remove the two screws securing the Transport Rear Cover (REP 8.5.3.11) and remove the Cover. Remove the Upper Rear Cover (REP 8.5.3.5). Enter Diagnostic Mode Output Finisher Operations Finisher Transport Motor. The Transport Motor runs.

Y N

- Replace the Transport Motor (REP 8.5.3.74).
- 8 With the Transport Motor running, inspect the Gears that transmit Motor drive to the Transport Assembly Drive Belt. The Transport Gears rotate smoothly and transmit drive to the Transport Assembly.

Y N

- Replace the gear clusters.
- **9** With the Transport Motor running, inspect the Transport Assembly Drive Belt. The Transport Assembly Drive Belt runs smoothly, without binding or skipping.

3/99

Y N

Replace the Transport Assembly Drive Belt (REP 8.5.3.89).

**10** Inspect the Transport Rolls and Pinch Rolls. The Transport Rolls and Pinch Rolls are clean, not broken, and free of obvious wear.

Y N

- Replace the Transport Rolls (REP 8.5.3.93).
- 11 Replace the Transport Cover Assembly (REP 8.5.3.91).
- **12** Pull the Transport Assembly a few inches away from the Docking Assembly and inspect the position of the jammed paper. The leading edge of the paper exited the Fuser Exit area.

Y N

- Go to section 7 and troubleshoot for a possible Fuser Exit jamming problem.
- 13 Reattach the Transport Assembly to the Docking Assembly. Enter Diagnostic Mode Output -Gate Solenoid Operation - Gate In Pull to check IN Gate Solenoid open. Enter Diagnostic Mode -Output - Gate Solenoid Operation - Gate In Push to check IN Gate Solenoid close. The IN Gate Solenoid opens and closes when you run tests - Gate In Pull and Gate In Push.

Y N

- Replace the IN Gate Solenoid (REP 8.5.3.90).
- 14 While running step 13, inspect the IN Gate. The IN Gate Actuator raises and lowers the IN Gate as you toggle between Gate In Pull and Gate In Push.

Y N

- Replace the IN Gate Lever and Spring (REP 8.5.3.86).
- **15** Replace the IN Gate Support Assembly (REP 8.5.3.85). The error message reappears.
  - Y N
  - Problem solved.
- **16** Go to section 7 and troubleshoot the printer Fuser and Offset Units for stalling, slipping, and broken parts.

## RAP 8.5.7.2 Error Code "Paper Jam Clear Area F"

1 Open the Transport Cover and Top Cover and inspect the paper path for paper scraps or obstructions that may cause a paper jam. The Transport and Compiler areas are free of paper scraps.

Y N

- Remove the paper scraps or obstructions.
- **2** Generate a test print. When the print is inside the Transport Assembly, open the Transport Cover and inspect the paper position. The paper is straight (not skewed) as it enters the Compiler.

Y N

- Replace the Transport Rolls (REP 8.5.3.93).
- **3** Generate a test print. Inspect the position of the jammed paper in the Transport. The leading edge of the paper reached the Transport Exit Sensor.

Y N

Go to step 14.

4 Inspect the position of the jammed paper in the Transport. The trailing edge of the paper cleared the Transport Exit Sensor.

Y N

Go to step 8.

5 Enter Diagnostic Mode - Input H/L - Finisher Transport Sensor/Switch - Exit Sensor. Insert, then remove, a sheet of paper into the Exit Sensor. The Control Panel LCD displays H when the paper is inserted into the Sensor and L when the paper is removed.

Y N

- Replace the Transport Exit Sensor (REP 8.5.3.96).
- 6 Replace the Finisher PWB (REP 8.5.3.83). The error code reappears.
  - Y N
  - Problem solved.
- 7 Replace the Printer Engine Controller PWB (REP 4.10.6).
- 8 Open the Transport Cover. Place a single sheet of paper on top of the Transport Rolls. Enter Diagnostic Mode Output Finisher Operations Finisher Transport Motor. Watch the sheet of paper as it is driven out of the Transport, into the Compiler, and into an Finisher Bin. The sheet of paper is driven into the Finisher Bin.

Y N

Go to step 10.

- **9** Repeat the test. If the problem does not reoccur, treat it as an intermittent. If the paper jams, reload fresh paper into the printer or troubleshoot for paper damage along the printer paper path.
- 10 Remove the two screws securing the Transport Rear Cover (REP 8.5.3.11) and remove the Cover. Remove the Upper Rear Cover (REP 8.5.3.5). Enter Diagnostic Mode Output Finisher Operations Finisher Transport Motor. With the Transport Motor running, inspect the Transport Motor Drive Belt. The Transport Motor Drive Belt run smoothly, without binding or skipping, and it drives the Compiler Transport Roll.

3/99

- Y N
- Replace the Transport Motor Drive Belt (REP 8.5.3.76).

**11** Open the Top Cover and inspect the Pinch Rolls in the Upper Transport Chute. The Pinch Rolls are clean and undamaged.

Y N

- Replace the Upper Transport Chute Assembly (REP 8.5.3.77).
- **12** With the Transport Motor running, inspect the Exit Roll and Paddle Roll Assemblies. The Assemblies rotate smoothly and are both Assemblies are clean, not damaged, and free of obvious wear.

Y N

L

- Replace the Exit Shaft Assembly (REP 8.5.3.65) and the Paddle Shaft Assembly (REP 8.5.3.66).
- **13** Inspect the paper path for damage that may be blocking the paper path. Check for paper skewing as it exits the Fuser.
- 14 Remove the two screws securing the Transport Rear Cover (REP 8.5.3.11) and remove the Cover. Remove the Upper Rear Cover (REP 8.5.3.5). Enter Diagnostic Mode Output Finisher Operations Finisher Transport Motor. The Transport Motor runs.

Y N

- Replace the Transport Motor (REP 8.5.3.74).
- **15** With the Transport Motor running, inspect the gears that transmit motor drive to the Transport Assembly Drive Belt. The Transport Gears rotate smoothly and transmit drive to the Transport Assembly.

Y N

- Replace the gear clusters.
- **16** With the Transport Motor running, inspect the Transport Assembly Drive Belt. The Transport Assembly Drive Belt runs smoothly, without binding or skipping.

Y N

- Replace the Transport Assembly Drive Belt (REP 8.5.3.89).
- 17 Inspect the Transport Rolls and Pinch Rolls. The Transport Rolls and Pinch Rolls are clean, not broken, and free of obvious wear.

Y N

- Replace the Transport Rolls (REP 8.5.3.93).
- **18** Replace the Transport Cover Assembly (REP 8.5.3.91).

## RAP 8.5.7.3 Error Code "Paper Jam Clear Area G, H"

1 Open the Transport Cover and the Top Cover and inspect the paper path for paper scraps or obstructions that may cause a paper jam. The Transport and Compiler areas are free of paper scraps and obstructions.

Y N

- Remove the paper scraps or obstructions.
- 2 Open the Top Cover and inspect the position of the jammed paper. The trailing edge of the paper cleared the Compiler Bin Exit Sensor.

Y N

- Go to step 6.
- 3 Enter Diagnostic Mode Input H/L Finisher Compil Sensor/Switch Bin Exit Sensor. Open the Top Cover. Actuate and deactuate the Compiler Bin Exit Sensor. The Control Panel LCD displays H when the Sensor is actuated and L when the sensor is deactuated.

Y N

- Replace the Compiler Bin Exit Sensor (REP 8.5.3.73).
- 4 Replace the Finisher PWB (REP 8.5.3.83). The error code reappears.

Y N

- Problem solved.
- 5 Replace the Printer Engine Controller PWB (REP 4.10.6).
- 6 Open the Transport Cover. Place a single sheet of paper on top of the Transport Rolls. Enter Diagnostic Mode Output Finisher Operations Finisher Transport Motor. Watch the sheet of paper as it is driven out of the Transport, into the Compiler, and into a Finisher Bin. The sheet of paper is driven into the Finisher Bin.

Y N

- Go to step 8.
- 7 Repeat the test. If the problem does not reoccur, treat it as an intermittent. If the paper jams, reload fresh paper into the printer or troubleshoot for paper damage along the printer paper path.
- 8 Remove the two screws securing the Transport Rear Cover (REP 8.5.3.11) and remove the Cover. Remove the Upper Rear Cover (REP 8.5.3.5). Enter Diagnostic Mode Output Finisher Operations Finisher Transport Motor. With the Transport Motor running, inspect the Transport Motor Drive Belt. The Transport Motor Drive Belt runs smoothly, without binding or skipping, and it drives the Compiler Transport Roll.
  - Y N
  - Replace the Transport Motor Drive Belt (REP 8.5.3.76).
- **9** Open the Top Cover and inspect the Pinch Rolls in the Upper Transport Chute. The Pinch Rolls are clean and undamaged.

3/99

Y N

Replace the Upper Chute Assembly (REP 8.5.3.77).

- **10** With the Transport Motor running, inspect the Exit Roll and Paddle Roll Assemblies.The Assemblies rotate smoothly and both Assemblies are clean, not damaged, and free of obvious wear.
  - Y N
  - Replace the Exit Shaft Assembly (REP 8.5.3.65) and the Paddle Shaft Assembly (REP 8.5.3.66).
- 11 Inspect the paper path for damage that may be blocking the paper path. Check for paper skewing as it exits the Fuser.

## RAP 8.5.7.4 Error Code "Paper Jam Clear Area H"

1 Raise the Compiler Cover and inspect the paper path for paper scraps or obstructions that may cause a paper jam. The Compiler area is free of paper scraps and obstructions.

### Y N

- Remove the paper scraps.
- 2 Enter Diagnostic Mode Input H/L Finisher Compil Sensor/Switch Paper Sensor. Raise the Compiler Cover. Actuate and deactuate the Compiler Paper Sensor. The Control Panel LCD displays H when the Sensor is actuated and L when the Sensor is deactuated.

Y N

- Replace the Compiler Paper Sensor (REP 8.5.3.51).
- 3 Enter Diagnostic Mode Output Finisher Operations Eject FWD Low, to check the Eject Motor in forward rotation. With the Eject Motor running, inspect the Eject Roll. The Eject Motor runs and the Eject Rolls rotate.

Y N

- Replace the Eject Motor (REP 8.5.3.81).
- 4 Enter Diagnostic Mode Output Finisher Operations Eject Reverse, to check the Eject Motor in reverse rotation. With the Eject Motor running, inspect the Eject Roll. The Eject Motor runs and the Eject Rolls rotate.

Y N

- Replace the Eject Motor (REP 8.5.3.81).
- 5 Inspect the Eject Roll. The Eject Roll is clean, undamaged, and free of obvious wear.

3/99

Y N

L

- Replace the Eject Shaft Assemblies (REP 8.5.3.61).
- 6 Replace the Finisher PWB (REP 8.5.3.83). The error code reappears.
  - Y N
  - Problem solved.
- 7 Replace the Printer Engine Controller PWB (REP 4.10.6).

## RAP 8.5.7.5 Error Code "Close Cover E"

1 Reposition the Transport to make a better connection with the Docking Assembly. The error code reappears.

Y N

- Problem solved.
- 2 Pull the Finisher away from the Docking Assembly. Inspect the IN Gate Actuator. The Actuator is in good condition and not broken.

Y N

- Replace the IN Gate Actuator (REP 8.5.3.86).
- 3 Enter Diagnostic Mode Input H/L Gate In Interlock Sw. Actuate and deactuate the IN Gate Interlock Switch. The Control Panel LCD displays H when the Switch is actuated and L when the Switch is deactuated.

Y N

L

- Replace the IN Gate Interlock Switch (REP 8.5.3.87).
- 4 Replace the Finisher PWB (REP 8.5.3.83). The error code reappears.

Y N

- Problem solved.
- 5 Replace the Printer Engine Controller PWB (REP 4.10.6).

## RAP 8.5.7.6 Error Code "Close Door F"

- 1 Close the Transport Cover. The error code reappears.
  - Y N
  - Problem solved.
- 2 Open the Transport Cover and inspect the molded tab that actuates the Transport Cover Interlock Sensor. The actuator tab is in good condition (unbroken).
  - Y N
  - Replace the Transport Cover Assembly (REP 8.5.3.91).
- 3 Enter Diagnostic Mode Input H/L Finisher Transport Sensor/Switch Interlock Switch. Insert and remove paper between the arms on the Transport Cover Interlock Sensor. The Control Panel LCD displays L when paper is inserted in the sensor and H when the paper is removed.

Y N

- Replace the Transport Cover Interlock Sensor (REP 8.5.3.92).
- 4 Replace the Finisher PWB (REP 8.5.3.83). The error code reappears.
  - Y N
  - Problem solved.
- 5 Replace the Printer Engine Controller PWB (REP 4.10.6).

## RAP 8.5.7.7 Error Code "Close Stapler Door"

- 1 Open and close the Stapler Door Cover. The error code reappears.
  - Y N
  - Problem solved.
- 2 Open the Stapler Door Cover and inspect the molded tab that actuates the Front Cover Interlock Switch. Is the actuator tab is in good condition (unbroken).
  - Y N
  - Replace the Stapler Door Cover (REP 8.5.3.2).
- 3 Enter Diagnostic Mode Input H/L Front Cover Interlock Switch. Actuate and deactuate the Front Cover Interlock Switch. The Control Panel LCD displays L when the Switch is actuated and H when the Switch is deactuated.

Y N

L

- Replace the Front Cover Interlock Switch (REP 8.5.3.75).
- 4 Replace the Finisher PWB (REP 8.5.3.83). The error code reappears.
  - Y N
  - Problem solved.
- 5 Replace the Printer Engine Controller PWB (REP 4.10.6).

## RAP 8.5.7.8 Error Code "Close Cover G"

- 1 Open and close the Top Cover. The error code reappears.
  - Y N
  - Problem solved.
- **2** Open the Top Cover and inspect the molded tab that actuates the Top Cover Interlock Switch. The actuator tab is in good condition (unbroken).
  - Y N
  - Replace the Top Cover Assembly (REP 8.5.3.72).
- 3 Enter Diagnostic Mode Input H/L Top Cover Interlock Switch. Actuate and deactuate the Top Cover Interlock Switch. The Control Panel LCD displays L when the Switch is actuated and H when the Switch is deactuated.

Y N

L

- Replace the Top Cover Interlock Switch (REP 8.5.3.75).
- 4 Replace the Finisher PWB (REP 8.5.3.83). The error code reappears.
  - Y N
  - Problem solved.
- 5 Replace the Printer Engine Controller PWB (REP 4.10.6).

## RAP 8.5.7.9 Error Code "Clear Area H"

- 1 Open and close the Eject Chute. The error code reappears.
  - Y N
  - Problem solved.
- 2 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3). Inspect the molded tab on the Eject Chute that actuates the Safety Switch. Raise and lower the Eject Chute. The actuator tab is in good condition (unbroken) and the tab actuates and deactuates the Safety Switch.
  - Y N
  - Replace the Eject Chute Assembly (REP 8.5.3.62).
- 3 Actuate the Front Cover Interlock Switch. Enter Diagnostic Mode Input H/L Finisher Compil Sensor/Switch - Cover Safety Sw. Close the Eject Chute just enough so the Compiler Cover Interlock Switches actuate. Manually actuate and deactuate the Safety Switch. The Control Panel LCD displays H when the Switch is actuated and L when the Switch is deactuated.

Y N

- Replace the Safety Switch (REP 8.5.3.78).
- 4 Replace the Finisher PWB (REP 8.5.3.83). The error code reappears.
  - Y N
  - Problem solved.
- 5 Replace the Printer Engine Controller PWB (REP 4.10.6).

## RAP 8.5.7.10 Error Code "Close Cover H"

- 1 Open and close the Eject Chute. The error code reappears.
  - Y N
  - Problem solved.
- 2 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3). Inspect the molded tab on the Eject Chute that actuates the Compiler Cover Interlock Switch actuator. Raise and lower the Eject Chute. The actuator tab is in good condition (unbroken), and the tab actuates and deactuates the Interlock Switch actuator, and the actuator actuates and deactuates the Switches.

Y N

- Replace the Eject Chute Assembly (REP 8.5.3.62).
- 3 Actuate the Front Cover Interlock Switch. Enter Diagnostic Mode Input H/L Finisher Compil Sensor/Switch - Cover Interlock Sw. Manually actuate and deactuate each of the two Compiler Cover Interlock Switches. The Control Panel LCD displays H when each Switch is deactuated and L when each Switch is actuated.

Y N

- Replace the faulty Compiler Cover Interlock Switch (REP 8.5.3.78).
- 4 Replace the Finisher PWB (REP 8.5.3.83). The error code reappears.
  - Y N
  - Problem solved.
- 5 Replace the Printer Engine Controller PWB (REP 4.10.6).
# RAP 8.5.7.11 Error Code "Slide In Finisher"

- 1 Push the Finisher against the printer. The error code reappears.
  - Y N
  - Problem solved.
- 2 Pull the Finisher a few inches away from the printer, but do not disconnect the Finisher interface cables. Enter Diagnostic Mode Input H/L Finisher Interlock Sw. Push in and release the Finisher Interlock Sensor actuator. The Control Panel LCD displays L when the interlock is actuated H when the interlock is deactuated.
  - Y N

н

- Replace the Finisher Interlock Sensor and Actuator (REP 8.5.3.15).
- 3 Replace the Finisher PWB (REP 8.5.3.83). The error code reappears.
  - Y N
  - Problem solved.
- 4 Replace the Printer Engine Controller PWB (REP 4.10.6).

## RAP 8.5.7.12 Error Code "Finisher Fail Power Off/On"

- NOTE: This procedure checks various components on each of the Bins. It is only necessary to run the tests for the bin that is suspected of causing the problem.
  - 1 Remove the Eject Cover (REP 8.5.3.7). Inspect the Stack Height Sensor actuator. The actuator is unbroken and moves freely between the Sensor arms and has a spring-action return.
    - Y N
    - Replace the Stack Height Sensor Actuator (REP 8.5.3.68).
  - 2 Enter Diagnostic Mode Input H/L Finisher Stacker Sensor/Switch Height Sensor. Manually actuate and deactuate the Stack Height Sensor. The Control Panel LCD displays L when the sensor is deactuated and H when the Sensor is actuated.

Y N

- Replace the Stack Height Sensor (REP 8.5.3.68).
- 3 Enter Diagnostic Mode -
  - Output Finisher Operations Stacker T 1 CW, to check the Top Bin Motor.
  - Output Finisher Operations Stacker T 2 CW, to check the Middle Bin Motor.
  - Output Finisher Operations Stacker T 3 CW, to check the Bottom Bin Motor. Enter Diagnostic Mode -
    - Output Finisher Operations Stacker T 1 CCW, to check the Top Bin Motor.
    - Output Finisher Operations Stacker T 2 CCW, to check the Middle Bin Motor.
    - Output Finisher Operations Stacker T 3 CCW, to check the Bottom Bin Motor.

The Bin Motor rotates in both directions.

- Y N
- Replace the appropriate Bin Motor (REP 8.5.3.24) (REP 8.5.3.34) (REP 8.5.3.45).
- 4 Enter Diagnostic Mode -
  - Output Finisher Operations Stacker T 1 CW, to check the Top Bin Belts.
  - Output Finisher Operations Stacker T 2 CW, to check the Middle Bin Belts.
  - Output Finisher Operations Stacker T 3 CW, to check the Bottom Bin Belts.
  - Enter Diagnostic Mode -
    - Output Finisher Operations Stacker T 1 CCW, to check the Top Bin Belts.
    - Output Finisher Operations Stacker T 2 CCW, to check the Middle Bin Belts.
  - Output Finisher Operations Stacker T 3 CCW, to check the Bottom Bin Belts. The Bin Drive Belts raises and lowers the Bin.

Y N

- Replace the appropriate Bin Drive Belts (REP 8.5.3.26) (REP 8.5.3.36) (REP 8.5.3.46).
- 5 Enter Diagnostic Mode -
  - Input H/L Finisher Stacker Sensor/Switch Bin 1 Up Limit Sw, for Top Bin.
  - Input H/L Finisher Stacker Sensor/Switch Bin 2 Up Limit Sw, for Middle Bin.
  - Input H/L Finisher Stacker Sensor/Switch Bin 3 Up Limit Sw, for Bottom Bin.

Manually insert and remove paper from between sensor arms of the Bin Upper Limit Sensor. The Control Panel LCD displays L or H as the paper is inserted and removed.

Y N

Replace the Bin Upper Limit Sensor (REP 8.5.3.41) (REP 8.5.3.31) (REP 8.5.3.21).

3/99

8-549

- 6 Enter Diagnostic Mode -
  - Input H/L Finisher Stacker Sensor/Switch Bin 1 Half Sr, for Top Bin.
  - Input H/L Finisher Stacker Sensor/Switch Bin 2 Half Sr, for Middle Bin.
  - Input H/L Finisher Stacker Sensor/Switch Bin 3 Half Sr, for Bottom Bin.

Manually insert and remove paper from between sensor arms of the Bin Half Sensor. The Control Panel LCD displays L or H as the paper is inserted and removed.

Y N

Replace the Bin Half Sensor (REP 8.5.3.40) (REP 8.5.3.30) (REP 8.5.3.20).

7 Enter Diagnostic Mode -

- Input H/L - Finisher Stacker Sensor/Switch - Bin 1 Full Sr, for Top Bin.

- Input H/L - Finisher Stacker Sensor/Switch - Bin 2 Full Sr, for Middle Bin.

- Input H/L - Finisher Stacker Sensor/Switch - Bin 3 Full Sr, for Bottom Bin.

Manually insert and remove paper from between sensor arms of the Bin Full Sensor. The Control Panel LCD displays L or H as the paper is inserted and removed.

Y N

Replace the Bin Half Sensor (REP 8.5.3.40) (REP 8.5.3.30) (REP 8.5.3.20).

8 Enter Diagnostic Mode -

- Input H/L - Finisher Stacker Sensor/Switch - Bin 1 Lo Limit Sw, for Top Bin.

- Input H/L - Finisher Stacker Sensor/Switch - Bin 2 Lo Limit Sw, for Middle Bin.

- Input H/L - Finisher Stacker Sensor/Switch - Bin 3 Lo Limit Sw, for Bottom Bin.

Manually insert and remove paper from between sensor arms of the Bin Lower Limit Sensor. The Control Panel LCD displays L or H as the paper is inserted and removed.

Y N

Replace the Bin Lower Limit Sensor (REP 8.5.3.41) (REP 8.5.3.31) (REP 8.5.3.21).

9 Enter Diagnostic Mode -

- Output - Finisher Operations - Stacker T 1 CW, to check the Top Bin.

- Output - Finisher Operations - Stacker T 2 CW, to check the Middle Bin.

- Output - Finisher Operations - Stacker T 3 CW, to check the Bottom Bin.

Enter Diagnostic Mode -

- Output Finisher Operations Stacker T 1 CCW, to check the Top Bin.
- Output Finisher Operations Stacker T 2 CCW, to check the Middle Bin.
- Output Finisher Operations Stacker T 3 CCW, to check the Bottom Bin.

The Belt always drives the Limit Actuator on to Upper or Lower Limit Sensor.

Y N

Go to step 11.

10 Problem Solved.

**11** Replace the Finisher PWB (REP 8.5.3.83). The error code reappears.

Y N

Problem solved.

**12** Replace the Printer Engine Controller PWB (REP 4.10.6).

# RAP 8.5.7.13 Error Code "Fin Fail H5-81 Power Off/On"

1 Remove the Eject Clamp Sensor from the Eject Bracket (REP 8.5.3.57). Enter Diagnostic Mode -Input H/L - Finisher Clamp Sensor Detect - Eject. Insert and remove a piece of paper between the Sensor arms. The Control Panel LCD displays L when the paper is inserted into the Sensor and H when the paper is removed.

Y N

- Replace the Eject Clamp Sensor (REP 8.5.3.57).
- 2 Reinstall the Eject Clamp Sensor (REP 8.5.3.57). Enter Diagnostic Mode Input H/L Finisher Clamp Sensor Detect Eject. Manually rotate the one-way gear that is attached to the Eject Clamp Actuator and observe the action of the Actuator. The Control Panel LCD displays H when the Actuator blocks the Sensor and L when the Actuator does not block the Sensor.

Y N

- Replace the Eject Bracket Assembly (REP 8.5.3.59) or replace the Eject Clamp Actuator (PL 8.5.2.19).
- 3 Enter Diagnostic Mode Output Finisher Operations Eject CL / Off CW, to check the Eject Clamp Motor. Observe the Eject Clamp Actuator as you run the test. The Eject Clamp Motor runs and it rotates the Eject Clamp Sensor Actuator so it blocks the Eject Clamp Sensor.

- Replace the Eject Clamp Offset Motor (REP 8.5.3.82).
- 4 Replace the Finisher PWB (REP 8.5.3.83). The error code reappears.
  - Y N
  - Problem solved.
- 5 Replace the Printer Engine Controller PWB (REP 4.10.6).

# RAP 8.5.7.14 Error Code "Fin Fail H5-82 Power Off/On"

- 1 Remove four screws securing the Eject Roll Chute to the Finisher and remove the Chute (REP 8.5.3.61). Enter Diagnostic Mode Input H/L Finisher Tamper Home Sensor, to test the Tamper Home Sensor. Locate the Tamper Home Sensor (REP 8.5.3.50). Slide the Tamper Base back and forth. The Control Panel LCD displays L when the Tamper Base is off of the Sensor and H when the Base is on the Sensor.
  - Y N
  - Replace the Tamper Home Sensor (REP 8.5.3.50).
- 2 Enter Diagnostic Mode Output Finisher Operations Tamper Front, to check the Tamper Motor drive to the front. Enter Diagnostic Mode Output Finisher Operations Tamper Rear, to check the Tamper Motor drive to the rear. The Tamper Motor runs in both directions.

- Replace the Tamper Motor (REP 8.5.3.49).
- 3 Enter Diagnostic Mode Output Finisher Operations Tamper Front, to check the Tamper Motor drive to the front. Observe the movement of the Tamper Base and the Tamper Home Sensor Actuator that is located under the Base. The Tamper Motor drives the Tamper Base to the front of the Compiler Bin so the Actuator is not actuating the Tamper Home Sensor.
  - Y N
  - Adjust or replace the Tamper Motor Drive Belt (REP 8.5.3.53).
- 4 Enter Diagnostic Mode Output Finisher Operations Tamper Rear, to check the Tamper Motor drive to the rear. Observe the movement of the Tamper Base and the Tamper Home Sensor Actuator that is located under the Base. The Tamper Motor drives the Tamper Base to the rear of the Compiler Bin so the Actuator is not actuating the Tamper Home Sensor.
  - Y N
    - Adjust or replace the Tamper Motor Drive Belt (REP 8.5.3.53).
- 5 Replace the Finisher PWB (REP 8.5.3.83). The error code reappears.
  - Y N
  - Problem solved.
- 6 Replace the Printer Engine Controller PWB (REP 4.10.6).

# RAP 8.5.7.15 Error Code "Fin Fail H5-83 Power Off/On"

1 Remove the Offset Home Sensor (REP 8.5.3.58). Enter Diagnostic Mode - Input H/L - Finisher Stacker Sensor/Switch - Offset Home Sr, to test the Offset Home Sensor. Insert and remove a piece of paper between the Sensor arms. The Control Panel LCD displays L when paper is inserted between the Sensor arms and H when the paper is removed.

- Replace the Offset Home Sensor (REP 8.5.3.58).
- 2 Reinstall the Offset Home Sensor (REP 8.5.3.58). Enter Diagnostic Mode Input H/L Finisher Stacker Sensor/Switch Offset Home Sr. Manually rotate the Eject Clamp Motor drive gear and observe the LCD. The Control Panel LCD displays H then L as you rotate the drive gear through 360 degrees.

- Replace the Eject Bracket Assembly (REP 8.5.3.59).
- **3** Enter Diagnostic Mode Output Finisher Operations Eject Cl/Off CW, to check the Eject Clamp Motor. The Eject Clamp Motor runs.
  - Y N
    - Replace the Eject Clamp Offset Motor (REP 8.5.3.82).
- 4 Replace the Finisher PWB (REP 8.5.3.83). The error code reappears
  - Y N
  - Problem solved.
- 5 Replace the Printer Engine Controller PWB (REP 4.10.6).

Y N

## RAP 8.5.7.16 Error Code "Fin Fail H5-84 Power Off/On"

- 1 Enter Diagnostic Mode Input H/L Finisher Stacker Sensor/Switch Bin ID Sensor, to test the Stacker Bin ID Sensor. Insert and remove a piece of paper between the Sensor arms. The Control Panel LCD displays L when the paper is inserted between the Sensor arms and H when the paper is removed.
  - Y N
  - Replace the Bin ID Sensor (REP 8.5.3.16).
- 2 Enter Diagnostic Mode Output Finisher Operations Stacker Elev CCW, to lower the Stacker Bins. The Elevator Motor runs.

Y N

- Replace the Elevator Motor (REP 8.5.3.17).
- 3 Enter Diagnostic Mode Output Finisher Operations Stacker Elev CW, to raise the Stacker Bins. The Elevator Motor runs.

Y N

- Replace the Elevator Motor (REP 8.5.3.17).
- 4 While running Output tests in steps 3 & 4, observe the Elevator Drive Shaft and Stacker Bins. The Elevator Motor rotates the Drive Shaft and the Shaft raises and lowers the three Bins.

- Troubleshoot the Elevator Drive Shaft and Linkage.
- 5 Replace the Finisher PWB (REP 8.5.3.83). The error code reappears.
  - Y N
  - Problem solved.
- 6 Replace the Printer Engine Controller PWB (REP 4.10.6).

# RAP 8.5.7.17 Error Code "Fin Fail H5-85 Power Off/On"

1 Enter Diagnostic Mode - Input H/L - Finisher Stacker Sensor/Switch - Upper Limit Sw, to test the Stacker Upper Limit Switch. Actuate and deactuate the Stacker Upper Limit Switch. The Control Panel LCD displays H when the switch is actuated and L when the switch is deactuated.

- Replace the Stacker Upper Limit Switch (REP 8.5.3.14).
- 2 Enter Diagnostic Mode Output Finisher Operations Stacker Elev CCW, to lower the Stacker Bins. Enter Diagnostic Mode Output Finisher Operations Stacker Elev CW, to raise the Stacker Bins. The Stacker Bins actuate the Upper Limit Switch.

```
Y N
```

- Replace the Elevator Motor (REP 8.5.3.17).
- 3 Replace the Finisher PWB (REP 8.5.3.83). The error code reappears.
  - Y N
  - Problem solved.
- 4 Replace the Printer Engine Controller PWB (REP 4.10.6).

Y N

# RAP 8.5.7.18 Error Code "Fin Fail H5-86 Power Off/on"

1 Enter Diagnostic Mode - Input H/L - Finisher Stacker Sensor/Switch - Lower Limit Sw, to test the Stacker Lower Limit Switch. Actuate and deactuate the Stacker Lower Limit Switch. The Control Panel LCD displays H when the switch is actuated and L when deactuated.

- Replace the Stacker Lower Limit Switch (REP 8.5.3.13).
- 2 Enter Diagnostic Mode Output Finisher Operations Stacker Elev CW, to raise the Stacker Bins. Enter Diagnostic Mode Output Finisher Operations Stacker Elev CCW, to lower the Stacker Bins. The Stacker Bins actuate the Lower Limit Switch.

```
Y N
```

- Replace the Elevator Motor (REP 8.5.3.17).
- **3** Replace the Finisher PWB (REP 8.5.3.83). The error code reappears.
  - Y N
  - Problem solved.
- 4 Replace the Printer Engine Controller PWB (REP 4.10.6).

Y N

# RAP 8.5.7.19 Error Code "Staple Fail H5-91 Power Off/On"

- Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3). Enter Diagnostic Mode Input H/ L - Finisher Stapler Sensor/Switch - Head Home Sensor, to test the Stapler Head Home Switch. Rotate the D shaped cam that is located next to the Stapler Cartridge eject lever. The Control Panel LCD displays alternately L and H as the cam is rotated through 360 degrees.
  - Y N
  - Replace the Stapler Assembly (REP 8.5.3.69).
- 2 Replace the Finisher PWB (REP 8.5.3.83). The error code reappears.
  - Y N
  - Problem solved.
- **3** Replace the Printer Engine Controller PWB (REP 4.10.6).

# RAP 8.5.7.20 Error Code "Stapler Fail H5-92 Power Off/On"

- 1 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3). Enter Diagnostic Mode Input H/ L - Finisher Stapler Sensor/Switch - Head Home Sensor, to test the Stapler Head Home Switch. Rotate the D shaped cam that is located next to the Stapler Cartridge eject lever. The Control Panel LCD displays alternately L and H as the cam is rotated through 360 degrees.
  - Y N
  - Replace the Stapler Assembly (REP 8.5.3.69).
- 2 Enter Diagnostic Mode Output 14-60 to test the Stapler Head Motor. The Stapler Head Motor runs.

- Replace the Stapler Assembly (REP 8.5.3.69).
- 3 Replace the Finisher PWB (REP 8.5.3.83). The error code reappears.
  - Y N
  - Problem solved.
- 4 Replace the Printer Engine Controller PWB (REP 4.10.6).

# RAP 8.5.7.21 Error Code "Stapler Fail H5-93 Power Off/On"

- 1 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3) and the Upper Left Cover (REP 8.5.3.12). Enter Diagnostic Mode Input H/L Finisher Stapler Sensor/Switch Front Corner Sr, to test the Stapler Front Corner Sensor. Insert and remove a piece of paper between the Sensor arms. The Control Panel LCD displays H when the paper is inserted between the Sensor arms and L when the paper is removed.
  - Y N
    - Replace the Stapler Front Corner Sensor (REP 8.5.3.70).
- 2 Remove the Upper Rear Cover (REP 8.5.3.5). Enter Diagnostic Mode Output Finisher operations Staple Motor, to test the Stapler Transport Motor. The Stapler Transport Motor runs.

Y

Ν

- Replace the Stapler Transport Motor (REP 8.5.3.80).
- **3** While running step 2, observe the Stapler Motor Drive Belt. The Stapler Motor Drive Belt rotates when the Motor is running.

Y N

- Replace the Stapler Transport Motor Drive Belt (REP 8.5.3.80).
- **4** While running step 2, observe the Stapler Rail Belt. The Stapler Rail Belt rotates and moves the Stapler Assembly.

Y N

- Replace the Stapler Rail Belt (REP 8.5.3.71).
- **5** Replace the Finisher PWB (REP 8.5.3.83).The error code reappears.

- Problem solved.
- 6 Replace the Printer Engine Controller PWB (REP 4.10.6).

# RAP 8.5.7.22 Error Code "Staple Fail H5-94 Power Off/On"

- 1 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3) and the Upper Left Cover (REP 8.5.3.12). Enter Diagnostic Mode Input H/L Finisher Stapler Sensor/Switch Front Straight Sensor, to test the Stapler Front Edge Sensor. Insert and remove a piece of paper between the Sensor arms. The Control Panel LCD displays H when the paper is inserted between the Sensor arms and L when the paper is removed.
  - Y N
    - Replace the Stapler Front Edge Sensor (REP 8.5.3.70).
- 2 Remove the Upper Rear Cover (REP 8.5.3.5). Enter Diagnostic Mode Output Finisher Operations - Staple Motor, to test the Stapler Transport Motor. The Stapler Transport Motor runs.

Y

Ν

- Replace the Stapler Transport Motor (REP 8.5.3.80).
- **3** While running step 2, observe the Stapler Motor Drive Belt. The Stapler Motor Drive Belt rotates when the Motor is running.

Y N

- Replace the Stapler Transport Motor Drive Belt (REP 8.5.3.80).
- **4** While running step 2, observe the Stapler Rail Belt. The Stapler Rail Belt rotates and moves the Stapler Assembly.

Y N

- Replace the Stapler Rail Belt (REP 8.5.3.71).
- 5 Replace the Finisher PWB (REP 8.5.3.83). The error code reappears.

- Problem solved.
- 6 Replace the Printer Engine Controller PWB (REP 4.10.6).

# RAP 8.5.7.23 Error Code "Stapler Fail H5-95 Power Off/On"

- 1 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3) and the Upper Left Cover (REP 8.5.3.12). Enter Diagnostic Mode Input H/L Finisher Stapler Sensor/Switch Rear Straight Sr, to test the Stapler Rear Edge Sensor. Insert and remove a piece of paper between the Sensor arms. The Control Panel LCD displays H when the paper is inserted between the Sensor arms and L when the paper is removed.
  - Y N
  - Replace the Stapler Rear Edge Sensor (REP 8.5.3.70).
- 2 Remove the Upper Rear Cover (REP 8.5.3.5). Enter Diagnostic Mode Output Finisher Operations Staple Motor, to test the Stapler Transport Motor. The Stapler Transport Motor runs.

Y

Ν

- Replace the Stapler Transport Motor (REP 8.5.3.80).
- **3** While running step 2, observe the Stapler Motor Drive Belt. The Stapler Motor Drive Belt rotates when the Motor is running.

Y N

- Replace the Stapler Transport Motor Drive Belt (REP 8.5.3.80).
- **4** While running step 2, observe the Stapler Rail Belt. The Stapler Rail Belt rotates and moves the Stapler Assembly.

Y N

- Replace the Stapler Rail Belt (REP 8.5.3.71).
- 5 Replace the Finisher PWB (REP 8.5.3.83). The error code reappears.

- Problem solved.
- 6 Replace the Printer Engine Controller PWB (REP 4.10.6).

# RAP 8.5.7.24 Error Code "Stapler Fail H5-96 Power Off/On"

- Remove the Upper Rear Cover (REP 8.5.3.5). Enter Diagnostic Mode Input H/L Finisher Clamp Sensor Detect - Set Clamp Home, to test the Set Clamp Home Sensor. Rotate Eject Shaft #1 so the Set Clamp Actuator located at the rear end of the Shaft actuates and deactuates the Set Clamp Home Sensor. The Control Panel LCD displays L when the Actuator is between the Sensor arms and H when the Actuator is clear of the Sensor.
  - Y N
  - Replace the Set Clamp Home Sensor (REP 8.5.3.79).
- 2 Enter Diagnostic Mode Output Finisher Operations Set Clamp, to test the Set Clamp Motor. The Set Clamp Motor runs.

Y N

- Replace the Set Clamp Motor (REP 8.5.3.60).
- 3 Run Output Finisher Operations Set Clamp once, to position the Set Clamp Actuator. Exit the Output test and enter Input H/L Finisher Clamp Sensor Detect Set Clamp Home. The Control Panel LCD displays L.

- Replace the Eject Shaft Assemblies (REP 8.5.3.61).
- 4 Replace the Finisher PWB (REP 8.5.3.83). The error code reappears.
  - Y N
  - Problem solved.
- 5 Replace the Printer Engine Controller PWB (REP 4.10.6).

## RAP 8.5.7.25 Error Code "Stapler Fail H5-97 Power Off/On"

- 1 Remove the Stapler Door Inner Cover Assembly (REP 8.5.3.3). Enter Diagnostic Mode Input H/ L - Finisher End Wall Open Sensor, to test the End Wall Sensor. Use the End Wall Motor Yoke (REP 8.5.3.56) to raise and lower the End Wall. The Control Panel LCD displays H when the End Wall is raised and L when the End Wall is lowered.
  - Y N
  - Replace the End Wall Open Sensor (REP 8.5.3.52).
- 2 Enter Diagnostic Mode Output Finisher Operations End Wall Forward, to test the End Wall Motor forward function. Enter Diagnostic Mode Output Finisher Operations End Wall Reverse, to test the End Wall Motor reverse function. The End Wall Motor raises and lowers the End Wall.

- Replace the End Wall Motor (REP 8.5.3.56).
- 3 Replace the Finisher PWB (REP 8.5.3.83). The error code reappears.
  - Y N
  - Problem solved.
- 4 Replace the Printer Engine Controller PWB (REP 4.10.6).

# **RAP 8.5.7.26 Inoperative Finisher**

1 Disconnect the Finisher from the base engine (REP 8.5.3.1). Enter Diagnostic Mode and generate a test print (5.4.4). The printer generates a test print and sends it to the Face Down Output Bin.

Y N

- Go to the section 7 and troubleshoot a printer problem.
- 2 Reattach the Finisher to the base engine. Remove the Lower Rear Cover and the Finisher PWB Cover. Reconnect AC power to the printer. Measure the voltage between P/J265 pin 10 and frame ground. The voltage is +5.0 VDC.

Y N

- Go to procedure (RAP 8.5.7.28) then return here to step 3.
- **3** Measure the voltage between P/J291 pin 1 and frame ground. The voltage is +24.0 VDC.

Y

Ν

- Go to procedure (RAP 8.5.7.29) then return here to step 4.
- 4 Enter Diagnostic Mode Input H/L Gate In Interlock Sw. Actuate and deactuate the In Gate Interlock Switch. The Control Panel LCD displays H when the Switch is actuated and L when the Switch is deactuated.

Y N

- Replace the IN Gate Interlock Switch (REP 8.5.3.87).
- 5 Enter Diagnostic Mode Input H/L Finisher Transport Sensor/Switch Interlock Switch. Actuate and deactuate the Transport Cover Interlock Switch. The Control Panel LCD displays L when the Switch is actuated and H when the Switch is deactuated.

Y N

- Replace the Transport Cover Interlock Switch (REP 8.5.3.92).
- 6 Enter Diagnostic Mode Input H/L Front Cover Interlock Sw. Actuate and deactuate the Front Cover Interlock Switch. The Control Panel LCD displays L when the Switch is actuated and H when the Switch is deactuated.

Y N

- Replace the Front Cover Interlock Switch (REP 8.5.3.75).
- 7 Enter Diagnostic Mode Input H/L Finisher Top Cover Interlock Sw. Actuate and deactuate the Top Cover Interlock Switch. The Control Panel LCD displays L when the Switch is actuated and H when the Switch is deactuated.

Y N

- Replace the Top Cover Interlock Switch (REP 8.5.3.75).
- 8 Enter Diagnostic Mode Input H/L Finisher Compil Sensor/Switch Cover Interlock Sw. Manually actuate and deactuate each of the two Compiler Cover Interlock Switches. The Control Panel LCD displays H each Switch is deactuated and L when each Switch is actuated.

Y N

Replace the faulty Compiler Cover Interlock Switch (REP 8.5.3.78).

- **9** Pull the Finisher a few inches away from the printer, but do not disconnect the Finisher interface cables. Enter Diagnostic Mode Input H/L Finisher Interlock Sw. Push in and release the Finisher Interlock Sensor actuator. The Control Panel LCD displays L when the actuator is pressed and H when the actuator is released.
  - Y N
  - Replace the Finisher Interlock Sensor and Actuator (REP 8.5.3.15).
- **10** Enter Diagnostic Mode and run three or four random Finisher Output tests. All the selected Output tests run.
  - Y N
  - Replace the Finisher PWB (REP 8.5.3.83).
- **11** Enter Diagnostic Mode and run three or four random Finisher Input tests. All the selected Input tests run.
  - Y N

L

- Replace the Finisher PWB (REP 8.5.3.83).
- **12** Replace the Printer Engine Controller PWB (REP 4.10.6). The Finisher is still inoperative.
  - Y N
  - Problem solved.
- **13** Check all wiring and connectors connecting the Finisher to the printer. Reinstall the printer driver software. Replace the System Controller PWB.

# RAP 8.5.7.27 Printer Does Not See The Finisher

1 Switch off printer main power. Disconnect and reconnect the two Finisher interface cables that are connected to the printer. Switch on printer main power. The printer sees the Finisher.

Y N

- Go to step 3.
- 2 Problem solved. Treat as an intermittent firmware problem, or possible connector/cable problem.
- **3** Replace the Finisher/Printer Harness Assembly (PL 8.5.2.21) and the AC In-Out Harness Assembly (PL 8.5.2.20). The printer sees the Finisher.

Y N

Go to step 5.

- 4 Problem solved.
- 5 Replace the Printer Engine Controller PWB (REP 4.10.6). The printer sees the Finisher.
  - Y N
  - Replace the Finisher PWB (REP 8.5.3.83).
- 6 Problem solved.

# RAP 8.5.7.28 Loss of +5.0 VDC

- 1 Disconnect the Finisher from the base engine (REP 8.5.3.1). Enter Diagnostic Mode and generate a test print (5.4.4). The printer generates a test print and sends it to the Face Down Output Bin.
  - Y N
  - Go to section 7 and troubleshoot a printer problem.
- 2 Reattach the Finisher to the printer. Remove the Lower Rear Cover, remove the Finisher PWB Cover (REP 8.5.3.10). Close the Finisher Top Cover or actuate the Top Cover Interlock Switch. Close the Finisher Front Cover or actuate the Front Cover Interlock Switch. Close the Compiler Cover or actuate the Compiler Cover Interlock Switches. Switch on printer power.

# CAUTION AC line voltage is present on the LVPS PWB. With the protective PWB Top Cover removed there is a shock danger present. Use extreme caution when working on and around the LVPS and the Finisher PWB.

Set your meter to read AC voltage. Measure the voltage between P/J2-3 and P/J2-4 on the LVPS. There is 110 VAC between P/J2-3 and P/J2-4.

Y N

- Go to section 6 or section 7 and troubleshoot a loss of AC problem.
- **3** Set your multimeter to read DC voltage. Measure the voltage between P/J505-3 and FG (frame ground) and between P/J505-4 and FG on the LVPS. There is +5VDC between P/J505-3 and FG and between P/J505-4 and FG.

Y N

- Replace the LVPS (REP 8.5.3.84).
- 4 Set your multimeter to read DC voltage. Measure the voltage between P/J265-12 and FG and between P/J265-10 and FG on the Finisher PWB. There is +5VDC between P/J265-12 and FG and between P/J265-10 and FG.

Y N

- Check the wiring between the Printer Engine Controller PWB and the Finisher. Replace the Printer Engine Controller PWB (REP 4.10.6).
- 5 Set your multimeter to read DC voltage. Measure the voltage between P/J896-A1 and FG and between P/J896-A2 and FG on the Finisher PWB. There is +5VDC between P/J896-A1 and FG and between P/J896-A2 and FG.

- Replace the Finisher PWB (REP 8.5.3.83).
- 6 Check for a component loading down the +5.0 VDC circuit.

# RAP 8.5.7.29 Loss of +24.0 VDC

- 1 Disconnect the Finisher from the base engine (REP 8.5.3.1). Enter Diagnostic Mode and generate a test print (5.4.4). The printer generates a test print and sends it to the Face Down Output Bin.
  - Y N
  - Go to section 7 and troubleshoot a printer problem.
- 2 Reattach the Finisher to the base engine. Remove the PWB Top Cover (REP 8.5.3.10). Close the Finisher Top Cover or actuate the Top Cover Interlock Switch. Close the Finisher Front Cover or actuate the Front Cover Interlock Switch. Close the Compiler Cover or actuate the Compiler Cover Interlock Switches. Switch on printer power.

# CAUTION AC line voltage is present on the LVPS PWB. With the protective PWB Top Cover removed there is a shock danger present. Use extreme caution when working on and around the LVPS and the Finisher PWB.

Set your multimeter to read AC voltage. Measure the voltage between P/J2-3 and P/J2-4 on the LVPS. There is 110 VAC between P/J2-3 and P/J2-4.

Y N

- Go to section 6 or section 7 and troubleshoot a loss of AC problem.
- **3** Set your multimeter to read DC voltage. Measure the voltage between P/J502-1 and FG (frame ground). There is +24VDC between P/J502-1 and FG.

Y N

- Replace the LVPS (REP 8.5.3.84).
- 4 Set your multimeter to read DC voltage. Measure the voltage between P/J265-8 and FG on the Finisher PWB. There is +24VDC between P/J265-8 and FG.

Y N

- Check the wiring between the Printer Engine Controller PWB and the Finisher. Replace the Printer Engine Controller PWB (REP 4.10.6).
- **5** Set your multimeter to read DC voltage. Measure the voltage between P/J897-13 and FG on the Finisher PWB. There is +24VDC between P/J897-13 and FG.

- Replace the Finisher PWB (REP 8.5.3.83).
- 6 Check for a component loading down the +5.0 VDC circuit.

# RAP 8.5.7.30 Error Code "Clear Underneath Finisher Bins" or "Clear Underneath Finisher Elevatr"

- 1 Enter Diagnostic Mode Input H/L Finisher/Stacker Sensor Switch Bin 1 Safety Switch. Actuate and deactuate the Top Bin Safety Switch. The Control Panel LCD displays H when the switch is actuated and L when the switch is deactuated.
  - YN.
  - Power off printer and troubleshoot (WIR 8.5.5.1) failure of either Top Bin Safety Switch (Figure 8.5.3.44a) or Middle Bin Safety Switch ((Figure 8.5.3.33a)). If wiring and switches check ok, replace the Finisher PWB (Figure 8.5.3.83a).
- 2 Enter Diagnostic Mode Input H/L Finisher/Stacker Sensor Switch Lower Safety Switch to test Bottom Bin Safety Sensor. The Control Panel LCD displays L when the bin is in the home position and H when the bin is manually lifted up away from the home position.

Y N

- Replace the Bottom Bin Safety Sensor (Figure 8.5.3.23a).
- 3 Enter Diagnostic Mode Input H/L Finisher/Stacker Sensor Switch Upper Limit Switch. Actuate and deactuate the Upper Limit Switch. The Control Panel LCD displays H when the switch is actuated and L when the switch is deactuated.

Y N

- Replace the Upper Limit Switch (Figure 8.5.3.14a).
- 4 Enter Diagnostic Mode Output Finisher Operations Stacker Elev CCW to lower the Finisher Bins. Enter Diagnostic Mode - Output - Finisher Operations - Stacker Elev CW to raise the Finisher Bins. The Finisher Bins actuate the Upper Limit Switch.

Y N

- Replace the Elevator Motor(Figure 8.5.3.17a).
- **5** Enter Diagnostic Mode Input H/L Finisher/Stacker Sensor Switch Lower Limit Switch. Actuate and deactuate the Lower Limit Switch. The Control Panel LCD displays H when the switch is actuated and L when the switch is deactuated.

Y N

- Replace the Lower Limit Switch (Figure 8.5.3.13a).
- 6 Enter Diagnostic Mode Output Finisher Operations Stacker Elev CW to raise the Finisher Bins. Enter Diagnostic Mode - Output - Finisher Operations - Stacker Elev CCW to lower the Finisher Bins. The Finisher Bins actuate the Lower Limit Switch.

Y N

- Replace the Elevator Motor(Figure 8.5.3.17a).
- 7 Replace the Finisher PWB (Figure 8.5.3.83a). If problem exists, replace the Printer Engine Controller PWB (REP 4.10.6).

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# 8.6 ACOM MICR Enhancement Printer Supplemental Manual



# 8.6.1 ACOM MICR Printer Specifications

# GEN 8.6.1.1 Model Types

Model	Description
Туре 1	Dedicated MICR Only Printer. Contains a ACOM MICR EP Cartridge and <u>CANNOT</u> use the XEROX EP Cartridge Part Number: 113R00173.
Туре 2	A Dual-Mode Printer, which supports both MICR Printing, through the use of a ACOM EP Cartridge, and Normal Printing, through the use of a XEROX EP Cartridge (Part Number: 113R00173).

NOTE: Before Servicing an ACOM MICR Printer, please read section 8.6.5 ACOM MICR Enhanced User's Guide to gain an understanding of the ACOM MICR Printer and all of its possible combinations.

# 8.6.2 ACOM Parts List

The unique Parts used on the ACOM MICR Printer will be supported directly through ACOM. ACOM will replace any part that relates to their unique areas of the printer. The ACOM Unique parts are as follows:

- 1) Non-MICR Toner Sensor (Model Type 2 Printer Only)
- 2) MICR Toner Sensor (Model Types 1 & 2)
- 3) MICR Keylock Switch & Key (Model Type 2 Printer Only)
- 4) Front Right Cover [Hole for MICR Keylock] (Model Type 2 Printer Only)
- 5) ACOM MICR EP Cartridge (Model Types 1 & 2)
- 6) All wiring associated to the MICR changes [See wiring changes in 8.6.5.] (Model Types 1 & 2)
- 7) ACOM Secure-A-Font Module and 18" Parallel Cable (Model Types 1 & 2).
- 8) ACOM PCMCIA Font Cards used in Secure-A-Font Module (Model Types 1 & 2).

# 8.6.3 Repair Procedures

Use Section 4 and the repair section within Section 8 of the N24/N32/N40 Service Manual to repair any Xerox Supported Assembly/Part. ACOM Supported hardware assemblies/parts are defined the Section 8.6.2.

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# 8.6.4 ACOM MICR Unique Wiring Data

# WIR 8.6.4.1 Plug / Jack Locator



- 1 P/J477 EP Cartridge Interlock Switch.
- 2 P/J23 EP Cartridge Interlock Switch to MICR & Non-MICR Sensor.

# WIR 8.6.4.2 ACOM Wiring Change Diagrams





#### S604MICR



#### WIR 8.6.4.2.2 Model 2 Laser Assembly Wiring

S604BOTH

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# 8.6.5 ACOM MICR Enhanced User's Guide

## 8.6.5.1 Introduction

Congratulations on the purchase of your new ACOM MICR Enhanced XEROX DocuPrint N24/N32/N40 Laser Printer! Your new DocuPrint N24/N32/N40 has been specially upgraded by ACOMN with the following MICR Enhancements...

- Specialized ACOM N24/N32/N40 MICR Toner
- Unique N24/N32/N40 E13-B MICR Soft & TrueType Fonts
- N24/N32/N40 Engine Fusing Enhancements for MICR Printing
- ACOM MICR Toner Sensors
- ACOM's QUICKCHECK Software Compatibility
- Dual-Mode MICR Keylock Option (Model 2 Only)
- ACOM's Secure-A-Font Module Option (Anytime Add-On Option.)

This manual covers both printer models currently available from ACOM, and the newly released SECURE-A-FONT MODULE which can be purchased as an add on option. The Model 1 printer is a dedicated MICR check printer with all of the above listed features, except for the last two options. The Model 2 printer is a Dual-Mode printer that has all of the same features as Model 1, and includes the MICR Keylock option. Both models are compatible with ACOM's QUICKCHECK Software products.

#### 8.6.5.2 Technical Support

Should you need technical assistance with your new XEROX DocuPrint N24/N32/N40 Printer or have any questions regarding any material covered in this manual, please call ACOM's Technical Support Line at 800-217-ACOM (2266). You can reach ACOM TECH SUPPORT by Monday-Friday 6:30am – 5:00pm PST, excluding holidays or by sending E-mail to tech@acom.com.

- NOTE: When any service is required on your ACOM MICR ENHANCED XEROX DocuPrint N24/N32/ N40 Laser Printer, you <u>MUST ALWAYS</u> call ACOM TECH SUPPORT DEPARTMENT to open a service call. This is to ensure that the correct information regarding the nature of your printer problem is forwarded to the XEROX FIELD ENGINEER before being dispatched to your site.
- NOTE: The above statement is to HELP XEROX SERVICE. ACOM does not want to have XEROX Service Personnel go to a ACOM Printer if the problem is related to MICR or their respective hardware changes.

# 8.6.5.3 Printer Installation

For instructions, please refer to the XEROX DocuPrint N24/N32/N40 Quick Installation Card or End User Guide and the System Administrator Guide on the DocuPrint N24/N32/N40 CD-ROM found in the printer's documentation kit. Hard copies of the above mentioned guides can be printed from the N24/N32/N40 CD-ROM.

Your ACOM MICR ENHANCED XEROX DocuPrint N24/N32/N40 Printer is <u>ready to print check</u> <u>documents right out of the box</u>. It does not require any special set up to print MICR documents, other then the installation of an ACOM MICR Toner cartridge. For operating instructions of the ACOM MICR ENHANCEMENT features, please refer to following pages for a MODEL 1 printer and MODEL 2 printer. For toner cartridge installation instructions, please refer to Chapter 6 in the XEROX DocuPrint N24/N32/ N40 END USER GUIDE. Should you need further assistance with printer installation, please call **ACOM TECH SUPPORT at 1-800-217-2266 (2266)**.

NOTE: Please save all packing materials in the event your ACOM MICR ENHANCED XEROX DocuPrint N24/N32/N40 Printer needs to be returned for any reason. If you do not have the packing materials, please consult with ACOM TECH SUPPORT prior to shipping.

# 8.6.5.4 Operating Instructions

#### 8.6.5.4.1 Model 1 - Dedicated MICR Printer

#### This printer only functions when an ACOM MICR Toner Cartridge is installed!

Non-MICR or regular toner cartridges, including the XEROX EP Cartridge, will not operate in this model. The MICR toner sensor inside the printer will detect if a Non-ACOM supplied MICR toner cartridge has been installed. When doing so, the printer will stop the print cycle and the printer's Control Panel LCD will display... **LASER FAILURE, POWER ON/OFF.** When this error message appears, the printer's power must be reset (turned off & on) in order to clear the error. After the printer's power has been reset, install an ACOM supplied MICR toner cartridge to continue printing.



CAUTION Any data, fonts, signatures, logos, forms, or macros downloaded to the printer prior to getting this error message will be lost! Since the printer's power must be reset, the printer's memory is cleared of any information. Once the printer's LCD displays "READY", you must first download your fonts to the printer before restarting your print job again. If you are using an ACOM SECURE-A-FONT Module, the PCMCIA card must be removed and reinserted into the reader. This will download the stored data from the PCMCIA card to the printer's memory.

NOTE: If your printer's Control Panel LCD displays the LASER FAILURE, POWER ON/OFF error message after installing an ACOM supplied MICR toner cartridge, please call ACOM TECH SUPPORT AT 1-800-217-ACOM (2266) for assistance.

#### 8.6.5.4.2 Model 2 – Dual Mode MICR/Non-MICR Printer

This printer will only function when an ACOM supplied MICR or NON-MICR toner cartridge is installed! This is a dual function printer, but you can only print MICR documents when a MICR cartridge is installed.

This printer can be used for both MICR and Non-MICR printing requirements. The printer comes equipped with two toner sensors, and ACOM's MICR Keylock installed. The Model 2 printer functions quite the same as the Model 1 printer, with the only differences being that it has a Non-MICR toner sensor and a MICR Keylock installed.

The position of the MICR Keylock determines the mode of the printer. The mode of the printer must correspond to the installed toner cartridge in order for the printer to operate. For example; if the Keylock is in the MICR OFF Mode ("12" & "6" O'clock position), the printer will only function if an ACOM supplied NON-MICR toner cartridge is installed into the printer. If the Keylock is in the MICR ON Mode ("9" & "3" O'clock position), the printer to operate to the mode of the printer will only function if an ACOM supplied NON-MICR toner cartridge is installed into the printer. If the Keylock is in the MICR ON Mode ("9" & "3" O'clock position), the printer will only function if an ACOM supplied MICR toner cartridge is installed into the printer. When in the MICR ON mode or "9" & "3" O'clock position, the actual key can not be removed from the MICR Keylock. The key can only be removed when in the MICR OFF mode or in the "12" & "6" O'clock position.

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If at anytime the position of the MICR Keylock does not correspond to the installed ACOM supplied toner cartridge, the printer will stop the print cycle and the printer's Control Panel LCD will display... <u>LASER</u> <u>FAILURE, POWER ON/OFF</u>. When this error message appears, the printer's power must be reset (turned off & on) in order to clear the error. After the printer's power has been reset, install an ACOM supplied MICR or NON-MICR toner cartridge to continue printing. Remember to make sure that the MICR Keylock position corresponds to the installed toner cartridge. When the MICR Keylock is switched to the ON position, a MICR Toner Cartridge must be installed, otherwise the Laser Failure Message will be displayed; and when the Keylock is OFF, a non-MICR Toner Cartridge must be installed.



CAUTION Any data, fonts, signatures, logos, forms, or macros downloaded to the printer prior to getting this error message will be lost! Since the printer's power must be reset, the printer's memory is cleared of any information. Once the printer's LCD displays "READY", you must first download your fonts to the printer before restarting your print job again. If you are using an ACOM SECURE-A-FONT Module, the PCMCIA card must be removed and reinserted into the reader. This will download the stored data from the PCMCIA card to the printer's memory.

NOTE: If your printer's Control Panel LCD displays the **LASER FAILURE, POWER ON/OFF** error message after installing an ACOM supplied MICR or NON-MICR toner cartridge, please call ACOM TECH SUPPORT AT 1-800-217-ACOM (2266) for assistance.

# 8.6.5.5 MICR Keylock- MODEL 2 Only

Each MICR KEYLOCK ships with a set of two keys and a unique key code combination. This key code is specific to the printer's serial number that the MICR Keylock is installed in, and can not be used in any other ACOM MICR ENHANCED Printer<sup>1</sup>. This key can not be duplicated by a third party service, it can only be duplicated through ACOM.

In the event a duplicate key is required, simply contact ACOM Technical Support Department at 1-800-217-ACOM (2266) and provide your printer's serial number and the matching key code which needs to be duplicated<sup>2</sup>.

NOTE: The standard lead-time when ordering a duplicate key is 6-8 weeks. There is no way to expedite this lead-time, so please call ACOM TECH SUPPORT as soon as possible when a duplicate key is needed.



<sup>1.</sup> Unless otherwise specified by the customer. Like key codes are available for multiple printer shipments.

<sup>2.</sup> A duplicate charge & lead-time apply. Please call for more information.
# 8.6.5.6 Secure-A-Font Module

#### 8.6.5.6.1 Unpacking

Your ACOM SECURE-A-FONT MODULE kit will have a:

- PCMCIA CARD Reader
- 18 inch DB25/Parallel Cable
- Power Supply

Unpack the contents of the box, checking that all the parts have been received and not damaged during shipping. The SECURE-A-FONT MODULE, cable, and Power Supply have been tested prior to shipment to be sure they are working properly.

#### 8.6.5.6.2 PCMCIA Cards

If you have ordered custom Signatures, Logos, Forms, or Fonts, to be digitized onto a PCMCIA card, your custom services order will usually ship separate from the printer order. For information on you custom services order, please call 1-800-347-3638.

NOTE: Please save all packing materials in the event your ACOM SECURE-A-FONT MODULE unit needs to be returned for any reason. If you do not have the packing materials, please consult with ACOM TECH SUPPORT prior to shipping.

#### 8.6.5.6.3 Installation

To verify that the secure fonts were cleared, you can print out a PCL Font List from the printer's TEST MENU. (See Chapter 3 in the XEROX DOCUPRINT END USER GUIDE for instructions on using the printer's Control Panel Features) If the printer's LCD does not display Ready or the secure fonts do not clear, please call ACOM Technical Support for assistance at 1-800-217-ACOM (2266).

# 8.6.6 ACOM MICR Guide

### 8.6.6.1 Introduction

This guide covers the MICR Enhancements to the XEROX DocuPrint N24/N32/N40 Laser Printers by ACOM Computer, Inc. Long Beach, CA.

All material relating to the MICR Enhancements to the XEROX DocuPrint N24/N32/N40 Laser Printer in this reference guide should be considered proprietary information.

## 8.6.6.2 ACOM Printer Models

- **Model 1** is a dedicated MICR Document Printer with an installed MICR Toner Sensor.
- **Model 2** is a Dual-Mode printer with installed MICR & NON-MICR toner sensors and MICR Keylock. (See Figure 8.6.6.2.1)

Figure 8.6.6.2.1: ACOM Model 2 MICR Printer

# 8.6.6.3 MICR Enhancements

- FUSER TEMPERATURE ADJUSTMENT (model 1 & model 2)
- MAGNETIC MICR TONER SENSOR (model 1 & model 2)
- MAGNETIC NON-MICR TONER SENSOR (model 2 only)
- MICR MODE KEYLOCK (model 2 only)
- SECURE-A-FONT MODULE (model 1 & model 2)

#### 8.6.6.3.1 Fuser Temperature Adjustment

Both model 1 and model 2 printers have adjustments made to the Ready & Stand By temperature settings on the fuser unit.

The default settings have changed from: Ready=38 / Stand By=42 to: Ready=64 / Stand By=68. This change represents a  $42.12^{\circ}$  F ( $5.62^{\circ}$  C) increase to both the Ready and the Stand By temperature settings.

#### 8.6.6.3.2 Magnetic MICR Toner Sensor

Both printer models 1 and 2 have the MICR toner sensor installed. The location of the MICR toner sensor is the same on both printer models. (See Figure 8.6.6.3.2-1)



Figure 8.6.6.3.2-1: MICR Toner Sensor Locations

MICR Toner Sensor

> Non-MICR Toner Sensor

After the MICR sensor is in place in the model 1 printer, both leads from the sensor are looped into the EP Cartridge Interlock Switch Assembly, PL 7.2-23. (See Figure 8.6.6.3.2-2)



#### Figure 8.6.6.3.2-2: EP Cartridge Interlock Switch Assembly

After the MICR sensor is in place in the model 2 printer, one lead from the sensor is looped into the EP Cartridge Interlock Switch Assembly and the other is connected to the MICR Keylock, which is installed in the printers Front Right Cover, PL 1.2-3. (See Figures 8.6.6.3.2-3 and 8.6.6.3.2-4)



#### Figure 8.6.6.3.2-3: MICR Keylock Switch

#### Figure 8.6.6.3.2-4: MICR Keylock Switch Wiring



# CAUTION The model 1 printer will only function when an ACOM supplied MICR toner cartridge is used. The model 2 printer while in the MICR ON mode will only function when an ACOM supplied MICR toner cartridge is used. The sensor identifies the ACOM MICR toner cartridge by sensing the magnet that is installed in the toner cartridge. If an OEM or non supplied ACOM toner cartridge is installed in both the model 1 and the model 2 printers, the print cycle stops and the printers Control Panel LCD will display the <u>LASER FAILURE POWER ON/OFF</u> error message. Once the printers power has been reset and the correct toner cartridge installed, the printer will then function.

# 8.6.6.4 Magnetic Non-MICR Toner Sensor

Only the model 2 printer has the NON-MICR toner sensor installed. (See Figure 8.6.6.3.2-1). After the NON-MICR sensor is in place in the printer, one lead from the sensor is looped into the EP Cartridge Interlock Switch Assembly, PL 7.2-23 (See Figure 8.6.6.3.2-2) and the other sensor lead is connected to the MICR KEYLOCK. (See Figures 8.6.6.3.2-3 and 8.6.6.3.2-4)

The model 2 printer while in the MICR OFF mode will only function when an ACOM supplied NON-MICR toner cartridge is used. The sensor identifies the ACOM NON-MICR toner cartridge by sensing the magnet that is installed in the toner cartridge. If an OEM or non supplied ACOM toner cartridge is installed in the printer, the print cycle stops and the printers Control Panel LCD will display the LASER FAILURE POWER ON/OFF error message. Once the printers power has been reset and the correct toner cartridge installed, the printer will then function.

# 8.6.6.5 MICR Mode Keylock

Only the model 2 printer has the MICR KEYLOCK installed. After the MICR KEYLOCK is installed in the Front Right Cover, PL 1.2-3 (See Figures 8.6.6.3.2-3 and 8.6.6.3.2-4), the 3 separate numbered terminals on the keylock are connected as follows

- 1. The #1 terminal on the keylock is looped into the EP Cartridge Interlock Switch Assembly (PL 7.2-23).
- 2. The #8 terminal is connected to one of the MICR toner sensor leads.
- 3. The #3 terminal is connected to one of the NON-MICR toner sensor leads. (See Figure 8.6.6.3.2-4)

The position of the MICR Keylock determines the mode of the printer. The mode of the printer must correspond to the installed toner cartridge in order for the printer to operate. For example; if the Keylock is in the MICR OFF Mode ("12" & "6" O'clock position), the printer will only function if an ACOM supplied NON-MICR Toner Cartridge is installed into the printer. If the Keylock is in the MICR ON Mode ("9" & "3" O'clock position), the printer will only function if an ACOM supplied MICR toner cartridge is installed into the printer.

NOTE: When in the MICR ON mode or "9" & "3" O'clock position, the actual key can not be removed from the MICR Keylock. The key can <u>ONLY</u> be removed when in the MICR OFF mode or in the "12" & "6" O'clock position.

# -(!)-

CAUTION If at anytime the position of the MICR Keylock does not correspond to the installed ACOM supplied toner cartridge, the print cycle stops and the printers Control Panel LCD will display the LASER FAILURE POWER ON/OFF error message. Once the printers power has been reset and the correct toner cartridge has been installed with the MICR KEYLOCK in the corresponding position (*MICR ON* or *MICR OFF*), the printer will then function.

# 8.6.6.6 Secure-A-Font Module

The SECURE-A-FONT MODULE can be used with both the model 1 and the model 2 printers. There are no changes or enhancements done to the XEROX DocuPrint N24/N32/N40 Printer in order to use this device. The device is external to the printer. It connects via an 18" Parallel Cable to the printers Parallel port, and has its own external power supply (See Figure 8.6.6.6.1-1). The device only accepts ACOM supplied PCMCIA cards, which have been programmed with end user fonts.





# 8.6.7 Repair Analysis Procedures

# 8.6.7.1 Laser Failure (U3-2, U3-3, U3-4, & U3-5)

1 The Printer experiencing this Laser Failure message is a modified XEROX DocuPrint N24/N32/ N40 MICR Enhanced Printer developed by ACOM Computer, Inc.

Y N

- Go to RAP 7.21 Laser Failure (U3-2, U3-3, U3-4, & U3-5) to troubleshoot problem.
- 2 The ACOM Printer is a Model 2 (contains a MICR Keylock switch installed in Right Front Cover.

Y N

- Go to step 6.
- 3 Switch off printer main power. Verify the MICR Keylock switch and EP Cartridge installed are coorectly set (ON = MICR EP Cartridge or OFF = Non-MICR EP Cartridge). The EP Cartridge installed matches the switch placement.

Y N

- Either install correct cartridge or have customer turn switch to match EP Cartridge.
- 4 Switch on printer main power. The error message reappears.

Y N

- Suspect a possible intermittent problem with the Printer Engine Controller PWB (REP 4.10.6), the Laser Assembly (REP 4.6.1), the EP Cartridge Interlock Switch (REP 4.10.11), or the connectors and wiring linking these components.
- 5 Go to step 8.
- **6** Verify the EP Cartridge installed is a ACOM MICR EP Cartridge. The EP Cartridge installed is an ACOM MICR EP Cartridge.

Y N

- Install an ACOM MICR EP Cartridge.
- 7 Switch on printer main power. The error message reappears.
  - Y N
  - Suspect a possible intermittent problem with the Printer Engine Controller PWB (REP 4.10.6), the Laser Assembly (REP 4.6.1), the EP Cartridge Interlock Switch (REP 4.10.11), or the connectors and wiring linking these components.
- 8 Enter Diagnostic Mode Output Test, ROS Motor Speed (600 dpi) to check the Laser Motor function. The Laser Motor runs when you start the Output Test.

Y N

- Go to step 12.
- **9** Measure the voltage between P/J 456-A10 and FG (6.3.6) on the Printer Engine Controller PWB. There is +5VDC between P/J 456-A10 and FG.

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Y N

Replace the Printer Engine Controller (REP 4.10.6).

10 Measure the voltage between P/J 456-B4 and FG (WIR 8.6.4.2.1 Model 1 Laser Assembly Wiring or WIR 8.6.4.2.2 Model 2 Laser Assembly Wiring) on the Printer Engine Controller PWB as the printer powers up. The voltage should go from 5.1V to 1.2V every time the AC Driver Relay cycles and then stay at 1.2V when the Console displays "Ready".

Y

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- Replace the Printer Engine Controller PWB (REP 4.10.6).
- 11 Measure the voltage between P/J 456-B1 and FG (WIR 8.6.4.2.1 Model 1 Laser Assembly Wiring or WIR 8.6.4.2.2 Model 2 Laser Assembly Wiring) on the Printer Engine Controller PWB. There is +5VDC between P/J 456-B1 and FG.

Y N

- Replace the Printer Engine Controller PWB (REP 4.10.6).
- 12 Measure the voltage between P/J 407-1 and FG (WIR 8.6.4.2.1 Model 1 Laser Assembly Wiring or WIR 8.6.4.2.2 Model 2 Laser Assembly Wiring) on the Laser Diode Drive PWB when the correct EP Cartridge is installed and the EP Cartridge Interlock Switch is closed. There is +5VDC between P/J 407-1 and FG.

Y N

- Switch off printer main power. Check the continuity of the wiring between P/J 456 and P/J 407 and the EP Cartidge Interlock Switch (WIR 8.6.4.2.1 Model 1 or WIR 8.6.4.2.2 Model 2). If OK, call for support. Possible problem is ACOM MICR Sensor(s) or Keylock Switch.
- **13** Replace the Laser Assembly (REP 4.6).
- 14 Measure the voltage between P/J 456-A7 and FG (6.3.6) on the Printer Engine Controller PWB. There is +24VDC between P/J456-A7 and FG.
  - Y N
  - Replace the Printer Engine Controller PWB (REP 4.10.6).
- 15 Check wiring between P/J 456 and P/J 240 (6.3.6). If OK, replace the Laser Assembly (REP 4.6).

For any other problems/issues related to the ACOM printer, go to Section 7 and the Repair Analysis Section within Section 8 of the N24/N32/N40 Service Manual to troubleshoot any Xerox defined fault.

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